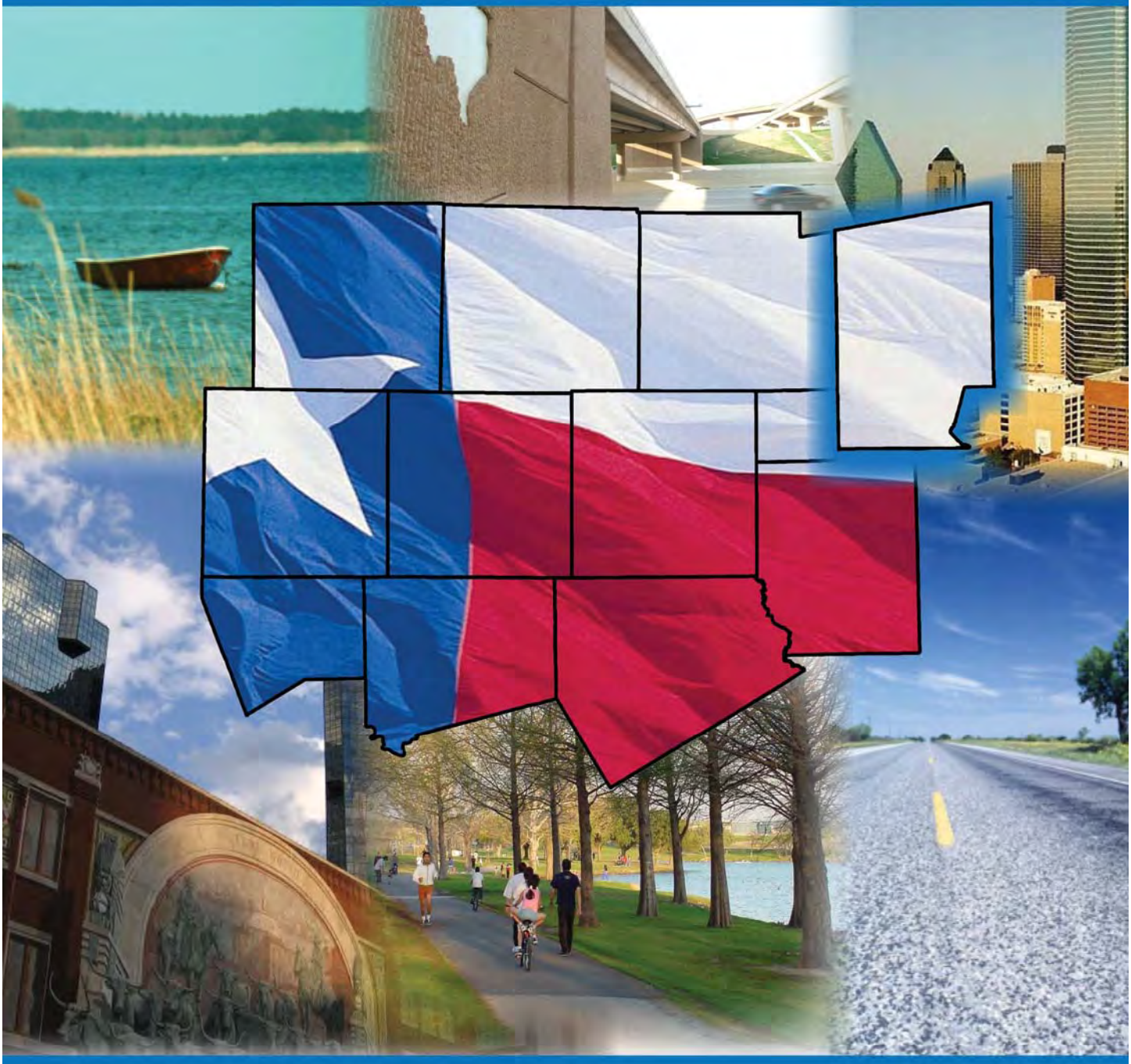
# HUNT COUNTY

## Transportation Plan



**March 2012**

North Central Texas
Council of Governments

## What is NCTCOG?

The North Central Texas Council of Governments is a voluntary association of cities, counties, school districts, and special districts which was established in January 1966 to assist local governments in **planning** for common needs, **cooperating** for mutual benefit, and **coordinating** for sound regional development.

It serves a 16-county metropolitan region centered around the two urban centers of Dallas and Fort Worth. Currently the Council has **240 members**, including 16 counties, 170 cities, 24 independent school districts, and 30 special districts. The area of the region is approximately **12,800 square miles**, which is larger than nine states, and the population of the region is over **6.5 million**, which is larger than 38 states.

**NCTCOG's** structure is relatively simple; each member government appoints a voting representative from the governing body. These voting representatives make up the **General Assembly** which annually elects a 15-member Executive Board. The **Executive Board** is supported by policy development, technical advisory, and study committees, as well as a professional staff of 315.

NCTCOG's offices are located in Arlington in the Centerpoint Two Building at 616 Six Flags Drive (approximately one-half mile south of the main entrance to Six Flags Over Texas).

**North Central Texas Council of Governments**
**P. O. Box 5888**
**Arlington, Texas 76005-5888**
**(817) 640-3300**

**NCTCOG's Department of Transportation**

Since 1974 NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation Council and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

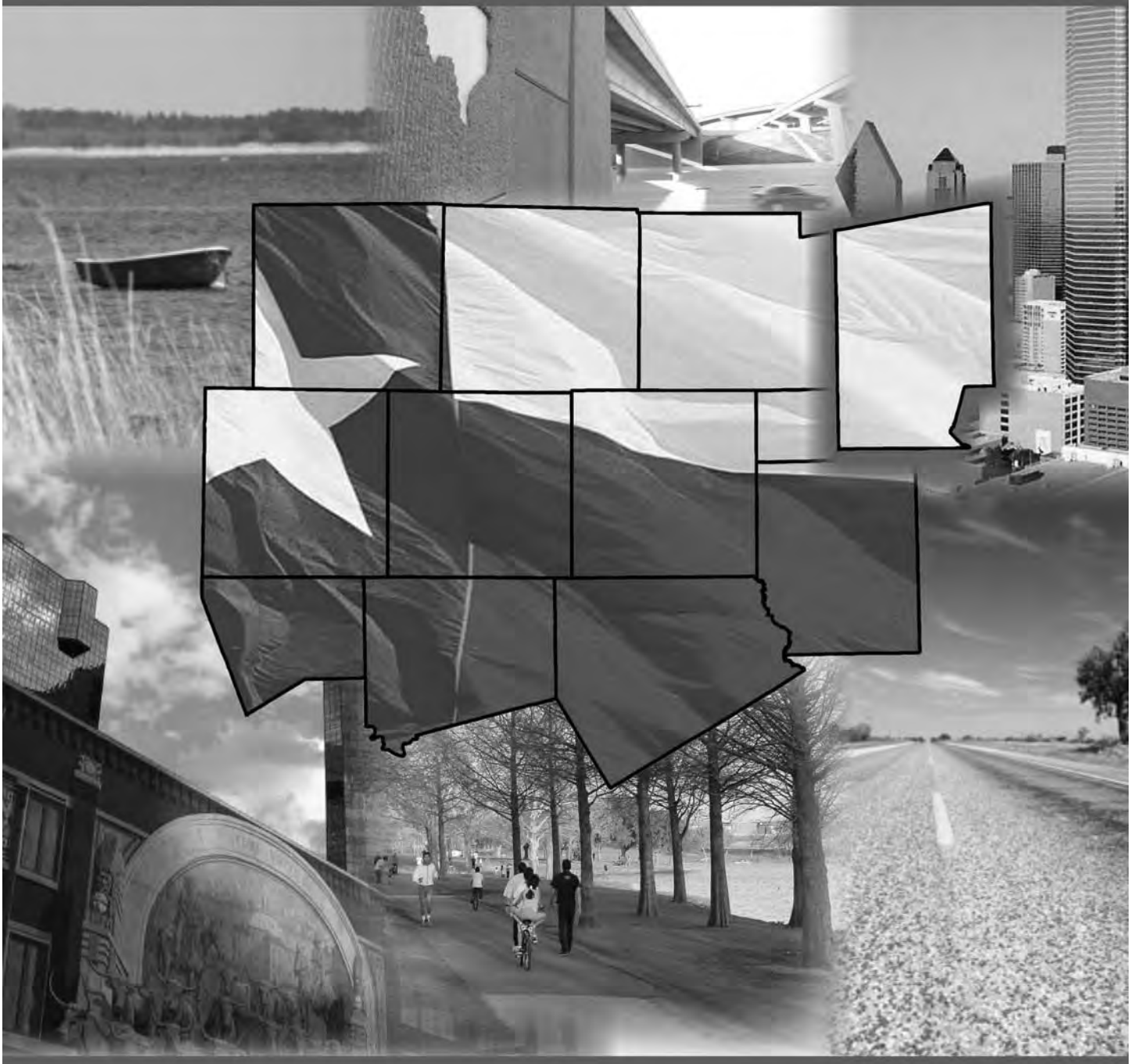
---

Prepared in cooperation with the Texas Department of Transportation and the U. S. Department of Transportation, Federal Highway Administration, and Federal Transit Administration.

*"The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation."*

# HUNT COUNTY

## Transportation Plan



**March 2012**

North Central Texas
Council of Governments

## NCTCOG Executive Board 2011-2012

President
**Linda Koop**
Councilmember, City of Dallas

Vice President
**Bobbie Mitchell**
Commissioner
Denton County

Secretary-Treasurer
**Steve Terrell**
Mayor, City of Allen

Past President
**B. Glen Whitley**
County Judge, Tarrant County

Director
**Clay Jenkins**
County Judge
Dallas County

Director
**Andy Nguyen**
Commissioner
Tarrant County

Director
**Daniel Scarth**
Mayor Pro Tem, Fort Worth

Director
**Kathryn Wilemon**
Councilmember
City of Arlington

Director
**Ron Jensen**
Councilmember
City of Grand Prairie

Director
**Bill McElhaney**
County Judge, Wise County

Director
**Cory Spillman**
Councilmember
City of Cedar Hill

Director
**Holly Gray-McPherson**
Mayor Pro Tem
City of Roanoke

Director
**C. Shane Wilbanks**
Mayor Pro Tem
City of Grapevine

General Counsel
**Jerry Gilmore**

Executive Director
**R. Michael Eastland**

---

## Regional Transportation Council 2011-2012

**Jungus Jordan, Chair**
Councilmember, City of Fort Worth

**Pete Kamp, Vice Chair**
Mayor Pro Tem, City of Denton

**Kathryn Wilemon, Secretary**
Councilmember, City of Arlington

**Ron Brown**
Commissioner, Ellis County

**Mike Cantrell**
Commissioner, Dallas County

**Sheri Capehart**
Councilmember, City of Arlington

**Maribel Chavez, P.E.**
District Engineer
TxDOT Fort Worth District

**Gary Cumbie**
Chair
Fort Worth Transportation Authority

**Bob Day**
Board Member
NorthTexas Tollway Authority

**Lee Dunlap**
Councilmember, City of Plano

**Rudy Durham**
Deputy Mayor Pro Tem
City of Lewisville

**Andy Eads**
Commissioner, Denton County

**Charles Emery**
Board Chair
Denton County Transportation Authority

**Mark Enoch**
Board Member
Dallas Area Rapid Transit

**Sal Espino**
Councilmember, City of Fort Worth

**Gary Fickes**
Commissioner, Tarrant County

**Rob Franke, P.E.**
Mayor, City of Cedar Hill

**Bill Hale, P.E.**
District Engineer
TxDOT, Dallas District

**Roger Harmon**
County Judge, Johnson County

**Kathleen Hicks**
Councilmember, City of Fort Worth

**Vonciel Jones Hill**
Councilmember, City of Dallas

**John Horn**
County Judge, Hunt County

**Clay Jenkins**
County Judge, Dallas County

**Ron Jensen**
Councilmember, City of Grand Prairie

**Ron Jones**
Mayor, City of Garland

**Geralyn Kever**
Councilmember, City of McKinney

**Linda Koop**
Councilmember, City of Dallas

**Kimberly Lay**
Deputy Mayor Pro Tem
Town of Addison

**Mike Leyman**
Councilmember, City of Mansfield

**Matthew Marchant**
Mayor, City of Carrollton

**Maher Maso**
Mayor, City of Frisco

**Bill McLendon**
Councilmember, City of Hurst

**Pauline Medrano**
Deputy Mayor Pro Tem, City of Dallas

**John Monaco**
Mayor, City of Mesquite

**Rich Morgan**
Citizen Representative, City of Dallas

**Mark Riley**
County Judge, Parker County

**Rick Stopfer**
Councilmember, City of Irving

**John Tatum**
Citizen Representative, City of Dallas

**T. Oscar Trevino, Jr., P.E.**
Mayor, City of North Richland Hills

**Bernice J. Washington**
Boardmember
Dallas/Fort Worth International Airport

**Duncan Webb**
Commissioner, Collin County

**B. Glen Whitley**
County Judge, Tarrant County

**Michael Morris, P.E.**
Director of Transportation, NCTCOG

---

**Surface Transportation Technical Committee**
Curvie Hawkins, Chair

# Hunt County Transportation Plan

## Vision Statement

*The Hunt County Transportation Plan provides specific and strategic direction for meeting the multi-modal transportation needs during the next two decades of a growing and diverse population for safe, efficient, and affordable transportation. By integrating the development of Hunt County's transportation infrastructure with the regional transportation system for North Texas, the Transportation Plan supports economic development and improves quality of life not only for Hunt County, but for the North Central Texas Region.*

# Table of Contents

# List of Exhibits

**Exhibit** **Page**

**Exhibit** **Page**

**Exhibit** **Page**

**Exhibit** **Page**

# Executive Summary

Coordinated, comprehensive, and continuous planning is the backbone of efforts to preserve and enhance quality of life while ensuring and promoting orderly development, fulfilling community goals and objectives, and paving the way for generations to come. Planning for the future helps communities identify and anticipate inevitable changes rather than merely react at a time when options are fewer and the outcome less controllable. Urban planners use many tools to address and help control future change. Many of these tools attempt, in one way or another, to influence and control the built environment. A comprehensive transportation plan is one such tool.

The comprehensive transportation plan is a vital component of rural and urban development that helps guide the planning process for municipalities, as it not only addresses the current needs of the community, but also preserves their vision of the future. The primary purpose of the Hunt County Transportation Plan is to ensure the orderly and progressive development of the urban and rural systems to serve the mobility, access, and quality of life needs of the public. Components of this comprehensive plan include major corridor and thoroughfare planning, sustainable development, land use, public transportation, bicycle and pedestrian concerns, and rail transit.

The Hunt County Transportation Plan, in addition to serving as the future vision of how and when development occurs, should also serve as a means of communication to the citizens of Hunt County and the development community. The plan identifies specific areas and modes for improvement, as well as areas where right-of-way should be preserved for future multimodal development. Since it is a county-level comprehensive study, the plan encourages consistency among plans adopted by local governments and helps ensure that roadways crossing jurisdictional boundaries connect with each other and facilitate movement within a larger system. By avoiding the over acquisition of right-of-way, the plan also helps ensure that land is not unnecessarily removed from tax rolls and maintained at public expense. The plan also aids in the prevention of an even more expensive and likely scenario in which not enough land is available to meet future demand.

## RECOMMENDATIONS

### Hunt County Master Thoroughfare Plan

Thoroughfare planning is an effort to locate and prioritize roadway development to meet demand arising from projected traffic growth. The Hunt County Thoroughfare Plan is comprised of three basic elements which individually identify specific areas for improvement and set standards for consistency. Taken as a whole, these elements form the basis for a comprehensive and cohesive roadway system designed to meet current and future travel needs for the county. Specifically, the three main elements of the plan are: 1) countywide needs assessment, 2) corridors of county need, and 3) thoroughfare plan recommendations.

The needs assessment process focused on a variety of transportation issues facing Hunt County and attempted to identify areas of future capacity need. Taking into account public input, current traffic count data, demographic projections, and county-to-county worker flows, this plan identifies areas of current growth within the county. Connections between these growth areas, and within Hunt County in general, were then derived to get a more complete picture of transportation needs within the county. From this information corridors of county need can be identified.

These corridors of county need attempt to address the significant capacity demands in Hunt County. Included in these corridors are multiple east-west connections to Collin and Rockwall counties; radial movements between the

major development centers in the Greenville, Commerce, and Quinlan areas; a countywide loop; regional corridors that allow for significant through movements; and improved access corridors in the more rural areas of the county.

As a companion to the corridors of county need, a series of potential thoroughfare plan recommendations have also been created. These facility-level recommendations represent a transportation system that has been developed as a result of an extensive needs assessment process, and attempt to meet the transportation demand by assigning broad functional classifications, lane designations, and potential geometric improvements to new and existing roadways. Elements of these recommendation families are not interdependent and can be added or deleted to suit county need. The level of improvement can be chosen to best fit local needs on a corridor by corridor basis.

The recommendations are broken down into three roadway classifications: 1) 4/6 Lane Divided Parkway, 2) 2/4 Lane Undivided Parkway, and 3) Enhanced Corridor. Divided parkways are more regional in nature and focused in areas of significant projected capacity need, undivided parkways help alleviate mobility needs in more rural areas and also act as reliever routes to the divided parkways, and enhanced corridors are existing two-lane roads which can act as connecting facilities for the system as a whole. Corridor enhancements may include modification of intersections or shoulders, increased speeds, or the addition of center turn lanes to increase capacity without significant change to the right-of-way.

The Existing Facility Improvements scenario represents potential thoroughfare recommendations for existing county roadways only. No additional roadways would be added to the system in this scenario, and the recommended corridors should be reviewed to determine where environment, safety, and financial conditions allow for a more direct geometric alignment. The cost of such a scenario would be lessened as the need for additional right-of-way and risk of displacements would be minimal. However, the benefits of improved traffic mobility, safety, and the possibilities for future transit services would possibly suffer as a consequence. Potential connecting facilities that were identified in the needs assessment process have been highlighted.

The Existing Facility Improvements and Critical Connections scenario represents potential thoroughfare recommendations for existing county roadways, as well as critical new facilities. Major facilities in this scenario include an east-west connection between SH 34 and FM 512 in north Hunt County, a bypass loop around the city of Greenville, and a north-south connection between US 69 and FM 1737 near Lone Oak. The addition of these new facilities completes major corridors identified in the needs assessment process. The cost associated with this scenario would be higher as a result of the new facilities, mainly due to an increased amount of necessary right-of-way and potential displacements. However, mobility and safety would be improved and the potential for future transit corridors would increase. Potential countywide geometric improvements that were identified in the needs assessment process have been highlighted.

Expanding capacity within corridors in need of geometric improvement has the potential to create new mobility and safety hazards, and the recommended corridors should be reviewed to determine where environment, safety, and financial conditions allow for a more direct geometric alignment. The Major Corridor Development and Realignment scenario represents potential thoroughfare recommendations for existing county roads, critical new connecting facilities, and countywide geometric improvements. This scenario reflects a build out and geometric improvement condition that represents all the recommended improvements resulting from this comprehensive planning process. This system is not tied to a specific time frame, but rather is intended to represent a snapshot of the county's roadway system when the county has been fully developed.

## Rail Transportation Study/Public Transit Feasibility Study

Since much of Hunt County's future economic development potential is expected to rise from its connection to the rest of the Dallas-Fort Worth Metropolitan Area, it is important to explore options to increase that connectivity, including public transit options. Based on the current availability of funding and the projected ridership within Hunt County, daily rail service is not feasible at this time. In fact, no additional rail projects were added to Mobility 2035. The potential limited ridership is due to low densities in Hunt County. Timing of future connection to the current system is in doubt due to limited funds and timing changes of current projects. Other options should be considered first before investing in the expense of rail.

Although the needed density to provide efficient rail service is not currently found in Hunt County, some options exist to improve the future viability of rail. An increase in density with a focus on land use and transit-oriented developments will help establish a viable base for rail passengers. The base should be built on the current services that exist.

Until such a time as rail service is warranted, a limited daily express bus service could provide the short-term solution for those traveling to Dallas or Collin counties for work and start building a reliable passenger base. The cost of the service would be less expensive than rail and could be terminated at any time if the service could not gain support from Hunt County residents. This service is envisioned to have one morning and one afternoon trip with stops in Commerce and Greenville before its final connection to the Dallas Area Rapid Transit (DART) system. The connection to DART could occur either at the Rowlett Station with direct access to the DART Blue Line, or in downtown Dallas where the Hunt County commuters could access the entire DART system, including the Trinity Railway Express. The planning level cost of this service is estimated to be less than $5 million per year. Additional planning would be needed to refine the cost, level of service, and passenger pick-up locations.

Although daily rail service is not feasible at this time, it may become feasible in the future as the county grows and develops, as an estimated 3.5 million more people will come to North Central Texas over the next 25 years. Many will surely reside in Hunt County, increasing the need for transit services to other parts of the region. Mobility 2035 lays the groundwork for eventual rail development by highlighting corridors for future evaluation. While many of these corridors will not be built, as the region continues to grow, some of these corridors will eventually be ready to provide passenger rail service.

Additionally, the Regional Transportation Council, through Mobility 2035, has been working on High Speed Rail (HSR) access to the region. There are options for HSR to connect to the region through Hunt County. Alignments have not been determined but Hunt County officials will be able to participate in future alignment discussions.

## Hunt County Bicycle and Pedestrian Plan

Maintaining an accessible, well-designed bicycle and pedestrian network can help deliver a higher quality of life to Hunt County residents while helping the transportation network accommodate growth by reducing the need for automotive transportation. Hunt County has excellent opportunities for developing a good bicycle and pedestrian network. Many streets are overly wide and can be restriped to add on-street bicycle facilities. New paths on separate rights-of-way should be constructed where feasible. Paths adjacent to a roadway differ from sidewalks in that they are wide enough (typically eight foot minimum) to accommodate both bicycle and pedestrian traffic. Short connecting paths serve to provide connectivity for bicyclists and pedestrians. Dedicated on-street bicycle facilities should be provided on most arterial streets, or on a parallel route when not feasible, due to limited right-of-way, heavy or high-speed traffic, or a number of other factors that make dedicated on-street bicycling facilities unsafe. Dedicated on-street bicycle facilities should also be added on a number of collectors, particularly those that are overly wide and currently invite speeding.

Hunt County also has vast reserves of undeveloped land that can benefit from a well-planned system of greenways, open space, and multi-use trails. A significant trails network should be developed to form convenient connections between and throughout cities within Hunt County. Trails should be specifically linked to the full system of routes included in the North Central Texas Council of Governments (NCTCOG) Regional Veloweb. Linkages between neighboring counties and cities are critical as they provide connections to Hunt County and its local governments, ultimately maximizing use of the facilities and providing accessibility.

Priority should be given to facility improvements within a half-mile of schools, major employment centers, and parks. Improvements near other major destinations, such as community centers, entertainment or shopping districts, and mixed-use developments, should also be considered top priorities for facility implementation. Improvements should focus on retrofitting existing sidewalks to comply with the Americans with Disabilities Act of 1990, and the county and its local governments should develop a sidewalk maintenance program to ensure facilities are safe and operational for all users, including individuals with mobility impairments. A second tier of sidewalk improvements should be developed for all facilities that fall outside the half-mile radius.

To encourage pedestrian activity along sidewalks, the following areas should be addressed as needed: creating buffers between the roadway and the sidewalk via landscape or on-street parking or dedicated bicycle facilities; adding bicycle and pedestrian amenities such as benches, shading, way-finding signage, bicycle racks, banners, etc.; improving pedestrian facilities such as crosswalks, curb bulb-outs, mid-block crossings, and pedestrian signal heads. Sidewalk construction should be considered a routine part of all roadway construction and reconstruction projects with funding for the sidewalk coming from the roadway funds or the adjacent landowner.

Hunt County and its local governments were readily involved in the development of the NCTCOG Regional Veloweb. The alignments were approved by Hunt County and local government staff before its inclusion in Mobility 2035 and should, therefore, be the basis for any off-street facilities for the county. Planning and development of these trail corridors should be a primary focus for the county, and long-term right-of-way access should be preserved. Trail intersections with roadways should be designed to ensure safety for both trail users and motor vehicles.

Additionally, as roadway construction and reconstruction projects are initiated, Hunt County should coordinate with its local governments, The Texas Department of Transportation (TxDOT), and NCTCOG as applicable to ensure compliance with federal directives to include bicycle and pedestrian facilities as part of all roadway projects, including locally funded projects. Not all roadways will require the same treatment.

Since Hunt County has an abundance of rural roads, providing adequate shoulders on these roadways wherever feasible is strongly encouraged in order to decrease the potential for conflict between motorized vehicles and non-motorized vehicles, farm equipment, pedestrians, and bicyclists. Additionally, congestion will be increased on the primary roads serving rural centers if every trip must be accomplished by a motorized vehicle using the main road.

Site-specific and more detailed recommendations can be found in the Hunt County Bicycle and Pedestrian Plan chapter and related appendices of this document.

## Greenville Land Use Analysis

A city's use of land is one of the keys to its ability to meet the needs of current and future residents. The land use controls implemented by the city not only control development patterns, but also impact the residential quality of life. A wise use of land use controls will foster growth within the city while conserving resources and promoting the well being of the city's residents.

The city of Greenville is well positioned to accommodate future growth. Just under half of the land in the city (48 percent) is undeveloped, leaving plenty of room for future growth and development. The city's 2010 population of 25,557 is projected to reach 38,679 by 2035, representing a 51 percent increase, or 1.67 percent average annual growth rate. This growth rate is in line with the region as a whole, but is lower than that of Hunt County.

Single-family housing represents the largest single land use in Greenville, consuming 21 percent of developed land and 11 percent of all land within the city. In general, housing in Greenville is affordable in relation to the median salary of households in the city, though some areas – generally those south of IH 30 – may be less affordable when transportation costs are taken into account. Roughly a third of houses in the city are older than 50 years, which may qualify them for inclusion in a historic district. As the city grows, the existing housing stock should be supplemented with a variety of housing options to reflect diverse housing needs.

Greenville employment is spread across a variety of sectors with roughly half the workforce in sales, management, professional, and other occupations. Commercial activity is generally concentrated in the central business district and along the IH 30, US 69, and SH 34 corridors in the southern part of the city. The area around Major Field also hosts a high level of employment. Industrial activity is primarily concentrated near the convergence of US 380, US 69, and SH 66.

Greenville's location within the Dallas-Fort Worth Metropolitan Area presents certain opportunities and challenges. Its proximity to the Dallas-Fort Worth area allows residents to live in a comparatively rural setting and commute to the job opportunities in Dallas; however, there are far fewer opportunities for those living in Dallas to commute to Greenville for employment. While residents value the small town atmosphere very highly, the city would also like to develop into a self-sufficient economic destination.

A number of strategies exist that may help Greenville retain its small-town feel while accommodating future growth and promoting economic development. One such strategy is to increase the city's overall density by encouraging mixed-use and infill development. Mixed-use development allows different uses to be located closer together, reducing the length of trips between different land uses. Infill development allows the city to take advantage of existing infrastructure and postpone or avoid making expensive infrastructure improvements on the margins of the city. Another strategy is to encourage alternate modes of travel such as walking and bicycling, thus reducing the number of car trips and the need for large swaths of parking spaces.

These strategies and others are formalized into a number of different systems, such as Smart Growth principles, which encourage planning efforts that seek to mix land uses, emphasize compact design, and preserve open space, among other principles. Smart Growth principles are intended to minimize the effects of urban sprawl. Another approach is the use of form-based codes, which replaces conventional, use-based zoning with a zoning system based on the placement and design of buildings and their effects on the public space. As with conventional zoning, different codes may be applied to different areas of the city to reflect the transition from rural and suburban areas into the urban core. A third system is the concept of PlaceMaking, which uses redevelopment as a tool to create desirable destinations. PlaceMaking strategies concentrate on restoring core areas, expanding transportation choices, extending the town grid, and developing a community-based plan.

Since growth does not occur everywhere at once, it is important to concentrate first on a number of high-density locations that can serve as the catalyst for future growth. These catalyst sites have advantageous geographical positions, in areas with high traffic counts, developable acreage, and locations within walking distance of current or future residential development. The five recommended catalyst sites include the following locations:

- IH 30 and Monty Stratton
- IH 30 and SH 34

- SH 34 and Traders Road
- IH 30 and BU 69
- US 69 and Spur 302

## State Highway 34 Corridor Study

Over the last two decades, the city's development efforts have focused primarily on improvements to the central business district and new developments elsewhere in the city. This has left older corridors, such as the SH 34 corridor between the central business district and IH 30, to experience a long twilight of slow decline. Declining property values can create a vicious cycle of decaying infrastructure, reduced commercial traffic, and shrinking revenues. Reversing this decline is important to the city's long-term health.

Redevelopment efforts along SH 34 are complicated by the heavily automobile-dependent nature of the corridor. As a state highway, the corridor functions to connect Greenville's core with IH 30 and other cities to the south. Subsequent design of the highway and its adjacent land uses concentrated on accommodating automobiles, limiting its appeal to pedestrians and bicyclists, and sacrificing developable areas to endless parking lots. While Greenville ordinances require the construction of sidewalks in front of new developments, the sidewalk network remains largely incomplete, especially south of Joe Ramsey Boulevard. No bicycle facilities are provided on SH 34 and the relatively high speed limit poses a safety issue. The large number of driveways opening onto the highway is a deterrent to both pedestrians and bicyclists, and a safety issue for automobiles as well.

Previous development along SH 34 has also been shaped by an approach to zoning that maintains a degree of separation between different land uses. This separation often has the effect of requiring longer trips between different land uses, thus decreasing the potential for alternative travel modes. Efforts to transform the SH 34 corridor into a vibrant and attractive area should seek to encourage increased density and mixed uses, reduce the need for automobile parking, and provide infrastructure supporting other modes of travel. Strategies to accomplish this are likely to focus on the following areas:

**Land use controls:** Traditional zoning focuses on separating land uses that are deemed incompatible. However, in the process of separating residential and heavy industrial uses, zoning sometimes separates land uses that are not only compatible, but synergistic such as office and retail uses. The redevelopment potential of the corridor may be improved by encouraging more mixed-use development, including multi-family residential. One way to accomplish this is through form-based codes, which control the placement and design of buildings with less concentration on the building's use.

**Revised parking regulations:** Parking issues along the corridor generally fall into two categories: quantity and access. Reducing or removing the minimum parking requirement – especially the requirement for businesses expanding in place to also expand their parking supply – will free up real estate for more profitable development and reduce the distance between buildings. The city can also revise its parking regulations to encourage shared parking, especially among adjacent uses with different demand characteristics such as offices and restaurants. Encouraging shared driveways among land uses reduces the number of potentially conflicting traffic movements, improving road safety without sacrificing access to land uses. These improvements, along with form-based codes that encourage the placement of parking lots behind buildings rather than in front, can help enhance the pedestrian experience as well.

**Roadway amenities:** Improvements to the roadway must balance the needs of through traffic with the needs of local land uses, as well as the sometimes competing needs of the automotive, pedestrian, and bicycle modes. To encourage bicycling, the city has the option of either designating SH 34 itself as a bicycle route or establishing a

route along a parallel street and providing way-finding signs to destinations along SH 34. Providing pedestrian amenities such as benches, shade trees, and designated mid-block crosswalks can improve the pedestrian experience. Replacing the center turn lane with a raised median can make the road more visually attractive and help pedestrians by providing a refuge while crossing the street. Breaks in the median can provide access for local businesses.

## Conclusion

The Hunt County Transportation Plan is intended to provide a context for a systemic vision of transportation planning that integrates not only local and county-level transportation planning efforts but also discussions of land use and economic development. This level of integration can help encourage sustainable transportation modes by fostering land uses that support such modes. Integrated planning also helps prevent wasteful "throw-away" projects, in which recent construction is razed and replaced as a result of shifting priorities. An integrated planning system can also help incubate projects so they are ready to carry out when funding opportunities arrive. This plan can assist integrated planning goals by providing a framework for collaborative planning efforts, identifying potential projects and funding opportunities, and determining further study needs.

This plan has been conducted through the use of Federal Transportation Planning Funds by the North Central Texas Council of Governments. This project was included in the Fiscal Year 2010 and Fiscal Year 2011 Unified Planning Work Program for Transportation Subarea Studies and Comprehensive/Thoroughfare Planning Technical Support as part of the continuing transportation planning process. **This plan does not contain any funding commitments or specific prioritized infrastructure recommendations.**

# I. Introduction

Coordinated, comprehensive, and continuous planning is the backbone of efforts to preserve and enhance quality of life while ensuring and promoting orderly development, fulfilling community goals and objectives, and paving the way for generations to come. Planning for the future helps communities to identify and anticipate inevitable changes rather than merely to react at a time when options are fewer and the outcome less controllable. Urban planners use many tools to help address and control future change. Many of these tools attempt, in one way or another, to influence and control the built environment. A comprehensive transportation plan is one such tool.

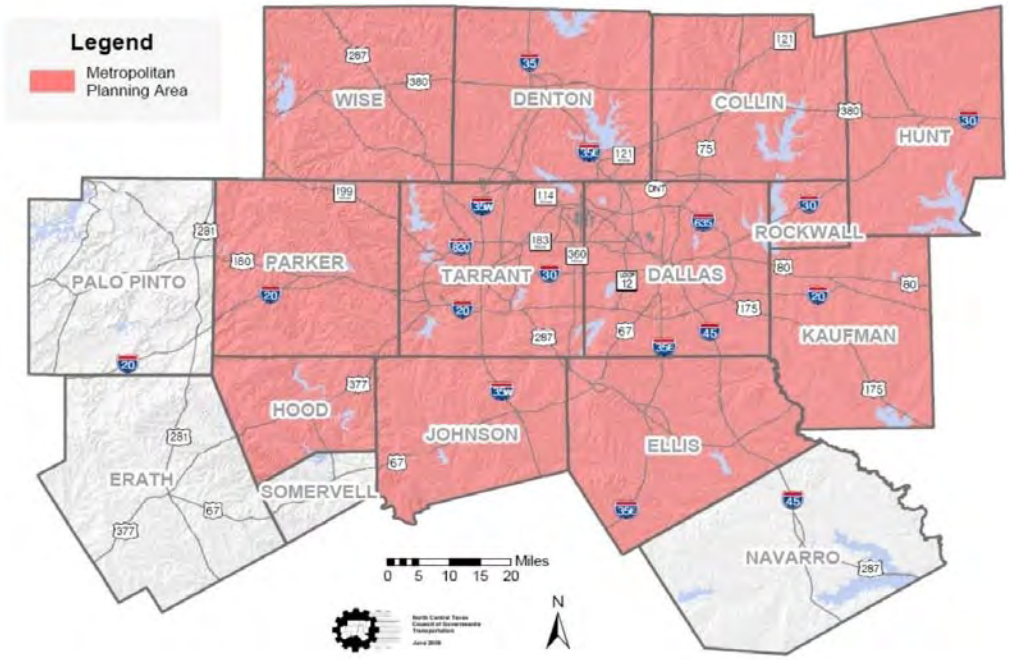
The comprehensive transportation plan is a vital component of rural and urban development that helps to guide the planning process for a municipality or region, as it addresses not only the current needs of the community, but also preserves their vision of the future. The primary purpose of the Hunt County Transportation Plan is to ensure the orderly and progressive development of the urban and rural systems to serve the mobility, access, and quality of life needs of the public. Components of this comprehensive plan include major corridor and thoroughfare planning, sustainable development, land use, public transportation, bicycle and pedestrian concerns, and rail transit.

## Part of a Much Larger Region

In October 2009, Hunt County became a member of the North Central Texas Council of Governments (NCTCOG) as a result of the expansion of the Metropolitan Planning Area, which was enlarged to include the 12 counties that make up the ever-growing Dallas-Fort Worth region (*Exhibit I-1*). NCTCOG, through its Transportation Department, is the federally designated Metropolitan Planning Organization (MPO) that conducts regional transportation planning in North Central Texas. NCTCOG was established to assist in planning for the common needs, cooperating for mutual benefit, and coordinating for sound regional development. NCTCOG's purpose is to strengthen both the individual and collective power of local governments and to help them recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions. MPO activities are led by the NCTCOG Executive Board, the Regional Transportation Council, and the Surface Transportation Technical Committee, as well as by a variety of other fiscal, policy, and technical committees.

As a new member of NCTCOG, Hunt County's top priority was to identify the challenges and opportunities facing the county. Challenges facing the county include dramatic regional growth, limited infrastructure funding, localized planning initiatives that would be better suited if addressed regionally, inadequate county and regional roadway connections, and few multimodal options. These challenges are offset by a number of opportunities identified within the plan, including the continued economic growth of the county and region as a whole, improved regional mobility, sustainable development strategies to improve quality of life, innovative funding, and analysis of regional rail and public transportation. The goal of addressing the challenges and making the most of the opportunities in a single, integrated document provides the driving force behind the creation, completion, and implementation of the Hunt County Transportation Plan.

*Exhibit I-1: Dallas-Fort Worth Metropolitan Planning Area*




## The County's First Comprehensive Transportation Plan

Since its formal creation and dedication in 1846, Hunt County has continued to witness change. Consisting of approximately 840 square miles of Texas Blackland Prairie, the county is nestled in North Central Texas, only 50 miles from Dallas. The Dallas-Fort Worth region is currently ranked as the fourth largest metropolitan area in the United States with a year 2010 population of 6.5 million persons, and is expected to increase to nearly 10 million persons by the year 2035. Hunt County is officially listed at 86,129 from the United States Census Bureau for a year 2010 population, which reflects an increase of 12.4 percent between the years 2000 and 2010.

Although the cities within Hunt County have been engaged in long-range transportation planning activities for many years, this plan represents the county's first comprehensive and coordinated transportation planning effort. Similar to the regional planning process, a countywide comprehensive planning process must include all stakeholders in order to be successful. This includes not only each local government municipality, but also local chambers of commerce, the Texas Department of Transportation, neighborhood interest groups, federal and state resource agencies, and probably most importantly, it must include the public for which it is created.

The Hunt County Transportation Plan, in addition to serving as the future vision for how and when development occurs, should also serve as a means of communication to the citizens of Hunt County and the development community. The plan identifies specific areas and modes for improvement, as well as areas where right-of-way should be preserved for future multimodal development. Since it is a county-level comprehensive study, the plan encourages consistency among plans adopted by local governments and helps ensure that roadways crossing jurisdictional boundaries connect with each other and facilitate movement within a larger system. By avoiding the over acquisition of right-of-way, the plan also helps ensure that land is not unnecessarily removed from tax rolls and maintained at public expense. The plan also aids in the prevention of an even more expensive and likely scenario in which not enough land is available to meet future demand.

The Hunt County Transportation Plan has been conducted through the use of Federal Transportation Planning Funds by the North Central Texas Council of Governments. This project was included in the Fiscal Year 2010 and Fiscal Year 2011 Unified Planning Work Program for Transportation Subarea Studies and Comprehensive/Thoroughfare Planning Technical Support as part of the continuing transportation planning process.

# II. Hunt County Profile

## HUNT COUNTY PLANNING AREA

The study area used for development of this plan is Hunt County, as shown in *Exhibit II-1*. Hunt County is geographically located in North Central Texas, just east and adjacent to Collin County, and northeast of the cities of Dallas and Fort Worth. This planning area boundary encompasses 882 total square miles (841 square miles of land and 41 square miles of water) and includes the cities of Caddo Mills, Campbell, Celeste, Commerce, Greenville, Hawk Cove, Lone Oak, Neylandville, Quinlan, Union Valley, West Tawakoni, and Wolfe City in addition to the unincorporated areas of Cash, Floyd, and Merit and a portion of Royse City. The US Census Bureau includes Hunt County within the Dallas-Fort Worth-Arlington, Texas Metropolitan Statistical Area. The city of Greenville serves as the County Seat.

## PHYSICAL CHARACTERISTICS

### County Summary

Hunt County's land area stretches approximately 25 miles east to west and 35 miles north to south. It is bordered by Delta, Hopkins, and Rains counties to the east, Fannin County to the north, Collin and Rockwall counties to the west, and Kaufman and Van Zandt counties to the south. Hunt County's transportation system includes approximately 2,000 centerline miles and 4,000 lane miles of roadway (2009 Texas Department of Transportation). The highest capacity roadways are IH 30 and US 380 which both run east-west through the center of the county. The majority of the county's land is undeveloped or serving agricultural uses. The highest proportion of developed land is residential with a density averaging approximately 91 persons per square mile (US Census). The majority of economic land uses and higher residential densities are located within the cities of Greenville and Commerce.

### Hydrology and Topography

Less than five percent, 41 square miles, of Hunt County's total area is covered with water. The most notable water feature in the county is Lake Tawakoni, located approximately 15 miles south of Greenville and 10 miles east of Quinlan. This lake covers approximately 36,700 acres in Hunt, Rains, and Van Zandt counties and is fed by the Sabine River. SH 276 and FM 751 provide east-west and north-south movements across the lake, respectively. *Exhibit II-2* shows details of Hunt County's hydrology and topography.

### Infrastructure

Future transportation system planning must consider not only natural features, but infrastructure facilities as well, such as railways, schools, and airports, as shown in *Exhibit II-3*. Currently 42 schools are located within Hunt County's 17 school districts: Bland Independent School District (ISD), Boles Home ISD, Caddo Mills ISD, Campbell ISD, Celeste ISD, Commerce ISD, Community ISD, Cooper ISD, Cumby ISD, Fannindel ISD, Greenville ISD, Leonard ISD, Lone Oak ISD, Quinlan ISD, Royse City ISD, Terrell ISD, and Wolfe City ISD. Each school requires the implementation of school zones for safety purposes, which have the intended result of reducing posted speed limits and the unintended result of potential increased traffic congestion at those locations.

There are five airports in Hunt County, one in Greenville, one in Commerce, one in Caddo Mills, and two in unincorporated southwest Hunt County along SH 34 and FM 1565. All are general aviation facilities. Multiple rail lines exist within the county, including the Kansas City Southern, running from Dallas to Sulphur Springs through Greenville; the Dallas, Garland and Northeastern, running between Garland and Greenville, and also from Greenville northwest to Trenton; and the Northeastern Texas Rural Rail District (NETEX) line, operated by

# Hunt County

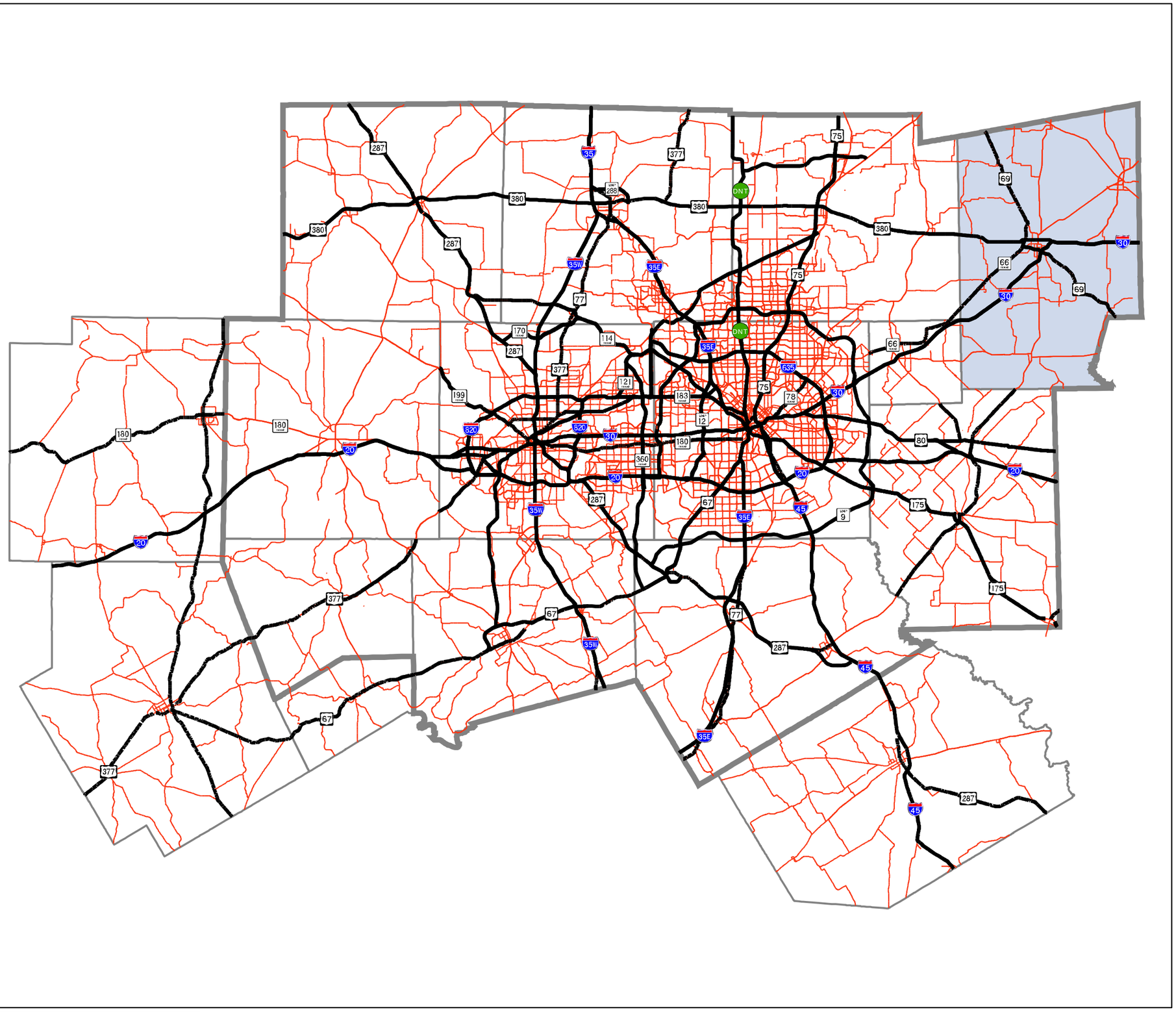
Study Area

**Legend**

- Freeway/Tollway
- Major Arterial
- Metropolitan Planning Area Boundary
- County Boundary
- Hunt County

North Central Texas Council of Governments
Transportation

Note:
Roadways as shown are a combination of the current year RIS network and Mobility 2035: The Metropolitan Transportation Plan for North Central Texas, Year 2035 network where available.




0 5 10 20 30 Miles

March 2012

Exhibit II-1

# Hunt County

Natural Physical Features

**Legend**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Hydrology

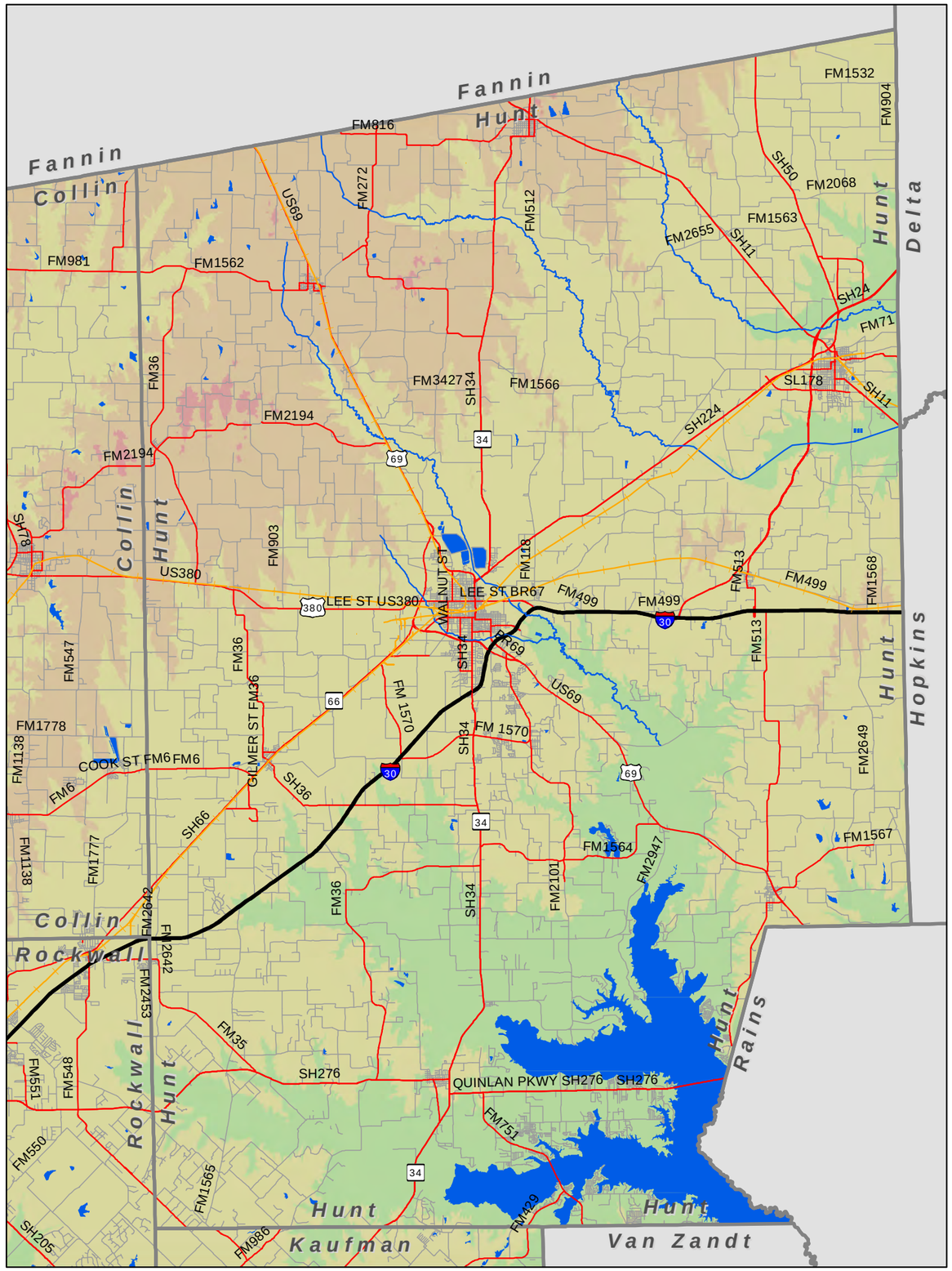
**Elevation (Feet)**

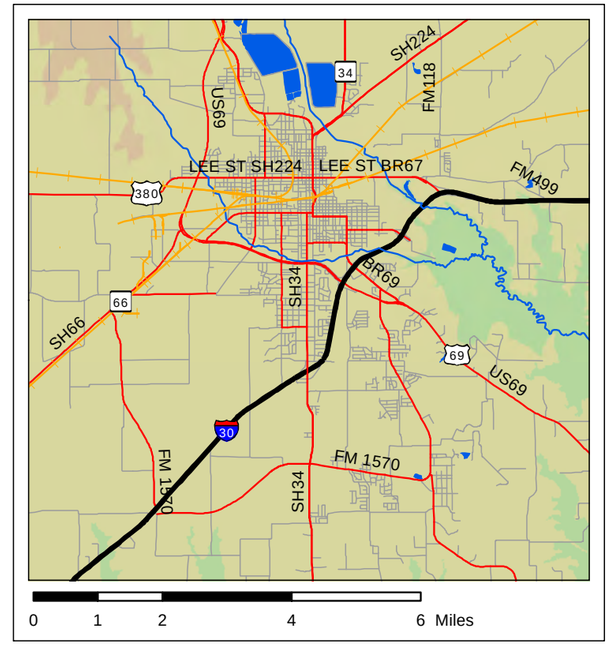
- 230 - 300
- 300 - 400
- 400 - 500
- 500 - 600
- 600 - 700
- 700 - 800

North Central Texas Council of Governments
Transportation

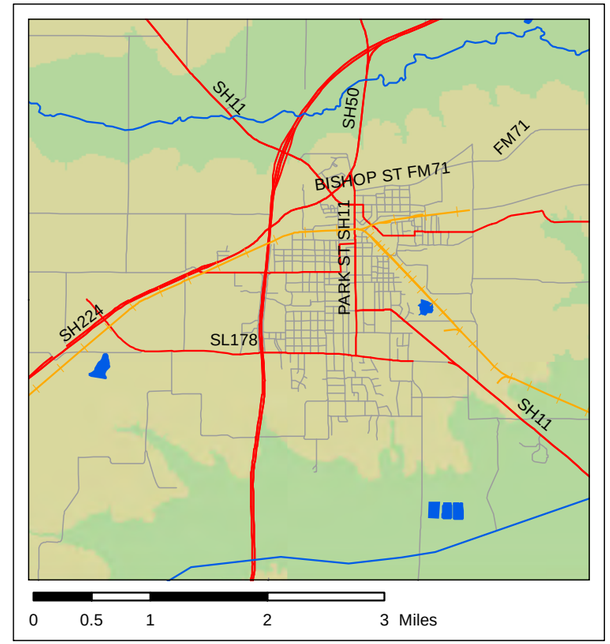
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.


March 2012




Greenville




Commerce

Exhibit II-2

# Hunt County

Man-Made Physical Features

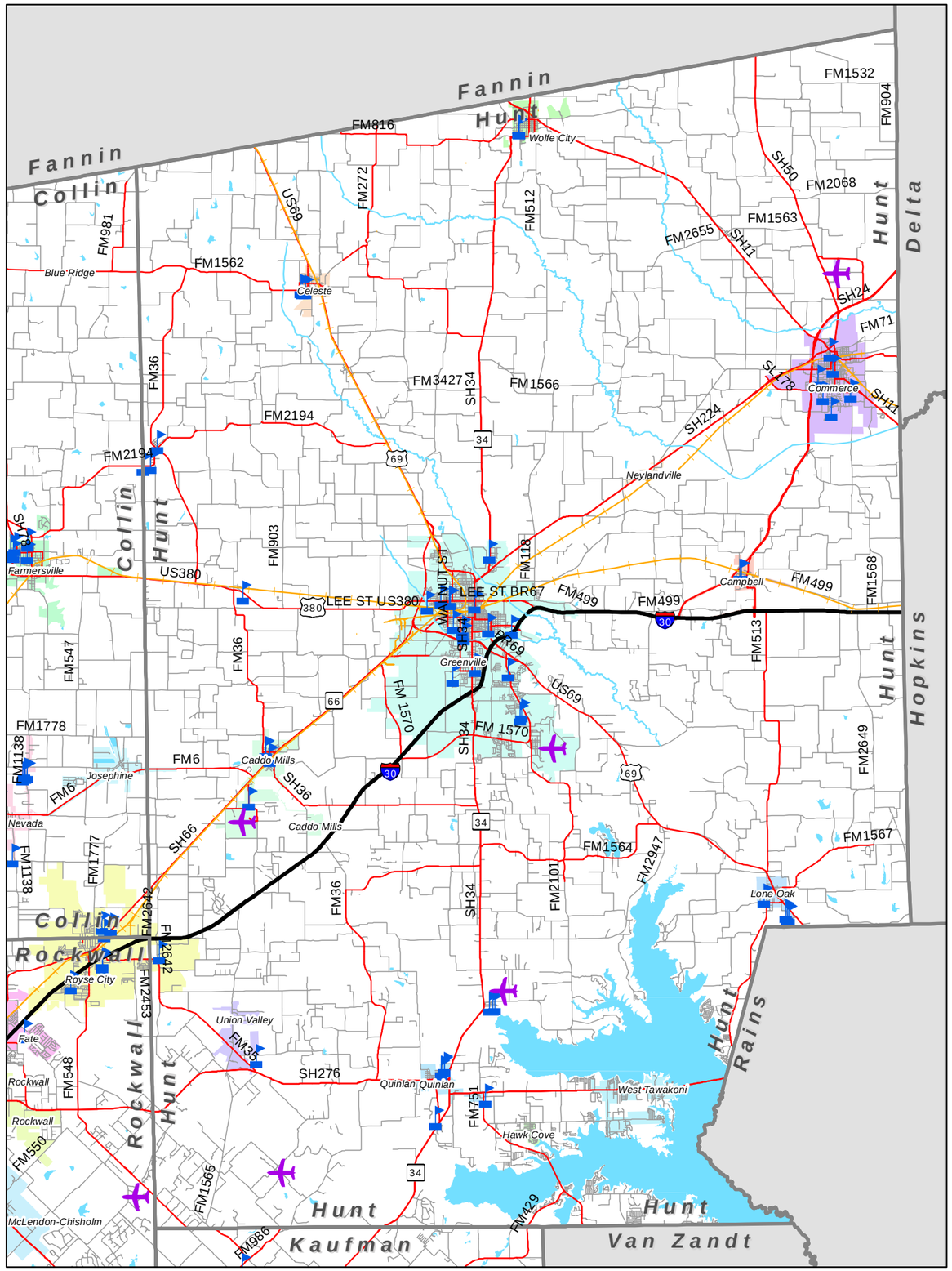
**Legend**

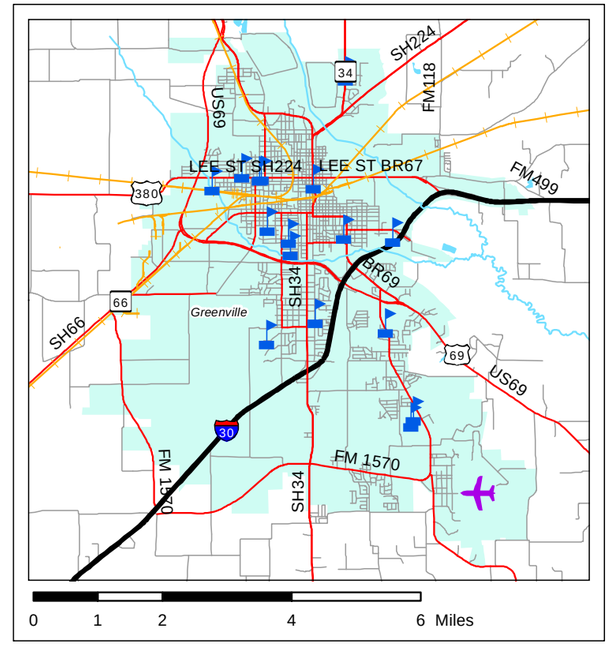
- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- School
- Airport

North Central Texas Council of Governments
Transportation

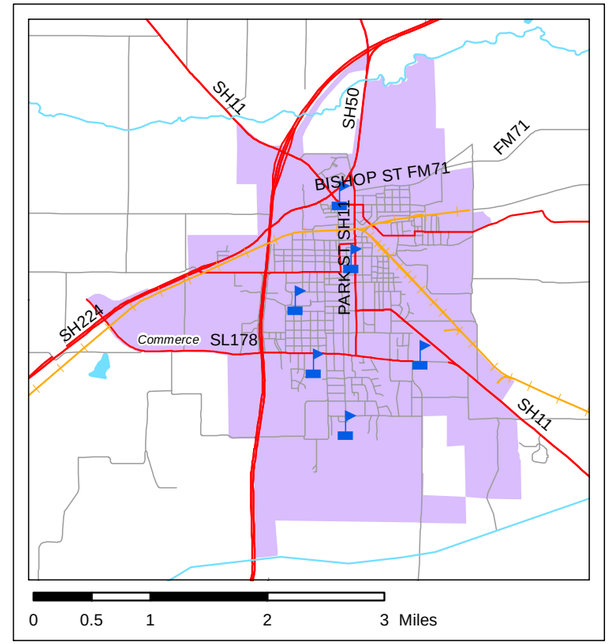
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.


March 2012




Greenville




Commerce

Blacklands Railroad, running from Greenville to Sulphur Springs via Commerce. These existing rail lines are exclusively used for freight movement. NETEX owns a second right-of-way between Wylie and Greenville; however, this line is inactive and the rail has been removed. Passenger rail and bus service is currently unavailable for the majority of commuters, but these transit elements are currently being evaluated.

## DATA RESOURCES

Data collection activities performed as part of the comprehensive planning process included the collection and assembly of available data from local governments, the Texas Department of Transportation, the US Census Bureau, Texas State Data Center, Commerce Economic Development Corporation, Texas A&M University-Commerce, and the North Central Texas Council of Governments. Additional data was obtained by conducting roadway inventories and gathering public input.

## REGIONAL PLANNING

### *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas* (Mobility 2035)

Mobility 2035 is the defining vision for the multimodal transportation system in the Dallas-Fort Worth Metropolitan Area and was adopted in March 2011 by the Regional Transportation Council. Mobility 2035 guides the implementation of multimodal transportation improvements, policies, and programs in the 12-county Metropolitan Planning Area through the year 2035.

Goals define the purpose of Mobility 2035 and guide efforts that accommodate the multimodal mobility needs of a growing region. These goals support and advance the development of a transportation system that contributes to the region's mobility, quality of life, system sustainability, and continued project implementation.

### Mobility

- Improve the availability of transportation options for people and goods.
- Support travel efficiency measures and system enhancements targeted at congestion reduction and management.
- Assure all communities are provided access to the regional transportation system and planning process.

### Quality of Life

- Preserve and enhance the natural environment, improve air quality, and promote active lifestyles.
- Encourage livable communities which support sustainability and economic vitality.

### System Sustainability

- Ensure adequate maintenance and enhance the safety and reliability of the existing transportation system.
- Pursue long-term sustainable revenue sources to address regional transportation system needs.

### Implementation

- Provide for timely project planning and implementation.
- Develop cost-effective projects and programs aimed at reducing the costs associated with constructing, operating, and maintaining the regional transportation system.

## Hunt County Transportation Committee

One of the driving forces of the Hunt County Transportation Plan was the direction and oversight provided by the Hunt County Transportation Committee, which was created to help guide the planning process and assist with defining the current multimodal transportation needs and future vision of Hunt County. The Committee was in continual contact and coordination with North Central Texas Council of Governments (NCTCOG) staff over the course of the planning process, and was instrumental in offering insight, providing direction, recommending changes, and providing the framework necessary to develop the set of recommendations identified and contained within this study report.

## Roadway Inventories

Major transportation facilities in Hunt County were identified by NCTCOG's Research and Information Services Department. Information related to the roadway's functional classification, speed limit, and available lanes of travel was gathered for the larger corridors. In addition, this study also considered transportation facilities for which funds will be committed by the year 2035.

## Public Input

A series of community outreach meetings was held in April 2010 within the cities of Greenville and Caddo Mills. At those meetings, members of the public were invited to offer suggestions and provide input into this planning process. In particular, the public was asked to help by examining large aerial photographs of the county and identify areas of concern they felt needed attention. These concerns became the foundation for problem identification, aided staff in addressing concerns and revealing opportunities, and ultimately were incorporated into the plan. The public input received will be discussed in greater detail throughout the document.

## Observed Traffic Counts

The way that the system currently operates is vital in understanding how it will operate in the future. As part of the data collection efforts, in the year 2003, daily vehicle traffic counts were collected at several locations throughout the county by the Texas Department of Transportation. These direct observations of current traffic patterns and the overall magnitude of traffic provide the basis for identifying the total non-directional flows at critical areas around the county. Understanding these flows is essential if solutions are to be formulated. The collection of observed traffic counts and the ability to study traffic count patterns over time help identify which facilities have grown the fastest and prioritize limited future funding.

## Existing County and City Multimodal Plans

Local government comprehensive plans, thoroughfare plans, zoning and land-use plans, bike trail and pedestrian plans, and other local and regional planning documents that currently exist for the county and its jurisdictions were reviewed to ensure the analysis performed and the recommendations resulting from this study are compatible and consistent with previous planning efforts. These documents include, but are not limited to, NCTCOG's Mobility 2035, the *Greenville Comprehensive Plan 2025*, the *West Greenville Small Area Plan*, and the Thoroughfare Needs Assessment prepared for Walton Development and Management (USA), Inc. Municipal Utility District in western Hunt County.

## TRANSPORTATION AND COMMUNITY DEVELOPMENT

Relatively few people travel merely for the sake of traveling. Most trips come about either because people at one location wish to avail themselves of opportunities at another location, or because they demand goods that are

produced at another location and must be transported to the location of the customer. Transportation patterns within a particular community will arrange themselves according to the economic development characteristics of the community.

Communities can develop in a variety of ways, each of which has implications for the type of demand that will be placed on the transportation network.

**Bedroom Communities:** This type of development is predominantly residential with retail, commercial, and some employment available to meet the needs of the immediate community. These types of communities often have good schools, distinct quality of life opportunities, and a small town feel. The majority of residents work outside the central locations. The transportation network is geared towards collecting residents and moving them out of the community during the morning and back in again during the evening. The majority of traffic is likely to be moving in the same direction.

**Regional Destinations:** This development features venues, events, and "special generators" that bring in trips from outside the immediate area or county for various uses, often bringing additional employment opportunities. Examples would include lakes, museums, hospitals, unique malls (like a Galleria or Grapevine Mills Mall), resorts, fair grounds, amusement parks, sporting fields/complexes of significant size, etc. The transportation network will reflect a convergence of traffic arriving from different directions. Depending on the nature of the destination, peak travel demand may occur on weekends or late evenings, rather than the expected morning and evening commuting periods.

**Diverse, Distinct Communities:** This development contains an equal mix of households to employment and local residents find a range of employment opportunities nearby. These communities have unique character and high-level amenities and services that would attract employers. The transportation network has an emphasis on shorter trips that tend to remain within the community. Connections to other communities still exist but are less significant.

In an area as large as Hunt County, all three development patterns are likely to emerge to some degree. The type of development occurring in a particular community will depend on a variety of factors, such as the available transportation infrastructure at a particular location, the land use and development strategies adopted by the county and various communities, and the opportunities available in other nearby communities. The availability of infrastructure for large-scale movements into and out of the community will tend to promote development as a bedroom community – assuming the presence of large-scale employment nearby – or a regional destination. On the other hand, a comprehensive transportation network within the area will encourage development as a diverse, distinct community. While few, if any, municipalities within a metropolitan context will develop exclusively in one pattern or the other, these factors will tend to cause a dominant pattern to emerge. Whichever development pattern is pursued, sustainable land use practices will play a key role in maintaining a desirable quality of life and ensuring that future growth does not outpace the availability of resources or adversely affect the character of the county's existing communities.

Determining the most effective and suitable future land use practices and development strategies for the county first requires an analysis of the existing conditions in the county, including demographics and current land uses. The existing land uses, coupled with current demographics, provide a baseline from which future growth and development scenarios can be created for the county.

## DEMOGRAPHIC TRENDS

The population in Hunt County reached 86,129 in 2010, accounting for 1.3 percent of the population in the 12-county Metropolitan Planning Area (*Exhibit II-4*). This was a 12 percent increase from 2000, but accounted for the slowest rate of growth for any county in the region, and was below the overall regional growth rate of 20 percent (Census 2000 and Census 2010). Despite the limited growth, NCTCOG forecasts project the population to increase in the next 25 years by 72 percent to 148,451 by 2035. This is a much faster growth rate than the internal counties, Dallas and Tarrant, which have many communities facing build out of undeveloped land, but slightly below the median growth rate of periphery counties such as Hood and Johnson, which are projected to grow by about 76 percent. The largest concentrations of growth between 2012 and 2035 in Hunt County are projected to be along the IH 30 and SH 66 corridors between Greenville and Royse City, and around Lake Tawakoni, between Lone Oak and West Tawakoni. The population along the IH 30 corridor between Greenville and Royse City is projected to increase 180 percent and the Lake Tawakoni area is expected to grow 200 percent. The projected population growth for Hunt County is displayed in *Exhibit II-4A*.

*Exhibit II-4: Regional Population Growth*

| | 2000 Population | 2010 Population | Growth | 2035 Projection | Projected Growth |
|---|---|---|---|---|---|
| Rockwall County | 43,080 | **78,337** | 81.84% | 172,568 | 120.29% |
| Hood County | 41,100 | **51,182** | 24.53% | 97,805 | 91.09% |
| Kaufman County | 71,313 | **103,350** | 44.92% | 193,509 | 87.24% |
| Johnson County | 126,811 | **150,934** | 19.02% | 272,061 | 80.25% |
| Collin County | 491,675 | **782,341** | 59.12% | 1,404,149 | 79.48% |
| Hunt County | 76,596 | **86,129** | 12.45% | 148,451 | 72.36% |
| Ellis County | 111,360 | **149,610** | 34.35% | 252,768 | 68.95% |
| Parker County | 88,495 | **116,927** | 32.13% | 193,730 | 65.68% |
| Wise County | 48,793 | **59,127** | 21.18% | 95,617 | 61.71% |
| Denton County | 432,976 | **662,614** | 53.04% | 1,053,903 | 59.05% |
| Tarrant County | 1,446,219 | **1,809,034** | 25.09% | 2,823,535 | 56.08% |
| Region | 5,309,277 | **6,371,773** | 20.01% | 9,833,378 | 54.33% |
| City of Greenville | 24,177 | **25,557** | 5.71% | 38,679 | 51.34% |
| City of Dallas | 1,188,580 | **1,197,816** | 0.78% | 1,683,361 | 40.54% |
| Dallas County | 2,218,899 | **2,368,139** | 6.73% | 3,125,282 | 31.97% |

### Race and Ethnicity

While population increased 12 percent in Hunt County between 2000 and 2010, the racial distribution of residents was relatively constant (*Exhibit II-5*). The majority of the population in Hunt County, 82 percent, was White in 2010. Although the total number of Whites in the county, 70,248, increased by ten percent, the overall proportion of residents in the county who listed themselves as White decreased two percent. The number of Blacks or African-Americans in the county decreased nearly two percent, dropping to 7,133, but the population of Asians increased 125 percent to 1,063. The Hispanic population increased 85 percent to 11,751 (*Exhibit II-6*).

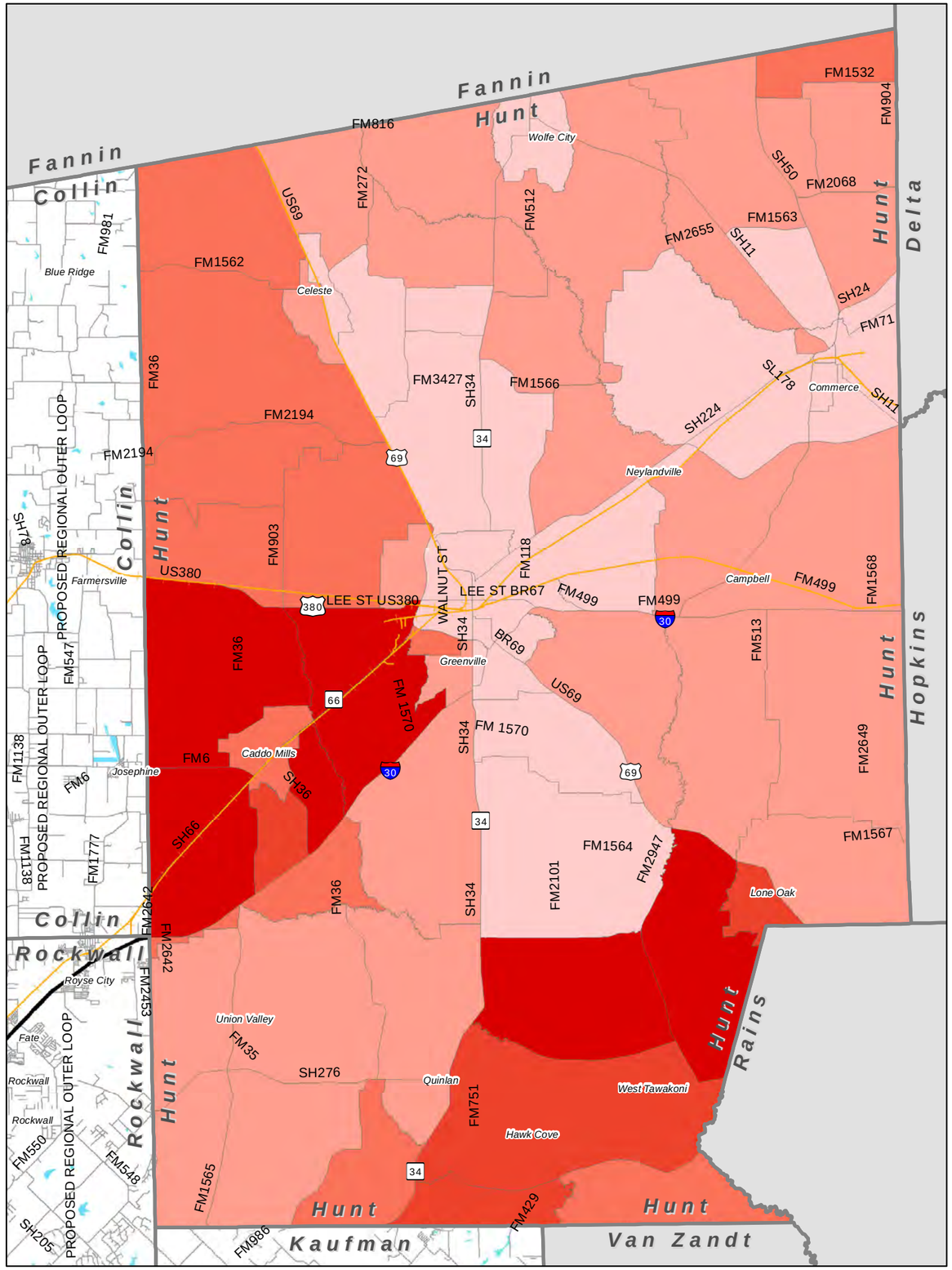
# Hunt County
# 2035 Projection

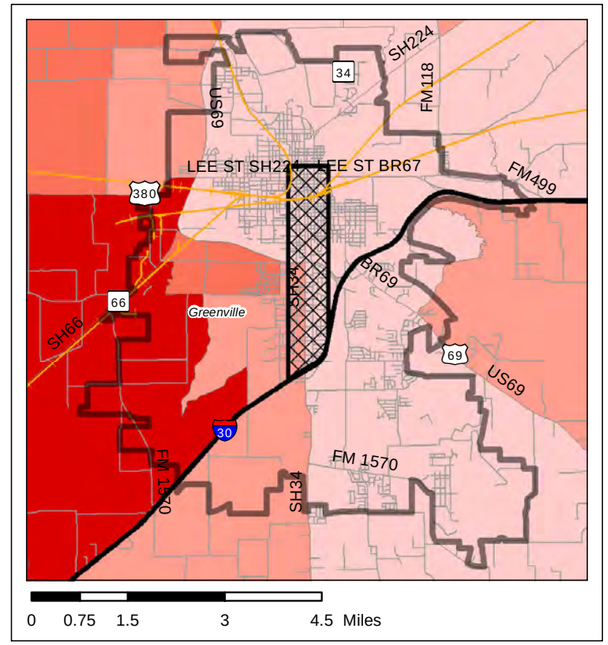
**Legend**

**2035 Population Projection**

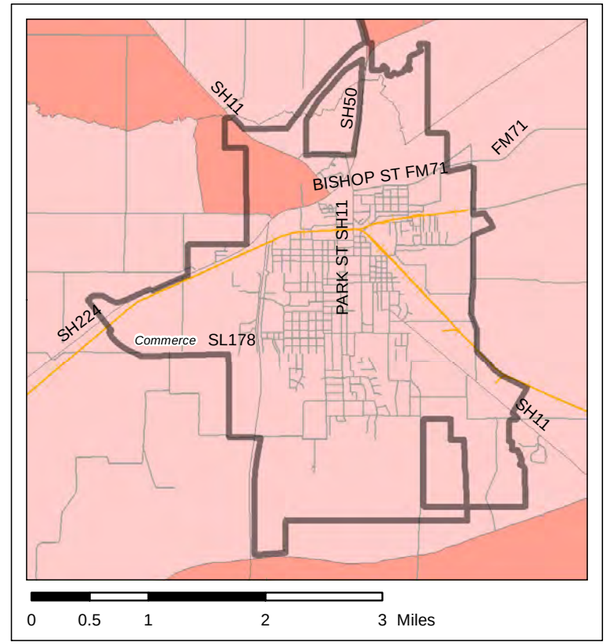
**Increase**

- 0 -15%
- 15 - 45%
- 45 - 90%
- 90 - 150%
- 150 - 300%
- SH 34 Corridor Study
- Rail
- Freeway/Tollway
- Major Arterial
- Major Arterial



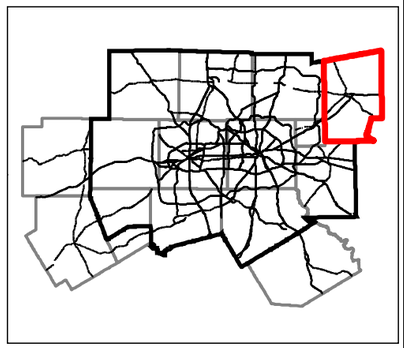




Greenville




Commerce

North Central Texas Council of Governments
Transportation



0 12.5 25 50 Miles

March 2012

Exhibit II-4A

*Exhibit II-5: Hunt County Racial Distribution*

| Race | Population Growth | | | | |
|---|---|---|---|---|---|
| | 2000 Population | 2000 Percent | 2010 Population | 2010 Percent | Percent Change |
| White alone | 64,013 | 83.57% | 70,248 | 81.56% | 9.74% |
| Black or African American alone | 7,242 | 9.45% | 7,133 | 8.28% | -1.51% |
| American Indian and Alaska Native alone | 559 | 0.73% | 804 | 0.93% | 43.83% |
| Asian or Pacific Islander alone | 472 | 0.62% | 1,063 | 1.23% | 125.21% |
| Other | 3,009 | 3.93% | 4,852 | 5.63% | 61.25% |
| Multiple Races | 1,301 | 1.70% | 2,029 | 2.36% | 55.96% |
| Total | 76,596 | 100.00% | 86,129 | 100.00% | 12.45% |

*Exhibit II-6: Hunt County Hispanic Population*

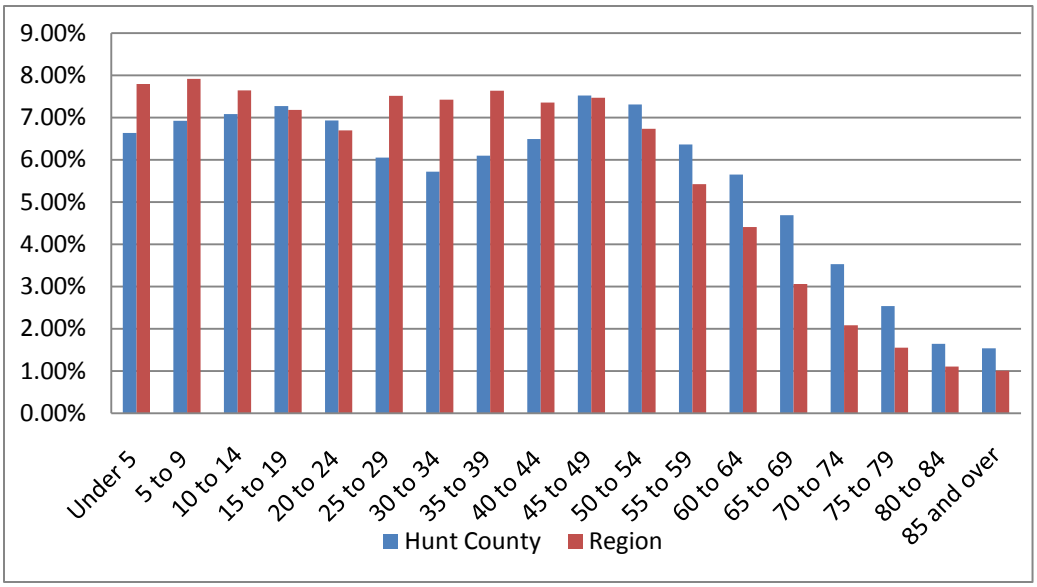
| Race | Population Growth | | | | |
|---|---|---|---|---|---|
| | 2000 Population | 2000 Percent | 2010 Population | 2010 Percent | Percent Change |
| Hispanic or Latino | 6,366 | 8.31% | 11,751 | 13.64% | 84.59% |
| Not Hispanic or Latino | 70,230 | 91.69% | 74,378 | 86.36% | 5.91% |
| Total Population | 76,596 | 100.00% | 86,129 | 100.00% | 12.45% |

## Age Distribution

Hunt County residents were generally older than the regional population in 2010 (*Exhibit II-7*). The median age of Hunt County residents was 37 in 2010, compared to 33 for the region. The age of the population, however, is widely dispersed: the largest age cohort for the county, the 45- to 49-age range, accounted for only eight percent of the population, with more residents in the younger and middle age cohorts. The age cohorts under 15 years of age and 25 to 44 years of age make up a significantly smaller share of the population in the county than in the region, while the age cohorts over 50 years of age represent a larger share.

Further aggregation reveals that Hunt County residents in their working years (ages 15 to 64) accounted for 65 percent of the population (*Exhibit II-8*). Residents 25 to 54 accounted for only 39 percent of the population, compared to 44 percent for the region. This age range captures residents in their family formation and biggest earning years. In addition, residents 45 to 64, an age group with many retiring in the next 20 years, accounted for 27 percent of the population. This is much higher than the current senior population, residents 65 and older, which accounts for only 14 percent of the population. The next 20 years are likely to see an increased demand for more housing choices and recreational opportunities to accommodate empty nesters, retirees, and seniors, as well as alternative modes of transportation to access stores, doctors' offices, places of worship, and other destinations.

*Exhibit II-7: 2010 Hunt County Age Distribution*




Source: Census 2010

*Exhibit II-8: Hunt County Age Distribution by Selected Age Group*

| | Under 15 | 15 to 64 | 25 to 54 | 45 to 64 | 65 and Older |
|---|---|---|---|---|---|
| Hunt | 20.64% | 65.42% | 39.19% | 26.85% | 13.93% |
| Region | 23.36% | 67.84% | 44.13% | 24.04% | 8.80% |

Source: Census 2010

## Housing

In 2010, there were 32,076 households in Hunt County, a 12 percent increase since 2000. The number of households is expected to increase 47 percent by 2035, adding 21,844 new households for a total of 53,920 by 2035. The average household size in the county is 2.63 with a median household income of $42,894; a 17 percent increase from 2000 (*Exhibit II-9*). This is larger than the median household income of most of the cities in the county, such as Greenville and Commerce, which may suggest residents with higher incomes are building in the unincorporated areas.

Housing in the county, when looking at the rent and mortgages alone, is relatively affordable. Housing, according to the Department of Housing and Urban Development, is deemed affordable when it does not exceed 30 percent of the median household income for a particular area. According to the 2005-2009 American Community survey, the median rent in Hunt County was $682 in 2009; the median monthly ownership cost for owner occupied units was $1,113. With a median household income of $42,894, residents in Hunt County can afford to pay on average $12,868 annually, or $1,072 a month.

*Exhibit II-9: Hunt County Median Household Income*

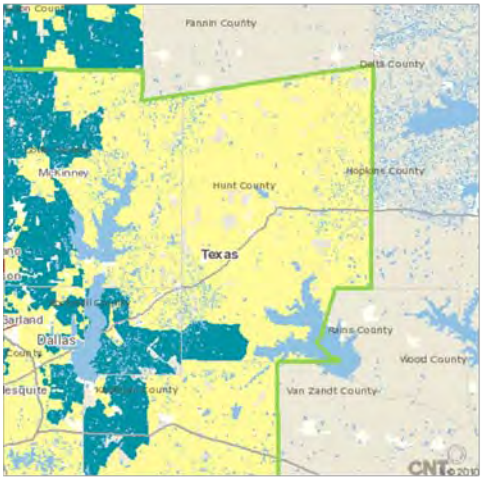
| | 2000 Median Household Income | 2009 Median Household Income | Percent Change | 2000 Households | 2010 Households | Percent Change |
|---|---|---|---|---|---|---|
| Rockwall County | $65,164 | $80,193 | 23.06% | 14,350 | 26,448 | 84.31% |
| Collin County | $70,835 | $80,545 | 13.71% | 181,970 | 283,759 | 55.94% |
| Hunt County | $36,752 | $42,894 | 16.71% | 28,742 | 32,076 | 11.60% |
| Denton County | $58,216 | $70,002 | 20.25% | 158,903 | 240,289 | 51.22% |
| Tarrant County | $46,179 | $54,647 | 18.34% | 533,864 | 657,134 | 23.09% |
| City of Greenville | $34,606 | $38,948 | 12.55% | 9,156 | 9,716 | 6.12% |
| City of Commerce | $24,065 | $28,926 | 20.20% | 2,881 | 2,988 | 3.71% |
| City of Dallas | $37,628 | $41,266 | 9.67% | 451,833 | 458,057 | 1.38% |
| Dallas County | $43,324 | $47,059 | 8.62% | 807,621 | 855,960 | 5.99% |
| Region | $47,418 | $55,459 | 16.96% | 1,906,764 | 2,298,498 | 20.54% |

Source: 2005-2009 American Community Survey, Census 2000

However, monthly rental rates or ownership costs should not be the only consideration for affordability. Below is the Housing Affordability index created by the Center for Neighborhood Technology in 2008 to measure housing affordability when transportation costs are included (*Exhibit II-10*). Housing, when transportation costs are included, is deemed affordable if it does not exceed 45 percent of the median household income. The Center for Neighborhood Technology results support the initial findings that housing is affordable in Hunt County when transportation costs are not included, but tell a different story when transportation costs are taken into account.

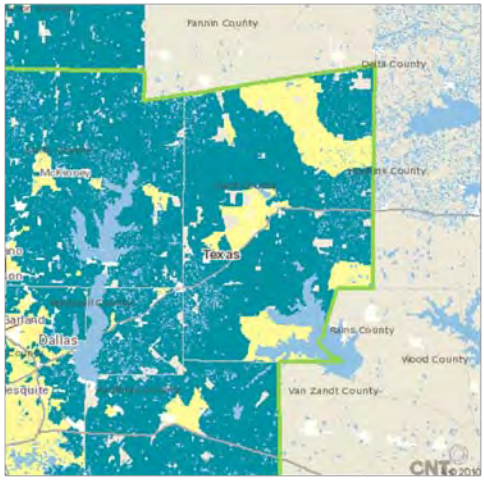
*Exhibit II-10: Housing and Transportation Affordability Index*

**Housing Costs- %Income**




Data Not Available
Less than 30%
30% and Greater

**Housing + Transportation Costs- %Income**




Data Not Available
Less than 45%
45% and Greater

Source: Center for Neighborhood Technology, 2010

Transportation costs (fuel, maintenance, insurance, etc.) are high in Hunt County due to the unavailability and dispersion of many land uses, which will be discussed later, and because the average travel time to work in the county is 28.4 minutes each way.[1] Although there are a number of major employers in the county, many people, according to city of Greenville and Commerce staff, drive to Dallas, Collin, and other counties for work, entertainment, and shopping. Increasing the number and concentration of working, shopping, and entertainment opportunities within Hunt County will help meet the needs of current and future residents.

## LAND USE

Hunt County, like many other Texas counties, is limited by state laws that restrict the adoption of land use restrictions to control rapid growth, prohibit incompatible land uses, and promote certain types of sustainable development. Adoption of sustainable land use planning and supported policies is essential to accomplishing the area's development goals within the context of these state regulations. *Exhibit II-11* is a summary of individual Hunt County land uses. The distribution and density of land uses will be used to make future recommendations for the land use portion of the Hunt County Transportation Plan. Hunt County Land Use Distribution is displayed in *Exhibit II-11A*.

*Exhibit II-11: Hunt County Current Land Use Distribution*

| Land Use | Total Parcels | Acres | Percent of Developed Land | Percent of Total Land |
|---|---|---|---|---|
| Residential | 37,358 | 151,727 | 89.88% | 29.39% |
| Commercial | 2,755 | 8,427.82 | 4.99% | 1.63% |
| Industrial | 80 | 1,160.92 | 0.69% | 0.22% |
| Utility and Transportation | 170 | 1,320 | 0.78% | 0.26% |
| Institutional | 1,103 | 6,184 | 3.66% | 1.20% |
| Total Developed | 41,466 | 168,819 | 100.00% | 32.70% |
| Undeveloped | 20,316 | 346,339 | | 67.09% |
| Unknown | 96 | 1,034.38 | | 0.20% |
| Total | 61,878 | 516,193 | | 100.00% |

Source: Hunt County Appraisal District, 2009

### Undeveloped or Agricultural Land

The total area of Hunt County is 806 square miles (approx 516,193 acres); of that, 67 percent (346,339 acres) is undeveloped or agricultural.[2] This figure excludes lakes, streams, ponds, and vacant land that has been platted for residential, institutional, industrial, or commercial uses. The undeveloped or agricultural land use category consists primarily of undeveloped ranchland, farms, timberland, and other rural properties. Some of the specific uses in this category include dry land crops, grazing, and wildlife management. *Exhibit II-12* shows the breakdown of uses within this category.

### Developed Land Uses

Despite the large percentage of undeveloped or agricultural land, there are many pockets of growth and development in the county including, but not limited to, residential, commercial, institutional, and industrial. In fact, developed land comprises 33 percent of the land in Hunt County. A little over half of the developed land is located within city limits.

[1] 2005-2009 American Community Survey.
[2] Hunt County Appraisal District, 2009

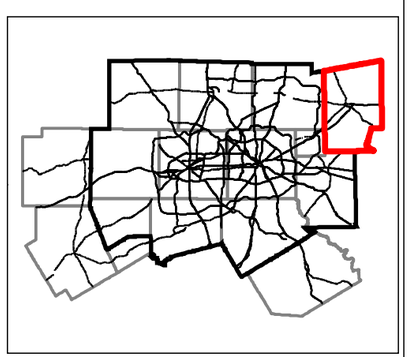
# Hunt County
# Current Land Use

**Legend**

**Land Use**

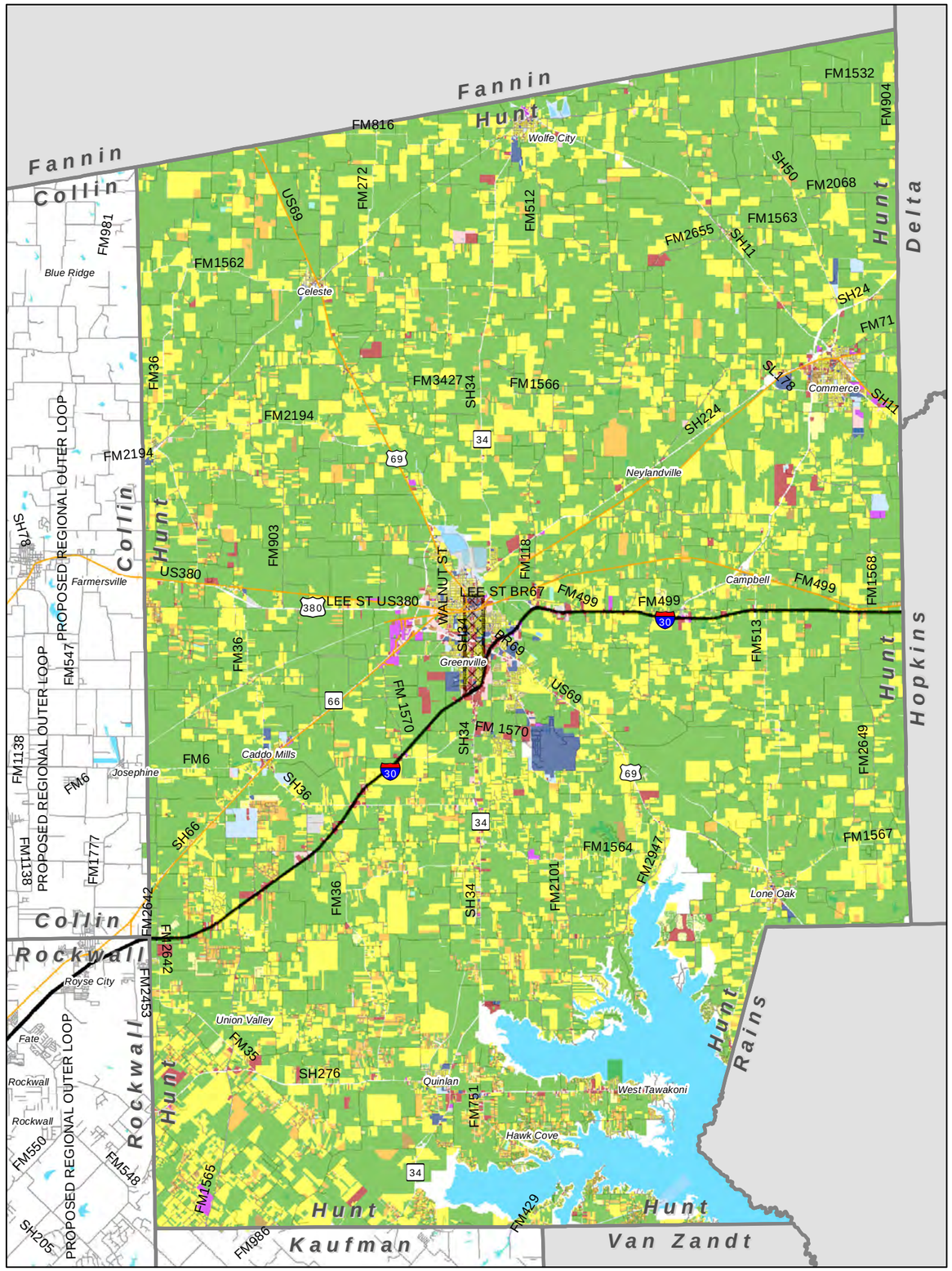
- AGRICULTURAL OR UNDEVELOPED
- COMMERCIAL
- INDUSTRIAL
- INSTITUTIONAL
- MOBILE HOMES
- MULTI-FAMILY
- RAILROADS
- SINGLE FAMILY - LARGE LOT
- SINGLE FAMILY - SMALL LOT
- UNKNOWN
- UTILITIES
- VACANT - INSTITUTIONAL INVENTORY
- VACANT-COMMERCIAL INVENTORY
- VACANT-RESIDENTIAL INVENTORY
- SH 34 Corridor Study
- Rail
- Freeway/Tollway
- Major Arterial
- Major Arterial

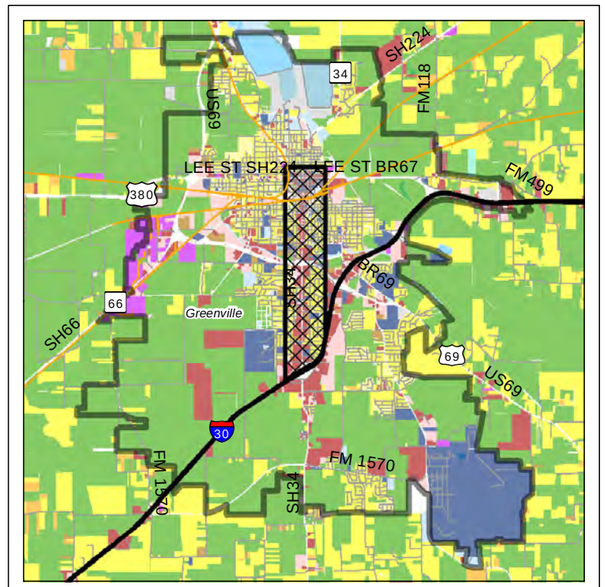
North Central Texas Council of Governments
Transportation



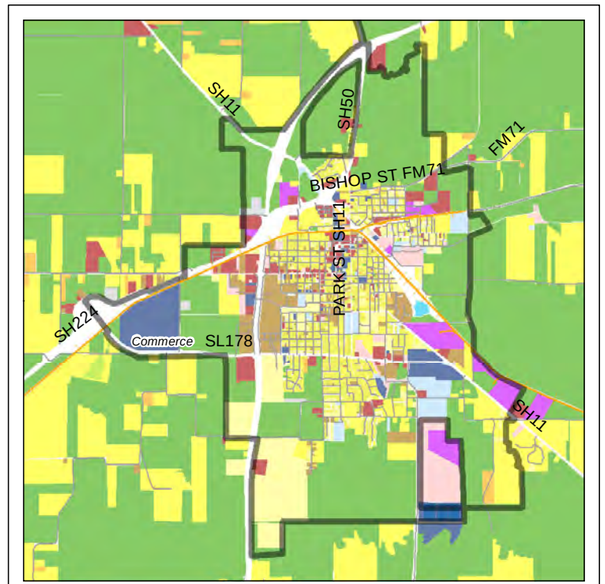
0 12.5 25 50 Miles

March 2012




Greenville




Commerce

Exhibit II-11A

*Exhibit II-12: Hunt County Current Undeveloped Land Use Distribution*

| Land Use | Total Parcels | Acreage | Percent Undeveloped | Percent of all Land Uses* |
|---|---|---|---|---|
| Ranch Land | 8,019 | 228,432.33 | 65.96% | 44.25% |
| Farm/Ranch | 2,220 | 73,707.00 | 21.28% | 14.28% |
| Rural | 7,578 | 5,142.26 | 1.48% | 1.00% |
| Timberland | 2,499 | 39,057.69 | 11.28% | 7.57% |
| Total Undeveloped | 20,316 | 346,339.27 | | 67.09% |
| Unknown | 96 | 1,034.38 | | 0.20% |
| Total all Land Uses* | 61,878 | 516,193.15 | | |

*Includes all Hunt County land use categories. Source: Hunt County Appraisal District, 2009

## Residential Land Uses

Among the developed uses, the largest percentage of land, 90 percent (151,727 acres), is devoted to housing (*Exhibit II-13*). In fact, single-family residential, including conventional single-family housing lots and single-family lots with small farms or other consumptive uses, accounts for 128,133 acres, or 84 percent, of all of the developed land in Hunt County. Single-family lots containing small farms or other consumptive uses account for the largest percentage of residential land: 73 percent (111,258 acres). Conventional single-family residential, comprised of a single home alone, accounts for 11 percent of the residential land (16,874 acres). Mobile homes account for 10 percent of residential land, and multi-family housing, including apartments, condominiums, and duplexes, account for 3 percent. Other housing options, such as group quarters, account for only 2 percent (3,250 acres) of the residential land. The remaining residential land, residential inventory, is comprised of vacant and platted parcels, and accounts for 0.11 percent (176 acres) of the residential land use.

*Exhibit II-13: Hunt County Current Residential Land Uses*

| Land Use | Total Parcels | Acreage | Percent of Residential Land Use | Percent of Developed Land Use | Percent of all Land Uses* |
|---|---|---|---|---|---|
| Condominiums | 2,022 | 3,917.51 | 2.58% | 2.32% | 0.76% |
| Duplex | 181 | 157.08 | 0.10% | 0.09% | 0.03% |
| House + Limited Acres | 4,648 | 111,258.23 | 73.33% | 65.90% | 21.55% |
| Single Family | 19,093 | 16,874.49 | 11.12% | 10.00% | 3.27% |
| Residential | 6,987 | 3,250.07 | 2.14% | 1.93% | 0.63% |
| Mobile Home + Limited Acres | 818 | 11,349.51 | 7.48% | 6.72% | 2.20% |
| Mobile Homes | 2,933 | 4,299.71 | 2.83% | 2.55% | 0.83% |
| Vacant – Residential Inventory | 30 | 82.87 | 0.05% | 0.05% | 0.02% |
| Improved – Residential Inventory | 469 | 93.22 | 0.06% | 0.06% | 0.02% |
| Multi-family | 177 | 444.24 | 0.29% | 0.26% | 0.09% |
| Total Residential | 37,358 | 151,726.92 | | 89.88% | 29.39% |
| Total all Land Uses* | 61,878 | 516,193 | | | |

*Includes all Hunt County land use categories. Source: Hunt County Appraisal District, 2009

## Commercial Land Uses

Commercial use is the second largest developed land use category in Hunt County. It includes retail uses such as Walmart, O'Reilly Auto Parts, and the Texas Furniture and Appliance Company in Greenville; office uses such as the Jeffrey Jackson Law Office in Commerce; restaurants such as Tony's Italian Kitchen or Applebee's Neighborhood Grill in Greenville; and hotels such as Hampton Inn & Suites. According to the Hunt County Appraisal District, commercial land accounts for five percent (8,428 acres) of the developed land in the county (*Exhibit II-14*).

*Exhibit II-14: Hunt County Current Commercial and Industrial Land Use Distribution*

| Land Use | Total Parcels | Acreage | Percent Commercial/ Industrial | Percent of Developed Land Use | Percent of all Land Uses* |
|---|---|---|---|---|---|
| Commercial | 2,755 | 8,427.82 | 87.89% | 4.99% | 1.63% |
| Industrial | 80 | 1,160.92 | 12.11% | 0.69% | 0.22% |
| Total Commercial/Industrial | 2,835 | 9,589 | | 5.68% | 1.86% |
| Total all Land Uses | 61,878 | 516,193 | | | |

*Includes all Hunt County land use categories. Source: Hunt County Appraisal District, 2009

## Industrial Land Uses

Industrial uses account for less than one percent (1,161 acres) of the developed land in Hunt County. This category includes factories, warehouses, and landfills such as the facilities operated by Rubbermaid, New Phoenix Metals, and the Republic-Maloy Landfill. Although the majority of the parcels in this category, 70 percent, are located within city limits, industrial uses are dispersed along highway and major arterials throughout the county.

## Institutional Land Uses

Institutional uses account for four percent (6,184 acres) of the developed land in Hunt County. This category includes such uses as universities, police stations, municipal buildings, airports, parks, churches, and recreational areas.

## Utility and Transportation Land Uses

Utility and transportation uses, such as water systems and railroads, account for less than one percent (1,320 acres) of the developed land in Hunt County (*Exhibit II-15*). There are seven utility uses in the county; the most prevalent is water systems, which accounts for 39 percent (510 acres) of the land designated for utilities and transportation. Water systems include, but are not limited to, water and sewage treatment facilities, reservoirs, and detention ponds. Among the operators are the Cash Special Utility District, the Combined Consumer Water Supply, and the city of Greenville. Electric companies and pipelines each account for 16 percent of the utility and transportation designated land in the county, and telephone companies, cable companies, and gas companies each account for two percent. Railroads occupy 24 percent of the utility and transportation land in Hunt County.

*Exhibit II-15: Utility and Transportation Land Use Distribution*

| Land Use | Total Parcels | Acreage | Percent Utility/ Transportation | Percent of Developed Land Use | Percent of all Land Uses* |
|---|---|---|---|---|---|
| Electric Companies | 25 | 212.49 | 16.10% | 0.13% | 0.04% |
| Gas Companies | 16 | 27.19 | 2.06% | 0.02% | 0.01% |
| Cable Companies | 2 | 24.22 | 1.84% | 0.01% | 0.00% |
| Telephone Companies | 22 | 22.81 | 1.73% | 0.01% | 0.00% |
| Water Systems | 53 | 509.76 | 38.62% | 0.30% | 0.10% |
| Pipelines | 8 | 210.61 | 15.96% | 0.12% | 0.04% |
| Railroads | 44 | 312.71 | 23.69% | 0.19% | 0.06% |
| Total Utility/Transportation | 170 | 1,320 | | 0.78% | 0.26% |
| Total all Land Uses | 1,878 | 516,193 | | | |

*Includes all Hunt County land use categories. Source: Hunt County Appraisal District

## Residential Density

Despite the high percentage of residential land among the developed land uses, most of the residential property in Hunt County is low density. Seventy-three percent of the residential land in the county consists of homesteads of one acre or more, with an average of 23.93 acres. In addition, roughly 96 percent (147,093 acres) of the residential land in unincorporated areas of the county is devoted to low-density, large-lot housing. These lots consist of parcels one-half acre or larger and include single-family housing, mobile homes, and multi-family residential. Although a high percentage of the developed land is devoted to large-lot residential development, 55 percent of all residential parcels are medium to small lots below one-half acre; 79 percent are of these parcels are located in denser areas within the city limits.

## Commercial Density

The majority of the commercial property in Hunt County, 72 percent, is concentrated within incorporated city limits. Greenville, the largest city in the county, is home to 41 percent of the commercial property in the county. Additional commercial properties are spread across the county, primarily along highways and major arterials. The average lot size for commercial property is three acres, which suggests room for denser commercial development, particularly within city limits where the average lot size is 1.5 acres. Many commercial properties, particularly in Greenville, are comprised primarily of parking lots attached to individual businesses. A redevelopment strategy in which businesses cooperate and share parking areas may encourage increased commercial density in cities such as Greenville that have limited room for commercial redevelopment in their city centers.

## Land Use Opportunities

### Undeveloped Land

Although the largest percentage of land is undeveloped and/or dedicated to agricultural land uses, consumptive jobs such as farming, fishing, and forestry occupations only employed 279 employees, or less than one percent, of the workforce over the age of 16 in 2000 according to the US Census. According to the 2004-2008 American Community Survey, that number increased to 341 employees, though still less than one percent of the county's workforce was over 16 in 2008. The large percentage of undeveloped land, coupled with the low number of workers in consumptive jobs, suggests high development potential for many of the undeveloped tracts of land. The county's undeveloped land presents an opportunity for additional commercial, residential, and industrial development. On the other hand, uncontrolled large-scale development could erode the rural character of the

county. Such a threat can be reduced through the use of development standards and restrictions. These tools will be further discussed in the Recommendations section.

### Development Potential along IH 30 and US 69

IH 30 provides a direct connection between IH 40 in Little Rock, Arkansas and IH 20 west of Fort Worth, Texas. Hunt County is in position to capture revenue from through traffic traveling along this corridor, as well as traffic along US 69, which provides a regional connection between the cities of Tyler and Denison, Texas. According to 2010 Texas Department of Transportation traffic counts, 45,000 automobiles travel between Royse City and Greenville along IH 30 in each direction every day. An additional 27,000 automobiles travel between the city of Campbell and Hopkins County from each direction on IH 30 on a daily basis. The traffic counts between these cities on the fringes of the county are indicators of travel through the county along IH 30. Generating more through traffic and capturing revenue from those currently driving through the county can assist in the development of Hunt County as a center of economic activity and ultimately as a destination in its own right. Moreover, IH 30 offers convenient access to the markets and transportation hubs in Dallas, Little Rock, and Memphis for manufacturers and other commercial interests.

### Population Age

As previously discussed, another indicator of increased demand for additional commercial land uses is the age of the population. According to the 2010 Census, 39 percent of the Hunt County population is between the ages of 25 and 54. The population within this age group not only makes up the majority of the workforce, 60 percent, but contains sub-cohorts of people at their highest income levels or family formation years. It will be a key demographic for future economic growth because these residents will be looking for additional retail and entertainment opportunities and larger or higher quality housing as their families expand. This cohort may also seek smaller homes as their household size decreases. City of Greenville staff voiced concerns over Hunt County residents traveling to Rockwall, Dallas, and Collin counties for shopping and entertainment. This is further evidence of the demand for additional retail, restaurant, and entertainment land uses. Strategies for attracting additional retail, entertainment, and restaurants, as well as sustainable initiatives to revitalize the existing shops, stores, and restaurants are available in the Recommendations section.

### Major Employers

Another opportunity in Hunt County is the number of major employers. There are currently 21 major employers (with 80 or more employees) in Hunt County, employing 10,052 people.[3] Many of these employees, according to feedback collected during stakeholder interviews, live outside the county and commute due to limited housing, commercial, and entertainment options. The county has an opportunity to capture many of the commuters with the development of additional commercial and residential properties, particularly in Greenville where many employers are currently located and the majority of the existing and planned commercial property in the county is located. Plans for additional commercial and residential development can be further strengthened with investment in sustainable infrastructure, such as sidewalks and other pedestrian amenities that create walkable connections to jobs, to bolster existing development and create a livable framework for future development.

[3] NCTCOG Research and Information Services, 2011

## Land Use Constraints

### Limited Commercial Land Uses

According to the Hunt County Appraisal District, Hunt County has only 8,428 acres of commercial property, accounting for only 1.83 percent of the total land in the county. Roughly a third of the commercial property is concentrated in Greenville. As previously mentioned, limited commercial opportunities may be shifting tax dollars from Hunt County to adjacent counties in the region. The development of new commercial opportunities within Hunt County is pivotal as the average household in the county spends over $19,000 per year on retail goods and services.[4] This is nearly half the median household income for the county. Chapter VII provides strategies to invite new commercial development into the county and revitalize the current development.

### Distance from the Core of the Dallas-Fort Worth Metroplex

Another constraint in Hunt County is the county's distance from the core of the Dallas-Fort Worth Metroplex. The city of Dallas, as the largest city in the region, has enough economic gravity to draw in commuters from Hunt County. Hunt County, a one-hour drive from the city of Dallas, does not have the regional destinations and unique attractions to generate a reciprocal effect.

### Cost of Development

Although Hunt County has a high percentage of undeveloped parcels, most are in greenfield areas. Greenfield areas are undeveloped parcels, usually on the fringe of a city, that have limited development or infrastructure in place. Property in undeveloped areas is often cheaper to obtain and clear, but the cost of providing services in low-density new development areas may be higher than developing vacant infill parcels already connected to existing infrastructure. Many of the costs developers incur are passed to the end users. In addition, the cost of extending public services and infrastructure out to greenfield developments, as opposed to increasing density in areas with existing services and infrastructure, may cause undue financial burdens on municipalities and the county. According to Haughey, the cost of providing utilities, schools, and streets to a one-unit-per-acre development is at least twice that of providing the same services to a 30-unit-per-acre development: $22,500 per unit for low-density development, compared to $10,000 per unit for the higher-density development.[5] For instance, the average annual cost of services such as police, fire, highways, sewer, and schools for a family of four in the compact suburban communities of Shelby County, Kentucky is $88.27 per year; the same services in a more sprawling Pendleton County, Kentucky cost $1,222.39 per year (Brookings Institute). The cost of the initial investment are generally lower for a developer to go farther out for development; however, those are short-term initial investments and the long-term public services and needs must be factored into the development review and approval process.

## MUNICIPAL UTILITY DISTRICTS

A Municipal Utility District (MUD) is a political subdivision authorized by the Texas Commission on Environmental Quality (TCEQ) to provide water, conservation, irrigation, drainage, solid waste (garbage), collection and disposal including recycling activities, wastewater (sewage) treatment, and other services such as fire fighting and recreation facilities within MUD boundaries. MUDs have the authority to tax, borrow, issue bonds, and may include all or part of any county or counties, including all or part of any other public agency's city.[6]

[4] ESRI, USA Retail Spending Potential, 2011

[5] Haughey, Richard M., Higher-Density Development: Myth and Fact. ULI: 2005.

[6] Texas Commission on Environmental Quality. Managing Municipal Solid Waste through General and Special Law Districts. http://www.tceq.texas.gov/permitting/waste_permits/waste_planning/wp_district.html

TCEQ maintains the Integrated Water Utilities Database (iWUD) which contains information on the location, function, and status of MUDs in Texas. See *Exhibit II-16* for a reference of the MUD locations within Hunt County. The list below discusses MUDs located in Hunt County according to the iWUD.

- Verandah Municipal Utility District which has the following functions: drainage, eminent domain, flood control, fire protection, hydroelectric power, irrigation, special law, navigation, recreation and parks, road powers, retail wastewater, security, street lighting, supplying treated or retail water, supplying raw (untreated) or wholesale water, tax bond authority, and wholesale wastewater.[7] According to the County Information Project's online database, the Verandah MUD tax rate from 2007 to 2009 was $0.85 with a total tax levy of $268,931 for 2009.[8]
- Sunrise Municipal Utility District of Hunt County which has the following functions: drainage, flood control, fire protection, hydroelectric, irrigation, parks and recreation, road powers, retail wastewater, security, street lighting, supplying treated or retail water, and supplying raw (untreated)/wholesale water.[9] Sunrise Municipal Utility District did not levy taxes for 2009.
- Union Valley Ranch Municipal Utility District has the following functions: drainage, eminent domain, flood control, fire protection, hydroelectric, irrigation, special law, navigation, recreation and parks, road powers, retail wastewater, security, street lighting, supplying treated or retail water, supplying raw (untreated) or wholesale water, tax bond authority, and wholesale wastewater. The Union Valley MUD did not levy taxes for 2009.
- Delta County Municipal Utility District: Out of 114,637 acres in the Delta County MUD, about 942 acres are within the northeast corner of Hunt County and the rest within Delta County. The functions include: drainage, eminent domain, flood control, hydroelectric power, irrigation, special law, navigation, recreation and parks, road powers, street lighting, supplying treated or retail water, supplying raw (untreated) or wholesale water, and tax bond authority.[10] The Delta County MUD tax rate from 2003 to 2009 was $0.137 with a total tax levy of $271,773 for 2009.[11]
- Walton Development Municipal Utility District: The Walton Development MUD is a proposed MUD located west of Greenville between FM 3211 and FM 2194. The MUD spans 6,600 acres and will include service such as water, sewer, drainage, and road maintenance. The Walton MUD will bolster future commercial, residential, and industrial uses and provide tax revenue for the city of Greenville. A portion of the MUD is located within the Greenville Extraterritorial Jurisdiction. Because it is located in the Greenville Extraterritorial Jurisdiction, this area is subject to the land use and subdivision regulations determined by the city of Greenville. The same rule would apply to any additional portions of the MUD that are annexed by the city of Greenville. The MUD was approved by the Texas House and Senate in May 2011 and signed by Governor Rick Perry in June 2011.

Financing tools such as Municipal Utility Districts that allow developers to use taxes to recover infrastructure costs encourage new development in unincorporated areas. This development is most likely to occur along the fringe of city boundaries, where developers and residents can take advantage of a municipality's facilities while avoiding the municipality's land use controls and other regulations. This presents a challenge to the development of effective community-wide development strategies and planning efforts.

[7] Texas Commission on Environmental Quality. Integrated Water Utilities Database. http://www10.tceq.state.tx.us/iwud/dist/index.cfm?fuseaction=DetailDistrict&ID=88507&command=list&name=VERANDAH%20MUD

[8] The County Information Project, Special District Property Tax Rates in Hunt County. http://www.txcip.org/tac/census/sd.php?FIPS=48231

[9] Texas Commission on Environmental Quality. Integrated Water Utilities Database. http://www10.tceq.state.tx.us/iwud/dist/index.cfm?fuseaction=DetailDistrict&ID=88480&command=list&name=SUNRISE%20MUD%20OF%20HUNT%20COUNTY

[10] Texas Commission on Environmental Quality. Integrated Water Utilities Database. http://www10.tceq.state.tx.us/iwud/dist/index.cfm?fuseaction=DetailDistrict&ID=11184&command=list&name=DELTA%20COUNTY%20MUD

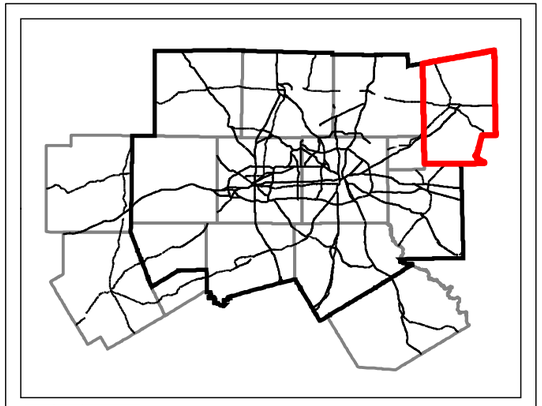
[11] The County Information Project, Special District Property Tax Rates in Delta County. http://www.txcip.org/tac/census/sd.php?FIPS=48119

# Hunt County Municipal Utility Districts

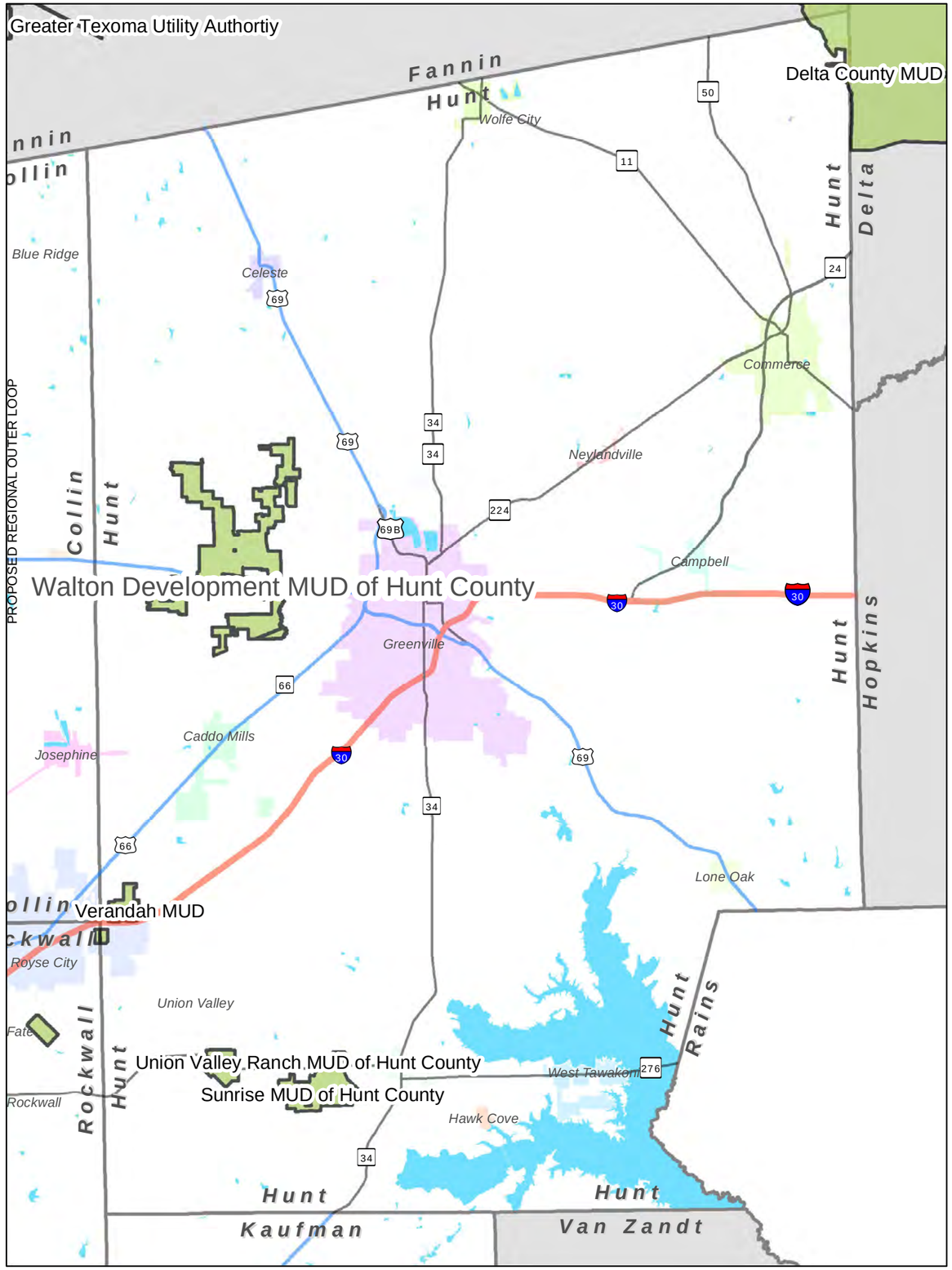
## Legend

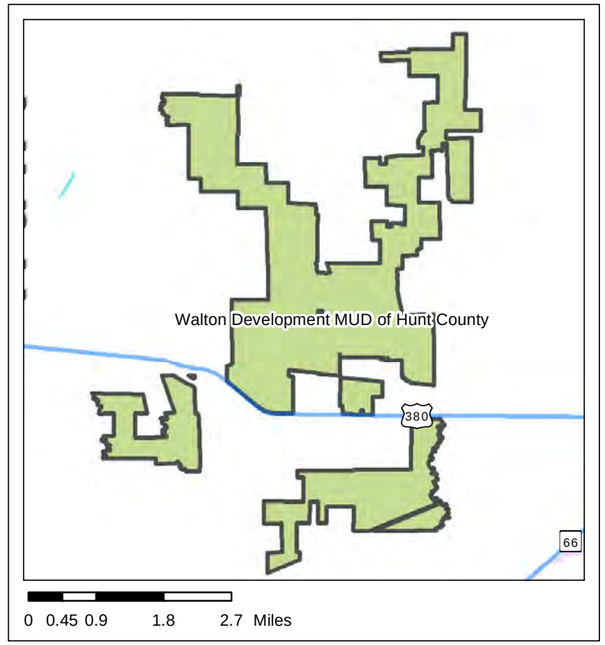
- Primary Highway
- Secondary Highway
- Access Ramp
- Major Arterial
- Municipality Utility District
- Lakes

North Central Texas Council of Governments
Transportation

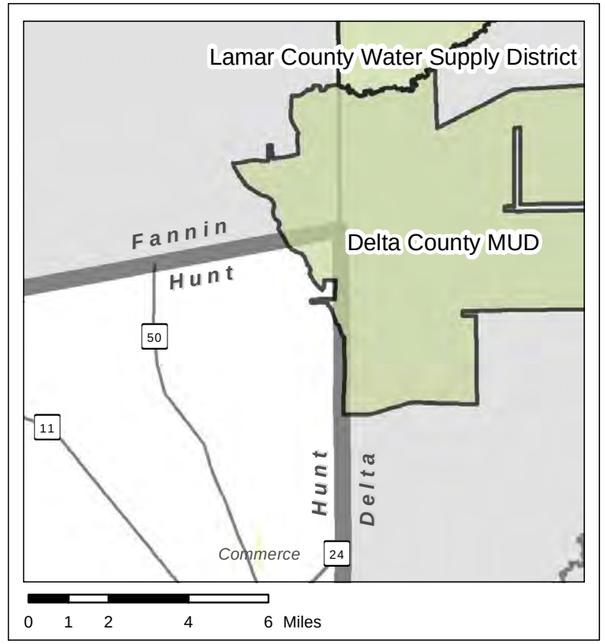



March 2012




Walton Development MUD




Northeast Corner of Hunt County

Exhibit II-16

## Planned Improvements

In addition to the described infrastructure, a number of specific and area-wide infrastructure improvements have been proposed and are in various stages of development. Four of the more significant ones are discussed here.

## US 69 Improvement

US 69 is an important regional arterial connecting the Sherman-Denison area to Tyler and points eastward via IH 20. As the Dallas-Fort Worth area continues to grow, US 69 will increase in importance as a channel for traffic from the east to reach the northern part of the Metroplex while avoiding the congested corridors within the Metroplex itself. The corridor southeast of Greenville is still primarily rural in nature, and the highway does not yet warrant a conversion to four lanes. The Texas Department of Transportation currently plans for US 69 to be improved to a "Super-2" configuration. This configuration calls for wider shoulders and occasional passing lanes on each side of the highway. This project is included in the 2011-2014 Transportation Improvement Program.

## FM 1570 Extension and Improvement

To help accommodate the proposed development associated with the Walton Development MUD, the need for an outer loop around the southwest side of Greenville has been identified. To fulfill this need, an extension of FM 1570 from SH 66 to US 380 has been proposed. The extension will initially be a two-lane roadway but is ultimately intended to become a four-lane arterial with an overpass over the Dallas, Garland and Northeastern Railroad right-of-way. The ultimate build (long-term) will also include a grade separation at US 380, widening of FM 1570 from SH 66 to IH 30, and improvements to the intersection with IH 30. This project is still in an early stage of development. *Exhibit II-17* shows the general location of this project.

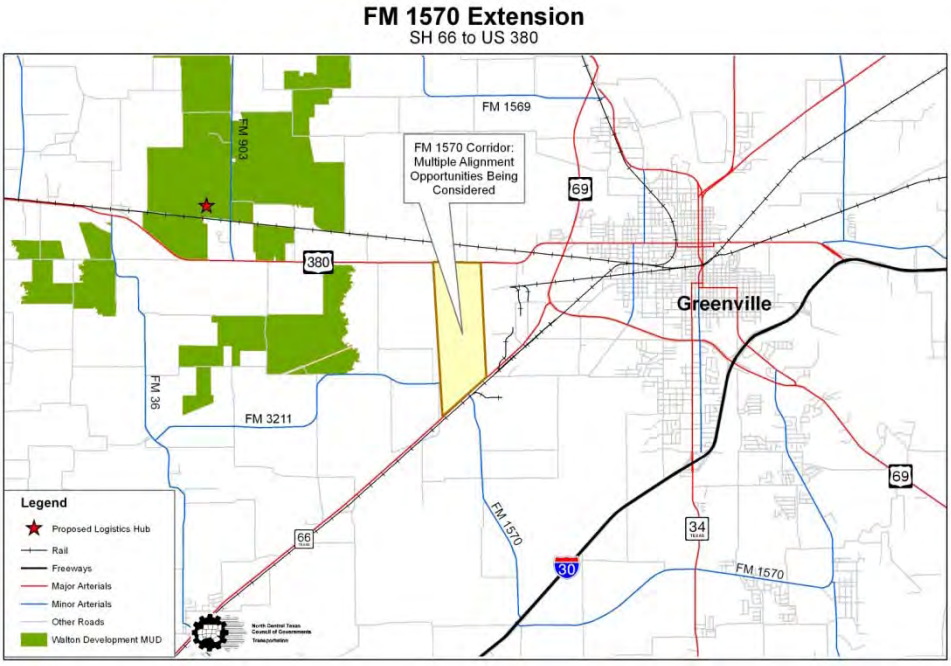
## Proposed Logistics Hub

In 2002, US transportation infrastructure, including roadway, rail, water, air, pipeline, and intermodal facilities, handled 53 million tons of freight per day, worth $36 billion; in 2008, US transportation infrastructure handled an estimated 58.9 million tons per day of freight.[12] This increase in freight tonnage moving across the country highlights the need for additional facilities such as logistics and intermodal hubs to help sort, store, and ship cargo. The Dallas-Fort Worth region, with its central location, access to world-class aviation facilities, and extensive road and rail networks, is an eminently logical location for such facilities.

The creation of a logistics hub is one of the central concepts of the proposed Walton Development, located west of Greenville. Generally speaking, a logistics hub is a freight facility that combines a yard or terminal for a Class I railroad with manufacturing facilities, distribution facilities, drayage, and/or office and retail developments. The logistics hub is intended to facilitate goods movement by bringing the transportation hub as near to the manufacturing or distribution center as possible while providing office and retail facilities to support the joint operation.

[12] Freight Facts and Figures 2009, Office of Freight Management and Operations, USDOT.

*Exhibit II-17: Location of FM 1570 Extension between SH 66 and US 380*

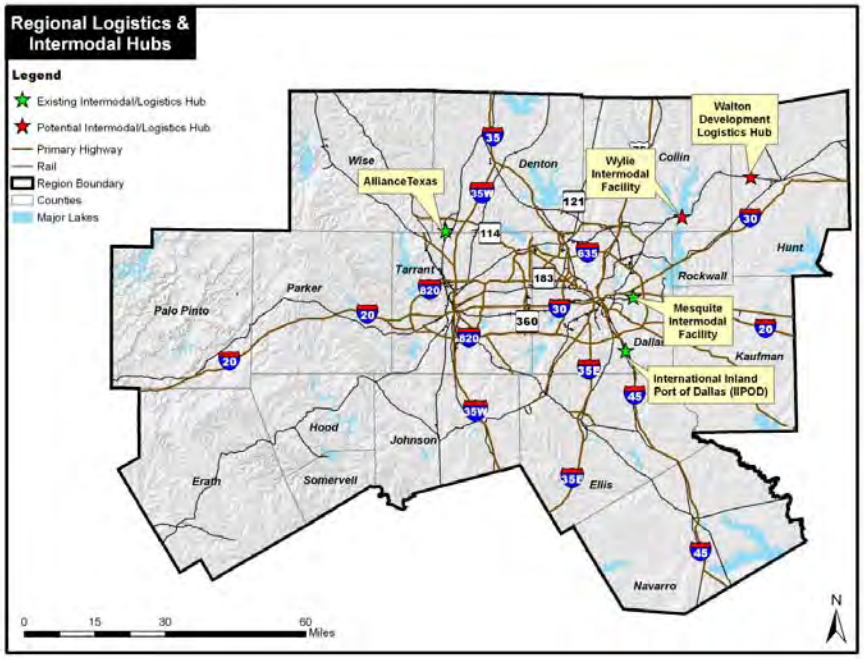



A logistics hub differs from an intermodal hub in that the focus of the logistics hub is on developing the synergy among manufacturing, professional talent, and access to transportation facilities. The "logistics" portion of the name reflects the increased efficiency of locating all three in a relatively concentrated area. The intermodal hub, on the other hand, focuses on transferring cargo from long-distance rail, or in some cases, airlines to truck trailers for local and regional distribution. Thus, logistics hubs tend to produce less truck traffic than a similarly-sized intermodal facility. While some components may be delivered to the logistics hub by truck, the majority of goods traffic would arrive and depart by rail. On the other hand, it is reasonable to expect a higher volume of non-truck traffic with a logistics hub, corresponding to the increase in employment and other economic activity associated with the development.

A logistics hub facility generally requires a minimum of 2,500 acres of land in order to accommodate the different facilities, as well as 10,000 feet of railroad track to accommodate the rail yard and any switching operations. A general or cargo airport nearby may be present but is not necessary. Good road access that can accommodate heavy trucks is also an important factor.

These requirements make logistics hubs more suitable for exurban locations rather than city centers. While city centers may offer road and rail connectivity in a greater variety of directions, exurban locations offer a larger supply of inexpensive land, while still being close enough to the existing urbanized area to draw on its amenities, infrastructure, and labor pool. Locating logistics in exurban areas also supports regional air quality and safety goals by reducing the amount of train traffic in the center of the region. Conceivably, the Dallas-Fort Worth region could host a major logistics hub in each of its four corners. As shown in *Exhibit II-18*, two major logistics hubs already exist within the Dallas-Fort Worth area: the Alliance Airport development in north Fort Worth and the International Inland Port of Dallas in south Dallas County, respectively, cover the northwest and southeast corners. A logistics hub in the Walton Development, supplemented by a proposed intermodal hub in eastern Collin County, could significantly enhance economic activity in the northeastern part of the region.

*Exhibit II-18: Location of Proposed and Existing Logistics and Intermodal Hubs in the Dallas-Fort Worth Metropolitan Area.*




With respect to the requirements for the availability of land, rail connectivity, and access by other transportation modes, the Walton Development appears to be a feasible location for a logistics hub. The development covers a large area of Hunt County west of Greenville with access to both the Kansas City Southern Railway and the NETEX right of way, though use of the latter would require the construction of new track at least as far as Greenville. The site adjoins US 380, a major regional arterial, and the construction of the FM 1570 extension would promote access to Majors Field and IH 30. This site warrants further investigation into its potential for use as a logistics hub.

## West Greenville Small Area Plan

In 2010, the city of Greenville contracted with a consulting firm to develop a small-area plan for the western and southwestern portions of the city and its extraterritorial jurisdiction, along with a portion of IH 30 through the city. The resulting *West Greenville Small Area Plan* (WGSAP) is intended to guide development associated with Greenville's own growth, as well as growth induced by the nearby proposed logistics hub. The WGSAP provides recommendations pertaining to the placement and improvement of transportation facilities, the general pattern of land uses in different parts of the area, and the location of new park and recreational facilities.

# III. Study Structure and Community Outreach

This chapter presents the origins, scope, schedule, and community outreach elements of the Hunt County Transportation Plan. This plan is the result of a need that existed to embrace the ever-changing demographic and socio-economic scene, to carve out a niche within the larger regional framework, and most importantly, to plan for the future.

In October 2009, the Executive Board of the North Central Texas Council of Governments (NCTCOG) adopted a new, expanded Metropolitan Planning Area boundary. For the first time, Hunt County was included within the Metropolitan Planning Area boundary, acknowledging its impact and influence, and relationship to the larger metropolitan region. The new expanded area boundary included 12 counties that make up the ever-growing Dallas-Fort Worth region. Hunt County's top priority was to identify the challenges and opportunities facing the county and, toward that end, formed a partnership with NCTCOG and the Regional Transportation Council. This partnership was outlined in the following document, drafted and released by Hunt County in October 2009:

***PROPOSAL***
***HUNT COUNTY TRANSPORTATION COMMITTEE***

***I. Background/Overview:***

*Most counties in the North Central Texas Council of Governments have, or are working on, comprehensive transportation and thoroughfare planning. Hunt County has no comprehensive transportation or thoroughfare plan. As Hunt County continues to experience growth in population and building, we continue to lose ground on imperative transportation issues.*

*As development continues to progress in our area we are, and will continue, experiencing the effects on our mobility systems. The stress and congestion on main thoroughfares will persistently increase as the volume of traffic follows the growth. Planning and prioritizing these issues is essential to the economic success and quality of life of Hunt County.*

*As of October 1, 2009, Hunt County will be a member of the Metropolitan Planning Organization ("MPO"). The Regional Transportation Council ("RTC") of the North Central Texas Council of Governments, the MPO for this council of governments, has agreed to facilitate a comprehensive transportation and thoroughfare plan for Hunt County (the "Plan").*

*It is fundamental to the orderly, quality development of Hunt County that a Transportation Committee be assembled as an advisory and guiding voice for the local governing entities to have meaningful input into the Plan.*

***II. Composition of Committee:***

*The committee would consist of twenty-five (25) committee members. The tiers would be led by two (2) co-chairs. The composition would be as follows:*

***Committee Leadership:***

*Two (2) Co-Chairs – Dr. Dan Jones, President of Texas A&M-Commerce*
*W.D. Hilton, Jr., CEO of Trust Services, Inc.*

***Governmental Members:***

*City of Greenville – City Manager and Mayor*
*City of Commerce – City Manager and Mayor*
*City of Caddo Mills – City Manager*
*City of Quinlan – City Manager*
*City of Royse City – City Manager*
*Hunt County Judge*
*Hunt County Commissioner – appointed by the Commissioners Court*

***Community & Corporate Members:***

*Four (4) Corporate Members – L-3 Communications Integrated Systems, Innovation 1st, Rubbermaid, and HydroAluminim representatives*

*Three (3) Chamber of Commerce Members – City of Greenville, City of Commerce, and Quinlan-Tawakoni Area Chamber representatives.*

*Four (4) County Precinct Members – Precinct 1 (Wolfe City), Precinct 2 (Cash/Union Valley), Precinct 3 (Lone Oak), Precinct 4 (Celeste) area representatives to be nominated by the County Commissioner with precinct jurisdiction.*

*Three (3) Citizen Members – to be nominated by the Hunt County Judge.*

***Committee Support (Non-voting):***

*Organizational: Ron Robinson (CEO – Greenville Board of Development)*
*Technical & Economic: TxDOT, Cities, Hunt County and economic development corporations.*

***Steering Committee:***

*In the interest of efficient administration of the committee's work and effective contact with the RTC task force, the Co-Chairs will appoint a Steering Committee with representation from Government Members and Community & Corporate Members.*

***III. Purpose/Duties:***

*The committee will be tasked with providing advice and coordination to the RTC task force in researching the transportation needs of Hunt County, receiving citizens input and formulating the Plan.*

*The authority of the committee will be to receive the Plan formulated by the RTC task force and make recommendations to elected officials in Hunt County regarding its acceptance and implementation.*

*The committee will attempt to work by consensus in its decision-making process. It may be necessary at some point for the Governmental Members to undertake a decision-making process that it will determine as the need arises.*

*The term of service for members of the committee will be for the shorter of the duration of the project or service in the position that led to appointment. Meeting times and places to be based on the call of the Co-Chairs and will be coordinated with the needs of the RTC task force.*

***IV. Conclusion:***

*Although the bottom line for any action to be taken is the availability of funds by the local governing body, the formation of this committee and the research and information it will provide will significantly increase the potential to obtain funding for transportation projects from outside resources. The committee itself would be a substantial asset to the cities, other governmental entities and Hunt County, as it will provide the advice and coordination necessary to guide the RTC task force in formulating the Plan to support continued growth of our population. The citizens will have the security of knowing that their future is being considered and comprehensively*

*prepared for, and the governing bodies will be in a better position to allocate budgetary authority for strategically planned project expenditures.*

The first appointments to the newly created Hunt County Transportation Committee were approved by the Hunt County Commissioners Court in December 2009 with 23 of the seats filled in a unanimous decision.

## PURPOSE AND GOALS OF THE TRANSPORTATION COMMITTEE

Once created, the committee was charged with expanding and clarifying the purpose and goals of the committee, determining what the county as a whole needed and desired from a comprehensive transportation plan, and identifying potential avenues for plan adoption and implementation. These purposes and goals, as drafted by co-chairs W.D. Hilton and Dr. Dan Jones, were approved by the committee and set the foundation for the study. The purpose and goals are as follows:

- Listen to input of the citizens of Hunt County and officials with responsibility for transportation
- Advise the Regional Transportation Council on:
  - Scope of the Hunt County Transportation Plan
  - Components of the Hunt County Transportation Plan
  - Priorities of the Hunt County Transportation Plan
  - Gathering input from citizens and elected officials
- Make recommendations to the County Judge, Commissioners Court, and Hunt County city officials
- Adoption of the Hunt County Transportation Plan
  - Plan should be broad based
  - Plan should be 20 to 30 years in scope of implementation
  - Plan should make Hunt County an integral part of the regional transportation system of North Central Texas
- Determine whether the Transportation Committee becomes an education and advocacy group for the Hunt County Transportation Plan

## HUNT COUNTY STUDY ORGANIZATION

In the fall of 2009, NCTCOG staff met with select members of the Hunt County Transportation Committee, including the co-chairs, the mayors of Greenville and Commerce, and the County Judge, to facilitate the consolidation of the purpose and goals of the committee, and Hunt County as a whole, into a work scope and schedule that would allow for a comprehensive transportation plan to be initiated, completed, and adopted. The work scope was broken down into five major milestones: Study Formation, Issue Identification, Technical Analysis, Public Review, and Plan Adoption.

During the Study Formation phase of the comprehensive planning process, the purpose, goals, and objectives of the study are identified through close coordination with the local governments initiating the study. Meetings are held with local officials, work groups and committees are formed, and a kick-off meeting for the project is scheduled.

Once the project has been kicked off, the Issue Identification stage begins. Issues, input, and comments received from the project partners are prioritized and a data collection phase is initiated. Data resources and contacts are identified and input from all sources is considered. For this comprehensive study, data resources included public input, county-to-county worker flows, traffic counts, land use data, population and employment projections, existing city and county plans, thoroughfare classification guidelines, and *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas*.

As the issues are being identified and prioritized, the Technical Analysis phase begins. During this stage in the planning process, the various elements of the comprehensive study assesses the needs of the study area in a very technical manner. Through close coordination with the planning partners, alternatives and solutions are identified, recommendations are developed, findings and concepts are presented to the partners for further analysis and input, and final recommendations are submitted for review. These recommendations are then summarized in a final report, signifying the conclusion of the comprehensive study.

Once completed, the comprehensive plan will then be subject to a public review process. This phase will allow for the public, project work groups, any and all community work groups, and local elected officials and technical staff to review the final recommendations of the study. The recommendations may be modified as a result of the comments received.

Adoption of the comprehensive study is the ultimate goal of the planning process and is addressed in the Plan Adoption phase of the work scope. The committee will be tasked with spearheading this phase in the process with elements, including local government briefings, achieving plan concurrence at the city and county level, and being adopted by the Hunt County Commissioners Court.

## OUTREACH EVENTS AND STAKEHOLDER ACTIVITIES

A vital element of any comprehensive transportation study is interaction with elected officials, technical staff, community leaders, and the general public residing in and near the study area. Throughout the course of the development of the Hunt County Transportation Plan, a high level of coordination and communication with these project stakeholders was maintained. The major outreach events of this study included:

- Initial Project Meeting – May 2009
- Work Scope Meeting – September 2009
- Coordination Meeting – December 2009
- Hunt County Transportation Plan Kick-off Meeting – February 2010
- Elected Officials Briefing – April 2010
- NCTCOG Public Listening Session – April 2010
- Hunt County Alliance for Economic Development Briefing – April 2010
- Northeast Texas Rural Rail District Board of Directors Meeting – May 2010
- Hunt County Transportation Committee Meeting (Analysis Update) – August 2010
- Hunt County Transportation Committee Meeting (Findings and Concepts) – November 2010
- Hunt County Transportation Committee Meeting (Presentations of Findings) – January 2011
- Greenville Chamber Briefing – April 2011
- Hunt County Transportation Committee Meeting (Presentation of Draft Document) – January 2012
- Elected Officials Briefing – January 2012
- Public Meetings (Greenville and Commerce) – January 2012
- City Council Briefings – February 2012
- Plan Adoption by Hunt County Commissioner's Court – March 2012

# IV. Hunt County Master Thoroughfare Plan

## INTRODUCTION

The thoroughfare plan is one of the basic tools of urban development that guides the location and size of new roadways to meet projected growth. The primary purpose of the plan is to ensure the orderly and progressive development of the urban and rural street systems to serve the mobility and access needs of the public. Thoroughfare planning is interrelated with other components of the urban planning and development process.

## Thoroughfare Plan Development Process

The North Central Texas Council of Governments, serving as the Metropolitan Planning Organization for the Dallas-Fort Worth area, provides transportation planning assistance to local cities and counties. As a guide to local entities, the Thoroughfare Plan Development Process has been formed through planning experience and research. The following elements provide a basic understanding needed for the creation of a thoroughfare plan. The thoroughfare plan should identify and analyze those thoroughfares:

- which interconnect various employment, residential, and recreational centers.
- which are located along boundaries between two or more municipalities and where responsibility for enhancement and maintenance is divided.
- which would logically improve and maintain connectivity with thoroughfares not located within the planning area.
- connecting one or more municipalities to state or federal freeway and arterial systems and which are logical extensions of those systems.
- that help maintain connectivity despite physical barriers such as rivers, lakes, buildings, parks, etc.
- located in unincorporated areas of the county that provide connectivity between municipalities.
- with the potential to improve system continuity through modifications in alignment, refinement in number of lanes, analyses of speed limits, and assessment of other roadway attributes.

The thoroughfare plan is the formal document used by municipalities, counties, and other local government entities to provide for the development of an efficient and appropriate thoroughfare system to meet existing and future travel needs. A primary objective of every thoroughfare plan is to ensure the preservation of adequate rights-of-way on appropriate alignments for the appropriate roadway type. The plan will allow for the orderly and efficient expansion and improvement of the thoroughfare system to serve existing and future transportation needs. Furthermore, the plan will identify and encourage linkages between existing and planned roadway facilities of jurisdictions, both within and around the study area, to increase the regional connectivity and consistency of the total roadway system. Thoroughfare plans are developed with the participation of local elected officials, agency staff, and members of the public. Although all roadways are analyzed during this process, recommendations for freeways/toll roads, high-occupancy vehicle/managed lanes, frontage roads, and ramps are typically evaluated and reviewed through major corridor studies.

The plan also serves as a form of communication to the citizens of Hunt County and the development community through the identification of specific roadways for improvement and the preservation of right-of-way for future roadways. Since this is a county-level thoroughfare plan, it will help to ensure that consistency exists between local government adopted plans and will make it possible for roadways crossing jurisdictional boundaries to coincide. The thoroughfare plan helps to ensure that public money is used effectively by avoiding the over acquisition of land that is removed from tax rolls and would have to be publicly maintained. It also aids in the

prevention of an even more expensive and likely scenario where not enough land is available to meet future demand.

## Purpose of the Plan

The main purpose of this planning effort is to develop a thoroughfare plan for Hunt County that will be coordinated with other locally adopted planning documents in Hunt and adjacent counties. This plan identifies current deficiencies in the existing thoroughfare network and guides the future development of a comprehensive region-wide thoroughfare system. Since the thoroughfare plan guides the preservation of rights-of-way needed for future development of long-range transportation improvements, it has far-reaching implications on the growth and development of urban and rural areas; the plan may influence the pattern of movement and the desirability of areas for development. While long-range plans typically look at foreseeable changes over a 20-year time frame, thoroughfare planning often needs to consider an even longer-range perspective. As right-of-way is typically easier to acquire when an area is undeveloped, as is the case in portions of Hunt County, the sooner that potential right-of-way is identified and acquired, the more likely costs will be minimized and projects can be eventually implemented. Counties and cities should look as far into the future as feasible to begin identifying future right-of-way needs. Often times, a planning horizon of 50 years or more is not uncommon, especially in a rapidly growing area.

Recommendations of the thoroughfare plan should apply to all subdivisions of unincorporated land within Hunt County. This will ensure that the thoroughfare system is developed and implemented in a consistent manner. Recommendations for thoroughfare development include standards and criteria governing the location and alignment of thoroughfares, right-of-way widths, building setbacks, horizontal curvature, angle of intersection, block length, and other geometric design standards and guidelines.

In the administration and implementation of the thoroughfare plan, special cases and unique situations arise where existing physical conditions and development constraints in certain areas conflict with the need for widening of designated thoroughfares to the planned right-of-way and roadway cross section. Such special circumstances require a degree of flexibility and adaptability in the administration and implementation of the plan. Acceptable minimum design criteria and special roadway cross sections will have to be applied in constrained areas where existing conditions limit the ability to meet desirable standards and guidelines. Special roadway cross sections should be determined on a case-by-case basis when a unique design is needed. The standard roadway cross sections should be used in all newly developing areas and, whenever possible, in existing areas.

Wherever feasible, the existing and planned rights-of-way for thoroughfares should be maintained at the county's standard right-of-way width in order to accommodate potential thoroughfare improvements that may be needed in future years. Hunt County officials should maintain the consistency and integrity of the thoroughfare plan and, whenever possible, keep exceptions to a minimum.

## THOROUGHFARE PLAN CONCEPTS

In conjunction with the vision statement for Hunt County, a series of three thoroughfare plan concepts have been developed to help guide and focus planning direction. As the county vision relates to the thoroughfare plan, options regarding how future traffic demand is accommodated on the roadway system must be taken into consideration. With limited funding, resource allocation will be driven by mobility function and need. By evaluating concepts which may guide future development patterns, transportation recommendations can be phased and staged over time based on funding availability, and priorities can be established.

In the first concept, the Regional Mobility Concept shown in *Exhibit IV-1*, major corridors are introduced, identifying regional movements within the county. In this concept, the primary focus is to accommodate significant regional movements that promote the efficient and effective routing of traffic through the major development centers of the county to other parts of the region. The basic premise of this concept is to orient future traffic patterns into and out of the county in relation to traffic demand indicators connecting major employment and activity centers into and out of Hunt County.

The second concept, the Intra-county Mobility Concept, is shown in *Exhibit IV-2*. This concept introduces intermediate corridors identifying mid-level or county-level movements within the county. In this concept scenario, planning addresses the same regional movements identified in the first concept, as well as a select set of intra-county corridors. Regional and intra-county movements are addressed, highlighting their interdependence with resources shared between the two.

In the third concept, the Local Mobility Concept shown in *Exhibit IV-3*, minor collector corridors are introduced, identifying localized movements within the county. In this concept scenario, planning addresses a wide range of more localized mobility options. Regional, intra-county, and local movements are highlighted with resources spread more evenly across the county. This scenario attempts to connect not only regional employment and activity centers, but also how these centers connect with local demand for a balanced, integrated transportation solution.

These basic thoroughfare plan concept scenarios can be customized to correspond to a particular future vision, and hybrid concepts can be applied as needed to accommodate future growth and development patterns based on county need. With an overall vision and direction for Hunt County, community input is integral and serves a vital role in the selection and application of a scenario which addresses the county's needs. This critical step is needed to help apply the appropriate recommendations to address the county's thoroughfare needs.

## COUNTYWIDE NEEDS ASSESSMENT

Before developing recommendations for the Hunt County Thoroughfare Plan, it was necessary to assess the current and future needs of the county. A validated traffic forecasting model was not available for this area at the time of the plan's completion; therefore a needs assessment for Hunt County had to rely primarily on Census data, demographic projections, traffic counts, and public input. Using this data, several different approaches were incorporated to identify key corridors for improvement and areas needing additional infrastructure. The results of each method were then compared and refined to create a set of thoroughfare plan recommendations. These recommendations are described in greater detail later in this chapter.

### The Dallas-Fort Worth Regional Travel Model

The Dallas-Fort Worth Regional Travel Model (DFWRTM) serves as a source for forecasting vehicle miles of travel and other travel characteristics for the Dallas-Fort Worth Metropolitan Area. The Transportation Department of the North Central Texas Council of Governments (NCTCOG) is responsible for executing the DFWRTM and conducting various planning processes for the region. The software used by the department for the DFWRTM is TransCAD. The department provides technical support and staff assistance to the Regional Transportation Council and its technical committees which compose the Metropolitan Planning Organization policy-making structure.

The forecasting technique of the DFWRTM is based on a four-step sequential process designed to model travel behavior and predict the level of travel demand at regional, sub-area, or small area levels. The model process begins with an estimate of major socioeconomic variables for each zone (e.g., population, employment, median

# Hunt County

Thoroughfare Plan Concepts:
Regional Mobility

**Legend**

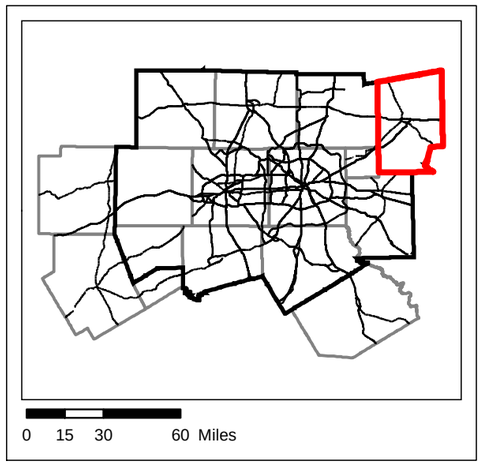
- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Development Centers

**Corridors of County Need**

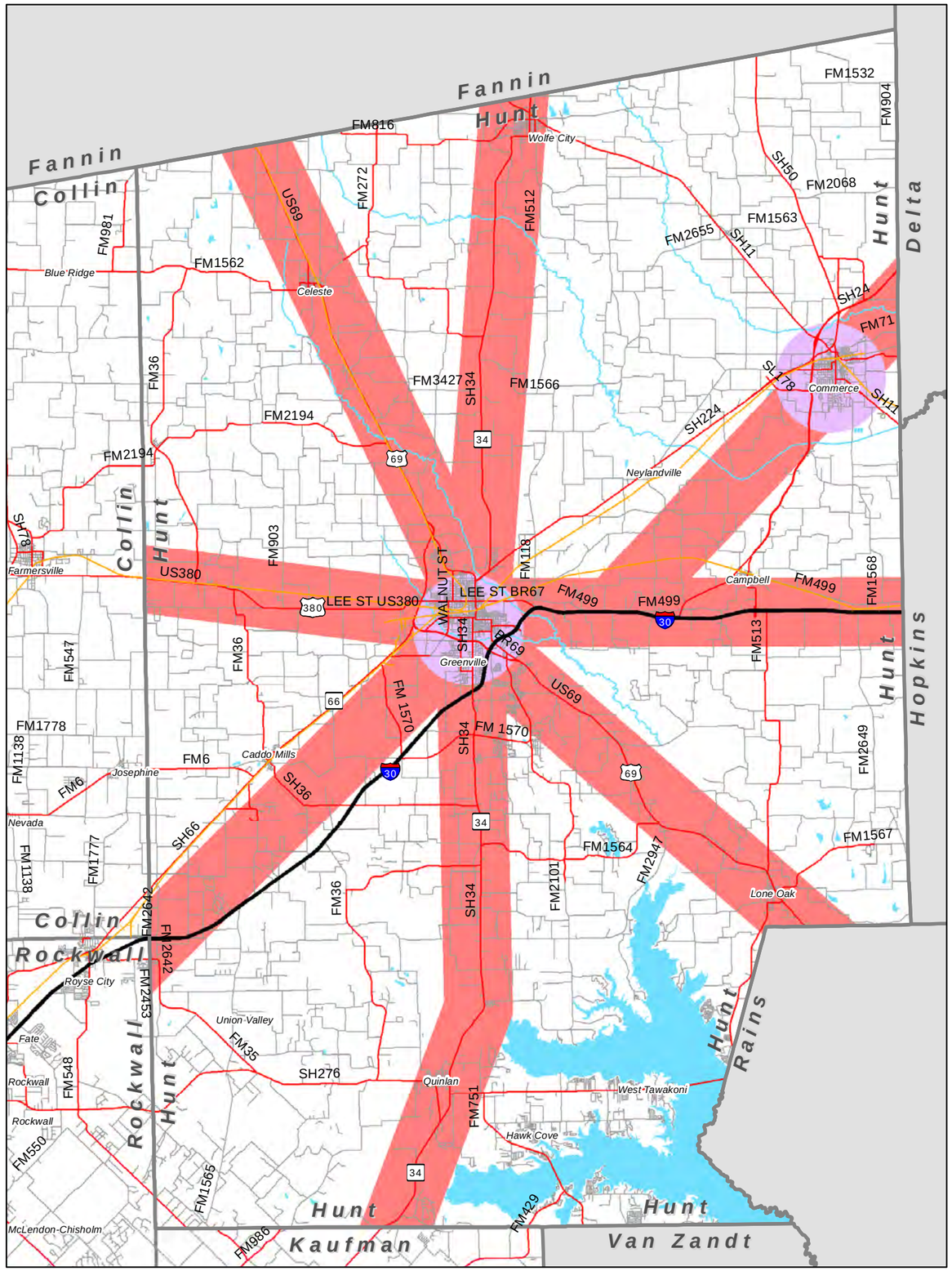
- Major Corridors

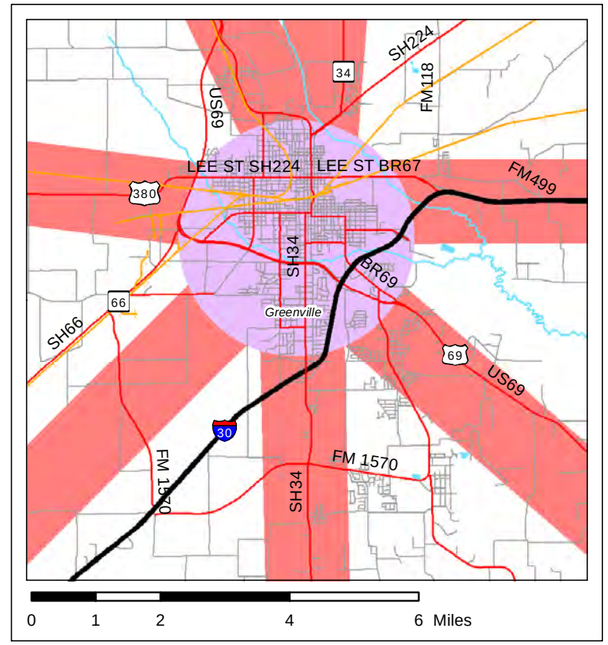
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

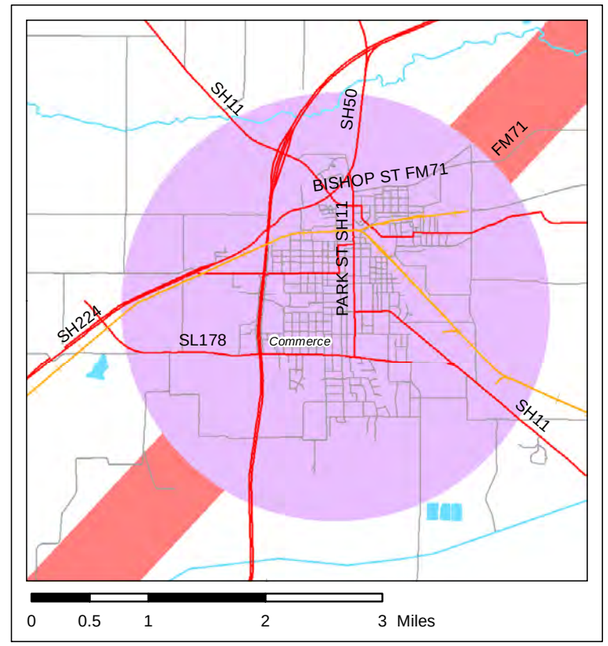



March 2012




Greenville




Commerce

# Hunt County

Thoroughfare Plan Concepts:
Intra-County Mobility

**Legend**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Development Centers

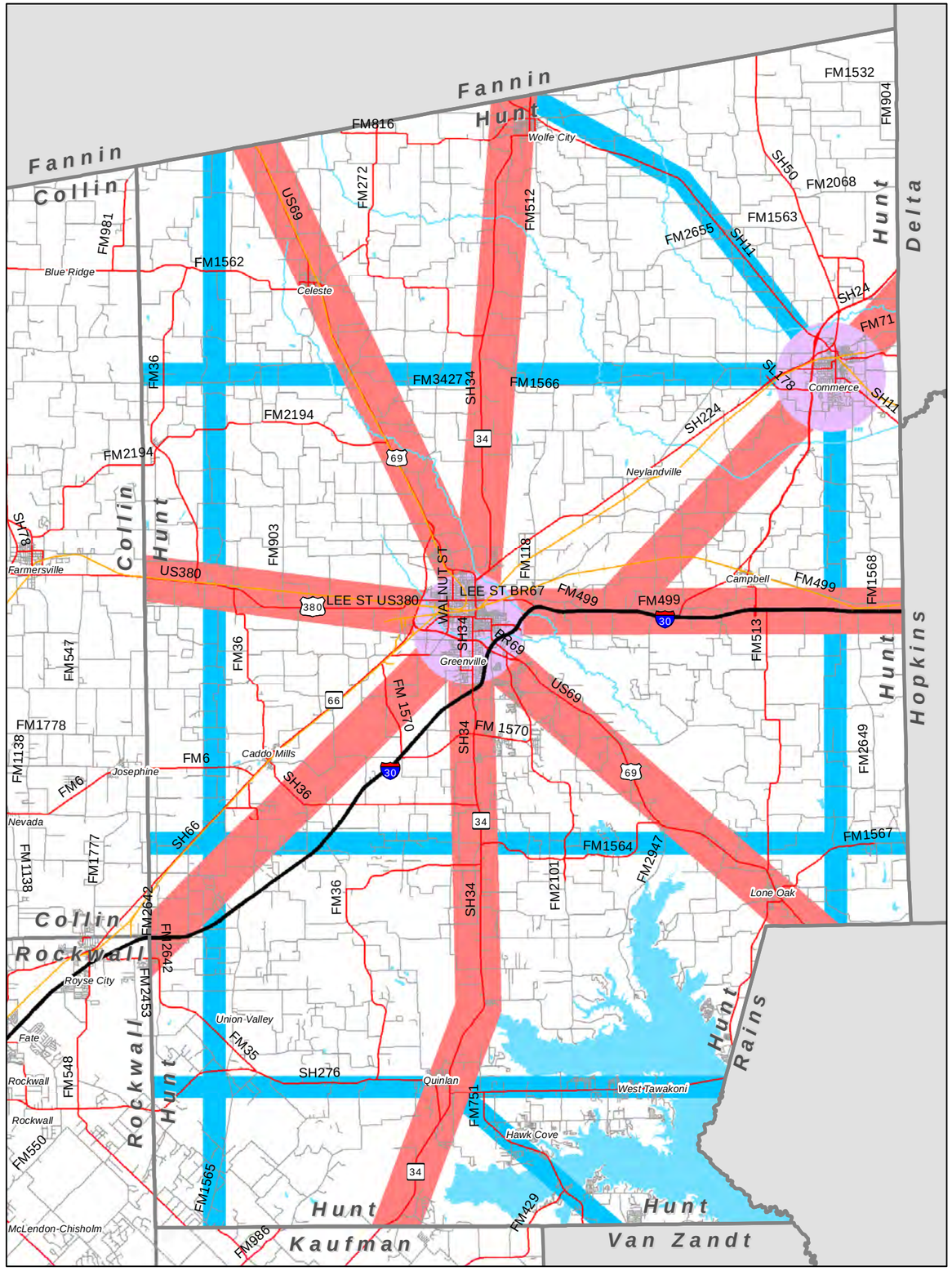
**Corridors of County Need**

- Major Corridors
- Intermediate Corridors

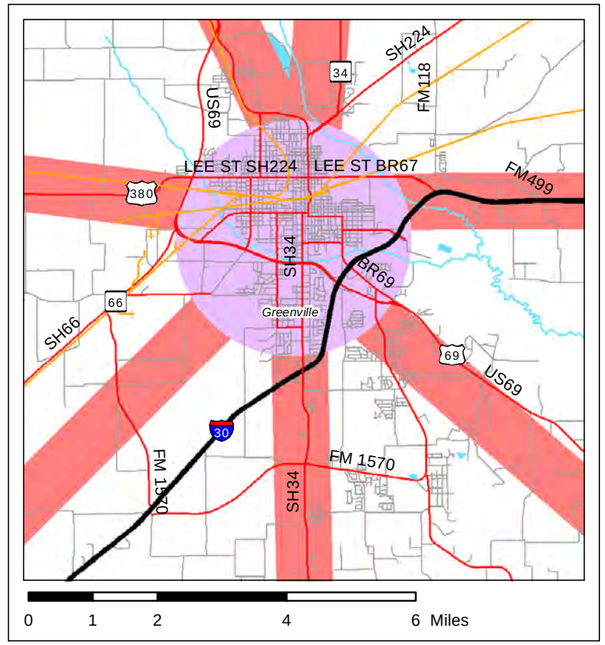
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

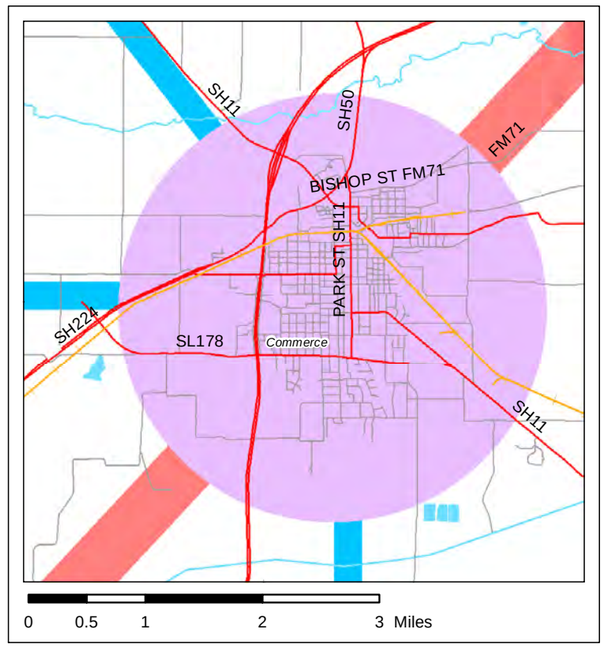

March 2012




0 2.5 5 10 15 Miles




Greenville




Commerce

# Hunt County

Thoroughfare Plan Concepts:
Local Mobility

**Legend**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Development Centers

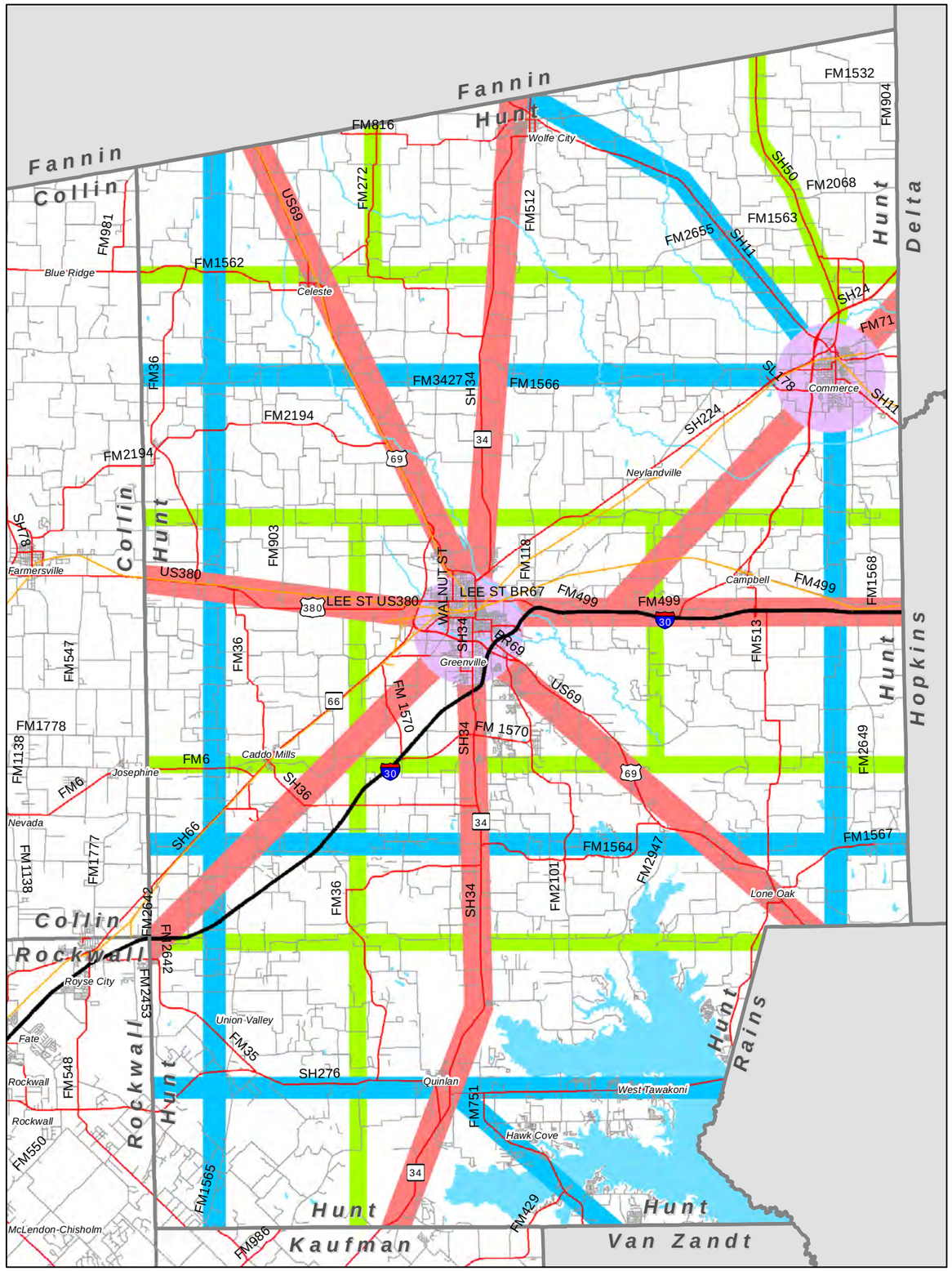
**Corridors of County Need**

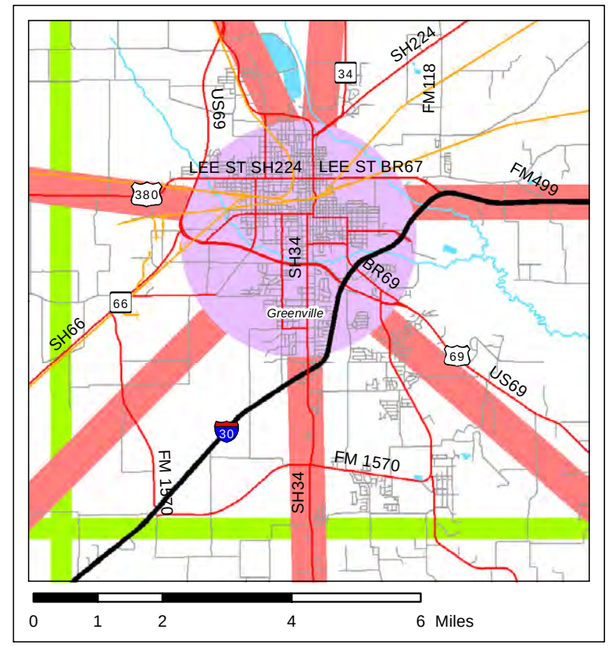
- Major Corridors
- Intermediate Corridors
- Minor Corridors

North Central Texas Council of Governments
Transportation

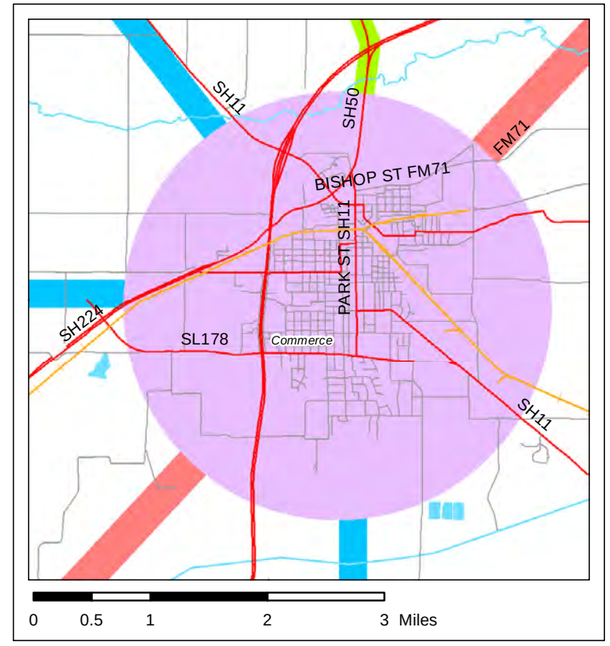
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.


March 2012




Greenville




Commerce

income, etc.). The information is put into the Trip Generation Model which generates the number of trips sent to and from each zone. The Trip Distribution Model determines the interaction between each zone and the rest of the zones in the study area. The mode of travel is determined by the Mode Choice Model which divides the trips into transit and automobile trips. This model also determines the automobile occupancy rates. The Roadway Assignment Model has three system components of roadway, high-occupancy vehicle, and transit that load the trips onto their respective transportation systems. The DFWRTM design is detailed and flexible enough to be used as an analytical tool for environmental justice evaluation. The model can analyze the proximity of the projects to specific segments of population, access to jobs through transit or roadway systems, and relative mobility differences among different groups.

At the time of this plan development, although Hunt County was recently included in the newly expanded Metropolitan Planning Area boundary, the regional travel model had not been calibrated and validated to the new expanded boundary. For this reason, the model was not able to be utilized to its full extent. However, as the plan neared completion, NCTCOG was in the process of finalizing the 12-county model which includes Hunt County.

## Existing and Planned Roadways

Without the benefit of the expanded DFWRTM, a baseline network from which to begin the needs assessment had to be constructed. The network used for the plan, shown in *Exhibit IV-4*, incorporates federal, state, county, and local roadways as found in the NCTCOG Research and Information Services Geographic Information System database. While existing and planned roadways are included in the neighboring counties of Collin, Rockwall, and Kaufman, only existing roadways are included in Hunt County, as planned Hunt County roadways are presented in the recently adopted *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas*. Planned roadways are included as an element of the baseline network to provide insight on future thoroughfares leading from Hunt to Collin, Rockwall, and Kaufman counties and help prevent boundary issues. Roadways in the baseline network have been broken down into three groups: Freeway (interstate highways), Major Arterial (state highways, farm-to-market roads, facilities displaying regional connectivity), and Minor Arterial (local roads, residential streets).

## Federal Functional Classification System

Another component used as a data resource for this project is the Federal Functional Classification System (FFCS), which was last updated and officially approved in August 2008. Three different types of functional class systems are identified in the FFCS based on area types. In urbanized areas, such as the Dallas-Fort Worth-Arlington Urbanized Area, roadways are categorized into four functional systems: 1) principal arterials, 2) minor arterials, 3) collector streets, and 4) local streets. In smaller urbanized areas, such as Greenville, the same four functional systems also apply, but typically have fewer principal arterial lanes warranted due to their smaller cross section and lighter traffic demands. Outside of the urbanized areas, rural roadways are similarly categorized, with more focus placed on connectivity to urban areas. Most of the Dallas-Fort Worth region is categorized as an urban area with the corresponding urban functional classifications. The FFCS designations for Hunt County are shown in *Exhibit IV-5*.

## Existing County and City Thoroughfare Plans

Thoroughfare plans and other planning documents that currently exist for the county and its jurisdictions were reviewed to ensure the recommendations of this plan are compatible with previous planning efforts. Other documents reviewed include NCTCOG's *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas*, the *Greenville Comprehensive Plan 2025*, the *West Greenville Small Area Plan*, and the "Thoroughfare Needs

# Hunt County

Existing and Planned Roadways

**Legend**

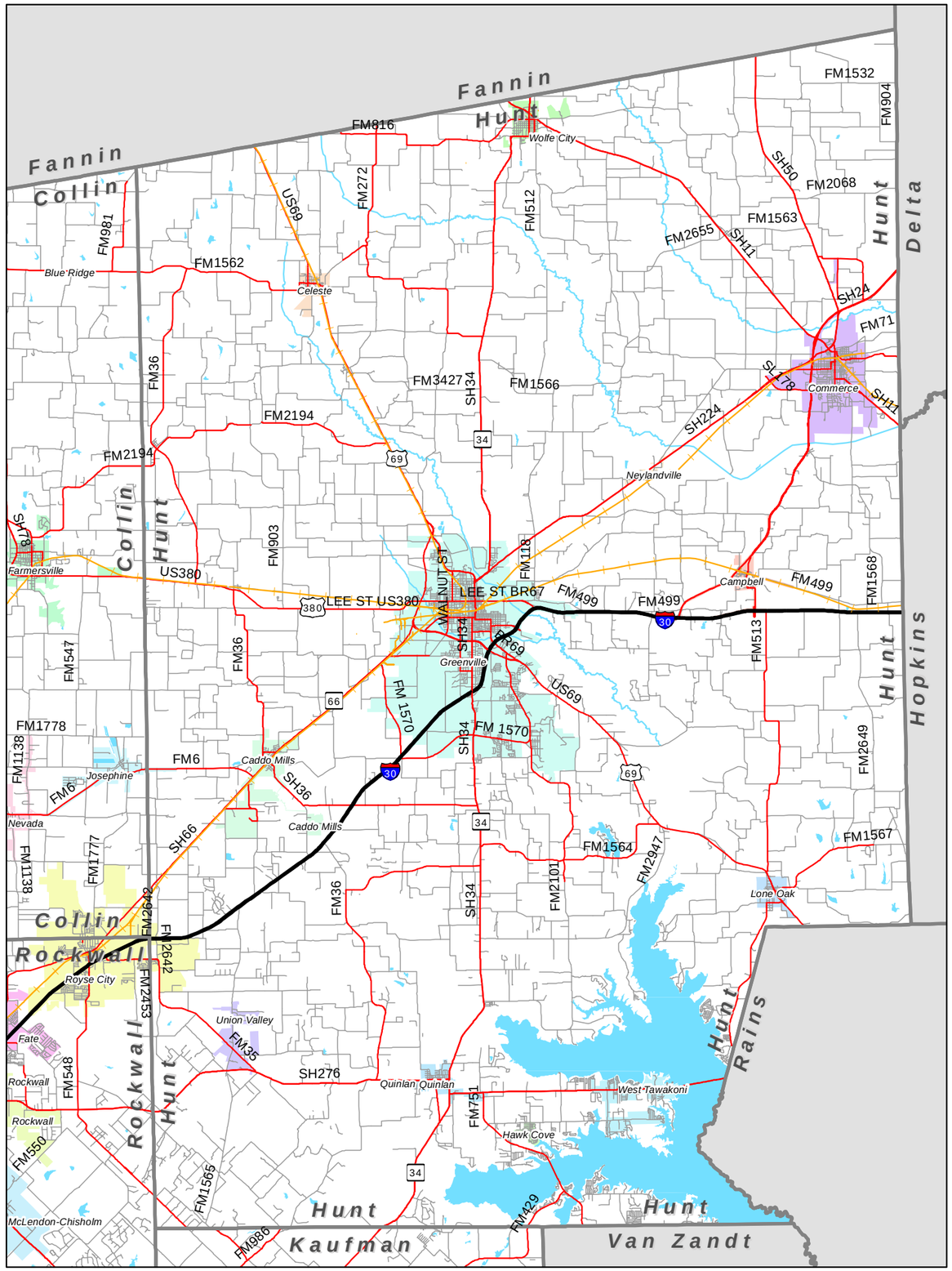
**Roadway Facilities**

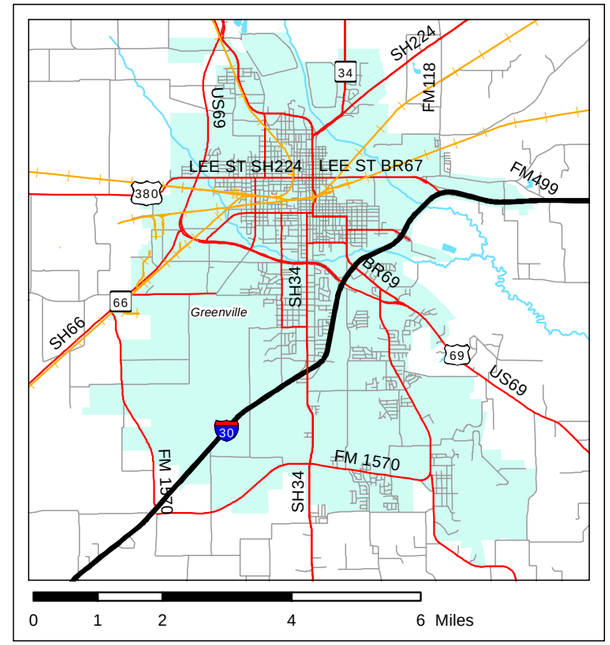
- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

North Central Texas Council of Governments Transportation

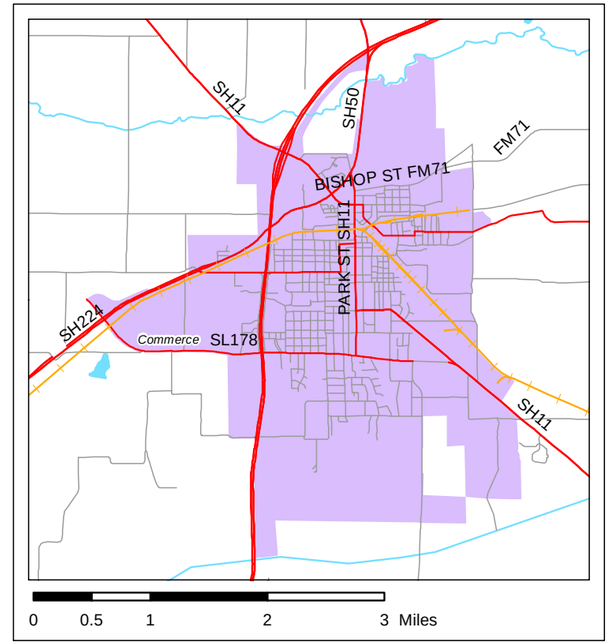
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.


March 2012




Greenville




Commerce

# Hunt County

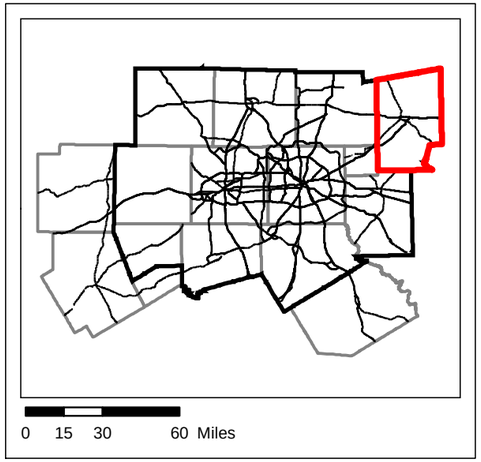
Existing Roadway Network by Federal Functional Classification System (FFCS)

**Legend**

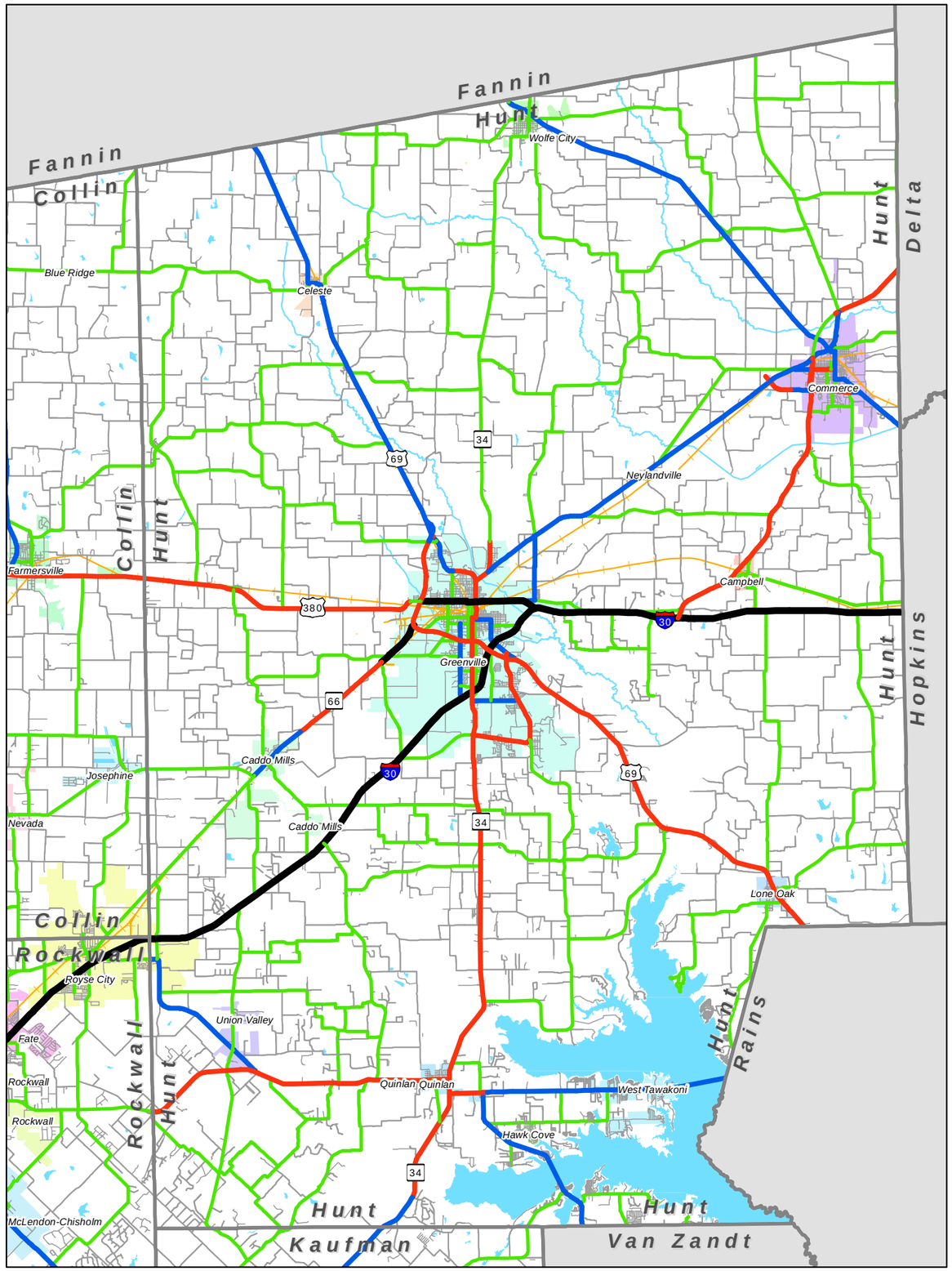
- Freeway
- Major Arterial
- Minor Arterial
- Collector
- Local Road
- Rail Corridor
- County Boundary

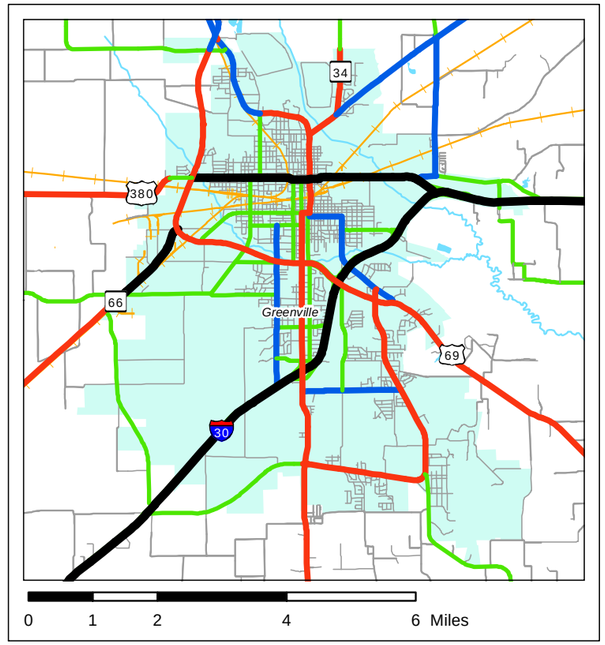
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the existing FFCS network. New facility locations indicate transportation needs and do not represent specific alignments.

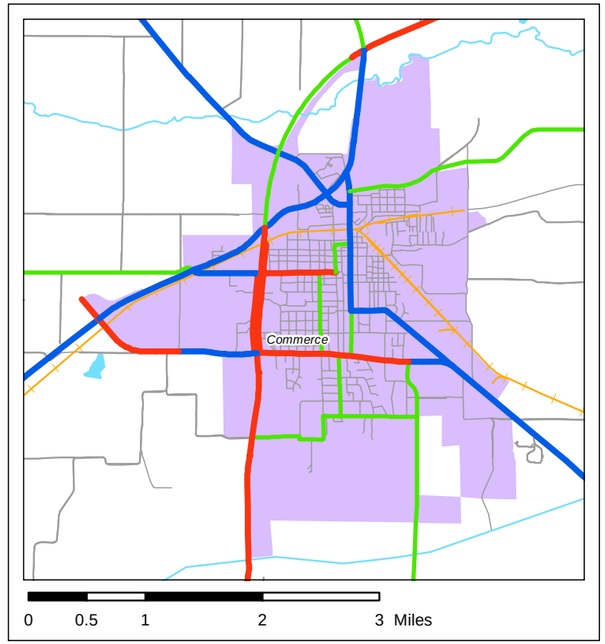



March 2012




Greenville




Commerce

Assessment" prepared for Walton Development and Management (USA), Inc. Municipal Utility District in western Hunt County.

## Areas of Public Concern

A series of outreach meetings were held in 2010 and 2011, including one in Caddo Mills and eight in Greenville. At those meetings, members of the public were invited to study large aerials of the county and identify transportation issues and/or opportunities to improve mobility: congestion, safety, bicycle/pedestrian access, or transit. This information was then converted into an electronic format and mapped as an overlay to the baseline map. These areas of public concern, as shown in *Exhibit IV-6*, provided insight into some of the transportation issues affecting the citizens of Hunt County.

The largest public response was generated for an improved movement on US 69 between Greenville and Lone Oak, east-west and north-south movements through or around Greenville, including SH 34, FM 1570, and a proposed bypass loop between IH 30 and US 380 west of Greenville. In addition, the public indicated thoroughfare needs on SH 11 in Commerce and on SH 34 and SH 276 in Quinlan.

## Traffic Counts

Twenty-four hour vehicle traffic counts for Hunt County, collected in 2003 by the Texas Department of Transportation and made available through NCTCOG's Transportation Data Management team, were mapped and analyzed. This information, as shown in *Exhibit IV-7*, was used to identify existing travel demands on the area transportation system, and to assist in future projections of demand. Upon inspection, it was determined that the highest count levels were found on IH 30, SH 34, and US 69, as well as in and around the cities of Greenville, Commerce, and Quinlan.

In an effort to project future roadway demand, these traffic counts were used in conjunction with projected growth in population and employment, and took into account areas expected to see more pass-through traffic (long-distance corridors such as IH 30, SH 34, and US 69). Corridors were determined by stringing together logical clusters of counts. Points with the largest counts, as well as counts in areas expecting high growth, yielded the highest priority corridors while corridors comprised of mid-sized traffic count points were of lower priority.

## Potential Thoroughfare Improvements

In order to study and better understand a potential build-out thoroughfare system, it was important to analyze existing characteristics of roadways in Hunt County. This analysis helped to identify deficiencies in the current roadway system, as well as highlight some areas for potential thoroughfare improvements.

Desirable thoroughfare spacing is a function of the capacity of the system. In general, the ideal standard for sufficient coverage is a network grid spaced from one to five miles apart. Spacing was reviewed to ensure coverage and consistency by overlaying north-south grids, as shown in *Exhibit IV-8*, and then east-west grids, as shown in *Exhibit IV-9*, on top of the baseline roadway network. These gridlines, placed every five miles across the county, were used to analyze the current facility spacing within the county. Deficiencies could also be identified, and the gridlines then acted as guides and reference points aiding in the selection of possible improvements in connectivity and mobility. These new corridors used existing infrastructure where possible.

In addition to the concept of thoroughfare spacing, the analysis also considered the regional facilities currently on the ground today, additional roadways with significant traffic count loads, and smaller roads that connect these

# Hunt County

Areas of Public Concern

## Legend

**Issues**

- Congestion
- Safety
- Bicycle/Pedestrian Access
- Transit

**Thoroughfares**

- Moderate
- Considerable
- Significant

**Roadway Facilities**

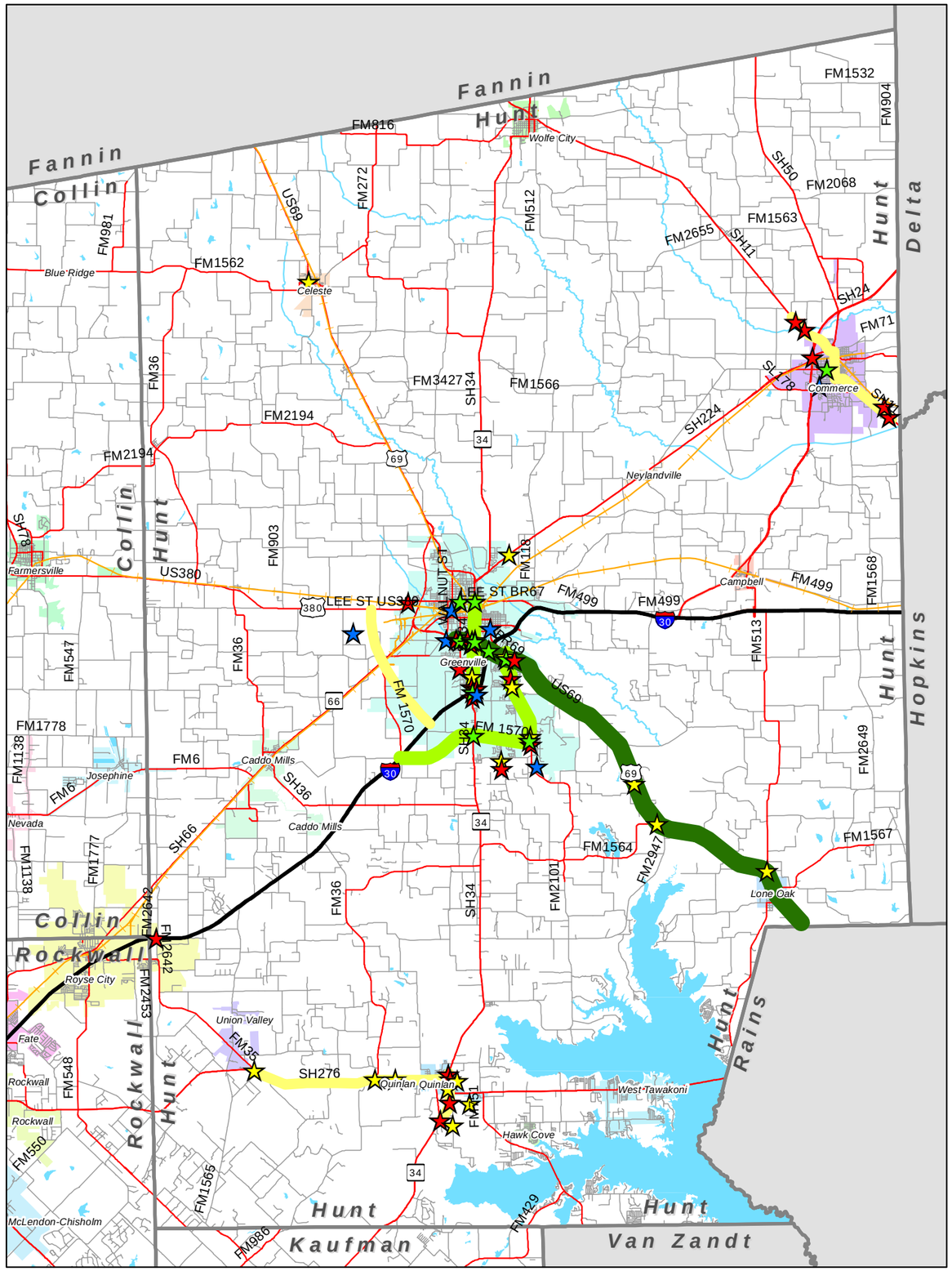
- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

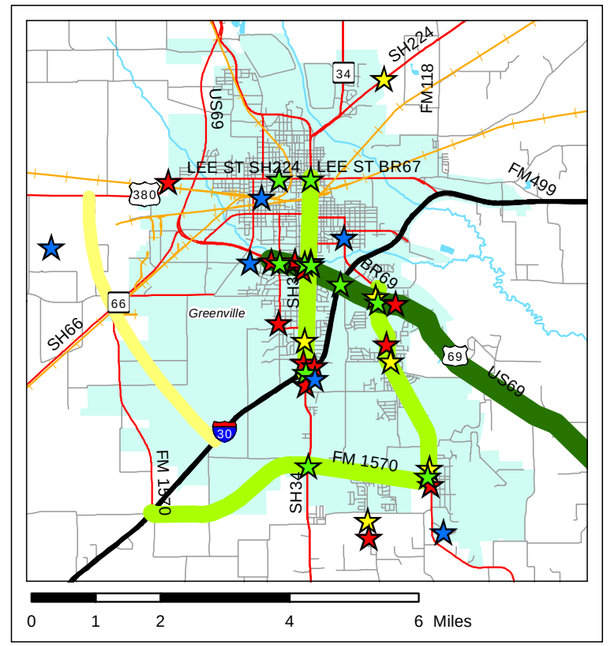
North Central Texas Council of Governments Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

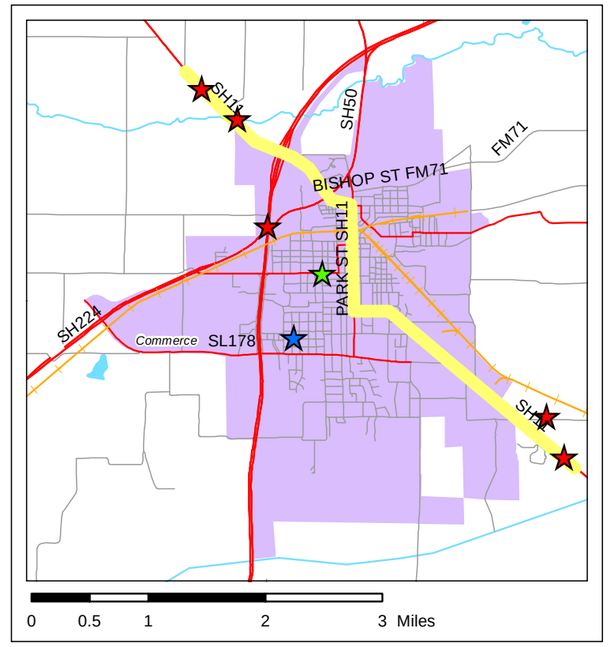
Areas of Public Concern are based on public input from the Hunt County Transportation Listening Session on April 20, 2010 and the Hunt County Alliance for Economic Development Quarterly Meeting on April 28, 2010.


March 2012




Greenville




Commerce

# Hunt County

Traffic Counts

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

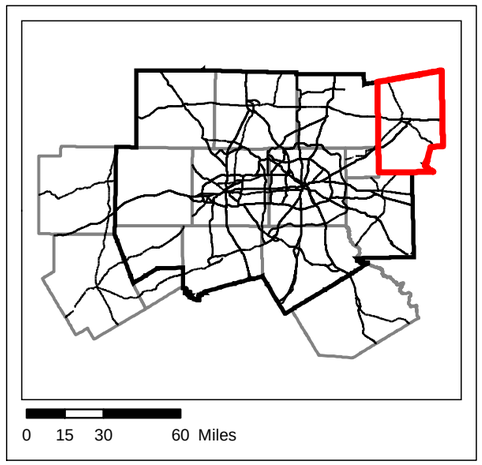
**Traffic Counts* (vehicles/day)**

- Under 500
- 500 -1,000
- 1,000 - 2,500
- 2,500 - 10,000
- Over 10,000

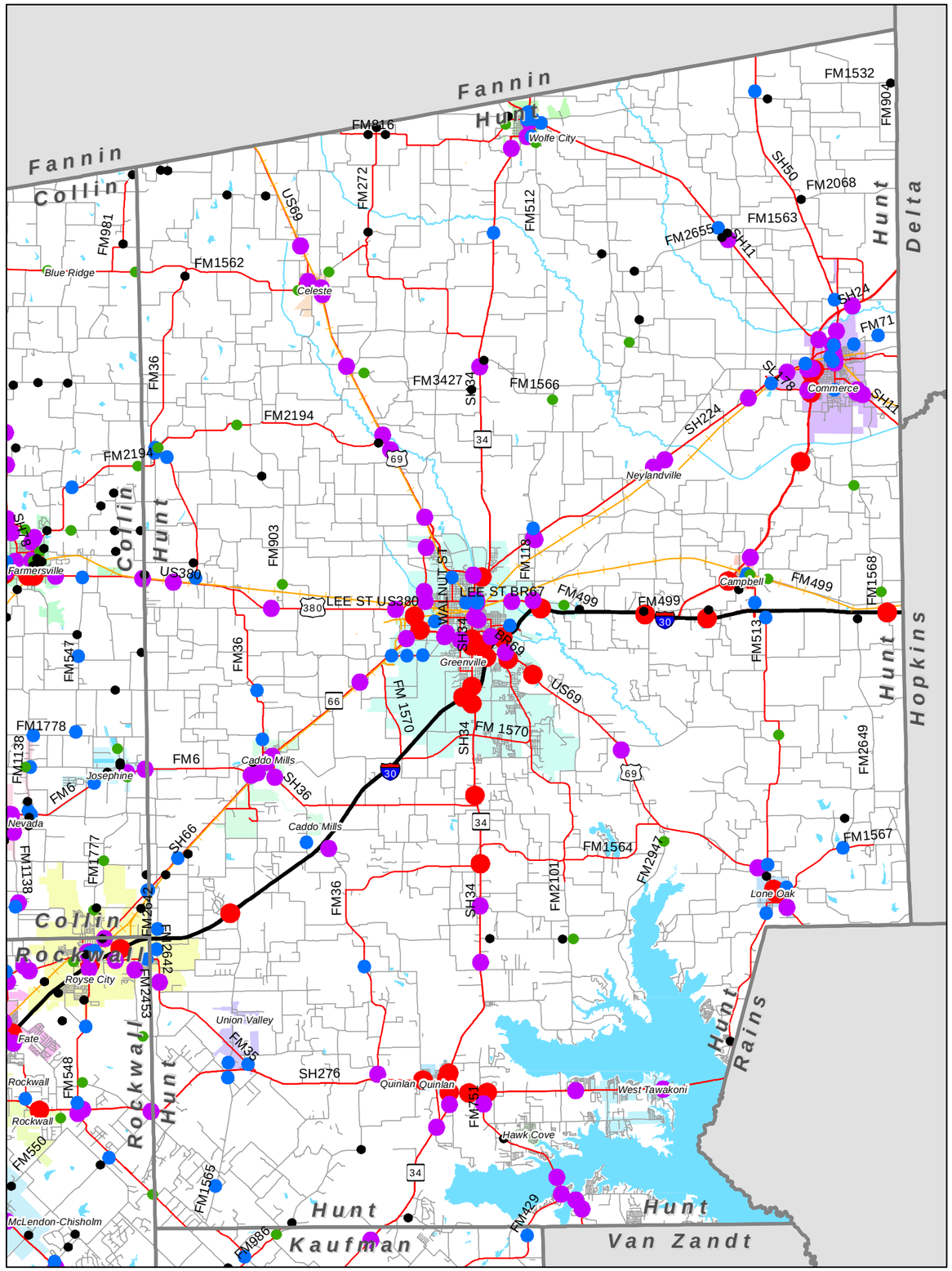
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

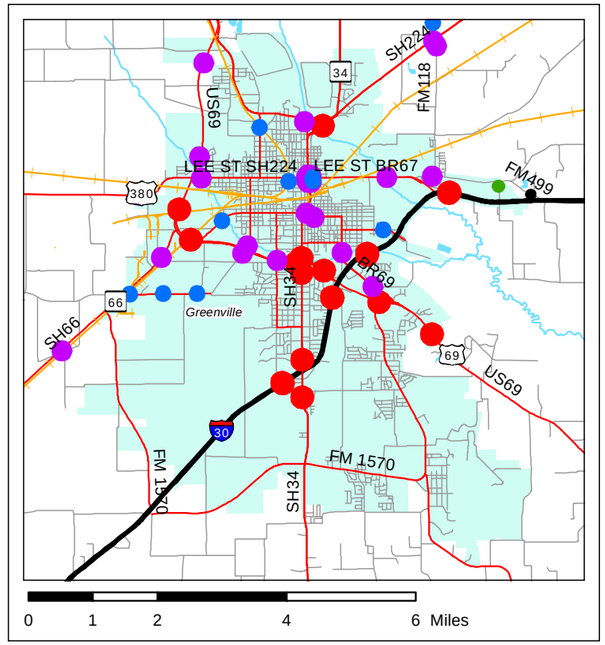
*Source: Texas Department of Transportation, 2003.



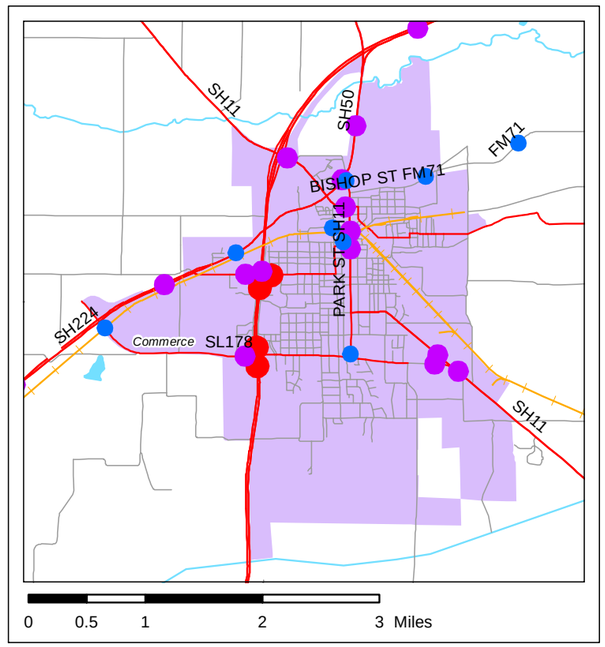

March 2012




0 2.5 5 10 15 Miles




Greenville




Commerce

# Hunt County

Traffic Counts with North-South Grid

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- 5-Mile Gridline

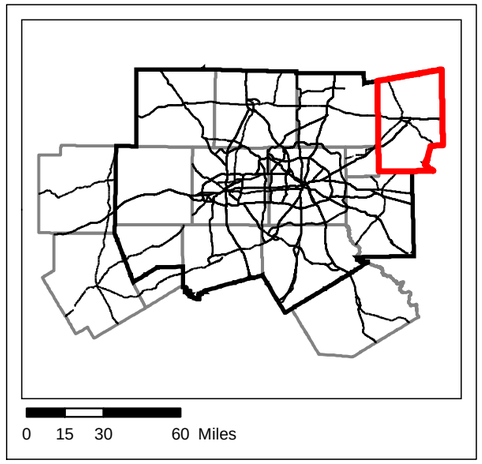
**Traffic Counts* (vehicles/day)**

- Under 500
- 500 -1,000
- 1,000 - 2,500
- 2,500 - 10,000
- Over 10,000

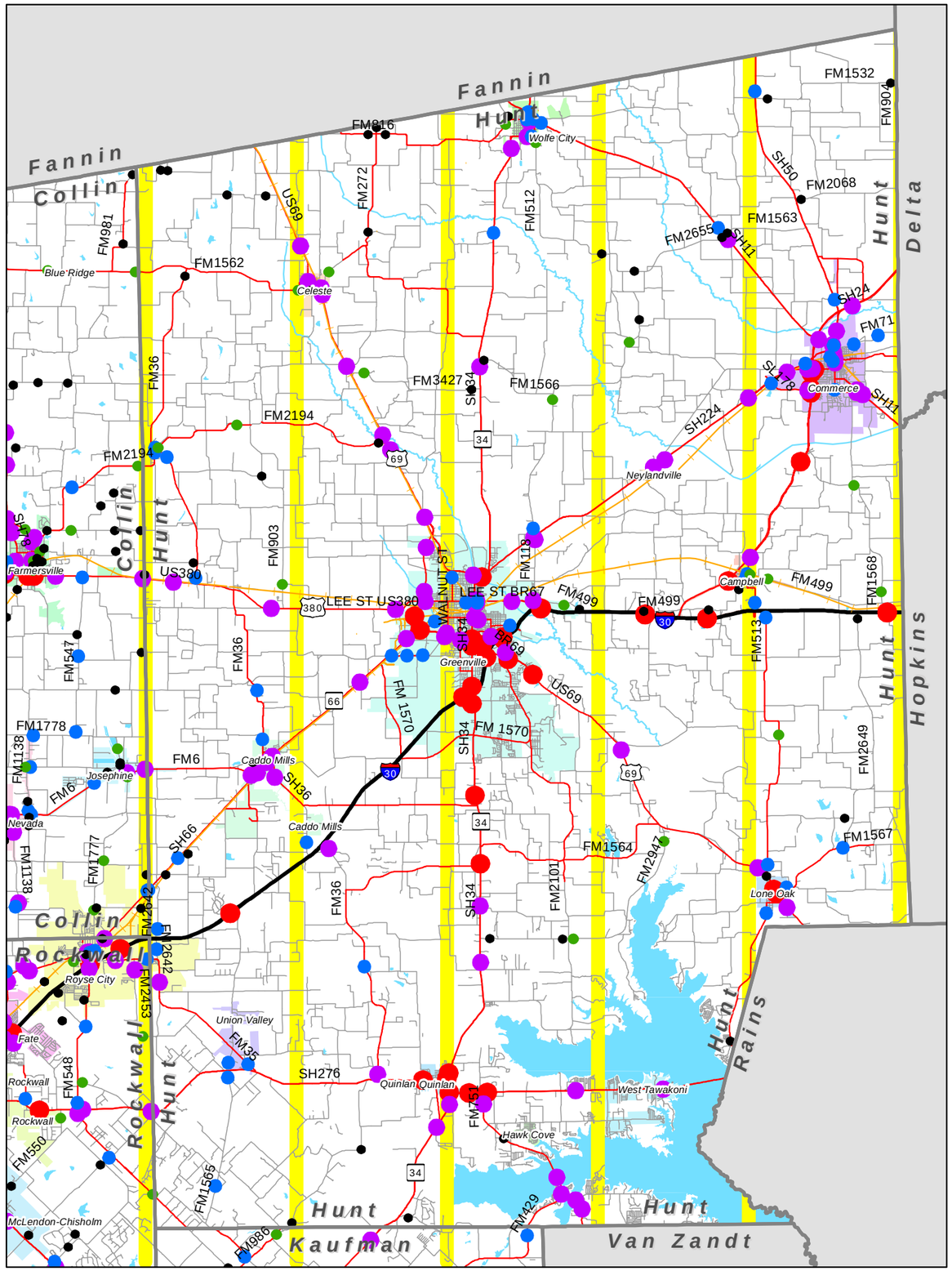
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

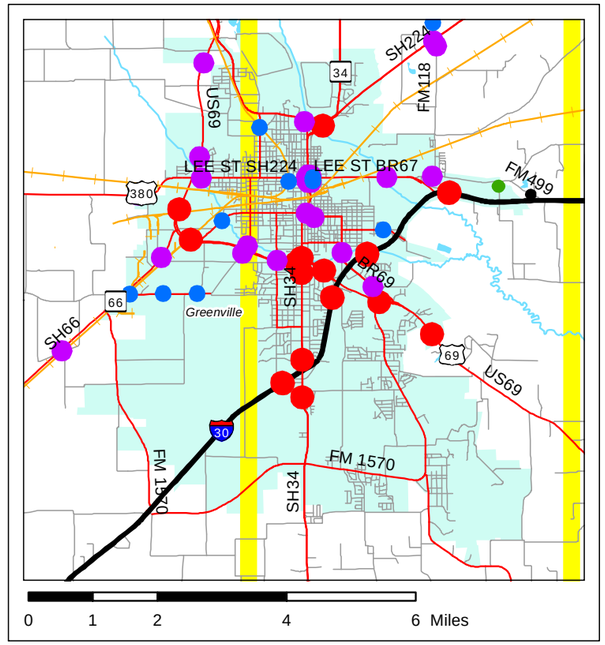
*Source: Texas Department of Transportation, 2003.



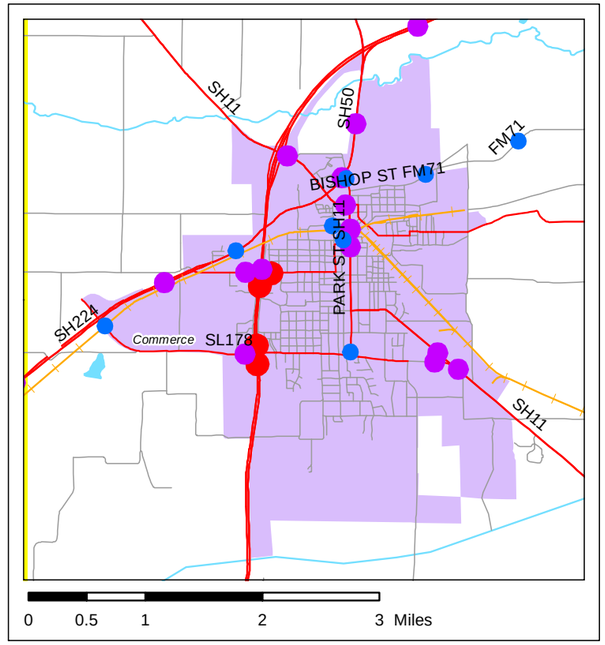

March 2012




0 2.5 5 10 15 Miles




Greenville




Commerce

# Hunt County

Traffic Counts with East-West Grid

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- 5-Mile Gridline

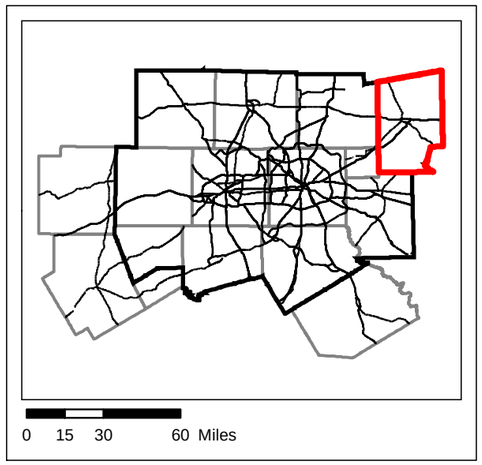
**Traffic Counts* (vehicles/day)**

- Under 500
- 500 -1,000
- 1,000 - 2,500
- 2,500 - 10,000
- Over 10,000

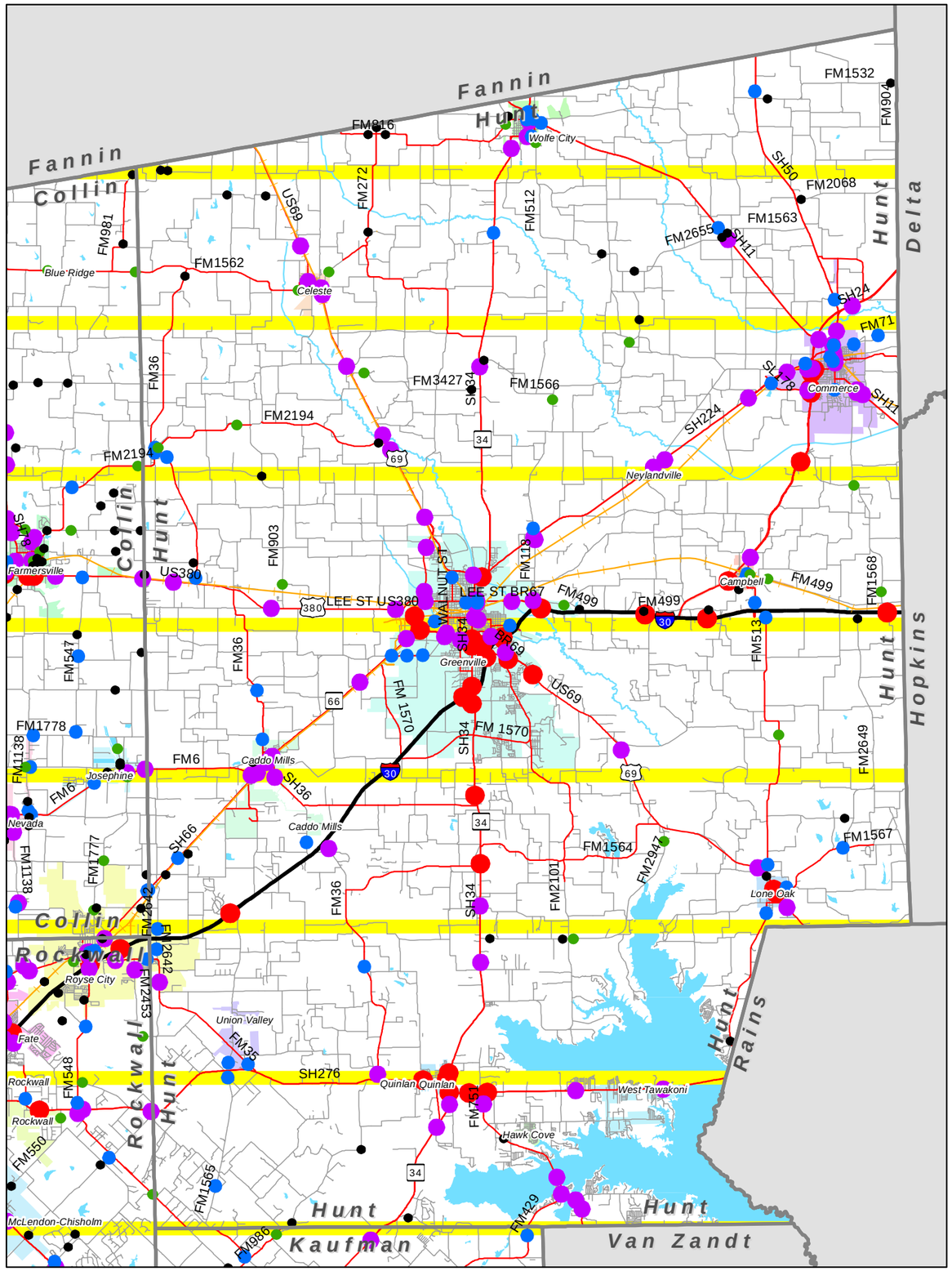
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

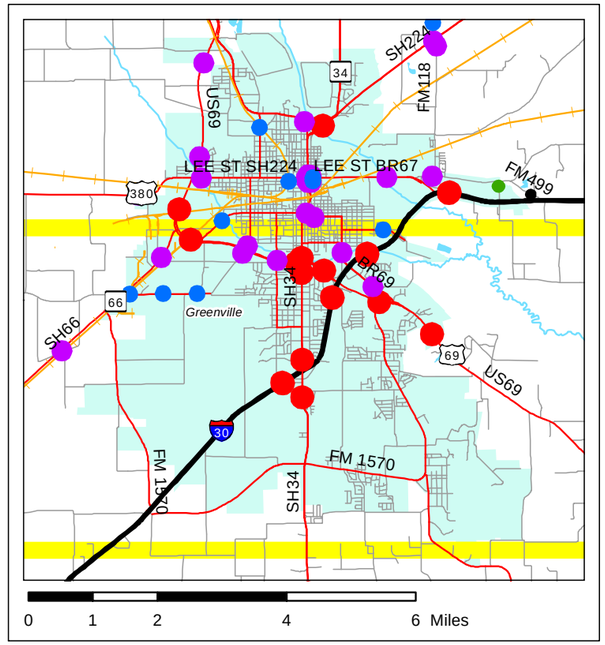
*Source: Texas Department of Transportation, 2003.




March 2012

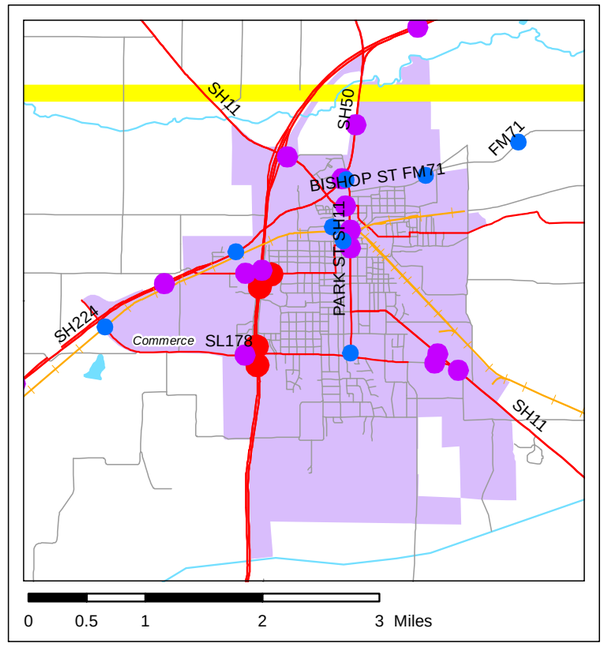



0 2.5 5 10 15 Miles




0 1 2 4 6 Miles

Greenville




0 0.5 1 2 3 Miles

Commerce

larger facilities. More attention was given to the southern and western sections of the county and to north-south movements between Greenville-Commerce and Greenville-Quinlan as dictated by the traffic count data.

These high volume corridors, shown in *Exhibit IV-10*, combine the thoroughfare spacing and congestion-based analysis efforts and attempt to create a cohesive transportation system which not only addresses the issue of potential congestion, but also ensures that the needs of the more rural, less congested areas of the county are met.

Transportation safety must also be taken into consideration relative to potential thoroughfares. Traffic accident locations collected from the Texas Department of Transportation in 2009 are shown in *Exhibit IV-11*. This crash data indicates that potential thoroughfare improvements may be needed along the IH 30 corridor and in and around the city of Greenville.

## Demographic Projections

A key element of the thoroughfare planning process is to analyze the travel behavior characteristics occurring in the study area and to develop travel forecasts based on demographic projections. The demographic projections drive the travel forecasting process because they provide information regarding potential locations of increased residential and employment centers that generate increased travel and traffic. The demographic element for this plan includes population, employment, and county-to-county worker flows based on 2008 estimates from the US Census Bureau.

Hunt County's population, according to Census 2010, was 86,129 with a projected population of 148,451 in 2035. Hunt County was host to an estimated 25,000 jobs in 2008,[1] with economist Ray Perryman projecting employment to increase by 90 percent from 2000 to 2030. As employment growth is projected to occur faster than population growth, the trend of commuters from other counties utilizing Hunt County's transportation system is expected to continue to grow. The location of the county's largest employers relative to the county's major travel corridors are shown in *Exhibit IV-12*.

## County-to-County Worker Flows

Using information from the US Census Bureau, it is possible to further analyze the travel characteristics of Hunt County residents and employees. *Exhibit IV-13* provides a summary of the data resulting from an analysis of county-to-county worker flows to and from Hunt County.

*Exhibit IV-13*

| IF YOU LIVE IN HUNT COUNTY, WHERE DO YOU WORK? | | IF YOU WORK IN HUNT COUNTY, WHERE DO YOU LIVE? | |
|---|---|---|---|
| ***Hunt County*** | ***44%*** | ***Hunt County*** | ***60%*** |
| Dallas County | 26% | Dallas County | 10% |
| Collin County | 10% | Hopkins County | 5% |
| Rockwall County | 5% | Collin County | 5% |
| Tarrant County | 5% | Rockwall County | 4% |
| Kaufman County | 3% | Tarrant County | 3% |

[1] US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program.

# Hunt County

Traffic Counts and High Volume Corridors

## Legend

**Roadway Facilities**

- Freeway
- Minor Arterial
- Rail Corridor
- County Boundary

**Traffic Counts* (vehicles/day)**

- Under 500
- 500 -1,000
- 1,000 - 2,500
- 2,500 - 10,000
- Over 10,000

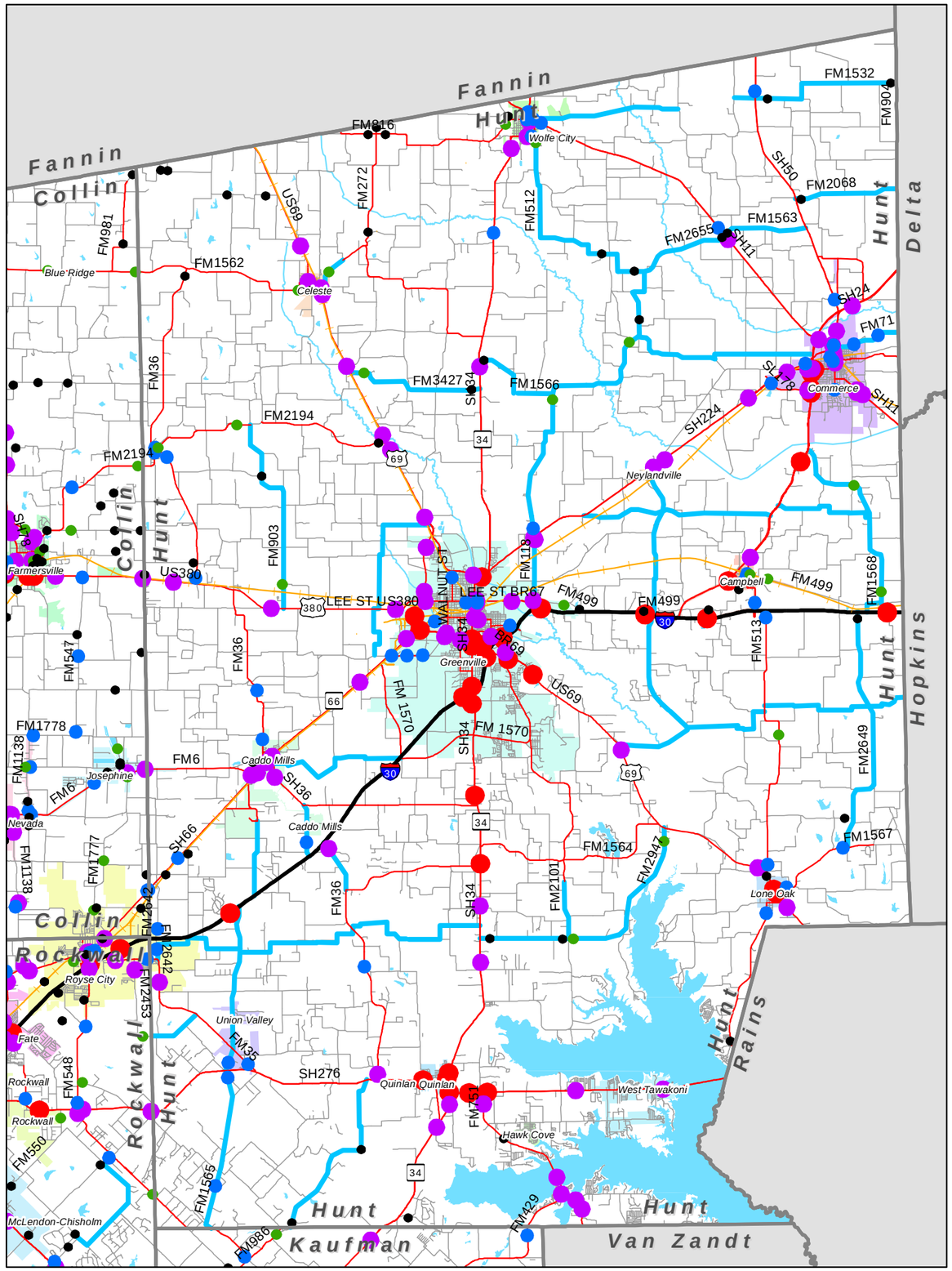
- Existing Major Thoroughfares
- High Volume Roads

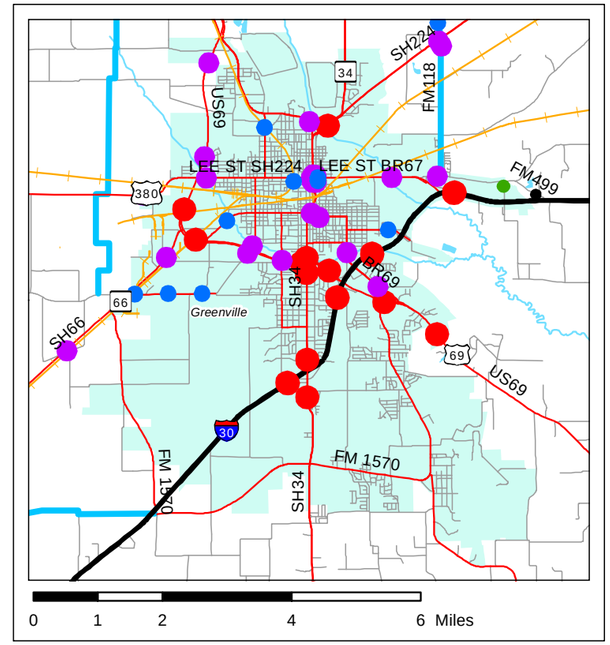
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

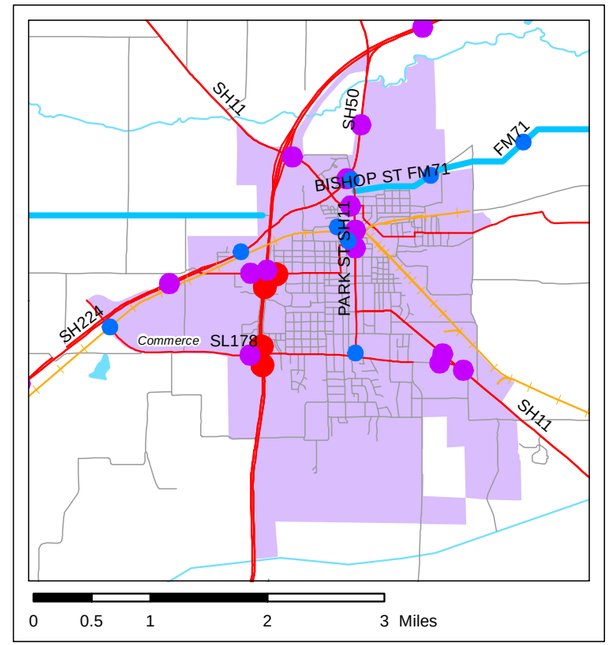
*Source: Texas Department of Transportation, 2003.


March 2012




Greenville




Commerce

# Hunt County

Traffic Accidents

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

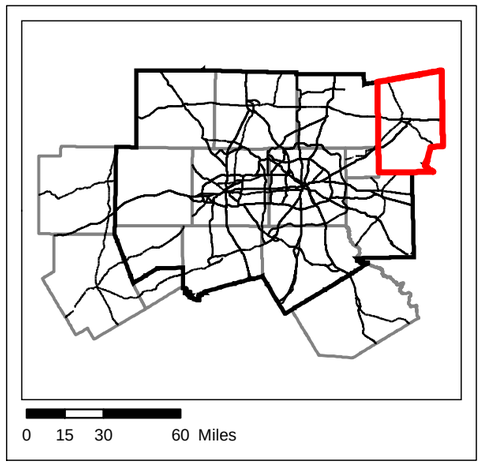
**Traffic Accidents***

- Serious Injury and/or Fatality Crashes
- Other Crashes

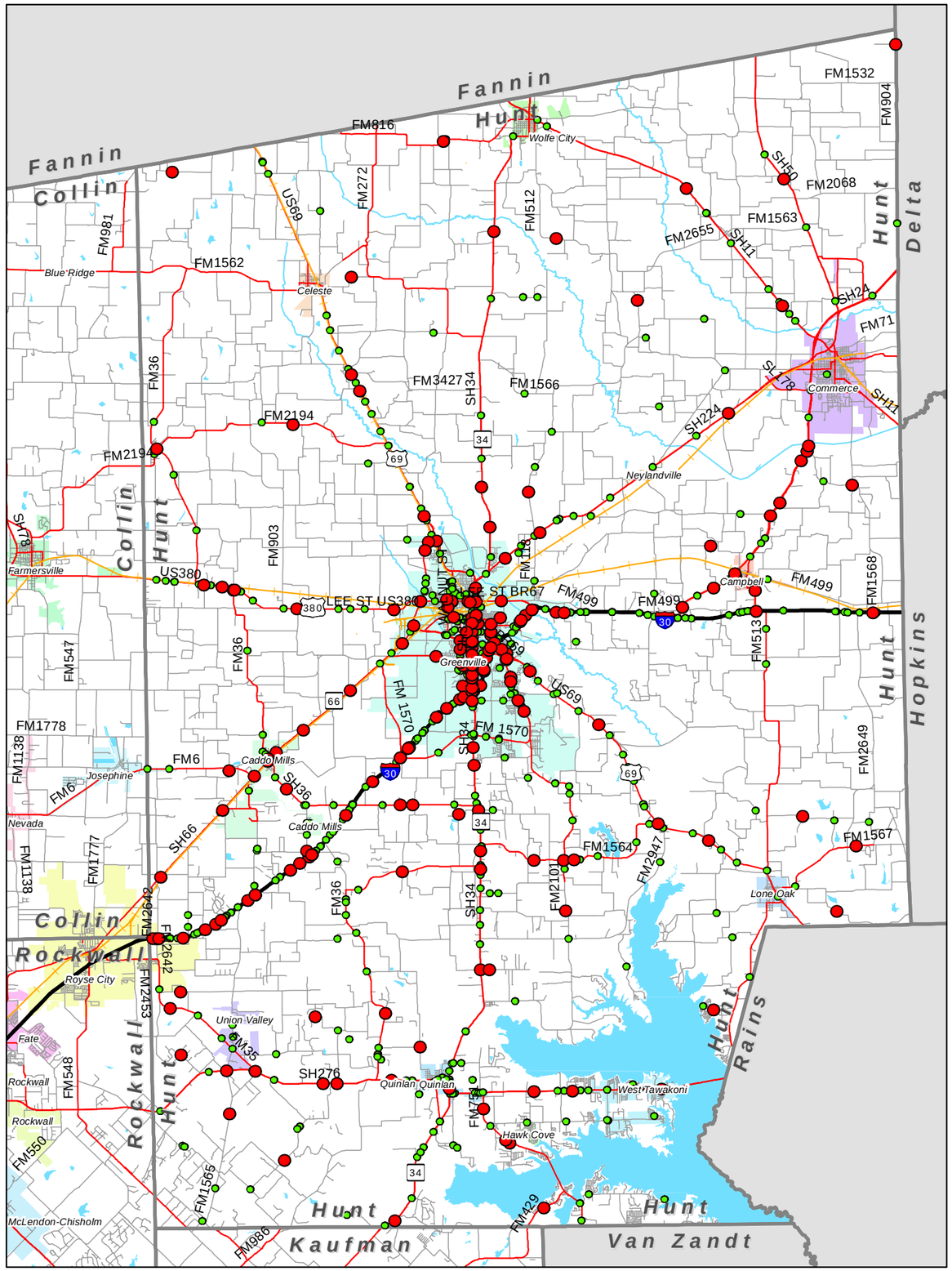
North Central Texas Council of Governments
Transportation

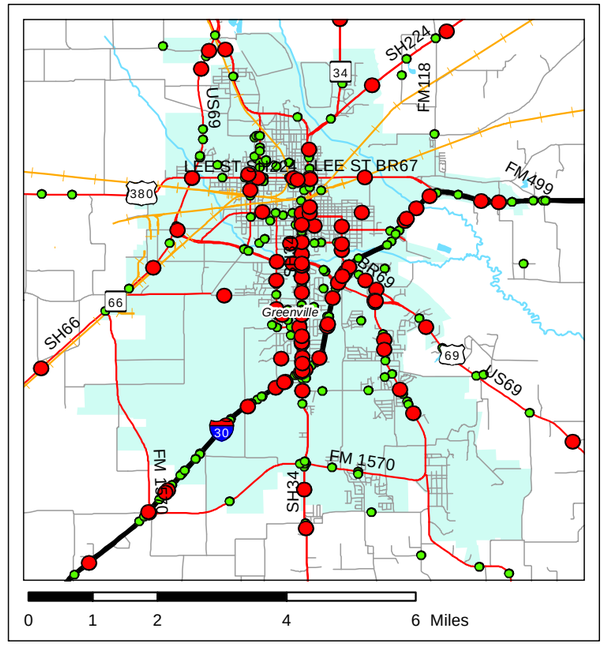
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

*Source: Texas Department of Transportation, 2009.

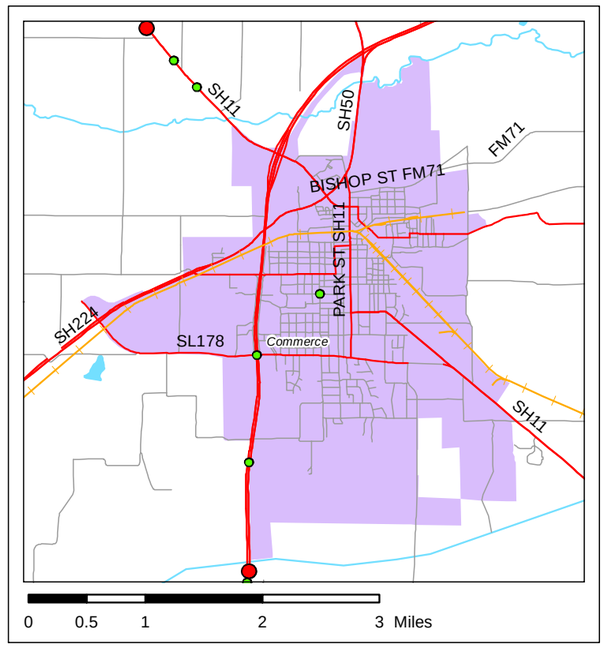



March 2012




Greenville




Commerce

# Hunt County

Major Travel Corridors and Employers

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Major Travel Corridors

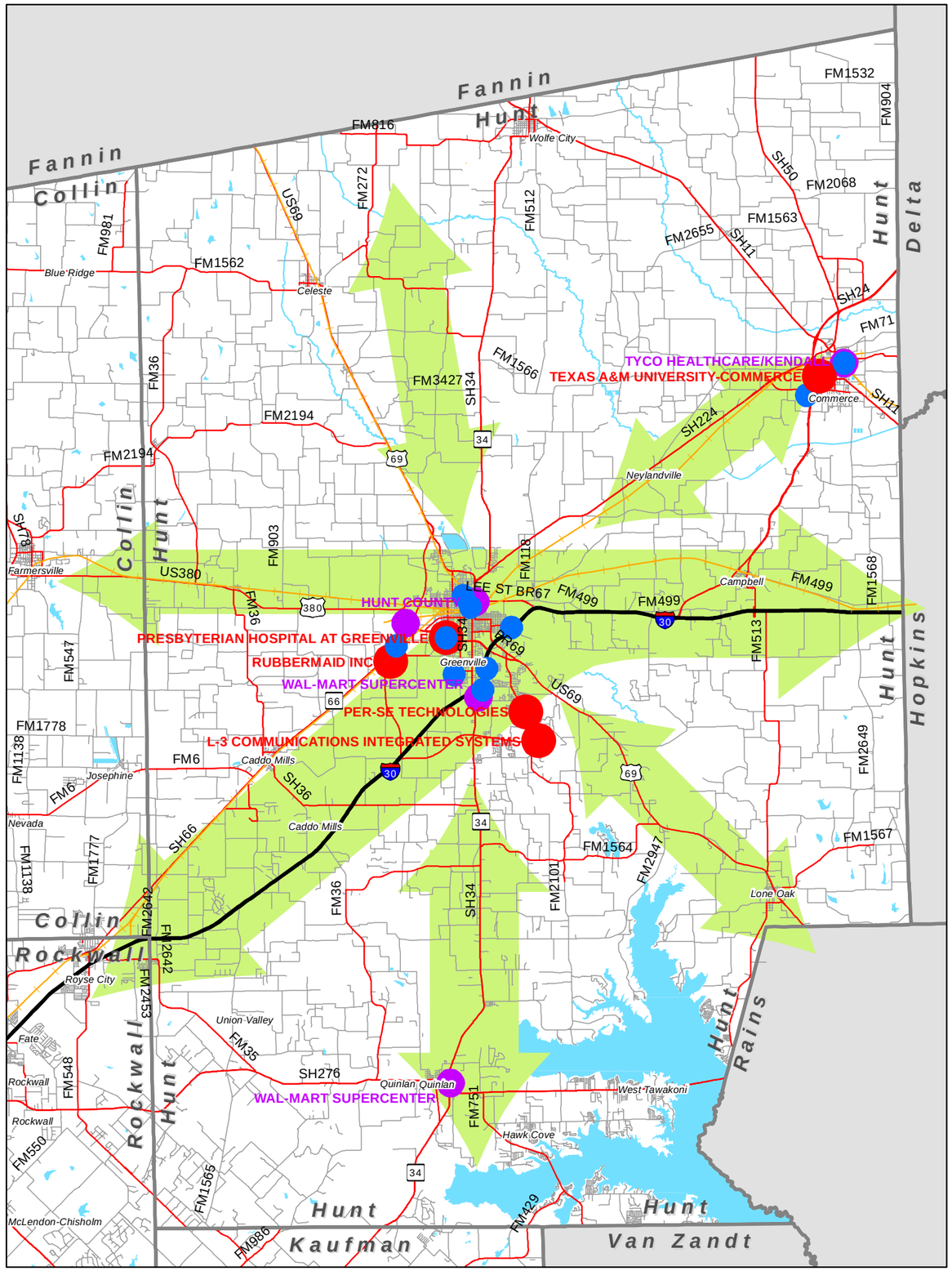
**Large Employers (Number of Employees)**

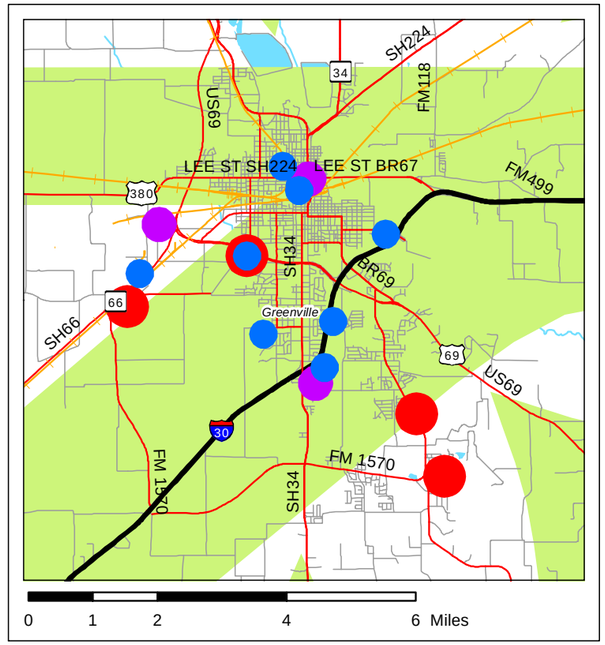
- 80 - 250
- 250 - 500
- Over 500

North Central Texas Council of Governments
Transportation

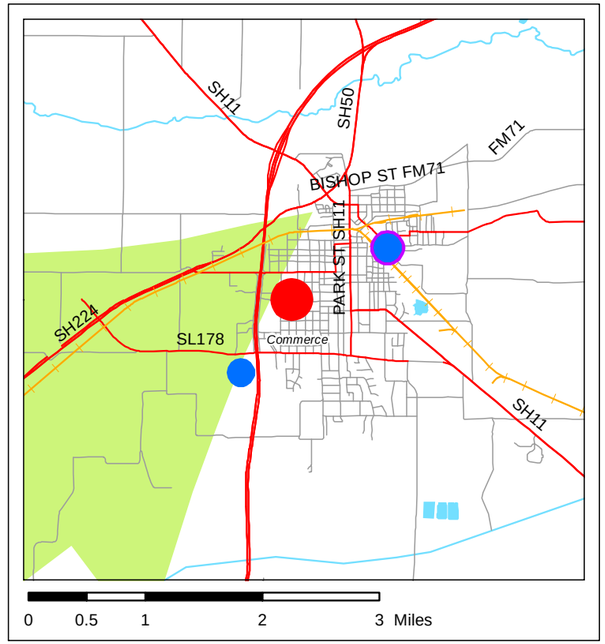
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.


March 2012




Greenville




Commerce

As shown in *Exhibit IV-13*, 44 percent of employed Hunt County residents work in Hunt County, with an additional 26 percent working in Dallas County. This creates a significant demand for east-west access along the Hunt-Rockwall boundary as roughly 36 percent of the county's employed residents are likely to exit the county every morning and return again in the evening via the IH 30 corridor. In addition to that, 40 percent of the jobs within Hunt County are held by residents from other counties. Ten percent of these jobs are held by Dallas County residents, but an additional ten percent are held by residents in Hopkins County and Collin County. So while the need for movements along the Hunt-Collin, Hunt-Rockwall, and Hunt-Kaufman borders is significant, the movements north and east out of the county cannot be ignored.

## Current Growth Areas

An additional method used to indicate possible corridors of need was based largely on the county's average jobs per square mile, as shown in *Exhibit IV-14*. This data was provided by the US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, and is for the year 2008. Growth centers can be found along the IH 30, SH 34, and SH 276 corridors in the southern portion of the county, in and around the cities of Greenville, Commerce, and Wolfe City, as well as the southern portion of the county as a whole.

These expanding current growth areas closely resemble the projected growth in population and employment. As Collin County and Rockwall County continue to build out to the east, growth spreads out to Hunt County along the IH 30, US 380, and SH 276 corridors, the western section of the county fills in, and finally the entire southern half of the county approaches a build-out scenario.

The county-to-county worker flows are shown, along with the county's major travel corridors, development centers, and current growth areas, in *Exhibit IV-15*.

## Connections between Current Growth Areas

After analyzing the needs assessment components and trends, including the current roadway system, thoroughfare grids, and spacing, FFCS designations, public input, traffic counts, demographic projections, county-to-county worker flows, and current growth areas, connections between these growth areas were incorporated onto the current growth areas map.

These connections, as shown in *Exhibit IV-16*, graphically illustrate the projected movement and expansion of the transportation need within Hunt County in the near and long term. This map highlights the importance of increased east-west mobility between Hunt County and Collin County, circuitous activity around the city of Greenville, improved mobility in the rapidly growing south Hunt County and between the cities of Greenville and Commerce, facilities to meet the diverse mobility needs in the Greenville area, and overall improvements to existing corridors heading out of the county to the north, east, and south. Corridors on or near the green traffic flow arrows should be further evaluated for their ability to facilitate these movements.

## Future Traffic Projections

NCTCOG is currently in the process of finalizing the new travel forecast model for the expanded 12-county region, of which Hunt County is included. In the fall of 2010, a preliminary version of the model was available to provide a general assessment of the future traffic projections in Hunt County. Although the model was still in a preliminary state, results at the county level confirmed the original hypotheses and expectations of this plan. Any further updates to this document or refinement studies can make use of the new model as a planning tool.

# Hunt County

Current Growth Areas

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

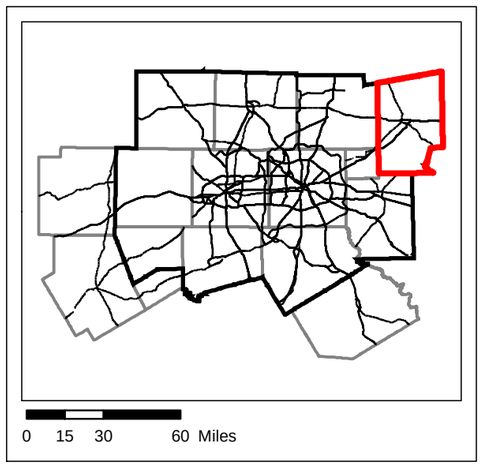
**Average Jobs Per Square Mile***

| | | | |
|---|---|---|---|
| | 435 | | 75 |
| | 235 | | 35 |
| | 145 | | 10 |

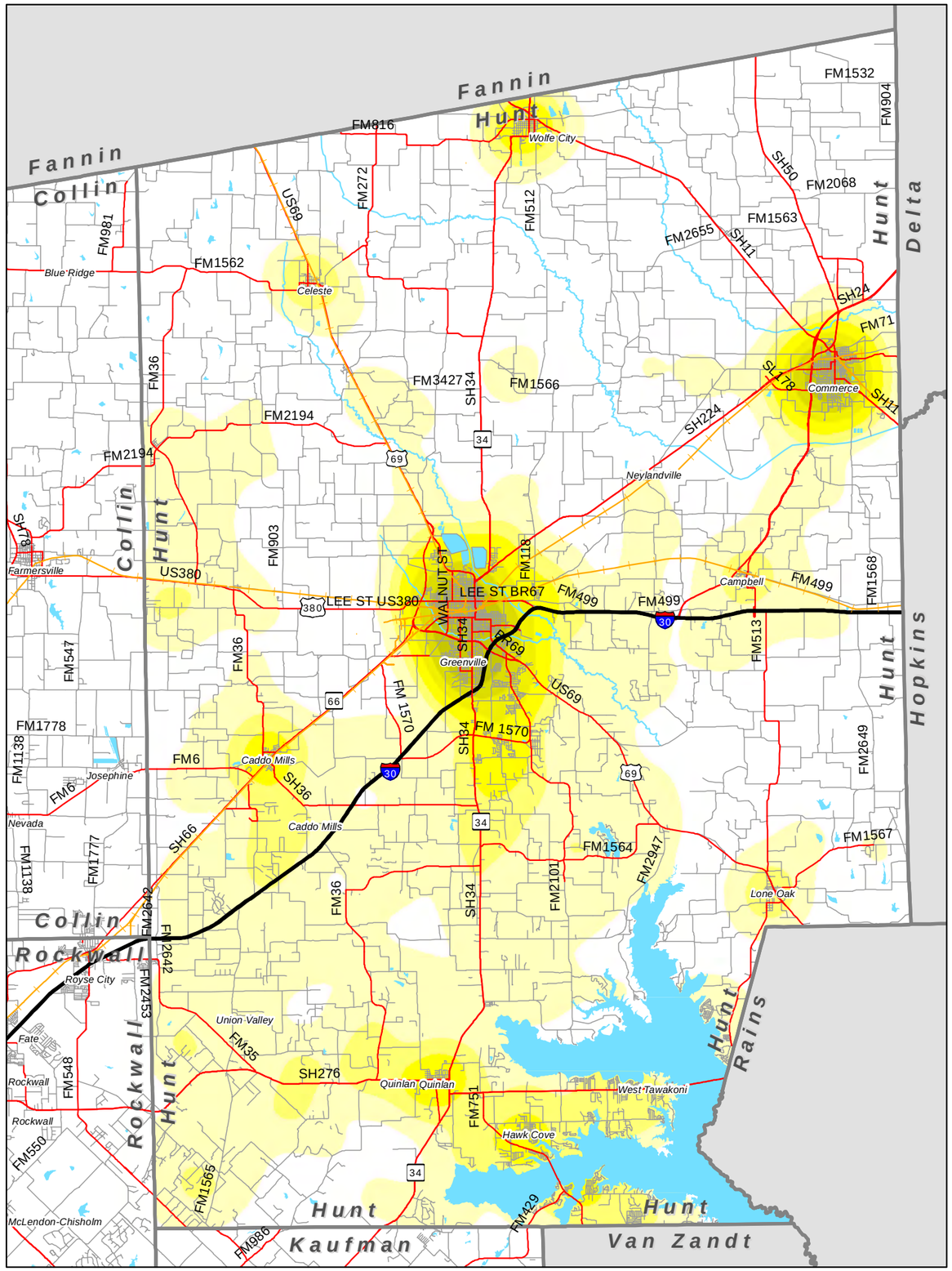
North Central Texas Council of Governments
Transportation

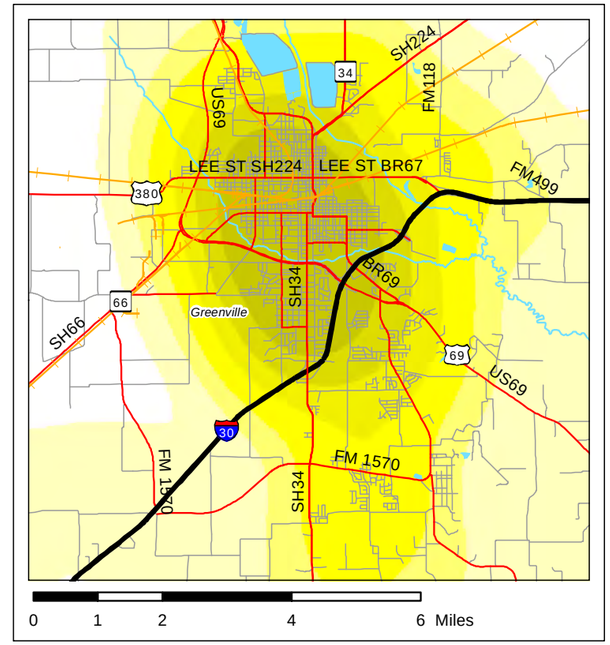
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

*Source: US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, 2008.

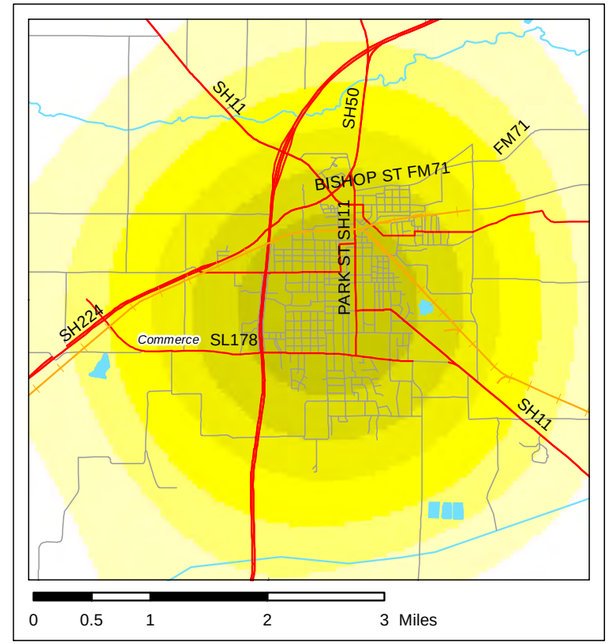



March 2012




Greenville




Commerce

# Hunt County

Major Travel Corridors and Worker Flows

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

**Average Jobs Per Square Mile***

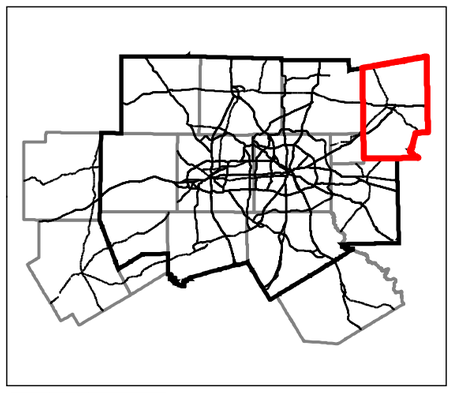
| | | | |
|---|---|---|---|
| | 435 | | 75 |
| | 235 | | 35 |
| | 145 | | 10 |

- Development Centers
- Major Travel Corridors
- County-to-County Worker Flows*

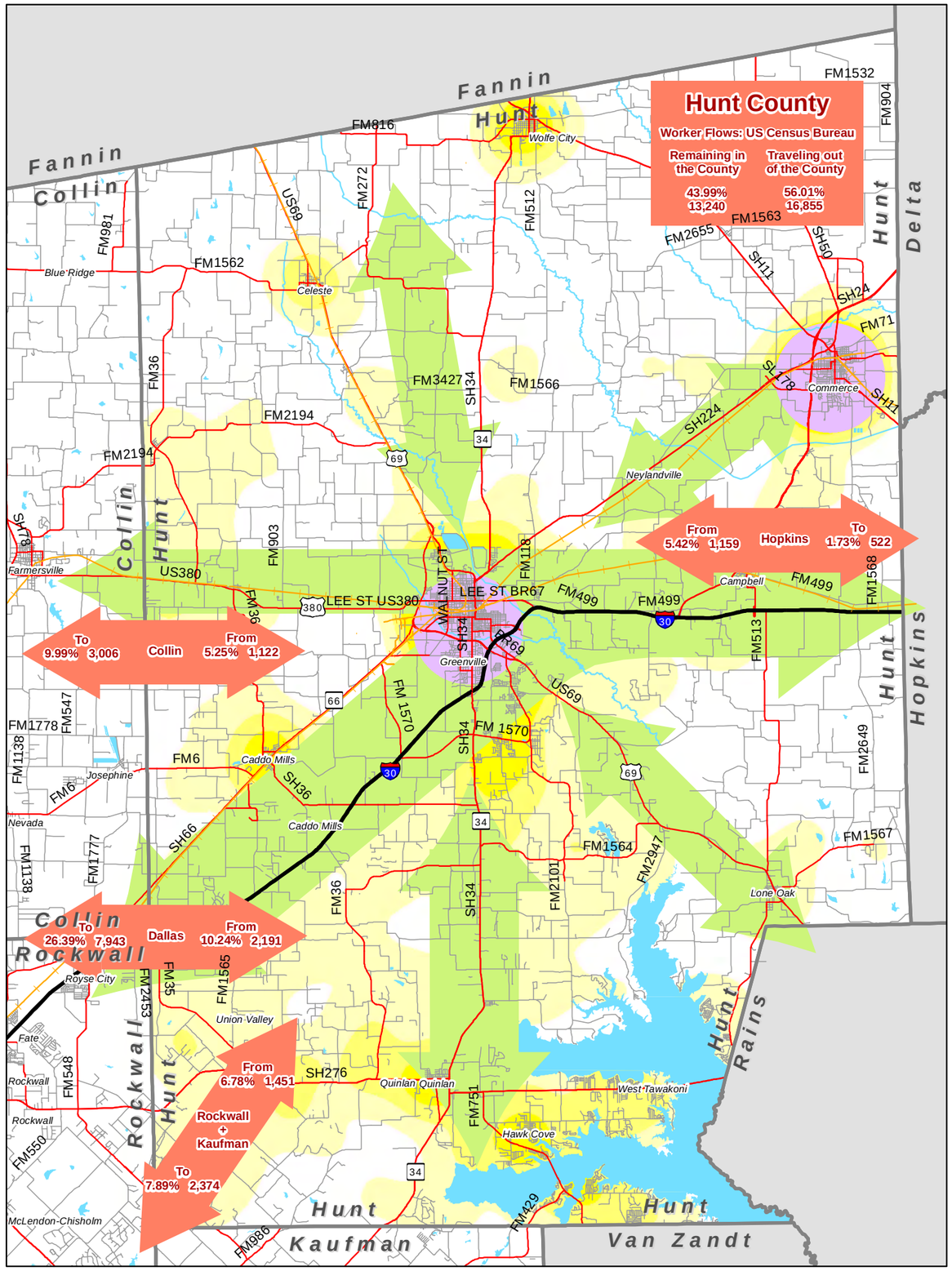
North Central Texas Council of Governments Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

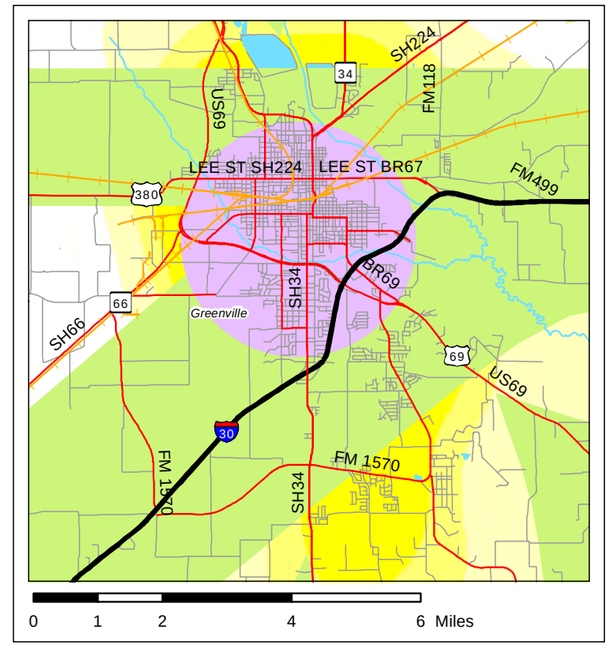
*Source: US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, 2008.



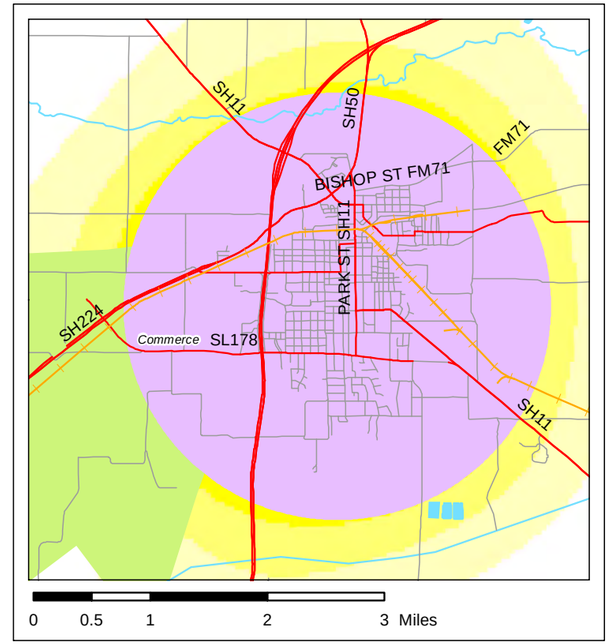

March 2012




0 2.5 5 10 15 Miles




Greenville




Commerce

# Hunt County

Connections Between Current Growth Areas

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

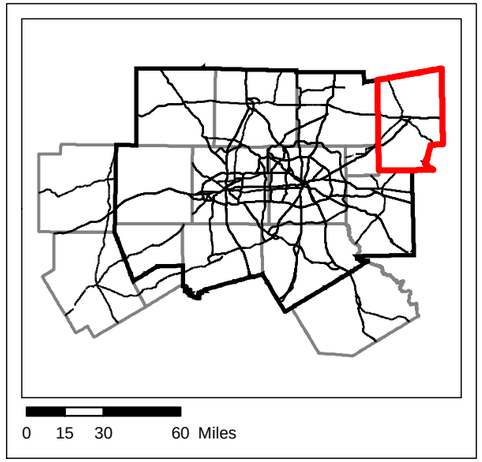
**Average Jobs Per Square Mile***

| | | | |
|---|---|---|---|
| | 435 | | 75 |
| | 235 | | 35 |
| | 145 | | 10 |
| | Connections Between Current Growth Areas | | |

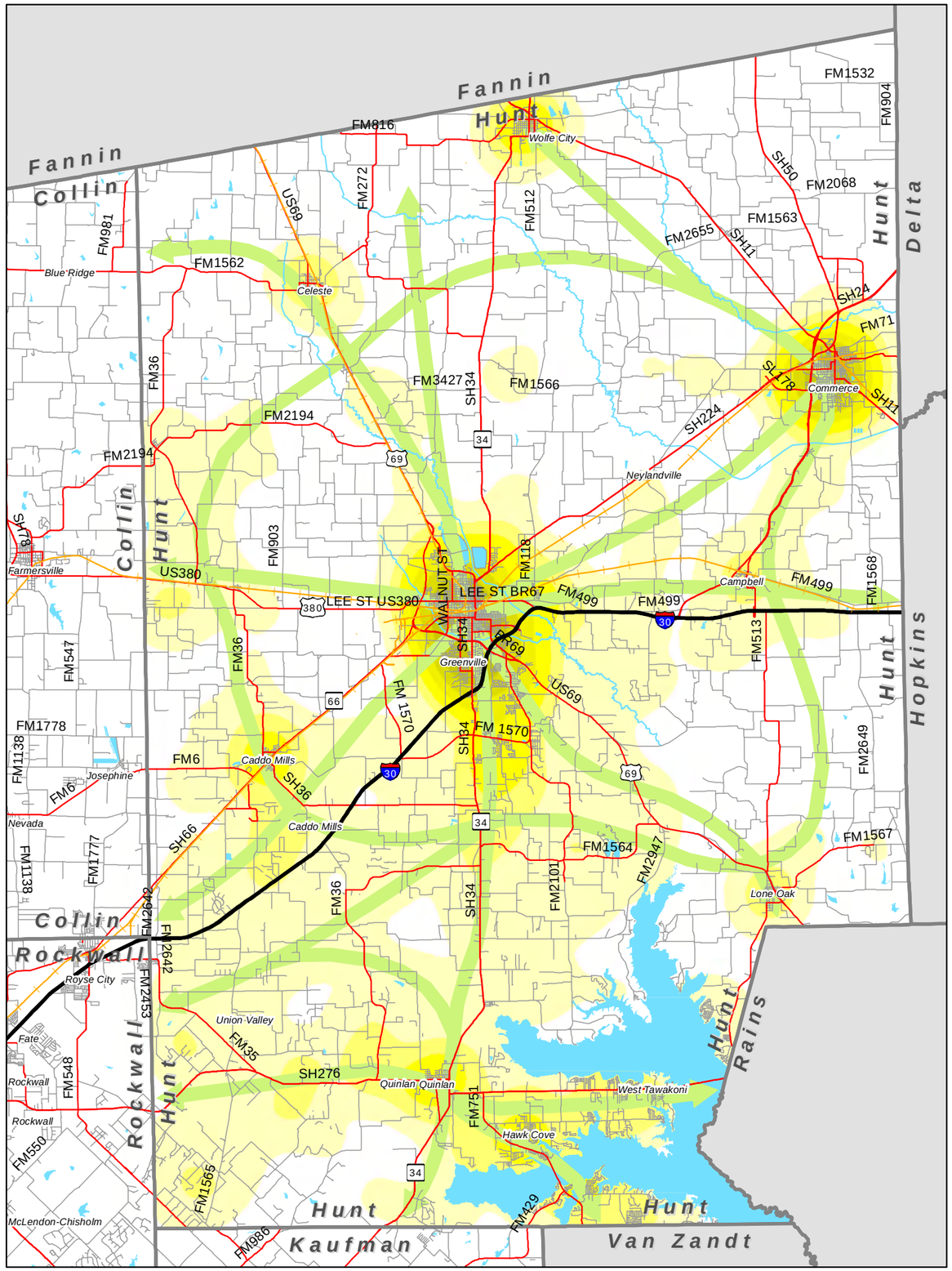
North Central Texas Council of Governments Transportation

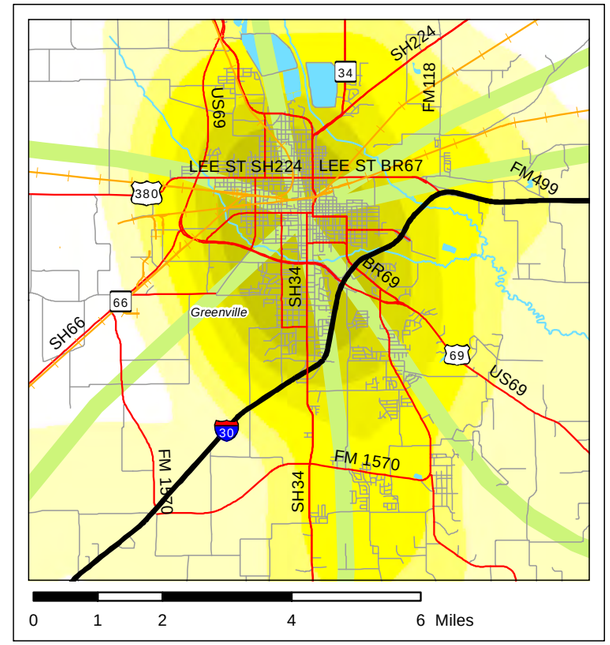
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

*Source: US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, 2008.

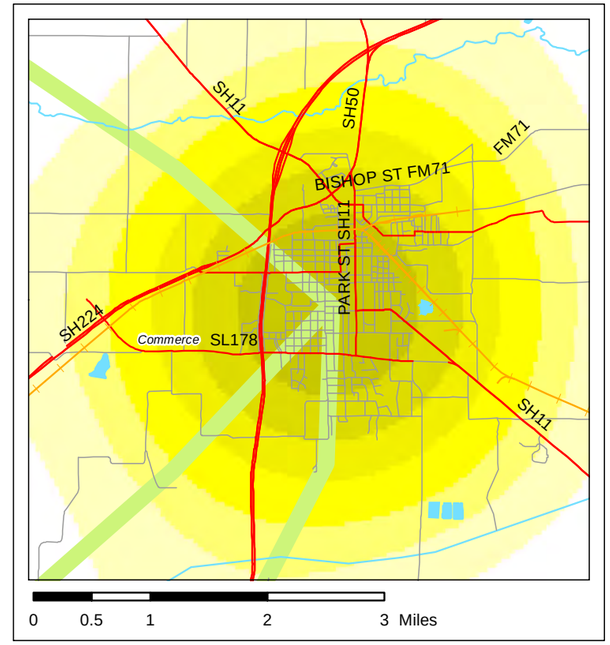



March 2012




Greenville




Commerce

Early observations of the model in dicate the largest projected traffic increase in Hunt County is in the eastern part of the county between the cities of Greenville and Commerce, the county's major development centers, as well as in the rapidly-growing southern part of the county. As shown in *Exhibit IV-17*, between 2004 and 2030, the model shows traffic increasing by almost 400 percent in east Hunt County and nearly 300 percent in south Hunt County. The 2030 scenario tested was that of a "no-build" with the predicted 2030 population but with no improvements to the roadway system (other than those already programmed). In this scenario, the IH 30 corridor in the western section of Hunt County reaches a 32 percent traffic increase. Traffic volumes in all areas of critical movement in the county rise significantly between 2004 and 2030, particularly those areas surrounding the city of Greenville.

As a final step, county-to-county worker flows were added to the connections between the current growth areas map, as shown in *Exhibit IV-18*, to tie in the major elements driving the transportation needs within Hunt County.

## THOROUGHFARE PLAN RECOMMENDATIONS

This section represents the potential Hunt County Thoroughfare Plan recommendations that are the result of the detailed and comprehensive needs assessment process. Because of funding and construction constraints, transportation construction typically occurs slowly over time. For this reason, it is critical to prioritize and group the improvements based on several key milestone dates staged over time.

### Corridors of County Need

The needs assessment process focused on a variety of transportation issues facing Hunt County and attempted to identify areas of future capacity need. After reviewing public input, current traffic count data, demographic projections for the next 20 years, and county-to-county worker flows, this plan identifies areas of current growth within the county. Connections between these growth areas, and within Hunt County in general, were then derived to get a more complete picture of transportation needs within the county. From this information, corridors of county need can be identified.

These corridors of county need, shown in *Exhibit IV-19*, attempt to address the significant capacity demands in Hunt County. Included in these corridors are multiple east-west connections to Collin and Rockwall counties; radial movements between the major development centers in the Greenville, Commerce, and Quinlan areas; a countywide loop; regional corridors that allow for significant through movements; and improved access corridors in the more rural areas of the county. These corridors indicate transportation needs and do not represent specific alignments.

The needs assessment and corridors of county need portion of the thoroughfare plan were made public in a variety of forums during the planning process. Attendees at these presentations included the Hunt County Transportation Committee, the Hunt County Alliance for Economic Development, mayors, councilmembers, and staff members of various cities within Hunt County, staff and elected officials from the county itself, consultants, and concerned citizens.

## RECOMMENDATIONS

As a companion to the corridors of county need, a series of potential thoroughfare plan recommendation maps have also been created. These facility-level recommendations represent a transportation system that has been developed as a result of an extensive needs assessment process, and attempt to meet the transportation demand by assigning broad functional classifications, lane designations, and potential geometric improvements to new and existing roadways. Elements of these recommendation families are not interdependent and can be added or

# Hunt County

Projected Traffic Increase in Areas of Critical Movement

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

**Average Jobs Per Square Mile***

| | | | |
|---|---|---|---|
| 435 | | 75 | |
| 235 | | 35 | |
| 145 | | 10 | |

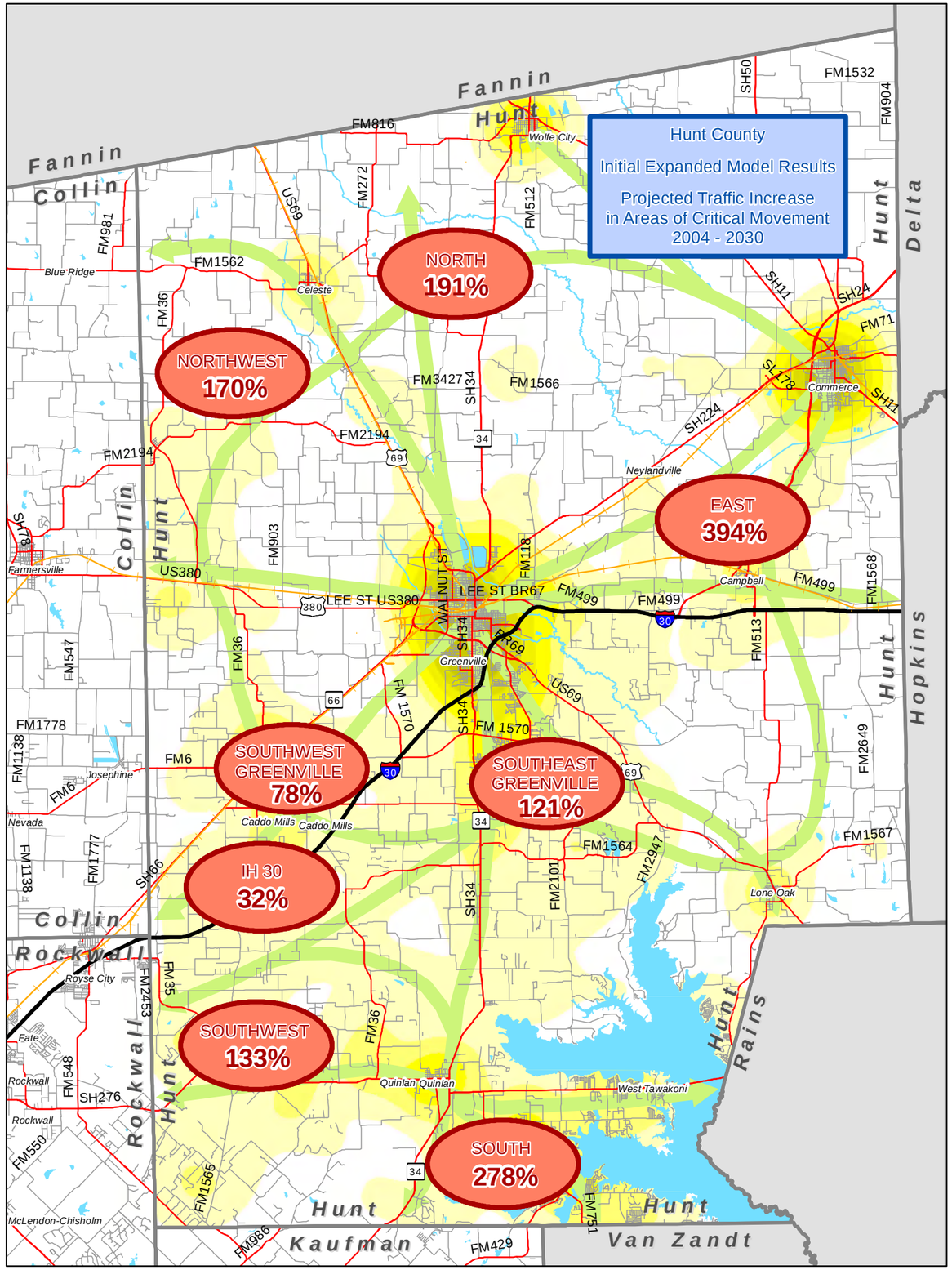
- Projected Traffic Increase
- Connections Between Current Growth Areas

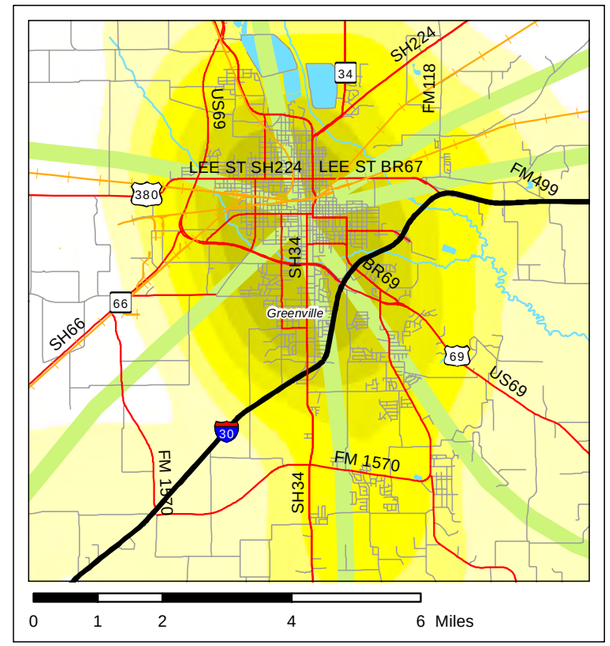
North Central Texas Council of Governments Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

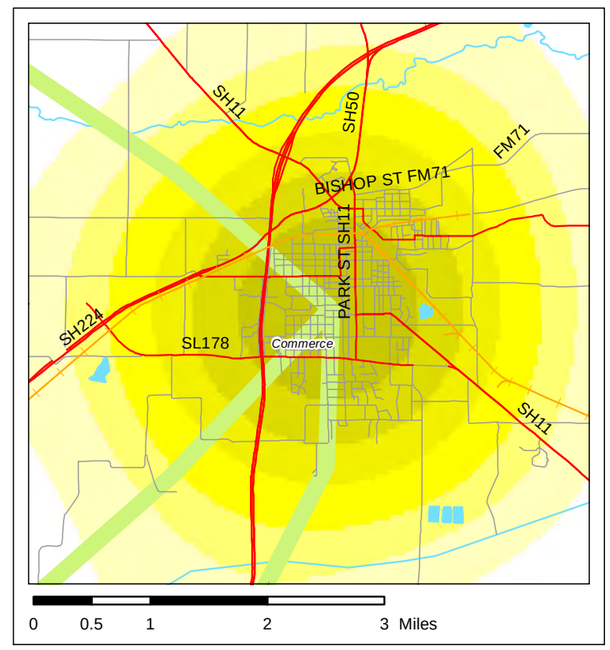
*Source: US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, 2008.


March 2012




Greenville




Commerce

# Hunt County

Worker Flows and Connections
Between Current Growth Areas

## Legend

**Roadway Facilities**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary

**Average Jobs Per Square Mile***

| | | | |
|---|---|---|---|
| | 435 | | 75 |
| | 235 | | 35 |
| | 145 | | 10 |

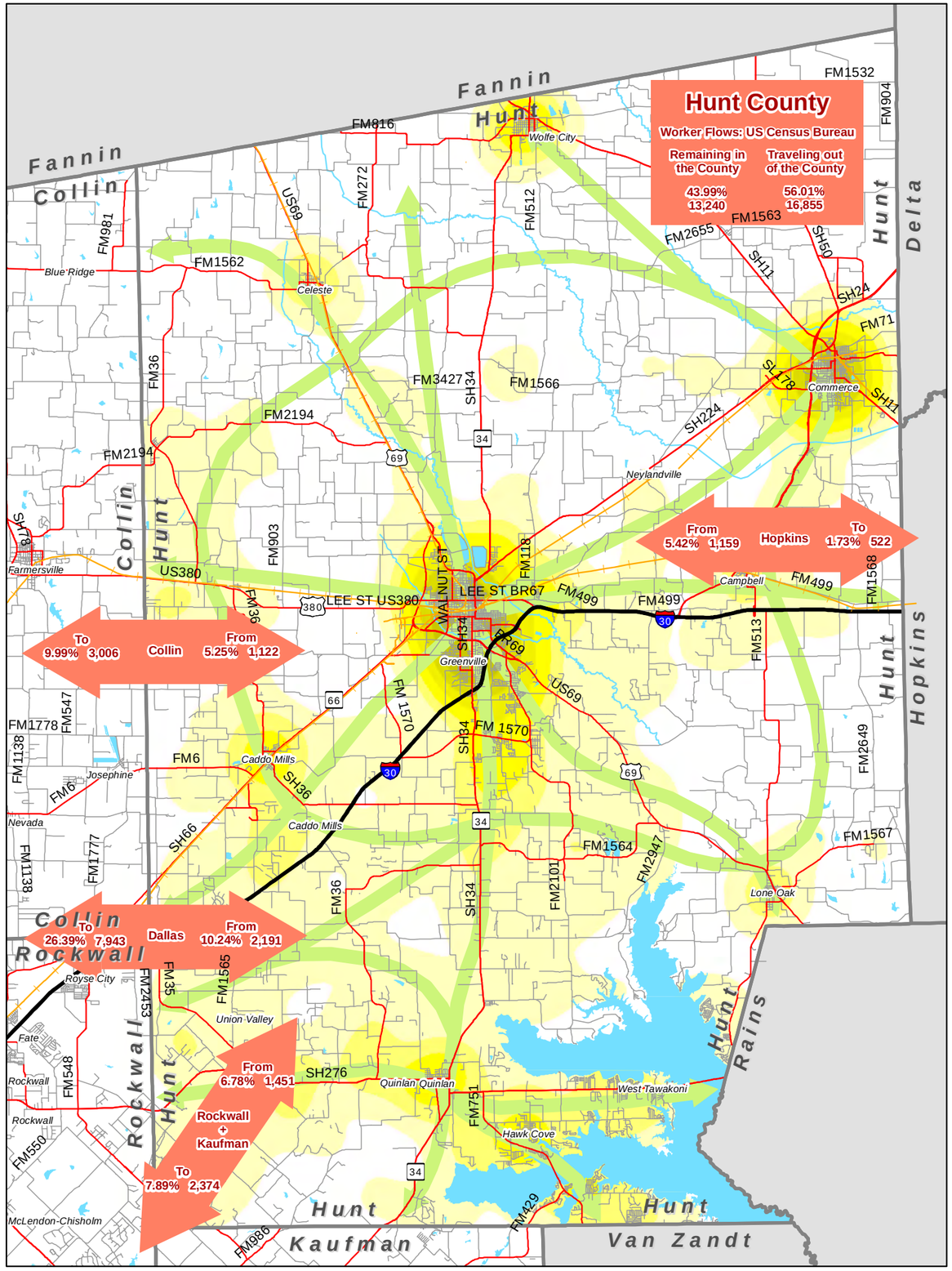
- Connections Between Current Growth Areas
- County-to-County Worker Flows*

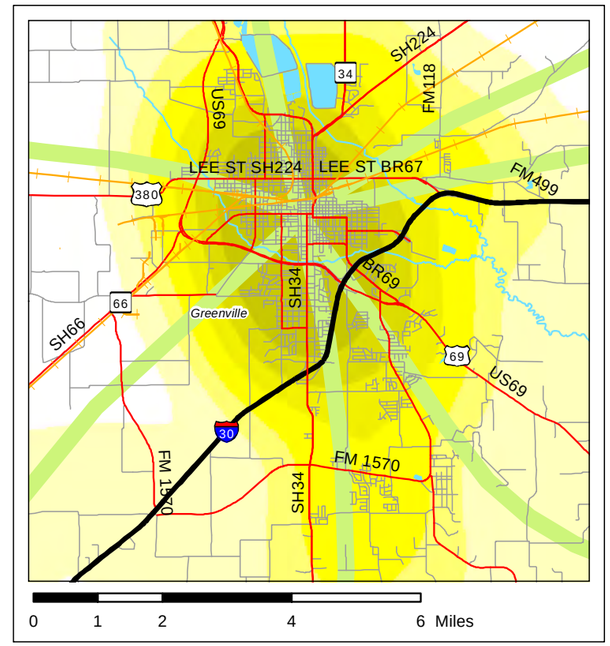
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

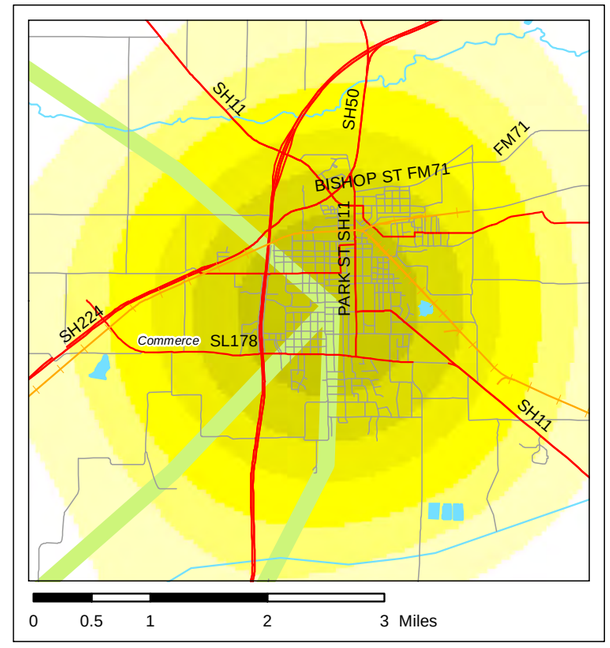
*Source: US Census Bureau, Center for Economic Studies, Longitudinal Employer-Household Dynamics Program, 2008.


March 2012




Greenville




Commerce

# Hunt County

Corridors of County Need

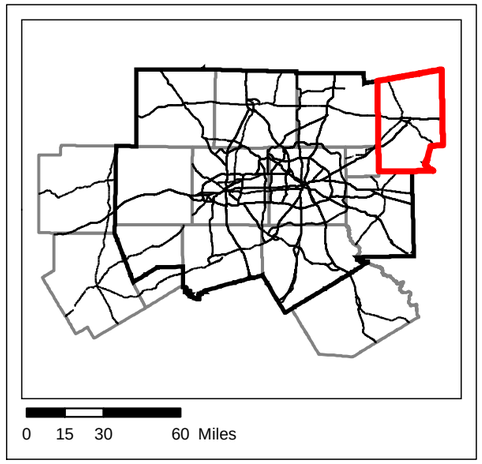
**Legend**

**Roadway Facilities**

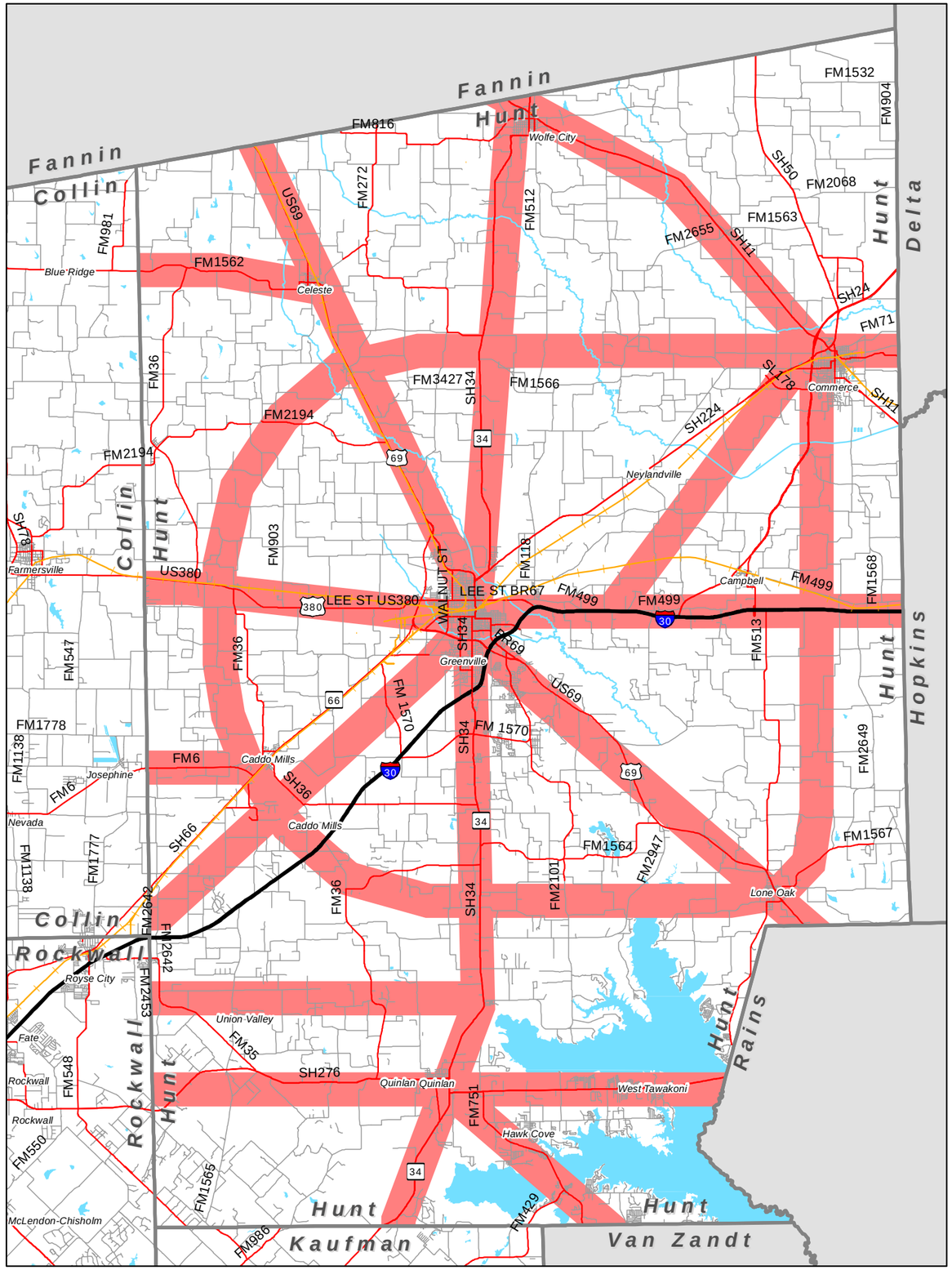
- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- Corridors of County Need

North Central Texas Council of Governments
Transportation

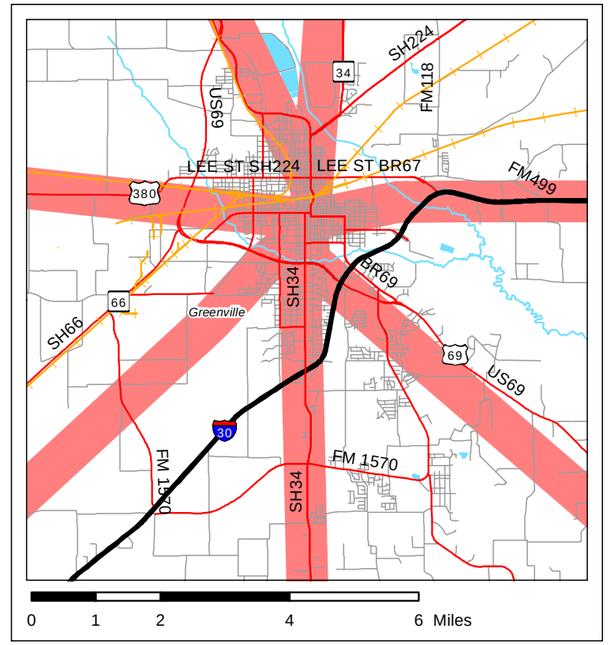
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.




March 2012

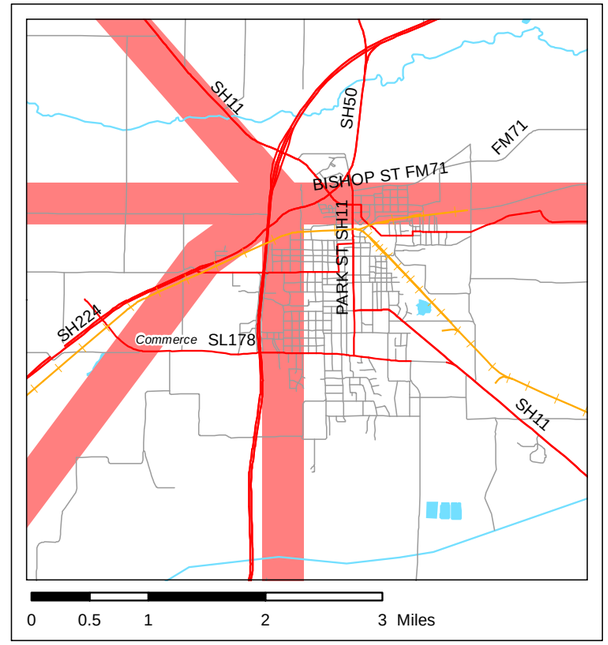



0 2.5 5 10 15 Miles




0 1 2 4 6 Miles

Greenville




0 0.5 1 2 3 Miles

Commerce

deleted to suit county need. The level of improvement can be chosen to best fit local needs on a corridor by corridor basis.

The Existing Facility Improvements scenario, as shown in *Exhibit IV-20*, represents potential thoroughfare recommendations for existing county roadways only. No additional roadways would be added to the system in this scenario, and the recommended corridors should be reviewed to determine where environment, safety, and financial conditions allow for a more direct geometric alignment. The cost of such a scenario would be lessened as the need for additional right-of-way and risk of displacements would be minimal. However, the benefits of improved traffic mobility, safety, and the possibilities for future transit services would possibly suffer as a consequence. Potential connecting facilities that were identified in the needs assessment process have been highlighted.

The Existing Facility Improvements and Critical Connections scenario, as shown in *Exhibit IV-21*, represents potential thoroughfare recommendations for existing county roadways, as well as critical new facilities. Major facilities in this scenario include an east-west connection between SH 34 and FM 512 in north Hunt County, a bypass loop around the city of Greenville (including FM 1570) and on the south side of the city of Commerce, and a north-south connection between US 69 and FM 1737 near Lone Oak. The addition of these new facilities completes major corridors identified in the needs assessment process. The cost associated with this scenario would be higher as a result of the new facilities, mainly due to an increased amount of necessary right-of-way and potential displacements. However, mobility and safety would be improved, and the potential for future transit corridors would increase. Potential countywide geometric improvements that were identified in the needs assessment process have been highlighted.

Expanding capacity within corridors in need of geometric improvement has the potential to create new mobility and safety hazards, and the recommended corridors should be reviewed to determine where environment, safety, and financial conditions allow for a more direct geometric alignment. The Major Corridor Development and Realignment scenario, shown in *Exhibit IV-22*, represents potential thoroughfare recommendations for existing county roads, critical new connecting facilities, and countywide geometric improvements. This scenario reflects a build out and geometric improvement condition that represents all the recommended improvements resulting from this comprehensive planning process. This system is not tied to a specific time frame, but rather is intended to represent a snapshot of the county's roadway system when the county has been fully developed.

The recommendations are broken down into three roadway classifications: 1) 4/6 Lane Divided Parkway, 2) 2/4 Lane Undivided Parkway, and 3) Enhanced Corridor. Divided parkways are more regional in nature and focused in areas of significant projected capacity need, undivided parkways help alleviate mobility needs in more rural areas and also act as reliever routes to the divided parkways, and enhanced corridors are existing two-lane roads which can act as connecting facilities for the system as a whole. Corridor enhancements may include modification of intersections or shoulders, increased speeds, or addition of center turn lanes to increase capacity without significant change to the right-of-way.

These recommendations are based on 2003 traffic counts, 2005 land use data, 2008 job densities, demographic projections, 2008 county-to-county worker flows, the Federal Functional Classification System, and thoroughfare spacing guidelines.

## Implementation

It is the intention of this plan that local Hunt County municipalities endorse the recommendations contained in this thoroughfare plan as cities and the county would be responsible for implementing the recommendations within

# Hunt County

Thoroughfare Plan Recommendations:
Existing Facility Improvements

**Legend**

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- SH 34 Corridor Study Area

**Improvements to Existing Facilities**

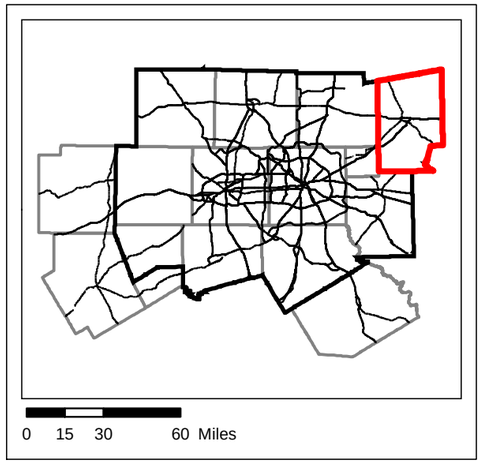
- 4/6 Lane Divided Parkway
- 2/4 Lane Undivided Road
- Enhanced Corridor*

* Corridor enhancements may include modification of intersections or shoulders, increased speeds, or addition of center turn lanes to increase capacity without a significant change to right of way.

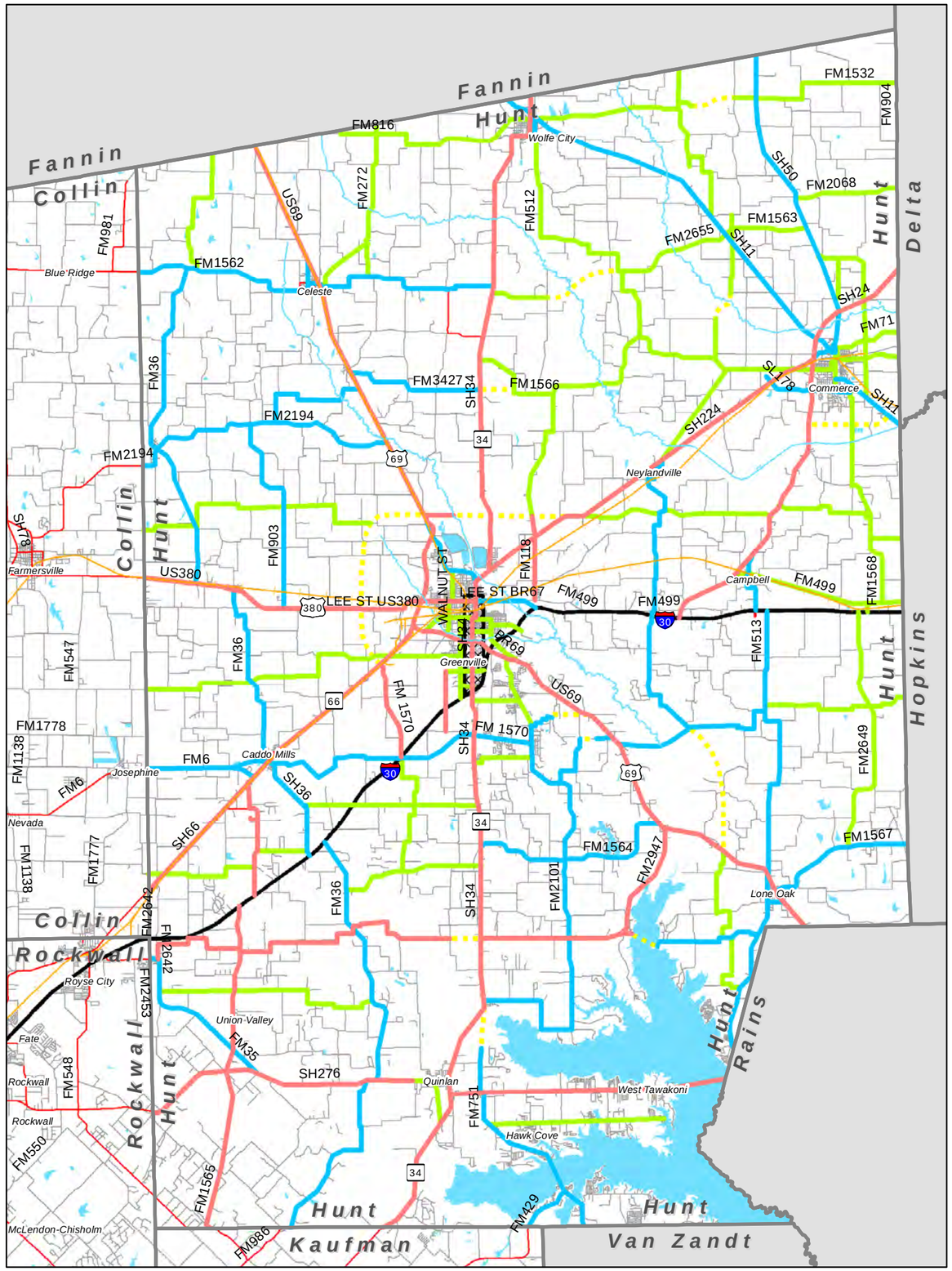
- Highest Priority Areas: No Connecting Facility

North Central Texas Council of Governments
Transportation

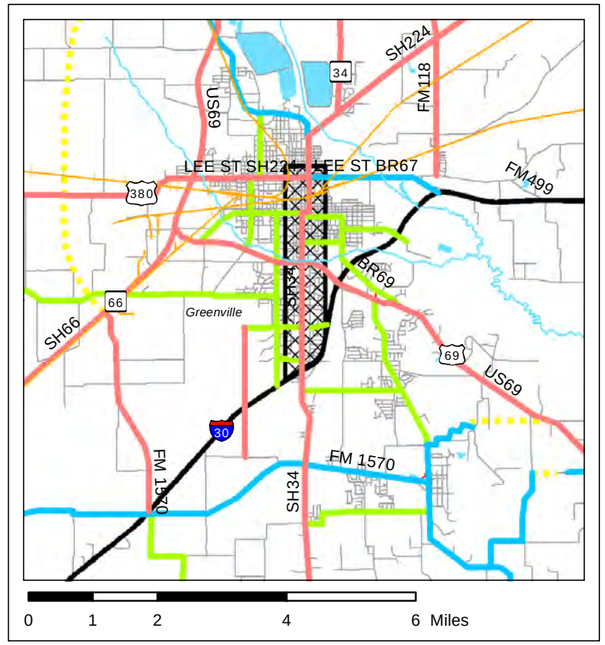
Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.



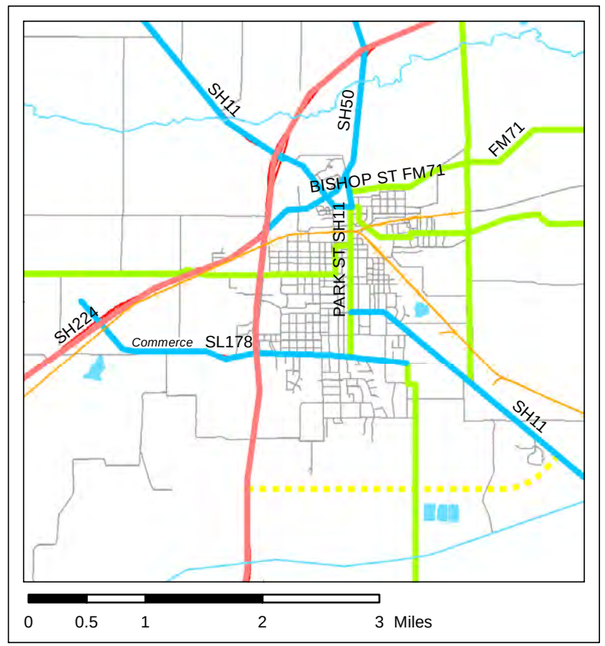

March 2012




0 2.5 5 10 15 Miles




Greenville




Commerce

# Hunt County

Thoroughfare Plan Recommendations:
Existing Facility Improvements and
Critical Connections

## Legend

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- SH 34 Corridor Study Area

**Improvements to Existing Facilities**

- 4/6 Lane Divided Parkway
- 2/4 Lane Undivided Road
- Enhanced Corridor*

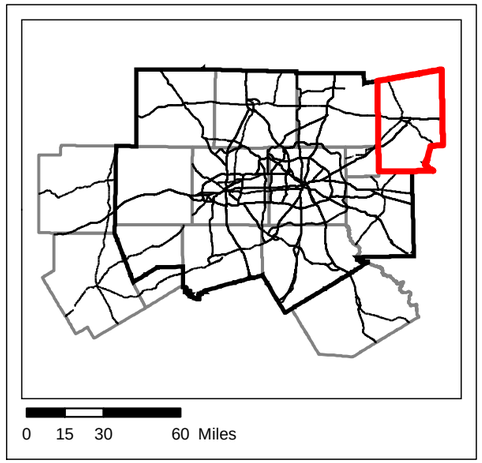
* Corridor enhancements may include modification of intersections or shoulders, increased speeds, or addition of center turn lanes to increase capacity without a significant change to right of way.

**Proposed Facilities**

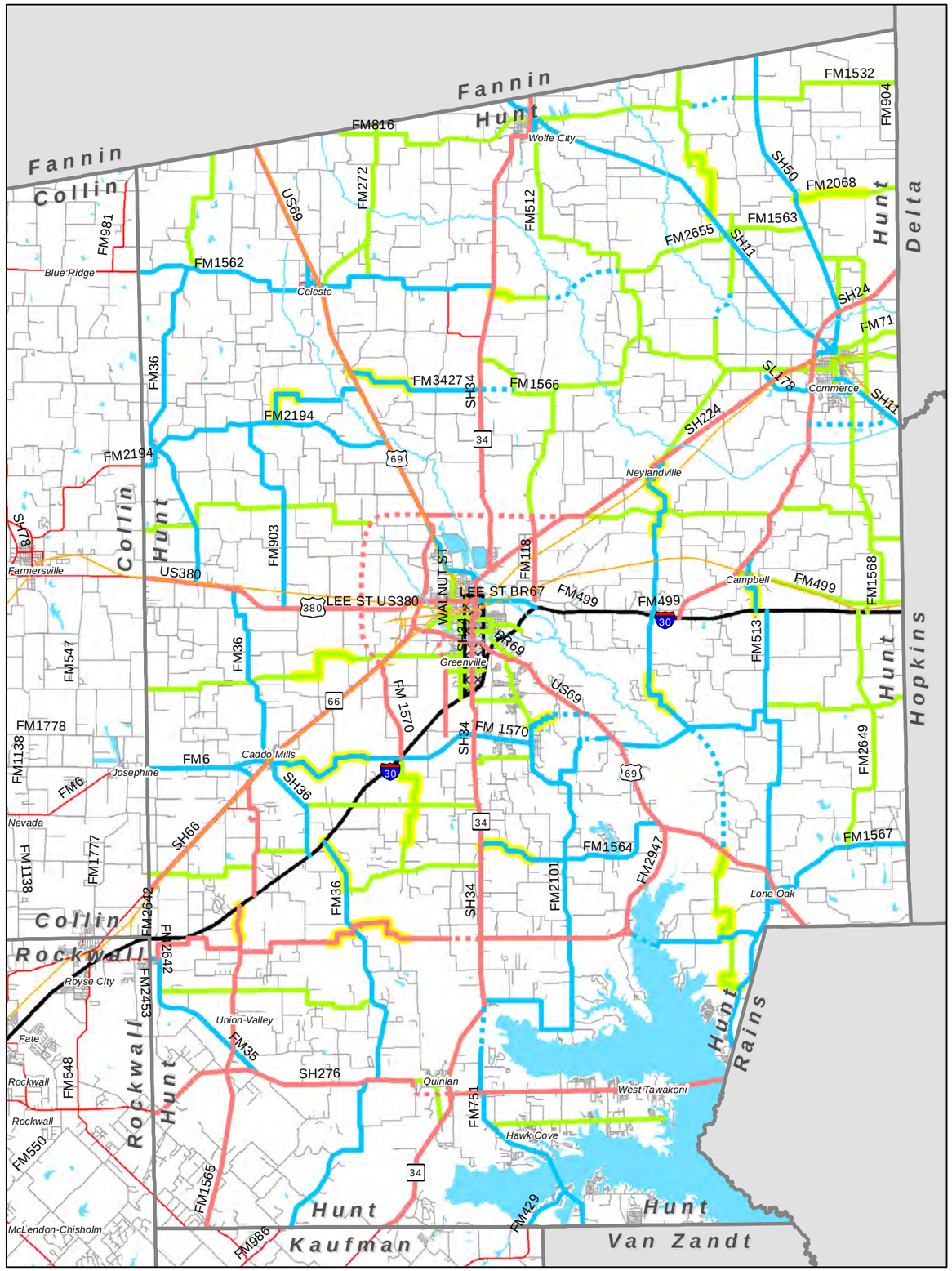
- 4/6 Lane Divided Parkway
- 2/4 Lane Undivided Road
- Mid-Priority Areas: Potential Geometric Improvements

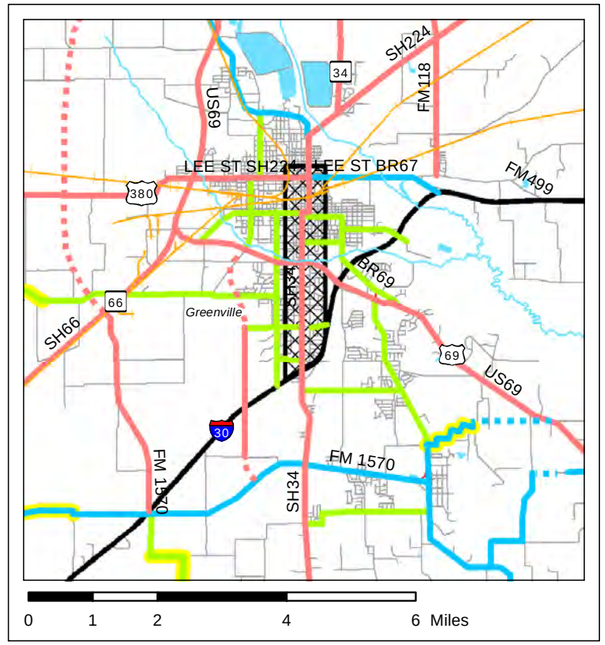
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

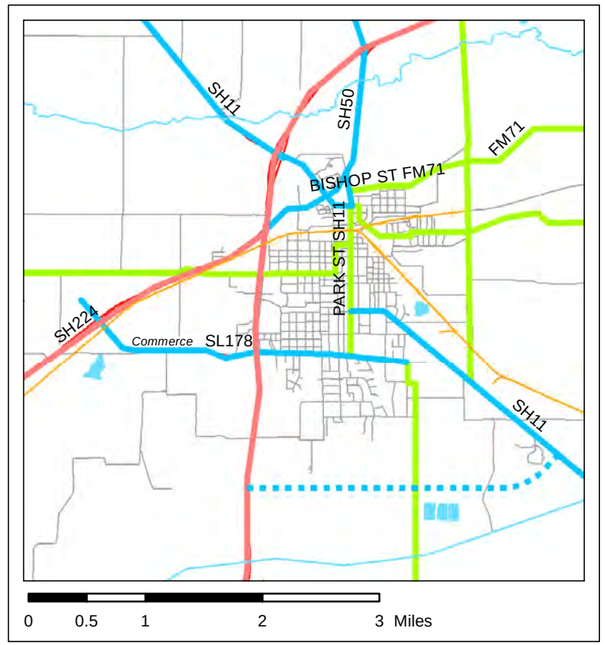



March 2012




Greenville




Commerce

# Hunt County

Thoroughfare Plan Recommendations: Major Corridor Development and Realignment

## Legend

- Freeway
- Major Arterial
- Minor Arterial
- Rail Corridor
- County Boundary
- SH 34 Corridor Study Area

**Improvements to Existing Facilities**

- 4/6 Lane Divided Parkway
- 2/4 Lane Undivided Road
- Enhanced Corridor*
- Realigned Parkway
- Realigned Road

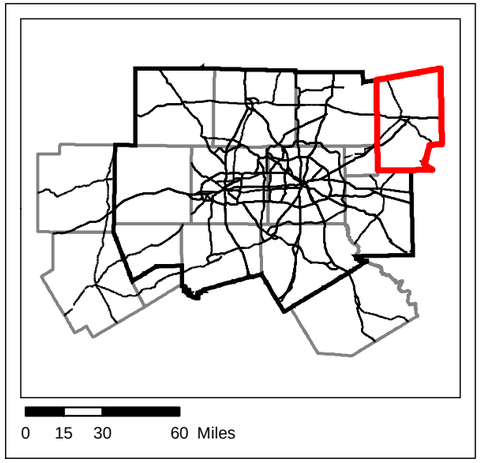
* Corridor enhancements may include modification of intersections or shoulders, increased speeds, or addition of center turn lanes to increase capacity without a significant change to right of way.

**Proposed Facilities**

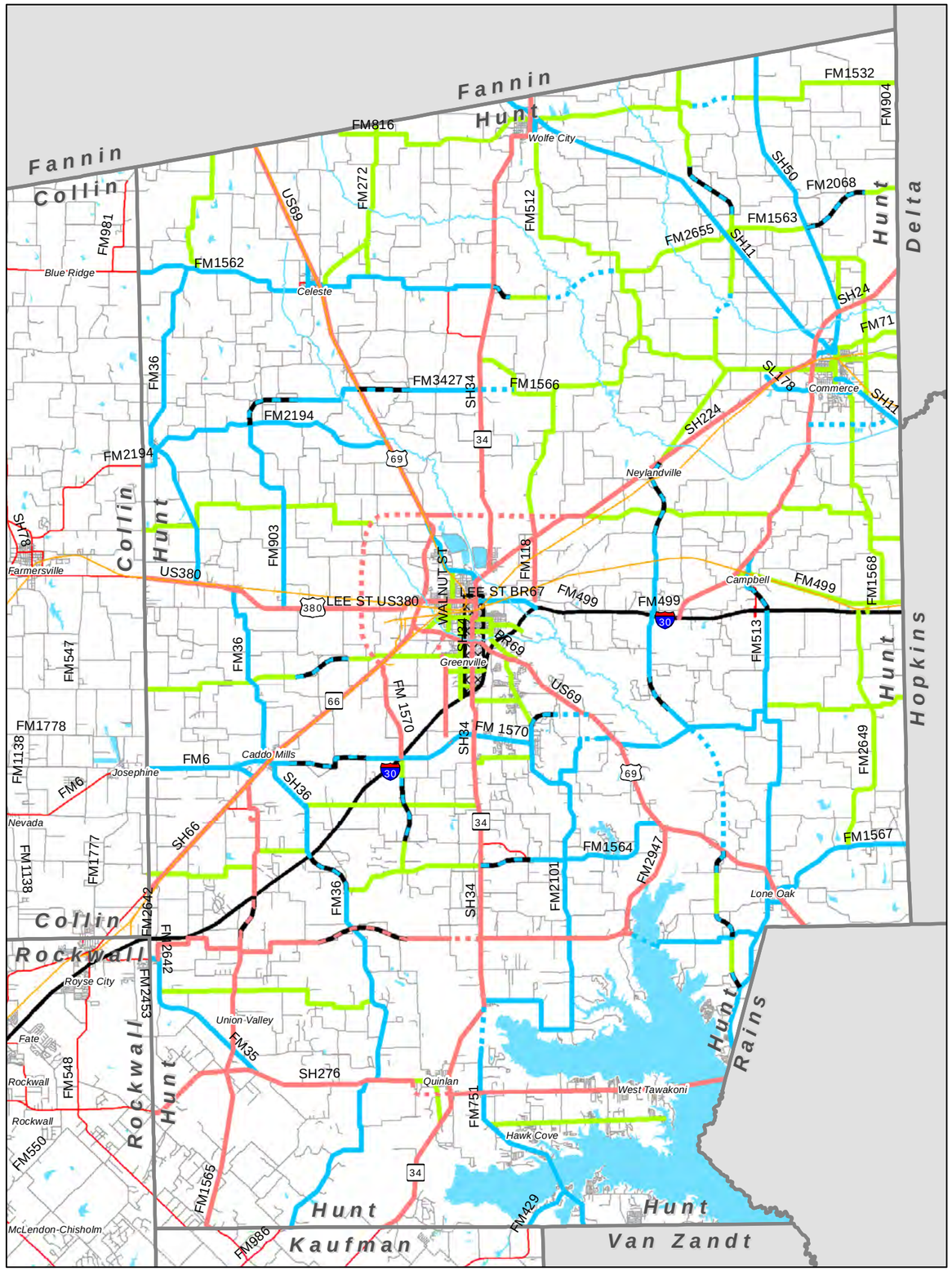
- 4/6 Lane Divided Parkway
- 2/4 Lane Undivided Road

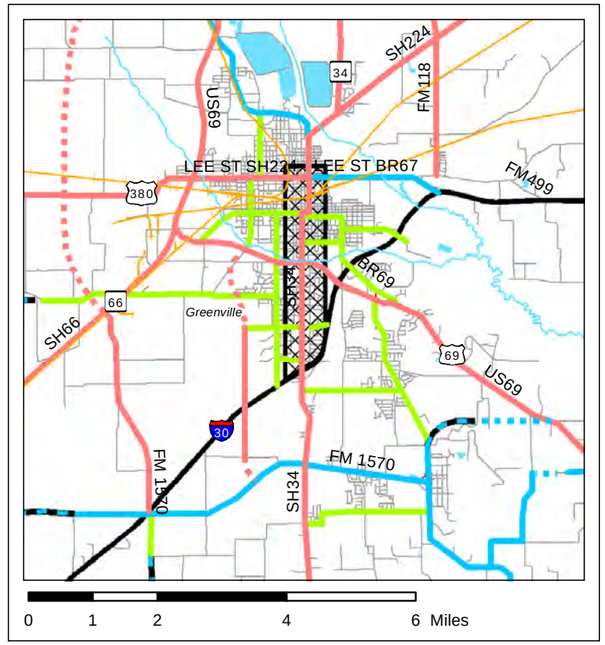
North Central Texas Council of Governments
Transportation

Note:
Roadways as shown represent the current year RIS network. New facility locations indicate transportation needs and do not represent specific alignments.

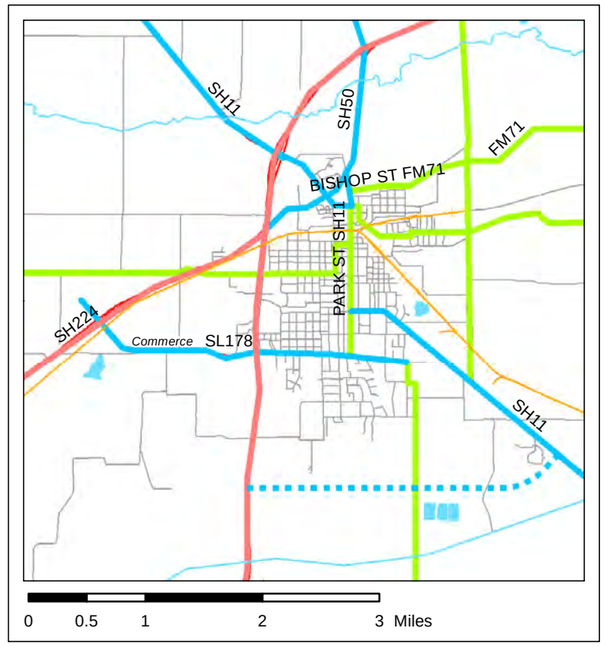



March 2012




Greenville




Commerce

their jurisdiction. For unincorporated areas falling under the county's authority, it is intended that this thoroughfare plan's recommendations be incorporated into the subdivision regulation element of the platting process.

# V. Rail Transportation Study/Public Transit Feasibility Study

The Hunt County Transportation Committee asked the North Central Texas Council of Governments (NCTCOG) to explore the potential of public transportation in Hunt County. The purpose of the study initially consisted of three steps that would determine the feasibility, at this time, for rail service from Hunt County to the west:

- Identify connections to the current rail system in the Dallas Area Rapid Transit service area.
- Determine potential rail corridor alignments and station locations.
- Estimate planning level capital and operating costs for rail.

During the study development process, it became clear that an evaluation of the current status of public transportation in the county was needed so this step was added to the study. This chapter outlines each part of the study's purpose and provides recommendations for the county to follow into the future.

## DETERMINING THE FEASIBILITY OF RAIL SERVICE

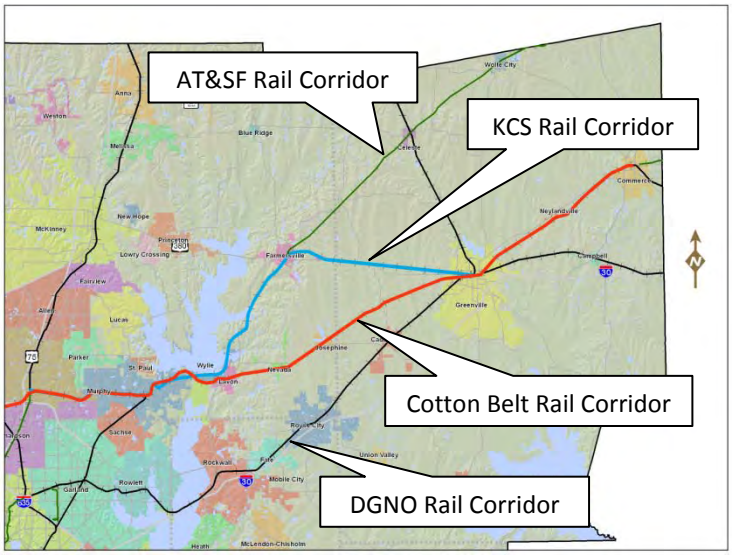
### Identify Connections to the Current Rail System

The Committee was interested in the potential for rail service between Hunt County and Collin or Dallas counties to the west. Several railroad corridors were identified as options for service implementation. Two of the three corridors identified are independently owned and operated by the Kansas City Southern Railroad (KCS) and the Dallas, Garland and Northeastern Railroad (DGNO). The third corridor is owned by the Northeast Texas Rural Rail District (NETEX) and operated by Blacklands Railroad. This corridor is known as the Cotton Belt. Effort was made to discuss with NETEX the possibility of passenger rail in the Cotton Belt corridor. NETEX owns the Cotton Belt corridor from the city of Wylie in Collin County, through Greenville and Commerce, and eastward to Franklin County. The corridor between Wylie and Greenville does not have track for service at this time. The DGNO corridor, which covers the former Missouri, Kansas and Texas Railroad alignment through Garland, Royce City, Caddo Mills, and Greenville, was quickly determined not to be a good fit for passenger rail service between Hunt and Dallas counties as this corridor crosses Lake Ray Hubbard and terminates into a light rail corridor. The DGNO and KCS were not consulted about the potential viability of passenger rail in their corridor; such a step would be premature without information on potential ridership, station locations, and additional project specifics. While not specifically addressed in this plan, a number of additional rail corridors and abandoned rail lines exist that could be analyzed in future studies for potential service should conditions warrant. One such line is the former Atchison, Topeka and Santa Fe corridor from Farmersville to Paris, which passes through Merit, Celeste, and Wolfe City.

The possible connection point between a potential Hunt County passenger rail system and the Dallas Area Rapid Transit (DART) rail network is in Collin County. The city of Wylie is the location where both the KCS and the Cotton Belt come together. *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas* identifies recommended passenger rail service on the Cotton Belt corridor between Fort Worth and Plano. However, the plans call for the rail line to terminate in the Plano area, leaving a small gap in service between the Hunt County passenger rail line and the Cotton Belt corridor serving the central part of the Dallas-Fort Worth area. *Exhibit V-1* shows the paths of the two corridors evaluated for the Hunt County Transportation Plan. Both paths start in Commerce and end in Plano to facilitate the connection to the future rail system as identified in Mobility 2035.

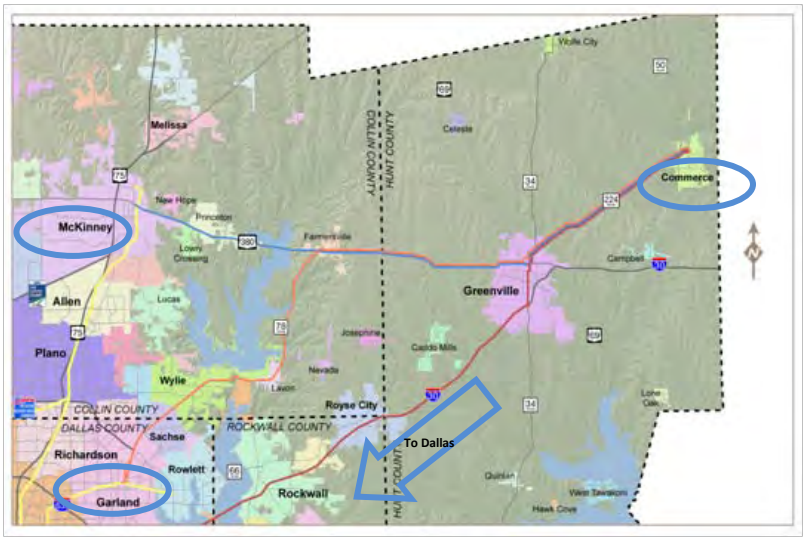
The county will focus its efforts on developing the Cotton Belt corridor over the KCS corridor. The Cotton Belt corridor, if developed, would best serve the citizens of Hunt County by providing a connection to the western portion of the Cotton Belt corridor in Collin County. Once connected, residents in Hunt County would have access to regional transit services like the DART light-rail and bus system, the Denton County Transportation Authority A-train, and the Fort Worth Transportation Authority's TEX Rail. In addition, residents could access Dallas-Fort Worth International Airport, Fort Worth, Dallas, and Denton by rail.

*Exhibit V-1: Potential Passenger Rail Corridors for Hunt County*




A similar evaluation was conducted for bus service. Exhibit *V-2* shows three potential routes to connect to the regional passenger rail system. The first option would be a bus route from Commerce to the city of McKinney. The second would be fixed-route service connecting Commerce to the DART Blue Line in Garland. The third option would provide fixed-route service between Commerce and Union Station in Dallas. The McKinney option depends on a future rail connection between McKinney and Plano, and is the only option of the three that would not connect to an existing passenger rail line. The Commerce to Dallas Union Station route would provide the best connectivity to DART light rail trains and buses and the Trinity Railway Express.

*Exhibit V-2: Potential Passenger Bus Routes for Hunt County*



## Determine Potential Alignments and Station Locations

As identified in the previous section, two potential rail alignments were identified; one using the KCS corridor and the other using the Cotton Belt corridor. The KCS corridor is slightly longer because it connects through the town of Farmersville. The stations along this corridor would include Commerce, Greenville, Farmersville, Wylie, and Plano. Although Commerce and Greenville are the only two Hunt County cities listed, the service would be more efficient due to the larger number of stations. The other rail alignment would be along the Cotton Belt corridor with stations in Commerce, Greenville, Wylie, and Plano. Both alignments provide for the potential of extending service further to the west. A transfer may or may not be forced in Wylie or Plano depending on operating characteristics that would need to be worked out in the future.

*Exhibit V-3: Attributes of Passenger Rail Modes*

| Technology Name | Speed Range (mph) | Station Spacing (miles) | Typical Right-of-Way | Typical Headway (peak/off-peak) (minutes) | Power Source | Estimated Cost per Mile (millions) |
|---|---|---|---|---|---|---|
| Intercity Rail (aka Amtrak) | <79 | 30-100 | may operate in freight railroad corridors | once daily | diesel | $20-$25 |
| Regional Rail (aka Commuter Rail) | <79 | 3.0-5.0 | may operate in freight railroad corridors | 20/40 | diesel | $20-$25 |
| Light Rail | <60 | 0.5-2.0 | dedicated, street running | 10/20 | electric | $60-$70 |
| Light Rail – New Technology (aka Next Generation Rail) | <79 | 3.0-5.0 | may operate in freight railroad corridors | 20/40 | diesel, electric | $12-$15 |

*Exhibit V-4: Attributes of Passenger Bus Modes*

| Type | Typical Right of Way | Number of Stops | Route Length (miles) | Bus Stop Amenities |
|---|---|---|---|---|
| Express | freeway and HOV/managed lanes | 1-2 | >15 | park-and-ride locations |
| Bus Rapid Transit | dedicated or street running | limited | 10-15 | a range between bus shelters to light rail station elements |
| Local Bus (aka Fixed Route) | city streets | numerous, depends on length of route | varies | limited, some with shelters |
| On-demand | city streets | limited, as needed, coordinated with other requests | dependent on location of pick up and drop off | N/A |

The stations for the alignments were selected as much for their potential future economic development as for their current ability to provide passengers. An analysis conducted for the year 2035 showed station activity and, therefore, number of riders comes from many factors including population, the number of jobs surrounding the station, and accessibility to the station from other areas. Projections for future demographics and density were used as part of the evaluation. The rail analysis produced route ridership numbers with several hundred people.

*Exhibit V-5* shows the ridership numbers for the rail and bus options. Although there are several hundred people forecasted to ride the train, it does not meet current rail warrants set by NCTCOG. For viable daily service, a ridership number for rail should be in the 1,100 rider range. At this point, no rail options in Hunt County meet that level. The route with the highest ridership is the bus route from Commerce to Garland; however, the model shows that the majority of riders are likely to be traveling between Collin County and Garland, rather than between Hunt

County and Garland. This route could perhaps be developed as a regional service in cooperation with Collin County.

*Exhibit V-5: Ridership Estimates by Mode and Route*

| Corridor | Mode | Number of Daily Riders | Number of Annual Riders | Notes |
|---|---|---|---|---|
| KCS | rail | 231 | 60,060 | rail warrants are 1,100 daily riders |
| Cotton Belt | rail | 195 | 50,700 | rail warrants are 1,100 daily riders |
| Commerce to Dallas | bus | 174 | 45,240 | |
| Commerce to McKinney | bus | 312 | 81,120 | |
| Commerce to Garland | bus | 1,134 | 294,840 | most of these riders come from Collin County |

## Estimate Planning Level Capital and Operating Costs

Based on the capital costs of the different modes shown in *Exhibit V-3* and the length of a planned corridor, it is possible to generate an estimate of the capital and operating costs for a proposed rail service. The corridor length between Plano and Commerce is 51 miles. At this length, any rail project will be very expensive. For example, the cost of a regional rail option at $25 million per mile would amount to roughly $1.3 billion. Other more economical options include bus rapid transit starting at $5 million per mile. An express bus option, which would require little in the way of capital costs beyond the cost of the bus, would be more economical still. The last option would be a vanpool. The vanpool option was estimated at $650 per person per year and would provide the most flexibility in rider choices for pick up and drop off. It is important to grow the base users from whatever service is initiated. As the number of users grows, so can the type of service used. Should the user base grow to a level of daily rail service, the planning would have already started and the base ridership would be ready to shift from the initial service to a permanent rail service. *Exhibit V-6* shows pros and cons for the different public transportation options that were evaluated.

*Exhibit V-6: Mode Comparison*

| Mode | Pros | Cons |
|---|---|---|
| Light Rail | • quick trips<br>• helps economic development<br>• dedicated right-of-way | • high capital cost<br>• not suitable for long distances<br>• O&M costs |
| Commuter Rail | • moves high number of people efficiently<br>• dedicated right-of-way | • cost per mile<br>• O&M costs |
| Bus Rapid Transit | • flexible route system<br>• comfortable like light rail<br>• perceived permanence | travel time may be impacted by traffic |
| Van Pool | • low cost<br>• flexible "route" system<br>• many destination options | • not permanent<br>• travel time may be impacted by traffic |

# CURRENT STATUS OF PUBLIC TRANSPORTATION

A review of public transportation services in Hunt County determined that current services are provided by Senior Center Resources and Public Transportation, commonly referred to as "The Connection". The Connection operates demand-response transportation services Monday through Friday from 7 am to 7 pm. Service is available to the general public and provided utilizing a fleet of 14 accessible transit vehicles. Rides are provided on a space-available basis and reservations are required a minimum 24 hours in advance. The Connection receives federal,

state, and local funding to support its operations and provided more than 52,000 one-way trips during fiscal year 2010.

As Hunt County prepares for the future, it is nearly certain that demand for public transportation will increase as the percentage of older adults and overall population continue to grow. Trips to medical centers, employment, shopping, and leisure activities will become increasingly critical for Hunt County residents to maintain quality of life. Travel to and from adjacent counties will also be an important consideration as the North Central Texas region continues to expand. Economic development will depend upon the ability of consumers to access those destinations. The decision to provide enhanced public transportation services, as well as the commitment to financially support such services with local dollars, is one that Hunt County should begin to consider.

A potential opportunity to begin such dialogue is through the regional public transit-human services transportation coordination planning efforts led by NCTCOG. The current *North Central Texas Regional Public Transportation Coordination Plan* was adopted in December 2006 and establishes the broad vision, mission, goals, policies, and strategies to move the region toward more coordinated, accessible, and efficient public transportation services. NCTCOG anticipates launching an update to the existing plan shortly that will involve facilitating discussions to document needs, learning about available resources, and supporting communities interested in improving their public transportation options. With federal and state financial support for public transportation decreasing, coordination among public, private, and non-profit transportation providers will be necessary to meet the demands.

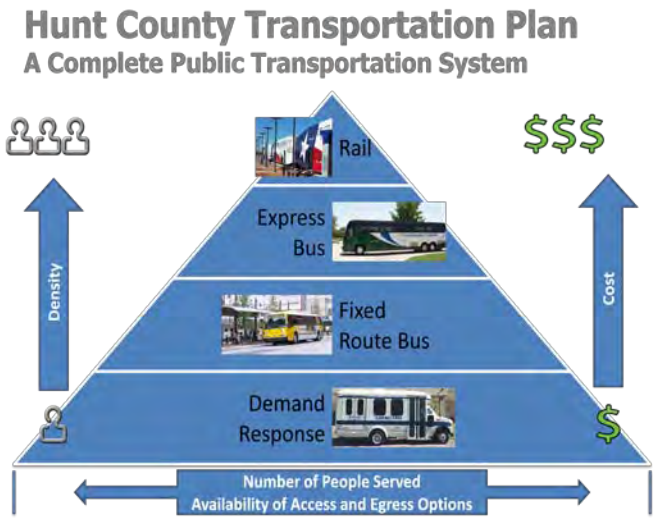
## RECOMMENDATIONS

Based on the current availability of funding and the projected ridership within Hunt County, daily rail service is not feasible at this time. In fact, no additional rail projects were added to Mobility 2035. The potential limited ridership is due to low densities in Hunt County. Timing of future connection to the current system is in doubt due to limited funds and timing changes of current projects. Other options should be considered first before investing in the expense of rail.

Since the needed density to provide efficient rail service is not currently found in Hunt County, some options exist to improve the future viability of rail. An increase in density with a focus on land use and transit-oriented developments will help establish a viable base for rail passengers. The base should be built on the current services that exist.

*Exhibit V-7* shows how a system can grow depending on available funding and number of riders. It is important to know that initial service can begin at any level in the pyramid but it depends on viability of the service. The more riders are served, the lower the cost to provide and operate that service. As one moves up the pyramid, the capital costs grow more significant and, therefore, a higher number of riders is needed to provide an efficient cost-effective service. The lower levels of the pyramid in *Exhibit V-7* are a variety of bus options providing flexibility with routes to access areas in need of public transportation and areas that can provide the best opportunity to make the service grow. The highest level of the pyramid is rail. This is a fixed-route option and although station locations are somewhat flexible, the corridor itself is not.

*Exhibit V-7: A Complete Public Transportation System*




While rail service is not warranted at this time, a second option may still be possible. Limited daily express bus service could be implemented in the short term. This would provide service to those traveling to Dallas or Collin counties for work, and start building a base of passengers that would benefit from the service. The cost of the service would be less expensive than rail and could be terminated at any time if the service could not gain support from Hunt County residents.

*Exhibit V-8* shows the initial express bus option that the county may provide. This service is envisioned to have one morning and one afternoon trip with stops in Commerce and Greenville before its final connection to the DART system. The connection to DART could occur either at the Rowlett Station, which would provide access to the DART Blue Line and a shorter commute, or in downtown Dallas where the Hunt County commuters could access the entire DART system including the Trinity Railway Express. This service would be a longer commute but would have greater accessibility to the DART service area. The planning level cost of this service is estimated to be less than $5 million per year. Additional planning would be needed to refine the cost, level of service, and passenger pick-up locations.

Although daily rail service is not feasible at this time, it may become feasible in the future as the county grows and develops, as an estimated 3.5 million more people will come to North Central Texas over the next 25 years. Many will surely reside in Hunt County, increasing the need for transit services to other parts of the region.

*Exhibit V-9* shows the Rail Vision Considerations from Mobility 2035. The Rail Vision Considerations map, prepared with input from the Committee, lays the groundwork for eventual rail development by highlighting corridors for future evaluation. While many of these corridors will not be built, as the region continues to grow, some of these corridors will eventually be ready to provide passenger rail service.

Additionally, the Regional Transportation Council, through Mobility 2035, has been working on high-speed rail access to the region. There are options for high-speed rail to connect to the region through Hunt County. Alignments have not been determined but Hunt County officials will be able to participate in future alignment discussions.

*Exhibit V-8: Initial Option*

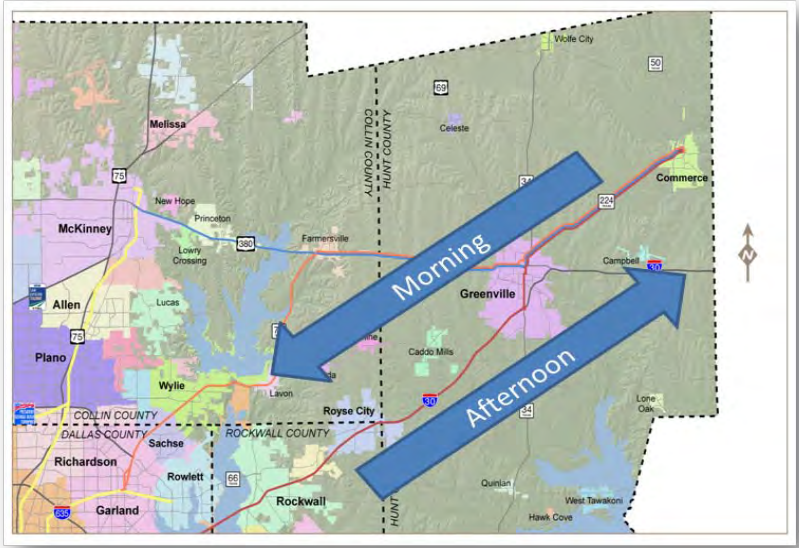
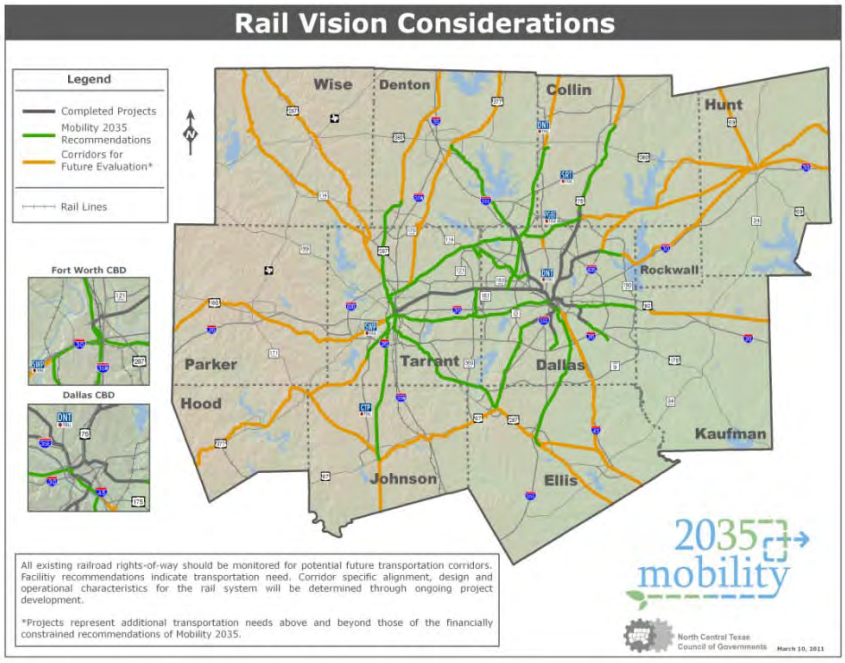



*Exhibit V-9: Mobility 2035 Rail Vision Considerations*



# VI. Hunt County Bicycle and Pedestrian Plan

## INTRODUCTION

Bicycle and pedestrian modes of travel are two important forms of non-motorized transportation in Hunt County. Census data indicates that 2.6 percent of Hunt County residents walk as a means of journey to work, and 1.5 percent commute to work by a means other than driving alone, carpooling, or public transportation.[1] This rate is generally in line with the state rate, but walking to work in Hunt County is higher than the state average at 1.8 percent, and commuting by an alternate means (bicycling) to work is slightly lower than the state average of 1.9 percent.[2] Beyond the journey to work trip, bicycling and pedestrian modes are important from the standpoint of other trip types as well, including to schools, retail services, and recreational amenities. To encourage community members to walk and bike, networks that are as safe and accessible as the roadway network, and that foster connections to these desired destinations must be provided. Developing a network for bicycle and pedestrian use requires a strategic planning process which includes community buy in and political will. The intent of this section is to introduce the concepts of the pedestrian and bicycle realm as integral parts of the overall street composition and show how these and the traveled way are combined to provide an overall balanced street network for all modes of transportation.

## Public Involvement

This section of the Hunt County Transportation Plan was developed to address and plan for increased bicycle and pedestrian facilities in and around Hunt County. In order to ensure that it is supported throughout the county, a public involvement process was implemented. Public involvement ensures that the public is a partner in the process of determining strategies to be undertaken by a government entity where there are multiple and competing needs. The purpose of the public involvement process was to create a plan that meets countywide needs and is feasible to implement. The public involvement process was a framework for all activities taken toward involving the public in the plan, from the development of needed facilities to the process of implementation of projects. The initial step in building consensus is creating trust among all stakeholders and the agency responsible for making the final decisions. This trust was built through coordination with stakeholders, as well as outreach and involvement.

This plan is tailored to the scope of the project at hand and the effective and widespread public involvement necessary for its success. Several activities were undertaken during plan development, including coordination, outreach, involvement, and evaluation. Nine stakeholder meetings were held in which community input was sought throughout the planning process, and the following goals were identified and used as guidelines throughout the process:

- Raise the level of understanding of the transportation planning process in the county and identify how interested citizens can become involved.
- Provide the public with opportunities for involvement in the transportation planning process.
- Maintain timely contact with key stakeholders throughout the process.
- Identify and involve traditionally underserved communities (those communities with a high concentration of minority, low-income, or elderly populations) in the transportation planning process.

[1] US Census Bureau American Fact Finder, 2005-2009 American Community Survey 5-Year Estimates, Hunt County.
[2] US Census Bureau American Fact Finder, 2005-2009 American Community Survey 5-Year Estimates, State of Texas.

## Planning Precedence

Since Hunt County does not have a countywide comprehensive plan, planning for bicycle and pedestrian modes in the county has historically been regulated on a project-by-project basis. Due to the inclusion of Hunt County in the Dallas-Fort Worth Metropolitan Area, air quality has also become a quality of life issue pertinent to the county's growth and development. In 2009, the North Central Texas Council of Governments (NCTCOG) expanded its Metropolitan Planning Area from 9 to 12 counties to include Hunt County within its boundary. As part of this effort, Hunt County became incorporated in planning efforts and programming of transportation dollars through NCTCOG. However, the county continues to be the responsible agency for meeting their own growth and development needs and has undertaken several efforts in this regard, including the request for planning technical assistance through the NCTCOG Unified Planning Work Program for a countywide Master Thoroughfare Plan that included an analysis on bicycle and pedestrian transportation.

Additionally, residents of Hunt County were encouraged to participate and provide feedback in the development of *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas*. Mobility 2035 aims to identify policies, programs, and projects for development that respond to adopted goals and to guide expenditures for state and federal funds over the next 25 years. The Active Transportation section in the Mobility Options chapter of Mobility 2035 advances strategies to overcome the many barriers that inhibit the use of non-motorized modes of transportation, including sub-standard design, infrastructure conditions in general, lack of connectivity, and many others. The Active Transportation section outlines three goals that address active transportation improvements: education, accessibility, and safety.

A highlight of the Active Transportation section is the Regional Veloweb, which is a network of off-street shared-use paths or trails designed for use by bicyclists, pedestrians, and other non-motorized forms of transportation, and includes multiple alignments in and connecting to Hunt County. Hunt County residents provided feedback for the Active Transportation section and the Regional Veloweb at various public meetings for Mobility 2035. Additionally, representatives from Hunt County and the city of Greenville sit on NCTCOG's Bicycle and Pedestrian Advisory Committee (BPAC), which serves as an advisory committee to the Regional Transportation Council. Members of BPAC were provided three additional meetings to provide feedback on the Active Transportation section of Mobility 2035 and the Regional Veloweb map, including a Mobility 2035 Listening Session in June 2010.

## Key Principles

The standards and guidelines developed for this plan are based upon the following key design principles.

1. **The Best Transportation Plan is a Good Land-use Plan:** Not all streets are just for movement, but are for supporting the land uses along them, including space for café seating, social exchange, children playing, and public plazas. Streets are for the enjoyment of residents and visitors and the economic success of businesses along them.
2. **Good Street Design Starts with Pedestrians and Bicyclists:** The world's great cities are delightful and safe for walking and biking, resulting not only in reduced rates of driving, but also improved public health. Streets throughout Hunt County should be designed to emphasize family, hospitality, inclusiveness, and pedestrian and bicycle access to neighborhood facilities including schools, parks, and community centers. Streets should also feel secure for all users including older adults, individuals with mobility impairments, and children.
3. **A Well-designed Street Network Provides Safety for All Modes of Transportation:** Safe, comfortable, and aesthetic street environments should provide a choice of movement. All streets should be designed to accommodate some combination of pedestrians, cyclists, transit riders, and motorists so that all modes offer an attractive choice. Safety can be achieved through a variety of techniques including speed management and

enforcement. Application of design principles also ensures safe and easy access to enhance the social function of streets as public spaces.

4. **Street Connectivity Enhances Capacity and Allows Smooth Traffic Flow:** By creating a network of many connected streets, wide streets can be avoided and vehicle flow can be improved while simultaneously increasing pedestrian and bicycle comfort and safety. A connected street network reduces the amount of vehicle miles traveled by providing direct linkages. When coupled with an effective multi-modal transportation system, it can decrease congestion and idling rates at junctions and improve overall capacity.
5. **Street Design Reflects *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas* Goals:** The goals established in Mobility 2035 should be considered when designing streets. Plan goals that support an interconnected multimodal transportation system include:
    - Preserve and enhance the natural environment, improve air quality, and promote active lifestyles.
    - Improve the availability of transportation options for people and goods.
    - Encourage livable communities which support sustainability and economic vitality.
    - Support travel efficiency measures and system enhancements targeted at congestion reduction and management.

This plan balances all of the above principles by seeking to integrate both planning and design when developing an integrated transportation network. Designers, urban planners, civil and traffic engineers, and others should work together to enhance the quality of streets throughout Hunt County by following these key principles.

## Goals

Goals of the plan were established to encourage a shift in priorities of street design from the current focus on motor vehicle traffic to an integrated process that accounts for the needs of pedestrians, bicyclists, and motorists, as well as the potential for future transit riders. This integrated approach should address the following key areas.

**Land Use Context:** The street design process should closely respond to the land use context and accommodate the particular needs of individual places and neighborhoods.

- Good street design should accommodate all modes of transportation according to the land use context.
- The land use context should dictate the types of activities taking place along a street and should strongly influence the pedestrian realm design.

**Safety:** Streets should be safe for all users at all times of the day, especially for pedestrians, and with a particular emphasis on children, older adults, and individuals with impaired mobility. Safety can be achieved in the following ways:

- The reduction in total crashes, injuries, and fatalities by targeting speed, network design, and prioritization of vulnerable users.
- Educational campaigns for all users, monitoring and effective enforcement of existing laws, and the introduction of strengthened laws and regulations.

**Efficiency:** Streets should be designed for the efficient movement of all modes of transportation.

- An increase in person capacity of the transportation network through investment in transit, bicycling, and walking.
- An increase in connectivity between superblocks in order to provide shorter driving distances and a reduction in congestion at junctions.

**Sustainability:** Streets should contribute toward achieving thriving natural/environmental, economic, and social systems.

- An increase in rates of walking, bicycling, and transit use to steadily reduce per capita carbon emissions from transportation.
- An increase in efficiency of the transportation network through a decrease in vehicle idling and vehicle miles traveled to reduce Hunt County's carbon footprint and protect natural resources.

**Public Health:** Streets should be designed to accommodate walking and bicycling for all community members.

- Good street design can lead to an increase in rates of walking and bicycling.
- Good street design and improved public health can lead to a decrease in obesity, heart disease, and diabetes.

**Quality of Life:** Streets should be a pleasure for all users, particularly pedestrians.

- Good street design can lead to an increase in tourism.
- Good street design can lead to an increase in rates of non-utilitarian walking to levels comparable with other urban destinations around the world.

**Economic Development and Tourism:** Streets should enhance the value of all properties along them and should support Hunt County's long-range development strategies.

- Good street design can support an increase in property values and retail success.
- Good street design can support economic development. High quality provisions for all modes will attract investment and tourism.

## Benefits of a Bicycle and Pedestrian Network

The development of a bicycle and pedestrian network is essential to securing funding to build proposed improvements within Hunt County as most funding sources require a planned network be in place to be eligible for funds. This is to encourage facilities that are interconnected so projects are not piece-meal leaving users stranded. There are also other important benefits that arise from establishing a bicycle and pedestrian network:

- Connectivity may be provided between schools, parks, libraries, major employment centers, and other areas of interest. This connectivity, in turn, reduces the reliance on the automobile and increases interactions between community members.
- Bicycle and pedestrian facilities will double as recreational amenities, not only serving bicyclists and those who walk, but also for those who run, skate, and enjoy nature. The additional recreational outlets will provide the community with an arena for physical activity and the health benefits associated with exercise.
- Bicycle and pedestrian facilities are important community amenities that help to spur economic development. Communities are realizing the economic potential of highly desirable facilities that bring dollars into the places they serve. In addition to preserving critical open space and providing important transportation options, bicycle and pedestrian facilities attract visitors from near and far – visitors who facilitate job growth in tourism-related opportunities like restaurants, local stores, and lodging. In fact, a 1993 survey of 38 businesses in Massachusetts found that 24 percent of business owners cited bicycle and pedestrian facilities as one reason they opened or acquired their business.[3] This same survey found that 60 percent of the businesses expanded their business and of those, one-half considered the facilities a prominent factor in this decision.[4]
- Community groups can form to promote safe cycling.

[3] Massachusetts Department of Environmental Management, 1993

[4] Massachusetts Department of Environmental Management, An Executive Summary of a Business Survey Done on the Cape Cod Rail Trail, 1993.

As Hunt County continues to grow and as the potential for transit improvements grow, it becomes essential to consider increasing the availability of bicycle and pedestrian facilities along potential future transit routes and between points of interest within Hunt County. In order to advertise the benefits of walking and bicycling, the following programs should be included as strategies for implementation:

1. Educational programs for cyclists, pedestrians, and motorists to promote safety.
2. Promotional campaign to promote usage of expanded facilities.
3. Programs to enforce laws as they apply to bicycles and pedestrians.
4. Methods to provide safe, clearly designated facilities for bicycles and pedestrians.
5. Maintenance programs to keep the facilities properly preserved.

## Design Flexibility

Much of the design guidance for on- and off-street bicycle facilities and pedestrian facilities is based on the *Texas Manual on Uniform Traffic Control Devices*, Part 9: Traffic Control for Bicycle Facilities, 2006; the *Manual on Uniform Traffic Control Devices*, 2009; the American Association of State Highway and Transportation Officials *Guide for the Development of Bicycle Facilities*, 1999; the American Association of State Highway and Transportation Officials *Guide for the Planning, Design, and Operation of Pedestrian Facilities,* 2004; the US Department of Justice *2010 Americans with Disabilities Act Standards for Accessible Design*; the Federal *Americans with Disabilities Act Accessibility Guidelines;* and the *Texas Accessibility Standards*. Guidance provided in this document is intended to be consistent with these manuals. Application of guidance provided in this document also requires the use of engineering judgment when retrofitting streets and corridors to provide bicycle and pedestrian facilities.

### Conventional Approach

In automobile-oriented cities, street typologies are typically defined by traffic priority – the degree to which streets emphasize through movement for vehicles. This is known as “functional classification”. In this conventional approach, streets with the purpose of accommodating a high level of through movement are “arterials”, whereas streets that primarily provide access are “locals”, and those in between are “collectors”.

### Emerging Practices

Context Sensitive Solutions is a collaborative, interdisciplinary approach to designing streets that involves balancing all stakeholders to design a transportation facility that fits its applicable setting and preserves scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility as defined by the Federal Highway Administration (FHWA). Context Sensitive Solutions is an approach that considers the total context within which a transportation improvement project will exist. It also offers flexible design guidelines and standards to design streets that are safe for all users, regardless of their mode of travel.

Smart growth has been defined many different ways, but it generally emphasizes environmental preservation, compact development patterns, alternative transportation, and social equity.

Much like Context Sensitive Solutions and smart growth, complete streets-inspired design uses a collaborative approach that includes all stakeholders to balance needs between vehicular and pedestrian levels of service, environmental considerations, historic preservation, economic development, and similar community objectives. Complete streets encourage road networks that are safer, more livable, and welcoming to everyone.
Streets in Hunt County serve many functions and street classifications should reflect more than the simple balance between automobile movement and access. Hunt County street design should not start with automobile

throughput but with the pedestrians, making walkability and livability of foremost importance. Moreover, many streets in Hunt County must accommodate both a high degree of automobile movement and a high degree of accessibility.

*Complete Street, Dallas, TX*

Source: NCTCOG

## OVERVIEW OF ACTIVE TRANSPORTATION PLANNING EFFORTS

As federal and state directives begin to place a greater importance on accommodating the needs of bicyclists and pedestrians, NCTCOG's role is to further support such directives. Historically, bicycle and pedestrian planning and policies have been established at the local level. While that remains largely true, planning at the regional level provides an opportunity to improve coordination and connectivity between communities and across borders. NCTCOG serves as an information clearinghouse for bicycle and pedestrian data, and has a variety of initiatives that ensure and reinforce regional coordination that are discussed later in this chapter. In addition, as mentioned previously, the Bicycle and Pedestrian Advisory Committee was assembled to provide technical expertise, public outreach support, review of regional bicycle and pedestrian planning, and assistance in the selection of bicycle and pedestrian projects funded by the Regional Transportation Council and the Executive Board of NCTCOG on an as-needed basis. Regularly scheduled BPAC meetings provide an opportunity for local governments to share best practices, success stories, and discuss common issues in an effort to improve local initiatives and enhance regional coordination.

### Bicycle and Pedestrian Planning at the Federal Level

Federal guidance strongly encourages bicycle and pedestrian facilities become the norm rather than the exception in planning, developing, and constructing transportation facilities. Each project funded with federal funds should include bicycle and pedestrian facilities unless specifically disallowed. Federal guidance further states that an alternative route on parallel surface streets should be identified and implemented where bicycle and pedestrian uses are either prohibited or made incompatible. The federal guidance outlines many simple and cost-effective ways to integrate non-motorized users into the design and operation of our transportation system by including bicycle and pedestrian accommodation as an incidental part of larger ongoing projects. Examples include:

- Providing paved shoulders on new and reconstructed roads.
- Restriping roads (either as a stand-alone project or after a resurfacing or reconstruction project) to create a wider outside lane or striped bike lanes.
- Building sidewalks and trails, and marking crosswalks or on-street bike lanes as a part of new highways, and requiring new transit vehicles to have bicycle racks and/or hooks already installed.[5]

Federal Statutes have mandated Metropolitan Planning Organizations include bicycle and pedestrian facilities in the overall Metropolitan Transportation Plan since 1999 (Title 23 Sec. 450.322). In addition, in 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) mandated that "the metropolitan planning process for a Metropolitan Planning Area shall provide for consideration of projects and strategies that will increase the safety and security of the transportation system for non-motorized users and enhance the integration and connectivity of the transportation system, across and between modes". (Title 23, U.S.C. Sec 134 (h) (1)). SAFETEA-LU also established the Non-motorized Transportation Pilot Program that

[5] FHWA Guidance - Bicycle and Pedestrian Provisions of Federal Transportation Legislation, http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm.

awarded $25 million each to four cities to demonstrate how improved walking and bicycling networks can increase rates of walking and bicycling.

The US Department of Transportation (USDOT) has become increasingly active in their recommendations to accommodate bicyclists and pedestrians and funding opportunities to facilitate these accommodations, from the recent policy statement to include bicycle and pedestrian facilities in road projects, to the Partnership for Sustainable Communities established between USDOT, the US Environmental Protection Agency (EPA) and the US Department of Housing and Urban Development (HUD) to fund the Sustainable Community Regional and Challenge Grants and promote livability. The grants are intended to strengthen communities by connecting housing and transportation options, and ultimately improving overall quality of life. USDOT Secretary Ray LaHood stated, "Through our partnership with EPA and HUD, we will continue to help communities provide affordable, efficient transportation options that improve access to jobs and quality of life for all Americans." The President's Council on Physical Fitness and Sports, and the First Lady's Let's Move Campaign are also key initiatives impacting active transportation strategies at the federal level. As the USDOT continues to offer direction on active transportation, it will become an increasingly important component in transportation planning and design at the state, regional, and local levels.

## Bicycle and Pedestrian Planning at the State Level

The Texas Department of Transportation (TxDOT) has long supported the integration of bicycle and pedestrian facilities into the overall transportation system. Beginning in 1992, the Intermodal Surface Transportation Efficiency Act, Section 1033, required state DOTs to designate a State Bicycle and Pedestrian Coordinator. In 2001, TxDOT appointed District Bicycle Coordinators to ensure that bicycles are acknowledged as a viable mode of transportation on roadway facilities where use by bicyclists is feasible. Texas Statute now requires both a state coordinator and coordinators in each regional office.

TxDOT also provides guidance for the planning, design, construction, and maintenance of state-maintained roadways in the form of several manuals and memoranda. TxDOT updated its *Project Development Process Manual* in 2009 to include the requirement to "coordinate with other entities and other areas of expertise to ensure that projects compliment the surrounding community or local area."[6] The Manual states that one method used to coordinate efforts between entities is the consideration of Context Sensitive Solutions principles that help establish the regional, local, and neighborhood vision or long-term objectives. TxDOT adopted the Institute of Transportation Engineers publication, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, as a resource for facilitating this requirement. Other relevant planning documents and design manuals that outline bicycle and pedestrian requirements and recommendations that are utilized by the state are listed in *Exhibit VI-1*.

Additionally, on March 23, 2011, TxDOT issued a Memorandum on the Guidelines Emphasizing Bicycle and Pedestrian Accommodations. This Memorandum expands on the previous Bicyclist Accommodation Memorandum of 1999 which stated that, "For new shared lanes, on a signed, designated bicycle route, the minimum lane width shall be 14 feet."[7] The new Memorandum provides guidance for expanded facility options, and specifically states that, "TxDOT is committed to proactively plan, design, and construct facilities to safely accommodate bicyclists and pedestrians."[8] This Memorandum was created in conjunction with the Federal Highway Administration Texas Division and reinforces TxDOT's commitment to bicycle and pedestrian facilities.

[6] TxDOT *Project Development Process Manual*, 2009, http://onlinemanuals.txdot.gov/txdotmanuals/pdp/pdp.pdf.
[7] Texas Department of Transportation Memorandum on Bicyclist Accommodation, August 1999.
[8] Texas Department of Transportation Memorandum: Guidelines Emphasizing Bicycle and Pedestrian Accommodations, March 2011.

TxDOT is also involved in allocating funding towards bicycle and pedestrian projects through a variety of funding programs. The Transportation Enhancement (TE) Program – formerly referred to as the Statewide Transportation Enhancement Program – is one such funding program. The TE Program is a federally funded program administered by TxDOT which allocates funds to non-traditional transportation related activities. To be eligible for TE funds, projects must demonstrate a relationship to the surface transportation system and incorporate at least one of 12 categories, one of which is bicycle and pedestrian facilities. The TE Program is the largest funding initiative for bicycle and pedestrian facilities, equating to roughly 70 percent of all funding. Between 1996 and 2002, the TE Program allocated an estimated $2.52 billion out of the total $3.6 billion used to fund bicycle and pedestrian projects.[9]

*Exhibit VI-1: State of Texas Bicycle and Pedestrian Transportation Guidance*

TxDOT *Roadway Design Manual*
TxDOT *Landscape and Aesthetics Design Manual*
TxDOT *Project Development Process Manual*
TxDOT *Transportation Planning Manual*
TxDOT *Texas Transportation Plan*
TxDOT *Statewide Transportation Plan*
TxDOT Transportation Mulitmodal Systems Manual
Texas Transportation Code
TxDOT Memorandum: Guidelines Emphasizing Bicycle and Pedestrian Accommodations

TxDOT is also responsible for the laws pertaining to roadway operations which includes bicycles. According to the Texas Transportation Code, Section 551, "A person operating a bicycle has the rights and duties applicable to a driver operating a vehicle."[10] All bicyclists must operate under Texas Motor Vehicle Laws while on public roadways, including stopping at stop signs, yielding to pedestrians in crosswalks, displaying proper illumination, and riding with the traffic flow on designated one-way streets. In addition, Texas Government Code, Section 411.0175, requires TxDOT to collect accident reports for bicyclists and pedestrians, and Section 525.001 stipulates that, "The Department of Public Safety shall include motorcycle and bicycle awareness information in any edition of the Texas Driver's Handbook."

These collective actions formalize the state's commitment to include, accommodate, and consider the needs of bicyclists and pedestrians in the transportation planning, design, and implementation processes.

## Bicycle and Pedestrian Planning at the Local Level

Cities and counties within the NCTCOG region are responsible for the planning, development, and implementation of bicycle and pedestrian transportation infrastructure and amenities within each respective city and county. While NCTCOG plans for bicycling and pedestrian facilities in coordination with local cities and counties, it is ultimately up to local governments to determine feasibility and ensure implementation of said planning efforts. While many local governments in the Dallas-Fort Worth region have adopted bicycle master plans, not all have had the necessary resources to undertake such a plan. Therefore, in May 2010, NCTCOG partnered with the city of Dallas to update the *1985 Dallas Bike Plan*. As part of this initiative, a regional template will be designed for local governments to adopt "in lieu of" their own city or countywide plan. The regional template will offer facility design guidelines, best practices, and emerging innovations in bicycle and pedestrian transportation. While this plan will not identify specific locations for facilities within a jurisdiction, it will identify ideal roadways for each facility type, and roadway types that are best suited for bicycle and pedestrian transportation.

[9] "The Regional Response to Federal Funding for Bicycle and Pedestrian Projects," http://pubs.its.ucdavis.edu/publication_detail.php?id=1304
[10] Texas Transportation Code, Sec. 551.101, http://www.statutes.legis.state.tx.us/docs/TN/htm/TN.551.htm.

Additionally, NCTCOG developed the Regional Veloweb in 1997 based on an extensive study conducted by the NCTCOG Bicycle and Pedestrian Transportation Task Force to assist local governments in the development of a region-wide trail system. The Regional Veloweb was updated in 2011 as part of Mobility 2035 based on feedback received by local governments and community members, and the general need to reassess the functionality and alignment of the Veloweb. The Regional Veloweb is a network of off-street shared-use paths or trails designed for use by bicyclists, pedestrians, and other non-motorized forms of transportation. A shared-use path is a facility on an exclusive right-of-way and with minimal intersections with motor vehicles, often referred to as a trail. The Veloweb serves as the regional expressway for bicycle transportation.

Facilities of this type have a proven track record of attracting users and provide recreational, air quality, health, economic development, and mobility benefits to communities across the nation. Linking high quality facilities together to provide intraregional routes which favor bicycle travel can encourage increased use of the bicycle for utilitarian trip purposes. The primary design considerations of the Veloweb include:

- Minimum 12-foot width for heavily traveled shared-use paths.
- 16- to 24-foot Veloweb sections or separated facilities for pedestrians and bicyclists may be warranted along portions of the Veloweb experiencing high-peak pedestrian volumes due to the proximity to transit stations, sporting events, and/or other major venues; Veloweb sections should be sized with a pedestrian level of service analysis to meet those demands.
- Markings and travel speed to meet minimum safety standards for simultaneous bicycle and pedestrian traffic.
- Long-lasting impervious surface.
- Grade-separated crossing of roadways with significant traffic flows.
- Traffic circle intersections with minor roadways where conflicts are a concern.
- Few, if any, signalized or stop sign intersections.
- Easy access from roadways, particularly on-street bicycle facilities.
- Easy access to common trip destinations.

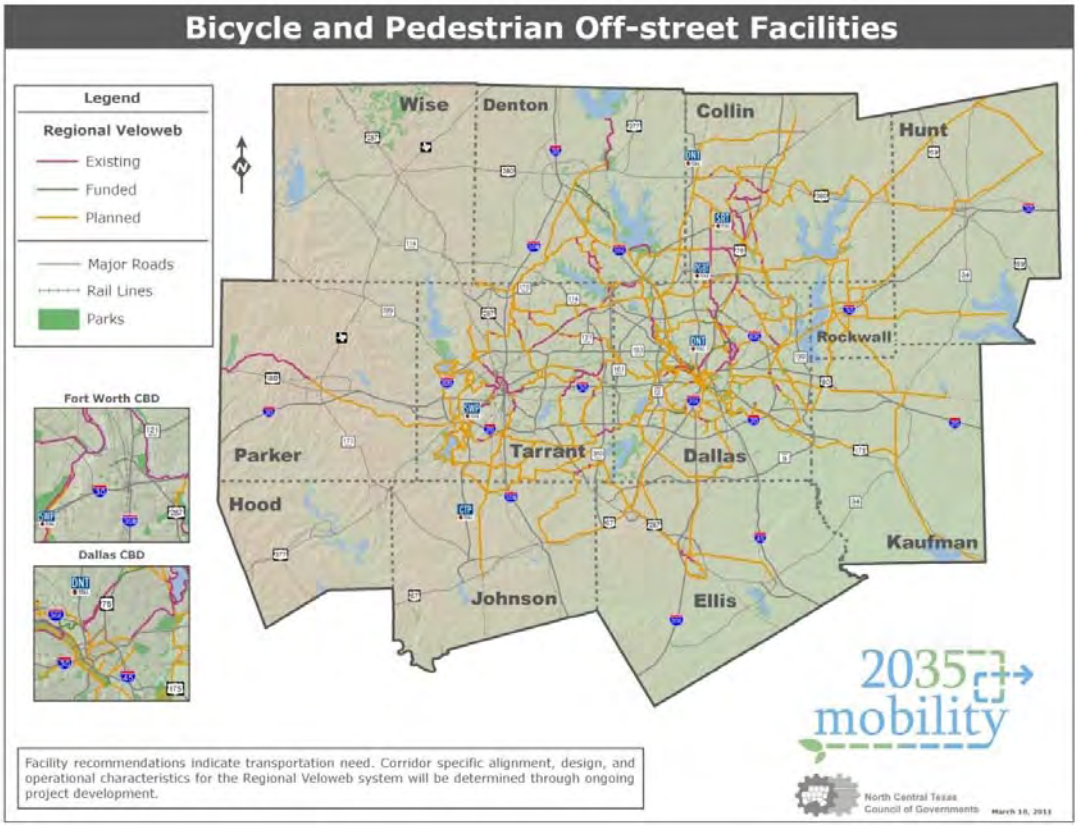
Every section of the Regional Veloweb may not achieve all these elements, but each is an important consideration in providing a favorable bicycle route for utilitarian trips.

Recommended routes and trails included in the Regional Veloweb are considered high-priority projects and are often used as part of the evaluation process when funding becomes available for various Regional Transportation Council programs. Please see *Exhibit VI-2* for a map of the Regional Veloweb.

Local governments have included the Regional Veloweb alignments in local bicycle and pedestrian master plans since its inception. Below is a summary of jurisdictional efforts to plan for bicycle and pedestrian facilities in communities near Hunt County. The summary attempts to detail which jurisdictions have bicycle and pedestrian master plans in place, and which communities plan to do so.

It is important to note that the Regional Veloweb System, as identified in Mobility 2035, is a future vision for a network of off-street, shared-use paths, which even though included in Mobility 2035, is still largely unfunded and represents a larger regional need and desire for active transportation options. Unless a segment currently has funding, it represents a placeholder and does not recommend a specific alignment. Further studies would have to be conducted to determine the most feasible corridor alignment and to determine if enough public and local government support exists to pursue the project. The results of the study would then be incorporated into the regional long-range transportation planning document (Mobility 2035).

*Exhibit VI-2: Regional Veloweb*




1. **Neighboring counties within the NCTCOG Metropolitan Planning Area**
   - Dallas County: In 2000, Dallas County developed the Trail and Preserve Program which is responsible for the addition of 30 miles of trails connecting to an existing 33 miles of trail in more than eight cities within Dallas County. These trails are included as part of the county-adopted Trail Plan, last updated in April 2009.
   - Collin County: In 2010, Collin County began the development of the Collin County Regional Trails Master Plan. The plan identifies existing and proposed trails throughout the county. The plan is currently under review by the county, and adoption is anticipated for late 2011 or early 2012.
2. **Representative Regional Cities**

   At least six cities within Collin County have existing parks/trail plans, including the cities of Allen, Frisco, McKinney, Plano, Richardson, and Sachse. Additionally, Dallas County includes at least 11 cities with locally adopted parks/trail plans, including the cities of Addison, Carrollton, Cedar Hill, Dallas, Garland, Grand Prairie, Irving, Mesquite, Richardson, Rowlett, and Sachse.

## Bicycle and Pedestrian Planning Within Hunt County

Hunt County's growth and development has proven to be a challenge for all transportation infrastructures. In particular, the county is in need of bicycle and pedestrian transportation facilities. Although the county does not have a specific ordinance to require sidewalk installation within subdivision developments, many neighborhoods within the county have constructed sidewalks interior to the developments. The key to planning for the future bicycle and pedestrian network in the county will be to link these existing neighborhood sidewalks to activity destinations. In addition, although the county currently does not have any existing on-street bicycle facilities, future roadway improvement could be analyzed to determine the possibility of including some form of bicycle

facility infrastructure within these plans. When implementing bicycle and pedestrian facilities on a project-by-project basis prior to a full network build out, there will likely be large gaps in the system. In order to mitigate the effects of leaving users with no clear direction of where to go at a facility's endpoint, proper signage and alternate routes should be implemented as necessary until adjoining facility implementation occurs. The future bicycle and pedestrian network must be coordinated with the potential for expanded transit use in the county as well.

Though Hunt County does not have a locally adopted Comprehensive Transportation Plan, the city of Greenville adopted the *Greenville Comprehensive Plan 2025* in April 2004. Included in the comprehensive plan is the *Park, Recreation and Open Space Master Plan* which was updated in 2008. Included in the plan are recommendations for expanded parklands and an integrated trail system. Among the goals presented in the plan is "providing linkages (trails) between facilities". The primary concept for the trail system is a continuous connection throughout the city with principle consideration given to trails that connect to existing and future parks, city lakes, and downtown Greenville. The majority of the recommended trails lie within the Sabine River floodplain area with two alignments recommended along the Kansas City Southern Railroad and the Northeast Texas Rural Rail District, both of which are near downtown Greenville. The *West Greenville Small Area Plan*, adopted in 2011, also includes a significant trail network within floodplain areas in the western and southwestern parts of the city and its extraterritorial jurisdiction.

## Assessment of Current Conditions

It is important to grasp baseline conditions for bicycle and pedestrian planning in Hunt County in order to understand context and future needs. Therefore, a bicycle and pedestrian current conditions analysis was conducted to identify opportunities and constraints, including a highlight on current trends throughout the region to identify potential strategies for use in the Hunt County Transportation Plan development. Current Conditions data can be viewed in *Exhibits VI-3* through *VI-8*.

## Current Trends

While recreational cycling is still the primary use of bicycles in this country, individuals nationwide are recognizing the energy efficiency, cost effectiveness, health benefits, and environmental advantages of bicycling for transportation purposes. Nationwide, communities are creating bicycle and pedestrian master plans to prepare for the needs of commuters who choose to bicycle and/or walk to work, or for other utilitarian purposes such as bicycling and/or walking to school. More funding sources have become available, and bicycle and pedestrian facilities are becoming more popular in the North Central Texas region. Examples of dedicated bicycle and pedestrian corridors within the region that have become success stories and models for the community include the following:

- Katy Trail, Dallas, Texas
- Cotton Belt Trail, multiple cities in Dallas and Tarrant counties
- Cottonwood Trail, Dallas County
- Six Cities Trail, multiple cities in Collin and Dallas counties
- Trinity River Trails, Fort Worth, Texas
- Lake Mineral Wells State Trailway, Parker County

Many communities within the region are currently planning or constructing additional bicycle and pedestrian facilities that will be opened in the near future. As more and more bicycle and pedestrian corridors are created, people in Hunt County will realize the benefits of using these facilities for recreation and for commuting. By wisely planning for, and actively implementing a network of bicycle and pedestrian facilities, Hunt County will enjoy the benefits of alternative modes of transportation.

# Hunt County

Pedestrian Current Conditions

**Legend**

- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

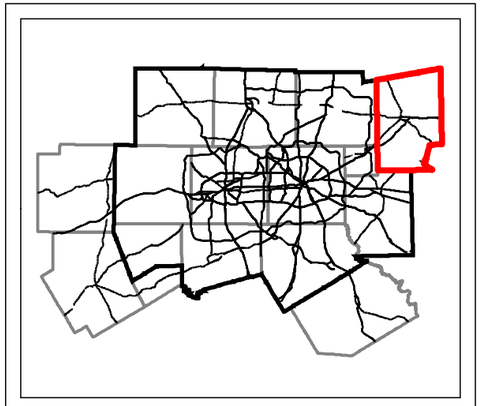
**Regional Veloweb***

- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

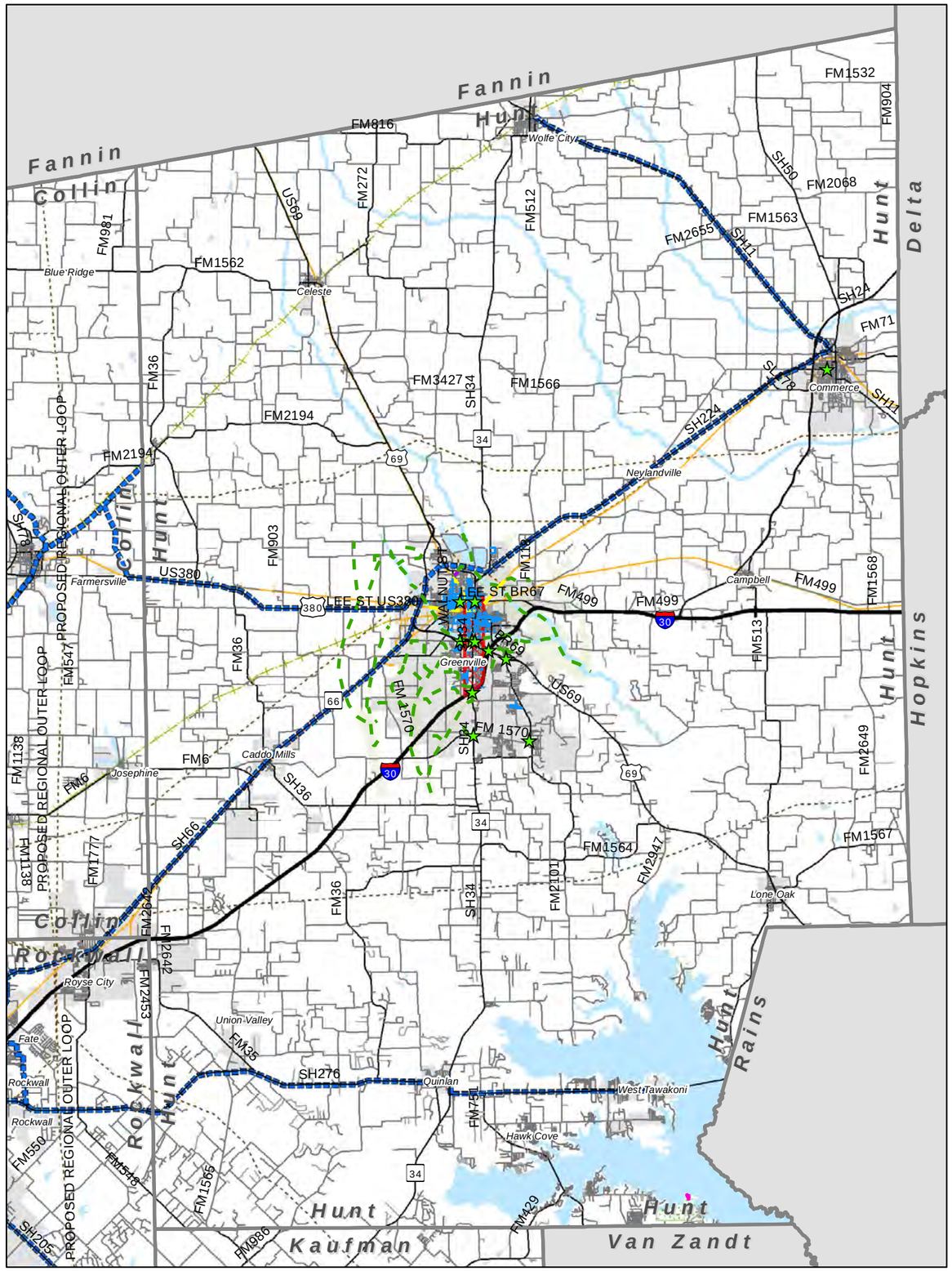
North Central Texas Council of Governments Transportation

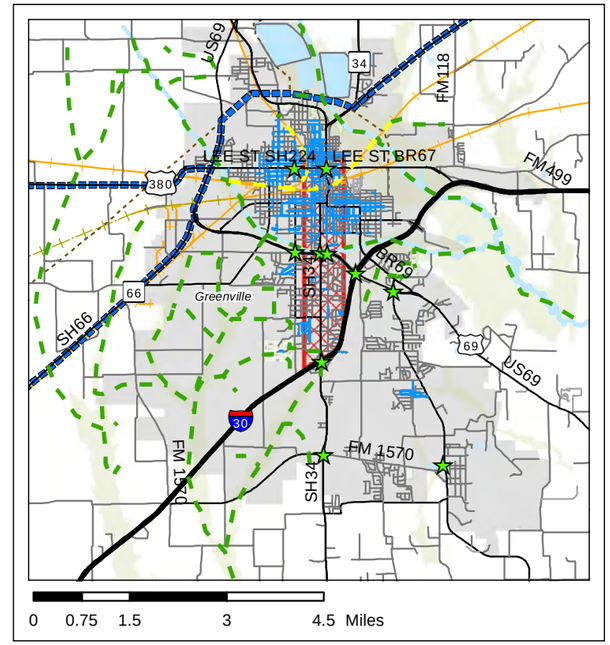
*Not all corridors identified per the MTP

Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.

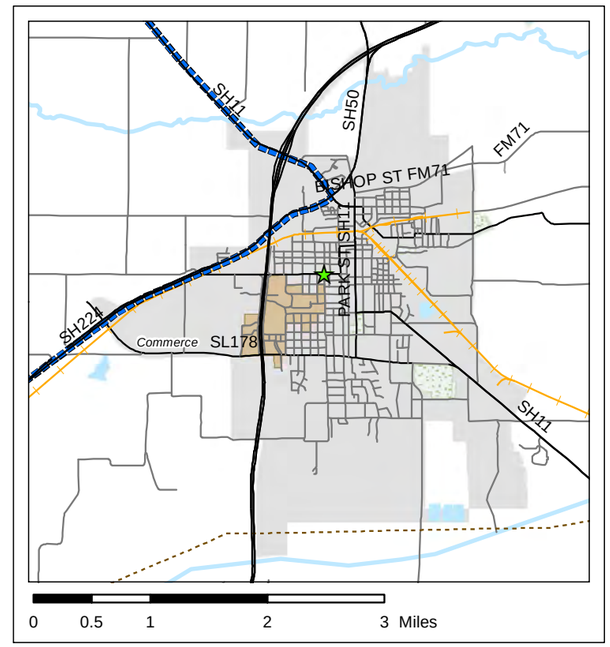



March 2012




Greenville




Commerce

Exhibit VI-3

# Hunt County

Bicycle Current Conditions

**Legend**

- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb***

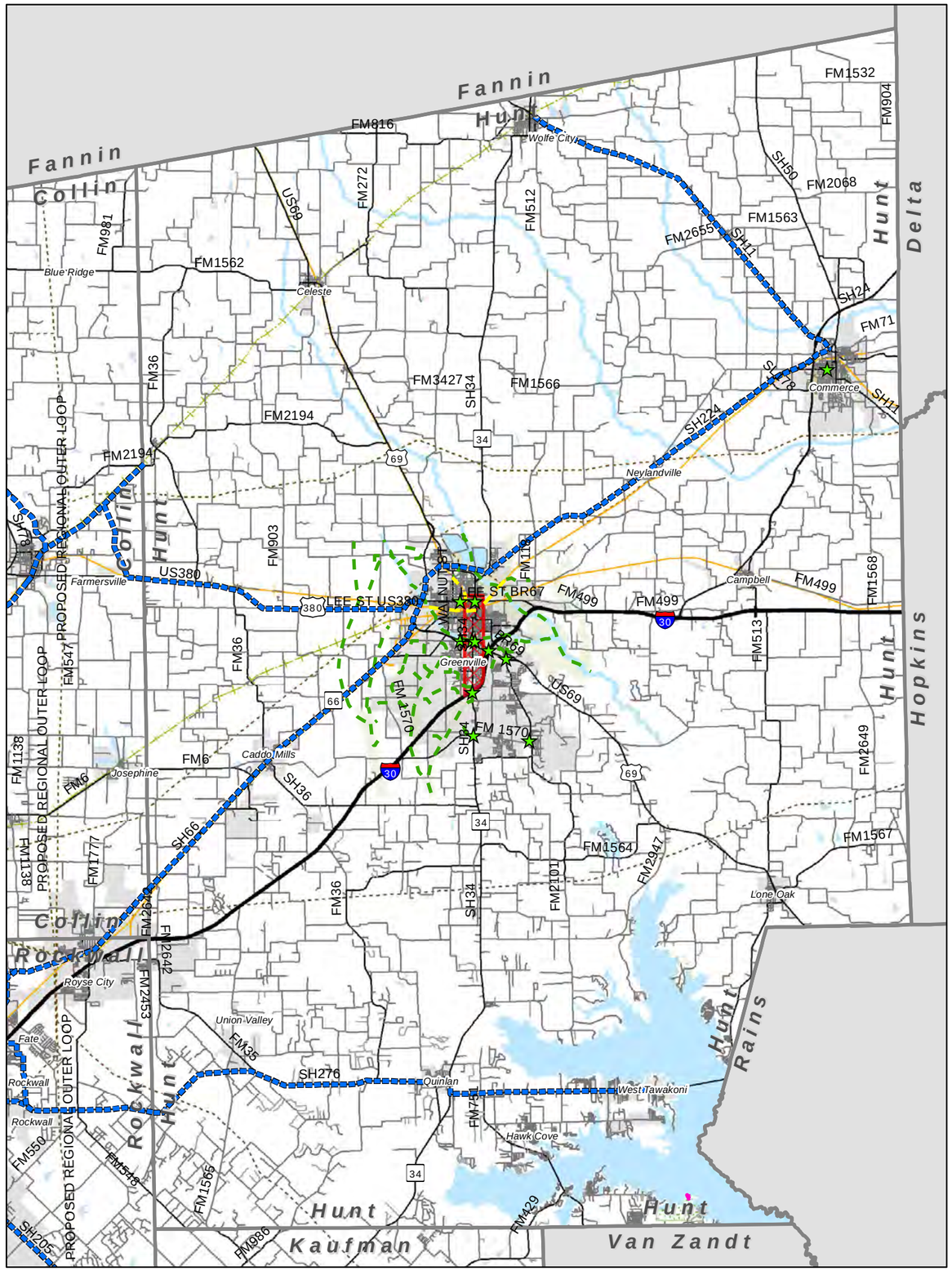
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

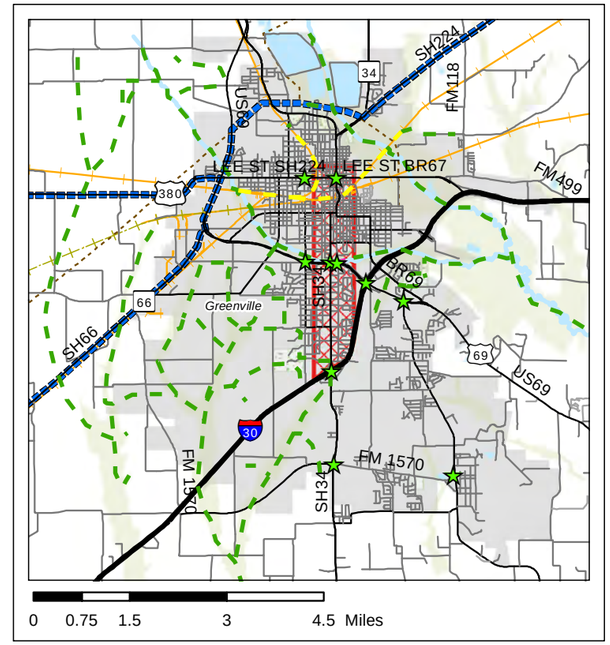
North Central Texas Council of Governments
Transportation

*Not all corridors identfied per the MTP

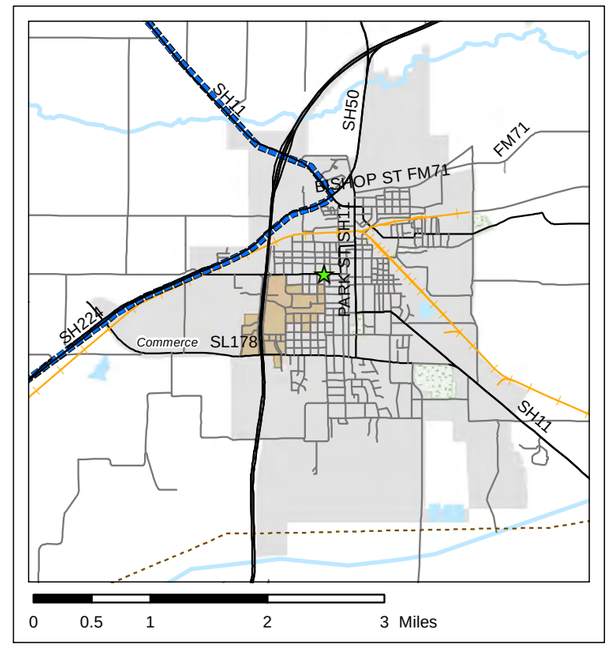
Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.


March 2012




Greenville




Commerce

Exhibit VI-4

# City of Commerce

Pedestrian Current Conditions

**Legend**

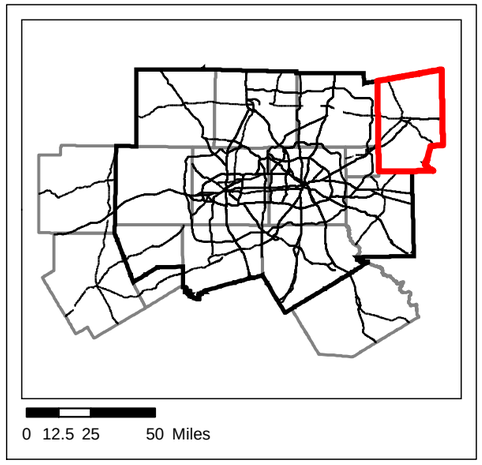
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

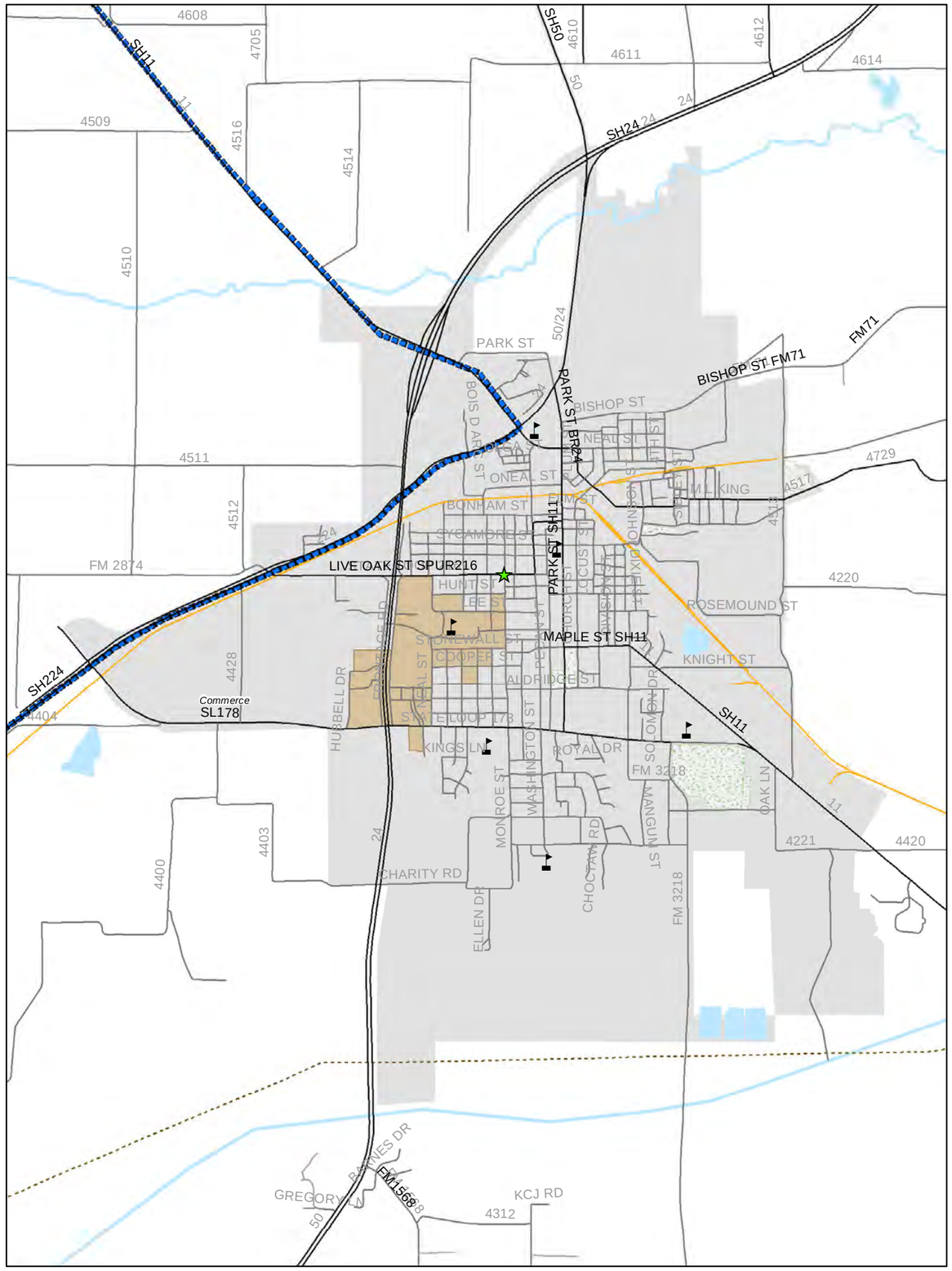
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

North Central Texas Council of Governments Transportation

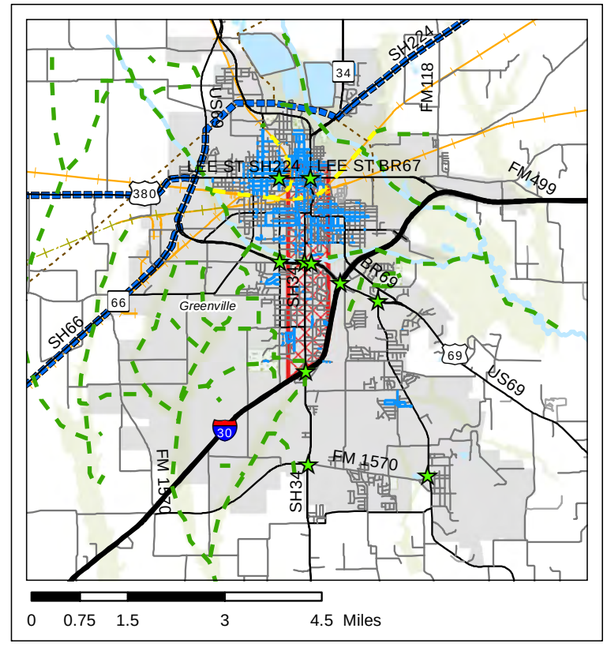
Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.



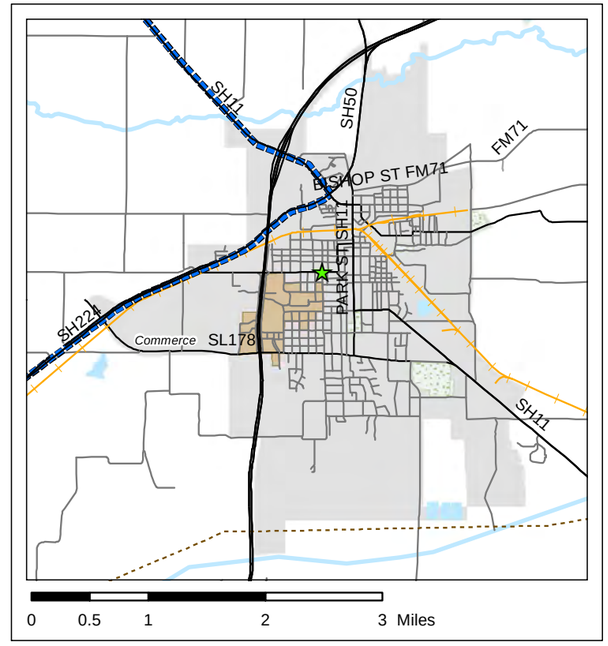

March 2012




0 0.25 0.5 1 1.5 Miles




Greenville




Commerce

Exhibit VI-5

# City of Commerce

Bicycle Current Conditions

**Legend**

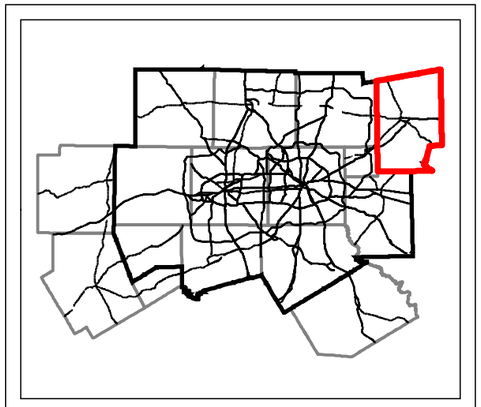
- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

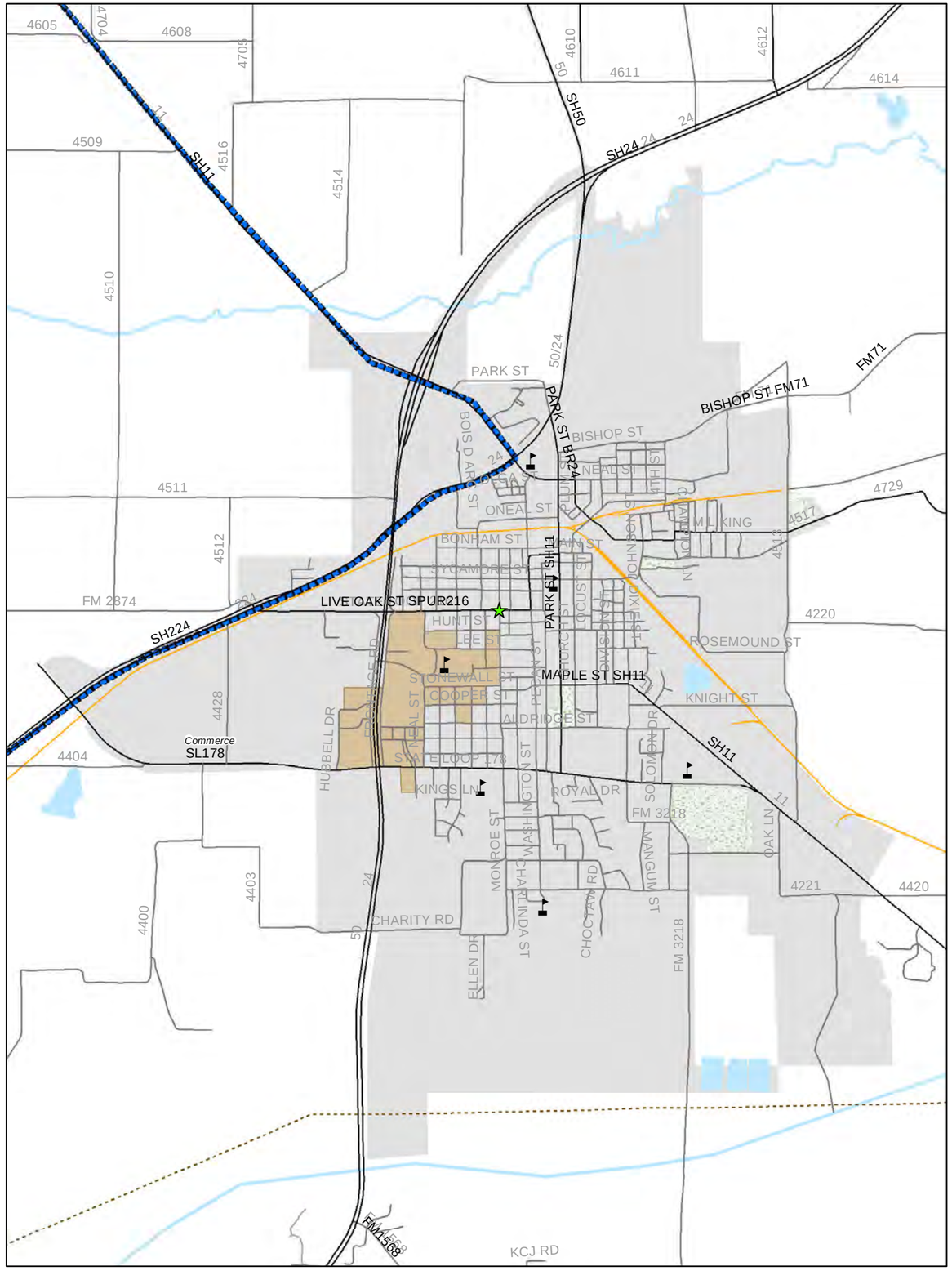
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

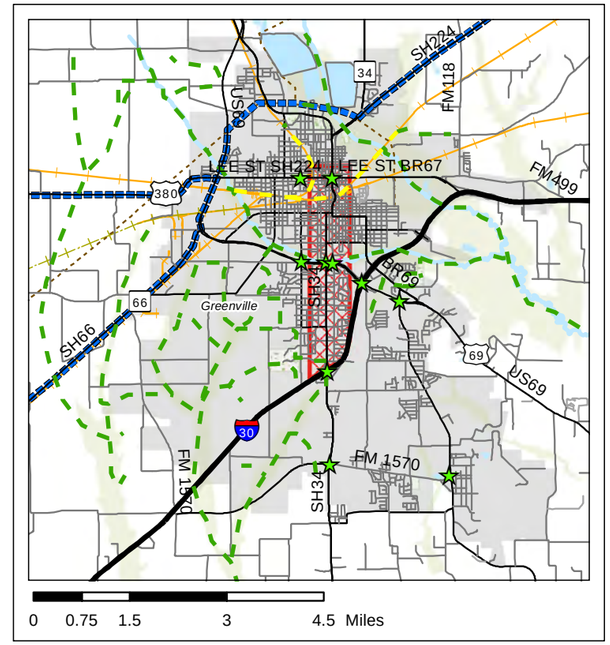
North Central Texas Council of Governments
Transportation

Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.

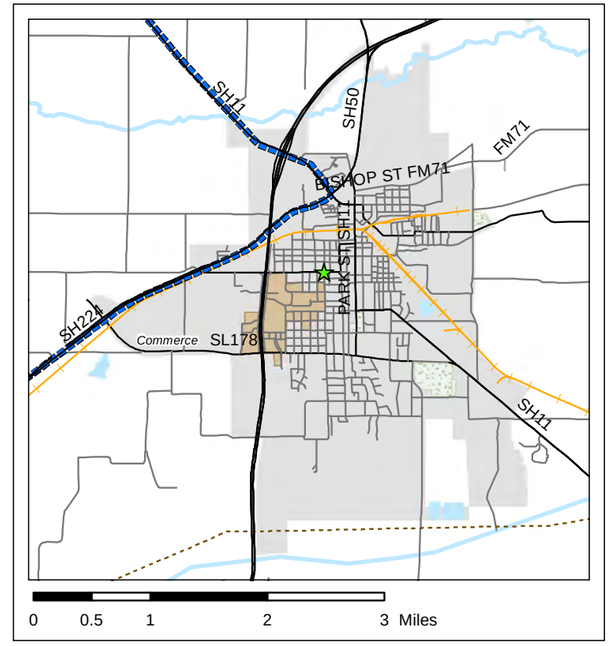



March 2012




Greenville




Commerce

Exhibit VI-6

# City of Greenville

Pedestrian Current Conditions

**Legend**

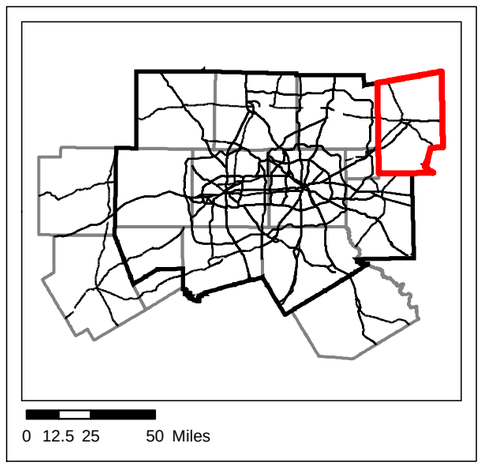
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

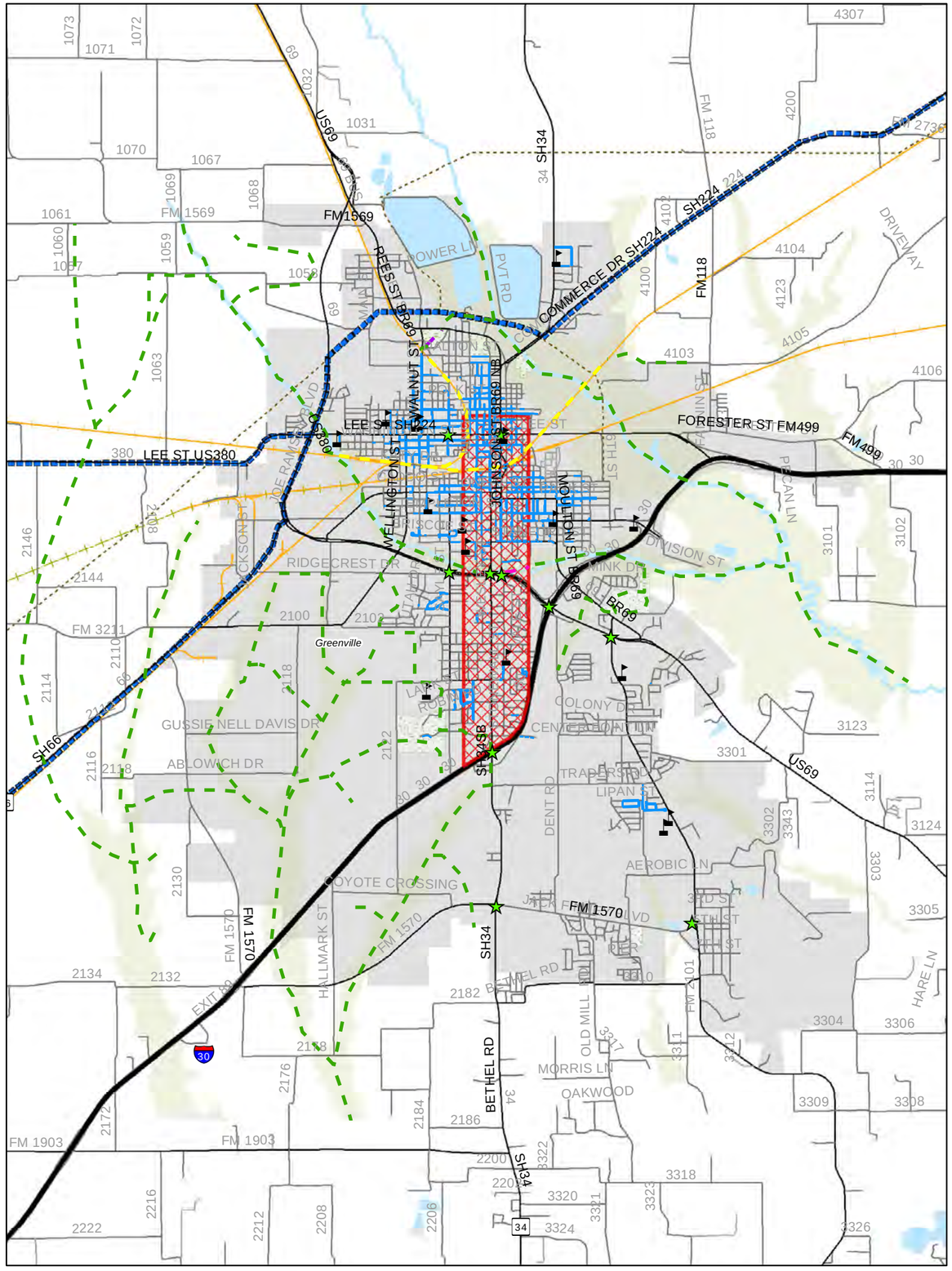
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

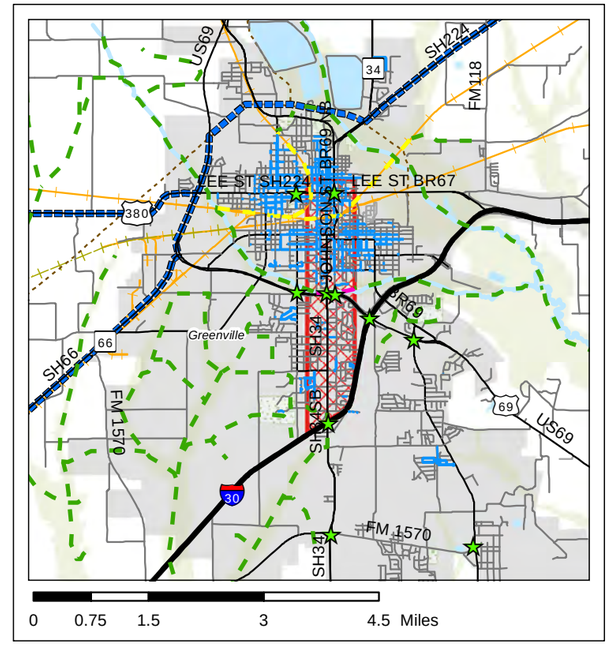
North Central Texas Council of Governments
Transportation

Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.

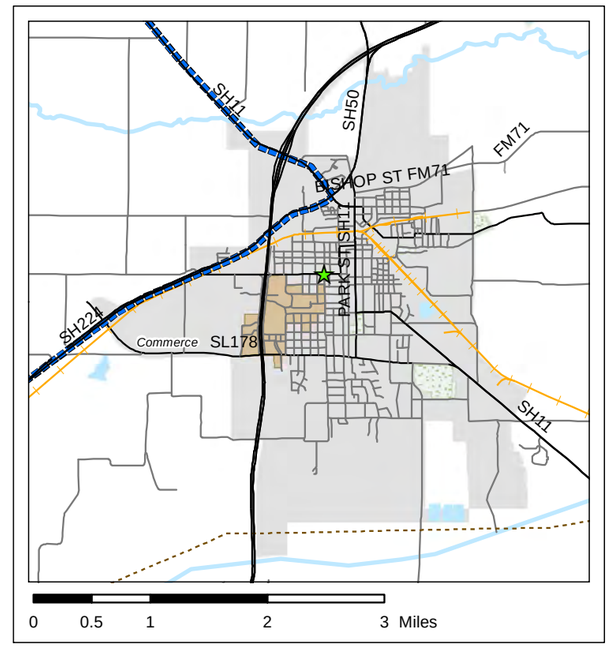



March 2012




Greenville




Commerce

Exhibit VI-7

# City of Greenville

Bicycle Current Conditions

**Legend**

- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

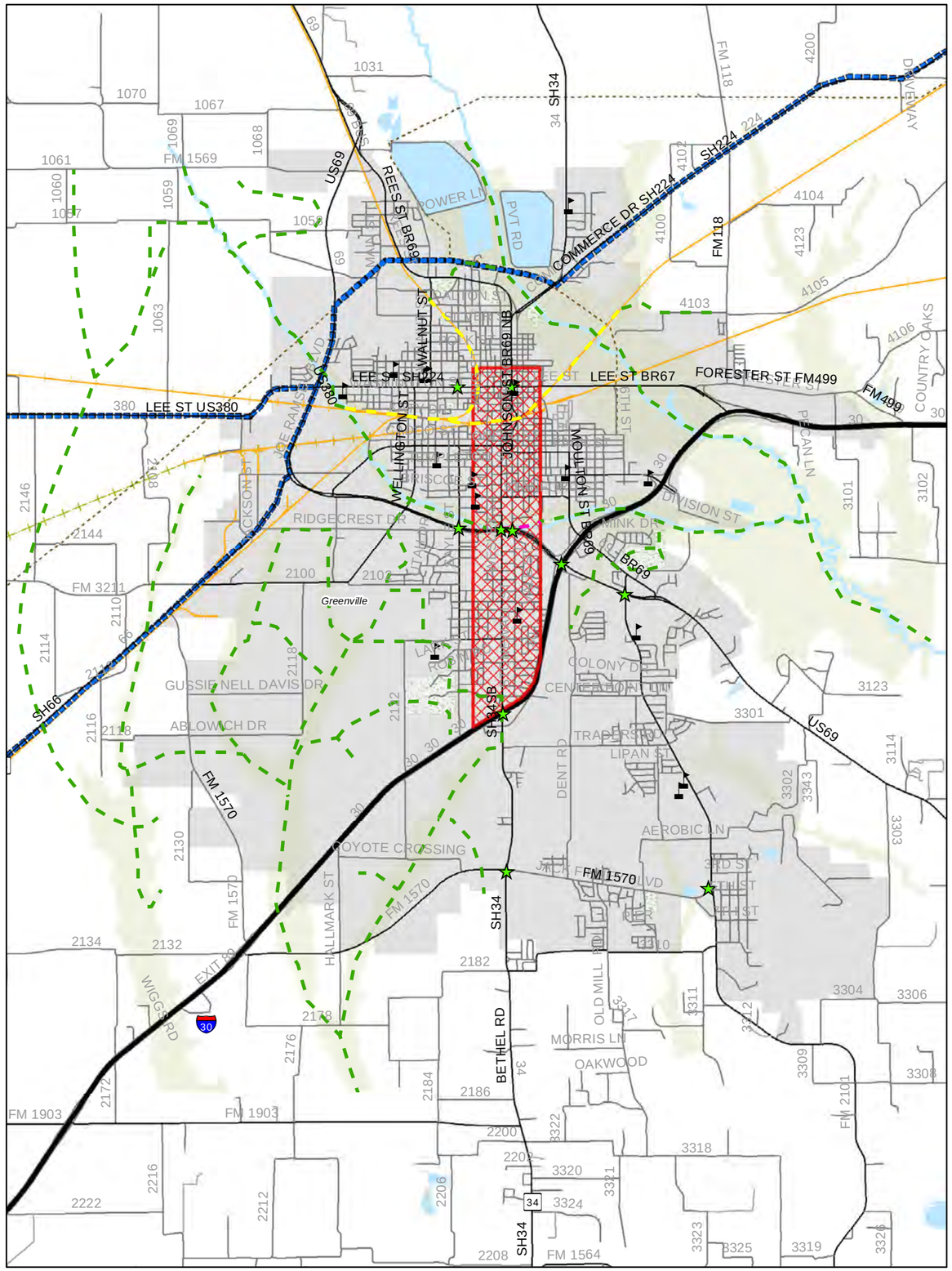
**Regional Veloweb**

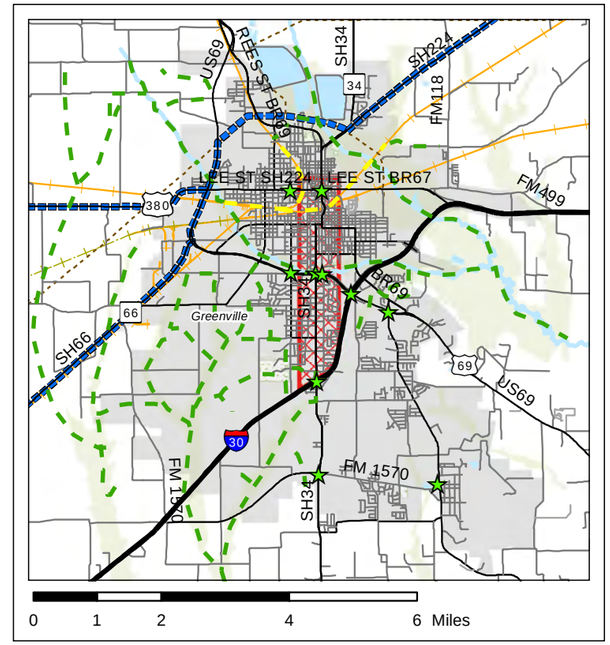
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

North Central Texas Council of Governments
Transportation

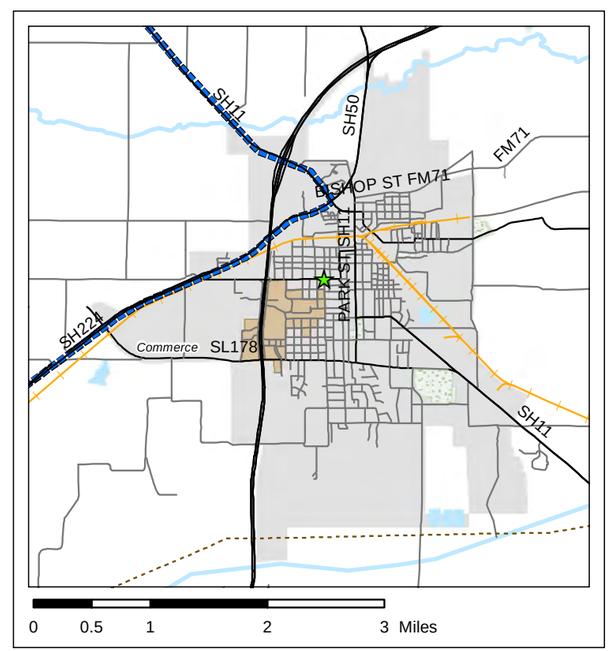
Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.


March 2012




Greenville




Commerce

Exhibit VI-8

## Existing Facilities

As previously discussed, Hunt County currently does not have a countywide bicycle and/or pedestrian plan. The city of Greenville is the only municipality within Hunt County to provide a comprehensive plan that includes plans for bicycle and pedestrian facilities. Plans for bicycle and pedestrian facilities for the city of Greenville are included in the *Park, Recreation and Open Space Master Plan* which is a part of the *Greenville Comprehensive Plan 2025*, last updated in 2008, and the *West Greenville Small Area Plan* adopted in July 2011.

### Sidewalks

There are numerous existing sidewalks within Hunt County. However, the city of Greenville is the only municipality to provide planimetric data which catalogs sidewalks within the study area. Plainmetric data represents only the horizontal position of features on the Earth's surface which show geographic objects, natural and cultural physical features, and entities without topographic features such as roads, buildings, and water bodies that are visible and identifiable on aerial photographs. Planimetric data is generally compiled into map features through photogrammetric or surveying procedures. Therefore, the only existing sidewalk data that will be represented in *Exhibits VI-3, VI-5*, and *VI-7* is for the city of Greenville.

The majority of sidewalks are located near developments, schools, parks, and downtown. The main reason for this is that residential sidewalks are the responsibility of the property owner and are not required by any cities within Hunt County. The city of Greenville is the only city within Hunt County that has a sidewalk ordinance. The ordinance requires new developers to implement sidewalks at a width of four feet as part of the planned development. The city should strongly enforce this ordinance and waivers to sidewalk construction should be discouraged. Local governments within Hunt County are strongly encouraged to adopt sidewalk ordinances as part of the strategic implementation of this plan which would require all developers (commercial and residential) to implement sidewalks as part of planned developments.

The city of Greenville was also recently awarded $1.6 million in Safe Routes to School grant funding which will add roughly 80,000 linear feet of sidewalk within two miles of Crockett, Lamar, Bowie, and Carver Elementary schools.

### Off-street Facilities

There are two existing trails within Hunt County. The Long Branch Trail exists north of Joe Ramsey Boulevard in Long Branch Park in Greenville, Texas; and the Lake Tawakoni State Park Trail exists on the south side of Lake Tawakoni in Lake Tawakoni State Park. Hunt County currently has no existing trails identified as part of the Regional Veloweb.

### On-street Facilities

There are currently no existing dedicated on-street bicycle facilities within Hunt County. Greenville's *Park, Recreation and Open Space Master Plan* does not specifically identify any on-street bicycle facilities. The *West Greenville Small Area Plan* provides applicable cross-sections for the implementation of on-street bicycle facilities, but does not identify specific roadways for implementation.

## Planned Facilities

Greenville's *Park, Recreation and Open Space Master Plan*, the *West Greenville Small Area Plan,* and the NCTCOG Regional Veloweb are the only current plans that identify recommended bicycle and pedestrian facilities within Hunt County. This section discusses the recommendations highlighted in these plans.

### Sidewalks

Neither the *Greenville Comprehensive Plan 2025*, Greenville's *Park, Recreation and Open Space Master Plan*, the *West Greenville Small Area Plan*, nor the NCTCOG Regional Veloweb currently identifies specific sidewalk improvements.

### Off-street Facilities

Greenville's *Park, Recreation and Open Space Master Plan* and the *West Greenville Small Area Plan* include several recommendations for future trail expansion as seen in *Exhibits VI-7* and *VI-8*. These trail alignments mostly lie within the Sabine River floodplain area, with two additional alignments recommended as rails with trails. Rails with trails are trails adjacent to or within an active railroad corridor. These alignments follow the Kansas City Southern Railroad and the Northeast Texas Rural Rail District, both of which are near downtown Greenville. The trail recommendations were based on a priority to link existing and future parks, city lakes, and downtown Greenville.

The NCTCOG Regional Veloweb includes several trail alignments within Hunt County. A major north-south connection in Hunt County identified as part of the Regional Veloweb follows SH 11 from Wolfe City to Commerce. This trail alignment then diverts west in Commerce at the SH 11/SH 224 juncture to follow the SH 224 alignment and connects to the city of Greenville. In Greenville, the trail along the SH 224 alignment reroutes west just north of Sabine Park to follow a utility corridor easement and create a loop around northern Greenville which then intersects Lee Street just west of Carver Ball Field. A 0.4-mile section of this trail alignment is also a recommended trail in Greenville's *Park, Recreation and Open Space Master Plan*. At the Lee Street intersection, the trail splits into two segments. The northern alignment of the trail follows the SH 380 roadway corridor west. Near the city of Floyd, the roadway diverges northward to parallel the Kansas City Southern Railroad corridor. This alignment continues westward to connect Hunt County to Collin County, and the cities of Greenville and Floyd to the city of Farmersville.

The southern alignment of the trail continues south to follow the SH 66 alignment southwest running parallel to the Dallas, Garland and Northeastern Railroad corridor to connect the cities of Greenville and Caddo Mills to Royse City, which is partially contained by Hunt, Collin, and Rockwall counties.

The final Regional Veloweb alignment is in southern Hunt County and connects the cities of West Tawakoni and Quinlan to the city of Rockwall in Rockwall County following the SH 276 roadway alignment. This trail also creates a direct connection to Lake Tawakoni.

### On-street Facilities

Neither Greenville's *Park, Recreation and Open Space Master Plan*, the *West Greenville Small Area Plan*, nor the NCTCOG Regional Veloweb currently identifies specific on-street dedicated bicycle improvements. The *West Greenville Small Area Plan* provides applicable cross sections for the implementation of on-street bicycle facilities and suggests some roadway locations for consideration, but does not identify specific roadways for implementation.

### Identified Areas of Concern

As part of the initial public listening session on April 20, 2010, community members were asked to identify areas of concern within Hunt County. Those that pertained to non-motorized modes of transportation are highlighted in *Exhibits VI-3* through *VI-8*. The majority of the concerns voiced pertained to Greenville, including the intersections of Sayle and Stonewall Streets with Joe Ramsey Boulevard, the intersection of SH 34 with Joe Ramsey Boulevard,

and the intersection of IH 30 with Joe Ramsey Boulevard. Additionally, the intersections of Sayle and Stonewall Streets with Lee Street and the intersections of SH 34, Joe Ramsey Boulevard, and McCullough Boulevard with FM 1570. The only identified area of concern outside of the city of Greenville was the intersection of Live Oak Street and Monroe Street located in Commerce. These identified areas of concern will be addressed in the following section.

## Needs Assessment and Recommendations

Hunt County has excellent opportunities for developing a good bicycle and pedestrian network. Many collectors and arterials, such as Sayle and Stonewall Streets, are overly wide and can be restriped to add on-street bicycle facilities. New paths on separate rights-of-way should be constructed where feasible. Paths adjacent to a roadway differ from sidewalks in that they are wide enough (typically eight foot minimum) to accommodate both bicycle and pedestrian traffic. Short connecting paths, described in the Street Network section of Appendix A serve to provide connectivity for bicyclists and pedestrians. Dedicated on-street bicycle facilities should be provided on most arterial streets, or on a parallel route when not feasible, due to limited right-of-way, heavy, or high-speed traffic, or a number of other factors that make dedicated on-street bicycling facilities unsafe. Dedicated on-street bicycle facilities should also be added on a number of collectors, particularly those that are overly wide and currently invite speeding. Options for dedicated on-street bicycle facilities are discussed in detail in Appendix A.

Hunt County also has vast reserves of undeveloped land that can benefit from a well-planned system of greenways, open space, and multi-use trails. A significant trails network should be developed to form convenient connections between and throughout cities within Hunt County. Trails should be specifically linked to the full system of routes included in the NCTCOG Regional Veloweb. Linkages between neighboring counties and cities are critical as they provide connections to Hunt County and its local governments, ultimately maximizing use of the facilities and granting accessibility.

NCTCOG staff completed a bicycle and pedestrian facility needs assessment to identify specific facility improvements. The needs assessment and the resulting recommendations are discussed in the following sections. All recommended facilities can be viewed in *Exhibits VI-9* through *VI-14*.

These recommendations are provided to assist engineers and designers in the development of bicycle and pedestrian facilities that meet all requirements set forth by Hunt County and its local governments, TxDOT, and federal guidance, as applicable. The recommendations are based on the following nationally adopted planning documents: the *Texas Manual on Uniform Traffic Control Devices* (TMUTCD), Part 9: Traffic Control for Bicycle Facilities, 2006; the *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 Edition; and the American Association of State Highway and Transportation Officials *Guide for the Development of Bicycle Facilities*, 1999.

Guidelines provided in this document, and in Appendix A, are a supplement to the cited manuals. These guidelines are not design standards and should not be used as such. Application of guidance provided in this document requires the use of engineering judgment when retrofitting Hunt County and its local governments' roadways to provide bicycle and pedestrian facilities.

MUTCD, 2009 Edition, is a document issued by the Federal Highway Administration of USDOT to specify the standards by which traffic signs, road surface markings, and signals are designed, installed, and utilized. These specifications include the shapes, colors, fonts, sizes, etc. used in road markings and signs. In the United States, all traffic control devices must generally conform to these standards. The manual is used by state and local agencies, as well as private construction firms to ensure that the traffic control devices they use conform to the national standard. While some state agencies have developed their own sets of standards, including their own MUTCD

# Hunt County

Pedestrian Needs Assessment and Recommendations

**Legend**

- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

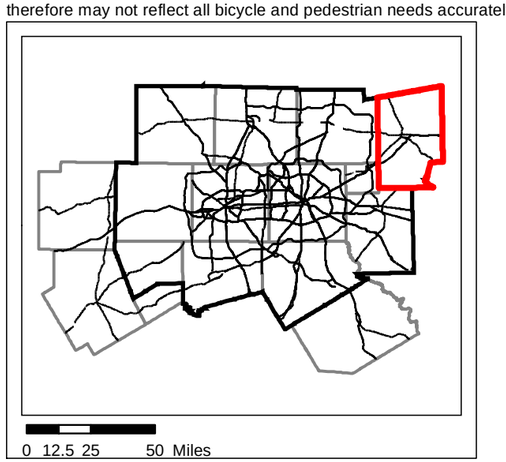
**Regional Veloweb***

- Planned
- Off-street Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- Recommended Half-Mile Sidewalk Improvement Radius
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

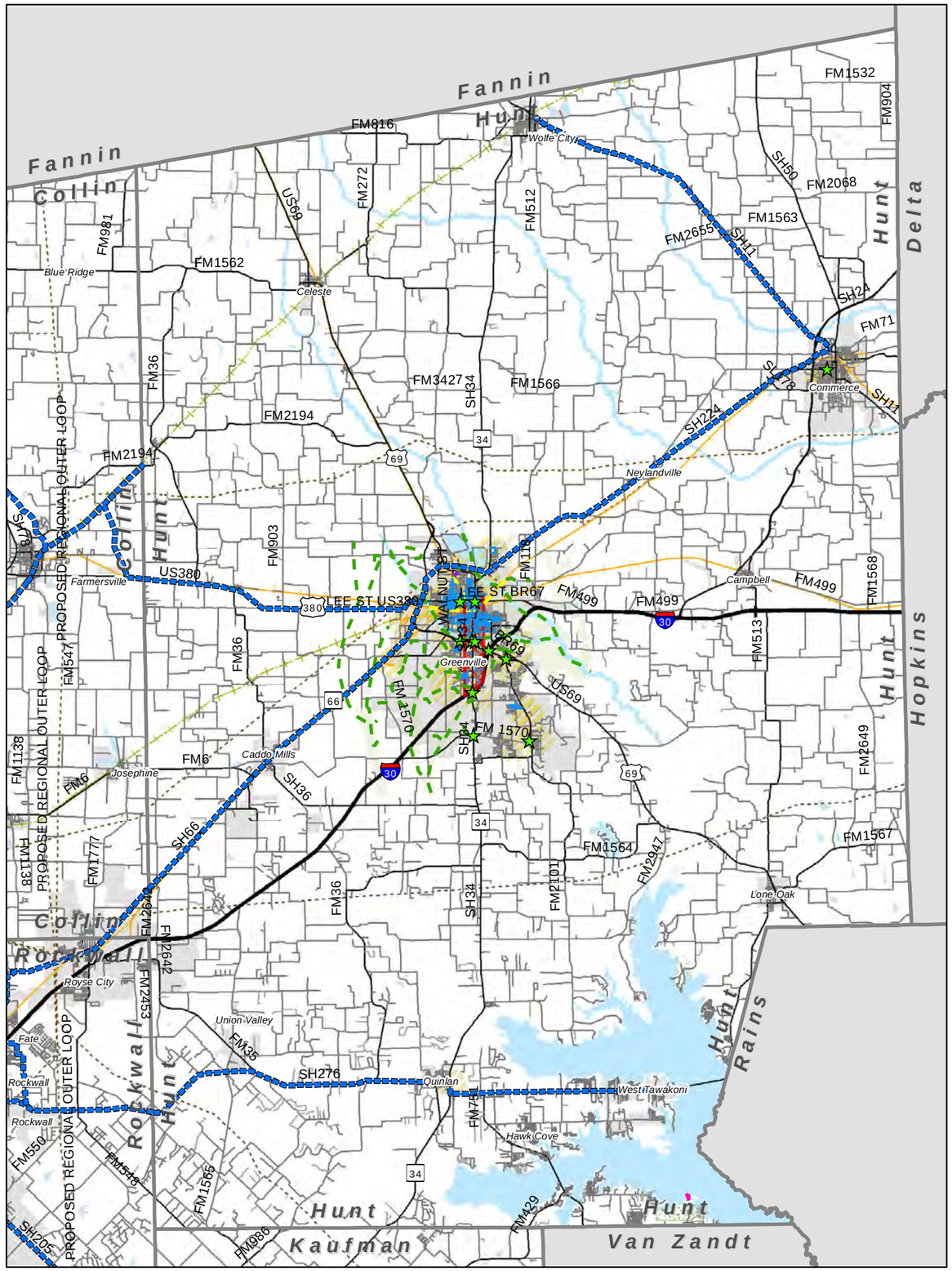
North Central Texas Council of Governments Transportation

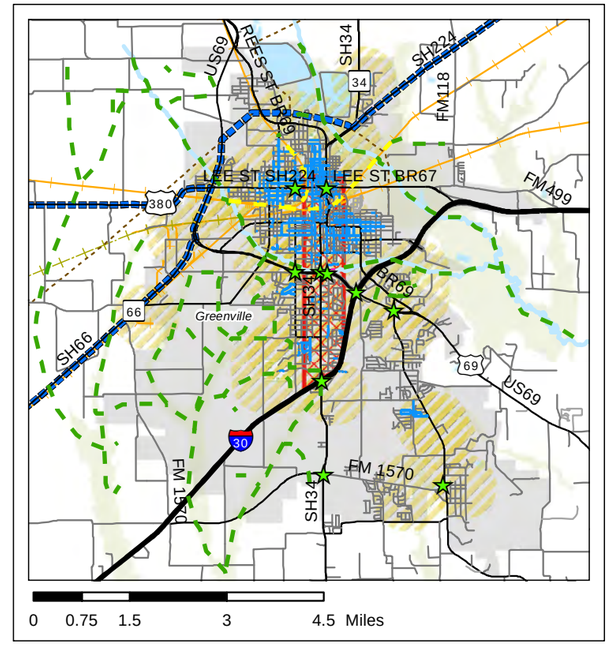
*Not all corridors identfied per the MTP

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

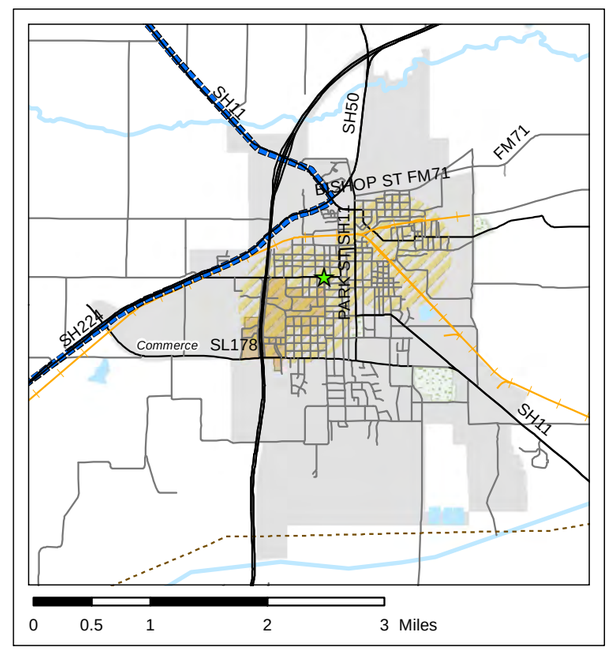



March 2012




Greenville




Commerce

Exhibit VI-9

# Hunt County

Bicycle Needs Assessment and Recommendations

**Legend**

- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

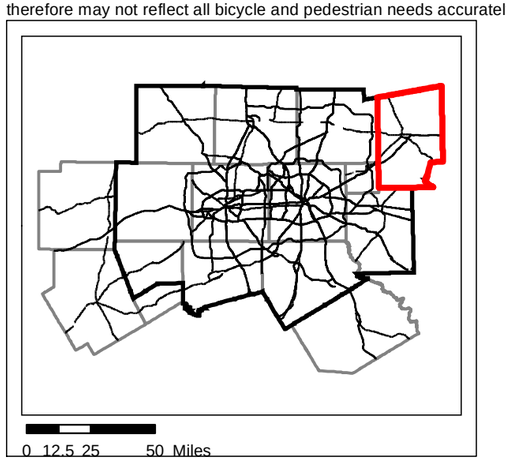
**Regional Veloweb***

- Planned
- Off-street Recommendation
- On-street Bicycle Facility Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

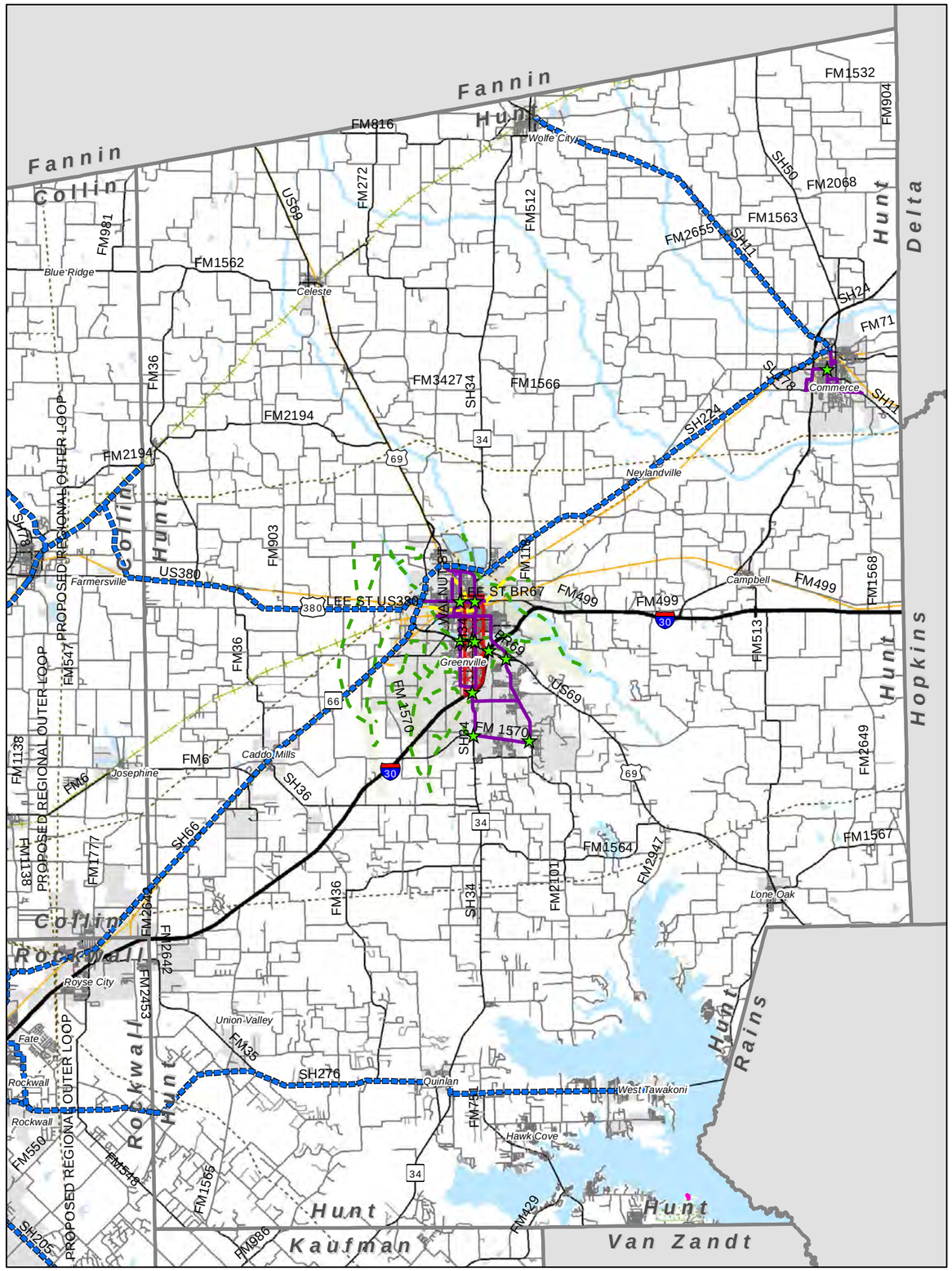
North Central Texas Council of Governments Transportation

*Not all corridors identfied per the MTP

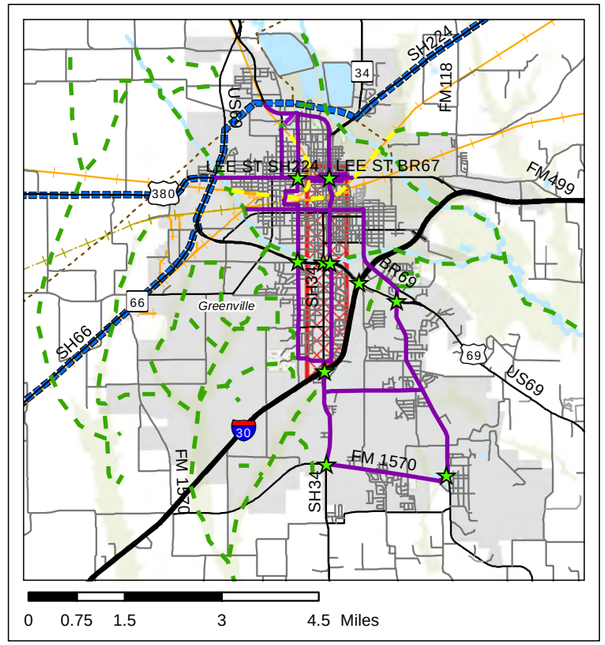
Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.



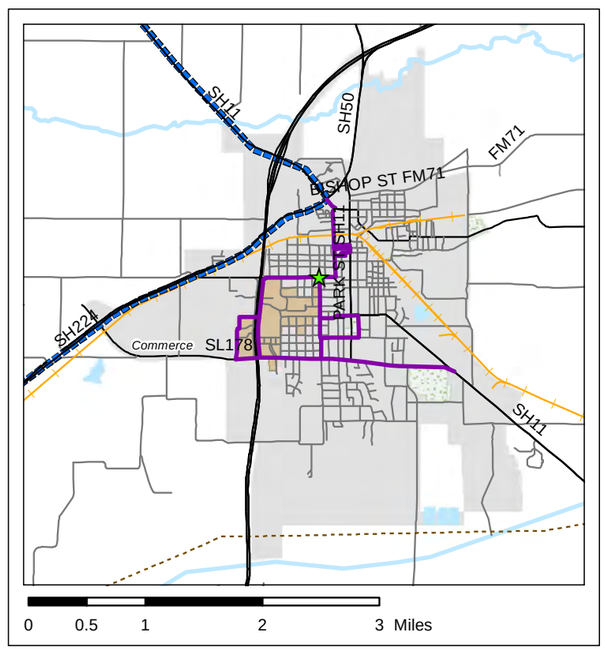

March 2012




0 1.75 3.5 7 10.5 Miles




Greenville




Commerce

Exhibit VI-10

# City of Commerce

Pedestrian Needs Assessment and Recommendations

**Legend**

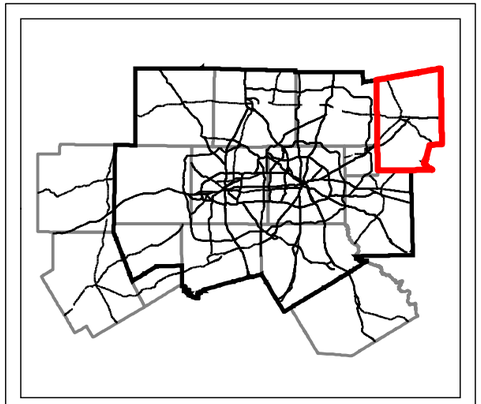
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

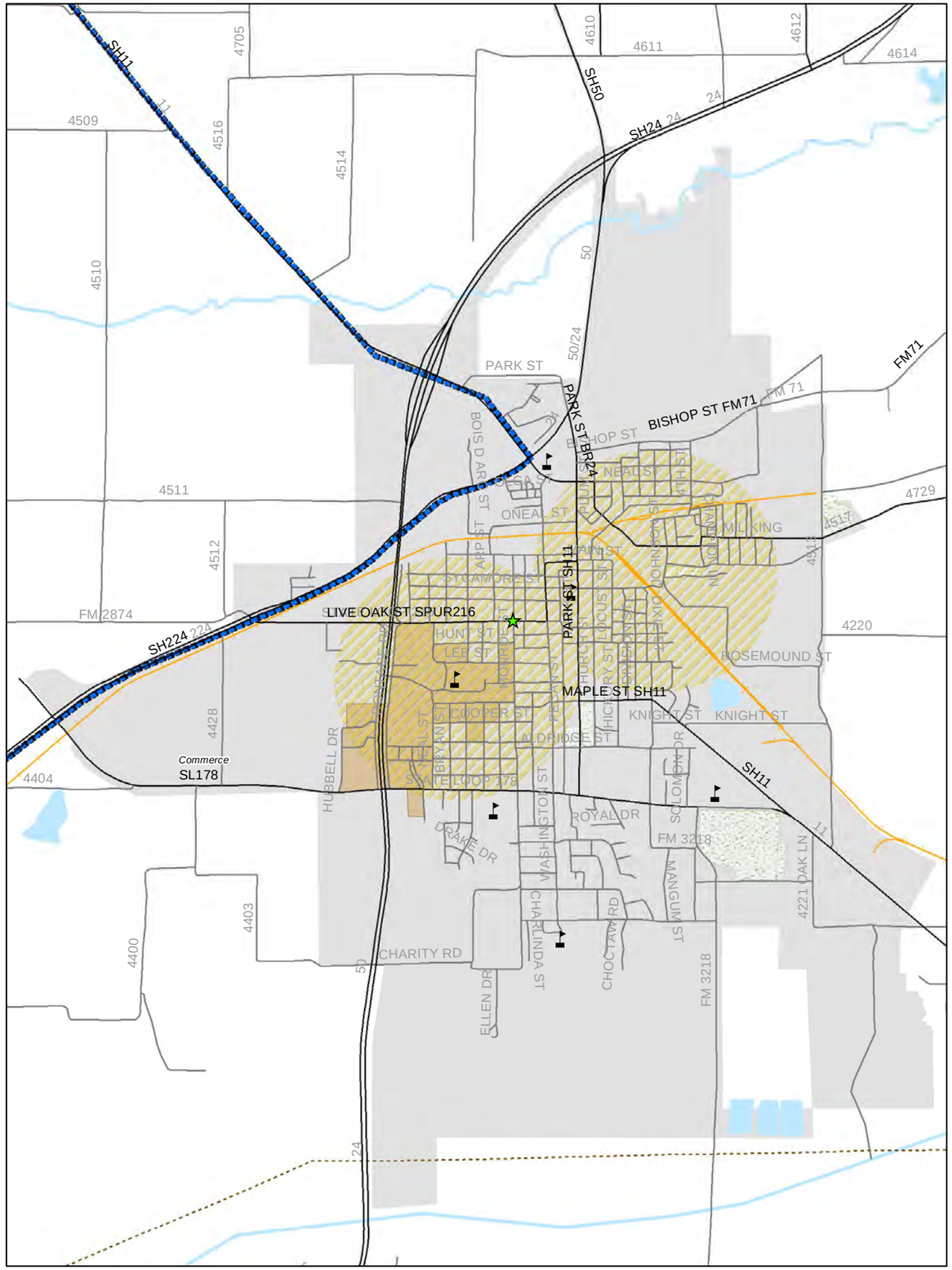
- Planned
- Off-street Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- Recommended Half-Mile Sidewalk Improvement Radius
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

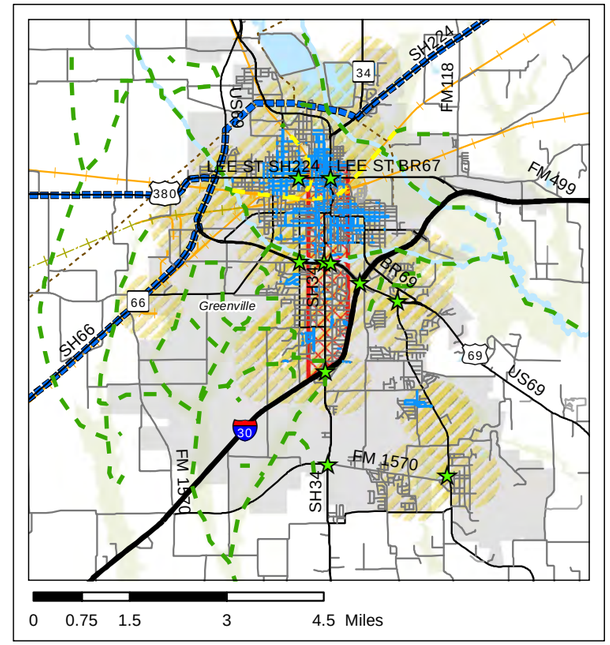
North Central Texas Council of Governments Transportation

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

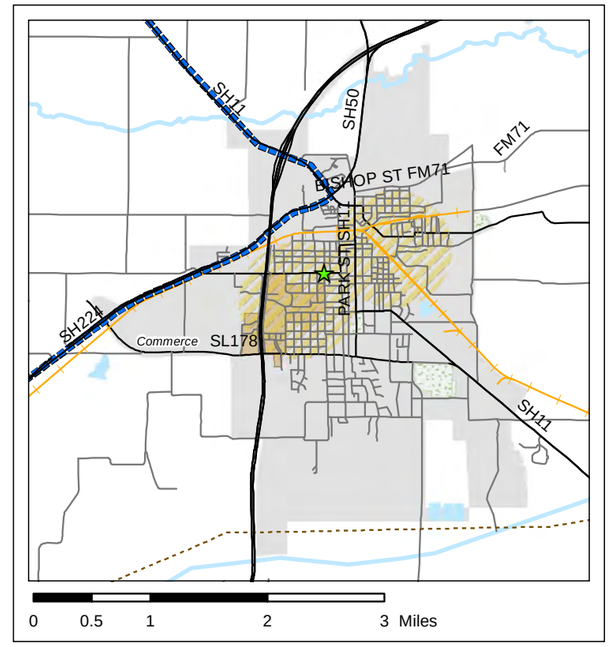



March 2012




Greenville




Commerce

Exhibit VI-11

# City of Commerce

Bicycle Needs Assessment and Recommendations

**Legend**

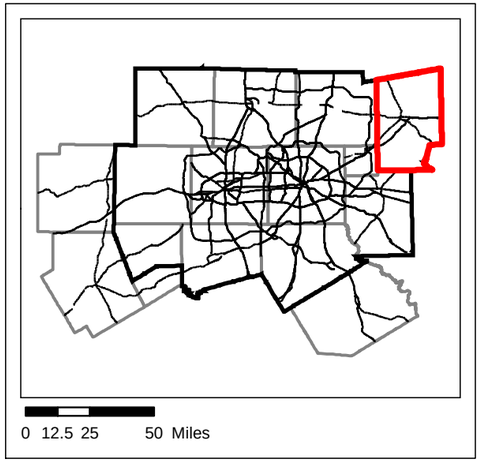
- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

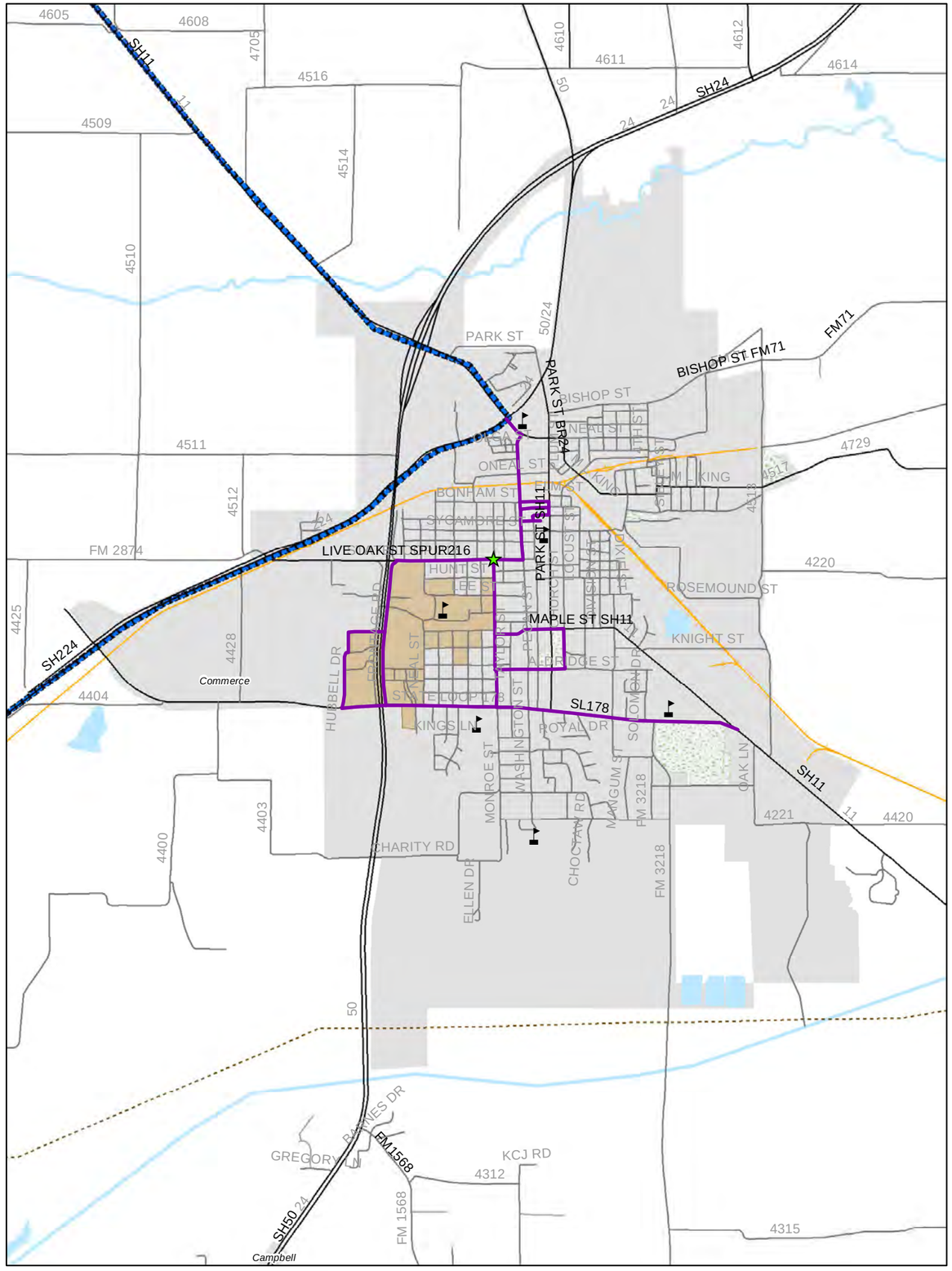
- Planned
- Off-street Recommendation
- On-street Bicycle Facility Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

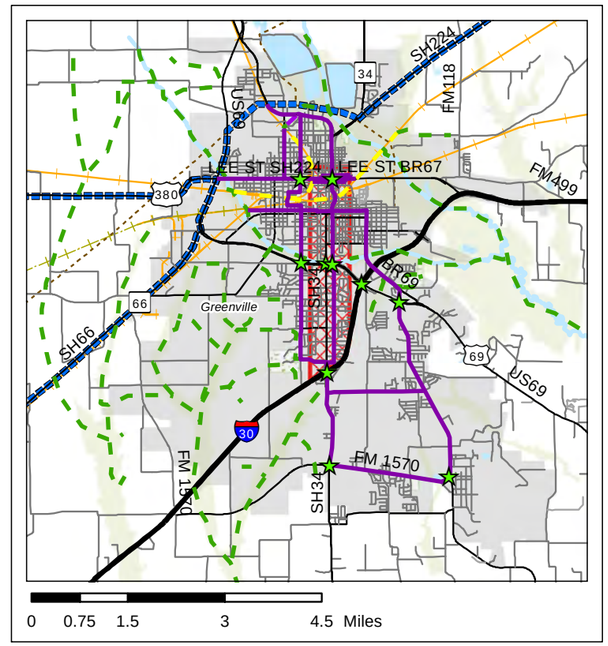
North Central Texas Council of Governments Transportation

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

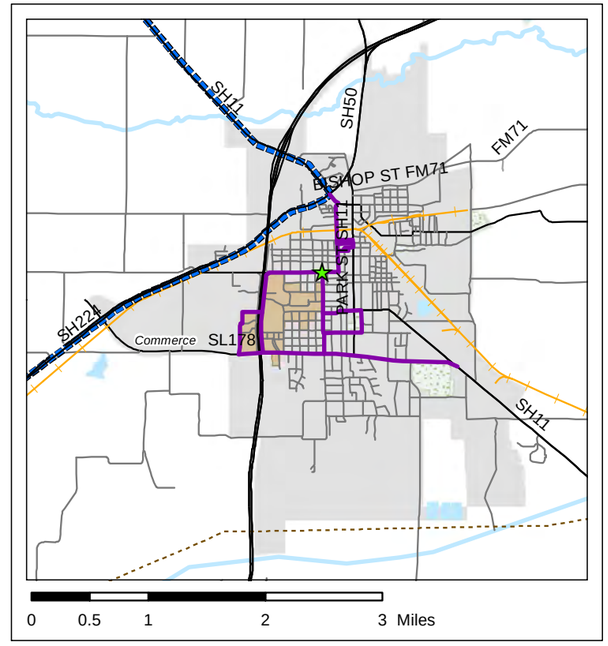



March 2012




Greenville




Commerce

Exhibit VI-12

# City of Greenville

Pedestrian Needs Assessment and Recommendations

**Legend**

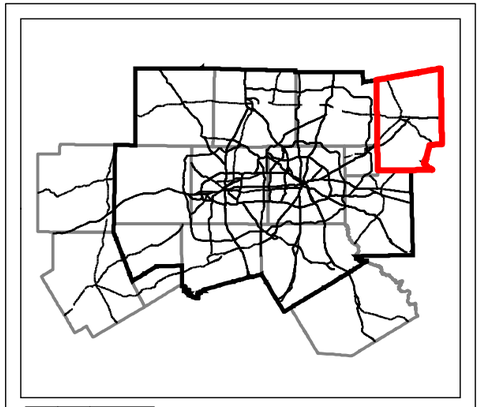
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

- Planned
- Off-street Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- Recommended Half-Mile Sidewalk Improvement Radius
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

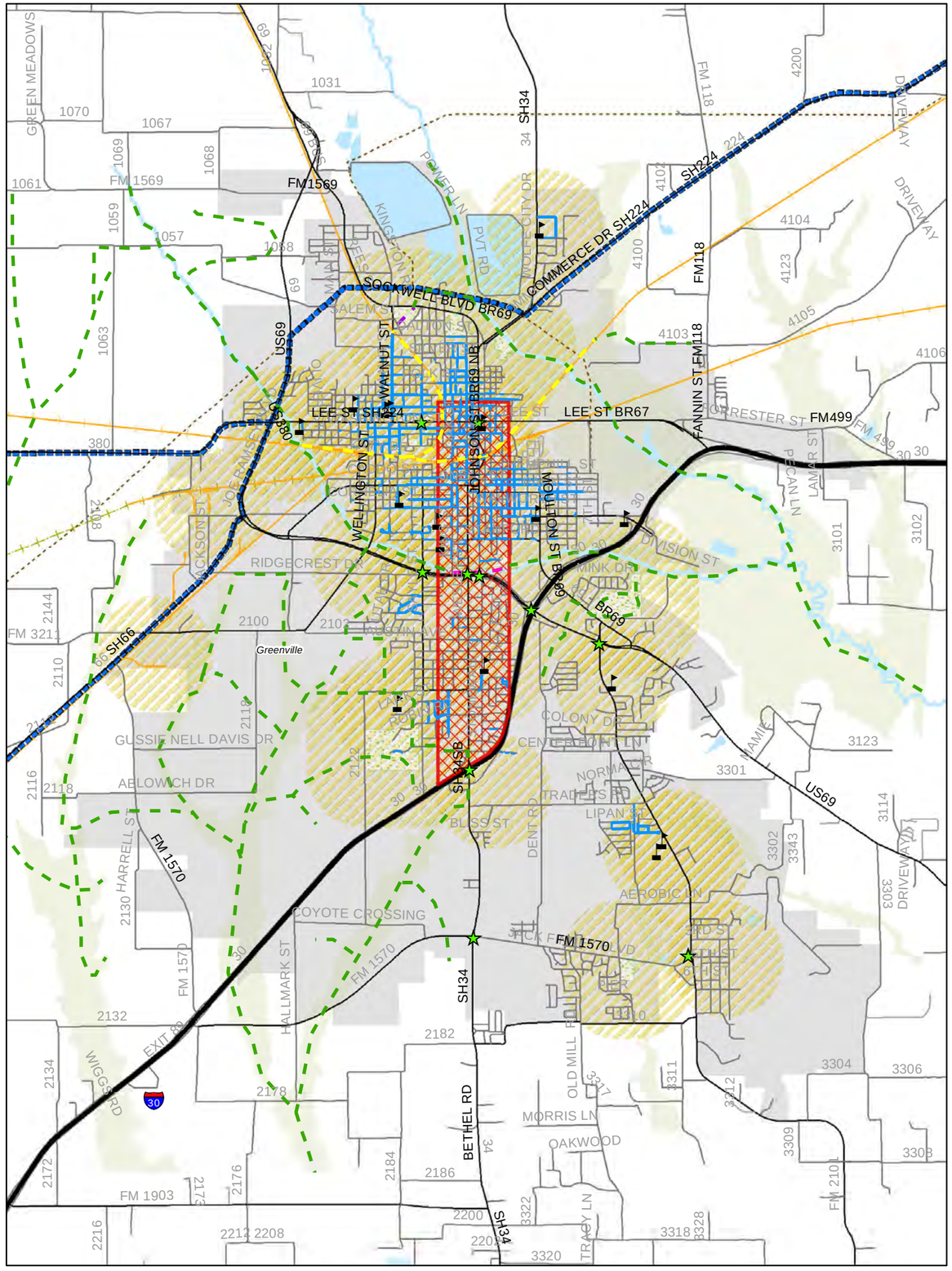
North Central Texas Council of Governments
Transportation

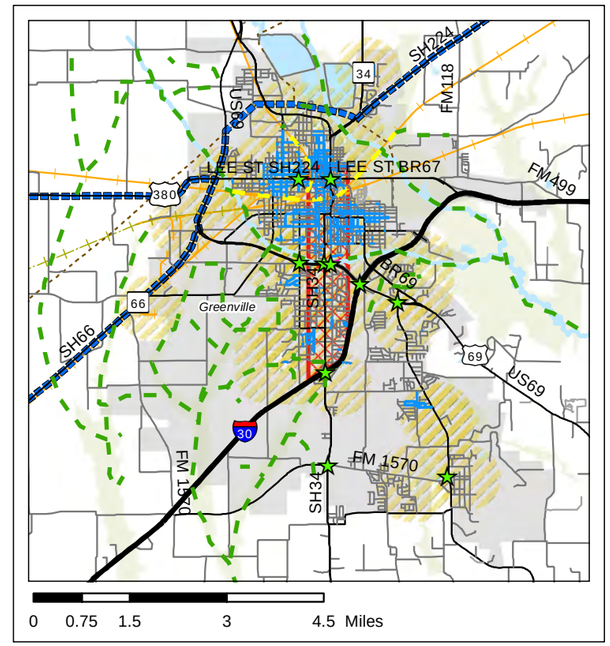
Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.



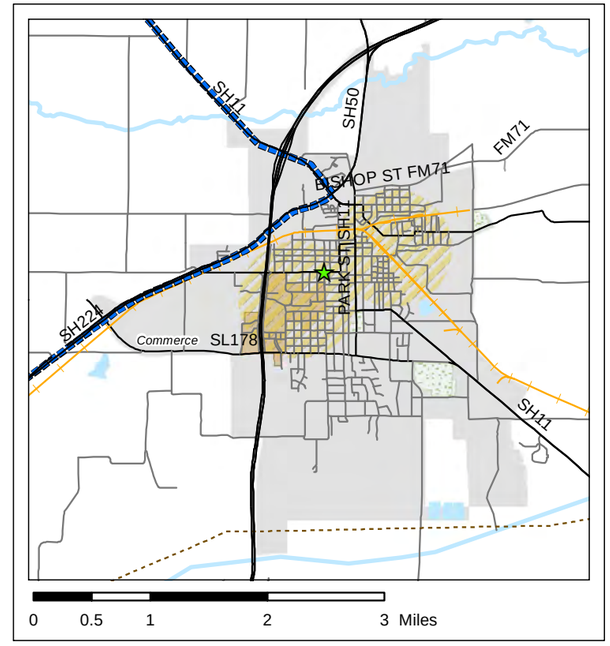
0 12.5 25 50 Miles

March 2012




Greenville




Commerce

Exhibit VI-13

# City of Greenville

Bicycle Needs Assessment and Recommendations

**Legend**

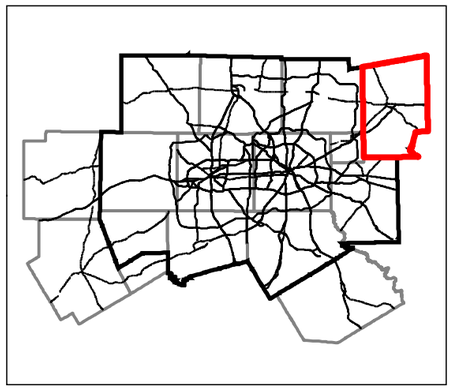
- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

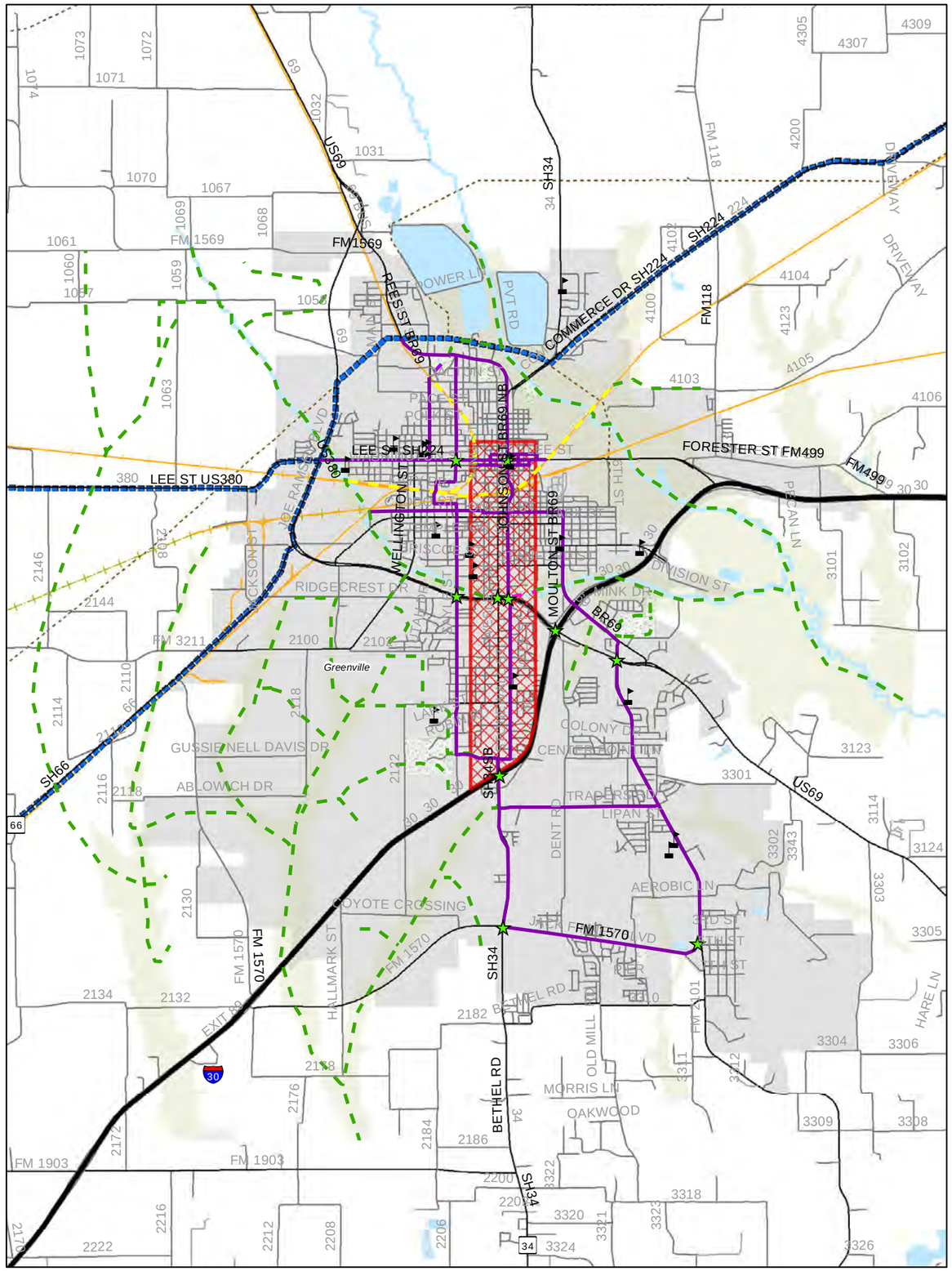
- Planned
- Off-street Recommendation
- On-street Bicycle Facility Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

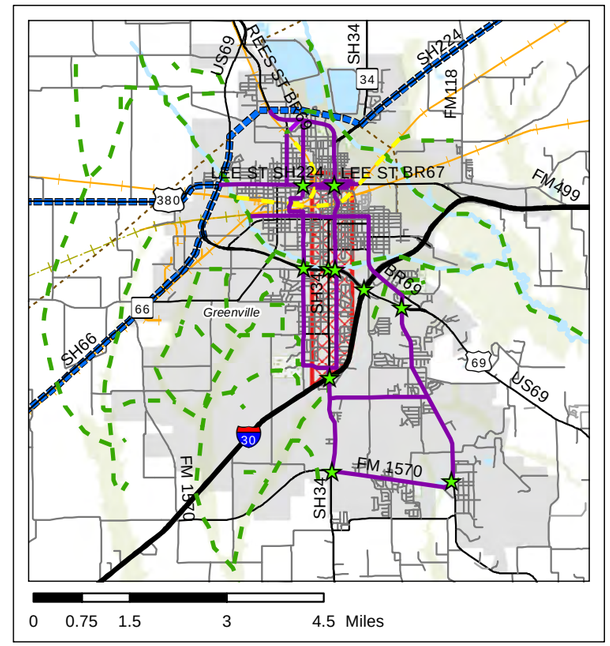
North Central Texas Council of Governments Transportation

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

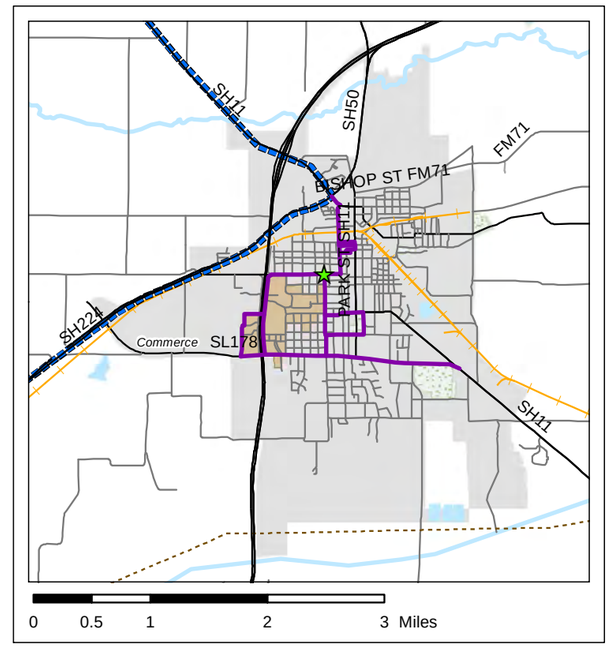



March 2012




Greenville




Commerce

Exhibit VI-14

(including TxDOT), these must substantially conform to the federal MUTCD, and must be approved by FHWA. The National Committee on Uniform Traffic Control Devices advises FHWA on additions, revisions, and changes to MUTCD.

The American Association of State Highway and Transportation Officials (AASHTO) is a nonprofit, nonpartisan association representing state highway and transportation departments. It publishes a variety of planning and design guides, including the AASHTO *Guide for the Development of Bicycle Facilities,* 1999. This guide provides planning and design guidance for on- and off-street bicycle facilities. It is not intended to set absolute standards, but rather to present sound guidelines that will be valuable in attaining good design sensitive to the needs of both bicyclists and other roadway users. The provisions in the guide are consistent with, and similar to, normal roadway engineering practices. Signs, signals, and pavement markings for bicycle facilities should be used in conjunction with TMUTCD.

TMUTCD, Part 9: Traffic Control for Bicycle Facilities, 2006 is based on the national MUTCD. Part 9 provides guidance on bicycle facilities and is based, in part, on the AASHTO *Guide for the Development of Bicycle Facilities*, 1999. TMUTCD has not been updated to reflect changes in the MUTCD 2009 Edition. TxDOT has two years to update TMUTCD when a new version of MUTCD is published (likely in late 2011 or early 2012 in this instance), or they must adopt the national MUTCD and follow standards set forth in that document.

Additionally, Hunt County and its local governments should coordinate with TxDOT before implementing any of the recommended infrastructure improvements to roadways that are on-system or maintained by TxDOT, as the approval of TxDOT is required for any modifications. SH 34 (Wesley Street in Greenville) is one such roadway and while TxDOT has approved reductions in capacity in various cities within North Central Texas in recent years, a special analysis by TxDOT is required to approve requests to modifications to any on-system roadway or when utilizing federal funds for a roadway project. TxDOT has a formal process that a jurisdiction should follow to apply for modifications to an on-system roadway or to a roadway that is being modified using federal funds, which is as follows.

A request by the appropriate jurisdiction (county or city) will need to be submitted to the TxDOT Paris District that includes explicit design plans for the entire corridor, including an assessment on the effects of reducing capacity and access management. The TxDOT Paris District will then review the plans and submit them to the District Traffic Operations Division for review of the capacity analysis. Upon approval from TxDOT, authorization will be granted to the submitting jurisdiction approving the infrastructure improvements or modifications.

## Sidewalks

As previously mentioned, neither Greenville's *Park, Recreation and Open Space Master Plan*, the *West Greenville Small Area Plan,* nor the NCTCOG Regional Veloweb currently identify specific sidewalk improvements. A complete sidewalk inventory for communities not included in Greenville planimetric data, as well as plans for future facility implementation for all communities within Hunt County, should be collected and the data geocoded for use in GIS.

Additionally, priority improvements should be given to facility improvements within a half-mile of schools, including higher education institutions Paris Junior College in Greenville and Texas A&M University in Commerce, major employment centers, and parks. The half-mile sidewalk improvement zone can be seen in *Exhibits VI-9*, *VI-11*, and *VI-13*. Improvements near other major destinations, such as community centers, entertainment or shopping districts, and mixed-use developments, should also be considered top priorities for facility implementation. Improvements should focus on retrofitting existing sidewalks to comply with the Americans with Disabilities Act of 1990 (Public Law 101-336), Title II, Subpart A, standards and spot improvements to fill in gaps

between existing sidewalks. Additionally, the county and its local governments should develop a sidewalk maintenance program to ensure facilities are safe and operational for all users including individuals with mobility impairments. A second tier of sidewalk improvements should be developed for all facilities that fall outside the half-mile radius.

To encourage pedestrian activity along sidewalks, the following areas should be addressed as needed: creating buffers between the roadway and the sidewalk via landscape or on-street parking or dedicated bicycle facilities; adding bicycle and pedestrian amenities such as benches, shading, way-finding signage, bicycle racks, banners, etc.; improving pedestrian facilities such as crosswalks, curb bulb outs, mid-block crossings, and pedestrian signal heads. Guidelines for implementation of these facilities can be found in Appendix A.

Local governments (other than Greenville which has one in place) should consider passing a city ordinance that requires developers to build sidewalks at a minimum width of five feet as part of commercial and residential developments.

Sidewalk construction should be considered a routine part of all roadway construction and reconstruction projects with funding for the sidewalk coming from the roadway funds or the adjacent landowner. Greenville is the only city within Hunt County that has a sidewalk ordinance. The ordinance requires new developers to implement sidewalks at a width of four feet as part of the planned development.

The city of Greenville should strongly enforce the sidewalk ordinance that requires new developers to implement sidewalks at a width of four feet as part of planned developments and waivers to sidewalk construction should be discouraged. Additionally, a minimum width for sidewalk construction should be set at five feet, and possibly more, if incentives like Tax Increment Finance and other such funding programs are used to enhance a development.

In downtowns and high pedestrian traffic areas (e.g., Texas A&M University-Commerce campus), American with Disabilities-compliant crosswalks, curb ramps, pedestrian countdown signals, and other pedestrian amenities should be installed to improve safety and accessibility. Implementation guidance can be found in MUTCD, the Americans with Disabilities Act Accessibility Guidelines, and Appendix A.

### Off-street Facilities

Hunt County and its local governments were readily involved in the development of the NCTCOG Regional Veloweb. The alignments as presented in *Exhibit VI-3* were approved by Hunt County and local government staff before its inclusion in Mobility 2035, and should, therefore, be the basis for any off-street facilities for the county. Planning and development of these trail corridors should be a primary focus for the county, and long-term right-of-way access should be preserved. For specific trail design guidance, please reference Appendix A. Trail intersections with roadways should be designed to ensure safety for both trail users and motor vehicles.

Long-term right-of-way for trail recommendations in Greenville's *Park, Recreation and Open Space Master Plan* and the *West Greenville Small Area Plan* should be preserved and trail facilities should be developed as funds become available. For bicycle and pedestrian funding sources, please reference Appendix B. Additionally, as part of the platting process for single family residential or other development types, a portion of land could be required as a set aside through an easement to the city for the development of greenways or trails. Alternatively, the city could implement an ordinance that requires developments over a set amount of acreage to include a shared-use path or trail. This could be property that is predominantly in the floodplain or in protected areas as identified in

the *Park Master Plan*, the *City Comprehensive Plan*, or any future documents that identify bicycle and pedestrian facilities.

In the city of Greenville, a trail connection through Graham Park should be implemented to connect the northern trail extension in the city. Additionally, the Long Branch Trail should be retrofitted to allow for safe and convenient travel for all users, including resurfacing, widening, and roadway-trail intersection improvements with Sayle Street, SH 34, and Stonewall Street to include crosswalks, flashing lights, signage, etc. as needed.

On-street Facilities

Prior to implementation of any on-street bicycle facilities recommended as part of this plan, a more detailed analysis is needed in order to determine feasibility. This analysis should include current right-of-way, motor vehicle speeds with particular attention paid to the 85$^{th}$ percentile speed (the speed at which 85 percent of the traffic is traveling), and traffic counts. Additionally, further outreach to community members and stakeholders should be conducted to identify community needs and wants prior to final determinations.

Hunt County currently has no plans for dedicated on-street bicycle facilities. Staff should develop an on-street bicycle plan, either as a part of a bicycle and pedestrian master plan, or through other comprehensive planning efforts. NCTCOG is currently in the process of creating a "Regional Bicycle and Pedestrian Design Guidelines" document that will be available for distribution in 2012 that could serve as a base template for a countywide bicycle and pedestrian plan. Additionally, as roadway construction and reconstruction projects are initiated, Hunt County should coordinate with its local governments, TxDOT, and NCTCOG as applicable to ensure compliance with federal directives to include bicycle and pedestrian facilities as part of all roadway projects, including locally funded projects. Not all roadways will require the same treatment. Further direction on the various types of dedicated on-street bicycle facilities and design guidelines are included in Appendix A.

Since Hunt County has an abundance of rural roads, providing adequate shoulders on these roadways wherever feasible is strongly encouraged in order to decrease the potential for conflict between motorized vehicles and non-motorized vehicles, farm equipment, pedestrians, and bicyclists. Additionally, congestion will be increased on the primary roads serving rural centers if every trip must be accomplished by a motorized vehicle using the main road.

### *City of Commerce*

Within Commerce, dedicated on-street bicycle facilities are recommended on and around the Texas A&M University-Commerce campus, specifically on Live Oak, Monroe, and Culver Streets, on the east frontage road of SH 24; and on Hubbell and Smith Drives. Dedicated on-street facilities on these roadways can create accessibility to the University which is already equipped with bicycle and pedestrian friendly roadways and end-of-trip facilities such as bicycle racks, showers, changing facilities, etc. within the campus area. The dedicated on-street bicycle facility recommended for Culver Street continues to the intersection of SH 11 to create connectivity to Commerce High School and Commerce Elementary School as shown in *Exhibit VI-12*.

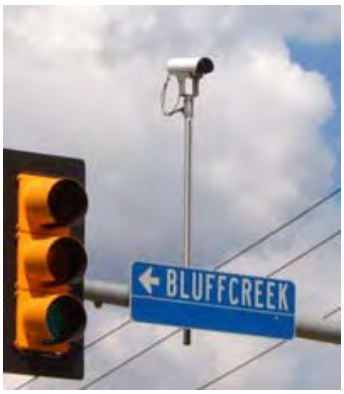
Additionally, dedicated on-street bicycle facilities are recommended for Washington Street from Live Oak Street to Neal Street, which creates connectivity from the Texas A&M University-Commerce campus to downtown Commerce. This on-street bicycle facility is recommended to turn west at Neal Street to create a connection to the SH 24/SH 224 Regional Veloweb alignment.

In downtown Commerce, dedicated on-street bicycle facilities are recommended for Bonham Alley, State Loop 216, Caddo Alley, and Alamo Street to create a safe, interconnected system that allows access to the many

destinations there. Dedicated on-street bicycle facilities are also recommended on Maple, Church, and Aldridge Streets to create accessibility to the Commerce City Park and pool facilities.

Intersection improvements at Live Oak Street and Monroe Street should also be updated to include adjusting traffic signals to sense bicyclists, installing countdown pedestrian signals, updating/installing crosswalks, extending the length of traffic signals to allow for slower moving pedestrians and bicyclists time to clear the intersection, and increased signage. Signal adjustments are inexpensive and easy to implement. For traffic signals operating under a video image vehicle detection system, as seen in the image to the right, the system console should be used to update detection zones to sense a bicyclist and trigger the signal. For loop detector signals, a bicycle detector pavement marking should be installed (see page 14 of Appendix B for more details).

*Video Image Vehicle Detection System*




Source: Texas Highways

### *City of Greenville*

Dedicated on-street bicycle facilities are recommended on a number of roadways within Greenville due to the size of the city, the need for multimodal transportation options as the city continues to purse rail opportunities, and due to requests by numerous community members. The recommended on-street bicycle facilities, as shown in *Exhibit VI-14*, complement the planned off-street facilities and attempt to create a truly interconnected system.

The major north-south dedicated on-street bicycle facilities are recommended for Sayle and Stonewall Streets which terminate at Sockwell Boulevard in the north and Kari Lane in the south. The on-street facility is recommended to follow Sockwell Boulevard northwest to connect to the planned Regional Veloweb. At Kari Lane, both facilities converge to create a southern connection across the SH 34 bridge over IH 30 and continue south to FM 1570. Additionally, just north of Caddo Street, Sayle Street terminates at Spencer Street. The facility is recommended to go west on Spencer Street, south on Texas Street, east on Marshall Street, and then continue south at Sayle Street. This deviation is caused by the Kansas City Southern and Union Pacific Railroads which currently have trails planned in the corridor. This on-street facility would create a direct connection to the planned off-street trails.

Walnut Street is another north-south connection in northern Greenville and creates a direct connection to the off-street trail planned to link Graham Park to the Regional Veloweb and to the on-street bicycle facility recommended for Lee Street. The facility on Lee Street is recommended to span the entire length of the roadway and connect to the planned Regional Veloweb in the west and the planned city of Greenville rails-with-trails following the Union Pacific Railroad.

Additional on-street bicycle facilities recommended for the downtown Greenville area are on Jordan, Oak, Stuart, Bois D'Arc, and Washington Streets. This will create connectivity throughout the historic downtown area and offer accessibility to shopping, restaurants, and other major destinations downtown has to offer.

A major east-west roadway recommended for dedicated on-street bicycle facilities is Caddo Street which terminates at King Street, then continues east on Jones Street until it terminates at Moulton Street. This creates an east-west crossover for Sayle and Stonewall Streets and also connects to the planned off-street Long Branch Trail extension.

Moulton Street creates a direct connection to FM 1570. FM 1570 was identified as an existing route for bicyclists as it connects to the L-3 Communications Center, Majors Field, the Business Airpark, and significant residential

development. This roadway also includes three schools and is an ideal candidate for traffic calming to increase bicycle and pedestrian safety and accessibility, including slowing speeds and adding on-street bicycle facilities and sidewalks. In the north, the recommended on-street facility for FM 1570 connects to the Wright Golf Course and planned off-street facility. In the south, the facility includes a direct connection to the L-3 Communications Center and terminates at the intersection with Wesley Street. An alternate connection recommended for on-street bicycle facilities between FM 1570 and Wesley Street is Traders Road.

Additional improvements for on-street facilities include intersection improvements at Sayle and Stonewall Streets with Joe Ramsey Boulevard, the intersection of IH 30 with Joe Ramsey Boulevard, the intersections of Sayle and Stonewall Streets with Lee Street and the intersections of Joe Ramsey Boulevard, and McCullough Boulevard with FM 1570 near the entrance of Majors Field. Intersection improvements should include adjusting traffic signals to sense bicyclists, installing countdown pedestrian signals, updating/installing crosswalks, extending the length of traffic signals to allow for slower moving pedestrians and bicyclists time to clear the intersection, and increased signage. Additional guidance on adjusting traffic signals is provided on page 16 of Appendix B.

Local staff should develop a more detailed on-street bicycle plan, either through an update to Greenville's *Park, Recreation and Open Space Master Plan* or through other comprehensive planning efforts. The plan should more closely analyze the recommendations of this plan, and should include more comprehensive data collection efforts such as existing right-of-way, traffic speeds, traffic counts, safety data, etc. NCTCOG is currently in the process of creating a "Regional Bicycle and Pedestrian Design Guideline and Best Practices" document that will be available for distribution in early 2012 that could serve as a base template for a countywide bicycle and pedestrian plan.

## IMPLEMENTATION MEASURES

In addition to the previous recommendations and based on the vision statement approved by the Hunt County Transportation Committee and the opportunities presented in the strategic planning process, the following implementation measures were developed. Performance measure criteria were also developed for each implementation measure in order to better assess their attainment. Data should be collected for all performance measures prior to any bicycle and pedestrian infrastructure improvements to establish a baseline. Baseline data will enable the county and city to determine the success of a performance measure as it can be compared to data collected in the future. In general, data collection efforts should occur on an annual basis. The strategies developed are consistent with federal guidance and with strategies being implemented throughout the region that are applicable to Hunt County.

***Implementation Measure 1: Provide a countywide system of safe, convenient, and accessible bicycling and pedestrian facilities for use through the coordinated efforts of governmental agencies, the private sector, and the general public.***

**Objective 1**: Develop a connected system of bicycle and pedestrian facilities that can serve major origin and destination points, linking such important land uses as residential and commercial zones, educational and employment areas, health care and service centers, natural, cultural, and recreational resources.

**Objective 2:** Ensure, to the maximum extent possible, that bicycle and pedestrian facilities are integrated and connected to other existing or planned modes of transportation in order to reduce dependence on the private automobile, reduce traffic, and improve air quality.

**Objective 3**: Ensure that the bicycle and pedestrian system complements the existing transportation network to maximize and preserve the existing system and take advantage of public rights-of-way and corridors such as utility lines, future rail lines, linear waterways, etc. for bicycle and pedestrian facilities in order to minimize public costs.

**Objective 4**: Ensure that the system addresses the safety and needs of different types of users, from experienced cyclists on arterial roadways, to school-bound children walking and riding bicycles adjacent to local roads.

**Objective 5:** Establish a maintenance program and maintenance standards that ensure safe and usable bicycle and pedestrian facilities.

**Objective 6:** Provide amenities and end-of-trip facilities such as bicycle parking and storage, lighting, landscaping, signing, pavement marking, and signalization to enhance the value and increase the utility and safety of the bicycle and pedestrian system.

**Objective 7**: Support and encourage regular and continuing bicycle and pedestrian training and safety programs in conjunction with local institutions, organizations, and bicycle and pedestrian interest groups.

**Objective 8**: Develop a bicycle and pedestrian system that meets the highest achievable design and safety standards, including American with Disabilities Act standards.

Performance Measures

1. Miles of shared-use facilities, on-road bicycle facilities, and sidewalks.
2. Percent of employment within a five-mile distance from on-road bicycle facilities and shared-use facilities.
3. Percent of households within a two-mile walking distance on a sidewalk to schools, parks, and community facilities.

***Implementation Measure 2: Amend the development process guidelines to encourage and promote the construction of bicycle and pedestrian facilities.***

**Objective 1:** Require sidewalks along identified high priority pedestrian corridors adjacent to proposed developments.

**Objective 2:** Encourage developments to build sidewalks on interior subdivision streets.

**Objective 3:** Require proposed developments within a one-forth mile distance of major origin/destination land uses to provide sidewalk connectivity.

**Objective 4:** Encourage pedestrian connections (via paths, sidewalks) linking adjacent compatible land uses and developments.

**Objective 5:** Establish and encourage the construction of typical design sections for bicycle and pedestrian facilities within different road classifications.

**Objective 6**: Include bicycle and pedestrian planning considerations in all transportation improvements (resurfacing, paving, new construction, intersection improvements, reconstruction, and maintenance).

**Objective 7:** Coordinate bicycle and pedestrian planning efforts with countywide recreational and health planning considerations.

Performance Measures

1. Number of new developments with sidewalks.
2. Number of developments that construct sidewalks that connect to existing public facilities or activity centers within one-forth mile of the development.

***Implementation Measure 3: Provide adequate funding and staffing resources for planning, developing, and maintaining high quality bicycle and pedestrian systems.***

**Objective 1:** Actively pursue all eligible federal and state funds for bicycle and pedestrian planning and development.

**Objective 2:** Coordinate the development of bicycle and pedestrian projects to maximize use of opportunities for joint development using other public or private resources.

**Objective 3:** Establish a bicycle and pedestrian fund for developer contributions in lieu of construction of such facilities, if such construction is not deemed timely by Hunt County. Allow private donations to the bicycle and pedestrian fund for construction of these facilities.

**Objective 4:** Include bicycle and pedestrian projects in future local sales tax set-asides or bond programs.

**Objective 5**: Explore establishing a staff position to act as a technical resource for zoning, land use, and roadway design changes to promote bicycle and pedestrian friendly development, as well as for grant writing.

Performance Measures

1. Number of staff dedicated to bicycle and pedestrian facility development and coordination issues.
2. Amount of federal dollars received for bicycle and pedestrian project implementation.
3. Amount of county local match dollars applied to bicycle and pedestrian project implementation.
4. Miles of constructed bicycle and pedestrian facilities.

## SUMMARY

Appropriately addressing the complex and changing transportation needs of Hunt County's residents, visitors, and businesses, and making the best possible use of limited funding requires thorough analysis and planning over a long-term horizon. For a detailed list of federal, state, and local funding options for bicycle and pedestrian planning and facility implementation, please consult Appendix B. A grid network of streets, alleys, service roads, sidewalks, and paths should be established that provide safe, convenient transportation options. In addition to creating more options for motorized vehicles, connected street systems increase mobility for bicycles, other non-motorized vehicles, and pedestrians.

Hunt County should establish the intent to develop a complete transportation network (serving motorized and non-motorized vehicles, bicycles, pedestrians, and transit). Additionally, Hunt County should begin planning for future transit use now by integrating it within the existing transportation system and making it accessible by non-motorized forms of transportation. A well-connected, safe, and functional active transportation network, which will take into account all origin and destination trips, should be developed. This includes sidewalks, on- and off-

street facilities, end-of-trip facilities, bicycle and pedestrian amenities, and other design considerations such as traffic signals, signing, and lane marking.

# VII. Greenville Land Use Analysis

## Existing Conditions

## Demographics

According to the US Census, the population in the city of Greenville was 25,557 in 2010, an increase of seven percent from 2000. It is home to roughly 30 percent of Hunt County's residents. By 2035, the population is projected to increase by 51 percent to 38,679 (*Exhibit VII-1*). This is a faster rate of growth than larger cities in the region such as Dallas, but it is slower than the rate of growth for Hunt County as a whole, which is projected to grow 72 percent, and slightly less than the region which is estimated to increase 54 percent. The much larger rate of growth for Hunt County as a whole compared to Greenville or other Hunt County cities such as Commerce and Caddo Mills suggests increased residential development in unincorporated areas around the county.

*Exhibit VII-1: Greenville Population Growth: 2010-2035*

| | 2000 Population | 2010 Population | Growth | 2035 Projection | Projected Growth |
|---|---|---|---|---|---|
| Hunt County | 76,596 | 86,129 | 12.45% | 148,451 | 72.36% |
| Region* | 5,309,277 | 6,371,773 | 20.01% | 9,833,378 | 54.33% |
| City of Greenville | 23,960 | 25,557 | 6.67% | 38,679 | 51.34% |
| City of Commerce | 7,669 | 8,078 | 5.33% | 8,518 | 5.45% |
| City of Caddo Mills | 1,149 | 1,338 | 16.44% | 3,015 | 125.33% |
| City of Dallas | 1,188,580 | 1,197,816 | 0.78% | 1,683,361 | 40.54% |
| Dallas County | 2,218,899 | 2,368,139 | 6.73% | 3,125,282 | 31.97% |

*The region is defined as the Dallas-Fort Worth Metropolitan Statistical Area

Source: Census 2010 and Census 2000, NCTCOG 2035 Population Projection, 2011

Below is information that looks at the racial distribution of residents in Greenville. Whites accounted for 68 percent of the population in 2010 (*Exhibit VII-2*). The number of African-Americans decreased to around 17 percent of the population, and nearly 10 percent listed themselves as other. Hispanics accounted for 22 percent of the population; an increase of 63 percent from 2000, as seen in *Exhibit VII-3*.

Greenville residents were younger than the county as a whole with a median age of 34 compared to 37, the median age for Hunt County in 2010. Overall, however, the population distribution was very similar to the county. The ages of residents were widely and relatively evenly distributed with a higher population in the younger cohorts. The largest single age group is the under five, which accounted for slightly less than nine percent of the city's population (*Exhibit VII-4*). Further aggregating the cohorts reveal that 29 percent of the population is less than 20 years old. Nearly 62 percent of Greenville residents, ages 16 to 64 years old, were in their working years in 2010 (*Exhibit VII-5*). Residents 25 to 54, those in their family formation and highest earning years, accounted for 39 percent of the population; and seniors, residents 65 and older, accounted for only 14 percent of the population. These were both on trend with the county percentages. Residents 45 to 64, an age group with many retiring in the next 20 years, accounted for 22 percent of the population. Although there is a slightly smaller contingency of soon-to-be retirees in Greenville than Hunt County as a whole, the needs of this age demographic should be taken into account in future plans. Planning for this group and the current senior population is important for the city of Greenville because additional housing and infrastructure will be needed to accommodate this group to help them safely access resources. Providing seniors access to resources will be discussed in the Recommendations section.

*Exhibit VII-2: Greenville Racial Distribution*

| Race | Population Growth | | | | |
|---|---|---|---|---|---|
| | 2000 Population | 2000 Percent | 2010 Population | 2010 Percent | Percent Change |
| White Alone | 16,702 | 69.71% | 17,498 | 68.47% | 4.77% |
| Black or African American Alone | 4,518 | 18.86% | 4,282 | 16.75% | -5.22% |
| American Indian and Alaska Native Alone | 116 | 0.48% | 226 | 0.88% | 94.83% |
| Asian or Pacific Islander Alone | 155 | 0.65% | 348 | 1.36% | 124.52% |
| Other | 1,963 | 8.19% | 2,498 | 9.77% | 27.25% |
| Multiple Races | 506 | 2.11% | 705 | 2.76% | 39.33% |
| Total | 23,960 | 100.00% | 25,557 | 100.00% | 6.67% |

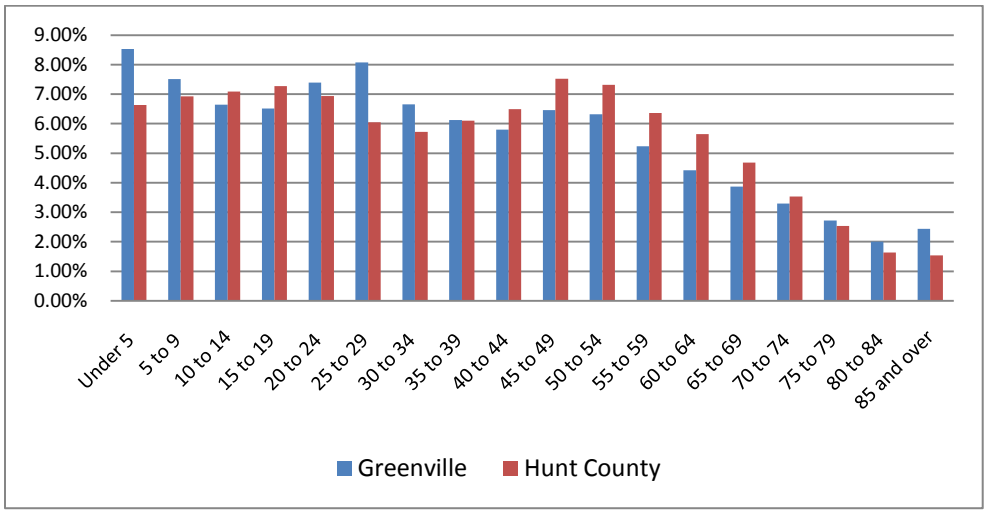
Source: Census 2010 and Census 2000

*Exhibit VII-3: Greenville Hispanic Population*

| Race | Population Growth | | | | |
|---|---|---|---|---|---|
| | 2000 Population | 2000 Percent | 2010 Population | 2010 Percent | Percent Change |
| Hispanic or Latino | 3,511 | 14.65% | 5,733 | 22.43% | 63.29% |
| Not Hispanic or Latino | 20,449 | 85.35% | 19,824 | 77.57% | -3.06% |
| Total Population | 23,960 | 100.00% | 25,557 | 100.00% | 6.67% |

Source: Census 2010 and Census 2000

*Exhibit VII-4: Greenville Age Distribution*




Source: Census 2010

*Exhibit VII-5: Greenville Age Distribution by Selected Age Group*

| | Under 20 | 16 to 64 | 25 to 54 | 45 to 64 | 65 and Older |
|---|---|---|---|---|---|
| Greenville | 29.19% | 61.77% | 39.44% | 22.44% | 14.32% |
| Hunt | 27.92% | 64.03% | 39.19% | 26.85% | 13.93% |
| Region | 30.53% | 66.35% | 44.13% | 24.04% | 8.80% |

Source: Census 2010

## Income

The median household income in Greenville was $38,498 in 2009, a 13 percent increase from 2000 (*Exhibit VII-6*). This is somewhat smaller than the median household income of Hunt County as a whole, which was at $42,894, and other Hunt County cities such as Caddo Mills or Josephine which had median household incomes of $51,023 and $58,750, respectively.

*Exhibit VII-6: Median Household Income Comparison*

| | 2000 Median Household Income | 2009 Median Household Income | Percent Change | 2000 Households | 2010 Households | Percent Change |
|---|---|---|---|---|---|---|
| Greenville | $34,606 | $38,948 | 12.55% | 9,156 | 9,716 | 6.12% |
| Commerce | $24,065 | $28,926 | 20.20% | 2,881 | 2,988 | 3.71% |
| Rockwall | $65,411 | $81,915 | 25.23% | 6,605 | 13,212 | 100.03% |
| Quinlan | $28,472 | $39,205 | 37.70% | 558 | 546 | -2.15% |
| Josephine | $34,750 | $58,750 | 69.06% | 205 | 282 | 37.56% |
| Wolfe City | $26,756 | $29,803 | 11.39% | 687 | 569 | -17.18% |
| Caddo Mills | $36,071 | $51,023 | 41.45% | 476 | 490 | 2.94% |
| Hunt County | $36,752 | $42,894 | 16.71% | 28,742 | 32,076 | 11.60% |
| City of Dallas | $37,628 | $41,266 | 9.67% | 451,833 | 458,057 | 1.38% |
| Dallas County | $43,324 | $47,059 | 8.62% | 807,621 | 855,960 | 5.99% |
| Region | $47,418 | $55,459 | 16.96% | 1,906,764 | 2,298,498 | 20.54% |

Source: Census 2000, 2005-2009 American Community Survey, Census 2010

## Employment

In 2009 there were 11,119 Greenville residents in the workforce; roughly seven percent were unemployed.[1] The majority of the employed residents, 55 percent, worked in either management, professional, and related occupations, or sales and office occupations. Others, 17 percent of the workforce, worked in production, transportation, and moving occupations. Less than one percent of the work force worked in consumptive fields such as farming and fishing, or the military (see *Exhibit VII-7*).

*Exhibit VII-7: Greenville Workforce Occupation*

| Labor Force | Total Labor Force | Percent of Labor Force | Percent Employed Labor Force* |
|---|---|---|---|
| Management, professional, and related occupations | 2,722 | 24.48% | 26.44% |
| Service occupations | 1,520 | 13.67% | 14.76% |
| Sales and office occupations | 2,894 | 26.03% | 28.11% |
| Farming, fishing, and forestry occupations | 25 | 0.22% | 0.24% |
| Construction, extraction, maintenance, and repair occupations | 1,336 | 12.02% | 12.98% |
| Production, transportation, and material moving occupations | 1,798 | 16.17% | 17.46% |
| Civilian employed population 16 years and over | 10,295 | 92.59% | 100.00% |
| Military | 60 | 0.54% | |
| Unemployed | 764 | 6.87% | |
| Total Labor Force | 11,119 | 100.00% | |

*Does not include Military Personnel

Source: 2005-2009 American Community Survey

[1] 2005-2009 American Community Survey

## Housing

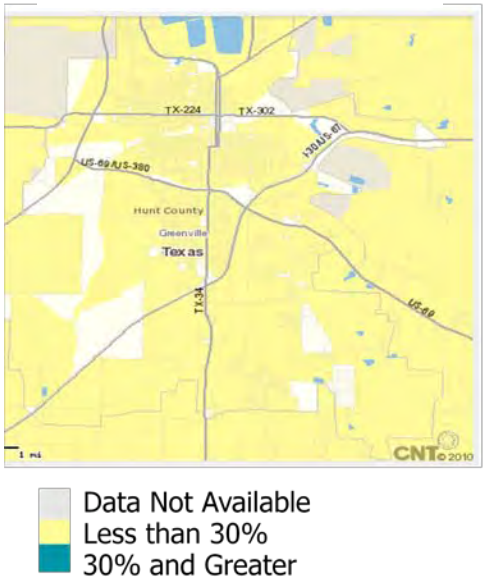
Housing in the city of Greenville, when looking at rent and mortgages alone, is relatively affordable. The Department of Housing and Urban Development deems housing affordable when it does not exceed 30 percent of the median household income. According to the 2005-2009 American Community survey, renters in Greenville paid on average $682 per month in 2009, and homeowners paid $992 in monthly ownership costs. With a median household income of $38,498, Greenville households earning at or above the median household income can afford to pay approximately $962.

Unfortunately, mortgage and rent payments are not the only costs to factor into housing location choice. Below (*Exhibit VII-8*) is the Housing Affordability Index created by the Center for Neighborhood Technology in 2008 to measure housing affordability when transportation costs are included. Housing, when transportation costs are included, is deemed affordable if it does not exceed 45 percent of the median household income. Transportation costs not only include fuel prices, but neighborhood characteristics such as walkability, density, and transit availability, in addition to the proximity of grocery stores, entertainment venues, and jobs. The Center for Neighborhood Technology results indicate that even when transportation costs are taken into account, housing is affordable in most of Greenville. Housing, however, is not affordable when transportation costs are taken into account for residents south of IH 30 or in some areas along SH 34 between US 69 and Eastland.

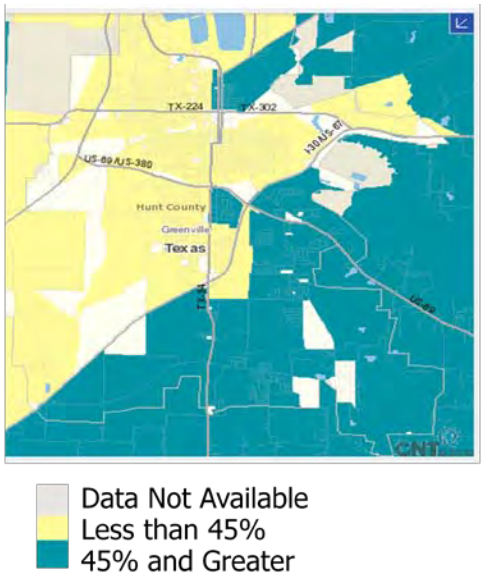
Housing and transportation costs increase as residential areas get further from the central city area and are less dense. Transportation costs are high in other cities in Hunt County due to the unavailability and dispersion of many land uses, which will be discussed later, and because of the average travel time to work. Greenville residents, on average, live about 18.4 minutes from work.[2] The average travel time to work for the county as a whole is 28.4 minutes; residents in cities such as Caddo Mills on average live about 32.6 minutes from work. Although there are a number of major employers in Greenville and Hunt County, many people, according to city of Greenville staff, drive to Dallas, Collin, and other counties for work, entertainment, and shopping.

*Exhibit VII-8: Housing and Transportation Affordability Map*

**Housing Costs as a Percentage of Income**




**Housing + Transportation Costs as a Percentage of Income**




Source: Center for Neighborhood Technology, 2008

[2] 2005-2009 American Community Survey

## Greenville Current Land Use

The current land use map for the city of Greenville in this analysis was created using 2009 Hunt County Appraisal District Parcel Land Use codes. The 2009 parcels were used for the land use analysis to maintain consistency with the Hunt County land use analysis and because the Greenville current land use map was created in 2004. Some of the land use codes associated with the 2009 parcels, such as unknown land uses, were updated in 2009 using aerial photographs and Google Street view images. Please note that this is not an official Greenville land use map, as it has not been vetted through the public process or reviewed by city of Greenville staff. It was used to provide a preliminary estimate of the quantity of each land use in Greenville. In January 2012, the North Central Texas Council of Governments (NCTCOG) Research and Information Services Department is releasing a 2010 land use map which includes all of the cities in Hunt County.

Greenville, the largest city in Hunt County, has an area of 33.05 square miles.[3] Unlike the county, over half of the land in Greenville, 52 percent (9,832 acres), is developed. Land uses in the city include developed uses such as residential, commercial, and institutional, but also undeveloped land uses such as ranchland and farms. *ExhibitVII-9* contains a description of the land use categories in the city of Greenville. A more detailed table of Greenville land uses is available in Appendix C. Greenville current land uses are displayed in *Exhibit VII-9A*.

*Exhibit VII-9: Greenville Current Land Use Distribution*

| Land Use Category | Total Parcels | Acres | Percent Developed | Percent of Total |
|---|---|---|---|---|
| Residential | 10,576 | 3,622.57 | 36.84% | 19.06% |
| Industrial | 32 | 409.78 | 4.17% | 2.16% |
| Commercial | 1,241 | 2,420.58 | 24.62% | 12.73% |
| Utility/Transportation | 23 | 608.21 | 6.19% | 3.20% |
| Institutional | 475 | 2,771.02 | 28.18% | 14.58% |
| Total Developed | 12,347 | 9,832.16 | 100.00% | 51.72% |
| Total Undeveloped | 444 | 9,176.34 | | 48.27% |
| Unknown | 2 | 2.56 | | 0.01% |
| Total | 25,140 | 9,011.05 | | 100.00% |

Source: Hunt County Appraisal District, 2009

## Developed Land Uses

## Residential Land Use

The largest percentage of developed land in the city is used for housing. Residential property makes up 37 percent of the developed land in Greenville, and 19 percent of the total land identified in Greenville's current land use map. It includes single family, multi-family, mobile homes, and vacant residential inventory. The largest percentage of residential land, 73 percent (2,649 acres), is devoted to single-family housing (*Exhibit VII-10*). This figure includes the single family and house + limited acres categories. The house + limited acres category is single-family housing on large lots that include an additional use such as farming or ranching. The second largest category of residential property, multi-family, accounts for seven percent of the residential land (252 acres), and includes apartments, condominiums, and duplexes. Mobile homes are the least prevalent residential land use in Greenville, comprising less than one percent (19 acres) of residential land. An additional 702 acres, 19 percent of the total designated residential land, is vacant and platted for future residential development. The majority of the residential parcels in the city, 60 percent, are located within 1.5 miles of downtown Greenville. This presents a

[3] Hunt County Appraisal District, 2009

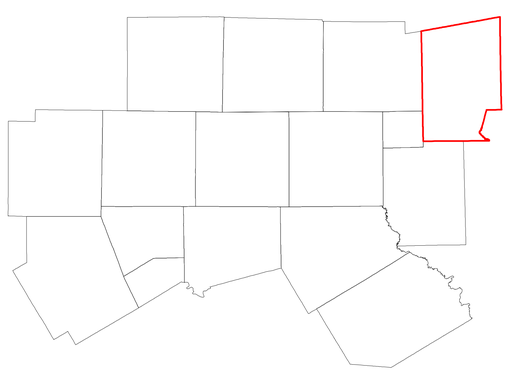
# GREENVILLE CURRENT LAND USE MAP

## Legend

### Commerce Land Use

- AGRICULTURAL OR UNDEVELOPED
- COMMERCIAL
- INDUSTRIAL
- INSTITUTIONAL
- MOBILE HOMES
- MULTI-FAMILY
- RAILROADS
- SINGLE FAMILY - LARGE LOT
- SINGLE FAMILY - SMALL LOT
- UTILITIES
- VACANT - INSTITUTIONAL INVENTORY
- VACANT-COMMERCIAL INVENTORY
- VACANT-RESIDENTIAL INVENTORY
- SH 34 Corridor Study

North Central Texas Council of Governments
Transportation



50 25 0 50 Miles

March 2012

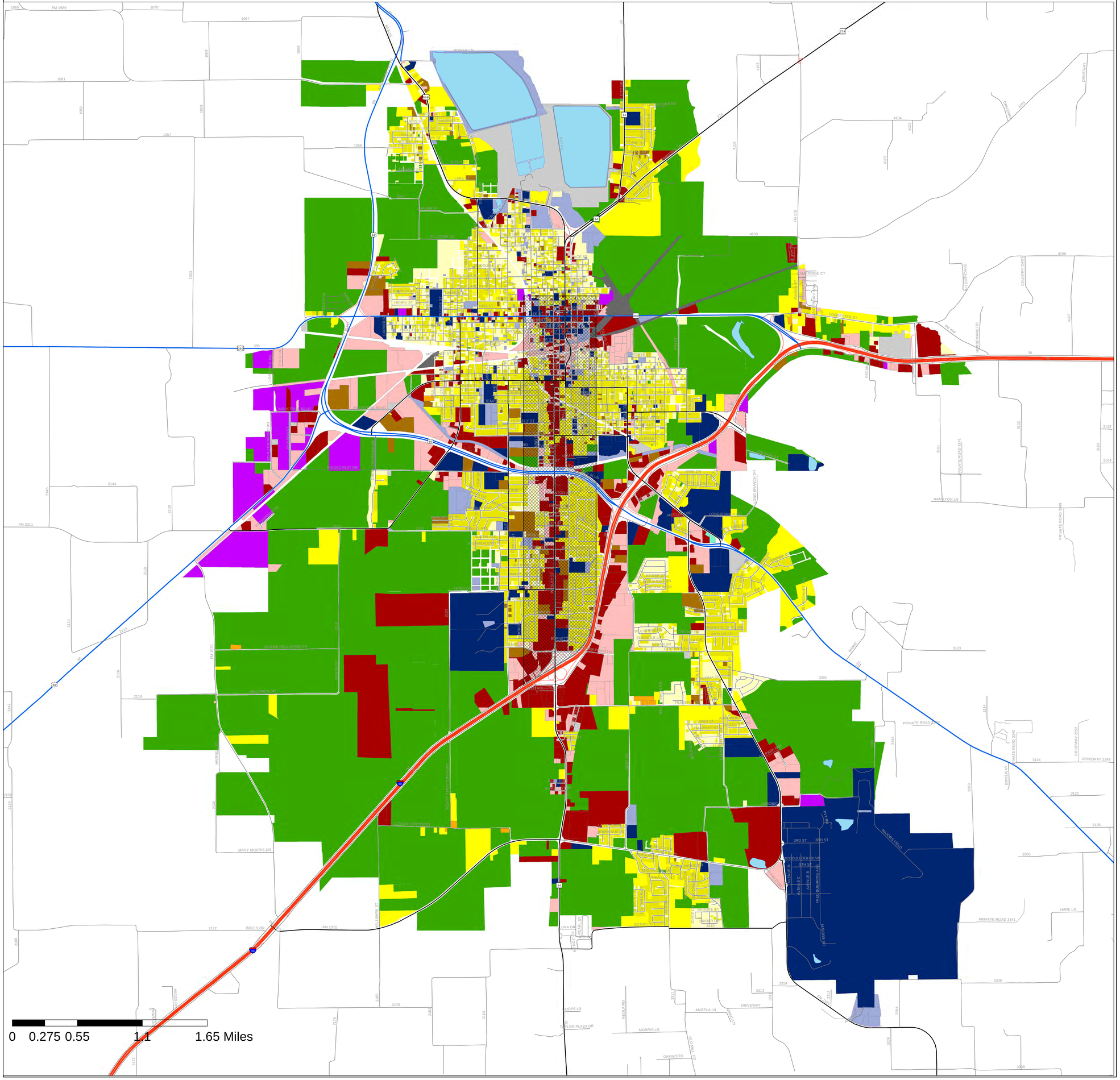



Exhibit VII-9A

strong opportunity for the city to increase pedestrian activity in downtown Greenville, which will be further discussed later in this chapter. Residential land use is displayed in *Exhibit VII-10A*.

*Exhibit VII-10: Greenville Residential Land Use Distribution*

| Land Use Category | Total Parcels | Acres | Percent of Category | Percent of Total | Percent Developed | Percent of Residential Parcels |
|---|---|---|---|---|---|---|
| Duplex | 96 | 19.16 | 0.53% | 0.10% | 0.19% | 0.91% |
| House + Limited Acres | 48 | 561.53 | 15.50% | 2.95% | 5.71% | 0.45% |
| Single Family | 7,419 | 2,087.92 | 57.64% | 10.98% | 21.24% | 70.15% |
| Mobile Homes | 20 | 19.42 | 0.54% | 0.10% | 0.20% | 0.19% |
| Multi-family | 78 | 198.47 | 5.48% | 1.04% | 2.02% | 0.74% |
| Condominiums | 56 | 34.16 | 0.94% | 0.18% | 0.35% | 0.53% |
| Vacant – Residential Inventory | 2,859 | 701.91 | 19.38% | 3.69% | 7.14% | 27.03% |
| Residential | 10,576 | 3,622.57 | 100.00% | 19.06% | 36.84% | 100.00% |

Source: Hunt County Appraisal District, 2009

## Commercial Land Use

Commercial land use (*Exhibit VII-11*) accounts for the second largest percentage of developed land identified in Greenville's current land use distribution, 25 percent (2,421 acres). In this analysis, commercial includes retail establishments like JC Penny's, restaurants such as Chili's, and grocery stores such as Brookshire's. It also includes office uses. The largest percentage of commercial property, 63 percent (1,525 acres), is built out and located primarily along SH 34 (Wesley Street) and IH 30. An additional 895 acres of vacant and platted commercial property is available for future development throughout the city, but primarily along IH 30 and US Highway 69. Commercial land use is displayed in *Exhibit VII-11A*.

*Exhibit VII-11: Greenville Commercial and Industrial Land Use Distribution*

| Land Use Category | Total Parcels | Acres | Percent of Category | Percent of Total | Percent Developed |
|---|---|---|---|---|---|
| Industrial | 32 | 409.78 | 14.48% | 2.16% | 4.17% |
| Commercial | 1,241 | 2,420.58 | 85.52% | 12.73% | 24.62% |
| Commercial/Industrial | 1,273 | 2,830 | 100.00% | 14.89% | 28.79% |

Source: Hunt County Appraisal District, 2009

## Industrial Land

The smallest currently identified and utilized land use category is industrial. Industrial property accounts for four percent (410 acres) of the developed land in the city of Greenville (*Exhibit VII-11*), and includes developments such as L-3 Communications, Cytec Engineered Materials, and Link International. The city of Greenville, however, reports over 700 acres of industrial through online information. A reason for this discrepancy may be the designation of Majors Field as institutional rather than industrial property in the 2009 Hunt County Appraisal District Parcel Data. The 2002 land use map used in the *Greenville Comprehensive Plan 2025* has Majors Field subdivided into two parcels, one industrial and one institutional. Although smaller industrial properties are strewn throughout the city, the majority of the industrial development is currently in the northwest sector of the city along US Highways 66 and 69 (Joe Ramsey Boulevard). Industrial land use is displayed in *Exhibit VII-11B*.

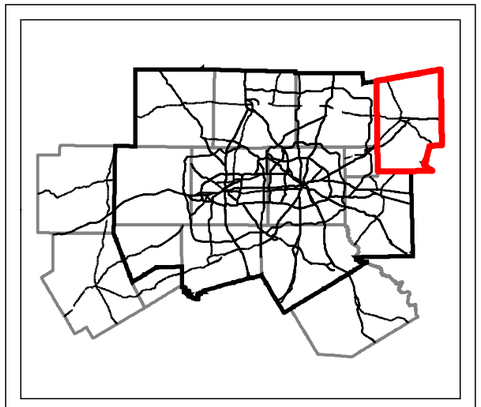
# GREENVILLE RESIDENTIAL LAND USE

**Legend**

**Greenville Land Use**

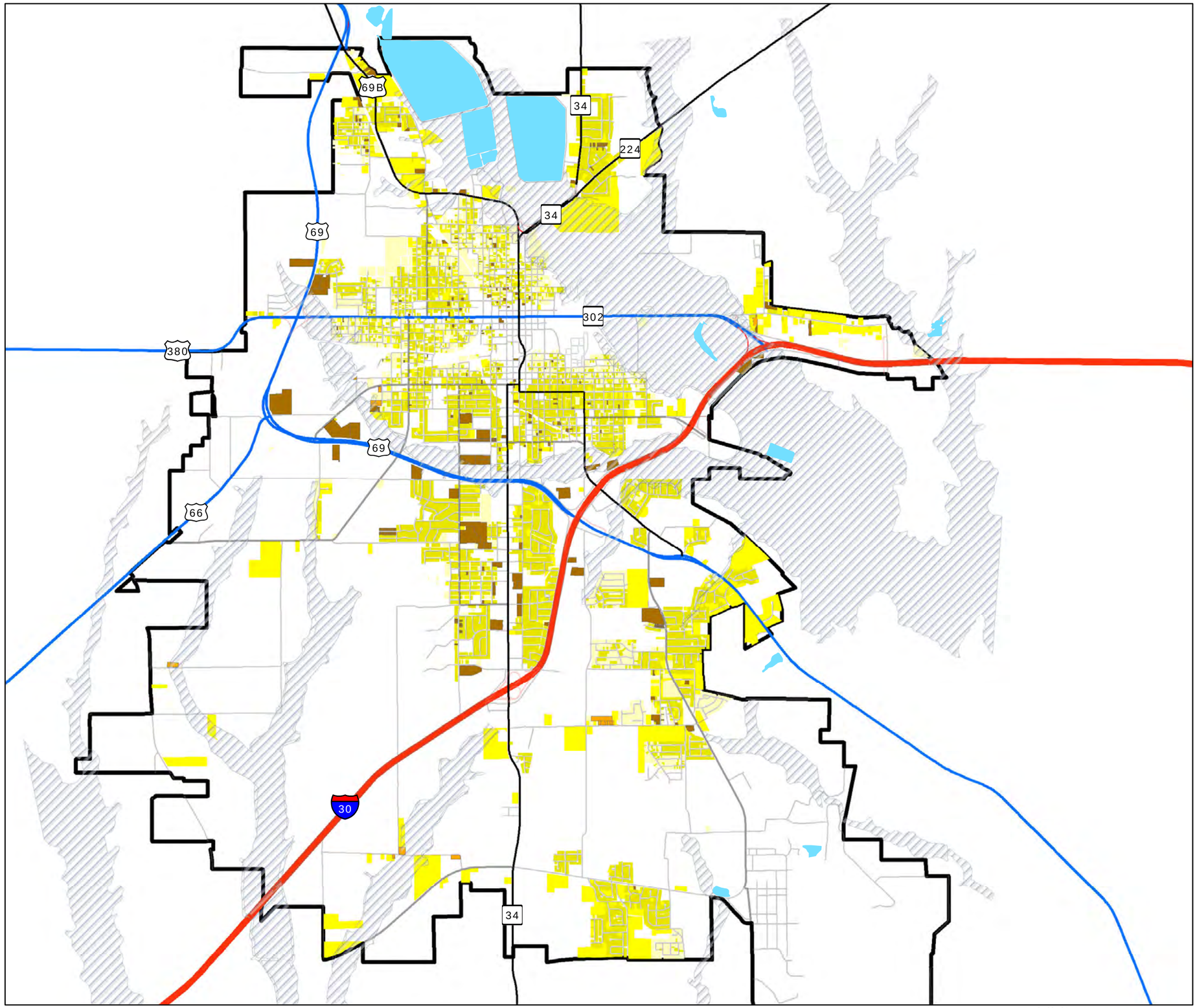
- Mobile Homes
- Multi-Family
- Single Family - Small Lot
- Single Family - Large Lot
- Vacant - Residential Inventory
- Lakes
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation



0 15 30 60 Miles

March 2012




0 0.225 0.45 0.9 1.35 Miles

Exhibit VII-10A

# GREENVILLE COMMERCIAL LAND USE

**Legend**

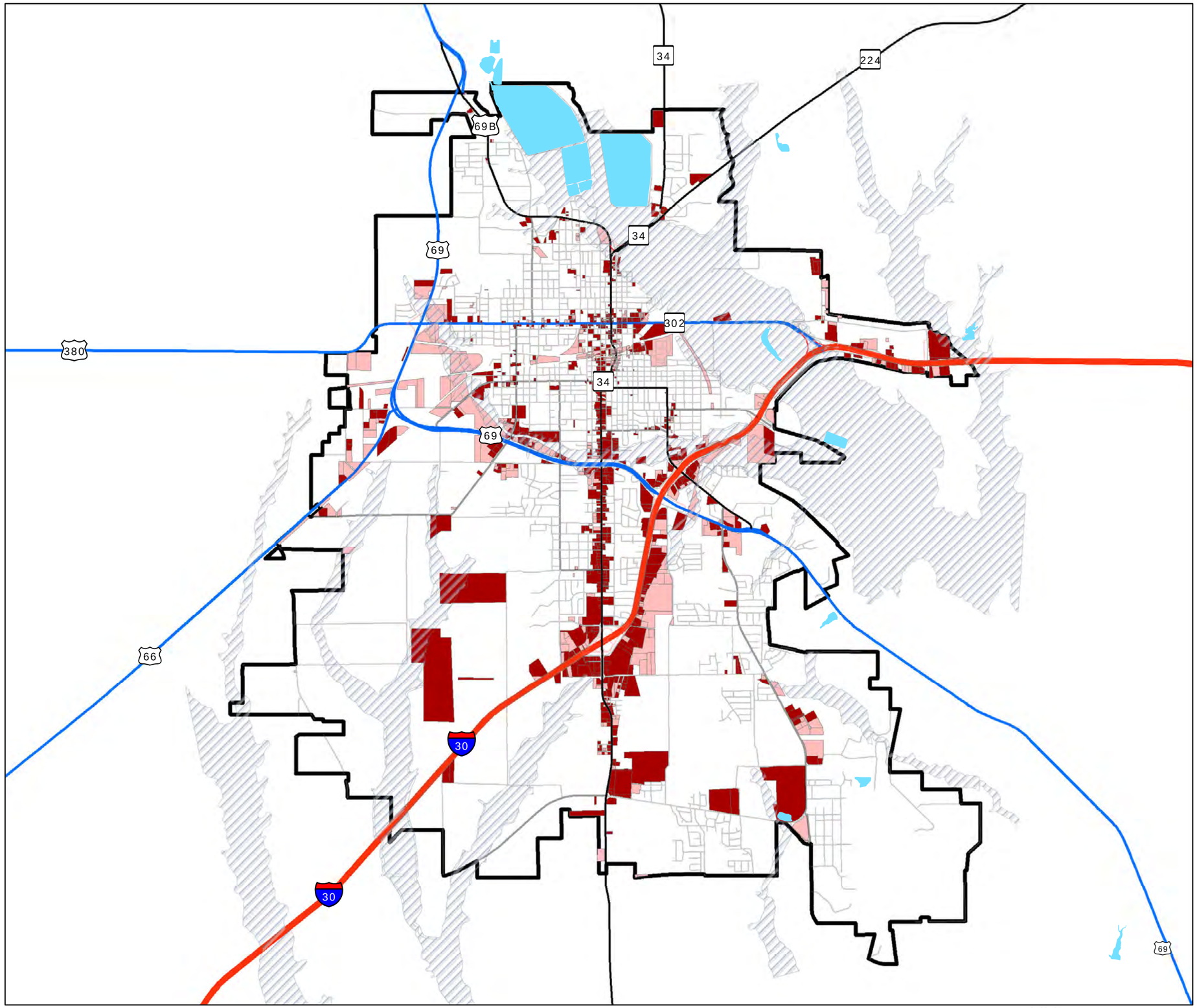
**Greenville Land Use**

- Commercial
- Vacant Commercial Inventory
- Lakes
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation

0 15 30 60 Miles

March 2012




0 0.275 0.55 1.1 1.65 Miles

Exhibit VII-11A

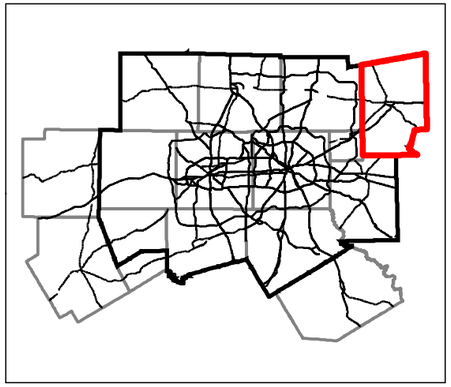
# GREENVILLE INDUSTRIAL LAND USE

**Legend**

**Greenville Land Use**

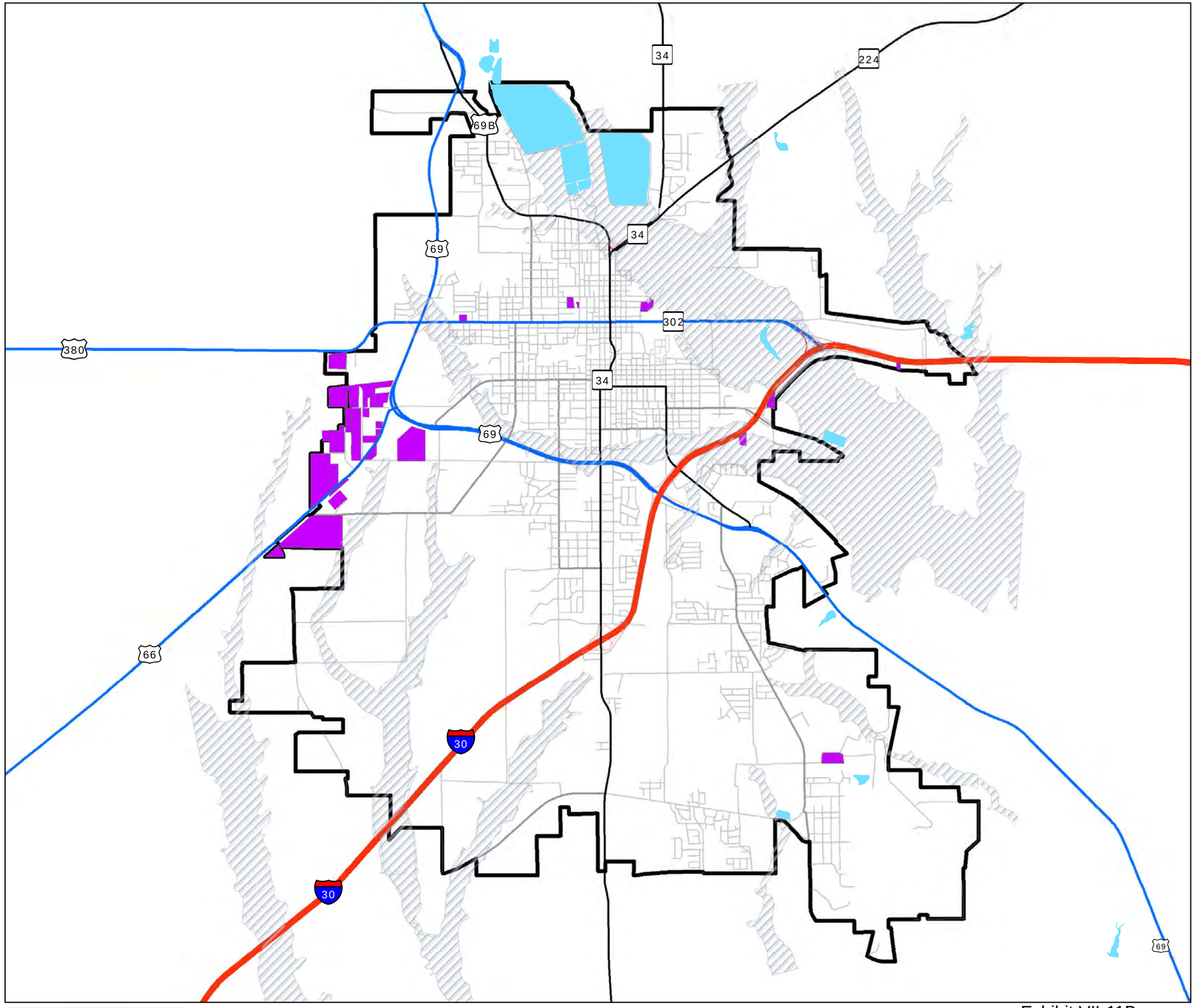
- Industrial
- Lakes
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation



0 12.5 25 50 Miles

March 2012




0 0.275 0.55 1.1 1.65 Miles

Exhibit VII-11B

## Institutional Land Use

Institutional properties account for 28 percent (2,771 acres) of the developed land in Greenville (*Exhibit VII-12*). This category includes a wide array of institutional uses such as schools, parks, churches, and municipal buildings. Some of the specific developments in this category include the Greenville Independent School District buildings, the Greenville Sports Complex, and Majors Field. The majority of the identified institutional land, 79 percent (2,188 acres), is built out or used for parks and/or recreation. This figure, however, is skewed by Majors Field which accounts for 65 percent (1,412 acres) of the built-out property. Conversely, 58 percent of the institutional parcels (277) are vacant; many are platted for future development. The majority of the vacant and platted properties in the city are vacant, and platted parcels in this category present a development opportunity for the city in the future that will be presented later in this chapter. Institutional land use is displayed in *Exhibit VII-12A*.

*Exhibit VII-12: Greenville Institutional Land Use Distribution*

| Land Use Category | Total Parcels | Acres | Percent of Category | Percent of Total | Percent Developed |
|---|---|---|---|---|---|
| Institutional | 475 | 2,771.02 | 100% | 14.58% | 28.18% |

Source: Hunt County Appraisal District, 2009

### Utilities and Transportation

Utilities and transportation account for six percent (608 acres) of the developed land in Greenville and include electric, telephone, gas companies, water systems, and railroads. Among utility and transportation uses, the highest percentage of land, 77 percent (470 acres), is devoted to water systems. Railroads comprise 13 percent (78 acres) of land devoted to utility and transportation, and electric companies account for 7 percent (45 acres). Telephone and gas companies account for 2 percent (ten acres) and 0.77 percent (five acres), respectively (*Exhibit VII-13*). Utility/transportation land uses are displayed in *Exhibit VII-13A*.

*Exhibit VII-13: Greenville Utilities and Transportation Land Uses*

| Land Use Category | Total Parcels | Acres | Percent of Category | Percent of Total | Percent Developed |
|---|---|---|---|---|---|
| Electric Companies | 3 | 45.32 | 7.45% | 0.24% | 0.46% |
| Telephone Companies | 7 | 9.89 | 1.63% | 0.05% | 0.10% |
| Water Systems | 3 | 470.05 | 77.28% | 2.47% | 4.78% |
| Railroads | 6 | 78.29 | 12.87% | 0.41% | 0.80% |
| Gas Companies | 4 | 4.66 | 0.77% | 0.02% | 0.05% |
| Utility/Transportation | 23 | 608.21 | 100.00% | 3.20% | 6.19% |

Source: Hunt County Appraisal District, 2009

## Undeveloped or Agricultural

Undeveloped or agricultural parcels account for 48 percent (9,167 acres) of the land in Greenville (*Exhibit VII-14*). It includes uses such as timberland, farms, ranches, and rural land, and is concentrated on the outer reaches of the city. The largest percentage of undeveloped or agricultural land is ranch land, accounting for 62 percent (5,699 acres) of the land. Timberland comprises the second largest percentage of undeveloped or agricultural land, accounting for 29 percent (2,685 acres) of the category. Farm/ranch land accounts for 8 percent (761 acres) of undeveloped or agricultural land, and rural land comprises 0.33 percent (31 acres) of the land. Undeveloped or agricultural land uses are displayed in *Exhibit VII-14A*.

# GREENVILLE INSTITUTIONAL LAND USE

**Legend**

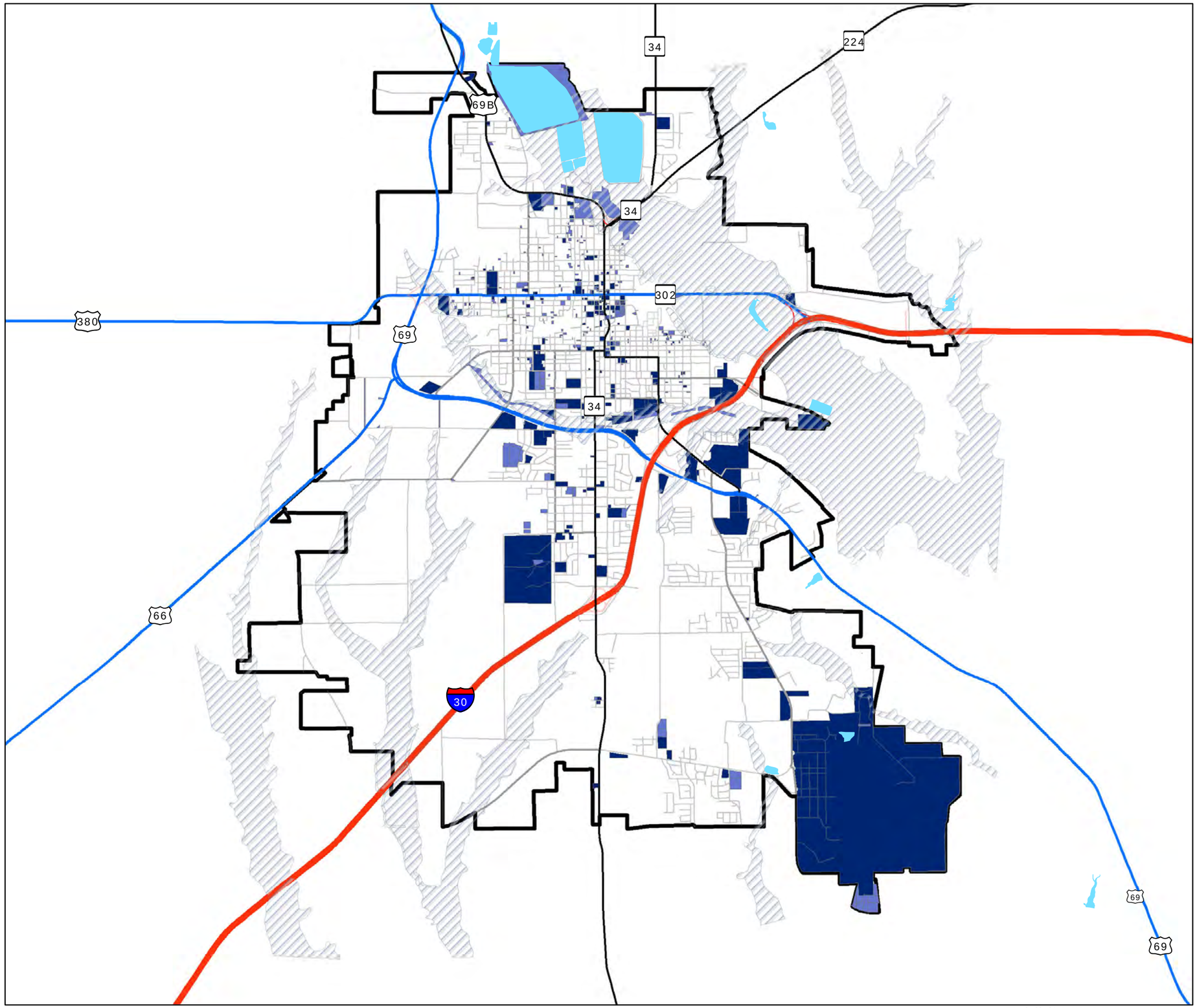
**Greenville Land Use**

- Institutional
- VACANT - INSTITUTIONAL
- Lakes
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation

0 15 30 60 Miles

March 2012




0 0.3 0.6 1.2 1.8 Miles

Exhibit VII-12A

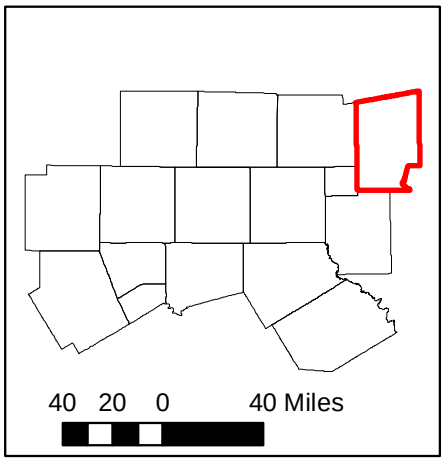
# GREENVILLE UTILITIES AND TRANSPORTATION LAND USE

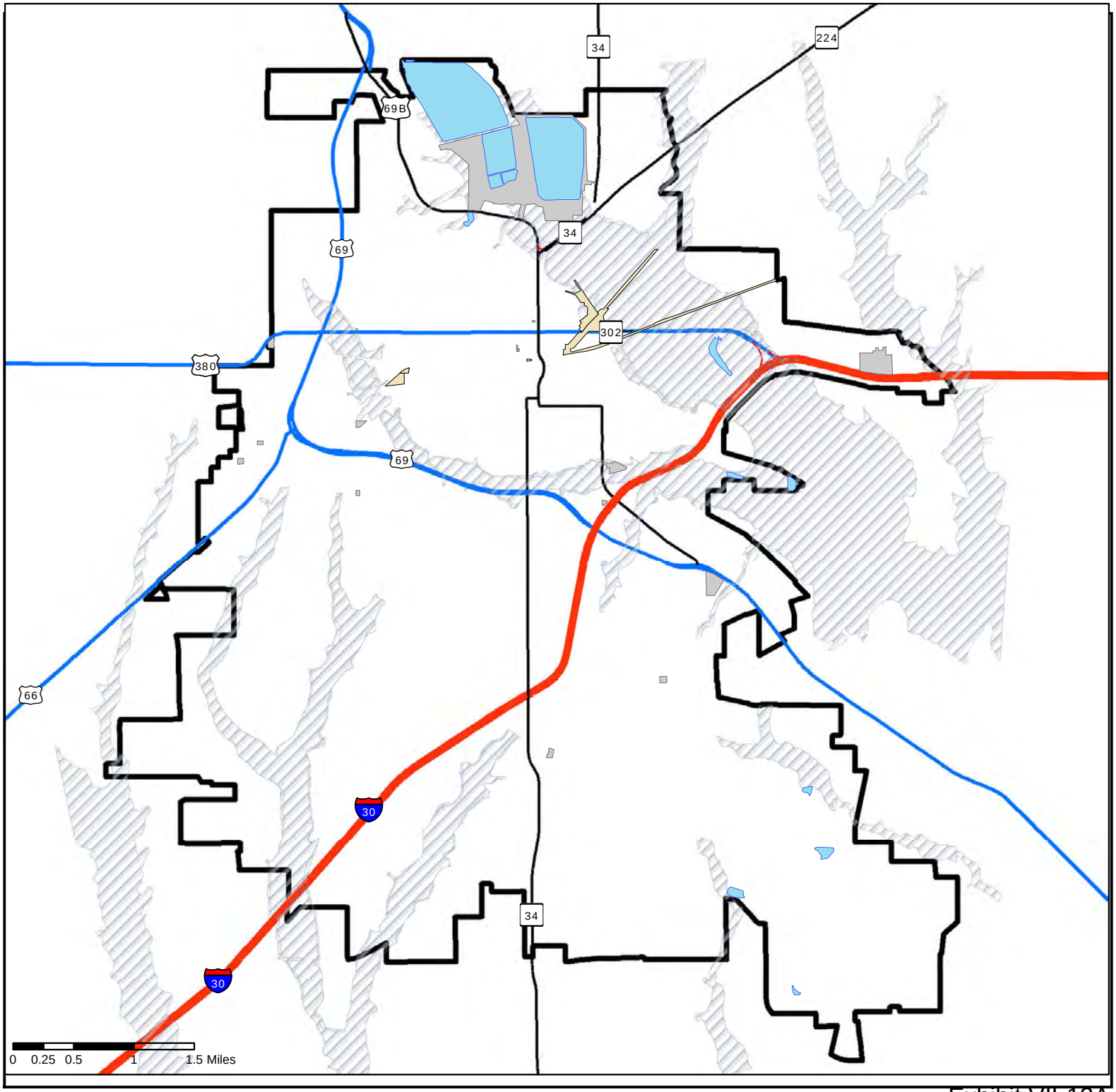
**Legend**

**Greenville Land Use**

- UTILITIES
- TRANSPORTATION
- FloodPlain

North Central Texas Council of Governments
Transportation




March 2012

Exhibit VII-13A

*Exhibit VII-14: Greenville Undeveloped Land Use Distribution*

| Land Use Category | Total Parcels | Acres | Percent of Undeveloped | Percent of Total |
|---|---|---|---|---|
| Timberland | 124 | 2,685.24 | 29.26% | 14.12% |
| Farm/Ranch | 25 | 761.20 | 8.30% | 4.00% |
| Rural | 34 | 30.52 | 0.33% | 0.16% |
| Ranch Land | 261 | 5,699.37 | 62.11% | 29.98% |
| Total Undeveloped | 444 | 9,176 | | 48.27% |

Source: Hunt County Appraisal District, 2009

## Flood Plain Development

During stakeholder interviews, city staff expressed concern about real estate developers constructing housing in flood plain areas. Although the city developed a flood plain ordinance in 1989, which was revised in 2004, to prevent development in flood plain areas, residential units were constructed in flood plain areas as late as 2007.[4] In addition, 82 acres of land planned for future residential development is located in the flood plain. This may present a challenge in the future as the city seeks additional land for future residential development. Flood plain development should be a concern for other land uses as well. According to *Exhibit VII-15*, 4,104 acres of developed property is currently located in the flood plain in Greenville. The majority of this land is made up of desirable and acceptable institutional uses within areas such as ballparks and land conservatories, or utility uses such as power plants and reservoirs. Residential and commercial development, however, is a concern. There are currently 543 acres of residential land and 872 acres of commercial land in the flood plain. Steps need to be taken to ensure future commercial and residential development in flood plain areas is raised to avoid major flood damage and property loss.

*Exhibit VII-15: Greenville Flood Plain Development*

| Land Use Category | Total Parcels | Acres | Parcels in Flood Plain | Percent Parcels in Flood Plain | Acres in Flood Plain | Percent Acres in Flood Plain |
|---|---|---|---|---|---|---|
| Residential | 10,576 | 3,622.57 | 492 | 3.85% | 543.09 | 14.99% |
| Industrial | 32 | 409.78 | 4 | 0.03% | 103.54 | 25.27% |
| Commercial | 1,241 | 2,420.58 | 157 | 1.23% | 872.43 | 36.04% |
| Utility/Transportation | 23 | 608 | 6 | 0.05% | 546.04 | 89.78% |
| Institutional | 475 | 2,771 | 59 | 0.46% | 2,039.13 | 73.59% |
| Total Developed | 12,347 | 9,832 | 718 | 5.61% | 4,104.24 | 41.74% |
| Total Undeveloped | 444 | 9,176 | 164 | 1.28% | 5,271.11 | 57.44% |
| Total Unknown | 2 | 2.56 | - | 0.00% | - | 0.00% |
| Total | 12,793 | 19,011 | 882 | 6.89% | 9,375.35 | 49.32% |

Source: Hunt County Appraisal District, 2009

## Greenville Future Land Use Distribution

*Exhibit VII-16* contains the city of Greenville's future land use distribution. The future land uses, created by the city in 2005, does not include land outside the city limits in the extraterritorial jurisdiction. Greenville's future land use distribution is displayed in *Exhibit VII-16A*.

[4]Hunt County Appraisal District, 2009 and *Greenville Comprehensive Plan 2025*

# GREENVILLE AGRICULTURAL AND UNDEVELOPED LAND USE

**Legend**

**Greenville Land Use**

- Farm/Ranch
- Rural
- Timberland
- Ranch Land
- Lakes
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation


March 2012

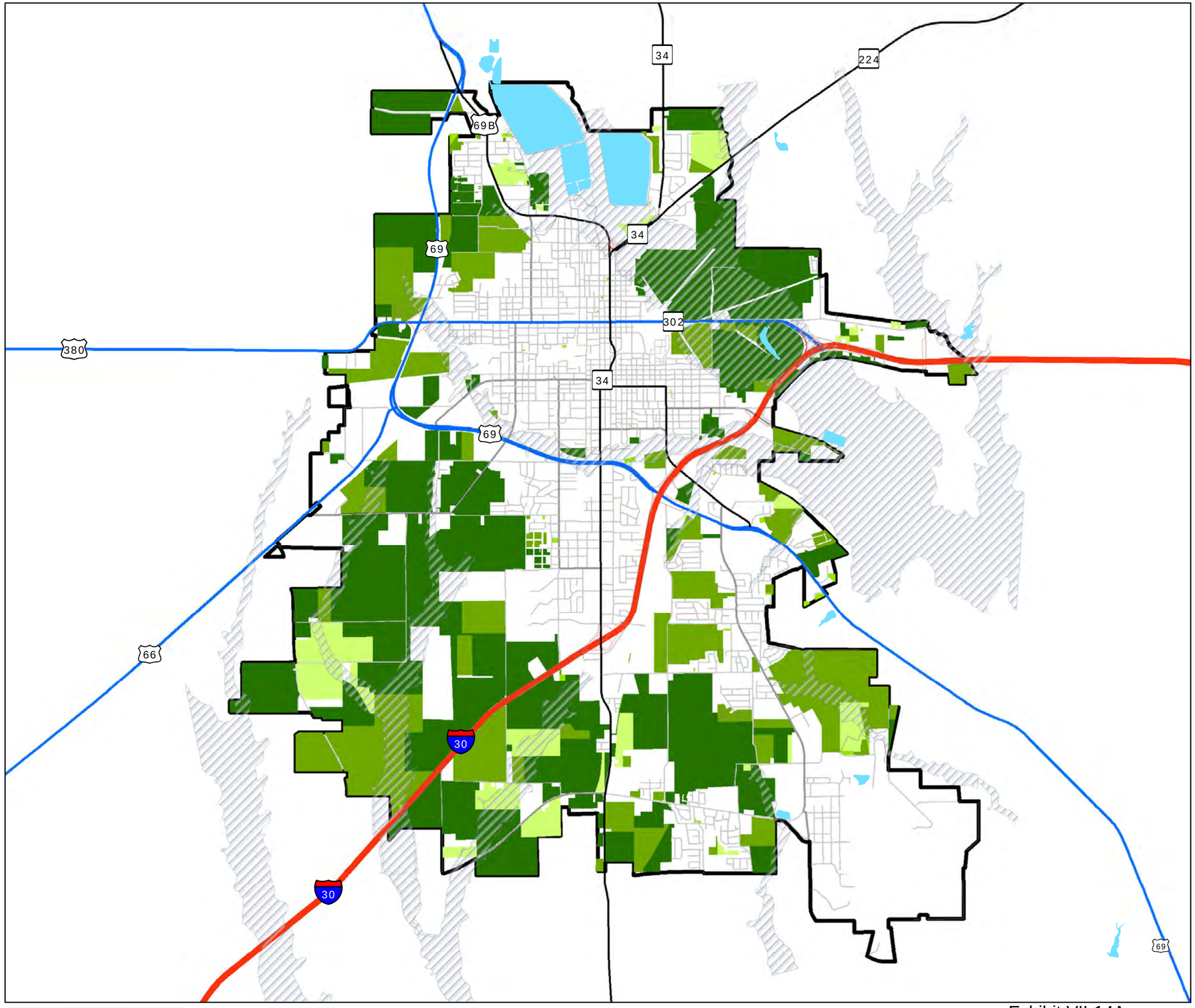



Exhibit VII-14A

*Exhibit VII-16: Greenville Future Land Use Distribution*

| Land Use | Acreage | Percentage |
|---|---|---|
| Cemetery | 93.80 | 0.48% |
| Central Business District | 63.20 | 0.32% |
| Commercial | 1,581.70 | 8.02% |
| High-density Residential | 4,690.40 | 23.78% |
| Industrial | 5,409.20 | 27.42% |
| Low-density Residential | 281.70 | 1.43% |
| Medium-density Residential | 306.60 | 1.55% |
| Mobile Home Park | 85.40 | 0.43% |
| Office | 2,383.90 | 12.08% |
| Parks | 227.20 | 1.15% |
| Public and Schools | 1,343.50 | 6.81% |
| Public/Semi-public | 214.50 | 1.09% |
| Retail | 3,046.50 | 15.44% |
| Total | 19,727.60 | 100.00% |

Source: City of Greenville, 2010

## Future Residential Development

Accounting for 27 percent (5,364 acres) of the future land use in Greenville, future residential use is divided into four categories in the Greenville future land use map: high-, medium-, and low-density, and mobile home park. This is an increase of 48 percent from the acreage used for residential in 2009. The high-density residential category accounts for 23 percent (4,690 acres) of the property in the future land use plan and may assume a smaller average lot size than the current 0.39 acre per lot average. Medium-density and low-density residential account for 1.5 percent (307 acres) and 1.4 percent (282 acres), respectively. Mobile homes account for less than one percent (85 acres).

## Future Commercial Land Uses

Commercial property, which includes land in the central business district, commercial, office, and retail categories, accounts for 7,075 acres. This is a 192 percent increase in commercial property. Similar to the current land use map, the majority of the commercial property is located along the IH 30 and SH 34 corridors. Retail uses account for the highest percentage of commercial land at 15 percent (3,047 acres), and office uses account for 12 percent (2,384 acres). General commercial uses account for eight percent (1,582 acres), and central business district comprises less than one percent (63 acres).

## Future Institutional Land Use

The future institutional category includes parks, public and schools, and public/semi-public categories. When combined, the category totals 1,785 acres or nine percent of the land in Greenville. Public uses and schools, which make up the largest Institutional category, account for about seven percent (1,344) of the land in the city; parks and public/semi-public each account for just over one percent of the population (227 acres and 215 acres, respectively). An additional 94 acres is designated to future cemetery uses, accounting for less than one percent of future land use. It is not included in the 1,785 institutional acres.

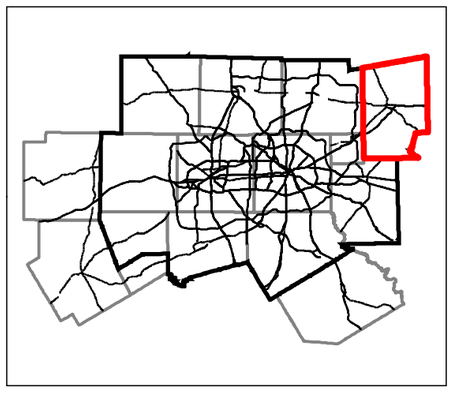
The 1,785 acres in the future institutional land use category is 55 percent less than the amount of land used for institutional purposes in 2009. Much of the land previously used for institutional purposes was converted to residential in the future land use map.

# GREENVILLE FUTURE LAND USE MAP

## Legend

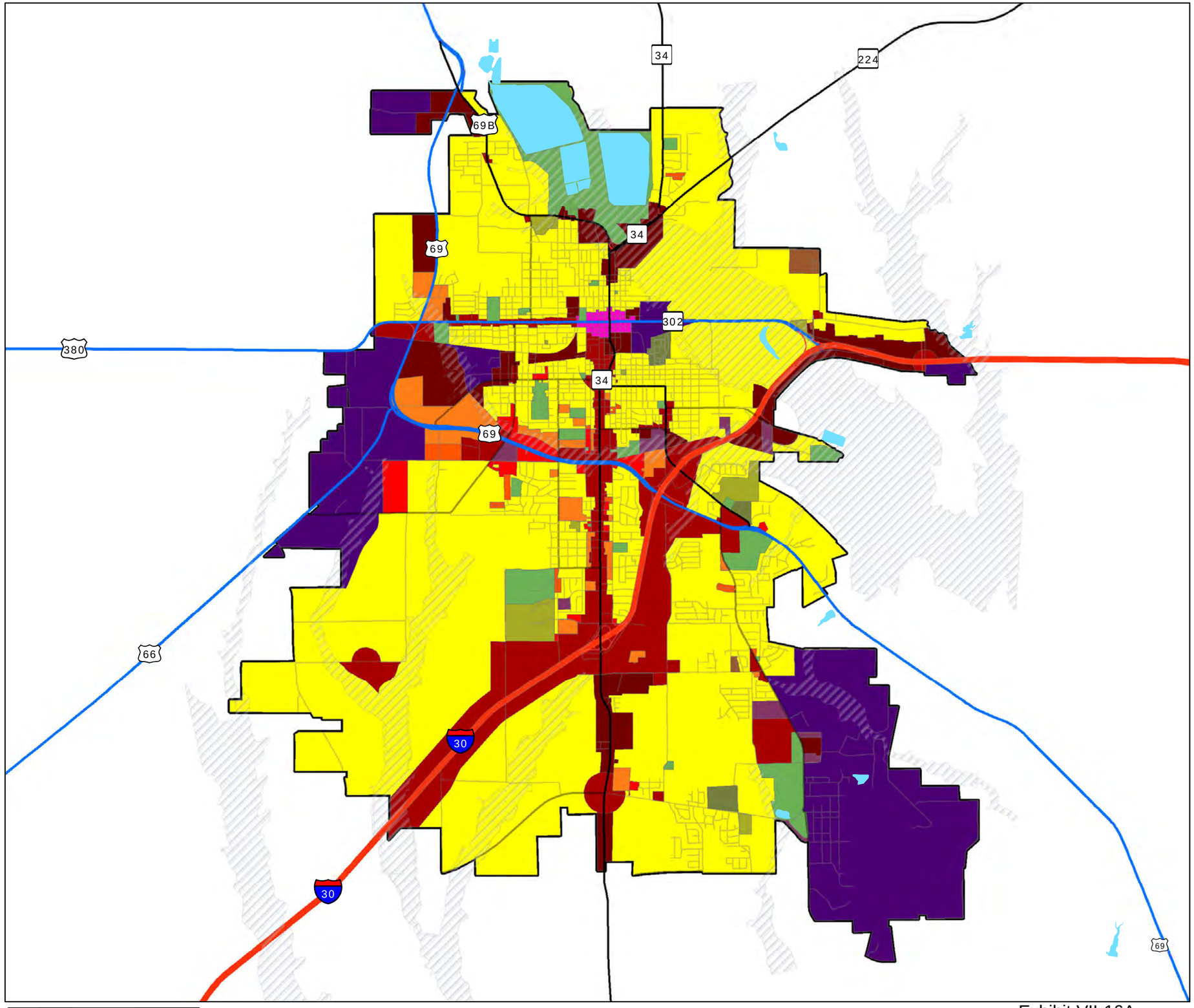
- CEMETERY
- CENTRAL BUSINESS DISTRICT
- COMMERCIAL
- HIGH DENSITY RESIDENTIAL
- INDUSTRIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- MOBIL HOME PARK
- OFFICE
- PARKS
- PUBLIC & SCHOOLS
- PUBLIC/SEMI-PUBLIC
- RETAIL
- Flood Plain
- Primary Highway
- Secondary Highway
- Major Arterial

North Central Texas Council of Governments
Transportation



0 12.5 25 50 Miles

March 2012




0 0.3 0.6 1.2 1.8 Miles

Exhibit VII-16A

## Opportunities and Constraints

As the most populous city in Hunt County, Greenville has many opportunities that may enable it to become an economic destination at some point in the future. The distance from the core of the Dallas-Fort Worth region, in addition to the relatively small population, however, create constraints that the city will need to overcome or adjust to in order to become an economic destination.

## Land Use Opportunities

### Older Housing Stock

An assembly of homes 50 years or over can qualify as a historic district. This is a key opportunity for Greenville given the number of older housing units. According to *Exhibit VII-17*, roughly 33 percent of the existing housing units in Greenville were constructed before 1960. As part of the Greenville Community Survey administered for the *Greenville Comprehensive Plan 2025*, residents were asked if they supported preserving buildings and areas of historical significance. Roughly 89 percent of the respondents supported the measure. These homes can be entered into the historic register to create a historic district. Historic designation will not only help maintain the value of older housing stock, but will further add to the character of the city. Three conservation districts were proposed in the comprehensive plan: Area A which encompasses downtown and some of the older adjacent homes, Area B which is east of SH 34 along O'Neal Street, and Area C which goes along Park Street. These historic areas could be a tourist draw if they are properly maintained and marketed throughout the region.

*Exhibit VII-17: 2009 Greenville Year of Housing Construction*

| Year Structure Built | Housing Units | Percent |
|---|---|---|
| 2005 or later | 378 | 3.80% |
| 2000 to 2004 | 833 | 8.38% |
| 1990 to 1999 | 1,032 | 10.38% |
| 1980 to 1989 | 1,680 | 16.90% |
| 1970 to 1979 | 1,213 | 12.20% |
| 1960 to 1969 | 1,575 | 15.84% |
| 1950 to 1959 | 1,671 | 16.81% |
| 1940 to 1949 | 696 | 7.00% |
| 1939 or earlier | 864 | 8.69% |
| Total Housing Units* | 9,942 | 100.00% |

*Includes Vacant Housing Units

Source: 2005-2009 American Community Survey

### Residential Development near Downtown

As previously mentioned in the Residential Land Use section, 60 percent of the residential units in Greenville are located within 1.5 miles of downtown. This is a tremendous opportunity for the city to generate more pedestrian activity and create a walking downtown. Similar to the success Fort Worth has with Sundance Square, downtown Greenville can be the site of concerts, festivals, and other city and regional draws.

One of the first steps in achieving a more walkable downtown is attracting the residents living in close proximity to downtown with desirable land uses such as unique retail and restaurant, and other entertainment venues. In addition, pedestrian and bicycle connections should be made between adjacent neighborhoods and downtown to facilitate pedestrian movement into the downtown shops and stores. The pedestrian connections will also encourage downtown employees to walk or ride their bikes to work. If downtown is revitalized from within, it may become a more desirable location for business development.

### Downtown Revitalization Programs

One of the biggest land use opportunities is Historic Downtown Greenville. As a historic downtown, Greenville was designated a Texas Main Street City in 1999 by the Texas Historical Commission. Since then, over $7 million has been invested in the downtown area for revitalization.[5] In 2002, the city was named a National Main Street City by the National Trust for Historic Main Streets. The Main Street Board helped establish a low-interest loan program for improvement to downtown buildings. This program is a good investment incentive and land use opportunity because it encourages the redevelopment of existing structures, which helps preserve the historic feel of downtown Greenville. In addition, businesses making improvements of $25,000 or greater qualify for a seven-year tax abatement. This is not only a catalyst for development in downtown, but the entire city of Greenville as well.

In addition, downtown Greenville is protected by a central area zoning district. Design standards have been established for downtown businesses to recreate or maintain the historic look of the downtown area. To aid in this endeavor, the city received a grant for façade improvements. According to the city's website, buildings designated as historic by the State of Texas or the Main Street Advisory Board will be given funding preference.

### Major Employers

The city of Greenville is home to 16 major employers. NCTCOG defines a major employer as an employer with 80 or more employees. The 16 major employers in Greenville not only provide jobs for 8,236 employees, but stimulate the housing and retail markets as well.[6] As the high end of the salary range of employers increases, so will the market demand for better housing stock and additional retail, restaurant, and entertainment options. If housing demand is met, this will be a catalyst for additional commercial development. To further analyze the impact of additional housing stock and major employers on commercial development, an economic and market analyses will need to be performed to determine the existing and future needs, and the types of commercial uses that should be brought into the area.

### Large Amount of Vacant and Platted Residential, Institutional, and Commercial Land

The city of Greenville has a large amount of vacant and platted residential, institutional, and commercial land. According to the Hunt County Appraisal District, there are 700.71 acres of vacant and platted residential land, 583.50 acres of vacant and platted institutional land, and 895 acres of vacant and platted commercial land in the city (2009). Many of these lots, according to *Exhibit VII-10A*, are located in fill areas throughout the city. This is an opportunity for the city because it invites new development to the city's infill areas where utilities and other infrastructure will not have to go out as far to connect to the current facilities.

## Land Use Constraints

### Limited Residential Development Diversity

One of the objectives in the *Greenville Comprehensive Plan 2025* is to ensure that there is an adequate mix of housing stock to affordably accommodate residents at all income levels. Adding to this, city of Greenville staff mentioned in interviews that there was not enough housing in the $300,000 to $500,000 range to accommodate higher-paying employers. In 2009, only 71, or less than two percent, of the owner-occupied housing units in Greenville were valued in the $300,000 to $500,000 range or greater. City staff also voiced concerns over the low number of housing units constructed since 2005. According to the American Community Survey, only four percent of the current housing units were constructed after 2005 (*Exhibit VII-17*). As more major employers locate to Greenville, additional single- and multi-family housing will need to be constructed.

[5] Friends of Main Street, 2011
[6] American Community Survey, 2009

### Lack of Commercial Diversity

Limited commercial development is hindering the growth of Greenville. Not only do many Greenville residents travel outside the county for more commercial options, but much of the new commercial development in the city is occurring on the fringes of the city rather than the core. Limited commercial diversity not only impacts the city in terms of retail sales, but jobs as well. According to the 2006-2008 American Community Survey, 17 percent of Greenville residents work in the service industry, an additional 26 percent work sales or office jobs, and 26 percent have management or professional occupations. More commercial development is needed in the city to keep residents within the area rather than having them drive to Dallas or Collin County for various retail needs.

### Municipal Utility District

Municipal Utility Districts (MUDs) can constrain or benefit a city. It is often a challenge for cities to provide services for development in their outer limits. MUDs, however, make it easier by collecting taxes to recover infrastructure costs associated with new development that may not have to be incorporated within a city. While developing further away from the city center is not favorable because of the distance from jobs and other resources, it facilitates new developments such as housing and commercial in previously undeveloped areas as the city continues to grow.

MUDs are discussed in more detail in Chapter II. Hunt County Profile; refer to *Exhibit II-16* for a map of MUDs in the region. There currently are no established MUDs located in Greenville. MUDs can be a land use challenge on the city's core because it provides a financial incentive for new development outside the city boundary and can lead to leap frog development. However, consider the development of Sugar Land, Texas as stated by Joe Allen and David Oliver in *Texas Municipal Utility Districts: An Infrastructure Financing System*. Sugar Land was a sugar cane processing town until the 1960s. The city's population was about 5,000 in 1970 when the sugar cane fields in the fringe of the city were sold to developers who utilized special districts to develop the area. The city of Sugar Land annexed all the property by dissolving the special districts and assuming their debt after the build out of the communities was complete.[7] Their report concludes that the population has grown to more than 70,000 people and has a low ad valorem tax rate, and the city is viewed as a prosperous, high-quality community in Texas. MUDs can be a good economic tool to attract development to an area; however, caution needs to be taken because the city does not have jurisdiction over the development in the MUD.

## Greenville Zoning

Land use is the actual physical use of land, while zoning contains regulations to the building itself and the types of land uses that are allowed within the zoning boundary. *Exhibit VII-18* provides a quick summary of the differences between land use and zoning.

The city of Greenville passed and approved Zoning Ordinance Number 08-059 in May 2008. Districts or zones within the city are established for the purpose of regulating land use and controlling population density for public health, safety, convenience, and the general welfare of the community. Article III of the city's zoning ordinance provides a description of the various zoning categories.

[7] Allen, Joe B. and Oliver Jr., David M., Texas Municipal Utility Districts: An Infrastructure Financing System, Allen Boone Humphries Robinson LLP Attorneys at Law.

*Exhibit VII-18: Land Use and Zoning Differences*

| Land Use: | Zoning: |
|---|---|
| ▪ Land use refers to the activity that occurs on land and within the structures that occupy it. For example, low-density residential land use primarily includes single-family homes.<br>▪ A land use map is adopted as a component of the city's Master Plan and will be used to guide decision making by city boards, commissions, and departments.<br>▪ Land use plans are used to guide infrastructure and service delivery. For example, the sizing of wastewater lines are based upon land use assumptions for how an area will develop in the future. | ▪ Zoning regulates building size, bulk, density, and the way land is used.<br>▪ In some instances, zoning regulations also set parking requirements, the distance between the building and the lot line, the number of dwelling units permitted on a lot, the required open space for residential uses on the lot, or the maximum amount of building coverage on the lot.<br>▪ Zoning regulations are comprised of two components: the zoning text and zoning maps. The text establishes zoning districts and sets forth development regulations governing land use and development. The map shows the locations of the zoning districts. |

Source: Land Use vs. Zoning, City of San Antonio

About 41 percent of the land in the city of Greenville is currently zoned agriculture, as shown on *Exhibit VII-19*. Light industrial makes up 20 percent of the zoned land, followed by single-family medium lots at 13 percent. Greenville zoning is displayed in *Exhibit VII-19A*.

*Exhibit VII-19: 2008 Zoning Categories*

| General Zoning Category | Zoning Category | Area in Acres | Percent |
|---|---|---|---|
| Agriculture | Agriculture | 7,673.12 | 40.59% |
| Commercial | Commercial | 1,401.81 | 7.42% |
| Central Area | Central Area | 40.41 | 0.21% |
| General Retail | General Retail | 444.86 | 2.35% |
| Industrial | Light Industrial | 3812.52 | 20.17% |
| | Heavy Industrial | 62.53 | 0.33% |
| Neighborhood | Neighborhood Conservation District | 77.05 | 0.41% |
| | Neighborhood Service | 5.21 | 0.03% |
| Office | Office | 75.98 | 0.40% |
| Planned Development | Planned Development | 346.6 | 1.83% |
| Residential Housing | Single-family (Small Lot) | 769.08 | 4.07% |
| | Single-family (Medium Lot) | 2536.61 | 13.42% |
| | Single-family (Large Lot) | 1152.32 | 6.10% |
| | Single-family (Attached) | 29.15 | 0.15% |
| | Two Family | 64.55 | 0.34% |
| | Multi-family (Low Density) | 363.49 | 1.92% |
| | Mobile Home Park | 42.42 | 0.22% |
| | Patio Homes | 3.94 | 0.02% |
| | | 18,901.65 | 100.00% |

Source: Greenville Zoning Ordinance, 2008

## Greenville Zoning Challenges

Zoning challenges are dependent on how the city of Greenville continues to grow in the future. Currently the city offers residents the opportunity to be close to a high-populated urban city such as Dallas, yet it can act as a getaway that offers more open space. The city recognizes this unique characteristic, which features prominently in the city-produced brochure, *7 Great Things About Greenville*. The seven great things mentioned include:

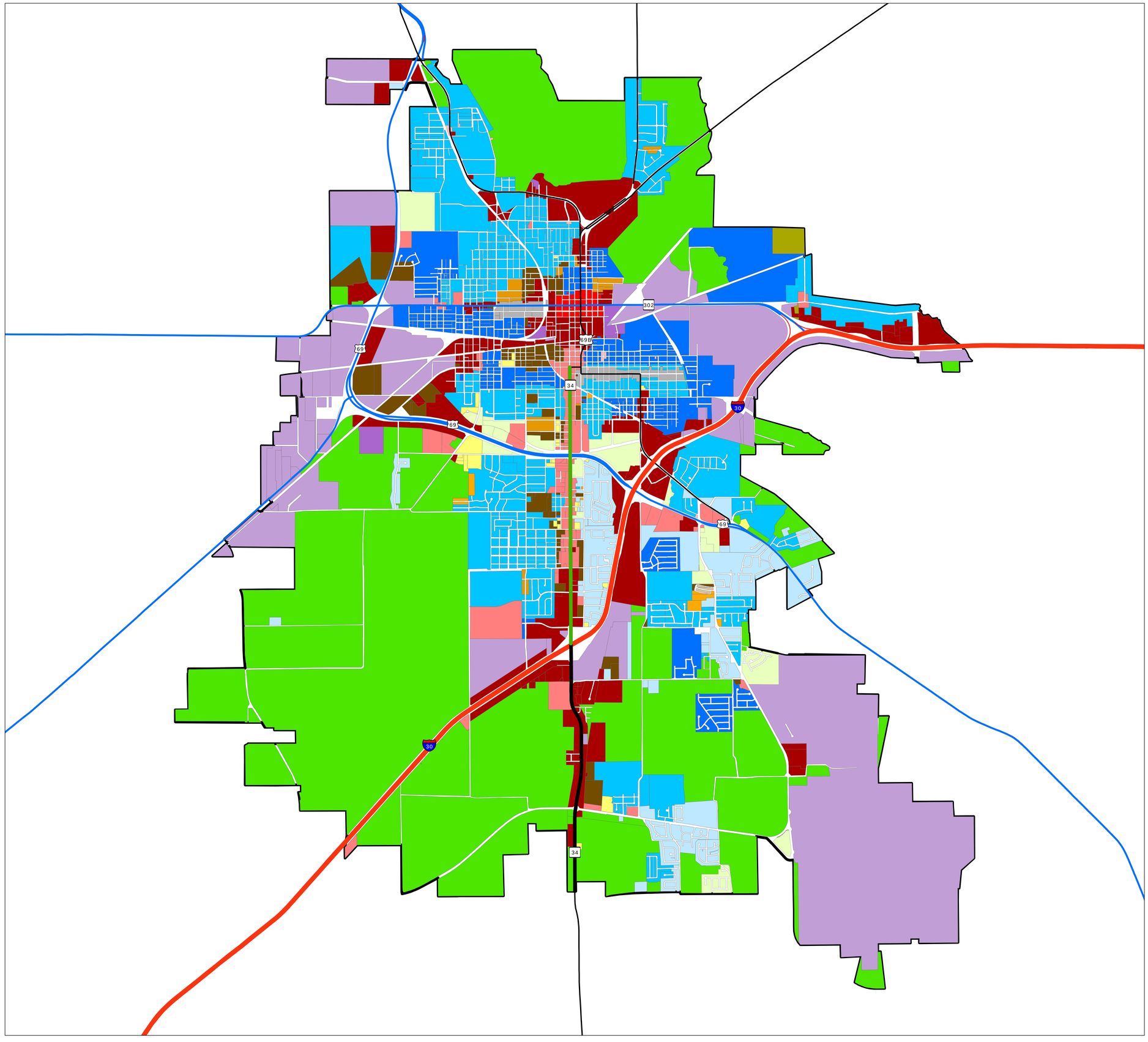
# GREENVILLE ZONING MAP

## Legend

### Zoning

- Agricultural
- Commercial
- Commercial Area District
- General Retail
- Light Industrial
- Heavy Industrial
- Neighborhood Conservation District
- Neighborhood Service
- Office
- Planned Development
- Single-Family (Small Lot)
- Single-Family (Medium Lot)
- Single-Family (Large Lot)
- Single-Family (Attached)
- Two Family
- Multi-Family (Low Density)
- Mobile Home Park
- Patio Home

North Central Texas Council of Governments
Transportation


0 0.5 1 2 Miles

March 2012

Exhibit VII-19A

1. Location, 2. Atmosphere, 3. A Lifetime of Learning, 4. Innovative Technology & Workforce Development, 5. Healthcare, 6. Historic Preservation, and 7. Saddles and Symphonies.
Since Greenville's rural hometown feel is a factor in three of the seven greatest things about the city, it is clearly one of the city's strongest assets.

1. *Location: Greenville's location less than 45 minutes east of Dallas on Interstate 30 makes it a gateway to both the Dallas-Fort Worth Metroplex and to scenic east Texas…*
2. *Atmosphere: Greenville's progressive attitude co-exists with a hometown atmosphere, creating a relaxed, upbeat lifestyle…Friends may meet on a downtown sidewalk, at a symphony performance or while shopping at major retailers…*
6. *Historic Preservation: Greenville's rich heritage is echoed by historic architecture in its downtown and in residential neighborhoods…From nationally recognized landmarks to quaint cottages, abundant reminders remain of a proud past pointing to a vibrant future…*

However, the feedback that was received through the Hunt County Transportation Committee was that the city wanted to grow into an economic, regional destination.

In order for the city to become an economic destination, current zoning may need to be modified to allow compatible uses in the same areas. As previously mentioned, a market analysis is needed to provide projections on the types of industry the city can attract given its current conditions. Recommendations also need to be made on changes to the city zoning code to allow the amount of commercial and industrial growth in the right locations to help the city become an economic destination.

As the city implements the marketing strategies to become an economic, regional destination, it should consider increasing density and the prevalence of mixed use. This should all be dependent on the amount of growth the city is trying to encourage. An economic destination will need to provide a range of housing and commercial uses for the additional residents and workers it will attract.

Preserving the small town persona and simultaneously transitioning into an economic destination will be difficult, but is possible, if steps to do so are carefully planned out. Mixed-use zoning is a tool that a city can use to concentrate and increase density in areas such as downtown, focus areas for future rail populations, or along commercial corridors such as SH 34. The city currently allows mixed-use development in the central area district, which allows housing above retail and commercial businesses. This rule could be applied to other parts of the city to increase density and provide residents essential uses. Encouraging development with higher density may free up more land for economic activity and provide additional housing options. As previously mentioned, 22 percent of the existing Greenville residents may retire within the next 20 years. This segment of the population could benefit from compact mixed-use development that is conducive to walking and provides more independence to retirees who may not want or need a single-family home, and/or have limited transportation mobility. Constructing denser development in infill areas may be more costly for developers because of the availability of undeveloped land in the periphery, but the cost of providing infrastructure and other services may be passed to residents and the city.

The Housing section revealed that housing costs are generally affordable in Greenville even when transportation costs are factored in. The areas where housing is not affordable when transportation costs are included are south of IH 30 on the fringes of the city. This is because the residential development in these areas is more sparse and further away from the jobs and other resources these residents have to drive to. The further away from the core of the city developers build, the further out city services and resources will need to be stretched. It costs more

than twice as much to pay for utilities, schools, and streets for one unit per acre as it does for 30 units per acre ($22,500/unit vs. $10,000/unit).[8]

According to Ordinance Number 09-089, commercial and highway retail zoning districts not adjacent to single-family residential zoning may exceed the height limitation (three stories for commercial and four stories for highway retail) provided that one additional foot is added to the required side and rear yard setback for each foot the structure exceeds the height limitation of the district. Increasing the height limitation provides more density; however, such setbacks could create an environment that is not conducive to pedestrian activity and can generate space that may restrict compact development.

Other zoning changes that should be examined are the various non-allowable uses in other zoning categories. Residential zoned areas do not allow business and professional uses (i.e., art studio, bank, barber or beauty shop, etc.) and retail and wholesale trade uses (i.e., pharmacy, convenience store, bakery, etc.). Allowing these uses into residential zoned areas could benefit residents by giving them choices that they could walk or bike to. These ideas, however, need to be vetted through the public.

Currently, there are restrictions on which land use types can be located next to each other. For example, single-family residential cannot be located next to a multi-family. The central area district is the only zoned area that allows a range of businesses and housing to be placed within its boundaries. This is not the case for the remaining zoning categories. The uses are separated, which poses a challenge because workers cannot easily access their jobs without an automobile. Single occupancy home-to-work trips made by cars and trucks can lead to increased traffic congestion which affects air quality emissions. Single-family medium lots make up about 13 percent of the overall zoned area in the city compared to multi-family that makes up about 2 percent. Zoning should be in place so that various housing types – single family, duplex, and multi-family – can co-exist close to employment destinations. Placing housing options within economic activity areas will allow workers to easily walk or bike to and from their place of employment as an alternate means of transportation, or provide for shorter trips overall for all modes, including the automobile.

Providing alternative transportation options to vehicle travel within the city boundaries can help maintain or influence how the city will continue to grow. While the city is aiming to be an economic destination, they are taking steps to preserve the hometown atmosphere. The city designated Neighborhood Conservation Districts in order to preserve, protect, enhance, and perpetuate unique and distinctive residential neighborhoods or commercial districts that have important characteristics that define the city. This is a step in the right direction.

## Best Practices

## Smart Growth Principles

Development decisions impact people's everyday lives. The siting and design of various developments, whether in employment, shopping, or entertainment centers, can affect where people live along with their modes of transportation. Developments such as schools and/or shopping centers are often so remote that they are not accessible via biking, walking, or public transportation. The only means to reach them is by automobile. Walking, biking, and public transportation are feasible modes of transportation if desired destinations are in walking distance. They are even more desirable modal choices when the routes are retrofitted with pedestrian amenities such as shaded sidewalks, lighting, benches, and crosswalks. The proximity of housing to desirable destinations such as jobs, schools, and entertainment venues impacts the cost of housing and transportation. The cost of

[8] Haughey, Richard M., *Higher-Density Development: Myth and Fact*. 2005.

housing and transportation impacts the physical and fiscal availability of resources as discussed in the Zoning Challenges section.

Smart growth describes the planning efforts of communities to manage and direct growth in a way that minimizes damage to the environment, reduces sprawl, and builds livable towns and cities.[9] The city of Greenville currently supports ten principles in their planning practices. These practices were developed by the Smart Growth Network and posted as an online resource by the city:

- Mix land uses
- Take advantage of compact design
- Create a range of housing opportunities and choices
- Create walkable communities
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development toward existing communities
- Provide a variety of transportation options
- Make development decisions predictable, fair, and cost effective
- Encourage community and stakeholder collaboration in development decisions

As the city continues to grow, it will be important to continue to refer to the smart growth principles to effectively direct growth throughout the city via zoning code updates or newly adopted overlays.

The opposite of smart growth is urban sprawl. Urban sprawl consists of low-density, single-use developments that are situated so far from each other that the most efficient form of travel between uses is the automobile. This feeds into more and wider roads, more parking situated in the front so that cars driving by can easily access a store. The building scale is then accommodated for automobile travel such as parking situated at the front of the store so that cars can easily access parking, larger roadways that incites vehicles being driven at higher speeds, sidewalks either don't exist and, if they do, it is perceived as being unsafe to walk due to the vehicle travel speeds and lack of shelter as the store front is buffered by parking. The Victoria Transport Policy Institute has gathered various sources that compare both strategies, as shown on *Exhibit VII-20*.

Development in already established areas such as a downtown can be more costly due to factors such as limited contiguous parcels owned by single or multiple willing sellers, the cost of demolishing or redeveloping existing buildings, and conforming to existing zoning codes. Take those factors away and the immediate cost to develop and build on large open space is less. Housing can then be designed and built with fewer restrictions, and this cost savings is realized in the sale/rental price to the homeowner. A similar pattern emerges in the cases of retail strip centers and the location of major employers. People choose to live or do business further away from the city center because they can get more land for less money than it costs to build in the city center. This feeds into urban sprawl which provides lower sale/rental costs to the current homeowner/business owner/employer. On the other hand, smart growth is a long-term strategy with initial costs to be higher. Greenville does not have current zoning in place that encourages compact development or the development form such as form-based codes that will be discussed later in this section. However, the city's existing zoning regulations do allow for Planned Unit Developments which could accommodate compact or mixed-use developments. Compact development has not been a priority in places like Greenville versus San Francisco because of the land availability. Local developers are used to building single-use structures which are cheaper to build, as opposed to multi-story buildings which have more costs due to accounting for structural needs. Zoning has not reflected compact development; as stated in

[9] Business Development Board of Martin County. http://www.bdbmc.org/index.php?submenu=_GET&src=gendocs&ref=Glossary%20of%20ED%20Terms&category=Residents#Smart%20Growth

the Zoning Challenges section, setbacks are in place for additional height added to buildings and the cost of city services costs twice as much in sprawled areas.

*Exhibit VII-20: Smart Growth and Sprawl Comparisons*

| | Smart Growth | Sprawl |
|---|---|---|
| Density | Compact development. | Lower density, dispersed activities. |
| Growth pattern | Infill (brownfield) development. | Urban periphery (greenfield) development. |
| Land use mix | Mixed land use. | Homogeneous (single use, segregated) land uses. |
| Scale | Human scale. Smaller buildings, blocks, and roads. More detail since people experience the landscape up close, as pedestrians. | Large scale. Larger buildings, blocks, wide roads. Less detail since people experience the landscape at a distance, as motorists. |
| Public services (shops, schools, parks) | Local, distributed, smaller. Accommodates walking access. | Regional, consolidated, larger. Requires automobile access. |
| Transport | Multi-modal transportation and land-use patterns that support walking, cycling, and public transit. | Automobile-oriented transportation and land-use patterns poorly suited for walking, cycling, and transit. |
| Connectivity | Highly connected roads, sidewalks, and paths allowing relatively direct travel by motorized and non-motorized modes. | Hierarchical road network with numerous loops and dead-end streets, and unconnected sidewalks and paths, with many barriers to non-motorized travel. |
| Street design | Streets designed to accommodate a variety of activities. Traffic calming. | Streets designed to maximize motor vehicle traffic volume and speed. |
| Parking supply and management | Limited supply and efficient management. | Generous supply, minimal management. |
| Planning process | Planned and coordinated between jurisdictions and stakeholders. | Unplanned with little coordination between jurisdictions and stakeholders. |
| Public space | Emphasis on the public realm (streetscapes, pedestrian environment, public parks, public facilities). | Emphasis on the private realm (yards, shopping malls, gated communities, private clubs). |

Source: Victoria Transport Policy Institute. Smart Growth More Efficient Land Use Management. TDM Encyclopedia

One of Greenville's greatest assets is that 40 percent of the area zoned is agriculture. This puts the city in a good position to plan out growth. Rural cities such as Greenville have an opportunity to grow and learn from built-out communities. The Smart Growth Network has highlighted three goals that rural communities could use as a framework for future growth:

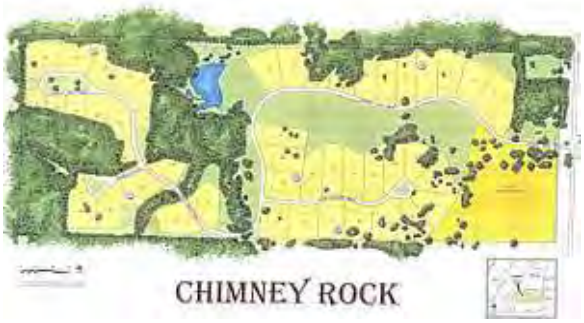
- Support the rural landscape to protect both working land and natural land.
- Help existing places thrive by ensuring places that the community values, such as downtowns, continue to be a focus of development or redevelopment priority.
- Create great new places that people don't want to leave such as enduring neighborhoods and communities.

The section below provides more description for each of the rural community framework.

Support the rural landscape to protect both working land and natural land. Farmland, rangelands, and natural areas are the landscapes that are unique to rural areas. Currently about 7,673 acres are zoned as agriculture in Greenville. Showing the economic value of these landscapes can provide justification for preservation. The production of renewable energy such as wind and/or solar farms or the biomass production from trees, crops, or livestock manure can be produced on open land and generate additional revenue. This would be good for the areas on the city's fringe. Conservation easements can also help protect the land while providing economic benefits. A conservation easement is a restriction landowners voluntarily place on specific uses of their property

to protect natural, productive, or cultural features.[10] The holder of the easement is either a nonprofit conservation organization or a government agency. The landowner is able to utilize the land per the self-imposed land restrictions and, as a result, the donation can have potentially significant tax benefits. The Chimney Rock Conservation Development, located in the town of Flower Mound, is made up of a 104.14-acre site with 52.2 acres preserved as a conservation easement. The easement helps protect open space which provides a scenic vista and a habitat for wildlife while simultaneously creating a backdrop for high-end housing. The conservation easement assures the residents these benefits will be preserved for future years to come. Housing in Chimney Rock Estates is marketed toward company executives who prefer rural or less developed environments and who also want to be close to the Dallas-Fort Worth International Airport.

*Chimney Rock Overview*




Source: Town of Flower Mound's Open Space Board, Town of Flower Mound's Open Space Vision PPT

A home with 5,000 square feet was selling for $800,000 to $900,000 as of March 2011.[11] Higher housing price points may become a future need as expressed by city staff.

As the city attracts more economic activity, the housing it provides will also need to be diversed, as mentioned in the Major Employer section. *Exhibit VII-21* provides an overview of the housing cost in Greenville per the 2009 Hunt County Parcel data.

A house with limited acres can average $189,549, while a single-family house can average $80, 516. The city could provide additional high-end housing values through a program similar to Chimney Rock's as they increase their economic activity.

*Chimney Rock*

Source: Town of Flower Mound's Open Space Board, Town of Flower Mound's Open Space Vision PPT

*Exhibit VII-21: Greenville Housing Costs*

| Land Use | Class | Improvement Value | Land Value | Total Value |
|---|---|---|---|---|
| House + Limited Acres | Farm/Ranch | $113,561 (average of 794 parcels) | $75.987 (average of 794 parcels) | $189,549 (average of 794 parcels) |
| | | $875,990 (highest cost) | $133,320 (highest cost) | $1,009,310 (highest cost) |
| | | $15,210 (lowest cost) | $5,470 (lowest cost) | $20,680 (lowest cost) |
| Mobile Home + Limited Acres | Farm/Ranch | $47,555 (average of 100 parcels) | $69,416 (average of 100 parcels) | $116,971 (average of 100 parcels) |
| | | $108,750 (highest cost) | $531,900 (highest cost) | $640,650 (highest cost) |
| | | $ (lowest cost) | $5,340 (lowest cost) | $5,340 (lowest cost) |

[10] Texas Parks and Wildlife. Conservation Easements A Guide for Texas Landowners. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0022.pdf

[11] Garvey Homes. Chimney Rock Estates in Flower Mound. Available Homes http://www.garveyhomes.com/chimneyrock.htm

| Land Use | Class | Improvement Value | Land Value | Total Value |
|---|---|---|---|---|
| Mobile Home | Residential | $29,444 (average of 206 parcels) | $16,673 (average of 206 parcels) | $46,117 (average of 206 parcels) |
| | | $114,670 (highest cost) | $26,100 (highest cost) | $140,770 (highest cost) |
| | | $0 (lowest cost) | $1,560 (lowest cost) | $1,560 (lowest cost) |
| Single Family | Residential | $70,766 (average of 8,641 parcels) | $9,749 (average of 8,641 parcels) | $80,516 (average of 8,641 parcels) |
| | | $2,160,000 (highest cost) | $40,000 (highest cost) | $2,200,000 (highest cost) |
| | | $0 (lowest cost) | $540 (lowest cost) | $540 (lowest cost) |

Limited acres refers to homesteads that can include up to 20 acres. Source: Hunt County Appraisal District, 2009

Economic destinations tend to offer various products from regional to local products. Local products can add to a local community's economic activity and unity. Greenville can maintain their "hometown atmosphere" through other rural development options such as locally grown and/or organic grown food. There is a growing movement of restaurants that specialize in "farm to table" food, and stores that sell locally grown foods and/or organic grown food, all which help promote the importance for food to be purchased at the local level supporting local farmers. In addition to local foods, other local merchants/small businesses can be highlighted in buying locally campaigns.

An example of a successful campaign developed in another part of the country is the Buffalo First campaign which was created because national retailers were not providing the resources Buffalo-Niagara region residents needed.[12] Buffalo First is made up of independent businesses, organizations, and concerned citizens with the goal to promote local, green, and fair economy in the Buffalo-Niagara region. This is a good strategy for farmers and merchants to pool their resources and promote products to residents and each other. For example, Five Points Bakery, which is a part of Buffalo First, purchases their products from local farmers in their community. Their website contains an interactive map that provides information on the farms they purchase products from, along with their location. Greenville currently has a Farmer's Market on Saturdays in Historic Downtown Greenville and a $hop Greenville First.

More evidence on supporting local businesses was provided by the Urban Conservancy in partnership with Civic Economics which published a report titled "Thinking Outside the Box" in 2009. The report focused on comparing the local recirculation of dollars by Magazine Street merchants in New Orleans with a large general merchandise store such as a Target. Magazine Street merchants offer goods and services that range from dollar stores to designer boutiques, from junk stores to internationally recognized auction houses, and a range of culinary options. Through publicly available data and assumptions, it was estimated that approximately 16 percent of an average Target store's revenue is recirculated locally. This is further evidenced by a survey conducted on merchants doing business on or near the Magazine Street corridor, which revealed that 32 percent of the estimated revenue on the street was recirculated locally. The conclusion of the report states that out of $50 million in total revenue, $8 million was circulated back to the community versus the $105 million in revenue from the Magazine Street merchants that resulted in $33.6 million circulating back to the community. Additionally, the land area needed for the average Target store can accommodate as many as 100 individual stores (see *Exhibit VII-22*).

[12] Tozzi, John. To Beat Recession, Indies Launch Buy-Local Push. Bloomberg Businessweek. February 27, 2009. http://images.businessweek.com/ss/09/02/0227_buy_local/6.htm

*Exhibit VII-22: Revenue Recirculation*


Source: Urban Conservancy & Civic Economics, Thinking Outside the Box

As the city moves forward with emphasizing development, it should consider putting priority on the local businesses that are currently located in the city, from the farm products to the local merchants. Protecting working and natural land is important for the city both economically and environmentally. However, Greenville is fortunate to have a relatively high percentage of open land and is afforded an opportunity to balance where and how much development will occur as it moves forward as a future economic destination.

It is also important to help existing places thrive by making sure places the community values, such as downtowns, continue to be a focus of development or redevelopment efforts. The city of Greenville has various programs to help bring redevelopment opportunities to downtown. The Main Street Division promotes the revitalization of downtown Greenville through a comprehensive approach of economic restructuring, design, historic preservation, and the promotion of cultural, economic, and historical significance.[13] The Main Street Board partnered with local banks to provide low-interest loans to encourage building renovations within the central area zoning district. Additionally, the Greenville Board of Development provides $25,000 annually in façade improvement grants to building owners in the downtown area. These incentives help make downtown a redevelopment priority focus.

The city should also focus on creating great new places that people don't want to leave such as enduring neighborhoods and communities. Vision plans can be utilized as neighborhood and community blueprints to designate preservation and growth centers. Vision plans are an integral component of comprehensive plans as commercial, entertainment, and employment centers grow in a city. Previously mentioned was an importance of focusing on local merchants that are situated in downtown; however, the city may have future plans for economic centers that are not in downtown. The city has done the PlaceMaking Workshop and other vision workshops that can guide the city on how to create new places that people don't want to leave as infill and new development comes to the city. Various centers throughout the Dallas-Fort Worth region have integrated single-use stores or big-box stores with boutique shops, restaurants, and entertainment venues, as opposed to strip centers that do not promote walkability, or a mix of uses that don't create enduring communities. An example of a shopping center that is not like the typical single-use or strip centers is Southlake Town Square in the city of Southlake which features dining, civic services, and high-density housing.

[13] City of Greenville. Main Street. http://www.ci.greenville.tx.us/index.aspx?nid=350

*Southlake Town Square Sidewalks*

Southlake City Hall and Tarrant County offices are located in the Town Square. *Exhibit VII-23* includes an aerial of the layout. Big and small retailers are located close together with limited parking along the sidewalk. The majority of the parking is in the periphery, making the development walkable. Other characteristics that make the development walkable include ample sidewalks that are aligned with landscaping (trees or brush), restaurants with outside seating, store windows, and facades with awnings. This type of development allows a range of age groups that can enjoy the community and don't want to leave. Most strip centers align the development on the periphery, the parking is located in the core, trees are scarce, and few shopping or dining opportunities are provided, making the development less walkable.

As the city moves forward with infill development and focusing on development along corridors, it could consider the development regulations needed to provide a welcoming atmosphere such as those found at the Southlake Town Center.

*Exhibit VII-23: Aerial View of Southlake Town Square*


Source: Southlake Town Square, Directory

## Form-based Code Best Practices

Zoning specifies the uses permitted and standards required which makes it one of the most important tools for implementing smart growth strategies. Form-based codes offer an alternative to conventional zoning;

*VII-24* highlights the differences. Form-based codes foster predicable built results and a high-quality public realm by using physical form rather than uses.[14]

*Exhibit VII-24: Conventional Zoning Codes vs. Form-based Codes*

| Conventional Zoning Codes | Form-based Codes |
|---|---|
| Auto-oriented, segregated land use planning principles. | Mixed-use, walkable, compact development-oriented principles. |
| Organized around single-use zones. | Based on spatial organizing principles that identify and reinforce an urban hierarchy, such as the rural-to-urban transect. |
| Use is primary. | Physical form and character are primary with secondary attention to use. |
| Reactive to individual development proposals. | Proactive community visioning. |
| Regulates to create buildings. | Regulates to create places. |

Source: Opticos Design, Inc., Stefan Pellegrini

Form-based codes focus on the relationship between a building's façade, its relation to other buildings, and to the scale and type of streets and blocks. The following images compare a development using conventional zoning on the left which favors the use of the development, to form-based zoning on the right which prioritizes the building's physical form. A building's placement, design, and how it interacts with the public realm should take priority over the use of the building because the building may outlive the businesses it houses.

*Emphasis is on the Form of the Building*

*Auto-dependent: Primary about use.*

*Walkable Urbanism: Intended place is primary and intended use is secondary.*

One of the biggest benefits of utilizing form-based codes is that it focuses the building configuration so that pedestrian activity is encouraged. Additionally, the buildings are encouraged to house different forms of businesses from offices to shopping stores. This is not entirely impossible with strip centers that were designed for auto-dependent use; however, as mentioned above, if the building outlives the business, at the very minimum, a building that is visually pleasing and has an active pedestrian atmosphere when empty has a greater potential to be rented/leased.

According to the Form-based Codes Institute, form-based codes commonly include the following elements:

- *Regulating Plan:* A plan or map of the regulated area designating the locations where different building form standards apply based on clear community intentions regarding the physical character of the area being coded.
- *Public Space Standards:* Specifications for the elements within the public realm (e.g., sidewalks, travel lanes, on-street parking, street trees, street furniture, etc.).

[14] Form-based Codes Institute. http://www.formbasedcodes.org/what-are-form-based-codes

- *Building Form Standards:* Regulations controlling the configuration, features, and functions of buildings that define and shape the public realm.
- *Administration:* A clearly defined application and project review process.
- *Definitions:* A glossary to ensure the precise use of technical terms.

Form-based codes may also include:

- *Architectural Standards:* Regulations controlling external architectural materials and quality.
- *Landscaping Standards:* Regulations controlling landscape design and plant materials on private property as they impact public spaces (e.g., regulations about parking lot screening and shading, maintaining sight lines, ensuring unobstructed pedestrian movement, etc.).
- *Signage Standards:* Regulations controlling allowable signage sizes, materials, illumination, and placement.
- *Environmental Resource Standards:* Regulations controlling issues such as storm water drainage and infiltration, development on slopes, tree protection, solar access, etc.
- *Annotation:* Text and illustrations explaining the intentions of specific code provisions.

SmartCode is a form-based code that is based on the rural-to-urban transect. This is information the city of Greenville has already been developing and incorporating into their future growth conversation. Information regarding the transect is available from the city online and provides a similar discussion as the information below.

A transect can be composed of six zones which can guide the implementation of the appropriate form-based code. Typical transect zones include: T1 Natural, T2 Rural, T3 Sub-urban, T4 General Urban, T5 Urban Center, and T6 Urban Core.

Description of Transect Zones:[15]

**T-1 Natural Zone** consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology, or vegetation.

**T-2 Rural Zone** consists of sparsely settled lands in open or cultivated states. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.

**T-3 Sub-urban Zone** consists of low-density residential areas adjacent to higher zones that contain some mixed-use development. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.

**T-4 General Urban Zone** consists of a mix of uses but primarily residential urban fabric. It may have a wide range of building types: single, side yard, and row houses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.

**T-5 Urban Center Zone** consists of a higher density mix of use buildings that accommodate retail, offices, row houses, and apartments. It has a tight network of streets with wide sidewalks, steady street tree planting, and buildings set close to the sidewalks.

**T-6 Urban Core Zone** consists of the highest density and height with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings are set close to wide sidewalks. Typically only large towns and cities have an Urban Core Zone.

[15]The Town Paper Publisher. SmartCode Version 9.2. 2009

SmartCode addresses development and design from a building sign up to the regional planning scale. The following image shows how the transect varies from city to city. El Paso's T6 Urban Core Zone allows for more height density versus Taos which allows, at the most, two to three stories. Additionally, the building architecture is different between the cities.

*Rural-to-Urban Transects*

*Typical Transect*


Source: Center for Applied Transect Studies

*El Paso, Texas Transect*

Source: PlaceMakers and Geoff Dyer

Home density difference

Urban core density difference

*Taos, New Mexico Transect*

Source: PlaceMakers and Geoff Dyer

The city of Greenville will need to determine how dense each zone should be via updating the current zoning or placing overlays. Zoning updates can be a longer process than placing an overlay. With an overlay the city could still utilize the existing zoning and, at the same time, place development criteria that may be missing to achieve a particular type of density of building form. The development size that occurs in each zone will reflect the city's development priority. This will provide guidelines for developers as they look at the city to place more employment, shopping, or housing stock as the future population projections are aiming at a 51 percent increase to 38,679 Greenville residents.

## Development Scenarios

As discussed in the Demographic section, it is projected that the population in Greenville will reach approximately 38,319, with 14,677 households and 33,372 jobs by 2035.[16] In order to become a self-sufficient regional and economic destination, the city of Greenville will need to make changes to not only increase population and density, but attract additional major employers and increase housing and retail options. To meet these goals, Greenville will need to become a place that people want to live, work, and play. One step in accomplishing this is establishing a sense of place.

## PlaceMaking Strategies

*Exhibit VII-25* is a list of placemaking strategies designed to make Greenville a destination. The first strategy, Restoring the Core, should concentrate on revitalizing the core of Greenville. This would be SH 34 where much of the older commercial development in the town is located. Revitalizing this corridor is essential because it brings people into the core of the city. Development along a highway draws people to the city, but it does not make the city a place people want to stay. Development along a historical commercial corridor with pedestrian amenities, landscaping, and people interacting with and within the environment can show visitors that Greenville is a place worth staying in.

*Exhibit VII-25: PlaceMaking Strategies*

| Strategy | Approach |
|---|---|
| Restoring the Core | 1. Intensify town centers<br>2. Compact mixed-use development<br>3. Support main street improvments<br>4. Emphasize new housing (diverse housing options)<br>5. Share and hide off-street parking |
| Expanding Transportation Choice | 1. Complete Streets – walkable, bikable, transit friendly<br>2. "Road Diets"<br>3. Safe Routes to School Programs<br>4. Create a "primary" transit network |
| Careful Extension of the Town Grid | 1. Contiguous to existing town<br>2. Interconnected street pattern<br>3. Small blocks<br>4. Pocket parks<br>5. Residential: smaller, narrow lots<br>6. Compact commercial nodes<br>7. Limited highway commercial |
| Community Based Plan | 1. Greater civic engagement in planning<br>2. Educate residents and officials<br>3. Visions need to match master plans and zoning ordinances<br>4. Consensus on not only location and form, but also scale + pace of growth |

Source: TND Planning Group. Eastern Shore Land Conservancy – Vibrant Towns

The second strategy, Expanding Transportation Choice, focuses on getting people out of their cars to enjoy the pedestrian city and all its amenities. This can be done through the construction and beautification of trails and sidewalks. If the city succeeds in getting people out of their cars, they will also need to offer additional transportation options. This could be a simple rubber tire trolley to carry people from the shops on SH 34 to the historic downtown area, or a shared bike program that allows visitors to check out or rent bikes to traverse the town.

[16] NCTCOG 2035 Forecast, 2011

The third strategy, Careful Extension of the Town Grid, means eliminating vacant areas of the city by encouraging infill development and the redevelopment of many of the vast parking facilities in the city. To do this, the city will need to develop and redevelop from the inside out, taking advantage of many of the vacant or underutilized lots, and/or converting some of the patches of agricultural land into pocket parks. This will increase density in the city and encourage more people to get out of their cars. Developing from the inside out will also help strengthen the core of the city and limit sprawl.

The fourth and most important strategy is Community Based Plans. This strategy is the most important because the residents of a city need to be active in defining Greenville as a place. The community vision of the city should be based on the culture and norms of those currently living in Greenville rather than outside architects. People are more likely to buy into the vision if they help shape it. If local business owners are part of the community beautification process that requires them to put in sidewalks or better signage, they will be less likely to push back. As previously mentioned in the Smart Growth section, the city held a PlaceMaking Workshop in July 2009 to review several placemaking strategies that have been successful in other cities around the nation. The next step would be a design charette that allows local stakeholders to develop a vision for the city to move forward with in the future.

## Recommendations

The recommendations presented below are consistent with the goals and policies of the Sustainable Development section of the Operational Efficiency Chapter of Mobility 2035. A key goal of the Sustainable Development Program is to improve the economic, environmental, and social sustainability of developments through sustainable transportation.

Because it is not possible to build enough transportation facilities to eliminate congestion or to completely meet future mobility needs, an integrated, multi-modal transportation system is necessary to support balanced job and household growth. This system must also take into account the linkages between housing, employment, retail, education, health, and recreational opportunities. The following recommendations were developed to assist the city of Greenville in the creation of sustainable framework for future development.

## Land Use Recommendations

The population in Greenville is projected to reach an estimated 38,679 with 14,039 households by 2035. This is a 44 percent increase in the number of households in the city. This means additional residential, commercial, institutional, and industrial resources will be needed to accommodate the growing population.

### Residential Development to Accommodate Growth

In 2010, there were 10,838 total housing units in Greenville; only 1,122 were vacant.[17] In order to meet the projected housing demand for 4,323 additional households, at least 3,201 new housing units will need to be constructed in addition to the existing 1,122 vacant housing units in the city. This figure does not take into account the number of housing units that will be demolished between now and 2035. At the average residential lot size of 0.39 acres per lot, the city of Greenville will need 1,248.39 additional acres of residential land by 2035 to meet future housing demand.[18] There are currently 701.91 acres of land in residential inventory, leaving a residential land shortfall of 546.48 acres. To sustainably accommodate this growth, the city should encourage more multi-family residential to increase density and further diversify the housing stock. If Greenville develops according to the Future Land Use Plan exhibited in *Greenville Comprehensive Plan 2025*, 5,346.10 acres will be devoted to residential use. This is more than enough to accommodate the future housing demands in Greenville. Despite the

[17] Census 2010
[18] Hunt County Appraisal District, 2009

amount of land available for residential development, a housing market analysis and needs assessment are needed to more accurately project future demand, along with the most effective placement.

### Preserve Open Space

Open space is one of the biggest assets in the city of Greenville. However, much of the currently undeveloped land is slated for redevelopment in the future land use map. The city should amend its future land use map to make provisions for undeveloped or agricultural land. Many of the newer suburban areas in the region look barren due to a lack of green open space. A development code should be put in place that requires a certain percentage of old growth forest be maintained as more of the city is developed. Greenville currently requires developers to submit a landscape plan for all new multi-family and non-residential development before a building permit is issued.[19] Requiring developers to plant trees in the parking lots of commercial developments not only visually enhances the community, but also provides shade for pedestrians and patrons walking through the parking lots.

### Create and Maintain Pedestrian Connections between Uses

As previously mentioned, 22 percent of the population will be retiring in the next 20 years. As retired seniors, this group will need better access to resources such as grocery stores, restaurants, pharmacies, and recreational activities. Because many in this group may not be able to drive, seamless pedestrian connections such as shaded sidewalks and walking trails need to be made between compatible land uses. This will not only benefit the senior populations, but local business as well. Businesses located within a pedestrian framework are not only appealing to pedestrians, but automobiles as well. Patrons can drive to a centralized parking facility and walk to several different businesses on the same trip. The longer patrons are out of their cars, the more time they can spend shopping.

The pedestrian framework also facilitates sidewalk cafés, city festivals, and the sense of place that can help Greenville become an economic destination.

### Allow Compatible Land Uses Connectivity

Zoning restrictions need to be changed to allow compatible land uses to co-exist in the same zone. As previously mentioned, Article 4 of the Greenville Zoning Ordinance does not allow multi-family, single family, and retail and general commercial in the same zone. Easing these restrictions or making the categories more flexible will encourage a more diverse mix of uses in close proximity, which can encourage more pedestrian and bicycle mobility. This has the potential to reduce traffic congestion, increase density, and improve the overall air quality in Greenville.

## Zoning Recommendations

### Implement Form-based Codes

As the city continues to develop along major corridors such as IH 30 and SH 34, form-based code overlays in certain areas or for specific developments are recommended to achieve a particular type of atmosphere. Previously mentioned is the Southlake Town Square which has a mix of big-box stores and specialty boutique shops. Parking, for the most part, is situated on the outer edges of the shopping center with some on-street parking. The store frontages are accessible by sidewalk, and store windows, awnings, and landscape make for a pleasant pedestrian environment. The buildings are closer together and not aligned horizontally, making it easier to access multiple stores without having to go back to the car. Driving from store to store is discouraged by this type of development form, which helps to keep traffic away from pedestrian walkways. The commercial and

[19] Greenville Zoning Ordinance, 2008. 104-105

highway retail zoning district's setback regulation, as it pertains to height additions, should be re-evaluated to balance a walkable atmosphere and vehicle traffic.

### SmartCode Implementation

The city would benefit from including SmartCode in other places, especially in areas that should have priority for development or redevelopment such as downtown and heavy utilized corridors such as SH 34. SmartCode will help place development regulations regarding building form and design, yet allow Greenville to maintain its small town feel. Rural areas can remain low density, and high-density development can be concentrated in the central city area and along major thoroughfares such as IH 30, US 69, and SH 34. Areas zoned T4 General Urban Zone to T6 Urban Core will define where higher density should be placed, which could help restrain leapfrog development that may occur as a result of cheap land and lax regulations on where development should occur.

### Market Analysis

Maintaining a small town feel and simultaneously becoming an economic destination can be achieved by adding the proper zoning regulations. It is recommended that the city perform market analyses to get a better understanding of the realistic projections of the industry and density that is expected in Greenville in the next 5, 10, and 15 years. Public meetings should then be held to provide information on the market potential for the city and to gather the public's development priorities and assess whether they can be sustained in the future. Renderings of the desired development should also be created in public meetings. As previously mentioned, the city of Greenville had an educational workshop on placemaking and form-based codes. The next step would be to determine how to incorporate form-based code into the existing zoning codes via an overlay district, or citywide standards to help accommodate future growth while maintaining a small town feel.

## Other Recommendations

### Greenville Catalyst Sites

Another essential component to Greenville becoming an economic destination is the development of catalyst sites to spur growth and economic development. Below is a list of key destinations in the city that are geographically positioned to enhance the city as an economic destination. Each site was chosen because it is an area with either a relatively high level of current commercial development, or has been designated by the city as a high-density commercial area in the future land use plan. Other criteria for the sites include high current and/or projected traffic counts, a high percentage of developable acreage, and located within walking distance of current or future residential. Specific design standards and uses for each of the sites should be developed in design charettes for each of the catalyst locations. Suggested uses for each site are listed below.

#### *IH 30 and Monty Stratton (Shops at Monty Stratton)*

The Monty Stratton interchange, located at the intersection of Monty Stratton Parkway between IH 30 and Lions Lair Road, was chosen as a catalyst site because city of Greenville staff identified it in interviews as a strong development center in the city. Although traffic counts were unavailable for Monty Stratton, the segment of IH 30 intersecting the site had an average daily traffic count of 25,719 in each direction in 2004. It is currently home to the Greenville Sports Complex and a future Paris Junior College site. The current land uses in the area include commercial, institutional, ranchland, and vacant and platted commercial and institutional land. The high traffic count and undeveloped land make the site a prime location for redevelopment. Future land uses around the site include retail, low-density residential, parks, and schools. The city intends to make this a walkable center, featuring pedestrian amenities and a number of retail and restaurant venues. Suggested uses for this site include

medium- to high-density residential, high-density retail, and restaurant venues. These uses may appeal to the students at the Paris Junior College location and the adjacent single-family households.

***IH 30 and SH 34 (Wesley)***

The intersection of IH 30 and SH 34 was chosen as a catalyst site because it is currently the commercial center of the city. Although auto oriented, the land uses at this site are diverse. Current land uses include multi-family residential, commercial and institutional, ranchland, and vacant and platted commercial property. It is currently home to Crossroads Mall, Walmart, Lowes, and a number of other shops and restaurants. Future land uses include, but are not limited to, retail, office, high-density residential, and commercial. In addition, traffic counts at this location are the highest in the city with a total average daily count of 26,019 along the segment of SH 34 and 25,719 in each direction of IH 30. If SH 34 is redeveloped as planned by the city, this catalyst site will be a major factor in the city becoming an economic destination. Suggested uses include high-density residential, a large entertainment venue such as Main Event, and additional restaurant venues.

***SH 34 and Traders Road***

The redevelopment of Traders Road, between SH 34 and Jack Finney Boulevard, was also identified by the city of Greenville as a future redevelopment site. This catalyst area has a myriad of uses, including commercial, single-family residential, multi-family residential, institutional, ranchland, and vacant and platted residential and commercial land. Some of the features in and around the catalyst site include Traders Supply Company, Radio Shack, and Dollar Tree. Future land uses include commercial, retail, high-density residential, public and schools, and industrial. The segment of SH 34 intersecting Traders Road had an average total daily traffic count of 18,900; data was not available for Traders Road. Suggested uses include medium-density residential, local restaurants, and medium-scale retail.

***IH 30 and SH 69 (Morton)***

The intersection of IH 30 and SH 69, located on the western portion of Greenville, was chosen as a catalyst site due to the variety of existing land uses in its vicinity, including over 28 acres of vacant and platted commercial property adjacent to IH 30. Current land uses include commercial, multi-family residential, single-family residential, institutional, and vacant and platted residential and commercial property. Current area features include Comfort Inn and Suits and Wesley United Methodist Church. Future land uses include commercial, retail, high-density residential, and low-density residential. The IH 30 segment located within this site had the highest average daily traffic count in the city in 2004 at 28,665 in each direction. The SH 69 portion had an average total count of 9,177. Suggested uses include medium- to high-density residential, medium-density retail, and local restaurants.

***US 69 (Joe Ramsey Boulevard) and Spur 302 (Lee Street)***

This catalyst site, located at the intersection of US 69 and Spur 302, was chosen due to its proximity to several of the city's industrial and vacant and platted commercial lots. Other land uses in the catalyst area include commercial, multi-family residential, single-family residential, institutional, and timberland. Some of the catalyst area features include New Phoenix Metals, Cassette Communications, and the Greenville Fire Station. Future land uses include commercial, retail, high-density residential, industrial, and schools. Suggested uses include medium-density residential, an office park, an industrial complex, and restaurant venues.

The development of these catalyst sites will be instrumental in the growth and development of Greenville as an economic destination. The following sites (*Exhibit VII-26*), located in high traffic areas with land available for redevelopment, are poised to make an impact on the city. If the proper investment is made in the design and

construction of these sites, they have the potential to bring the city one step closer to becoming an economic destination.

*Exhibit VII-26: Greenville Catalyst Sites*

| Catalyst Site | Monty Stratton Interchange | IH 30 and SH 34 (Wesley) | SH 34 (Wesley) and Traders Road | IH 30 and SH 69 (Moulton) | US 69 (Joe Ramsey) and Spur 302 (Lee) |
|---|---|---|---|---|---|
| Location | Monty Stratton Parkway between IH 30 and Lions Lair Road | The intersection of IH 30 and SH 34 | Traders Road between SH 34 and FM 1570 (Jack Finney Blvd.) | Intersection of IH 30 and SH 69 | Intersection of US 69 and Spur 302 |
| Features | 1. Paris Junior College<br>2. Greenville Sports Complex<br>3. Greenville High School | 1. Crossroads Mall<br>2. Alliance Bank<br>3. Ridgecrest Baptist Church<br>4. Walmart<br>5. Lowes | 1. Walmart<br>2. Traders Supply Co.<br>3. Radio Shack<br>4. Dollar Tree | 1. Comfort Inn and Suites<br>2. Wesley United Methodist Church | 1. Greenville Fire Station<br>2. St. John Missionary Baptist Church<br>3. New Phoenix Metals<br>4. Cassette Communications<br>5. Hearth Mark |
| Current Land Uses | 1. Commercial<br>2. Vacant Platted Commercial<br>3. Institutional<br>4. Vacant Platted Institutional<br>5. Ranchland | 1. Multi-family Residential<br>2. Single-family Residential<br>3. Commercial<br>4. Vacant Platted Commercial<br>5. Ranchland<br>6. Institutional | 1. Commercial<br>2. Vacant Platted Commercial<br>3. Single-family Residential<br>4. Multi-family Residential<br>5. Mobile Homes<br>6. Institutional<br>7. Ranchland<br>8. Vacant Platted Residential | 1. Commercial<br>2. Vacant Platted Commercial<br>3. Multi-family residential<br>4. Single-family Residential<br>5. Vacant Platted Residential<br>6. Institutional<br>7. Vacant Platted Institutional<br>8. Timberland<br>9. Utility | 1. Commercial<br>2. Vacant Platted Commercial<br>3. Single-family Residential<br>4. Multi-family Residential<br>5. Vacant Platted Residential<br>6. Institutional<br>7. Timberland |
| Future Land Uses | 1. Retail<br>2. Low-density Residential<br>3. Parks<br>4. Public and Schools | 1. Retail<br>2. Office<br>3. Low-density Residential<br>4. High-density Residential<br>5. Public/Semi-public<br>6. Commercial | 1. Commercial<br>2. Retail<br>3. High-density Residential<br>4. Low-density Residential<br>5. Mobile Homes<br>6. Medium-density Residential<br>7. Public and Schools<br>8. Industrial | 1. Commercial<br>2. Retail<br>3. High-density Residential<br>4. Low-density Residential<br>5. Public/Semi-public | 1. Commercial<br>2. Retail<br>3. High-density Residential<br>4. Low-density Residential<br>5. Industrial<br>6. Public and Schools |
| Average Daily Traffic Counts | 1. IH 30 Segment: 25,719 each direction<br>2. Monty Stratton: unavailable | 1. SH 34: 26,079 total<br>2. IH 30: 25,719 each direction | 1. SH 34: 18,900 total<br>2. Traders Road: unavailable | 1. IH 30: 28,665 each direction<br>2. SH 69: 9,177 total | 1. US 69 NB: 17,952<br>2. US 69 SB: 9,167<br>3. Spur 303 EB: 9,460<br>4. Spur 303 WB: 6,108 |

Source: Texas Department of Transportation, 2003; Hunt County Appraisal District, City of Greenville Comprehensive Plan, 2025

# VIII. State Highway 34 Corridor Study

## Introduction

A key focus of the Hunt County Transportation Plan is an analysis of SH 34 in Greenville and potential corridor redevelopment strategies. Over the last two decades, city leaders and developers throughout the country have focused on improving downtowns, creating new town centers, and adding lifestyle additions to malls. This has left once vibrant arterial commercial corridors, such as SH 34, overlooked as places of new market opportunities. This has resulted in the low intensity, general commercial zoning along corridors remaining untouched for years, as is the case for the SH 34 corridor.

This has resulted in automobile-dominated linear environments that are challenging to retrofit as productive, multimodal places that integrate well with the community. This remains largely true of the SH 34 corridor. Because there is an excess of retail, short-term vacancies occur as individual businesses relocate, close branches, or fail. Since there is sufficient consumer spending, it is usually only a matter of time before these vacancies are filled, much like the redevelopment pattern along SH 34. Long-term structural vacancies, however, afflict portions of the corridor that developers and communities eye for redevelopment and revitalizations. When owners of properties begin to ask lower rents, other owners along the corridor may be forced to lower rents just to maintain current tenants, leading to a downward spiral along the corridor. The area-wide lowering of lease rates leads to lower operating income which leads to deferred maintenance and a lack of reinvestment over time. Low rents also attract marginal businesses – seasonal stores, auto repair stations, and a proliferation of check-cashing operations. Additionally, when a corridor has high vacancies, high turnover, and marginal businesses, it has structural vacancy problems which can deter developers interested in potential commercial infill projects in the local area. The SH 34 corridor has experienced many of these challenges.

*Main Street, Grapevine, TX*


Source: NCTCOG

## Existing Roadway Conditions

There are many roadways of different classes traversing through the city of Greenville. SH 34 is one of the most essential to its growth and development. The portion of SH 34 in the State Highway 34 Corridor Analysis is a major arterial spanning from IH 30 on the south to just north of Lee Street (SH 224) to the north. The segment between IH 30 and Joe Ramsey Boulevard (US 69) is a five-lane undivided roadway with a speed limit of 45 miles per hour and a center turn lane. The roadway shrinks to a four-lane undivided highway between Joe Ramsey Boulevard and O'Neal Street with a speed limit of 40 miles per hour. SH 34 shifts east at O'Neal Street and divides into two segments as it traverses through downtown. The western portion, Stonewall Street, is a two-lane northbound roadway with a speed limit of 30 miles per hour, and the eastern portion, Washington Street, is a two-lane southbound roadway with a speed limit of 30 miles per hour.

Other than IH 30, which has average daily traffic counts ranging from between 25,719 to 28,664 in each direction, SH 34 has the highest average daily traffic counts in Greenville.[1] Some sections, such as the portion between US 69

[1] Texas Department of Transportation, 2003

and Terrell Road, have an average total daily count as high as 27,027 per day. The segment between Terrell Road and IH 30 has an average total daily count of 26,079 (*Exhibit VIII-1*).

*Exhibit VIII-1: State Highway 34 Traffic Counts By Segment*

| Segment | Traffic Counts |
|---|---|
| US 69 to Stanford Street | 16,057 |
| US 69 to Terrell Road | 27,027 |
| Terrell Road to IH 30 | 26,079 |
| Stanford Street to O'Neal Street | Unknown |
| O'Neal Street to Lee Street (northbound) | 6,963 |
| O'Neal Street to Lee Street (southbound) | 6,963 |

Source: Texas Department of Transportation, 2003

Like many commercial corridors in the region, SH 34 is designed to move cars between destinations quickly and promote auto-oriented commercial activity. Unfortunately, this type of commercial focus and development, as in other commercial corridors in the region, has seen a decline in economic vitality as infrastructure is aging and newer developments are constructed in other areas.

SH 34 has limited right-of-way, inconsistent and fragmented sidewalks, and numerous curb cuts and driveways accommodating for various retail and commercial uses. Combined with a variety of overhead power lines and a mixture of aging commercial structures, including pockets of strip center development and some new construction, it looks like one of a million such roads found anywhere in America. This community and this roadway are in good company with many others across the region and the country that are experiencing growing pains as infrastructure ages and once active areas of development are seeing more vacancies as newer areas of commercial development are being constructed in other locations around town. Several solutions for revitalization will be discussed; one such solution being to aid in the revitalization of SH 34 through placemaking. Rather than being identified as a commercial corridor designed to move cars from point A to point B, SH 34 could become a destination itself that can focus on small businesses and unique character, a true complement to larger retail uses developed along IH 30.

## SH 34 Current Land Use Distribution

## Commercial Land Uses

Being predominantly a commercial corridor, the distribution of land uses along SH 34 is different from the rest of the city. Rather than large tracts of agricultural or residential land, SH 34 is primarily commercial. Some of the commercial establishments along the corridor include JC Penney located in the Crossroads Mall, Britain Chevrolet, and Brookshire's Grocery Store. A number of the commercial buildings are single-family residential units that have been converted to offices. Commercial property accounts for 75 percent of the land in the corridor, or 160.24 acres (*Exhibit VIII-2*). Many of the commercial establishments are in the form of drive-thru restaurants, strip centers, and big-box retailers. An additional 11.21 acres of vacant and platted commercial property is available for redevelopment. Several of the vacant and platted commercial lots, such as the cluster of properties at the intersection of SH 34 and Spencer Street, are contiguous and may have redevelopment potential in the future.

*Exhibit VIII-2: State Highway 34 Land Use Distribution*

| Land Use Category | Total Parcels | Total Acreage | Percent Total Acreage |
|---|---|---|---|
| Agricultural or Undeveloped | 1 | 0.13 | 0.06% |
| Commercial | 170 | 160.24 | 75.00% |
| Institutional | 20 | 23.38 | 10.95% |
| Multi-family | 6 | 1.59 | 0.74% |
| Single-family – Large Lot | 4 | 2.94 | 1.38% |
| Single-family – Small Lot | 41 | 8.86 | 4.15% |
| Vacant – Commercial Inventory | 20 | 11.21 | 5.25% |
| Vacant – Residential Inventory | 29 | 5.29 | 2.47% |
| Total | 291 | 213.64 | 100.00% |

## Residential Land Uses

Residential land accounts for nearly nine percent of the property in the corridor. The majority of this land, 8.86 acres, is used for small lot single-family housing of less than half an acre. Large lot single-family parcels of over half an acre cover 2.94 acres in the corridor, and multi-family housing, consisting of condominiums and apartments, account for 1.59 acres. This is less than one percent of the property in the corridor. An additional 5.29 acres is vacant and platted land for future residential use.

## Institutional and Agricultural Land Uses

Institutional land, such as the Salvation Army and Crestview Christian Church, accounts for nearly 11 percent of the property, or 23.38 acres. There was only one agricultural parcel directly adjacent to the corridor accounting for less than one percent, or 0.13 acres. SH 34 land use is displayed in *Exhibit VIII-3*.

## Land Use Constraints

## Current Land Use Connectivity

SH 34's success as a commercial corridor is predicated upon the connection of the land uses to the roadway and each other. Although 74 percent of the land uses in the corridor are commercial, the density of the commercial land uses is low, averaging almost one acre per lot. Aerial photographs of the corridor reveal that the majority of the acreage on many of these properties is parking spaces (*Exhibit VIII-4*). According to city of Greenville staff, the mall and other tenants in the corridor have leasing agreements that prevent shared parking. This may not be the best use of commercial property in the corridor given that there are only 11.21 acres of vacant and platted commercial property in the corridor. The barriers between adjacent uses prevent patrons from parking in a single parking lot and walking between uses.

In addition, a sea of parking in front of a commercial property is a barrier between both pedestrian and automobile traffic and the actual commercial use. As noted, the majority of the corridor is a four-lane (two lanes in each direction with a continuous center turn lane) 45 mile per hour highway. This makes it difficult for drivers to notice the land uses with peripheral vision as they traverse the corridor. In addition, they do not have a direct line of site to the businesses in front of them. Pedestrians are not only barred from the uses by large expanses of parking, but a lack of sidewalks and other pedestrian amenities between housing and other land uses offer few safe access options other than the automobile.

# SH 34
# LAND USE

**Legend**

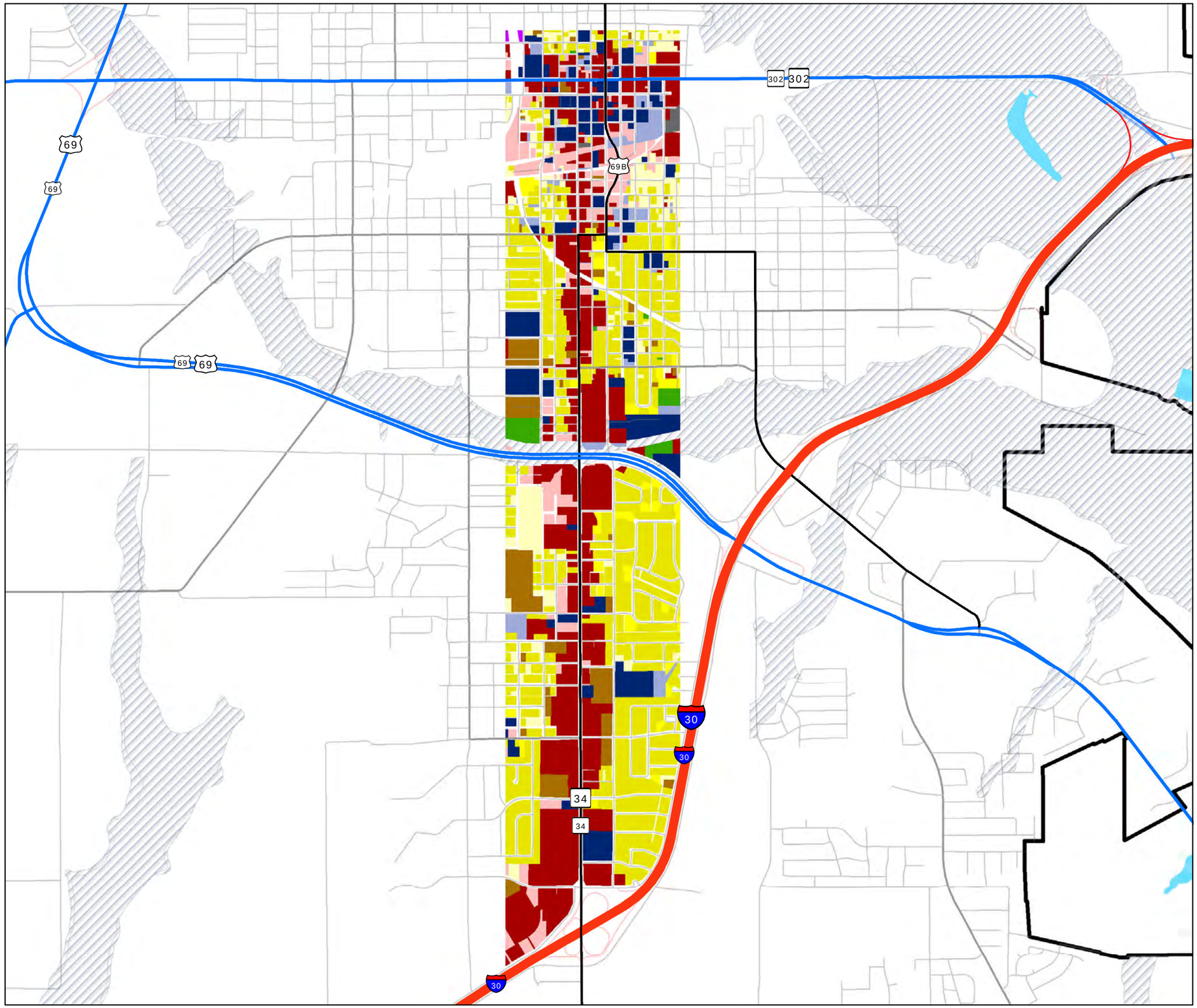
**SH 34 Land Use**

- AGRICULTURAL OR UNDEVELOPED
- COMMERCIAL
- INDUSTRIAL
- INSTITUTIONAL
- MOBILE HOMES
- MULTI-FAMILY
- RAILROADS
- SINGLE FAMILY - LARGE LOT
- SINGLE FAMILY - SMALL LOT
- UNKNOWN
- UTILITIES
- VACANT - INSTITUTIONAL INVENTORY
- VACANT-COMMERCIAL INVENTORY
- VACANT-RESIDENTIAL INVENTORY
- Floodplain
- Primary Highway
- Secondary Highway
- Access Ramp
- Major Arterial

North Central Texas Council of Governments
Transportation

0 12.5 25 50 Miles

March 2012




0 0.04 0.08 0.16 0.24 Miles

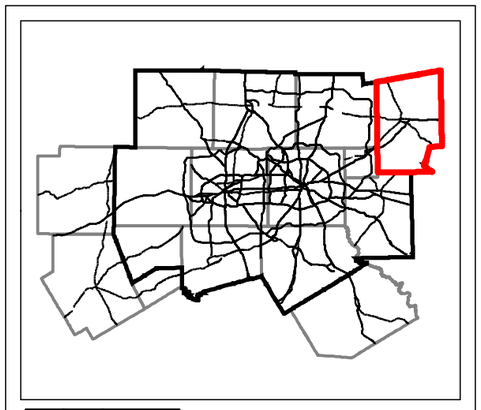
Exhibit VIII-3

# SH 34 PARKING AERIAL

**Legend**

- Primary Highway
- Secondary Highway
- Access Ramp
- Major Arterial

North Central Texas Council of Governments
Transportation


0 0.004 0.008 0.016 0.024 Miles

March 2012

Exhibit VIII-4

The fact that some of the current development does not conform to the 2008 Greenville Zoning Ordinance amplifies this problem. Also, the current ordinance does not have frontage maximums for commercial properties (*Exhibit VIII-5*). According to dimensional requirements of non-residential zoning districts provided in the zoning ordinance, commercial buildings are required to have a minimum frontage of 20 feet for neighborhood service (convenience stores) or general retail district, and 10 feet for commercial district. In addition, these uses have a maximum lot coverage of 70 percent.

*Exhibit VIII-5: Greenville Dimensional Requirements of Non-residential Zoning Districts*

| DISTRICT | MINIMUM LOT SIZE REQUIREMENTS | | | MAXIMUM LOT COVERAGE (%) | MINIMUM YARD REQUIREMENTS (ft) | | | | MAXIMUM BUILDING HEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AREA (sf) | WIDTH (ft) | DEPTH (ft) | | FRONT | REAR | SIDE | CORNER | (story) | (ft) |
| O | 6,000 | 50 | 100 | 60 | 15 | 10 | 10%W | 15 | 2 | 30 |
| NS | 6,000 | 50 | 100 | 60 | 20 | 10 | 10%W | 20 | 2 | 30 |
| GR | 6,000 | 50 | 100 | 70 | 20 | 10 | 10%W | 20 | 3 | 40 |
| HR | 6,000 | 50 | 100 | 70 | 20 | 10 | 10%W | 20 | 4 | 60 |
| C | 6,000 | 50 | 100 | 70 | 10 | 10 | ** | 15 | 3 | 40 |
| CA | 5,000 | 50 | 100 | None | * | 10 | ** | 15 | None | None |
| I-1 | None | None | None | 70 | * | 10 | ** | 15 | None | None |
| I-2 | None | None | None | 70 | * | None | ** | 15 | None | None |

10%W: Side yard setbacks shall be ten percent (10%) of the lot width or ten feet (10'), whichever is less.
* Thirty foot (30') minimum front setback from centerline of abutting street.
** Five foot (5') minimum side yard setback where adjacent to residential zoning.
NOTE: See Sections 5-1.5 through 5-1.13 for additional and supplementary dimensional requirements.

Source: Greenville Zoning Ordinance, 2008

## Disconnection of Compatible Land Uses

Like many commercial corridors, land uses are segregated along SH 34. Rather than locating residential development adjacent to compatible commercial land uses such as grocery stores, restaurants, or movie theaters, they are next to car washes or dilapidated strip centers. Much of this would have happened over time as uses were changing and certain locations were grandfathered in. In addition, the lack of sidewalks between land uses also makes it difficult for pedestrians to access adjacent land uses. Even if patrons drive to their initial destination, there is no clear pedestrian connection between adjacent buildings to facilitate walking. Another connectivity issue is restricted mixed use. Residential uses are currently not permitted on commercial properties along SH 34. This prevents current property owners from redeveloping their parking lots to include high-density residential or mixed use.

## Limited Multi-family Development

One of the biggest land use concerns along SH 34 is density. Not only is the commercial development relatively sparse, residential development is as well. According to the Hunt County Appraisal District, there are only six multi-family developments along SH 34 (2009). Adding additional multi-family housing is a strategy that will not only accommodate the projected growth in Greenville, but will get more people and/or business patrons on SH 34.

# Zoning

## Zoning Descriptions

Zoning around SH 34 within the city boundary ranges from agriculture to heavy industrial, as shown in *Exhibit VIII-6*. Additional descriptions of the zoning categories are available in Appendix A. Commercial and general retail zoning aligns much of the corridor. Commercial zoning consists of retail trade, administrative, professional offices, and service to the general public. The emphasis is on large-scale stores and specialized shops. Some examples of permitted uses include, but are not limited to, hospitals, bus stations or terminals, and indoor/outdoor amusement businesses. General retail consists of retail trade, including wholesale trade or other general business uses. Some examples of permitted uses include, but are not limited to, greenhouse or plant nursery, convent or monastery, and youth sports and recreation facilities.

Zoning was measured using the area within a quarter mile of SH 34 between IH 30 and Lee Street. A quarter- to half-mile radius is considered the industry standard for how far someone is willing to walk to various destinations, depending on the route alignment and various features along a corridor. The zoning categories within a quarter mile of SH 34 include commercial, which accounts for 18 percent of the land; general retail accounting for 17.39 percent of the land; and large lot single-family housing, comprising 19 percent (*Exhibit VIII-7*).

*Exhibit VIII-7: SH 34 Zoning Within Quarter Mile*

| Zoning Category | Area in Acres | Percent |
|---|---|---|
| Central Area | 40.4100 | 4.38 |
| Commercial | 165.9100 | 18.00 |
| General Retail | 160.3300 | 17.39 |
| Light Industrial | 10.8500 | 1.18 |
| Neighborhood Conservation District | 19.6500 | 2.13 |
| Neighborhood Service | 1.9500 | 0.21 |
| Office | 14.4100 | 1.56 |
| Planned Development | 38.6900 | 4.20 |
| Single-family (small lot) | 43.2200 | 4.69 |
| Single-family (medium lot) | 152.5400 | 16.55 |
| Single-family (large lot) | 174.9800 | 18.98 |
| Single-family (attached) | 1.5800 | 0.17 |
| Two-family | 13.1400 | 1.43 |
| Multi-family (low density) | 84.0600 | 9.12 |
| | 921.7200 | 100.00 |

Zoning also regulates the parking supply and placement needed with each use. Off-street parking requirements are currently set to minimum space requirements. Minimum parking spaces are provided to ensure there is enough parking to meet demand for a particular development. With minimum parking standards, the developer is not allowed to provide less parking, but can provide more parking spaces if they choose to do so. Donald C. Shoup, Ph.D., is a professor with the Department of Urban Planning, School of Public Policy and Social Research, at the University of California, Los Angeles and has done extensive research on parking issues. Shoup states in his report, "The Trouble with Minimum Parking Requirements", that

> *"Urban planners typically set the minimum parking requirements for every land use to satisfy the peak demand for free parking. As a result, parking is free for 99 percent of automobile trips in the US. Minimum parking requirements increase the supply and reduce the price – but not the cost –*

# SH 34 Zoning 2008

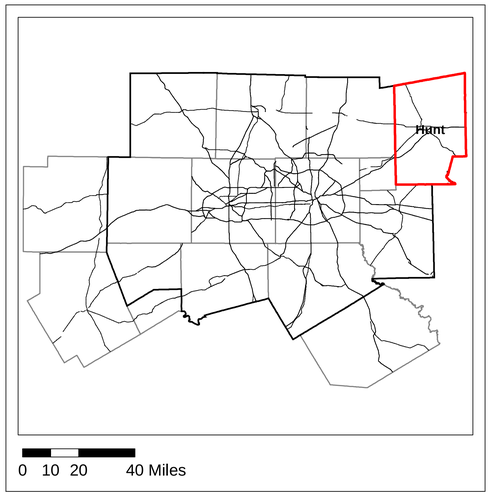
## Legend

SH 34 Corridor Study

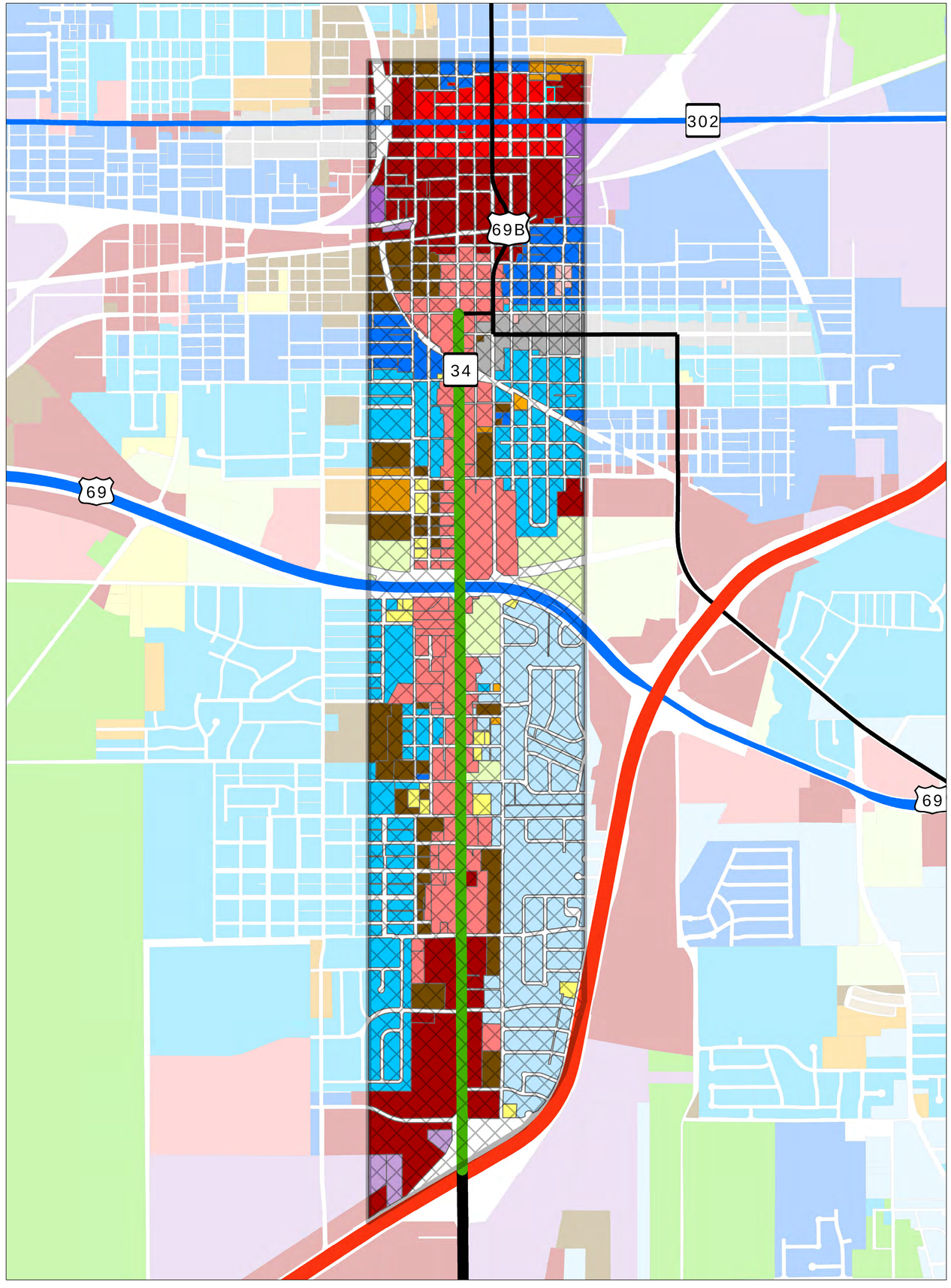
### SH 34 Zoning

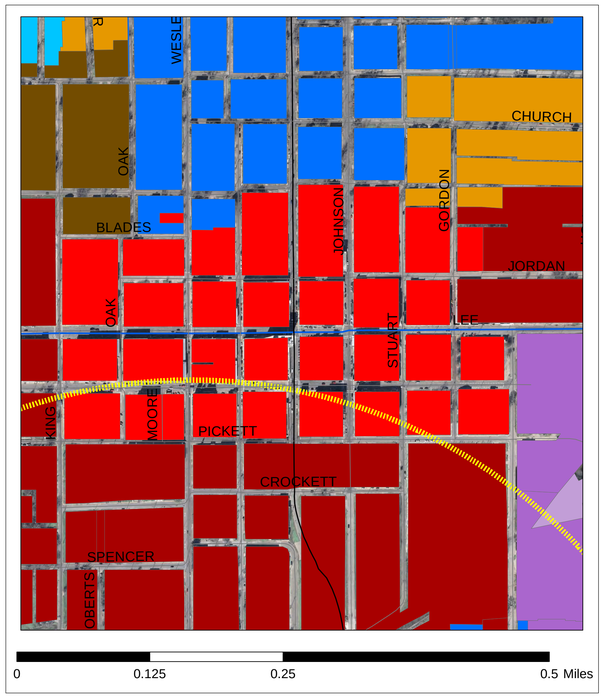
- Agricultural
- Commercial
- Commercial Area District
- General Retail
- Light Industrial
- Heavy Industrial
- Neighborhood Conservation District
- Neighborhood Service
- Office
- Planned Development
- Single-Family (Small Lot)
- Single-Family (Medium Lot)
- Single-Family (Large Lot)
- Single-Family (Attached)
- Two Family
- Multi-Family (Low Density)
- Mobile Home Park
- Patio Home

North Central Texas Council of Governments
Transportation




March 2012




Downtown Greenville

Exhibit VIII-6

*of parking. They bundle the cost of parking spaces into the cost of development, and thereby increase the prices of all the goods and services sold at the sites that offer free parking."*

Peak demands for parking are typically only reached on a handful of days a year and are typically associated with holiday shopping. The majority of the year those spaces are vacant and underutilized. Below are examples of minimum parking requirements (per the city's Zoning Ordinance, Article V, Section 5.03) of some of the uses that may be allowed along the SH 34 corridor:

- Retail or personal service: one space per 200 square feet with a minimum of five spaces. Structures with 50,000 square feet in size, one space per 250 square feet maximum.
- Clinic or doctors' offices: one space per 200 square feet of floor office area, with a minimum of five spaces.
- Restaurant, café, cafeteria, or private club: one space per 100 square feet of gross floor area or one space for every three seats, whichever is greater.
- Schools, elementary or junior high: one space per classroom, plus one space per four seats in any auditorium, gymnasium, or other place of assembly.
- High school, college, or university: one space for each two beds or examination room or one space for every two employees (based on full occupancy).

Parking requirements impact the outcome of how much land is available for development. The developer needs to incorporate the minimum parking standards into the overall development; therefore, the building size itself can be constricted to accommodate for the required parking.

## Zoning Challenges

Zoning along SH 34 currently precludes the development of diverse residential options necessary to produce a vibrant corridor. Currently there is no residential zoning located immediately along SH 34, and the main zoning categories along SH 34 – commercial and general retail – do not allow residential uses. Single-family residential (medium and large) is located behind commercial and general retail zoning. The central area zoning category allows a mix of commercial and residential. Additionally, the neighborhood service zoning is minimal, making up about less than one percent of the acres within the quarter mile of SH 34. The neighborhood services category allows business and retail to be combined with residential loft units and fosters group homes as a conditional use. The lack of residential zoning near SH 34 could pose a problem for residents seeking more access to the amenities of the corridor. Residential zoning, coupled with adequate pedestrian amenities, could help decrease the traffic in the area by encouraging people to walk in order to access the commercial and retail uses.

Another zoning challenge stemming from the parking requirements is the requirement for revised or additional uses. According to Section 5-3.4(A) of the parking ordinance, if a change of use or an increase in floor area, seating capacity, or any unit of measurement used for the determination of off-street required parking occurs, additional parking facilities are required. This can hinder a business' ability to grow. A small restaurant that wants to expand to offer retail or any other service may be land locked in the space, forcing them to either not expand or look at another area in or out of the city for the expansion. Recommendations on a possible way to resolve this is included in the Recommendations section.

## Shared Parking

Too much land dedicated to parking can lead to unsafe pedestrian conditions, as well as unattractive commercial or shopping areas which can impact the success of the businesses. There are direct and indirect economic benefits for businesses that participate in reduced parking management strategies such as shared parking. The cost of businesses providing their own required parking spaces can be reduced by sharing the parking costs amongst other

participating businesses. The ability to park once can encourage patrons to shop from store to store. It is also an efficient land use tool which can free up space for other uses, whether it is a park or more businesses.

Parking management includes a variety of strategies that encourage more efficient use of existing parking facilities, improve the quality of service provided to parking facility users, and improve parking facility design.[2] Shared parking is one of the strategies used to more efficiently manage parking supply. Shared parking consists of parking spaces that serve multiple users. It works among users that have a different parking demand such as an office building that is open from 8 am to 5 pm and a restaurant that has a higher parking peak in the evening and weekends. The city has an ordinance for shared parking located in Zoning Ordinance, Article V, Section 5.3.7. The Planning and Zoning Commission may authorize a parking requirement reduction of not more than 50 percent for mixed-use projects or nearby uses with different peak parking demands or hours of operation. The parking shall be accessible and usable to the development that the shared parking is intended to serve. The Planning and Zoning Commission will consider the following factors in approving parking reduction due to shared parking:

- The characteristics of each use, the peak parking demand, and hours of operation.
- Potential vehicle movement reduction by the uses of the parking facility by employees, customers, or residents of the uses it is intended to serve.
- Potential improvements in parking facility design, circulation, and access due to shared parking.
- City planner's report and recommendations.

## Bicycle and Pedestrian Transportation

Bicycle and pedestrian facilities should be considered integral parts of the overall street composition. This will allow for an overall balanced street network that supports all modes of transportation. As previously discussed in the Bicycle and Pedestrian Transportation chapter, the city of Greenville is the only municipality within Hunt County with a comprehensive plan that includes plans for bicycle and pedestrian facilities. Plans for bicycle and pedestrian facilities in Greenville are included in the *Park, Recreation and Open Space Master Plan*, which is a part of the *Greenville Comprehensive Plan 2025*.

### Assessment of Current Conditions

It is important to grasp baseline conditions for bicycle and pedestrian planning along the SH 34 corridor in order to understand context and future needs. Therefore, a bicycle and pedestrian current conditions analysis was conducted to identify opportunities and constraints for use in the SH 34 corridor redevelopment strategies, and in the Hunt County Transportation Plan development. Current conditions data can be viewed in *Exhibit VIII-8* and *Exhibit VIII-9*.

#### *Existing Facilities*

Current conditions along SH 34 range from two motor vehicle lanes in each direction with a center turn lane on the southern end of the study area from IH 30 to Joe Ramsey Boulevard, to one motor vehicle lane in each direction from Joe Ramsey Boulevard to O'Neal Street in the northern part of the study area. SH 34 moves east two blocks at O'Neal Street to continue north through the remainder of downtown. SH 34 is mainly built out commercial, so sidewalks are intermittent with newer developments, providing sidewalks separated by older developments that did not include sidewalks as part of the original design. There are

*Existing Conditions: Lack of Sidewalks*

Source: NCTCOG

[2] Victoria Transport Policy Institute. Parking Management Strategies for More Efficient Use of Parking Resources. TDM Encyclopedia. 16 March 2011 http://www.vtpi.org/tdm/tdm28.htm

# City of Greenville

Pedestrian Current Conditions

**Legend**

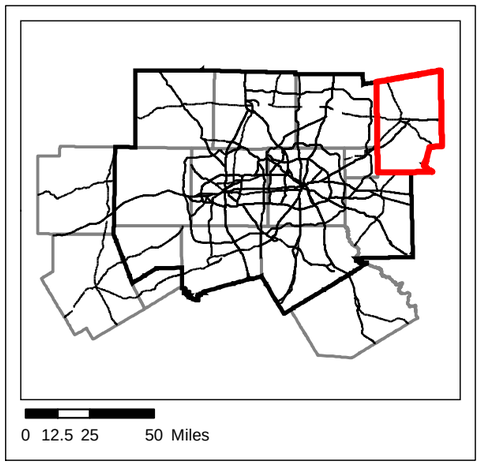
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

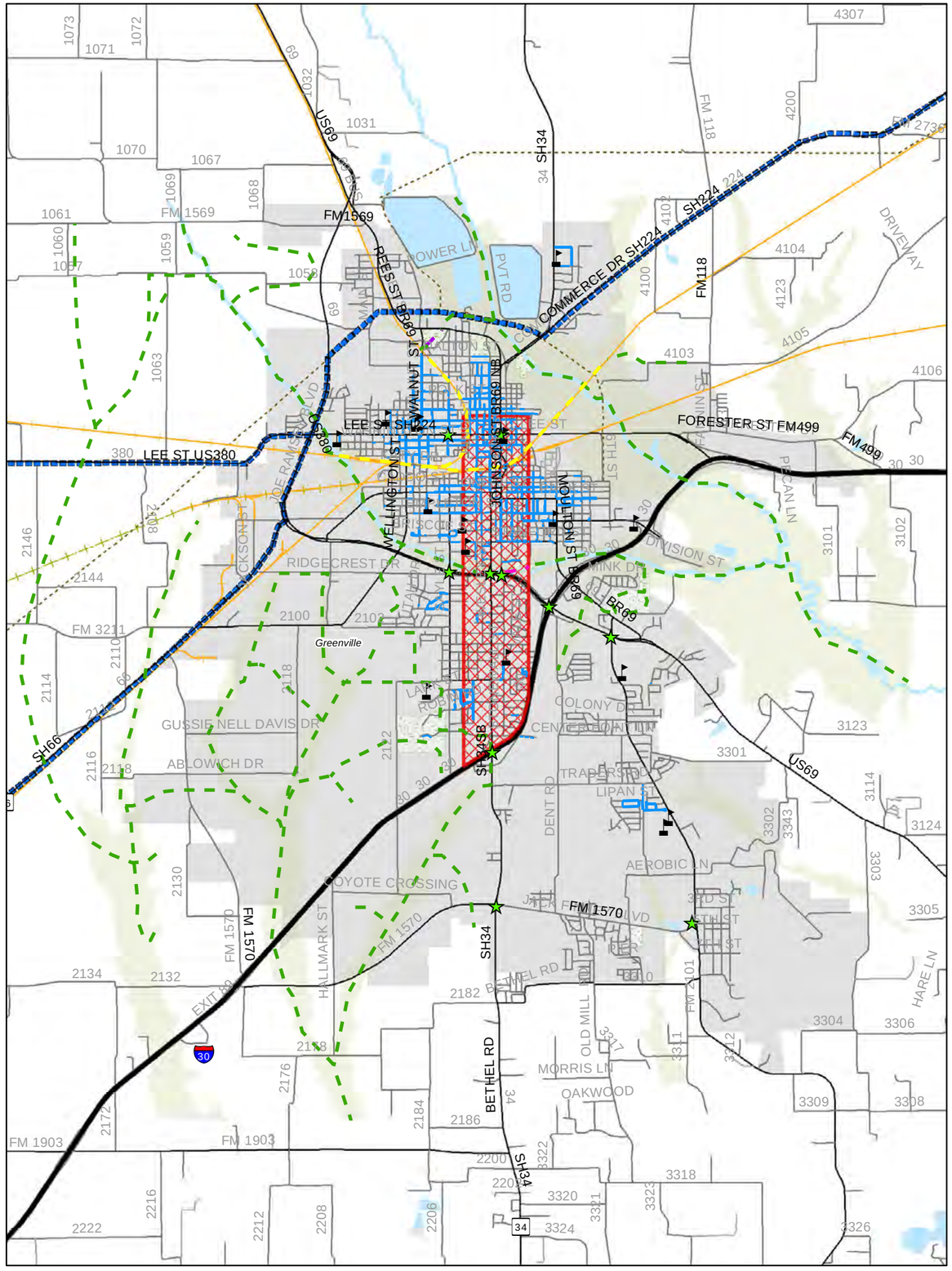
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

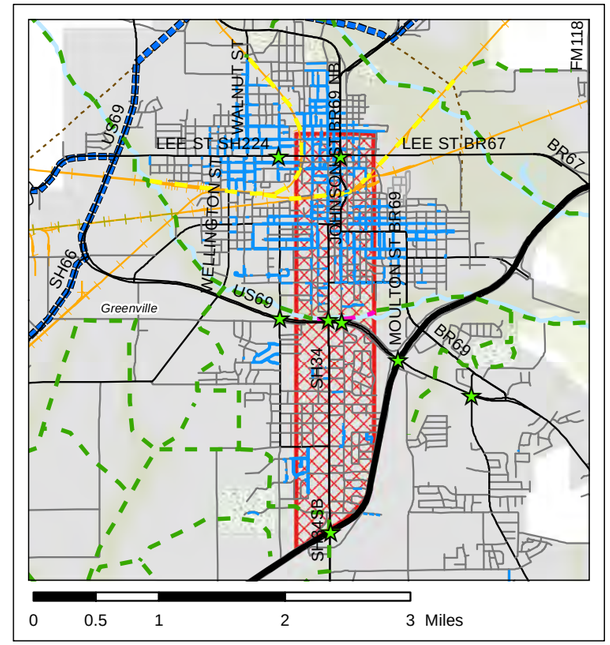
North Central Texas Council of Governments
Transportation

Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.

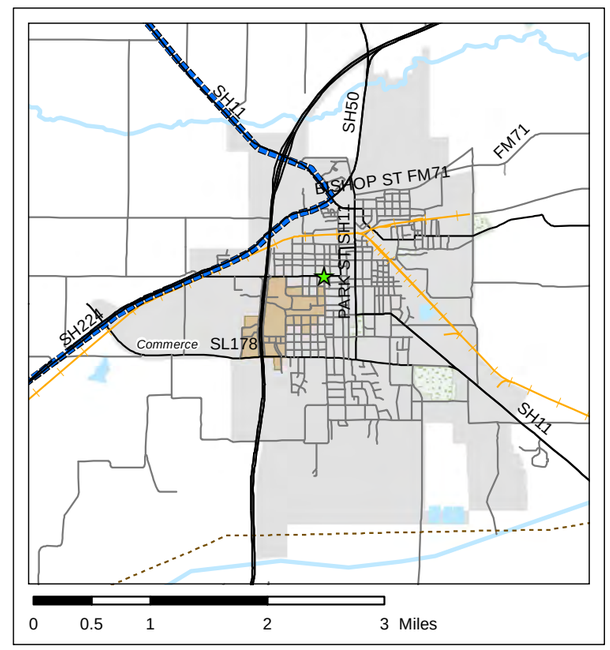



March 2012




Greenville




Commerce

Exhibit VIII-8

# City of Greenville

Bicycle Current Conditions

**Legend**

- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

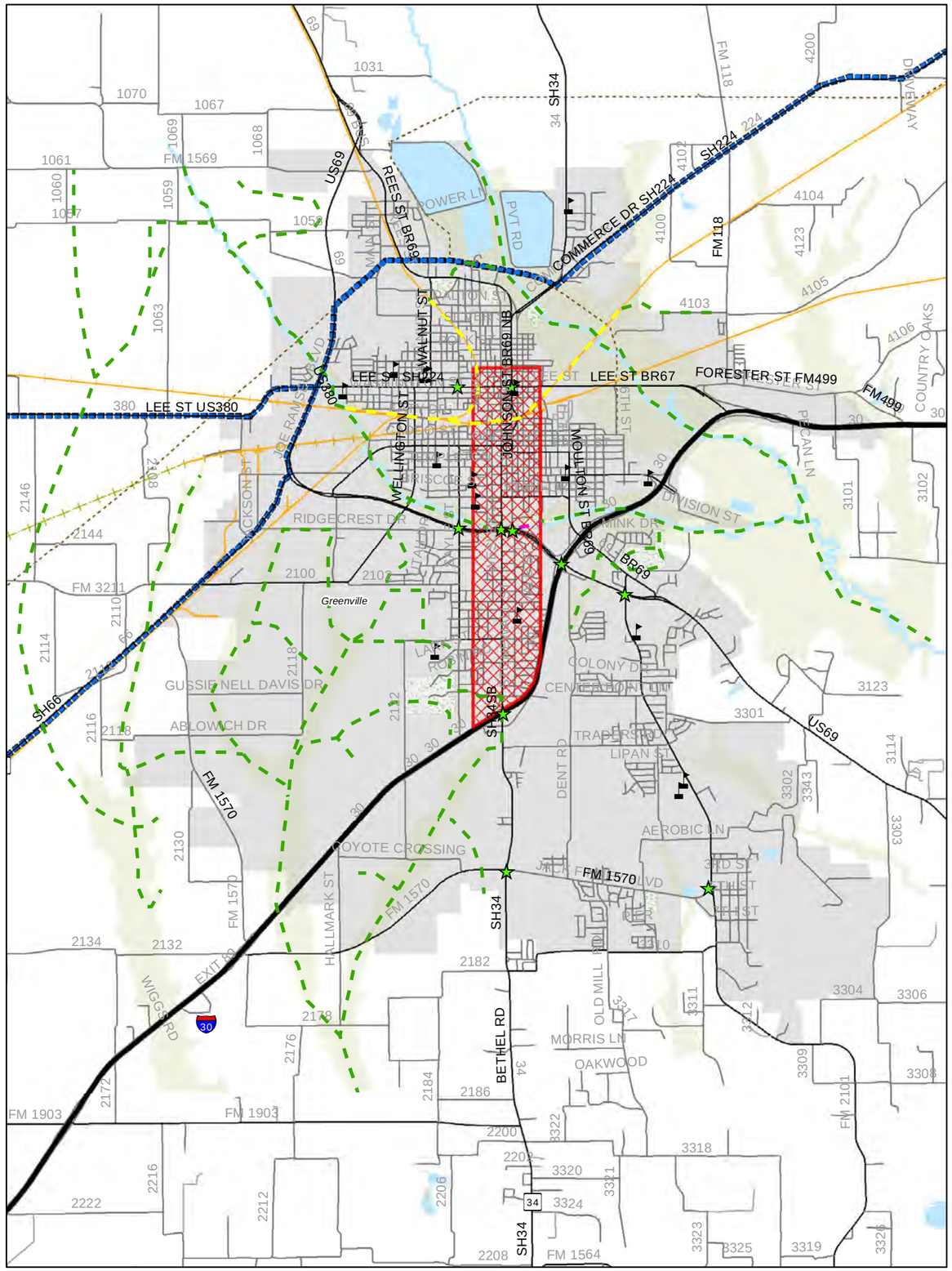
**Regional Veloweb**

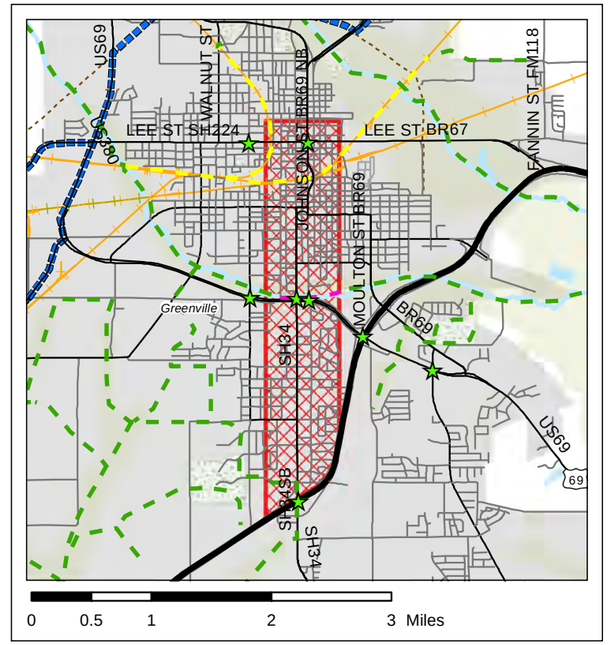
- Planned
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

North Central Texas Council of Governments
Transportation

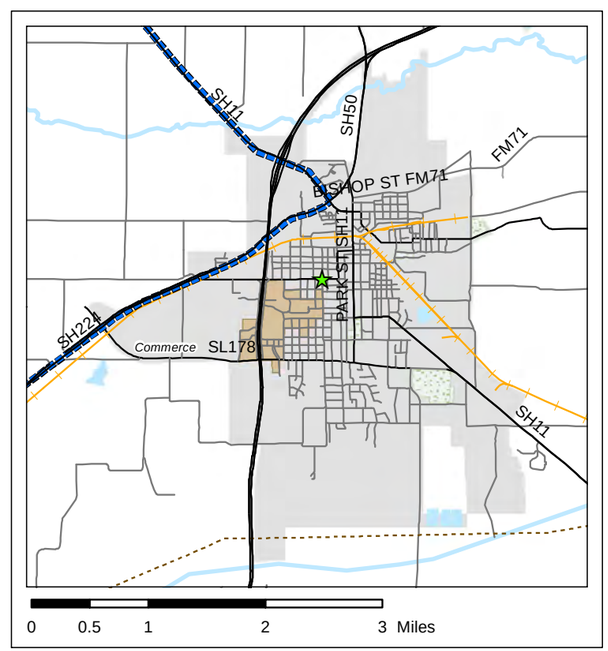
Note:
The current conditions analysis is based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect existing conditions/facilities accurately.


March 2012




Greenville




Commerce

Exhibit VIII-9

currently no existing dedicated on-street bicycle facilities on SH 34. The intersection of the Long Branch Trail and SH 34 represents the only off-street connection to the roadway.

*Existing Conditions: Intersection of SH 34 and Long Branch Trail*

Source: NCTCOG

### *Planned Facilities*

There are currently no existing plans identifying planned or recommended bicycle and/or pedestrian facilities along SH 34 in Greenville.

### *Identified Areas of Concern*

As part of the initial public listening session on April 20, 2010, community members were asked to identify areas of concern within Hunt County. Those that pertained to non-motorized modes of transportation along SH 34 within the city of Greenville can be seen in *Exhibits VIII-4* and *VIII-6*. The identified concerns include the intersection of SH 34 with Joe Ramsey Boulevard and the intersection of SH 34 with FM 1570.

## Land Use Recommendations and Best Practices

### *Create a Pedestrian Framework*

Constructing pedestrian amenities such as landscaping, sidewalks, and street lamps between adjacent land uses visually shorten the distance between uses, making them more pedestrian friendly. If future developments have large parking areas, they should be landscaped to provide cover for pedestrians walking from the street, and others from their automobiles. The built environment will also be more visually appealing, making those traversing the corridor take notice.

### *Shared Parking and Driveway Consolidation*

Multiple driveways along a corridor are not only dangerous for pedestrians, but increase traffic congestion as well. This can be improved with shared parking. If adjacent businesses share parking, patrons can park in a single parking lot and shop at a number of venues. This should eliminate the need for many of the driveways throughout the corridor. It is beneficial to consumers because they do not have to walk back to their car and drive to businesses right next to each other. Another benefit to shared parking is that it frees up land for additional commercial development. With only eight acres of developable space, existing parking lots will be essential to future commercial development. Shared parking, however, is not allowed amongst many of the businesses in the corridor.

### *Redevelop Conventional "Big Box" Parking Lots*

Although commercial uses make up 75 percent of the land along SH 34, it accounts for only 15 percent of the land in the city as a whole.[3] One reason the majority of future commercial development in Greenville is planned for the IH 30 corridor and the Shops at Monty Stratton is the limited commercial space for future development along SH 34. Some of the commercial developments along SH 34 have large parking lots that could be shared, including the Crossroads Mall, the Town South Shopping Center, and the Rolling Hills Shopping Center. Some of the space in these retail lots could also be redeveloped for additional uses such as restaurants.

[3] Hunt County Appraisal District, 2009

*Increase Adjacent Residential Development*

There is currently a limited amount of residential development in proximity of SH 34. According to the land distribution in *Exhibit VIII-2*, there are currently 51 residential lots within a quarter of a mile of SH 34, encompassing 13.39 acres. Allowing and encouraging additional residential development on SH 34 or adjacent streets will bring people closer to existing commercial. In addition, constructing pedestrian amenities between existing businesses and new residential could encourage local residents to walk and simultaneously have a calming effect on the traffic in the corridor. This, coupled with new residential development, could improve business in the corridor.

## Form-based Code Development

The street design (travel lane parameters, sidewalks, safe pedestrian crossings, and tree placement) impact the character of a place. Form-based code is an alternative to conventional zoning. For additional information on conventional zoning versus form-based code, please refer to the Greenville Land Use Analysis section on zoning. The placement of buildings, their design, and how they relate to the public realm are all part of form-based code. *Exhibit VIII-10* shows the existing building placement of development along SH 34. There is very little incentive for people to walk between businesses along SH 34 given the limited sidewalks and large building setbacks.

*Exhibit VIII-10: Existing SH 34 Building Placement*

*Exhibits VIII-11* through *VIII-14* provide examples of before and after pictures that demonstrate how form-based code can be implemented as a redevelopment tool for existing buildings and how buildings relate to pedestrians.

Various cities throughout the Dallas-Fort Worth region have drafted and implemented form-based codes in various forms, ranging from downtowns to transit stations and corridors. The city of Mesquite implemented form-based code in the Truman Height Revitalization Code and Gus Thomasson Corridor Revitalization Code. The Mesquite City Council approved "Addressing Mesquite" in 2005, a revitalization program that targeted specific neighborhoods. The city facilitated public involvement with neighborhood residents and commercial property owners to create a neighborhood plan with strategies for improving walkability, reconnecting residential areas to nearby services, preserving character through traditional neighborhood design standards, and revitalizing the struggling Gus Thomasson commercial corridor.[4] City staff conducted a Visual Preference Survey and compiled feedback to draft the Gus Thomasson Revitalization Code adopted in June 2008. *Exhibit VIII-15* is an example from the Gus Thomasson Corridor Revitalization Code, Article 2, Infill Community Scale Plans. Both Gus Thomasson Road (runs north-south) and Oats Drive (runs east-west) are shown in this diagram because they both are principal arterials; however, some differences in the street type are listed in the table. The table provides the guidelines for that particular road such as the right-of-way, speed, traffic lanes, parking, sidewalk, and landscape requirements.

The table helps lay out the requirements in order to compliment the building form requirements. For example, the Grid Assignment for both the streets is "A"; therefore, the buildings will be held to the highest standard of the Revitalization Code in support of pedestrian activity.

[4] City of Mesquite. North Gus Thomasson Corridor District. http://www.cityofmesquite.com/planning/planningdocs/Frequently%20Asked%20Questions%20-%20NGTC.pdf

*Exhibit VIII-11: Building Before*

*Exhibit VIII-12: Potential Redesign*

Source: Oticos Design, Inc., Richmond, CA. 23rd Street Corridor Vision and Form-Based Code

*Exhibit VIII-13: Building Before*

*Exhibit VIII-14: Building After*

Source: Kellogg, John. Adaptive Development Company. Bicycle Oriented Development, Rail~Volution 2010

Some examples of other cities that have implemented form-based code include:

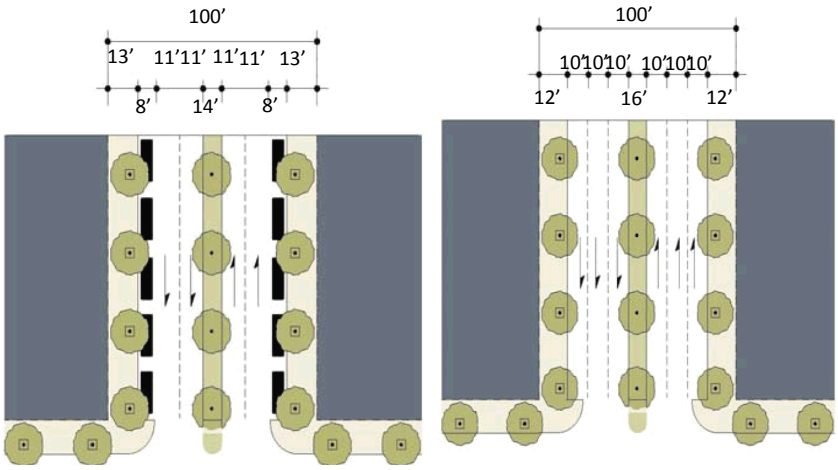
- Roanoke: The Oak Street Corridor Zoning District
- Carrollton: Transit Center Zoning District
- Duncanville: Downtown Duncanville District
- McKinney: Regional Employment Center Overlay District

Cities are choosing form-based codes as this provides them with more control over the physical building form than conventional zoning has previously allotted them. Overlays are easier to implement versus a citywide re-zoning effort that can take a longer time to implement and cost more in either staff time or consultant services or both. Overlays can focus on one area to provide for regulation that can complement the existing zoning currently in place.

## Zoning Recommendations

The city has required that all new development have sidewalks and landscaping. This is a great step in the right direction. It is recommended that the city require that all new development along SH 34 place the off-street parking towards the back of the store, bringing the storefront closer to the sidewalk. Form-based codes could assist in requiring other building forms such as awnings, windows, street furniture, and outside café seating that would attract pedestrian activity. The Greenville Board of Development provides $25,000 annually in façade grant improvements in the downtown area. It is recommended that the program be extended to include businesses along SH 34. It is also recommended that various housing price points be included within a quarter mile of SH 34. This could help with bringing more pedestrian activity to the corridor and to a better balance between housing and land uses by reducing the need of a vehicle. Some benefits include reduced traffic, independence to those who do not drive, and mobility options for residents that do have access to a vehicle.

*Exhibit VIII-15: Gus Thomasson Corridor Revitalization Code, Ordinance No. 4022, Article 2, Infill Community Scale Plans*




| Street Name | Gus Thomasson Road | Oates Drive |
|---|---|---|
| Functional Class | principal arterial | principal arterial |
| Thoroughfare Type | commercial avenue | commercial avenue |
| Transect Zone Assignment | T-5 | T-5 |
| Grid Assignment | A | A |
| Right-of-Way Width | 100 feet | 100 feet |
| Pavement Width | 60 feet | 60 feet |
| Movement | medium movement | medium movement |
| Design Speed | 35 mph | 35 mph |
| Pedestrian Crossing Time | 8.6 seconds – 8.6 seconds | 8.6 seconds – 8.6 seconds |
| Traffic Lanes | 6 lanes | 6 lanes |
| Parking Lanes | both sides @ 8 feet marked | none |
| Curb Radius | 20 feet | 20 feet |
| Walkway Type | 13-foot sidewalk | 12-foot sidewalk |
| Planter Type | 4x4' tree well | 4x4' tree well |
| Curb Type | Curb | curb |
| Landscape Type | trees at 30' o.c. avg. | trees at 30' o.c. avg. |
| Transportation Provision | bike route | bike route |

A parking study should be conducted to evaluate the current use of shared parking along with an inventory of parking facilities and their use, parking lot owners, and possible matches that could take advantage of the shared parking standards currently in place. It would be beneficial to also do a survey of the business owners along SH 34 to see what businesses would like to expand and if parking additions are hindering their business growth. This will provide guidance for parking zoning requirements.

Overall, a market analysis of the industries that Greenville is projected to bring in should be conducted. This will guide the city to be informed of the employment and housing needs that can be accommodated along SH 34. Unlike downtown and IH 30, SH 34 is a mix of small and big businesses. This is a unique character and can continue to have a place in Greenville and not compete with other development priority areas.

## Bike and Pedestrian Needs Assessment and Recommendations

North Central Texas Council of Governments staff completed a bicycle and pedestrian facility needs assessment to identify specific facility improvements along SH 34. The needs assessment and the resulting recommendations are discussed in the following section. All recommended facilities can be viewed in *Exhibits VIII-16* and *VIII-17*. For additional information on the needs assessment and recommendations process, please reference the Bicycle and Pedestrian Transportation chapter.

### Sidewalks

Sidewalks should be implemented along SH 34 with priority given to facility improvements within a half mile of schools, major employers, and parks. The half-mile sidewalk improvement zone is displayed in *Exhibit VIII-16*. Improvements near other major destinations, such as community centers, entertainment or shopping districts, and mixed-use developments, should also be considered top priorities for facility implementation. Improvements should focus on retrofitting existing sidewalks to comply with the Americans with Disabilities Act of 1990 (*Public Law 101-336*), Title II, Subpart A standards and spot improvements to fill in gaps between existing sidewalks. Additionally, the city should develop a sidewalk maintenance program to ensure facilities are safe and operational for all users, including individuals with mobility impairments. A second tier of sidewalk improvements should be developed for all facilities that fall outside the half-mile radius.

In order to maximize the walkability of SH 34, a beautification program should be established by the city. This should include, but not be limited to, creating landscape buffers between the roadway and the sidewalk; adding bicycle and pedestrian amenities such as benches, shading, way-finding signage, bicycle racks, banners, etc.; improving pedestrian facilities such as crosswalks, curb bulb-outs, mid-block crossings where pedestrian crossings are high, and pedestrian signal heads. Guidelines for implementation of these facilities, including example communities and programs, can be found in Appendix B.

Utility burial along this roadway would significantly improve the appearance of the roadway to make it more aesthetically appealing to users. Though expensive, utility burial is often cited as an important component of any corridor revitalization project. A less expensive alternative to utility burial is relocating utilities behind businesses in the alleyway or to the rear of property lines if sufficient right-of-way is available.

Additionally, the city should implement a zoning overlay that encourages pedestrian-oriented buildings, which means building storefronts and entrances are located adjacent to the sidewalk, and parking is diverted to the rear of the building. This can be successfully implemented by requiring maximum setbacks as property ownership along SH 34 turns over and existing structures are demolished and/or new developments are built. Zoning should also be in place to encourage preferred uses of development as properties come under new ownership opposed to the corridor being dominated by auto-oriented businesses.

# City of Greenville

Pedestrian Needs Assessment and Recommendations

**Legend**

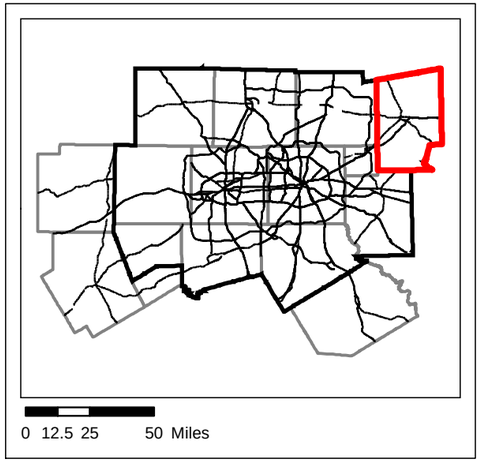
- Education
- Identified Areas of Concern
- Existing Sidewalks
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

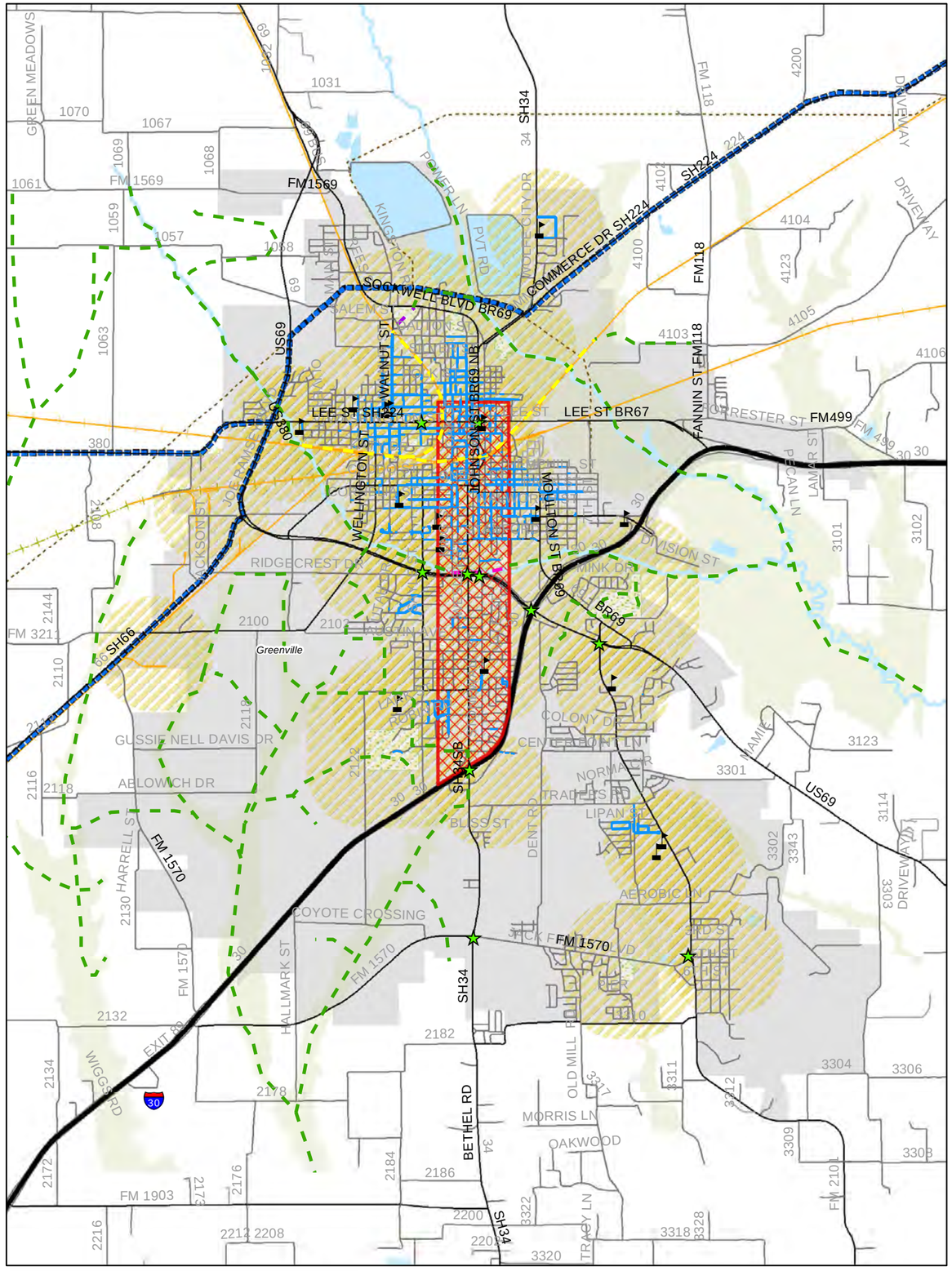
- Planned
- Off-street Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- Recommended Half-Mile Sidewalk Improvement Radius
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

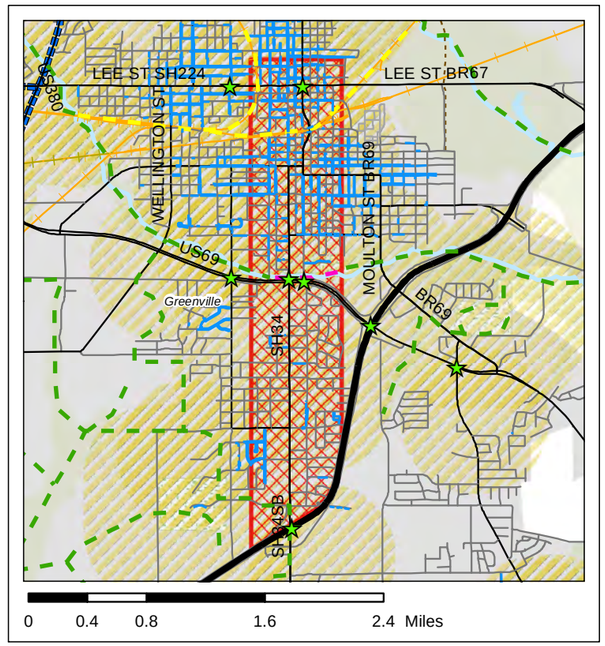
North Central Texas Council of Governments
Transportation

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

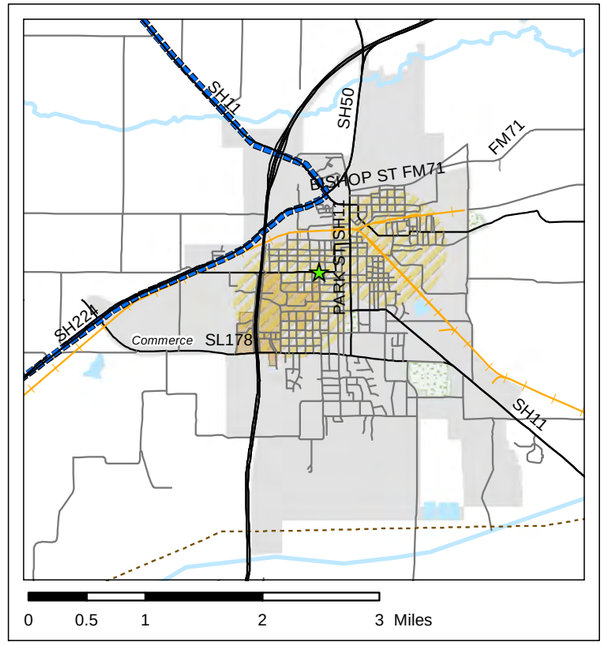



March 2012




Greenville




Commerce

Exhibit VIII-16

# City of Greenville

Bicycle Needs Assessment and Recommendations

**Legend**

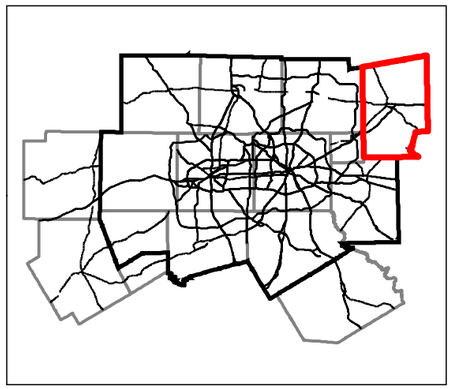
- Education
- Identified Areas of Concern
- Existing Off-street
- Planned Off-street
- Planned Rails-with-Trails

**Regional Veloweb**

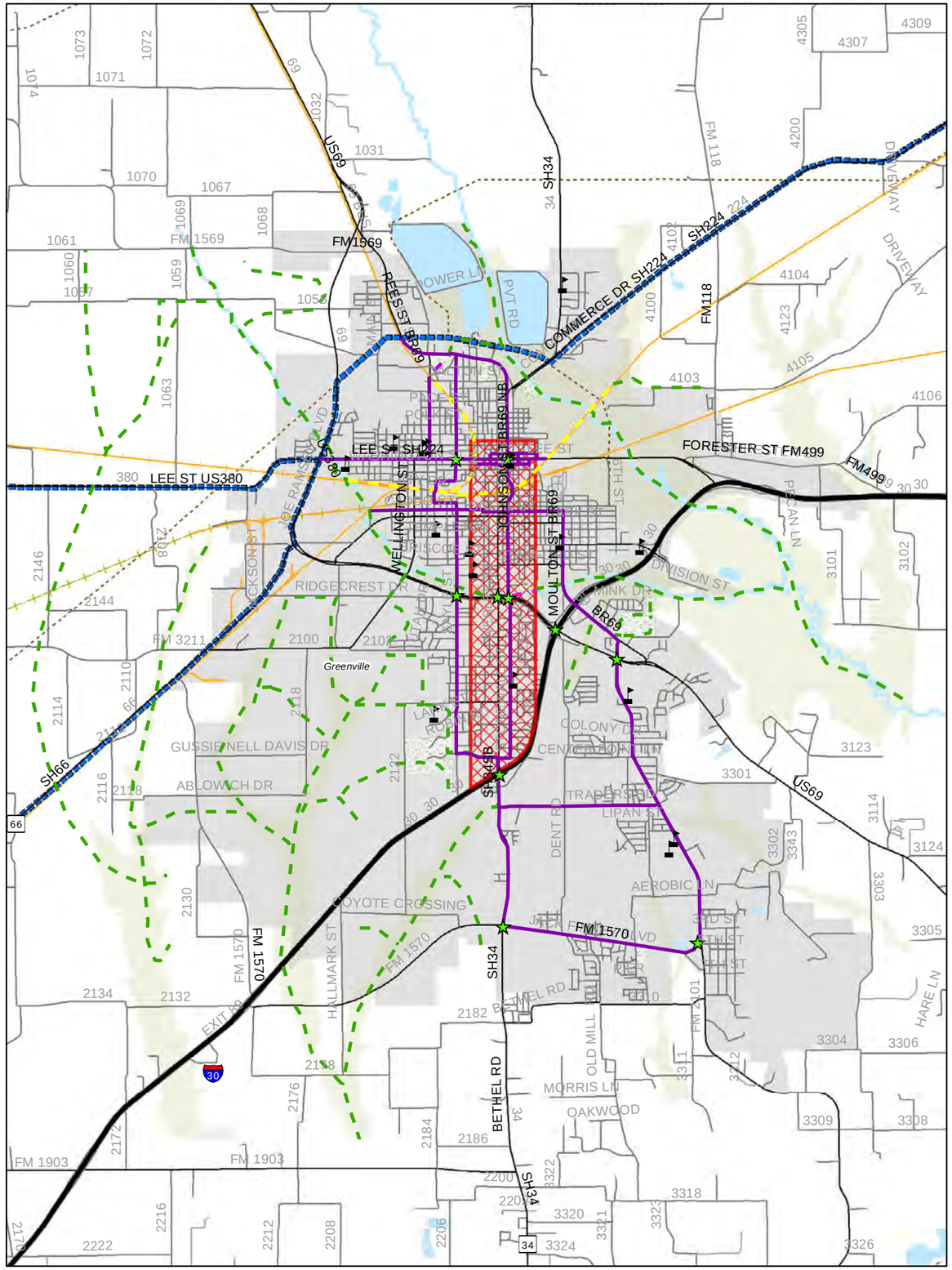
- Planned
- Off-street Recommendation
- On-street Bicycle Facility Recommendation
- Freeway/Tollway
- Major Arterial
- Minor Arterial
- Rail Corridor
- Abandoned Rail
- Utility Corridor
- County Boundary
- SH 34 Corridor Study Area
- Park
- Water Bodies
- Flood Plain

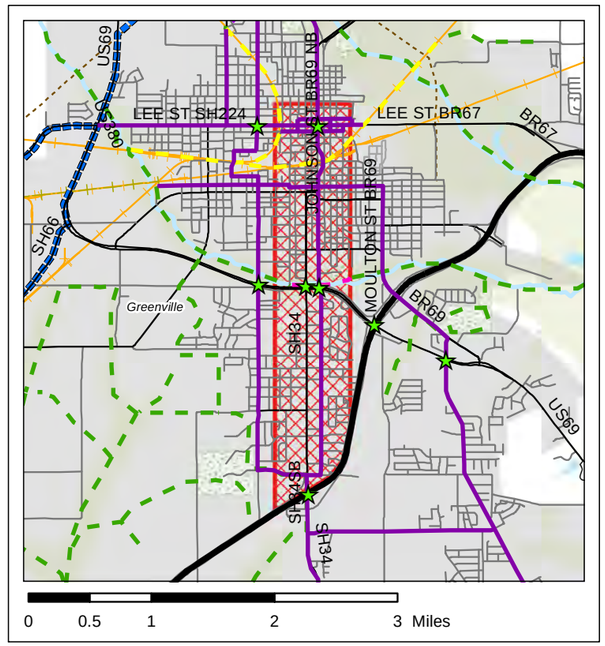
North Central Texas Council of Governments
Transportation

Note: The bicycle and pedestrian needs assessment and recommendations are based on existing NCTCOG data and data provided by municipalities within the study area as available, and therefore may not reflect all bicycle and pedestrian needs accurately.

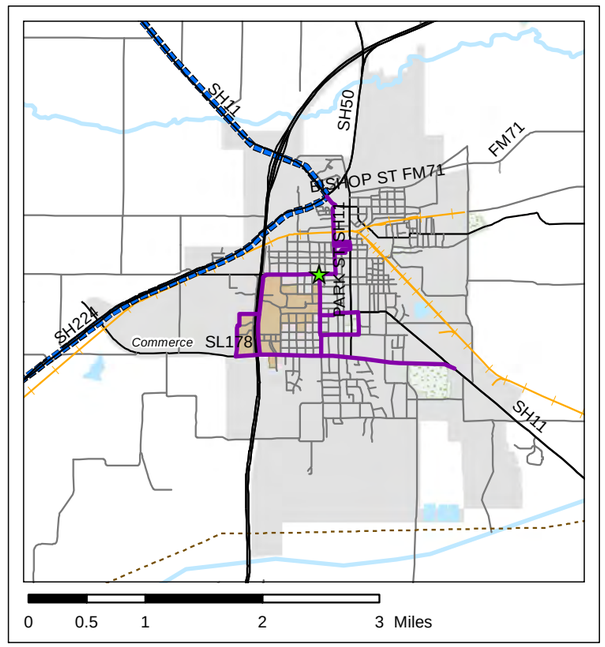



March 2012




Greenville




Commerce

Exhibit VIII-17

*Roadway Beautification Elements*

Source: Federal Highway Administration

## On-street Bicycle Facilities

No on-street dedicated bicycle facilities are recommended for the portion of SH 34 north of IH 30. However, Texas law states that bicycles are permitted on all roads in the state of Texas (with the exception of access-controlled freeways), so bicyclists may choose to utilize SH 34 to access certain destinations (grocery store, retail, etc.). Therefore, signage such as "Bikes May Use Full Lane" can be placed on the roadway to remind motorists to share the road with bicyclists. Alternately, dedicated on-street bicycle facilities on parallel roadways, such as Sayle and Stonewall Streets, are recommended as part of the plan. This should create an alternate facility for bicyclists, though there may still be a need for a cyclist to access a business on SH 34. To direct users on secondary routes, such as Sayle and Stonewall Streets, to points of interest along SH 34, the city should include a way-finding signage program to assist users with directionality and direct users to points of interest. End-of-trip facilities for bicyclists, such as bike racks, lockers, etc., should also be considered per the guidelines in Appendix A.

*Way-finding and Directional Signage*


Source: Federal Highway Administration

The portion of SH 34 south of IH 30, including the SH 34 bridge over IH 30, are recommended for dedicated on-street bicycle facilities. Bearing in mind that the SH 34 bridge over IH 30 was recently reconstructed, this bridge will likely not be retrofitted for another 40 to 50 years. Options to make this bridge and the intersection of SH 34

*End-of-Trip Facilities*

Source: Federal Highway Administration

with IH 30 accessible for bicyclists range from the construction of a cantilever bridge (on the most expensive end) to installing signage on the bridge to remind motorists to share the road with bicyclists. A cantilever bridge is built using cantilevers – structures that expand horizontally – and are supported on only one end, allowing for the structure to be built as an addition to the existing SH 34 bridge. Although a cantilever bridge would likely be the most expensive facility improvement, it would provide the most benefit to users for safety reasons due to the fact that it is separated from motor vehicle traffic, thus reducing conflict points. Signage and pavement markings are the least expensive facility improvements, but coordination with The Texas Department of Transportation (TxDOT) prior to installation is the key to success since their approval will be necessary to make any roadway modifications.

When the SH 34 bridge over IH 30 is retrofitted in the future, it should include both bicycle and pedestrian facilities. Coordination with TxDOT from project inception is the key to the success of the project. Additionally, the intersection of SH 34 and IH 30 should include improvements to make the facility safer for bicyclists and pedestrians. Improvements include adjusting traffic signals to sense bicyclists, installing countdown pedestrian signals, updating/installing crosswalks, extending the length of traffic signals to allow slower moving pedestrians and bicyclists time to clear the intersection, and increased signage.

The portion of SH 34 south of IH 30 to FM 1570 should also include a dedicated on-street bicycle facility. Additionally, the intersections of SH 34 and FM 1570, and SH 34 and Joe Ramsey Boulevard should be improved to accommodate the safe mobility of non-motorized forms of transportation. Improvements include, but are not limited to, adjusting traffic signals to sense bicyclists, installing countdown pedestrian signals, updating/installing crosswalks, extending the length of traffic signals to allow slower moving pedestrians and bicyclists time to clear the intersection, and increased signage.

## Existing Street Configuration

Currently SH 34 north of IH 30 and south of Joe Ramsey Boulevard is two lanes of vehicular traffic in each direction separated by a center turn lane. Since SH 34 is on the state highway system, TxDOT is responsible for maintaining the roadway. Due to recent safety concerns, TxDOT provided roadway designs to city staff that included the addition of a median in place of the center turn lane. Many community members voiced concerns over the construction of a median, stating that they feel it could potentially ruin businesses along SH 34 by limiting accessibility to driveways. City staff, community members, and various stakeholders are still in the process of coordinating with TxDOT to identify possible alternative configurations for the roadway. No final decision has been made at this time.

*A flush median is not a refuge*

Source: Federal Highway Administration

Medians along corridors can have positive effects to businesses along the corridor. In fact, the Federal Highway Administration currently recognizes raised medians as a safety countermeasure for pedestrians because they allow pedestrians to cross one direction of traffic at a time. This significantly reduces the complexity of the crossing. They also provide

a space to install improved lighting at pedestrian crossings. More information on the safety benefits of raised medians can be found on the Federal Highway Administration's safety Website.[5]

*A median can provide a refuge for pedestrians crossing the street*

Source: Federal Highway Administration

Additionally, by consolidating driveways to allow for accessibility for left turning vehicles, traffic flow is also improved by minimizing turning conflicts, which would also increase bicycle and pedestrian safety. By increasing pedestrian and bicycle use along the corridor, there is a potential to reduce single-occupancy motor vehicle trips, which would also improve traffic flow by removing vehicles from the roadway. To encourage more bicycle and pedestrian use, the guidelines provided in this document, as well as the best practices provided in Appendix A, should be incorporated in the strategies developed by city staff and local stakeholders to redevelop the SH 34 corridor.

[5] http://safety.fhwa.dot.gov/ped_bike/tools_solve/medians_trifold/

# IX. Plan Application and Implementation Guidance

Coordinated, comprehensive, and continuous planning is the backbone of efforts to preserve and enhance quality of life while ensuring and promoting orderly development, fulfilling community goals and objectives, and paving the way for generations to come. Planning for the future helps communities to identify and anticipate inevitable changes rather than merely to react at a time when options are fewer and the outcome less controllable. Urban planners use many tools to help address and manage future change. Many of these tools attempt, in one way or another, to influence and control the built environment. This comprehensive transportation plan is one such tool.

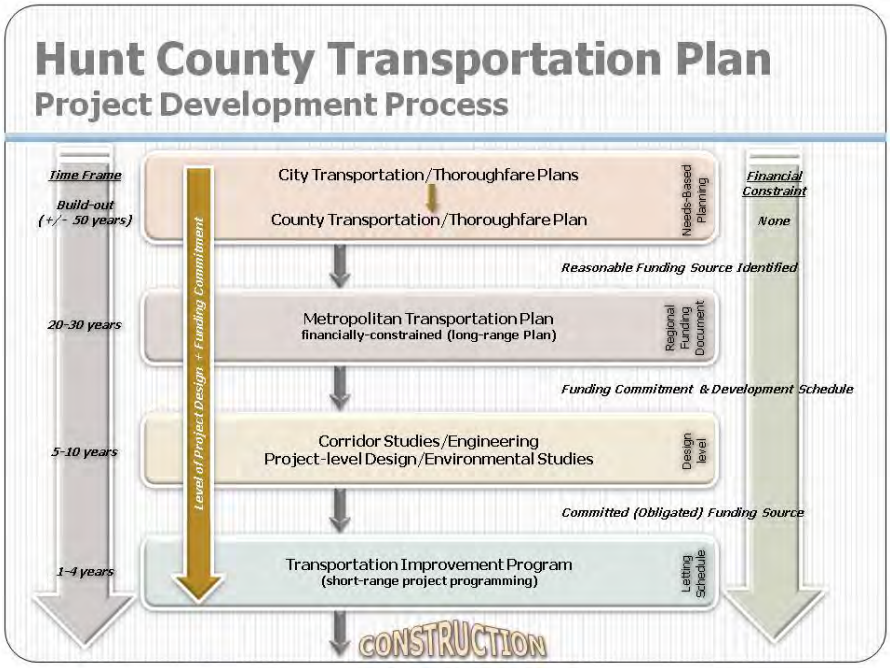
However, it is only one tool, and as such, it must fit into the context of other planning efforts. This includes efforts at the state, regional, and local levels. As part of the Metropolitan Planning Organization, Hunt County is represented in the long-range Metropolitan Transportation Plan, which identifies regionally significant projects that are expected to be funded within the next 25 years. The Metropolitan Transportation Plan identifies recommendations of regional significance while the County Transportation Plan concentrates mainly on facilities and corridors critical for mobility and connectivity at the county level regardless of geographic boundaries. Development and implementation of potential projects and programs within or affecting local municipalities should be coordinated with officials from those governing agencies. In addition, while the County Transportation Plan does not make specific recommendations for facilities that are more local in nature, it can serve as the identification of a background system that local facilities can be developed to complement. Officials in Hunt County and its municipalities must work with the Texas Department of Transportation and the North Central Texas Council of Governments (NCTCOG) to develop the Transportation Improvement Program, which ties specific projects with funding sources and allows them to be constructed. In between vision and funding, additional studies may be necessary to further refine the general recommendations of this plan into project-specific recommendations when appropriate. In addition, the Hunt County plan must also coordinate with the local plans of the cities and towns within the county. *Exhibit IX-1* illustrates how these different plans work together.

## How to Use This Document

As important as a transportation plan may be in the overall planning process, it is also important to note what it does not include. This plan concentrates on identifying needs without attempting to match those needs to potential funding sources. Nor does the plan attempt to prioritize needs relative to each other. These are issues that are more appropriately resolved by elected representatives within Hunt County and local governments.

Instead, this plan is intended to provide a context for a systemic vision of transportation planning that integrates not only local and county-level transportation planning efforts, but also questions of land use and economic development. This level of integration can help encourage sustainable transportation modes by fostering land uses that support such modes. Integrated planning also helps prevent wasteful “throw-away” projects, in which recent construction is razed and replaced as a result of shifting priorities. An integrated planning system can also help incubate projects so they are ready to carry out when funding opportunities arrive. This plan can assist integrated planning goals in a variety of ways.

*Exhibit IX-1. Interaction among Plans and Planning Stages*




## Providing a Framework for Collaborative Planning Efforts

Within any particular set of political boundaries, the goals expressed by the government of the larger area may not align perfectly with the goals of the local government. An example of this disconnect may express itself in cases where one level of government wishes to transform a local street into a larger arterial street to accommodate regional movements, while another level prefers to preserve the street for local access. Alternately, the conflict may occur when one area seeks to increase the intensity of its development without due consideration of the impacts on surrounding areas with respect to infrastructure needs or environmental effects.

The adoption of a comprehensive transportation plan provides a starting point, based on mutually adopted assumptions, that can serve as the catalyst for discussions to resolve such disputes among political entities. Once consensus is reached on a broad vision, it should become easier to resolve conflicts or develop compromises regarding the details of the vision. Moreover, some issues may be prevented or resolved technically through the development and implementation of mutually-adopted guidelines governing how the county and city governments relate to the plan. Such guidelines might govern when one level of government must seek comments from other governments or political entities about a particular project or development. Guidelines could also be written to indicate when the recommendations in the plan must be followed, or when exceptions might be allowed. An appointed group, perhaps under the umbrella of the Hunt County Transportation Committee, may be authorized to take the lead in the development of such guidelines; since the point would be to foster collaborative planning, consensus should be achieved prior to implementation.

## Identifying Potential Projects and Funding Opportunities

The previous chapters of this plan have identified requirements that exist within Hunt County and its municipalities to accommodate the transportation needs of the county's current and future population. However, this plan is not fiscally constrained: no attempt has been made to identify or commit financial resources to constructing these projects. The question of how to fund the county's priorities, and indeed how to determine which projects are priorities, may be approached through a variety of methods. In each case, it is up to Hunt County and its

municipalities to establish a strategic process for moving forward with the recommendations described in this plan.

### Bond/Capital Improvement Program

One commonly-used method of financing transportation improvements using local money is to develop a Capital Improvement Program (CIP) that dedicates a stream of tax revenue for improvements throughout the area. This can be done either through traditional local tax revenues or through a series of bond issues to be incorporated into an ongoing CIP. For example, in 2008, Parker County passed a bond program allowing the county to spend up to $80 million on transportation projects within the county. This bond program was developed by a consultant working with the county to identify the county's highest priorities for new construction, widening, and other improvements. At the time of writing, 15 of the 24 projects have been put out for bid and many are under construction.

Dallas County, on the other hand, maintains a Major Capital Improvement Program for evaluating and funding transportation infrastructure. At the heart of this program is a mechanism in which each municipality within the county commits to provide a certain share of revenue. The county then issues periodic calls for projects, which are then evaluated for their technical merit. The top-ranking projects can then be constructed using the available funds contributed by the participating municipalities. This approach obviously differs from the bonding approach, as the need for repeated bond elections is removed. However, the funding commitment made by the municipalities to the program may represent a financial strain during an economic downturn.

This plan can be used to help identify candidate projects and programs for these various funding sources when the opportunities arise.

### Regional Transportation Improvement Program

As the federally designated Metropolitan Planning Organization for the Dallas-Fort Worth region, NCTCOG administers the Transportation Improvement Program (TIP), which directs transportation money to specific projects within the region. The TIP is a short-range (one to four years in scope) programming document with funding obligation authority. Projects are proposed by NCTCOG's members or partner agencies and, if funded through federal or state funds, are evaluated based on their merits and impact on the transportation system. Selection criteria include cost effectiveness, the project's potential for reducing congestion, and its effects on air quality. All projects must be approved by the Regional Transportation Council. Locally funded projects are required to be included in the TIP for air quality analysis and are not subject to the regional evaluation process.

The TIP includes funding from a variety of federal, state, and local sources, and each funding program has rules and guidelines based on that program's priorities. For example, the Congestion Mitigation and Air Quality Improvement Program is designed to reduce congestion and its associated environmental impacts while improving air quality. The likelihood that a particular project will get funding is related to how well it reflects the priorities of a program with available money, and the number of other projects competing for that same source of funds. Alternative transportation modes, such as transit, bicycle, and pedestrian transportation, are also currently supported through the TIP under programs such as the Job Access/Reverse Commute Program.

### Grant Opportunities

In addition to regular transportation funds, various government and non-government agencies offer a variety of grants to provide different community services and improvements. For example, the US Department of Housing and Urban Development offers Sustainable Communities Regional Planning Grants to support development that considers challenges such as economic competitiveness and revitalization, social equity, access to opportunity,

public health, and environmental impact. Other grant opportunities are available that support highway safety, transit, and bicycle and pedestrian improvements. Each grant comes with conditions and reporting requirements to establish that the grant money is being used to support the priorities being advanced by the grant provider.

### Determining Further Study Needs

Even the most comprehensive of transportation plans cannot guarantee that actual development patterns will match those assumed in the plan; nor does a countywide plan offer the detail that local decision makers may require for projects specific to local areas. However, even in these cases, the plan can help identify and direct future study needs. For example, depending on the guidelines established for administering the plan, future developments above a designated threshold might be required to perform traffic impact studies if the roads in the area are not already recommended for expansion. The recommendations in the plan could also serve as inputs for other economic development or small-area study plans, giving some idea of what a build-out roadway network might look like. Other possible studies have been identified or implied in the course of this document, such as feasibility studies for transit, further small area or corridor studies, and bicycle and pedestrian facility inventories. Further studies based on the recommendations contained in this plan can provide a greater level of localized detail.

## Plan Administration, Monitoring, and Updating

As part of a continuing planning effort, this plan should be sufficiently robust to provide a stable guide for development while remaining flexible enough to respond to local concerns and changing conditions. As the documented vision of the county's long-term transportation needs, this plan represents the standard for the development of transportation infrastructure. If properly administered, it is expected that other planning efforts within the county will be consistent with the recommendations in this plan.

At the same time, it is important to provide a mechanism for monitoring development within the county and updating the plan when significant changes within the county challenge the assumptions underlying the plan's recommendations. Otherwise the plan could become outdated or lose relevance to the community. Changes that drive a plan update or amendment might include more rapid countywide development than projected by the plan; sudden, intense development in an area projected to remain rural; or proposals for major new infrastructure improvements or other large-scale land uses. The mechanism for monitoring the plan may also include a process for making minor updates to the plan on a regular basis or as new demographic projections become available. The task of monitoring the plan, ensuring compliance with any coordination requirements generated in support of this plan, and directing updates may be retained by the Hunt County Transportation Committee or assigned to a designated authority, such as a county employee, city staff, or even through a retained transportation consultant. For consistent and stable monitoring and administration of the plan, the county should consider appointing or hiring a position dedicated to transportation planning activities. While technical support may be provided by NCTCOG under the Unified Planning Work Program, control and administration of the plan should be vested within Hunt County itself.

# Appendix A

Article III of the city's zoning ordinance provides a description of the various zoning categories:

## Agriculture

Agriculture is a temporary classification for annexed areas until permanent zoning is established by the City Council.

Permitted uses include, but are not limited to, day camps for children, fairgrounds or exhibition areas, and playing fields or stadiums.

## Commercial

- Retail trade, administrative, professional offices, and service to the general public.
- Emphasis upon large-scale stores and specialized shops.

  Permitted uses include, but are not limited to, hospitals, bus stations or terminals, and indoor/outdoor amusement businesses.

## Central Area

- Retail trade, administrative, professional offices, and service to the general public.
- Specifically designed and intended for the downtown area.

  Permitted uses include, but are not limited to, single-family detached dwellings, residential loft dwellings, city or government buildings, and antique stores.

## General Retail

Retail trade including wholesale trade or other general business uses.

Permitted uses include, but are not limited to, greenhouse or plant nurseries, convents or monasteries, and youth sports and recreation facilities.

## Light Industrial District

District for light manufacturing processes.

Permitted uses include, but are not limited to, printing and publishing, light fabrication and assembly, and variety stores and retail outlets.

## Heavy Industrial District

District for manufacturing, industrial servicing, or storage processes.

Permitted uses include, but are not limited to, asphalt paving batching plants, welding supply stores, milk depots, dairies, and ice cream manufactures.

## Neighborhood Conservation Overlay District

- Preserve, protect, enhance and perpetuate the unique and distinctive residential neighborhoods or commercial districts that provide character and identity to the city.
- To be designated as a Neighborhood Conservation District the following criteria must be met: all the lots must be at least in one block, the area must have been platted or developed at least 25 years ago, must have

features that create a cohesive identifiable setting, character, or association such as scale, size, type of construction, or distinctive building materials, lot layouts, setbacks, street layouts, alleys, or sidewalks, etc.

- A *Neighborhood Conservation Plan* shall be part of the ordinance which will outline standards specific to the area such as permitted uses.

## Neighborhood Service

Retail trade with emphasis on the provision of convenience goods and services for nearby residential areas.

Permitted uses include, but are not limited to, charitable institutions, colleges, universities or private schools, and community centers.

## Office

Professional offices, not including retail or wholesale trade or other general business uses.

Permitted uses include, but are not limited to, art galleries or museums, child day care centers, and medical or dental clinics.

## Planned Development

- Intended to implement the general goals and objectives of the city's Comprehensive Plan.
- Intended to encourage flexible and creative planning, to ensure the compatibility of land uses, to allow for the adjustment of changing demands to meet the current needs of the community, and to result in a higher quality development for the community than would result from the use of conventional zoning districts.
- Unified development intended for the following purposes
  - To further more efficient and aesthetic use of open land.
  - To encourage the reservation of open space for scenic and recreational uses.
  - To encourage the preservation of wetlands and other sensitive lands as part of a development plan.
  - To encourage the reservation of land for schools or other public buildings.
  - To provide incentives for development to encourage and create a wide range of choices to satisfy the community's changing needs.
  - To provide flexibility to the developer for land development.

## Single-family (Small Lot)

Single-family detached dwellings on small sized lots with a minimum area of 5,000 square feet.

Examples of other permitted uses include, but are not limited to, accessory buildings and parks or playgrounds.

## Single-family (Medium Lot)

Single-family detached dwellings on medium sized lots with a minimum area of 9,000 square feet.

Examples of other permitted uses include, but are not limited to, community homes for disabled persons, libraries, and places of worship.

## Single-family (Large Lot)

Single-family detached dwellings on large lots with a minimum area of 12,000 square feet.

Examples of other permitted uses include, but are not limited to, family care or foster group homes, places of worship, elementary and secondary schools.

## Single-family (Attached)

Single-family attached dwellings on small lots with a minimum area of 2,500 square feet.

Examples of other permitted uses include, but are not limited to, patio home dwellings, foster group homes, and elementary or secondary schools.

## Two-family

Two-family dwellings on small lots with a minimum area of 3,000 square per dwelling.

Examples of other permitted uses include, but are not limited to, single-family attached dwellings, two-family dwelling duplexes, and foster group homes.

## Multi-family

Multi-family structures that contain no more than 24 units per acre.

Examples of permitted uses include, but are not limited to, assisted living facilities, boarding or rooming houses, and libraries.

## Mobile Home

Residential mobile homes.

Examples of permitted uses include, but are not limited to, libraries, elementary or secondary schools, and parks or playgrounds.

## Patio Homes

Patio homes consisting of single-family detached dwellings with zero lot lines on small lots with a minimum area of 5,000 square feet.

Examples of permitted uses include, but are not limited to, libraries, elementary or secondary schools, and parks or playgrounds.

# Appendix B

Cities and counties within the North Central Texas Council of Governments (NCTCOG) region are responsible for the planning, development, and implementation of bicycle and pedestrian transportation infrastructure and amenities within each respective city and county. While NCTCOG plans for bicycling and walking facilities in coordination with local cities and counties, it is ultimately up to local governments to determine feasibility and ensure implementation of said planning efforts. While many local governments in the Dallas-Fort Worth region have adopted bicycle master plans, not all have had the necessary resources to undertake such a plan. Therefore, in May 2010, NCTCOG partnered with the city of Dallas to update the "1985 Dallas Bike Plan." As part of this initiative, a regional template will be designed for local governments to adopt "in lieu of" their own city- or county-wide plan upon its adoption anticipated in early 2012. The regional template will offer facility design guidelines, best practices, and emerging innovations in bicycle and pedestrian transportation. While this plan will not identify specific locations for facilities within a jurisdiction, it will identify ideal roadways for each facility type, and roadway types that are best suited for bicycle and pedestrian transportation. The following best practices lay the foundation for the regional design guideline document.

## BICYCLES

Many local cities and counties have developed bicycle master plans, trail master plans, or a combination of both resulting in a hiking and biking plan. In addition, many cities have adopted policies at the local level to enforce and encourage bicycling as a legitimate form of transportation. These documents are used in regional planning efforts to ensure regional connectivity and continuity. There are many components that should be considered in advancing bicycle transportation. The majority of these issues are discussed in the following sections.

### Types of Bicyclists

As part of the planning, design, and implementation of roadway treatments for bicyclists, the needs of all bicyclists should be addressed. Roadway treatments should accommodate existing bicyclists and encourage increased bicycle use; therefore, any roadway treatments intended to accommodate bicycle use must address the needs of both experienced and less experienced riders. Bicyclists are typically grouped into one of three riding styles: Group A – Advanced, Group B – Basic, and Group C – Children. Each of these types is explained in more detail below.

#### Group A – Advanced Bicyclists

These are experienced riders who can operate under most traffic conditions. They comprise the majority of the current users of collector and arterial streets and are best served by the following:

- Direct access to destinations usually via the existing street and highway system.
- The opportunity to operate at maximum speed with minimum delays.
- Sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motor vehicle operator to change position when passing.

#### Group B – Basic Bicyclists

These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Some will develop greater skills and progress to the advanced level, but there will always be many millions of basic bicyclists. They prefer:

- Comfortable access to destinations, preferably by a direct route, using either low-speed, low traffic-volume streets or designated bicycle facilities.

- Well-defined separation of bicycles and motor vehicles on arterial and collector streets (bike lanes or shoulders) or separate bike paths.

Group C – Children

These are pre-teen riders whose roadway use is initially monitored by parents. Eventually they are accorded independent access to the system. They and their parents prefer the following:

- Access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, or other residential areas.
- Residential streets with low motor vehicle speed limits and volumes.
- Well-defined separation of bicycles and motor vehicles on arterial and collector streets or separate bike paths.

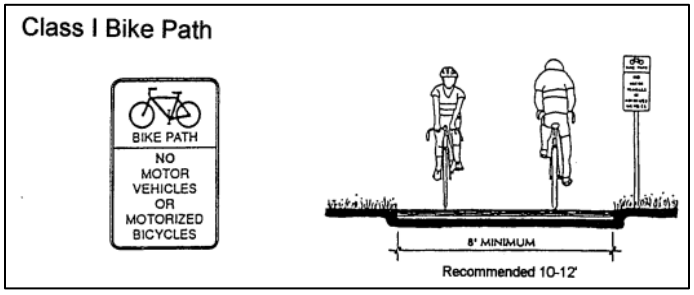
## Types of Facilities

To facilitate bicycle travel on roadways, facility types are generally grouped into one of three classes: Class I Bikeways, Class II Bikeways, and Class III Bikeways. It is emphasized that the designation of bikeways as Class I, II and III should not be construed as a hierarchy of bikeways; that is, that one is better than the other. Each class of bikeway has its appropriate application. For a discussion of the three bikeway classes, please refer to the following sections.

It is important to note that bicycles are permitted on all roads in the state of Texas (with the exception of access-controlled freeways). The designation of certain roads as Class II or III bicycle facilities is not intended to imply that these are the only roadways intended for bicycle use, or that bicyclists should not be riding on other streets. Rather, the designation of a network of Class II and III on-street bikeways recognizes that certain roadways are optimal bicycle routes, for reasons such as directness or access to significant destinations.

Class I Bikeway

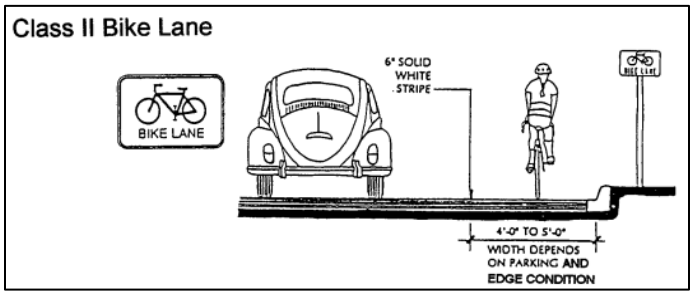
Typically called a bike path, a Class I Bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. Generally, bike paths should be used to serve corridors not served by streets and highways or where wide right-of-way exists permitting such facilities to be constructed away from the influence of parallel streets. Bike paths should offer opportunities not provided by the road system. They can either provide a recreational opportunity, or in some instances, can serve as direct high-speed commute routes if cross flow by motor vehicles and pedestrian conflicts can be minimized. Another common application of Class I facilities is to close gaps to bicycle travel caused by construction of freeways or because of the existence of natural barriers (rivers, hills, etc.).




Source: "City of San Diego Bicycle Master Plan", 2002

Class II Bikeway

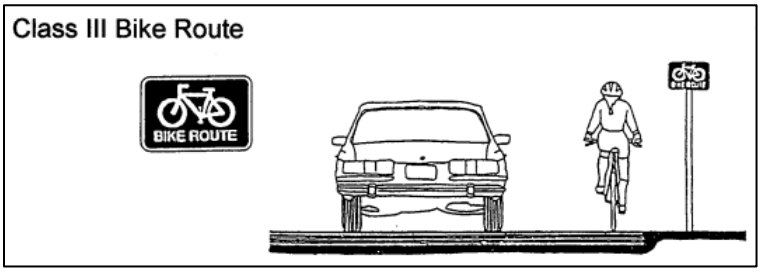
Often referred to as a bike lane, a Class II Bikeway provides a striped and stenciled lane for one-way travel on a street or highway. Bike lanes are established along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. The purpose should be to improve conditions for bicyclists in the corridors. Bike lanes are intended to delineate the right-of-way assigned to bicyclists and motorists and to provide for more predictable movements by each.




Source: "City of San Diego Bicycle Master Plan", 2002

Class III Bikeway

Generally referred to as a bike route, a Class III Bikeway provides for shared use with motor vehicle traffic and is identified by signing and/or bicycle pavement markings. Bike routes are shared facilities which serve either to: 1) Provide continuity to other bicycle facilities (usually Class II Bikeways); or 2) Designate preferred routes through high-demand corridors. As with bike lanes, designation of bike routes should indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. Normally, bike routes are shared with motor vehicles. The use of sidewalks as Class III Bikeways is strongly discouraged.




Source: "City of San Diego Bicycle Master Plan", 2002

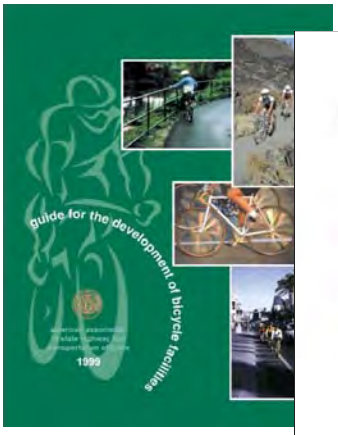
## Bicycle Design Best Practices

Well-designed bicycle facilities are those that are safe, attractive, convenient and easy to use. They minimize user conflicts and promote good riding habits. As such, well-designed facilities are popular community amenities and are heavily used. Poor bicycle facilities are those that few use, are used irresponsibly because of poor design, or have not been designed for ease of maintenance. Inadequate facilities discourage users from bicycling on a regular basis, waste money and resources, and make future bicycle improvements less favorable with the general public. The best way to ensure good facility design is to include the needs of bicyclists at the inception of a transportation project or improvement, so that the bicycle improvement is integrated into the total design of the project.

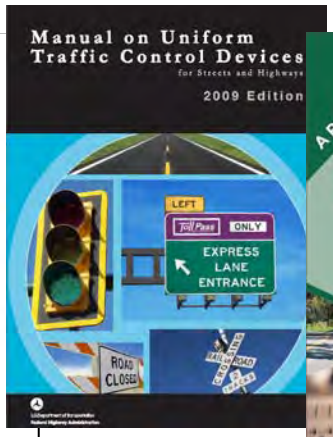
Design guidance for bicycle facilities has advanced significantly over the past two decades. Guidance at the national and state level encourages the development of bicycle facilities according to the recommendations established in the American State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, 1999 and the Texas Department of Transportation (TxDOT) *Roadway Design Manual,* revised May 2010. An update to the 1992 AASHTO *Guide for the Development of Bicycle Facilities* is anticipated sometime in

2011. At that point, the new document will be adopted as national guidance for the design of bicycle facilities. The US Department of Transportation Federal Highway Administration *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 mandates national guidelines for traffic control devices, such as pavement markings, signage, traffic safety lights, etc. TxDOT has a two-year design review period that began in 2009, at the conclusion of which they will be required to adopt the new MUTCD, or create their own manual in accordance with guidelines established in the national MUTCD. The AASHTO *Geometric Design of Highways and Streets* (AASHTO Green Book), 2004 provides national guidance on the design of highways and streets, including recommendations for the safe interaction between motorists and bicyclists on roadways. For the latest versions of these documents, be sure to consult the appropriate Websites. There are various other documents that should be consulted during the design and development process, including city and county roadway design manuals, and other relevant planning and design manuals as applicable.

**(AASHTO)** *Guide for the Development of Bicycle Facilities*, 1999

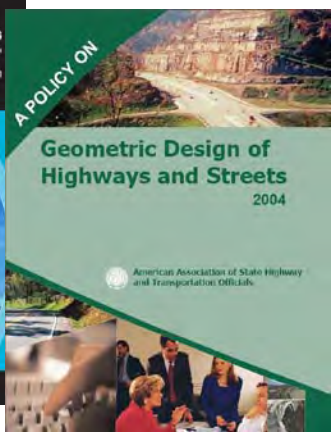



**US Department of Transportation**
**Federal Highway Administration**
*Manual on Uniform Traffic Control Devices* (MUTCD), 2009




**TxDOT** *Roadway Design Manual*, Revised May 2010


**AASHTO** *Geometric Design of Highways and Streets* (Green Book), 2004




Recommendations at the regional level follow the aforementioned national and state guidelines. These guidelines are required on federal and state roadways, and on roadways constructed with federal or state funding initiatives. It is important to note that variations exist among the design guidelines for bicycle facilities and, therefore, a range of options are provided in the following sections. In addition, certain design guidance relies on an engineer's best judgment, and final decisions are based on location and other relevant circumstances at the local, state, and/or federal level(s).

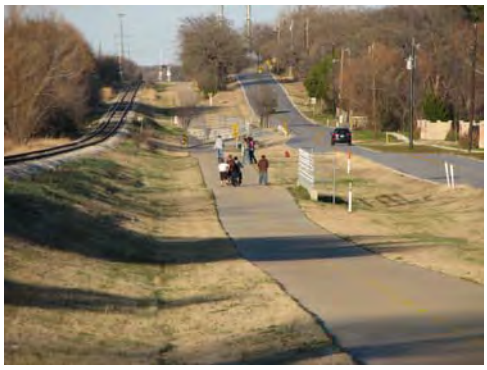
## General

Different types of streets and their associated characteristics necessitate different types of bikeway designs. Different design treatments need to be considered for arterial streets, collector or minor arterial streets, and local streets. Appropriate design guidelines as recognized in the previously identified bicycle facility guidance manuals are described in the following section, and are grouped according to the bikeway facility classes identified previously. A detailed table outlining specifics of the facility types is presented in Exhibit B-1 at the end of the section.

Class I Bikeways

**Shared-use Path:** A shared-use path is a facility on exclusive right-of-way and with minimal intersections with motor vehicles. Shared-use paths are sometimes referred to as trails; however, the term trail can refer to a variety of facilities that do not necessarily meet the design criteria for shared-use paths, so care should be taken when using these terms interchangeably. Users are restricted to non-motorized forms of transportation (with the exception of maintenance vehicles) and may include, but are not limited to, bicyclists; in-line skaters; wheelchair users; and pedestrians including runners, people with baby strollers, people walking dogs, etc. Shared-use paths should not be used to preclude on-road bicycle facilities, but rather to supplement a system of on-road facilities. Shared-use paths can serve a variety of purposes, from recreational facilities, to facilities along abandoned and active rail rights-of-way and utility corridors, to facilities that provide bicyclists access to areas that are otherwise served only by limited-access highways closed to bicycles or that are limited by barriers.

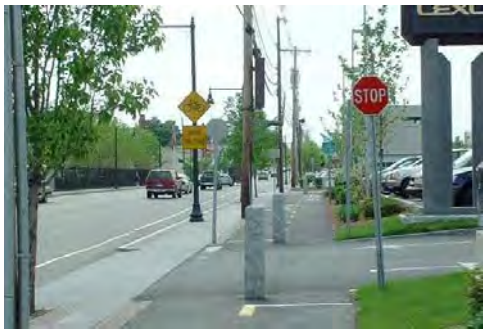
*Shared-use Path, North Richland Hills, TX*



*Design Considerations:* A recommended minimum width for two-directional travel on a shared-use path is ten feet with two-foot shoulders on either side. However, NCTCOG strongly encourages two-directional travel paths be implemented at a width of 12 feet. Under certain circumstances where high volumes of bicycles, joggers, skaters, and pedestrians are expected, a desired width is 14 feet with two-foot shoulders on either side. Additional clearance of one foot for signage is recommended.

**Sidepath:** A sidepath is a shared-use path marked for bicycle (and sometimes pedestrian) use that is adjacent to a roadway and are most appropriate in corridors where there are limited driveway crossings and intersections, or adjacent roadway speeds and volumes are higher. This facility offers an option for those not comfortable riding on the road with traffic. However, careful facility design is needed to minimize conflicts between motorists and bicyclists at intersections. In addition, where sidepaths are present, bicyclists should not be prohibited from the roadway.

*Sidepath, Watertown, MA*




*Design Considerations:* A recommended width for two-directional travel on a sidepath is ten feet with two-foot shoulders on either side. The minimum width of a one-directional sidepath is six feet with two-foot shoulders on either side (in instances when sidepaths are to be implemented on both sides of the roadway). Sidepaths should be separated from the roadway by a five-foot buffer. If this is not possible, a physical barrier not less than 42 inches high is recommended between the sidepath and roadway to prevent path users from making unwanted movements between the path and the roadway. Additional clearance of one foot for signage is recommended.

## Class II Bikeways

**Bicycle Lane:** Bicycle lanes are portions of the roadway that have been designated for the preferential or exclusive use of bicyclists through striping, signage and other pavement markings. On two-way streets, bike lanes should be provided on both sides of the road so that bicyclists can ride in the same direction as adjacent motor vehicle traffic.

*Bicycle Lane, Vancouver, WA*

*Design Considerations:* Bicycle lanes should be at least four feet wide on roadways with open shoulders and five feet wide on roadways with curb and gutter or on-street parking. Pavement markings should appear at intervals not to exceed one-half mile. Five-foot wide bicycle lanes are typical, but wider lanes (i.e., six foot) are often used on roadways with high motor vehicle traffic volumes.

**Buffered Bicycle Lane:** The buffered bicycle lane is a bicycle lane that is buffered by a two- to six-foot wide striped crosshatched "shy zone" between the bicycle lane and the moving vehicle lane, or the parking lane. This design makes movement safer for both bicyclists and vehicles. With the shy zone on the left, the buffered lane offers a more comfortable riding environment for bicycle riders who prefer not to ride adjacent to traffic; on the right, it puts bicycle riders outside of the 'door zone' of parked cars. This system allows motorists to drive at a normal speed; they only need watch for cyclists when turning right at cross-streets or driveways and when crossing the buffered lane to park.

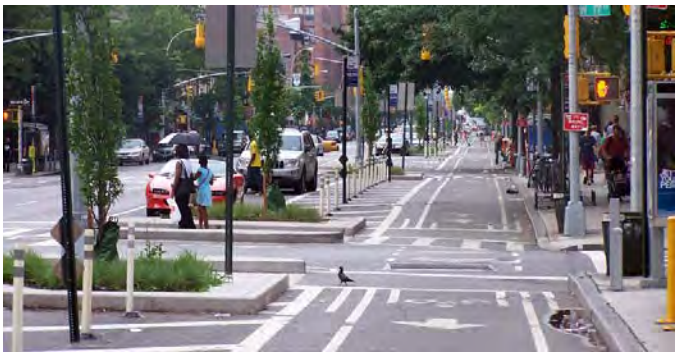
*Bicycle Lane right-hand side buffer, Tucson, AZ*

*Bicycle Lane left-hand side buffer, Brooklyn, NY*

*Design Considerations:* For use on streets with high bicycle volume and/or high motor vehicle volumes and speeds, bicycle lanes should be five feet wide with a two- to six-foot wide striped crosshatched buffer, and bicycle pavement markings appearing more frequently than standard bicycle lanes (every 50 to 100 feet) to prevent vehicles from driving in the lane.

**Cycle Track:** The cycle track is an exclusive bicycle facility adjacent to, but separated from, the roadway by a physical barrier. The facility is also separated from the sidewalk. The cycle track combines the user experience of a separated path with the on-street infrastructure of a bicycle lane. Cycle tracks are for use on arterial roadways with high motor vehicle speeds and volumes and roads with fewer cross-streets and longer blocks.

*Cycle Track, New York, NY*



*Design Considerations:* Between six and eight feet wide with a two-foot buffer on the vehicle side. Separation from the vehicle lane is channelized (elevated or at-grade), a mountable curb, or bollards/markings.

**Climbing Lane:** Uphill bicycle lanes, also known as climbing lanes, separate vehicle and bicycle traffic and enable motorists to safely pass slower-speed bicyclists, thereby improving conditions for both travel modes. While descending bicyclists are often able to maintain vehicular travel speeds, bicyclists ascending hills tend to lose momentum, especially on longer street segments with continuous uphill grades. This speed reduction creates greater speed differentials between bicyclists and motorists, creating uncomfortable and potentially unsafe riding conditions. The right-of-way or curb-to-curb width on some streets may only provide enough space to stripe a bicycle lane on one side. Under these conditions, bicycle lane striping could be added to the uphill side of the street, and shared lane markings on the downhill side of the street.

*Climbing Lane, Portland, OR*

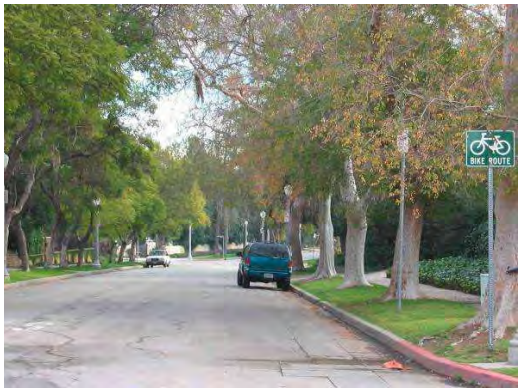
*Design Considerations:* The climbing lane should be five to six feet wide. On the downhill side, the bicycle lane should be five to six feet wide if room permits; otherwise, a shared lane marking should be installed according to the design guidelines outlined for shared lane marking facilities.

## Class III Bikeways

**Signed Bicycle Route:** A signed bicycle route is a shared roadway without any designated bicycle facilities (i.e., no roadway striping or markings). Many non-arterial roadways with low traffic volumes and low speeds, such as neighborhood connectors, are ideal as a signed bicycle route.

*Design Considerations:* Provide bicycle route signs every one-third to one-half mile on straight segments of the route, depending on the locations of crossings with other bicycle routes, locations of primary arterial roadway crossings, sight distance, and the overall frequency of street crossings.

*Signed Bicycle Route, Seattle, WA*




**Shared-lane Marking:** Shared-lane markings (sometimes referred to as a sharrow) are pavement symbols consisting of a bicycle with two chevron markings above the bicycle. The shared-lane marking is utilized on roadways where bicyclists and motorists share the lane, of which the intent of the shared-lane marking is to improve bicyclist and bicyclist-motorist positioning. Traffic lanes are often too narrow to be shared side-by-side by bicyclists and passing motorists. Where parking is present, bicyclists wishing to stay out of the way of motorists often ride too close to parked cars and risk being struck by a suddenly opened car door (being "doored"). Where no parking is present, bicyclists wishing to stay out of the way of motorists often ride too close to the roadway edge, where they run the risks of being run off the road, being clipped by overtaking motorists who misjudge passing clearance, or of encountering drainage structures, poor pavement, debris, and other hazards. Riding further to the left avoids these problems, and is legally permitted where needed for safety. However, this practice can run

*Shared Lane Marking, San Francisco, CA*

counter to motorist expectations. The shared-lane marking, therefore, indicates the legal and appropriate bicyclist line of travel, and cues motorists to pass with sufficient clearance, as needed.

*Design Considerations:* The shared-lane marking should not be placed on roadways that have a speed limit above 35 mph. If used in a shared lane with on-street parallel parking, shared-lane markings should be placed so that the centers of the markings are at least 11 feet from the face of the curb or from the edge of the pavement where there is no curb. If used on a street without on-street parking that has an outside travel lane that is less than 14 feet wide, the centers of the shared-lane markings should be at least four feet from the face of the curb or from the edge of the pavement where there is no curb. If used, the shared-lane marking should be placed immediately after an intersection and spaced at intervals not greater than 250 feet thereafter.

**Paved Shoulder:** Typically found in rural areas, shoulder bikeways are paved roadways with striped shoulders wide enough for bicycle travel. In some cases, the opportunity to develop a standard bicycle lane on a street where it is desirable may not be possible. However, it may be possible to stripe the shoulder in lieu of bicycle lanes by reducing the outside lane width to the AASHTO minimum. Where feasible, extra width should be provided with pavement resurfacing, but not to exceed desirable bicycle lane widths.

*Paved Shoulder, Florida*

*Design Considerations:* Striped shoulders should be four-foot minimum without a curb; five-foot minimum with curb. Shoulder bikeways often, but not always, include signage alerting motorists to expect bicycle travel along the roadway. Below four foot should not be designated or marked as a bicycle facility.

Additional bicycle facility options not covered in detail in this section include counter flow bicycle lanes which enable bicycle travel on one-way streets, and bicycle-bus lanes where bicycles and buses share the same lane.

*Exhibit B:1. Bicycle Facility Types and Characteristics*

| Facility Type | Location | Design Considerations |
|---|---|---|
| Shared-use Path (Class I Bikeway) | Exclusive right-of-way. | 10 to 14 feet depending on volume of users with 2-foot shoulders on either side. Supplemental on-road system. |
| Sidepath (Class I Bikeway) | Exclusive right-of-way. | 10-foot minimum for two-way travel with 2-foot shoulders on either side; 6-foot minimum for one-way travel with 2-foot shoulders on either side. 5-foot buffer between path and roadway, or a physical barrier. |
| Bike Lane (Class II Bikeway) | On roadways: minor arterials, arterials. | Bike lanes should be at least 4 feet wide on roadways with open shoulders and at least 5 feet wide on roadways with curb and gutter or on-street parking. Pavement markings should appear every one-half mile. |
| Climbing Lane (Class II Bikeway) | On roadways with hills where adequate right-of-way for bike lanes on both sides of the roadway cannot be acquired. | The uphill bike lane should be 5 to 6 feet wide. On the downhill side, the bike lane should be 5 to 6 feet wide if room permits, or shared lane markings should be installed according to recommendations. |

| Facility Type | Location | Design Considerations |
|---|---|---|
| Buffered Bike Lane (Class Ii Bikeway) | On roadways with high motor vehicle volumes and/or speeds, on roadways with on-street parking that has a high turnover. | Bike lanes should be 5 feet wide with a 2- to 6-foot wide striped crosshatched buffer, and bicycle pavement markings should be placed every 50 to 100 feet. |
| Cycle Track (Class II Bikeway) | On roadways with high motor vehicle volumes and/or speeds. | Between 6 to 8 feet wide with a 2-foot buffer on the vehicle side. Separation from the vehicle lane is channelized (elevated or at-grade), a mountable curb, or bollards/markings. |
| Signed Bike Route (Class III Bikeway) | On lower volume roadways that have lower speeds, neighborhood streets, collectors, etc. | Provide bike route signs every one-fourth mile and at intersections. |
| Shared-lane Marking (Class III Bikeway) | On lower volume roadways that do not have a speed limit over 35 mph: arterials, minor arterials, collectors, neighborhood streets, etc. | Shared-lane markings on roadways with on-street parallel parking: should be placed 11 feet from edge of curb or edge of pavement. Without on-street parking: 4 feet from curb or edge of pavement. Pavement markings immediately after an intersection and at least every 250 feet. |
| Paved Shoulder (Class III Bikeway) | On rural roadways or on roadways where adequate right-of-way for on-street facilities cannot be acquired. | Striped shoulders should be 4-foot minimum without a curb; 5-foot minimum with curb. Signage optional. |

## Innovative Bicycle Facilities

Municipalities typically experience new issues regarding bicycle facilities as bicycle ridership rates increase. The following section outlines several best practices in emerging innovations for bicycle planning and design. Professional judgment and sound engineering practices must be used on the site-specific application of these design treatments. In addition, the treatments outlined in the following section may require experimental status from the Federal Highway Administration (FHWA).

*Colored Bicycle Lane, Seattle, WA*

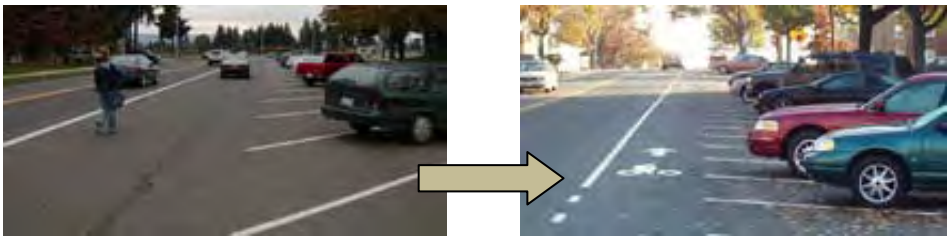
**Colored Bicycle Lanes:** A contrasting color for the paving of bicycle lanes can be applied to continuous sections of roadways. These situations help to better define road space dedicated to bicyclists and make the roadway appear narrower to drivers resulting in beneficial speed reductions. Colored bicycle lanes are implemented according to general bicycle lane guidelines. Colored bicycle lanes require additional cost to install and maintain. Techniques include: paint – less durable and can be slippery when wet, colored pavement – colored medium in pavement (most durable), or colored and textured sheets of acrylic epoxy coating**.**

*Bike Box, Portland, Oregon*


***Bike Box*:** A bike box is generally a right angle extension of a bike lane at the head of a signalized intersection. The bike box allows bicyclists to move to the front of the traffic, queue on a red light, and proceed first when that signal turns green. Motor vehicles must stop behind the white stop line at the rear of the bike box. Bike boxes can be installed with striping only or with colored treatments to increase visibility. Bike boxes should be located at signalized intersections only, and right turns on red should be prohibited. On roadways with one travel lane in each direction, the bike box also facilitates left turning movements for cyclists.

**Back-in Diagonal Parking:** The use of back-in diagonal parking or reverse angled parking is recommended over head-in diagonal parking. This design addresses and improves sight distance between drivers and bicyclists and has been shown to reduce parking related crashes. In certain areas, diagonal parking can be used to increase parking supply. Conventional diagonal parking is not compatible or recommended in conjunction with high levels of bicycle traffic. While there may be a learning curve for some drivers, using back-in diagonal parking is typically an easier maneuver than conventional parallel parking.

*Before: Conventional Diagonal Parking* *After installation of Back-in Diagonal Parking*



**Bicycle Signal:** A bicycle signal directs two-wheeled traffic through dangerous intersections connected to bicycle or shared-use paths with bicycle-shaped red, amber, and green lights. Cyclists activate the light by placing their wheels on a bicycle-shaped signal on the ground, then cross the intersection diagonally. A bicycle signal may be considered for use when the volume and collision or volume and geometric warrants have been met.

*Bicycle Signal, San Francisco, CA*

*Bicycle Boulevard, Berkley, CA*


**Bicycle Boulevards:** A bicycle boulevard, sometimes called a bicycle priority street, is a roadway where all types of vehicles are allowed, but the roadway is modified as needed to enhance bicycle safety and convenience. Bicycle boulevards are not approved for use on the State Highway System. Typically these modifications will also calm traffic and improve pedestrian safety. Modifications include signage, unique pavement (colored, textured, etc.), pavement legends, landscaping/street trees, traffic circles, bulb outs, traffic signals, and highly visible crosswalks. In some cases, bicycles may be granted through access to the roadway while vehicles may not. Bicycle boulevards discourage cut-through motor vehicle traffic, but typically allow local motor vehicle traffic. They are designed to give priority to cyclists as through-going traffic. They improve bicycle safety and circulation in various ways:

- Low traffic volumes (or bike lanes where traffic volumes are medium).
- Discouragement of non-local motor vehicle traffic.
- Free-flow travel for bikes by assigning the right-of-way to the bicycle boulevard at intersections wherever possible.
- Traffic control to help bicycles cross major arterial roads.
- A distinctive look and/or ambiance such that cyclists become aware of the existence of the bike boulevard and motorists are alerted that the roadway is a priority route for bicyclists.

## Facility Implementation

There are several options to implement bicycle facilities within the existing road right-of-way. Several of these options are discussed in further detail below.

**Include in Road Construction:** Locations where bicycle facilities can be provided as part of planned transportation improvement projects.

**Stripe/Add Pavement Markings:** Locations where facilities can be added by simply adding pavement markings. Capital Costs: ~$1,000 per mile (if the old paint does not need to be changed).

**Remove Parking:** Locations where facilities can be added by eliminating on-street parking. Please note that this recommendation is used only sparingly and would require extensive public outreach. Capital Costs: ~$5,000 to $10,000 per mile (depending on the number of lanes that need to be repainted).

**Lane Diet:** Locations where narrowing automobile travel lanes creates enough space within the existing road right-of-way to provide bicycle facilities. The 2010 version of the Highway Capacity Manual will include safety data supporting 10-foot wide travel lanes as a standard option. Capital Costs: ~$5,000 to $10,000 per mile (depending on the number of lanes that need to be repainted).

*Before Lane Diet, New York, NY* *After Lane Diet, New York, NY*

**Road Diet:** Locations whereby a road is reduced in the number of travel lanes and/or effective width in order to achieve systemic improvements. A typical road diet technique is to reduce the number of lanes on a roadway cross-section. The additional space that is freed up by removing a vehicular travel lane is converted into bicycle lanes on either side of the roadway. A significant amount of studies have been conducted on the safety benefits of road diets. Conclusions of these studies indicate reductions in crash rates, injury rates, and speeding, an increase in on-street parking utilization, pedestrian and bicyclist volumes, and a total crash reduction factor of 29 percent.[1]

Additional benefits of road diets include:

- Provide space to add bicycle lanes
- Reduce crossing distance for pedestrians
- Eliminate or reduce “multiple threat” crash types
- Crossing islands result in two simple steps crossing for pedestrians
- Reduce top end travel speeds
- Buffer sidewalk from travel lanes (install parking or bicycle lane)
- Reclaim street space for other uses rather than moving peak hour traffic

[1]Highway Traffic Research Board, NCHRP Research Results Digest 299, November 2005.

Capital Costs: ~$5,000 to $20,000 per mile (depending on the number of lanes that need to be repainted).

*Before Road Diet, San Antonio, TX*

*After Road Diet, San Antonio, TX*

## Additional Considerations

The planning, design, and implementation of bicycle facilities remains the strongest indicator for bicycle transportation. However, there are several other components that should be considered for a successful bicycle system, including bicycle end-of-trip facilities, maintenance activities, and signal operations for bicyclists, each of which is discussed in further detail in the following sections.

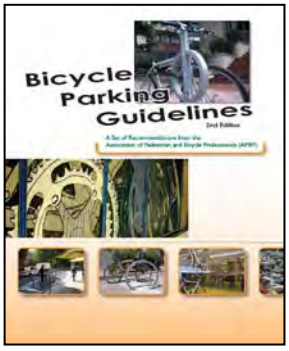
*Bike Station, Washington, D.C.*

## End-of Trip Facilities

The term bicycle end-of-trip facilities refers to parking and complementary infrastructure for bicycles.

Bicycle Parking Infrastructure: includes stands or racks that support bicycles and shelters or enclosures that protect parked bicycles from vandalism, theft, and the elements.

*Bicycle Parking:* One of the most common obstacles for bicyclists is often cited as the lack of bicycle parking. Adequate parking encourages people to ride. In addition, designated, well-designed parking promotes a more orderly streetscape and preserves the pedestrian right-of-way. Bicycle parking also helps legitimize bicycling as a transportation mode by providing parking opportunities equal to motorized modes. Short-term parking (i.e., bicycle racks or surface parking) and long-term parking (i.e., lockers or restricted access parking locations) facilities should be considered to support a successful bicycle system. Bicycle parking should be available at major destinations such as employment and shopping centers, transit stations, schools, etc.




The *Bicycle Parking Guidelines, 2nd Edition: A set of recommendations from the Association of Pedestrian and Bicycle Professionals* offers additional guidance and recommendations for facility options and installation techniques.

Complementary Infrastructure: Include lockers for stowing helmets, bicycle clothing, and other personal belongings; change rooms and showers; air pumps; and sometimes even bicycle parts and maintenance shops. Public-private partnerships are encouraged to provide complimentary infrastructure at major destinations such as employment and shopping centers, transit

stations, schools, etc. Bikestation® is an organization that works with a number of agencies and organizations in the planning, development and implementation of bike-transit related projects. Bikestation® offers its members bicycle parking and related services at its facilities. Bike stations offer secure bicycle parking, changing facilities, and even bicycle rentals, and bicycle repairs.

## Maintenance Activities

On-street bicycle facilities require maintenance activities similar to those that apply to vehicular roadway facilities. There has been a long-standing debate on the practicality of on-street bicycle facilities due to the lack of regular maintenance provided by municipalities for these facilities, including routine sweeping of bicycle lanes. However, when routine maintenance is provided for these facilities, there is a general consensus that on-street facilities are greatly favored over the alternative. Below is a list of maintenance activities that should be provided regularly by the implementing agency and the frequency these activities should be performed.

*Maintenance Activities and Frequency*

| Maintenance Activity | Frequency |
|---|---|
| Inspections | seasonal – at beginning and end of summer |
| Pavement sweeping/blowing | as needed, weekly in fall |
| Pavement sealing, potholes | 5 to 15 years |
| Culvert and drainage grate inspection | before winter and after major storms |
| Pavement markings replacement | 1 to 3 years |
| Signage replacement | 1 to 3 years |
| Shoulder plant trimming (weeds, trees, brambles) | twice a year; middle of growing season and early fall |
| Tree and shrub plantings, trimming | 1 to 3 years |
| Major damage response (washouts, fallen trees, flooding) | as soon as possible |

Source: City of Milwaukee 2010 Bicycle Master Plan

### Signal Operations for Bicyclists

Signal operations for bicyclists is a major issue as many traffic signals are not set to detect bicyclists. All signals on roadways that allow bicycle travel should be set to detect bicyclists, either through setting adjustments (new signals), or through the installation of a bicycle detector in the pavement (older signals). In the latter, a bicycle detector pavement marking (see the MUTCD figure to the right) should be placed on the pavement to indicate optimum position for bicyclists to activate the symbol.

*MUTCD Bicycle Detector Pavement Marking*

*MUTCD Guidance on Signal Operations for Bicyclists*

| **Per MUTCD Section 9D.02** |
|---|
| ▪ At installations where visibility-limited signal faces are used, signal faces shall be adjusted so bicyclists for whom the indications are intended can see the signal indications. If the visibility-limited signal faces cannot be aimed to serve the bicyclist, then separate signal faces shall be provided for the bicyclist.<br>▪ On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of bicyclists. |
| **Per MUTCD Section 9C.05** |
| ▪ A bicycle detector symbol may be placed on the pavement indicating the optimum position for a bicyclist to actuate the signal.<br>▪ A sign may be installed to supplement the pavement marking. |

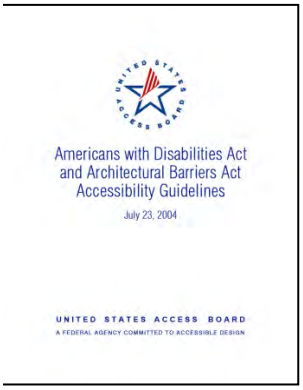
## WALKING

Pedestrian facilities are unique facilities that must accommodate a wide variety of user types, needs, and abilities. Pedestrians also tend to be the most vulnerable road users. Therefore, special attention should be paid to pedestrian facility design and implementation to increase the safety and effectiveness of these facilities as all users are pedestrians at some point in each journey. In addition, the Americans with Disabilities Act of 1990 mandates guidelines for public buildings and facilities for users with disabilities, which is explained in more detail in the following section.

### Americans with Disabilities Act and Texas Accessibility Standards

The state of Texas has adopted standards for accessibility to public buildings and facilities; privately owned buildings and facilities leased or occupied by state agencies; places of public accommodation; and commercial facilities by individuals with disabilities. These regulations are to be applied during the design, construction, and alteration of such buildings and facilities to the extent required by regulations issued by the Texas Department of Licensing and Regulation under the *Texas Accessibility Standards* (TAS) of the Architectural Barriers Act, codified as Article 9102, Texas Civil Statutes. These standards closely follow the *Americans with Disabilities Act Accessibility Guidelines* (ADAAG), and are intended to facilitate equivalency certification of the state program for the elimination of architectural barriers by the United States Department of Justice by bringing the state Architectural Barriers Act into alignment with the scoping requirements of the *Americans with Disabilities Act* (ADA). State and local governments, regardless of whether they receive federal funds, are required to comply with the Federal ADAAG, Title 24, USFAS, or Local Code, whichever provides the greatest access. Private-funded improvements are required to comply with the Federal ADAAG and with Title 24, whichever code offers the greatest access or protections to individuals with disabilities. The US Department of Transportation Federal Highway Administration *Manual on Uniform Traffic Control Devices* (MUTCD) also provides national guidance in accordance with Federal ADAAG.

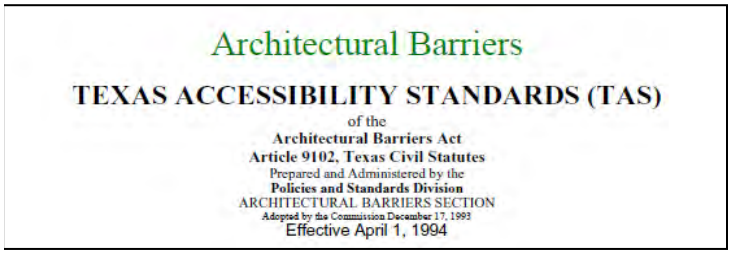
*Americans with Disabilities Act Accessibility Guidelines, July 2004*




Pedestrian Design Guidelines: ADAAG and TAS

Guidelines from the Federal *ADA Accessibility Guidelines*, *Texas Accessibility Standards*, and the *Manual on Uniform Traffic Control Devices* for pedestrian facilities are outlined in the following sections. It is important to note that variations exist among the federal, state and local codes relevant to design guidelines for pedestrian facilities, and new construction and improvements are required to comply with the code that offers the greatest access or protections to individuals with disabilities.

*Texas Accessibility Standards of the Architectural Barriers Act, codified as Article 9102, Texas Civil Statutes; April 1994*




**Pedestrian Sidewalks:** ADAAG requires sidewalks to be constructed at a minimum of 36 inches for accessible travel by all users. Sidewalks constructed at 36 inches must not have any barriers such as signs, fire hydrants, etc. that impede the sidewalk. In addition, extra walkway width of 48 inches, the amount of space needed for a wheelchair to turn, is required at distances not to exceed 200 feet. Because of the guidelines requiring 36 inches of clear walkway, many guidelines today require six-foot sidewalks, the width needed for two

*Sidewalk, Dallas, TX*

wheelchairs to pass one another. The Texas Department of Transportation has recommended that all sidewalks built in the public right-of-way or with federal or state funds be constructed at a width of six feet.

**Curb Ramps:** Curb ramps are the only item of right-of-way construction specifically required in the Department of Justice (DOJ) Title II regulation (see 35 CFR §35.150(c)(2) for existing facilities and §35.151(e) for new construction and alterations). "Where new sidewalks or streets are constructed or existing pedestrian or vehicular ways are altered, curb ramps or other sloped areas must be provided at intersections with curbs or other barriers to use." Under program accessibility in existing facilities, the regulation also requires Title II entities to install curb ramps along existing pedestrian routes that are not otherwise being altered to provide the benefits of public sidewalks to people who have mobility impairments. Many jurisdictions consider resident requests in establishing priorities for new sidewalks and identifying locations where curb ramps are required. DOJ Title II regulations require that public entities give priority to providing curb ramps at walkways serving state and local government offices and facilities, transportation, places of public accommodation, and employees, followed by walkways serving other areas. Curb ramps must meet specific standards for width, slope, cross slope, placement, and other features.[2] ADA standards require that curb ramps include features called detectable warnings. Detectable warnings consist of a series of small domes that contrast in color with the surrounding sidewalk or street. They must be integrated into the walking surface, and there are specific measurements for the size and spacing of the domes. Generally, you must provide curb ramps wherever a sidewalk or other pedestrian walkway crosses a curb. Curb ramps must be placed to enable a person with a mobility disability to travel from a sidewalk on one side of the street, over or through any curbs or traffic islands, to the sidewalk on the other side of the street. Remember, walkways include areas where people must walk to access bus stops and other public transportation stops, so, where necessary, curb ramps must also be provided to enable people with disabilities to board and exit public transportation.

*Curb Ramp, Dallas, TX*

**Maintenance:** Maintenance of pedestrian routes should be considered a program of an entity covered by Title II of the ADA. This includes repairing damaged surfaces clearing curb ramps.

**Pedestrian Signals:** Countdown displays are required for all new pedestrian signals in the 2009 version of MUTCD, which includes a countdown of the remaining time a pedestrian has to cross an intersection, in addition to the standard pedestrian figure indicating it is safe to walk, a flashing hand figure indicating the pedestrian should be cautious when crossing the intersection, and a solid hand signal indicating the pedestrian to stop. Positioning of pedestrian pushbuttons and legends on pushbutton signs that activate a crosswalk signal shall clearly indicate which crosswalk signal is activated by which pushbutton. In addition, new figures for locations of pedestrian pushbuttons for a variety of conditions are provided in the 2009

*Pedestrian Countdown Signal, Dallas, TX*


[2]The ADA Standards are located at 28 C.F.R. Part 36, Appendix A. They are also available on the ADA Home Page at www.ada.gov. UFAS is located at 41 C.F.R. Part 101 - 19.6, Appendix A, and at the Access Board's website at www.access-board.gov/ufas/ufas-html/ufas.htm.

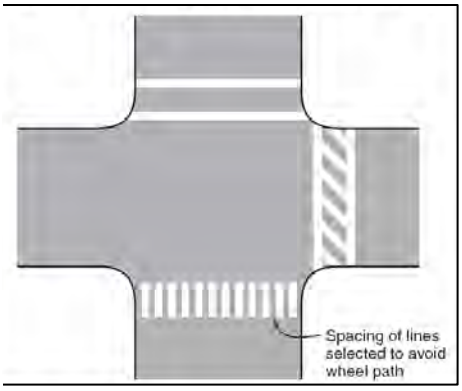
version of MUTCD, including revisions to the requirements for the location of pedestrian pushbuttons and for accessible pedestrian signal pushbuttons, to make the button locations more consistent. To help clarify appropriate locations under different geometric conditions, a figure is included that shows eight examples of proper pedestrian pushbutton locations for various sidewalk, ramp, and corner configurations. Chapter 4E of the 2009 MUTCD provides additional guidelines for the installation of pedestrian signals.

**Signal Timing:** Recent research regarding pedestrian walking speeds has found that slower walking speeds are needed in the calculation of pedestrian clearance times to accommodate older and slower pedestrians. In the 2009 version of MUTCD, the recommended walking speed for calculating the pedestrian clearance time was reduced from 4 feet per second to 3.5 feet per second, except where extended pushbutton presses or passive pedestrian detection has been installed for slower pedestrians to request additional crossing time. In addition, a recommendation was added that the total of the walk phase and pedestrian clearance time should be long enough to allow a pedestrian to walk from the pedestrian detector to the opposite edge of the traveled way at a speed of three feet per second. This change will ensure that slower pedestrians can be accommodated at longer crosswalks if they start crossing at the beginning of the walk phase. If this calculation finds that sufficient crossing time is not available, additional time should be added to the walk interval.

**Accessible Pedestrian Signals:** The 2009 MUTCD includes revisions regarding accessible pedestrian signals (APS) including requiring both audible and vibrotactile walk indications, changing the loudness of audible pedestrian walk signals to a standard, describing additional features that are available through an extended pushbutton press, adding new provisions regarding the use of audible beaconing, adding a new requirement that accessible walk signals have the same duration as the pedestrian walk signal unless the pedestrian signal rests in the walk phase, and revising the duration, tone, and speech messages of audible walk indications in order to clarify their use and application. A standard was also added that requires the use of locator tones, tactile arrows, speech walk messages, and a speech pushbutton informational message when two accessible pedestrian pushbuttons are placed on the same pole. Additionally, if the clearance time is sufficient to only cross to the median of a divided highway, an accessible pedestrian detector shall be provided on the median.

*Accessible Pedestrian Signal (audible), San Francisco, CA*

*Crosswalk Markings, Figure 3B-19, 2009 MUTCD*




**Pedestrian Crosswalks:** Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops. In conjunction with signs and other measures, crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs. At non-intersection locations, crosswalk markings legally establish the crosswalk. When crosswalk lines are used, they shall consist of solid white lines that mark the crosswalk. According to the 2009 version of MUTCD, crosswalk lines shall not be less than 6 inches or greater than 24 inches in width. Section 3B.18 of Part 3 in the 2009 MUTCD provides additional guidelines for the installation of crosswalks.

## Additional Considerations

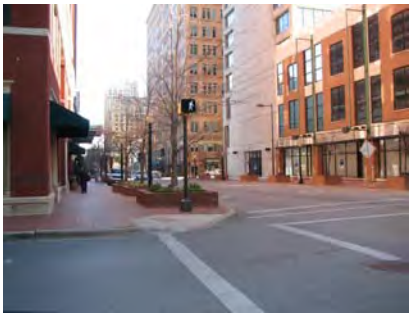
In addition to bicycle and pedestrian facilities, there are a number of components that should be taken into consideration when developing an interconnected bicycle and pedestrian network including street network, building placement, and parking. Best practices for implementing these components successfully are covered in this section.

**Parking:** Because density, building up rather than out, is a key strategy for clustering growth, the extra land area devoted to parking can cause a serious problem. If densities are increased, more land area must be devoted to parking and the distance between buildings increases, making the environment more hostile to pedestrians. Under many current parking standards used within the region, it would be nearly impossible to achieve pedestrian-scaled environments or transit-supportive densities at station areas. The best solution for station area development is to lower parking ratios and put as much parking as possible on street, in garages or, better yet, underground. Lowering parking ratios can be achieved by utilizing a shared parking factor. Both maximum parking allowances and minimum parking requirements for all commercial and employment development should be established within the station area. Minimum requirements help to avoid spillover parking in retail areas or nearby neighborhoods; maximums guard against overly generous parking supplies that discourage transit use. Short-term parking controls should be utilized in commercial core areas to discourage commuter parking near retail uses.

*On-street Parking, Fort Worth, TX*

On-street parking is critical to keeping the focus of a community on the street, rather than the interior of lots. On-street parking slows vehicle speeds and helps to create street activity as well as buffer the pedestrian from vehicle traffic. It provides convenient access for guests or patrons, reinforcing the orientation of building entries to the street. On-street parking can be compatible with bicycle travel, provided that auto speeds are slow enough to allow bicyclists to travel safely in the street. While the goal is to reduce automobile traffic within the transit-oriented development, sufficient parking for those who must use this mode of travel should be provided. However, there are several techniques that can be implemented to deter those individuals who use the automobile needlessly. This can be in the form of reducing minimum parking requirements, reducing maximum parking allowances, requiring individuals to pay to park, requiring payment for an automobile to enter the transit-oriented development, or any combination of the aforementioned. Implementing these techniques will discourage individuals from using the automobile unnecessarily and help promote alternative modes of transportation.

*Limited Driveways, Fort Worth, TX*



**Driveways:** Driveways should be clearly marked and designed to look like driveways, not intersections. Sidewalks should continue through the driveway and the driveway should be sloped to establish a clear right-of-way for pedestrians, and ultimately slowing down the motorist to allow for increased pedestrian safety. Driveways should be located away from intersections, and consolidated or narrowed where possible to reduce the number of conflict points for pedestrians. Parking access on streets located within the pedestrian-oriented zone ideally should be restricted to on-street parking or via alleyways. For residential uses, minimum driveway width should be set at 10 feet with a maximum of 14 feet. For commercial uses, the minimum driveway width for two-way traffic should be 22 feet.

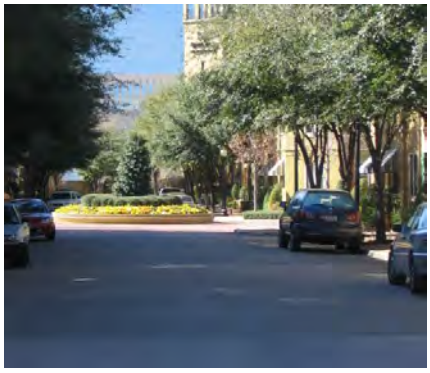
**Street Network:** When redeveloping groups of parcels it is important to create good block form, often in a grid or other highly connected pattern which should offer multiple access points to the station and other uses within the development. Block distances should range from 300 to 500 feet in order to keep walking distances short and provide alternative route options for pedestrians. Frequent, interconnected streets increase the efficiency of transit and circulation, and offer more choices for pedestrians. Street links to trails within surrounding neighborhoods should be considered priority as they allow for an alternate accessibility route for adjacent communities. In addition, land use and zoning policies can also provide backing behind the development of a stronger non-motorized network. Safe and convenient access from a bicycle and pedestrian network to an entrance should be provided. Buildings should be as close to the transportation network as possible and provide safe entrances to the building which minimizes interaction between vehicles, pedestrians, and bicyclists.

*Mixed-use Development, Plano, TX*

**Building Placement and Features:** Street-facing buildings with articulated facades should be oriented toward the pedestrian with minimal setbacks. Recurring windows and multiple entries should be prevalent with the minimum amount of ground-floor window space area equal to 40 percent of a building's length. Mixed-use and commercial buildings are desirable in the pedestrian-oriented zone. For added definition and a sense of enclosure to the street, multi-story buildings should be present along with shelters such as arcades, awnings, trellises and other overhangs to protect pedestrians from the effects of the region's changing seasons.

**Traffic Calming Measures:** Medians, bicycle lanes, narrow and reduced numbers of travel lanes, as well as on-street parking, have all been proven effective means for creating a more pedestrian-friendly environment. The benefits for pedestrians include lower motor vehicle traffic speeds, more attentive motor vehicle operators, and shorter, more effective crossings. In general, on-street parking should be implemented on at least one side of the street at a width of eight feet, along with a six-foot wide bicycle lane. Narrowing travel lanes to 10 or 11 feet will slow motor vehicle traffic speeds and create space for bicycle lanes, which also act as a buffer for pedestrians, and create a safer environment for cyclists. Medians can create pedestrian crossing islands at large intersections or in the event that a crossing needs to occur at an uncontrolled location. They can be signalized or non-signalized, but should at least include zebra striping across the entire length of the pedestrian crossing. In general, pedestrian crossing islands should only be constructed when pedestrian volumes are high, and crossing poses a safety concern for pedestrians. Within neighborhoods, traffic calming measures can be used to slow motor vehicle traffic with techniques such as speed humps and traffic circles. These methods are also beneficial in breaking up long stretches of straight streets.

*Traffic Circle, McKinney, TX*



# Appendix C

To develop successful bicycle and pedestrian guidelines and recommendations which eventually could be substantially funded with federal funds, it was important to review the federal strategies for promoting the use and proliferation of bicycle and pedestrian facilities under the federal surface transportation bill, Safe Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU). SAFETEA-LU is the legislation that authorizes all national transportation funding. While SAFETEA-LU expired on December 30, 2009, extensions by the federal government have authorized the Department of Transportation (DOT) to continue under SAFETEA-LU. A new transportation bill is not expected until sometime in 2013. At that time, federal funding programs may change, and additional initiatives have the potential to be introduced. The US DOT Secretary, Ray LaHood, has indicated that new initiatives for bicycle and pedestrian transportation funding may be introduced, and levels of funding in existing programs may establish higher allocations of funds towards bicycle and pedestrian projects.

Additionally, on March 10, 2010, Secretary of Transportation, Ray LaHood, signed into law the United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations which states that, "The DOT Policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects." Recommendations that allow Hunt County to implement their plan consistent with SAFETEA-LU, the recent DOT Policy Statement and federal regulations were developed and incorporated into the plan. The key principles reflect federal guidelines, SAFETEA-LU, and the recent DOT Policy Statement.

## GENERAL FUNDING REQUIREMENTS

As stated in federal guidance, "Bicycle and walking contribute to many of the goals for the transportation system we have at the Federal Highway Administration (FHWA) and at the state and local levels. Increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more livable communities, and more efficient use of precious road space and resources. That is why funds in programs such as Congestion Mitigation and Air Quality Improvement (CMAQ), Transportation Enhancements (TE), and the National Highway System (NHS) are eligible to be used for bicycling and walking improvements that will encourage the use of the two modes."[1] All major transportation funding programs can be used for bicycle and pedestrian programs, so there should be no federal barrier in implementing bicycle and pedestrian projects, either as stand-alone projects or in conjunction with other federally funded transportation projects. Federal guidance makes it clear that the choice on how to use funds rests with the state; the one restriction in funding guidance being the requirement that bicycle projects funded through the Surface Transportation Program, Congestion Mitigation Air Quality, National Highway System, or Federal Lands Highway Program be "principally for transportation rather than recreation purposes."[2] Hunt County should be aware of the federal funding opportunities and restraints as development of the countywide bicycle and pedestrian system continues. The system will be implemented more quickly if local funds are leveraged with state and federal dollars.

### Federal

Bicycle and pedestrian transportation facility projects are broadly eligible for funding from almost all major federal-aid highway, transit, safety, and other programs. Bicycle and pedestrian projects must be "principally for

[1] US Department of Transportation Federal Highway Administration: Transmittal of Guidance on Bicycle and Pedestrian Provisions of the Federal-aid Program, http://www.fhwa.dot.gov/environment/bikeped/memo.htm.

[2] FHWA Guidance - Bicycle and Pedestrian Provisions of Federal Transportation Legislation, http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm.

transportation, rather than recreation purposes" and must be designed and located pursuant to the transportation plans required of states and Metropolitan Planning Organizations be eligible for such funds.

*Federal Bicycle and Pedestrian Funding Opportunities Broken Out by Eligible Activities*

| | NHS | STP | HSIP | SRTS | TE | CMAQ | RTP | HBR | PLA | FLH | BYW | 402 | FTA | TRE | JARC | TCSP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bicycle and pedestrian planning | | * | | | | * | | | * | | | | | | | * |
| Bicycle lanes on roadway | * | * | * | * | * | * | | * | | * | * | | * | * | | |
| Paved Shoulders | * | * | * | * | * | * | | * | | * | * | | | | | |
| Signed bike route | * | * | | * | * | * | | | | * | * | | | | | |
| Shared use path/trail | * | * | | * | * | * | * | * | | * | * | | | | | |
| Single track hike/bike trail | | | | | | | * | | | | | | | | | |
| Spot improvement program | | * | * | * | * | * | | | | | | | | | | |
| Maps | | * | | * | | * | | | | | | * | | | | |
| Bike racks on buses | | * | | | * | * | | | | | | | * | * | | |
| Bicycle parking facilities | | * | | * | * | * | | | | | * | | * | * | | |
| Trail/highway intersection | * | * | * | * | * | * | * | | | * | * | | | | | |
| Bicycle storage/service center | | * | | * | * | * | | | | | | | * | * | * | * |
| Sidewalks, new or retrofit | * | * | * | * | * | * | | * | | * | * | | * | * | | |
| Crosswalks, new or retrofit | * | * | * | * | * | * | | | | * | * | | * | * | | |
| Signal improvements | * | * | * | * | * | * | | | | | | | | | | |
| Curb cuts and ramps | * | * | * | * | * | * | | | | | | | | | | |
| Traffic calming | | * | * | * | | | | | | | | | | | | * |
| Coordinator position | | * | | * | | * | | | | | | | | | | * |
| Safety/education position | | * | | * | | * | | | | | | * | | | | |
| Police Patrol | | * | | * | | | | | | | | * | | | | |
| Helmet Promotion | | * | | * | * | | | | | | | * | | | | |
| Safety brochure/book | | * | | * | * | * | * | | | | | * | | | | |
| Training | | * | | * | * | * | * | | | | | * | | | | |

| | | | |
|---|---|---|---|
| **NHS** | National Highway System | **PLA** | State/Metropolitan Planning Funds |
| **STP** | Surface Transportation Program | **FLH** | Federal Lands Highway Program |
| **HSIP** | Highway Safety Improvement Program | **BYW** | Scenic Byways |
| **SRTS** | Safe Routes to School Program | **402** | State and Community Traffic Safety Program |
| **TE** | Transportation Enhancement | **FTA** | Federal Transit Capital, Urban & Rural Funds |
| **CMAQ** | Congestion Mitigation/Air Quality Program | **TRE** | Transit Enhancements |
| **RTP** | Recreational Trails Program | **JARC** | Access to Jobs/Reverse Commute Program |
| **HBR** | Bridge | **TCSP** | Transportation and Community and System Preservation Pilot Program |

Much of this discussion has been centered on concerns of future fuel prices and limited nonrenewable resources that are needed to sustain current transportation investments and patterns. However, at this time, the following is a list of current federal funding programs available for bicycle and pedestrian projects and programs.

## Funding Sources: Federal Highway Administration (administered by the State of Texas)

**National Highway System** funds may be used to construct bicycle and pedestrian facilities within NHS corridors including projects within Interstate rights-of-way. Shared-use paths along Interstate corridors are eligible for the

use of NHS funds, as are bike lanes, shoulder and sidewalk improvements on major arterial roads that are part of the NHS, and bicycle and/or pedestrian bridges and tunnels that cross NHS facilities. *Matching funds: 80 percent federal; 20 percent non-federal.*

**Surface Transportation Program** (STP) funds provide states with flexible funds which may be used for a wide variety of projects on any federal-aid highway including the NHS, bridges on any public road, and transit facilities. Bicycle and pedestrian improvements are eligible activities under the STP. This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. The modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity. STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds. *Matching funds*: *80 percent federal; 20 percent non-federal.*

**Highway Safety Improvement Program** (HSIP) funds are a ten percent set-aside of a state's STP funds to carry out hazard elimination activities. HSIP funds can be used for pedestrian and bicycle safety improvements. States may obligate funds under the HSIP to carry out 1) any highway safety improvement project on any public road or publicly owned bicycle or pedestrian pathway or trail, or 2) other safety projects as provided under Flexible Funding for States with a Strategic Highway Safety Plan. *Matching funds*: *80 percent federal; 20 percent non-federal.*

**Safe Routes to School Program** (SRTS) provides funds to states to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. Funds are apportioned to each state based on their relative share of enrollment in primary and middle schools. The program establishes two distinct types of funding opportunities: infrastructure projects (engineering improvements) and non-infrastructure related activities (such as education, enforcement, and encouragement programs). Infrastructure funds can be utilized for on and off-street bicycle and pedestrian facilities on any public right-of-way within a two-mile radius of an eligible school. Seventy to 90 percent of funds are dedicated to infrastructure projects, with the remaining 10 to 30 percent of funds dedicated to non-infrastructure projects. Since 2005, over $16 million in SRTS grants in over 20 communities have been awarded to Dallas-Fort Worth region. *Matching funds: 100 percent federal.*

**Transportation Enhancement**, formerly referred to as the **Statewide Transportation Enhancement Program** in the state of Texas, program funds are a ten percent set-aside of a state's STP funds. Projects must meet at least one of 12 eligible activities, of which three relate specifically to bicycle and pedestrian transportation: 1) provision of facilities for bicyclists and pedestrians, 2) provision of safety and educational activities for pedestrians and bicyclists, and 3) preservation of abandoned railroad corridors (including the conversion and use for pedestrian or bicycle trails). Projects using TE funds need not be located on the Federal-aid Highway System and may be non-construction activities. However, enhancement projects should "relate to surface transportation" and have typically been limited by states to construction projects, planning activities, and related publications rather than salaries and administrative costs. *Matching funds*: 80 percent federal; 20 percent non-federal.

**Congestion Mitigation and Air Quality Improvement Program** assists areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs. Projects must be likely to contribute to the attainment of national ambient air quality standards (or the maintenance of such standards where this status has been reached) based on an emissions analysis. A major source of funding for many bicycle related construction and safety projects, CMAQ is administered locally by the North Central Texas Council of Governments (NCTCOG) and its Transportation Improvement Program. Eligible activities include the construction of bicycle and pedestrian

facilities, non-construction projects related to safe bicycle use, and many other projects and programs related to the implementation of bicycle and pedestrian transportation. *Matching funds*: 80 percent federal; 20 percent non-federal.

**Recreational Trails Program** (RTP) provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Each state administers its own program; Texas Parks and Wildlife administers the RTP for the state of Texas. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for non-motorized trail uses and 40 percent for diverse trail uses. Eligible activities include maintenance and restoration of existing trails, development and rehabilitation of trailside and trailhead facilities and trail linkages, purchase and lease of trail construction and maintenance equipment, construction of new trails (with restrictions for new trails on federal lands), acquisition of easements or property for trails, assessment of trail conditions for accessibility and maintenance, operation of educational programs to promote safety and environmental protection as those objectives relate to the use of recreational trails. *Matching funds: 80 percent federal; 20 percent non-federal.*

**Highway Bridge Replacement** and **Rehabilitation Program** (HBP or BRR) funds the replacement or rehabilitation of highway bridges. If a highway bridge deck is being replaced, and bicyclists are permitted at each end, then the bridge project must include safe bicycle accommodations (at reasonable costs). *Matching funds*: *80 percent federal; 20 percent non-federal.*

**Metropolitan Planning funds** (PLA) are a one percent set-aside of the funds authorized for the IM, NHS, STP, CMAQ, and Bridge programs that are available only for metropolitan transportation planning. The funds are allocated to each state based on the population of urbanized areas in each state. Funds may be used for bicycle and pedestrian related plans that are part of the metropolitan transportation planning process. *Matching funds*: *80 percent federal; 20 percent non-federal.*

**Federal Lands Highways Program** (FLH) provides funding for a coordinated program of public roads and transit facilities serving federal and Indian lands. Provision for pedestrians and bicycles are eligible activities in conjunction with projects on each of the classes of Federal Lands Highways: Forest Highways, Indian Reservation Roads, Park Roads and Parkways, Refuge Roads, and Public Lands Highways. Project selection is determined by the appropriate Federal Land Agency or tribal government. *Matching funds: 100 percent federal*.

**National Scenic Byways Program (BYW)** recognizes roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities by designating them as National Scenic Byways or All-American Roads. Funds may be spent on a variety of activities including "construction along a scenic byway of a facility for pedestrians and bicyclists, rest area, turnout, highway shoulder improvement passing lane, overlook, or interpretive facility." Projects must be either associated with a National Scenic Byway, All-American Road, or a State Scenic Byway. *Matching funds: 80 percent federal; 20 percent non-federal.*

## Funding Sources: National Highway Traffic Safety Administration (NHTSA)

**State and Community Highway Safety Grant Program** (Section 402) supports state highway safety programs designed to reduce traffic crashes and resulting deaths, injuries, and property damage. States are eligible for these funds (known as "Section 402 funds") by submitting a Performance Plan, with goals and performance measures, and a Highway Safety Plan describing actions to achieve the Performance Plan. Grant funds are provided to states each year according to a statutory formula based on population and road mileage. Funds may be used for a wide variety of highway safety activities and programs including those that improve pedestrian and bicycle safety. States have funded a wide variety of enforcement and educational activities with Section 402 funds including

safety brochures; "Share the Road" materials; bicycle training courses for children, adults, and police departments; training courses for traffic engineers; helmet promotions; and safety-related events. *Matching funds*: *80 percent federal; 20 percent non-federal.*

## Funding Sources: Federal Transit Administration

There are a number of Federal Transit Administration (FTA) sponsored programs that allow for pedestrian and bicycle funding. **Urbanized Area Formula Grants, Capital Investment Grants and Loans**, and **Formula Program for Other Urbanized Area** transit funds allow funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. At least one percent of Urbanized Area Formula funds appropriated to areas with more than 200,000 in population must be used for **Transit Enhancement** activities, which includes nine eligible activities such as pedestrian access and walkways, and bicycle access including bicycle storage facilities and installing equipment to transport bicycles on mass transportation vehicles. NCTCOG, in collaboration with transit operators, has the responsibility to determine how the funds in this category are allocated to transit projects and to ensure that one percent of the urbanized area's apportionment (as opposed to one percent of each transit agency's funds) is expended on projects and project elements that qualify as enhancements. *Matching funds: 80 to 95 percent federal; 5 to 20 percent non-federal.*

**Job Access and Reverse Commute** (JARC) Grants Program provides competitive grants to local governments and non-profit organizations to develop transportation services to connect welfare recipients and low-income persons to employment and support services. Programs, which must be approved by a transit agency, may include activities that encourage bicycling. Project selection in the Dallas-Fort Worth region is made by NCTCOG. *Matching funds*: *50 percent federal.*

## Funding Sources: Additional Federal Funding

**Transportation and Community and System Preservation** (TCSP) Program is a competitive grant program designed to support projects that show how transportation projects and plans, community development, and preservation activities can be integrated to create communities with a higher quality of life. The annual grant program is administered by the FHWA in partnership with the FTA and Environmental Protection Agency, and may be used to fund state, Metropolitan Planning Organizations, or local government agencies. Bicycling, walking, and traffic calming projects are eligible activities and may well feature as an integral part of many proposed projects that address larger land use and transportation issues.

**Interstate Maintenance** (IM) funding is targeted at maintaining and improving the Interstate highway system. IM funds may be used for resurfacing, restoration, rehabilitation, and reconstruction projects including pedestrian and bicycle facilities that are incorporated in the design of new interchanges and overcrossings. *Matching funds*: *90 percent federal; 10 percent non-federal.*

**High Priority Projects** (HPP) funds are designated for specific projects identified in SAFETEA-LU by Congress. The funds designated for the project in this program are available only for these HPP projects.

**Statewide Planning** funds are a two percent set-aside of the funds states receive for the IM, NHS, STP, CMAQ and Bridge programs that are available only for planning, research, and technology transfer activities. This list includes the Statewide Long Range Transportation Plan and Transportation Improvement Program, and may include bicycle- and pedestrian-related plans, research, and technology transfer activities. *Matching funds*: *80 percent federal; 20 percent non-federal.*

The **Land and Water Conservation Fund** (LWCF) Program is administered by state agencies in cooperation with the National Park Service. Program funds are intended for the acquisition and development of outdoor recreation areas; trails are one priority of this program. *Matching funds*: *50 percent federal; 50 percent non-federal.*

**Emergency Relief** funds are available for the reconstruction of highways, roads, and trails in any part of the United States that the Secretary finds has suffered serious damage as a result of natural disaster over a wide area (e.g. flood, hurricane, tidal wave, earthquake) or catastrophic failure from any external cause. The restoration of bicycle and pedestrian facilities, including shared-use paths, is an eligible activity for Emergency Relief funds.

The **Energy Efficiency and Conservation Block Grant** (EECBG) Program, as included in the Energy Independence and Security Act of 2007, funds are designed to assist eligible entities in implementing energy efficiency and conservation strategies, of which developing and implementing programs to conserve energy used in transportation including bike lanes/pathways, and pedestrian walkways are eligible. The EECBG Program was enacted as part of the American Recovery and Reinvestment Act (ARRA), and issued direct formula (to cities over 35,000 and counties over 200,000) and non-direct formula (state administers the remaining funds to cities and counties not receiving direct formula funding) grants. The city of Fort Worth, Texas received $6,738,300 in funding from the EECBG Program, of which $400,000 has been designated for bicycling facilities (on-street lanes/routes and bike parking) for the downtown area.

The US Department of Housing and Urban Development **Community Development Block Grants** (CDBG) Program provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities principally for low- and moderate-income persons. Eligible activities include the construction of public facilities and improvements such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes. In the Dallas-Fort Worth region, the cities of Allen, Arlington, Carrollton, Dallas, Denton, Euless, Frisco, Fort Worth, Garland, Grand Prairie, Irving, Lewisville, McKinney, Mesquite, North Richland Hills, Plano, and Rowlett, and the counties of Dallas and Tarrant are designated entitlement communities and have the opportunity to use their allocated CDBG funds to fund sidewalk and bikeway improvements within their designated communities.

The US Environmental Protection Agency **Climate Showcase Communities Grants** Program was launched in 2009 to assist local and tribal governments in establishing and implementing climate change initiatives. The overall goal of the Climate Showcase Communities Grant Program is to create replicable models of sustainable community action that generate cost-effective and persistent greenhouse gas reductions while improving the environmental, economic, public health, or social conditions in a community. The total estimated funding for the grant program is approximately $10 million. Approximately $500,000 of this amount is awarded to tribal governments. The Environmental Protection Agency awards up to 30 cooperative agreements ranging from $100,000 to $500,000 per year (subject to availability of funds and the quality of proposals received).

The **Urban and Community Forestry** (UCF) Program of the US Forest Service, and administered through the US Department of Agriculture, provides technical, financial, research, and educational services to local governments, non-profit organizations, community groups, educational institutions, and tribal governments.

Though not a source of funding, the **Rivers, Trails, and Conservation Assistance Program** (RTCA) is a technical assistance arm of the National Park Service dedicated to helping local groups and communities preserve and develop open space, trails, and greenways. RTCA is an important resource center for many trail builders in urban, rural, and suburban areas. Instead of money, RTCA supplies a staff person with extensive experience in community-based conservation to work with a local group on a project.

Though not a source of funding, the **National Recreation Trails** (NRT) designation from the Secretary of the Interior recognizes exemplary existing trails of local or regional significance. NRT designation provides benefits, including access to technical assistance from NRT partners and listing in a database of National Recreation Trails. In addition, some potential support sources will take NRT designation into account when making funding decisions. The NRT Program is open to applications.

## State and Local

There are a number of state and local revenue sources that can be used for pedestrian and bicycle accommodations with Texas. These sources are outlined in the following section.

State of Texas Taxes: Texas collects a variety of taxes that can be used to fund transportation projects. Some of these taxes are shown below.

## Funding Sources: State of Texas

| | |
|---|---|
| State Motor Fuels Tax | One of Texas' primary sources of revenue for transportation projects is the state motor fuels tax which is 20 cents a gallon.<br><br>75 percent of this tax goes to the State Highway Fund. This fund mainly provides money to maintain and build highway systems, but a portion is diverted to finance government agencies such as the Department of Public Safety.<br>The remaining 25 percent of the gas tax goes to fund public education. |
| Vehicle Registration Fee | The annual registration fee for an average car is between $60 and $70. A small part of this fee is allocated to the local county's Road and Bridge Department and the rest of the money goes to the State Highway Fund. |
| Texas Mobility Fund | The Mobility Fund is administered by the Texas Transportation Commission as a revolving fund to provide a method of financing for the construction, reconstruction, acquisition, and expansion of state highways, including costs of any necessary design and costs of acquisition of rights-of-way, as determined by the Commission in accordance with standards and procedures established by law.<br><br>Moneys in the Mobility Fund may also be used to provide state participation in the payment of a portion of the costs of constructing and providing publicly owned toll roads and other public transportation projects in accordance with procedures, standards, and limitations established by law. |

There are also additional state transportation funds that come from bond proceeds and local participation. These funding sources vary and are, therefore, not outlined in any further detail.

The Rails-to-Trails (RTC) Conservancy Organization actively pursues abandoned railroad corridors through the Surface Transportation Board (STB), the federal agency that oversees changes made by railroad companies (formerly the Interstate Commerce Commission (ICC)). When a rail line becomes abandoned (i.e., when the railroad has applied to the STB for abandonment authorization, the STB has issued an order authorizing abandonment of the line, and the railroad has notified the STB that it has consummated the abandonment authorization), the rail line can be acquired and a local or state agency has the opportunity to use the corridor for the development of trails and greenways. As rail lines often connect important destinations, this initiative offers an opportunity for jurisdictions to acquire a right-of-way at no cost (other than administrative) to utilize in the development of bicycle and pedestrian facilities.

## Local Funding through the Private Sector

Investments in bicycle and pedestrian transportation infrastructure, including construction of sidewalks and provision of bicycle amenities (lockers, showers, parking, etc.), can be significantly leveraged by offering compelling incentives to developers through provisions adopted in local government land development codes. There are a number of incentives that can be offered to the private sector; many of these incentives can be offered at little or no actual expense to the jurisdiction. Some of these incentives include property tax abatements, parking requirement reductions, preferential fee structuring, rebate or payback programs to ensure contiguous development (developers construct infrastructure in excess of requirements, in order to prepare for future growth, but local government pays for the portion of the infrastructure that serves future growth), government support for on-site or off-site improvements, priority status for development review, and flexible public facility standards for compact mixed-use projects. There are two phases in which incentives can be effective: upon initial land development and during tenant build out and/or maintenance.

Another approach used by many jurisdictions throughout the United States is to allow "in lieu of" payments to the community's sidewalk fund. Rather than requiring developers to construct sidewalks in front of their properties, which frequently leads to an intermittent and inconsistent sidewalk network, this approach allows sidewalk funding to be pooled. By collecting equal payments in lieu of actual on-site sidewalk construction, more strategic choices can be made regarding where and when sidewalks are built.

## Funding at the Local Level

A variety of opportunities for funding bicycle and pedestrian facilities exist at the local level, including the city and county bond programs, which allocate funds for specific roadway and transportation projects. In addition, the Capital Improvements Program (CIP) is a plan for capital expenditures that extends five years beyond the capital budget. One of the main components of the CIP is for public facilities, including the implementation of transportation facilities. In addition, funds allocated in a city or county's maintenance program can be utilized for bicycle and pedestrian facilities through re-striping and re-paving activities, as well as maintenance of existing facilities (street sweeping and re-striping activities). Some of the most successful cities in the Nation have implemented the majority of their on-street bicycle facilities through the city maintenance program including Austin, Texas. In addition, funds at the city and county levels include allocations from a specific department (i.e. Parks and Recreation) or through impact fees which are regulated by county and municipal subdivision policies and require residential, industrial, and commercial development project leaders to provide sites, improvements and/or funds to support public amenities such as open space and trails.

The North Central Texas Council of Governments also administers several funding initiatives for bicycle and pedestrian projects at the local level. The Texas Legislature enabled the Texas Department of Transportation to consider public- and private-sector partnerships to finance roadways. As a result, in 2007, the Dallas-Fort worth region completed a project with the North Texas Tollway Authority that included a toll component and revenue for transportation projects known as the **Regional Toll Revenue** (RTR) initiative administered by NCTCOG. Funds offered through this initiative include allocations to regional trail and other sustainable development projects. Projects selected for funding through the RTR initiative are decided through the County Task Force and public meetings, before seeking approval by the Regional Transportation Council. The North Texas Tollway Authority paid the region a total of $3.2 billion administered through the RTR funding initiative.

In addition, the Regional Transportation Council has programmed over $80 million towards projects that improve air quality within the region through Regional Transportation Council Local Initiatives, including the **Local Air Quality** (LAQ) Program and the **Sustainable Development** (SD) Funding Program. The LAQ Program awarded funds to six bicycle and pedestrian projects selected in the 2005-2006 Call for Projects (CFP). The SD Funding Program

has awarded a total of 102 projects in excess of $125 million since 2001. Projects selected through both of these funding initiatives must demonstrate an air quality benefit and include bicycle and pedestrian components. *Matching funds*: *80 percent local; 20 percent non-local.*

## Private

Funding at the private level offers additional opportunities for bicycle and pedestrian related facilities and advocacy that are not otherwise offered in the national, state, and local funding initiatives. Several of these private funding opportunities are outlined below.

The **American Hiking Society's National Trails Fund** is the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting, and maintaining foot trails in America. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools, and materials to protect America's cherished hiking trails. To date, American Hiking has granted nearly $487,500 to 157 different trail projects across the US for land acquisition, constituency building campaigns, and a variety of trail work projects. Awards typically range from $500 to $5,000 per project. Beginning in 2010, all National Trails Fund applicants will be required to be members of the Alliance of Hiking Organizations.

The **Bikes Belong Coalition** is sponsored by member companies of the American Bicycle Industry. The coalition's stated goal is to put more people on bikes more often through the implementation of SAFETEA-LU. One of the coalition's primary activities is the funding of local bicycle advocacy organizations, in conjunction with government agencies, that are trying to ensure that SAFETEA-LU funded bicycle or trail facilities are built. Grants are awarded for up to $10,000 on a rolling basis. Grant applications are accepted quarterly.

The **Kodak American Greenways Awards P**rogram provides small grants as seed money to stimulate the planning and design of greenways in communities throughout America. Grants may be used for activities such as mapping, ecological assessments, surveying, conferences, and design activities; developing brochures, interpretative displays, audio-visual productions or public opinion surveys; hiring consultants, incorporating land trusts, building a foot bridge, planning a bike path, or other creative projects. In general, grants can be used for all appropriate expenses needed to complete a greenway project including planning, technical assistance, and legal and other costs. Grants may not be used for academic research, general institutional support, lobbying, or political activities. The maximum grant is $2,500. However, most grants range from $500 to $1,000. Applications may be submitted to American Greenways, The Conservation Fund from March 1 to June 1 each year. Announcement of awards are made in early fall.

The **Robert Wood Johnson Foundation** (RWJF) provides grants for projects in the US that improve the health and health care of all Americans. For projects to be eligible for funding, they must address one of seven program areas: Childhood Obesity, Coverage, Human Capital, Pioneer, Public Health, Quality/Equality, and Vulnerable Populations. Eligible Organizations include public agencies, universities, and public charities that are tax-exempt. Each program area has three strategies: evidence, advocacy, and action. Related calls for grant proposals are issued as developed, and multiple communities across the nation have received grants related to promotion of trails and other non-motorized transportation facilities. Components of bicycle and pedestrian transportation projects include the development, implementation, and sustained collaboration among stakeholders for public health, city planning, transportation, architecture, recreation, crime prevention, traffic safety, and education. In addition, the RWJF has an ongoing "Active Living by Design" grant program that promotes the principles of active living, including non-motorized transportation, of which numerous communities nationwide have received funding under.