FREESE AND NICHOLS

COOKE COUNTY

MOBILITY · ACCESS · DEVELOPMENT

THOROUGHFARE PLAN

Cooke County Thoroughfare Plan

2016

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WORKING DRAFT

Acknowledgements

County Judge

Judge Jason Brinkley

County Commissioners

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Chapter 1: Basis for the Plan

The purpose of the Thoroughfare Plan is to develop a reference and guide document for projected transportation and right-of-way needs for the development of long-range transportation improvements. The Cooke County Thoroughfare Plan will be coordinated with other locally adopted planning documents within the County as well as those from adjacent counties. This Plan will identify current deficiencies in the existing thoroughfare network and guide the development of a comprehensive countywide thoroughfare system. Because the thoroughfare plan guides the preservation of rights-of-way needed for the development of long-range transportation improvements, it has far-reaching implications on the growth and development of urban and rural areas. The thoroughfare network is one of the most visible and important public services for Cooke County residents because it is permanent and provides access to essential resources such as employment, goods, and services. Once constructed, they are hard to change and are the framework for county-wide growth and development. This long-term document will be a catalyst for private development in the County and inform decisions on transportation infrastructure needs, maintenance, and placement. The Plan will consider current conditions, stakeholder input, County goals and objectives, and other regional and state transportation plans.

Introduction

Cooke County is located along IH35 in the Texoma Region of Texas, roughly 80 miles north of the Dallas-Fort Worth Metroplex and just south of the Texas-Oklahoma border. The Texoma Region (a coinage of the names Texas and Oklahoma) describes the area on either side of the border between these two states along the Red River valley and around Lake Texoma. With a total area of 898 square miles, Cooke County was established by the Texas Legislature in 1848 and has since become one of the key northern gateways between Texas and Oklahoma.

The seat of Cooke County is the City of Gainesville, which is in the central portion of the county at the junction of IH35 and US82. Cooke County is the home to:

Cities
- Callisburg
- Gainesville
- Lindsay
- Muenster

Towns
- Oakridge
- Valleyview

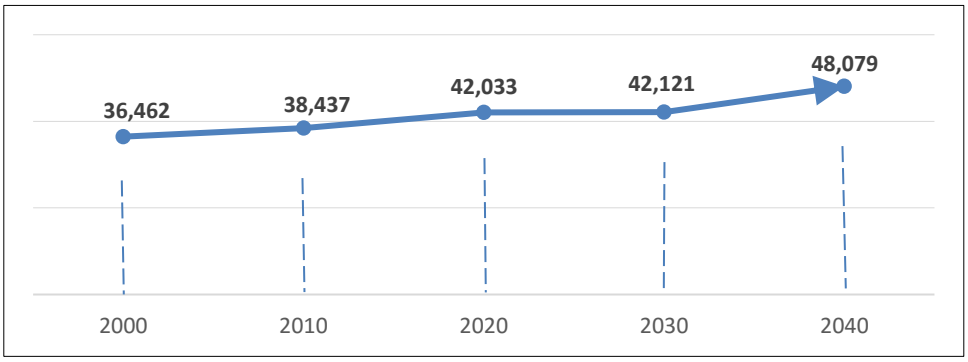
Unincorporated Communities
- Bulcher
- Burns City
- Dexter
- Era
- Hood
- Lake Kiowa
- Leo
- Lois
- Marysville
- Mountain Spring
- Myra
- Rosston
- Pioneer Valley
- Priarie Point
- Sivells Bend
- Walnut Bend
- Woodbine

County Profile

Demographic Profile

Cook County is relatively rural in nature. The population increased just over five percent between 2000 and 2010 – bringing the total to 38,437. By 2040 the county is expected to have roughly 48,000 people; an addition of over 9,500 residence. Most of the growth projected will occur between 2030 and 2040, adding nearly 5,958 people. Though there is relatively slow population growth projected over the next 25 years, it is important for the County to plan for the projected growth and recognize opportunities to capture and facilitate future growth.

Figure 1. Cooke County 2040 Population Projection

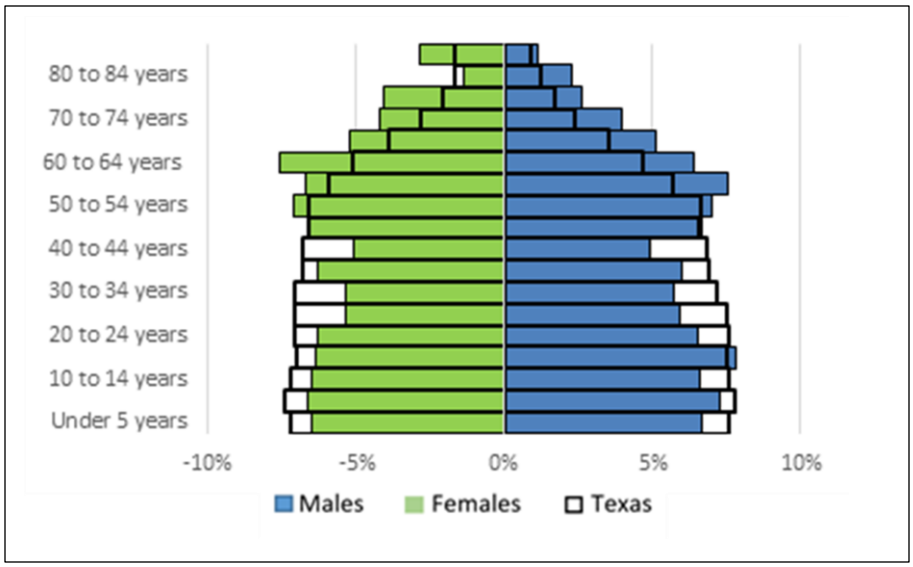


Age and Gender

According to the American Community Survey, Cooke County has a relatively evenly distributed population in terms of age and gender. The majority of the population is between the ages of 5 and 6 years of age, which is also typically characterized as the prime labor force. When compared to the age distribution across the State of Texas, Cooke County has a higher proportion of older residents over younger populations. In fact, over 14 percent of current residents are age 65 and older. This is very important as older populations have special needs, such as public transportation and pedestrian amenities, that should be taken into consideration when planning a transportation network.

Interestingly, the population of residents in family formation years, those between 20 and 39 years old, is lower than the state proportion, falling at just below 25 percent of the population. Maintaining or increasing the percentage of families and young individuals is important as the county seeks to increase development opportunities. Adding to and improving existing infrastructure is an important component in attracting more development and improving the appeal of the county to younger residents and families

Figure 2. Cooke County Age Cohorts

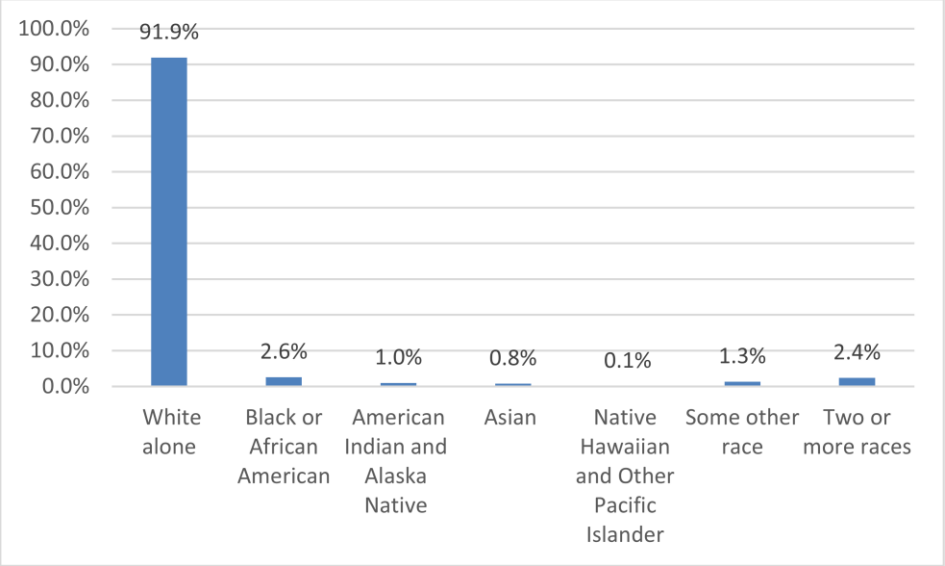


However, efforts to improve and attract higher education and employment opportunities would help attract and retain 20-29-year-olds. Ample opportunities and a balanced population will make Kaufman County an attractive place to live for all ages and create the potential for life-cycle housing and infrastructure. Providing transportation solutions for people of all ages could include safe routes for children through school zones, connectivity to regional amenities for families, efficient thoroughfares for commuters, and connectivity to healthcare and community facilities for those aging in place.

Race and Ethnicity

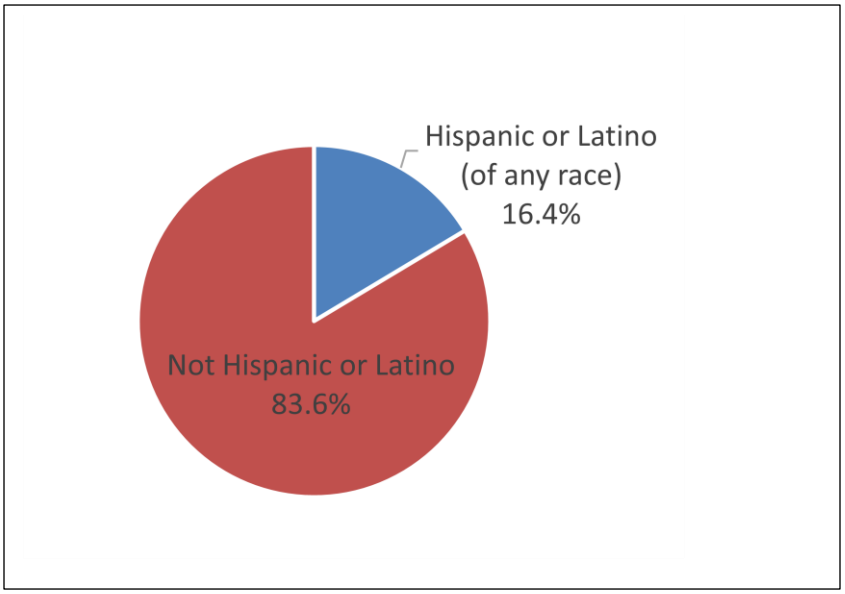
The primary race of Cooke County is white, comprising 92 percent of the population. Less than three percent are Black or African American, one percent identified as American Indian and Alaska Native, and less than one percent are Asian. Similarly, 1.3 percent of the population identified themselves as some other race and 2.4 percent identified themselves as two or more races. Generally, the racial makeup is essentially homogenous, largely dominated by whites; however, the population has a little more variety in ethnic makeup.

Figure 3. Cooke County Racial Distribution



The difference between race and ethnicity is that race is associated with biology, whereas ethnicity is associated with culture and one can identify with multiple ethnicities. Roughly 16 percent of Cooke County identified as Hispanic or Latino (of any race), while 83.6 percent identified as not Hispanic or Latino.

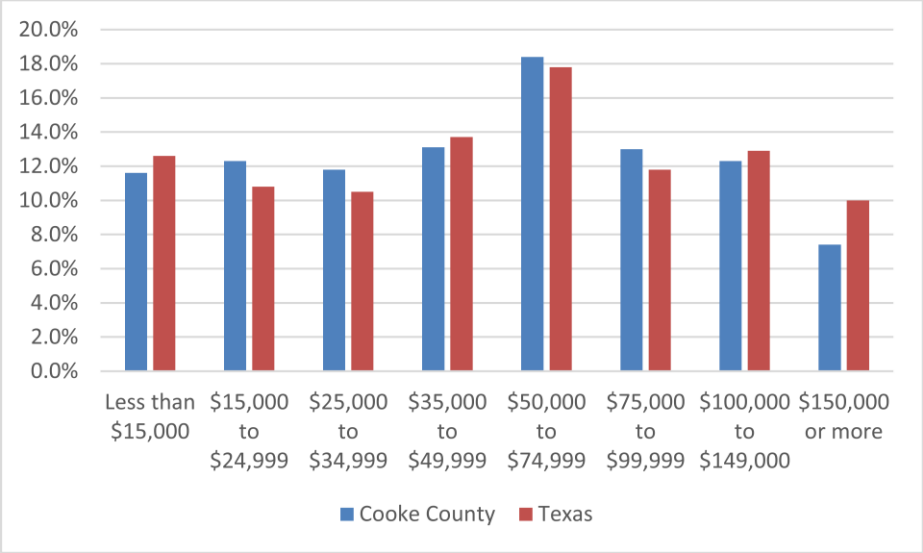
Figure 4. Cooke County Percent Hispanic



Income

Household income is important to consider in transportation planning because it reveals information about the local economy and potential for economic growth. The median household income in Cooke County was $51,222 in 2014; less than 1 percent lower than the state's median household income ($52,576). Interestingly, Cooke County's median household income has increased 32 percent since 2000 ($38,704). This, coupled with a population increase of only 5% since 2000, is an indicator that existing county households are becoming more affluent, which may appeal to developers looking for new entertainment and retail sites.

Figure 5. Cooke County Median Household Income

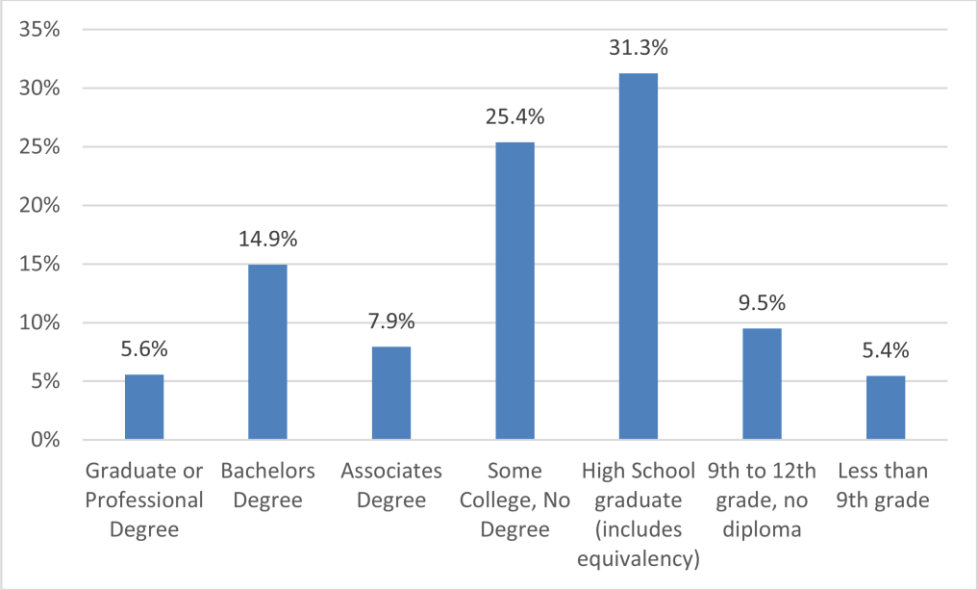


According to the 2014 American Community Survey Five-Year Estimates, overall incomes were evenly distributed, with the largest percentage of Cooke County households (nearly 18.4 percent) earning between $50,000 and $75,000. Interestingly, over 51 percent of households earn over $50,000 per year. This could have huge implications in terms of attracting new retail and residential development to the county.

Educational Attainment

Educational attainment is an important measure for counties because it is a key indicator in the types of industries that may choose to locate there. As the county seeks to grow and develop, attracting and maintaining an educated population will be key to stimulating the economy and will play a role in the types of transportation facilities that may be needed in the future. According to the American Community Survey, over 94 percent of county residents over 25 have at least a high school diploma of the equivalency. In fact, nearly 30 percent has an Associate's degree or higher. The relatively high educational attainment levels in the county indicate a strong opportunity to attract more high-level industry in the future.

Figure 6. Cooke County Educations Attainment



Existing Plans

A number of plans were reviewed to inform the assessment of the existing thoroughfare network and decisions on projects recommended for the Cooke County Thoroughfare Plan. **Table 1** summarizes plans previously conducted in and Cooke County.

Table 1. Existing Cooke County Plans Matrix

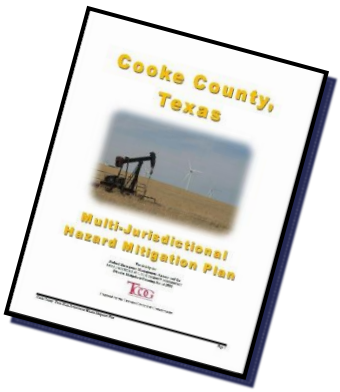
Plan	Agency	Location	Description	Year
Cooke County Subdivision Regulations	Cooke County	Cooke County	Guidelines on to regulate and establish a standard for commercial and residential development.	2003
Cooke County Hazard Mitigation Plan	Texoma COG	Cooke County	Multi-jurisdictional Hazard Assessment and Mitigation strategies	
I-35 Feasibility Study	TXDOT	Cooke County	A feasibility assessment of recommended I35 corridor improvements.	2007
Gainesville 2013 Capital Improvements Plan	City of Gainesville	Gainesville	A list of five year recommended capital improvements for the city of Gainesville	2013
Gainesville Thoroughfare Plan	City of Gainesville	Gainesville	Provides the cities functional classification system and current and future roadway needs.	1997
Grayson County Thoroughfare Plan	Grayson County	Grayson County	assessment of the long-term thoroughfare needs of Grayson County	2014
Denton County Thoroughfare Plan	Denton County	Denton County	guidelines and recommendations to improve connectivity and projected traffic congestion.	2016

County Plans

Cooke County Subdivision Regulations

The Cooke County Subdivision Regulation was adopted in 2003 to regulate residential and commercial development throughout Cooke County. The ordinance includes guidelines on platting, water and septic system requirements, subdivision requirements storm water management, and typical sections – in addition to construction and drainage standards. It articulates the requirements for adequate street, drainage and utility easements, lot size and building setbacks. The regulations are intended to achieve and maintain a quality and standard of life that reflects the highest traditions and standards of its citizens.

Cooke County Hazard Mitigation Plan



The Cooke County Mitigation Plan is a collaborative effort between Cooke County, incorporated and unincorporated jurisdictions, citizens of Cooke County and the Texoma Council of Governments (TCOG). The plan discusses the planning process, provides background information on benefits of mitigation planning and hazard and risk assessment, describes mitigation strategies and their implementation, and plans for maintenance procedures. This is a multi-jurisdictional hazard mitigation plan focused on Cooke County, Texas, six incorporated jurisdictions within the county including the cities of Callisburg, Gainesville, Lindsay, Muenster, Valley View, the town of Oak Ridge and the unincorporated areas.

I-35 Feasibility Study

I-35 Feasibility Study assesses the feasibility of improvements required to upgrade IH 35 to current design standards and provide for future traffic needs (2030). The study area limits are from the Texas/Oklahoma border to the Cooke/Denton County line which is approximately twenty-two miles. The study takes the traffic projections for 2030 into account and provides several alternative analysis and solution for improving current condition and providing additional facilities for the arising demand.

City Plans

Gainesville 2013 Capital Improvements Plan

The Gainesville 2013 Capital Improvement Plan is a five-year roadmap for creating, maintaining and paying for Gainesville's present and future infrastructure needs. The CIP outlines project needs, costs, funding sources and estimated future operating costs associated with each capital improvement. The plan is designated to ensure that capital improvements are made when and where they are needed. The plan represents the capital spending recommendations for five fiscal years as well as, provides an update on the activities of the current fiscal year, it establishes the capital expenditures for the city's five-year budget.

Gainesville Thoroughfare Plan

Gainesville Thoroughfare Plan is an integral part of the Comprehensive Land Use Plan for the City of Gainesville. It is coordinated with the comp plan and provides the City with the tools to develop a transportation system, which can accommodate the needs of both existing and future development. The system proposed is based on assumptions and projections of future traffic levels to serve population and employment for the year 2020. The plan enables the City to implement a systematic process of upgrading and developing thoroughfare in accordance with the City's adopted Thoroughfare Plan. It covers the topics of existing conditions, street functions and classifications, thoroughfare plan, capacity of streets, bicycle and pedestrian, street improvement program and transportation planning and monitoring.

Adjacent County Plans

Grayson County Thoroughfare Plan

The Grayson County Thoroughfare Plan focuses on the thoroughfare hierarchy and roadway system character throughout the entirety of Grayson County. The thoroughfare plan is long-range, planning for thoroughfare needs for the next 25 years. Key aspects of this plan are community input, analyzing the current thoroughfare system, modeling and suitability analysis, crafting goals, objectives and recommendations and producing the Future Thoroughfare Map.

Denton County Thoroughfare Plan

The Denton County Thoroughfare Plan serves as a guide for the identification and implementation of long-range transportation investments in Denton County. Based on projected needs of the county, this plan has been coordinated with other locally adopted municipal plans and adjacent counties and regional transportation agencies. This plan establishes the basis, and then explores the transportation network needs and makes recommendations on transportation system plan.

Plan public Involvement

Public Involvement for the Cooke County Thoroughfare Plan involved a number of Cooke County Cities, state, local, and regional agencies, concerned citizen groups, and other stakeholders. Public input included stakeholder interviews, Plan Visioning Committee meetings, and a town hall meeting. To glean more detailed information on county issues, needs, and goals and objectives, an issues and needs and goals and objectives survey were administered to key stakeholders. Below is a summary of plan input. The Issues and Needs and Goals and Objectives surveys are available in **appendix XX.**

Stakeholder Interview - December 8-9, 2015

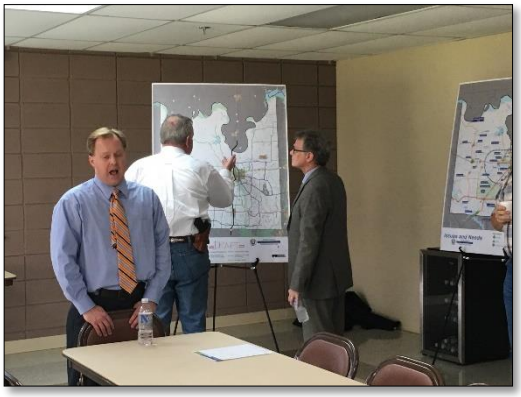
County Commissioners Interviews
Leon Klement, County Commissioner
Alan Smith, County Commissioner
Gary Hallowell, County Commissioner
B.C. Lemons, County Commissioner
Jason Brinkley, County Judge

City Interviews

____ Felderhoffer, Mayor, City of Muenster
Stan Enders, City Manager, City of Muenster
_____, _____ Lake Kiowa
_____, Mayor, City of Lindsay
Nora Curry, _____, _____ Independent School District
Steve Clungston, _____, ____ Independent School District
Steve Self, ___, _____ Independent School District

Chapter 2: Goals and Objectives

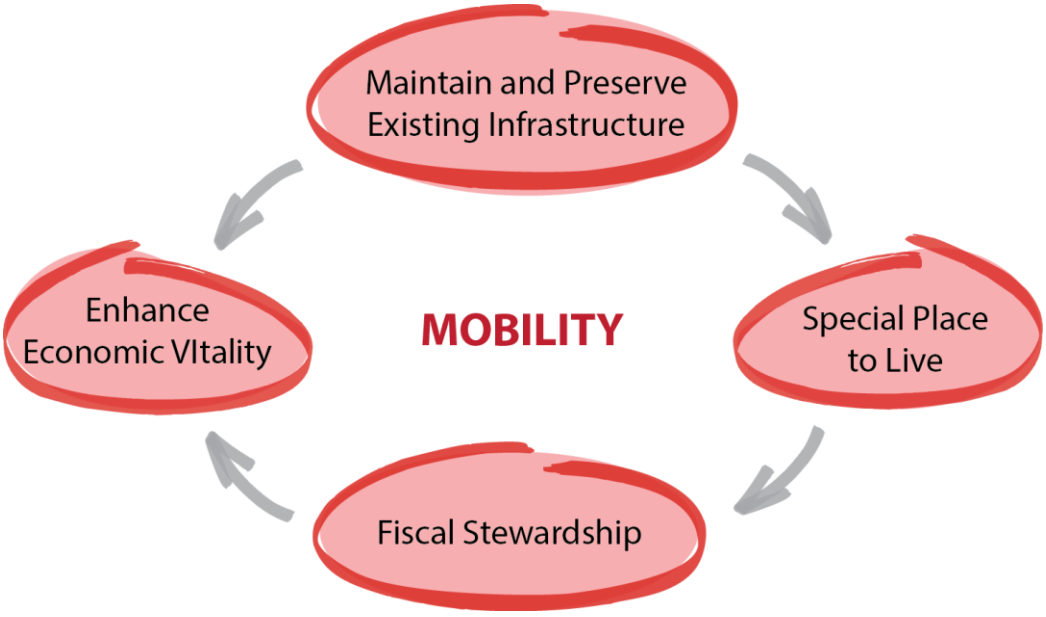
The Goals and Objectives section of the Plan reflects the ideology and aspirations that a County desires of its transportation system. Goals are philosophical in nature and serve as a vision of what transportation should be in the future. The objectives discussed in this section are action oriented and intended to create the framework for specific strategies to achieve the stated goals. Objectives should be: **S**pecific, **M**easurable, **A**chievable, and **T**imely.



Objectives

- **S**pecific
- **M**easurable
- **A**chievable
- **R**elevant
- **T**ime Oriented

The following goals and objectives developed for the Cooke County Thoroughfare Plan in collaboration with the Plan Visioning Committee, County Commissioner, and a number of other county stakeholders. The goals and objectives were further refined based on a questionnaire completed by Plan Visioning Committee members. The goals and objectives developed for the thoroughfare plan were packaged into the following goals.



GOAL 1 | MOBILITY

Mobility is the key goal and purpose of any thoroughfare system, moving people and goods within and through the transportation network. Improving mobility is essential to the overall well-being of Cooke County because as county grows and develops existing burdens such as congestion, truck traffic, and limited north-south mobility, will only be exacerbated. The following mobility objectives were developed through the Transportation Plan Visioning Committee to specifically address mobility concerns within the county.

The tenets of mobility include:

- A seamless system of transportation options and solutions that accommodates all users.
- A range of accessible and convenient, multi-modal transportation choices that provide connections between cities, neighborhoods and employment centers throughout the region.

1. **Provide a transportation system that will effectively and economically serve the existing and projected travel needs of the county in a safe and efficient manner.**

   Objectives:

   1.1 Develop a coordinated and unified thoroughfare network that takes into account the concerns of all system users and jurisdictions within the county.

   Action and Performance Measures:

   - Coordinate and incorporate existing development plans into the revised thoroughfare network.
   - Incorporate existing City Thoroughfare Plans into the County Thoroughfare Plan to maintain and improve the connectivity between adjacent city thoroughfare plans within Cooke County.
   - Coordinate with all Cooke County Cities at the end of the thoroughfare planning process to ensure consistency and incorporate the County thoroughfare network into future City thoroughfare plans to create more seamless network connectivity.

   1.2 Improve the connectivity between county, local, and regional destinations through an integrated roadway network that considers all users.

   Action and Performance Measures:

   - Develop County level thoroughfare standards and recommendations for roadways located in unincorporated areas and/or outside city ETJs to maintain consistent/ efficient connections between adjacent cities.

1.3 Identify and enforce designated truck routes to reduce the amount of through truck traffic on commercial corridors and load restricted roadways and bridges.

Action and Performance Measures:

- Increase police presence in areas with load restricted roadways and bridges.
- Increase the number of truck weighing stations – particularly in the southwest sector of the county where there is a high percentage of truck traffic and a number of load restricted bridges and roadways.
- Develop a roadway maintenance prioritization criteria based on identified pavement conditions and/or load zone rating.
- Recommend truck routes to divert truck traffic away from commercial corridors, residential areas, and load zoned road ways.

1.4 Develop a plan that prioritizes overall connectivity within the county.

Action and Performance Measures:

- Reduce overall VMT within the county by creating more direct routes between major destinations within the county.
- Develop transportation improvements to reduce forecasted 2035 LOS F roadways to LOS DE or better.

1.5 Improve roadway safety.

Action and Performance Measures:

- Identify and assess critical and high accident intersections to determine mitigation strategies to reduce collisions.
- Identify strategies to reduce traffic accidents along county managed roadways.
- Identify safety concern areas and develop specific mitigation strategies to improve overall driving conditions within the county.
- Develop and install signage to warn commuters of potential roadway hazards and dangerous driving conditions.

1.6 Identify feasible and direct North-South roadway alignments through the eastern sectors of the county.

Action and Performance Measures:

- Develop criteria for a north-south route to minimize the impact and maximize the effectiveness of the alignment.
- Identify properties that may be affected by the potential alignments.

1.7 Increase the number of direct alternative connections between Cooke County cities and major destinations.

Action and Performance Measures:

- Identify alignments for east-west and north-south backage roads to parallel major corridors within the county for traffic mitigation and improved connectivity.

- Test the impact of backage roads on the overall county network and adjacent facilities in terms of congestion, volumes, and level-of-service in the travel demand model.

1.8 Maintain a hierarchy of thoroughfare classifications that will provide for safe and convenient flow of traffic throughout the county.

Action and Performance Measures:

- Develop transitionary thoroughfare standards for county managed roadways between adjacent cities to ensure more seamless connectivity.
- Maintain a thoroughfare planning process to ensure efficient and desirable connections between major arterials and other thoroughfares.

1.9 Coordinate with the Cooke County ISDs on transportation system implications of proposed school facility expansion/needs.

Action and Performance Measures:

- Identify school bus routes within Cooke County
- Identify the location of future school sites and anticipated bus routes.
- Assess existing school bus routes in terms of accessibility to residential areas, congestion, maintenance, and safety.

1.10 Promote integration between transportation and land use development.

Action and Performance Measures:

- Utilize planned developments to identify future alignments within the county and ensure consistency with other planned facilities in adjacent areas.
- Develop a matrix of roadway treatments/ characteristics that may be applied to county roads to accommodate different land uses that may be utilized in unincorporated areas.

1.11 Strengthen partnerships between local governments and agencies to implement regionally significant projects.

2. Identify roadways for improvement that will enhance and improve access to employment and entertainment destinations within Cooke and neighboring counties.

Action and Performance Measures:

- Identify and evaluate key county traffic generators and special destinations (within Cooke County and adjacent counties) based on traffic counts and projected volumes on roadways providing access.

2.1 Improve the ease of access to residential and commercial destinations within the county.

Action and Performance Measures:

- Develop access management strategies for roadways connecting adjacent residential communities.
- Develop access management strategies for commercial corridors including, but not limited to intersection spacing, speed, traffic calming, and driveway consolidation.

2.2 Promote the design and integration of continuous frontage roads into the County thoroughfare network.

Action and Performance Measures:

- Identify alignments to improve connectivity to proposed frontage lanes along the IH35 corridor.
- Test the impact of frontage roads (or extensions) on the overall county network and adjacent facilities in terms of congestion, volumes, and level-of-service.

2.3 Monitor regional transportation system and agency planning efforts to ensure a proactive county response to issues affecting the county.

Action and Performance Measures:

- Develop a matrix of potential funding sources for county level transportation improvements.
- Develop a matrix of needed Cooke County transportation improvements to be evaluated, prioritized, vetted through TXDOT other local agencies for consideration in future funding initiatives.

2.4 Plan and implement new and improved roadways to effectively accommodate vehicular traffic within the county and throughout the region.

Action and Performance Measures:

- Develop a matrix of recommended prescriptive roadway improvements to improve connectivity within the county.
- Evaluate list of recommended roadway improvements in the travel demand model to determine the facilities impact on the overall transportation network.

2.5 Plan and implement effective bicycle and pedestrian mobility options for residents traveling within the county.

Action and Performance Measures:

- Identify potential bike and pedestrian accommodations to connect existing facilities between Cooke County cities.

GOAL 2 | PRESERVATION AND MAINTAINENCE OF EXISTING INFRASTRUCTURE

- Prioritize maintenance, rehabilitation, reconstruction and safety.
- Community viability through maintaining streets, sidewalks, utilities, storm water systems and other infrastructure facilities.
- Investments that balance the transportation needs of the county and local communities.

1. **Upgrade and improve existing transportation infrastructure to enhance system carrying capacity, reduce congestion and minimize accidents.**

Objectives:

1.1 Identify structurally deficient corridors and bridges for inclusion in a database that prioritizes roadway improvements by level of deficiency, current and projected traffic volumes, and cost of maintenance and repairs.

Action and Performance Measures:

- Develop a roadway performance index that allows the county to assign points to key roadways to indicate the level of deficiency.
- Dedicate adequate personnel and resources to maintain existing roadways, bridges and culverts at or above established minimum conditions standards.

1.2 Identify future points of congestion along existing north-south and east-west corridors and develop potential mitigation strategies to better accommodate project volumes.

Action and Performance Measures:

- Recommend roadway improvements to reduce LOS to DE on major transportation corridors
- Utilize initial 2035 travel demand model outputs to pinpoint projected areas of congestion and deficiency within the county

1.3 Develop and prioritize a list of long and short-term transportation projects to address current and projected transportation needs within Cooke County.
Action and Performance Measures:

- Utilize the travel demand model to determine the most affective project phasing in terms of network operation.
- Identify alignments for backage and frontage roads paralleling IH35 and US82 that may be used to relieve congestion and facilitate economic development.

1.4 Identify existing roadways that can be realigned and widened to improve connectivity to major highways and alleviate congestion.
Action and Performance Measures:

- Test recommended realignments in the travel demand model to determine their impact on the overall transportation network.
- Identify routes frequented by emergency response vehicles to ensure adequate sizing to accommodate wider vehicles.

1.2 Identify high accident areas and develop alternative strategies to reduce overall traffic accidents and fatalities.
Action and Performance Measures:

- Develop a map and matrix of high accident areas in the county to determine accident hotspots and trends. Utilize the data gathered from the matrix and map to develop specific recommendations for each high accident area.

1.5 Establish proactive planning dialogue and coordination with ISDs to optimize traffic operations and school safety to specific site issues.
Action and Performance Measures:

- Meet with school district representatives to glean transportation and school siting issues and needs within the county.
- Identify existing school bus routes for incorporation into the county's transit plans.
- Evaluate identified school bus routes for deficiencies.

1.6 Upgrade and improve existing street infrastructure to enhance efficiency, improve intersection operations, reduce congestion and minimize accidents.
Action and Performance Measures:

- Develop matrix of mitigation strategies that can be applied to specific types of intersection deficiencies.

1.7 Upgrade and improve existing transit, bicycle and pedestrian infrastructure to encourage usage of alternative transportation.

GOAL 3 | A SPECIAL PLACE TO LIVE

- Transportation and Infrastructure designed to reflect both people and places
- Enhance transportation choices and accessibility
- Create a unique place with lasting value
- Blends seamlessly with the character of Cooke County communities, neighborhoods, employment centers and activity centers

3. Promote a more livable county and high quality of life through incorporation of context sensitive transportation design practices and a proactive approach to aesthetic quality of key transportation corridors.

3.1 Promote the policies that limit the number of driveways/curb cuts along major thoroughfares identified as commercial corridors.
Action and Performance Measures:

- Identify existing and potential commercial corridors within the county based on existing future land use plans.

3.2 Encourage shared parking lots along major thoroughfares identified as commercial corridors.
Action and Performance Measures:

- Identify existing commercial destinations within the county that may be able to consolidate and share parking between adjacent land uses and businesses.

3.3 Encourage sidewalks and other pedestrian amenities along commercial corridors in urbanized areas to facilitate pedestrian activity between adjacent uses and contiguous destinations.
Action and Performance Measures:

- Evaluate existing sidewalks along key commercial corridors in terms of connectivity (to parks, businesses, and neighborhoods) and overall maintenance/condition.
- Identify key locations for pedestrian amenities and landscaping along identified commercial corridors.

3.4 Identify corridors for bike routes between residential areas, parks, and other destinations within the County.
Action and Performance Measures:

- Identify key connectivity routes and points between existing schools, parks, neighborhoods, and entertainment venues.

3.5 Enhance the aesthetics of key arterial class roadways that lead travelers into the central cities and towns and major areas of retail and development.
Action and Performance Measures:

- Identify key connectivity corridors for the implementation of gateways and other aesthetic attributes.
- Develop a map highlighting key destinations within the county and key existing and planned arterial facilities that connect them to other key destination, neighborhoods, and highways.

3.6 Create visual gateways and other landmarks to establish a county-wide identity.
Action and Performance Measures:

- Develop a county gateway and corridor design scheme (to be approved by the plan visioning committee) to be taken into consideration when developing beautification strategies for the county.
- Identify key locations for county gateways along major thoroughfares and highways (IH35, US82, FM51, etc.) within the county.

3.7 Adopt policies and programs that promote context sensitive considerations and aesthetics into the planning and funding of transportation projects.
Action and Performance Measures:

- Identify funding sources that can be used to design and/or construct context sensitive design elements, such as pedestrian amenities, landscaping, and other beautification strategies along commercial corridors within the county.

3.8 Invest in projects that minimize the impacts of railroad delay and noise.
Action and Performance Measures:

- Identify quiet zones along rail corridors in urbanized areas.

- Engage stakeholder and steering committee members to determine key locations for quite zones along the BNSF Rail Line.

GOAL 4 | FISCAL STEWARDSHIP

- Provide a detailed roadmap of actions for transportation and infrastructure improvements
- Investments that maximize benefits across multiple user groups in a way that is fiscally and environmentally responsible

4. Optimize the use of county funds and leverage additional funding for strategic implementation of transportation improvements to maximize public return on investment in transportation infrastructure and operation.

4.1 Identify funding sources to leverage recommended transportation projects and maximize the impact of dollars allocated to transportation improvements in the county.
Action and Performance Measures:

- Partner with regional and state agencies, such as TXDOT, to fund transportation infrastructure improvements within the County.
- Consider the construction of managed lanes, and HOV lanes to meet funding gaps for future thoroughfares within the county.
- Develop a recommended project matrix that includes available funding sources and whether the project meet preliminary requirements.
- Utilize transportation funds for both large and small scale projects to improve overall connectivity and function of the thoroughfare network.
- Identify funds for roadway maintenance throughout the county.
- Prioritize and phase transportation investments to maximize the use of available and programmed funds.
- Identify and pursue private, regional, state and federal revenue sources for funding multimodal transportation improvements.

4.2 Provide transparency and meaningful public awareness, ongoing citizen input, and participation opportunities to implement and update the plan.
Action and Performance Measures:

- Provide feedback on the development and implementation of the plan (even after adoption) to ensure it remains a part of future land use and transportation decisions throughout the county.

- Provide a plan feedback questionnaire on the County website and allow county residents and developers the opportunity to download and provide feedback on the plan once it is adopted.
- Coordinate a Cooke County Transportation forum where county stakeholders can more effectively communicate transportation issues and concerns with county commissioners and other decision makers.

4.3 Plan for and preserve rights-of-way and other properties for future multimodal transportation and supporting infrastructure investments.
Action and Performance Measures:

- Identify future transportation corridors within the county to preserve the rights-of-way for future transportation projects.
- Develop county thoroughfare standards to ensure available right-of-way for future transportation projects.
- Identify existing corridors that may need to be widened and/or upgraded in functional class to accommodate future transportation needs.
- Identify potential multimodal corridors that may accommodate automobiles, rail, bicyclists, and/or pedestrians.
- Identify truck/shipping corridors that may have wider designated rights-of-way to accommodate more truck traffic.

GOAL 5 | ENHANCE ECONOMIC VITALITY

- Incorporate input from the community-at-large in an ongoing dialogue with stakeholders.
- Identify opportunities for linkages to employment centers and support job creation and retention.

5. Invest in transportation improvements that support the physical and economic vitality of Cooke County and its cities, businesses, employment, and education districts.

5.1 Invest in transportation improvements that support the physical and economic vitality of Cooke County's neighborhoods, businesses, commercial centers.
Action and Performance Measures:

- Identify future transportation infrastructure improvements that improve the connectivity between Cooke County residential areas and planned commercial developments.
- Develop a phasing plan for improvements to county managed and maintained corridors between commercial and residential areas throughout the county.
- Identify potential commercial corridors for the implementation of roadway design standards conducive to commercial development.

5.2 Provide for safe and effective trucking, railroad and air freight movement to, from and through Cooke County, including supporting facilities, while minimizing their impact on quality of life.
Action and Performance Measures:

- Identify alternative truck routes through and around communities that avoid residential areas and enter commercial areas via facilities wide enough
- Provide for effective trucking, rail and air freight movements to, from and within the county.
- Review pavement conditions and overall congestions levels on existing truck routes to determine the long-term feasibility of the facilities as a truck routes.
- Develop criteria for alternative routes throughout the county.
- Increase police presence along existing non-truck route facilities that have been identified as problem truck traffic problem areas.
- Install "no truck traffic" signs in residential areas.

5.3 Promote integration between transportation and land use development.
Action and Performance Measures:

- Leverage transportation investments to enhance land use and economic benefit decisions within the county.
- Implement backage roads where possible along both sides of IH35 and US82 to enhance land use/economic benefit to the adjacent communities.

5.4 Identify and implement policies and programs to support and incentivize development initiatives within the county that encourage public-private partnerships and timely implementation of transportation improvements to reduce overall cost.
Action and Performance Measures:

- Provide an annual or five-year report on developing projects and issues relative to thoroughfare planning for the Cooke County Commissioners Court, Cities and ISDs.
- Identify transportation projects from future development plans that may be submitted for federal, state, and/or regional funds.
- Partner with TxDOT and Cooke County Cities to fund the construction and/or enhancement of commercial corridors within the county

Chapter 3: Existing Conditions

Cooke County has an advantage over many more urbanized areas around the region because it is largely undeveloped and has flexibility to make pivotal land use and transportation decisions considered infeasible in more developed areas. The existing conditions section of a transportation plan sets the foundation of the plan. It provides a baseline description of the county's transportation network as it stands today regarding capacity, functional classification and modal accommodations, and serves as a platform for recommended system adjustments.

Existing Transportation Framework

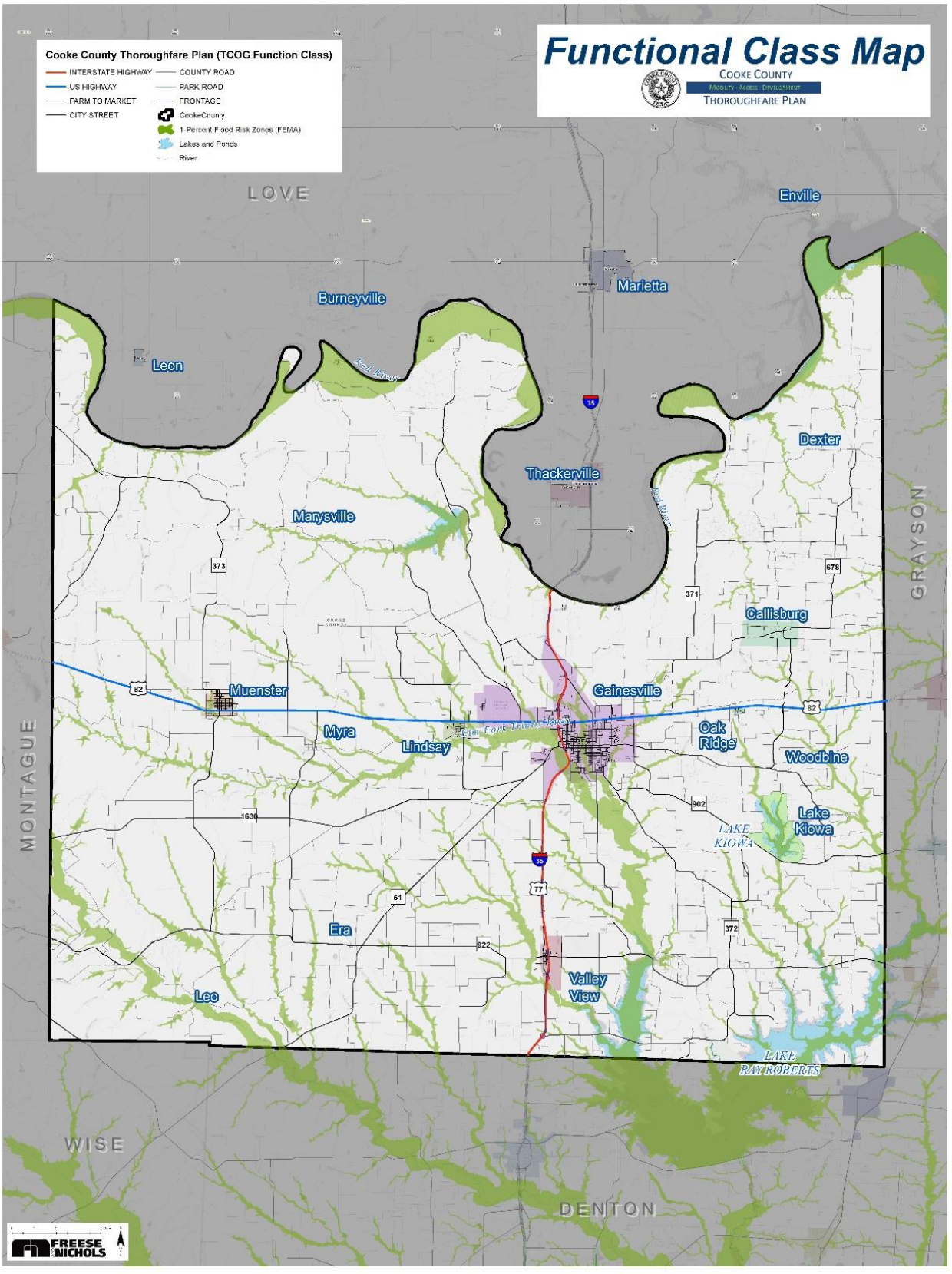
A county's transportation network provides the framework for future growth and development. This tenet is especially important in a rural county such as Cooke County, where the cities and town are small in terms of size and population, and the majority of the land is undeveloped. The amount of developable land presents an invaluable opportunity for the County to preserve rights-of-way before development occurs and increases the value of the right-of-way and reshapes land use patterns in a way that might hinder the efficiency of the transportation network.

Network Connectivity

Figure 7 provides and illustration of Cooke County's existing transportation network. The two main arteries in the thoroughfare network include IH35 and US82. IH35, an interstate highway class facility, bisects the county from north to south through the cities of Gainesville and Valley View, and is a pivotal link between Cooke County and employment and entertainment venues in the Dallas-Fort Worth Metroplex, and north of the Oklahoma border. US82 is currently classified a U.S. Highway, and provides an east to west connection thorough the county, linking Oak Ridge, Gainesville, Lindsay, and Muenster.

These two roadways are bolstered by a number of smaller facilities that make up the bulk of the network, such as FM922, which makes an east to west connection in the southern sector of the county – linking the Cities and Valley View and Era, and the emerging development north of Lake Ray Roberts. Additional supplemental east to west routes include, but are not limited to, FM1630, which provides a connection from western Cooke County to Gainesville, FM678, which makes a connection from the area north of Lake Kiowa to Gainesville, and FM902, which links the development area south of Lake Kiowa to Gainesville. The county has a number of other discontinuous east to west routes, such as CR134 in northeastern Cooke County and CR422 in northwestern Cooke County, that may need to be linked to other county roadways to create a more seamless network.

Figure 7. Cooke County Existing Road Network

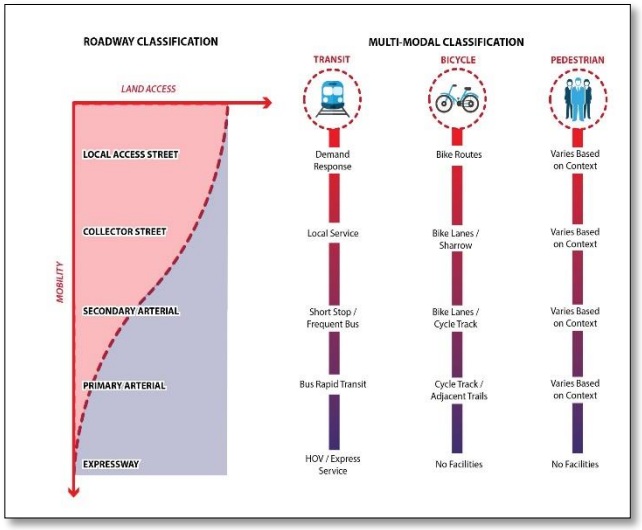


Despite having a major interstate highway, IH35, running through it, Cooke County has a limited number of continuous north to south routes. FM373, located in western Cooke County, provides a north to south link between FM922 and US82, then continues north through Muenster and eventually into northern Montague County. FM1198 runs north to south in central Cooke County, making a connection from US82 to FM922 before transitioning into CR333 and continuing south to Denton County. Additional north to south connections include CR331, which links FM922 to FM1630 in western Cooke County, FM372 which provides a connection from the area north of Lake Ray Robert to Gainesville, and FM51, which provide a diagonal link from southwestern Cooke County to Gainesville. Many residents, however utilize a number of discontiguous roadways such as CR207, CR275, and a number of other north to south road segments, according to county stakeholders that may need to be connected to other road segments to strengthen the overall transportation network.

Functional Classification

The functional classification of streets is used to identify the hierarchy, function, and dimensions of a roadway. Streets and highways are grouped into classes based on facility characteristics, such as geometric design, speed, and traffic capacity. Typical functional classifications include: freeway/ highways, principal arterials, minor arterials, and collectors. Local roads are not typically included in thoroughfare plans. A roadways functional class should be compatible with the adjacent land uses in order to provide travelers ease of access to origins and destinations through a combination of streets. Functional class can be updated over time if surrounding land uses change significantly.

Figure 8. Functional Classification and Lane Use Access



A facility will move up in hierarchy as the surrounding area becomes denser and additional cars are attracted to the area. Population and land use densification may also decrease the functional class of a roadway as the area becomes more walkable. Typically, the higher the roadway's classification, the lower the access to adjacent land uses. Freeways, for instance, typically provide no direct access to land uses, but allow continuous connectivity between regional destinations. **Figure 8** illustrates the relationship between land functional class and land use access.

Freeways/Highways

Freeways and highways are designed to accommodate large volumes of traffic at high speeds with a high level of mobility and low level of access.

Principal Arterials

Principal arterials are ideally designed to allow large volumes of traffic and operate at a high level of mobility. A principal arterial is designed for longer distance trips and provide access to major activity centers and adjacent cities. There should be a limited number of driveways directly accessing primary arterials, and they should only connect to other primary arterials or freeways. Typically, on-street parking should not be allowed on a principal arterial.

Minor Arterials

Minor arterials connect traffic from collectors to primary arterials. They are designed to accommodate moderate traffic volumes at relatively low speeds, and often extend to a larger geographic area. In certain situations, minor arterials may accommodate on street parking.

Collectors

Collectors are designed for short trips and low speeds. They serve primarily to connect trips to higher functional class facilities.

Existing Cooke County Functional Classification

Table 2 details the existing thoroughfare standards in Cooke County. There are currently three roadway classification detailed in the Cooke County Subdivision Regulations: arterials, collectors, and minors. The current minimum right-of-way requirements for an arterial facility within the county is 80 feet with a minimum pavement width of 24 feet. Collector facilities have a minimum right-of-way of 60 feet with a minimum pavement with of 24 feet. Minor facilities, typically not included in thoroughfare plans, have a minimum right-of-way of 50 feet and a minimum pavement width of 24 feet.

Table 2. Existing Cooke County Thoroughfare Standards

Class	ROW	Pavement Width
Arterial	80	24
Collector	60	24
Minor	50	24

Although the Cooke County thoroughfare standards only include three functional classifications, the Texoma COG includes seven functional classifications: Interstate Highway, US Highway, Farm to Market Road, County Road, City Street, Park Road, and Frontage Road.

Existing Roadway Operations

Roadway operations describe the mechanics of a roadway network in terms of speed, and congestion. These factors are typically gauged by examining traffic volumes or the number of vehicles utilizing the network during a specified time interval, and level-of-service, which is a measure of the amount of congestion on a roadway given the number of vehicles it was designed to accommodate at a given time (capacity).

Traffic Volumes

Understanding current traffic volumes on a road network is an important step in determining if facilities are functioning at capacity under current conditions. The Annual Average Daily Traffic (AADT) provides information on traffic history. AADT is the total volume of vehicle traffic divided by 365 days. Traffic counts can also be collected over a specific time period. This method, Average Daily Traffic (ADT) is the number of vehicles traveling in a 24-hour period, greater than a day but less than one year.

2014 Traffic Volumes

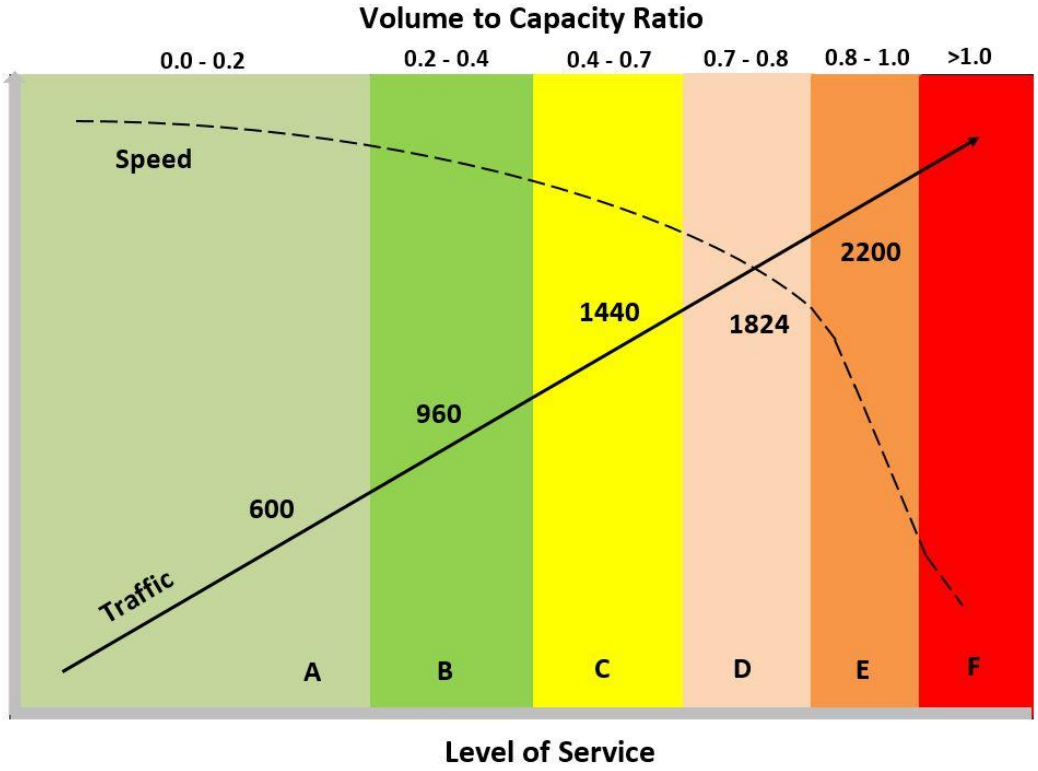
Overall, traffic volumes in the Cooke County were relatively low in 2014, ranging from fewer than 10 vehicles per day to over 42,000 vehicles per day. The highest AADT in the county was along IH35 between FM922 in Valley View and the Denton County line which accommodated about 45,800 vehicles per day. Much of this traffic can be attributed to county residents commuting to the Dallas-Fort Worth Metroplex for work, entertainment, and retail venues. As a whole, volumes on IH35 ranged between 41,800 and 25,000. The next highest traffic volumes in 2014 were along US82 between Weaver Street and Dixon Street with about 24,000 vehicles per day. In general, volumes varied along US82. Within the city of Gainesville volumes ranged between 24,000 and 16,000. Volumes were as low as 5,000 vehicles per day outside Gainesville.

With the exception of a few segments within the city of Gainesville, volumes outside IH35 and US82 were considerably lower. FM51, for instance was next on the list in terms of volume, but only accommodated about 4,500 vehicles per day. Volumes within Gainesville city limits were as high as 14,000 vehicles per day.

Roadway Level of Service

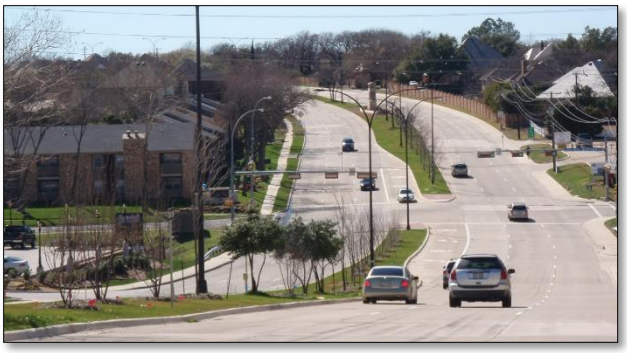
Level-of-Service (LOS) is a performance measure used to evaluate the function and flow of traffic through a transportation network. LOS is an operational expression that measures the volume to capacity ratio of a roadway. Volumes represent an estimate of the number of vehicles on a particular road segment. Capacity is the maximum number of vehicles a roadway was designed accommodate within a particular segment. Traffic operations range from A through F, with A referring to free flow traffic conditions and F representing severely congested facilities. The closer a roadway's volumes are to equaling or exceeding their capacity, the lower the level-of-service (LOS D-F); the lower the volumes and further below the roadways capacity, the higher the level-of-service (LOS A-C). **Figure 9** illustrates the relationship between level-of-service and traffic movement.

Figure 9. Level of Service - Volume to Capacity Relationship



Most cities design for LOS C and D operational conditions during the peak hours. Economically, LOS C or D roadways slow traffic down just enough for commuters to take notice of local businesses along a corridor; these conditions are also ideal for pedestrian activity. In some cases, mitigation of LOS may be constrained due to right-of-way or environmental factors. A description of the operational condition is listed below.

LOS A-B-C: Traffic flow in this category moves at or above the posted speed limit. Travel time in this category is not hindered as a result of congestion because traffic volumes are much less than the actual capacity.



LOS D-E: This category is slightly more congested LOS A-B-C, however traffic volumes are beginning to reach their capacity of the thoroughfare. Traffic move along at an efficient rate and posted speeds are maintained.

LOS F: Congestion is apparent in this Level of Service category. Traffic flow is irregular and speed varies. The posted speed limit is rarely, if ever, achieved in this category. In more congested corridors traffic can be at a mere standstill with limited progression during peak hours.

Traffic Volumes and Level of Service

Understanding current traffic volumes on a road network is an important step in determining if facilities are functioning at capacity under current conditions. The Annual Average Daily Traffic (AADT) provides information on traffic history. AADT is the total volume of vehicle traffic divided by 365 days. Traffic counts can also be collected over a specific time period. This method, Average Daily Traffic (ADT) is the number of vehicles traveling in a 24-hour period, greater than a day but less than one year.

2014 Level of Service

Overall, Cooke County's transportation network operates at a relatively high level-of-service. In fact, the majority of the roadways in the county currently operate at level-of-service A. The segment of US82 between the eastern Gainesville City limits and the Grayson County Line, for instance, carries over 18,000 vehicles per day, but operates at level-of-service A. Likewise, segments of IH35, carrying as over 40,000 vehicles per day at level-of-service A.

There are, however a few areas of congestion according to TXDOT traffic projections, that are operating at a lower level-of-service. The segment of California Street between Throckmorton Drive and Denton Street, for instance, currently accommodates about 16,400 vehicles per day at level-of-service F. This segment is just over a quarter mile, but includes 4 traffic signals.

Table 3. Cooke County Level of Service D - F Roadways

Roadway	Segment	2014 Volume	No. of Lanes	LOS
California (FM51)	Throckmorton to Denton	16,401	2	F
IH35 Frontage	Star Street to California	10,708	2	F
California (FM51)	Denton to Grand	12,296	2	E
Grand (FM372)	Weaver Street to Wolf Run	8,816	2	E
US82	FM1201 to Gainesville City Limits (east)	27,959	4	E
Grand (FM372)	Pecan Street to Leach Street	9,130	2	D
IH35	Turnaround N of Valley View to Easy Street	40,200	4	D
US82	Webber Drive to FM1201	20,437	4	D

Aviation, Freight and Goods Movement

Essential to the development of a transportation plan, aviation, freight, and goods movement are often left out of the planning process. They do not involve the direct movement of individuals from one destination to another, but they do impact a county's transportation network and overall quality of life. Aviation is just as important as mass transit (bus or rail) because it moves both people and goods between destinations. Evaluating a county's freight and goods movement is important because trains and large trucks are essential to the movement of manufactured and raw materials that people and businesses need to create and maintain a thriving economy. An illustration of Cooke County's existing aviation, freight, and goods movement network is available in **Figure 10.**

Goods Movement

The Federal Highway Administration divides truck routes into primary and secondary tiers. Primary routes include roadways that connect to major gateways, ports of entry, and freight generators. Most of these routes are listed among FHWA's highways of national significance.

There are currently two designated truck routes in Cooke County: IH35 and US82. IH35 is included on the states list of primary truck routes, and carries about 6,200 trucks per day, according to TXDOT. US82, a secondary truck route, carries about 400 trucks per day. Despite not being on the designated truck routes, a number of lower functional class facilities carry a significant percentage of trucks. Trucks account for over 40% of the traffic on FM373; they account for 19% of the traffic on FM922.

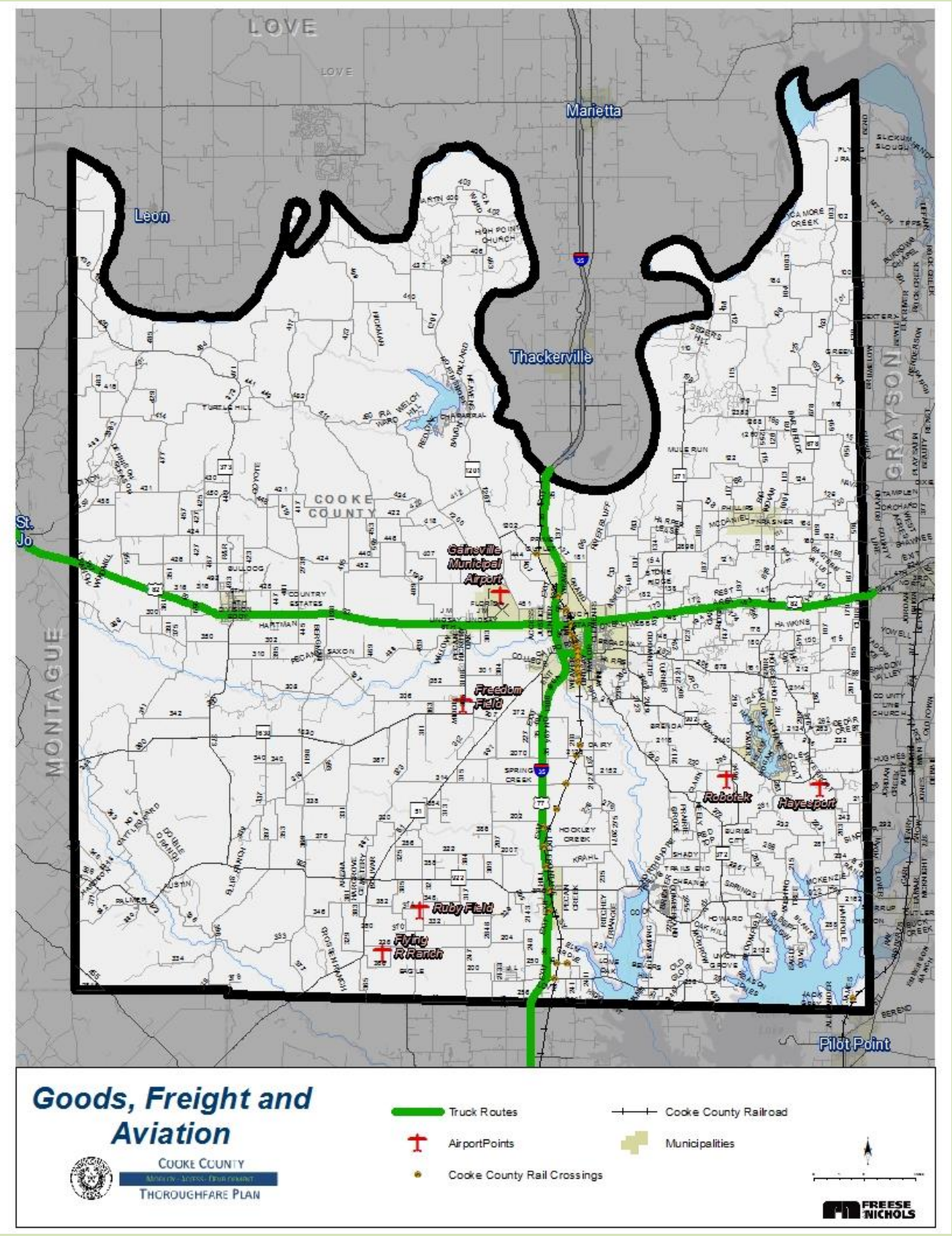
Freight

Burlington Northern Santa Fe (BNSF) operates the only rail line in Cooke County. The line, stretching from north to south through the county, runs tightly parallel to IH35 through Valley View and Gainesville, and eventually makes connections on the Dallas-Fort Worth Metroplex to the South and the Oklahoma City Metro Area to the north. There are currently 37 rail crossing within the county, accommodating about __ trains per day. With the pending widening of the IH35 corridor through the county, the rail line will have to be relocated to the east of its current alignment.

Aviation

The Gainesville Municipal Airport is currently the only public General Aviation (GA) airport in Cooke County, facilitating about 65 flights per day (55 GA local; 10 GA transient). In addition to 23 single engine planes, the airport is base to eight (8) multi engine planes, one (1) jet, three (3) helicopters, and one (1) glider. Service is available to a number of destination, including, but not limited to Austin, Texas, Aspen Colorado, San Jose, California, Houston, Texas. In addition to Gainesville Municipal Airport, the County is home to 14 private landing strips.

Figure 10. Cooke County Goods, Freight, and Aviation



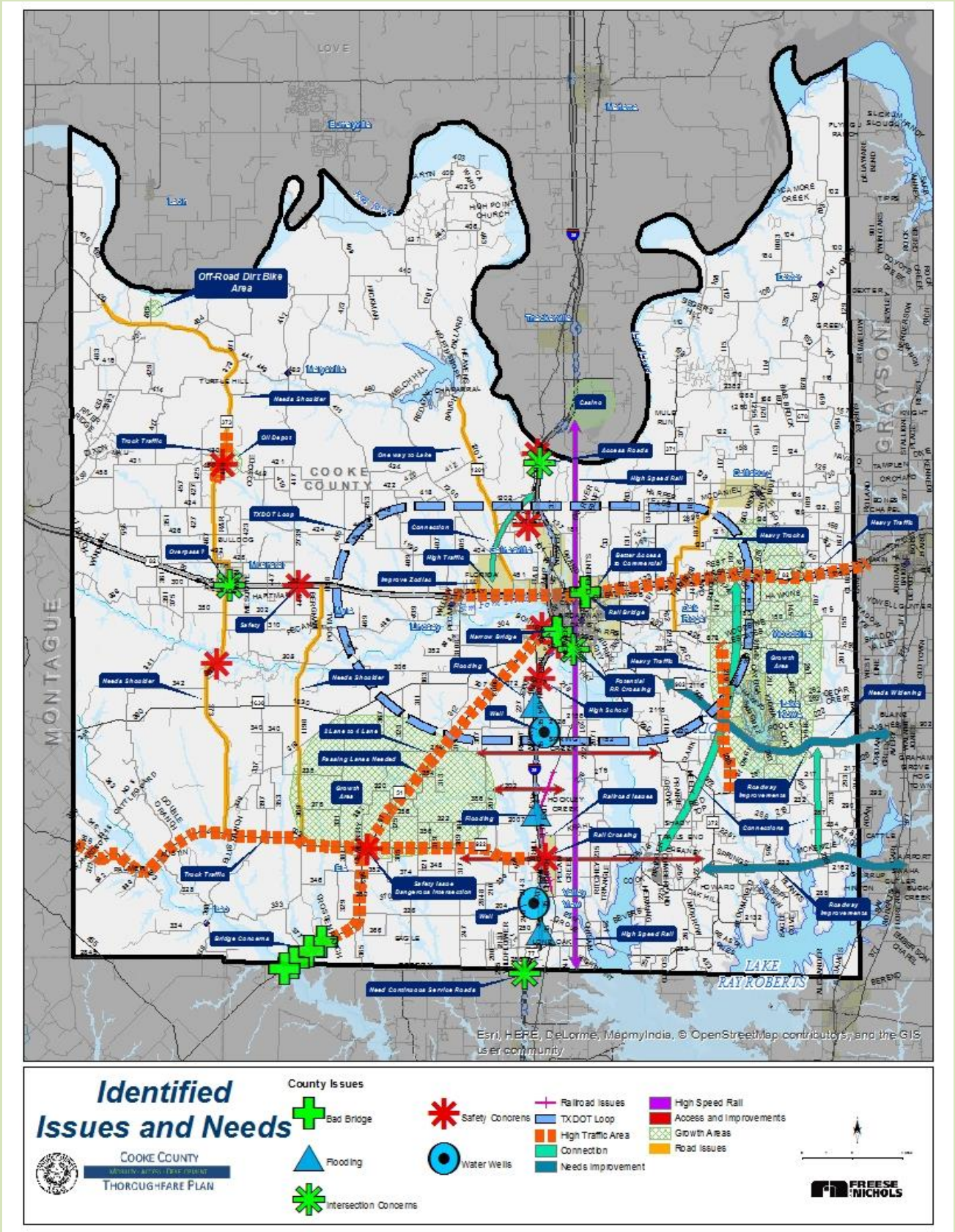
Transportation Issues and Needs

County stake holders identified a number of transportation issues and needs during the public input portion of the project that need to be addressed in the development of Cooke County's thoroughfare network. The following section summarizes issues and needs detailed by county stakeholders throughout the planning process. Identified issues and needs are categorized under safety, mobility, and maintenance. A complete illustration of Identified issues and needs is available in **Figure 11.**

Safety Issues and Needs

Safety is one of the most important elements of a thoroughfare network. This is because unsafe corridors are not only prone to inefficient operation, but stymie development opportunities as well. Network issues such as high accident areas, critical intersections, and maintenance concerns, and congestion – among others – have a significant baring on the perceived and actual level of safety on a road network.

Figure 11. Cooke County Identified Issues and Needs



High Accident Areas

According to TXDOT crash statistics, the number of annual traffic accidents increased 14 percent between 2011 and 2015, increasing from 506 to 578 annual accidents. In fact, between 2014 and 2015, 388 crashes occurred along the IH35 corridor alone; 15 fatalities occurred along the corridor during this same time period. Other high crash corridors include US82 and FM51 with had 241 and 74 crashes respectively. A full list of high crash corridors is available in **Table 4;** Crashes are illustrated in **Figure 12.**

Figure 12. Cooke County Total Traffic Crashes by Year

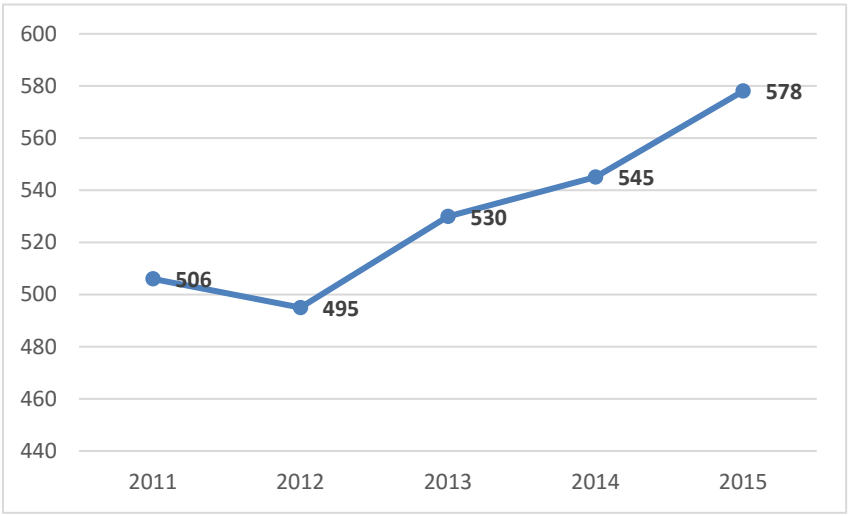
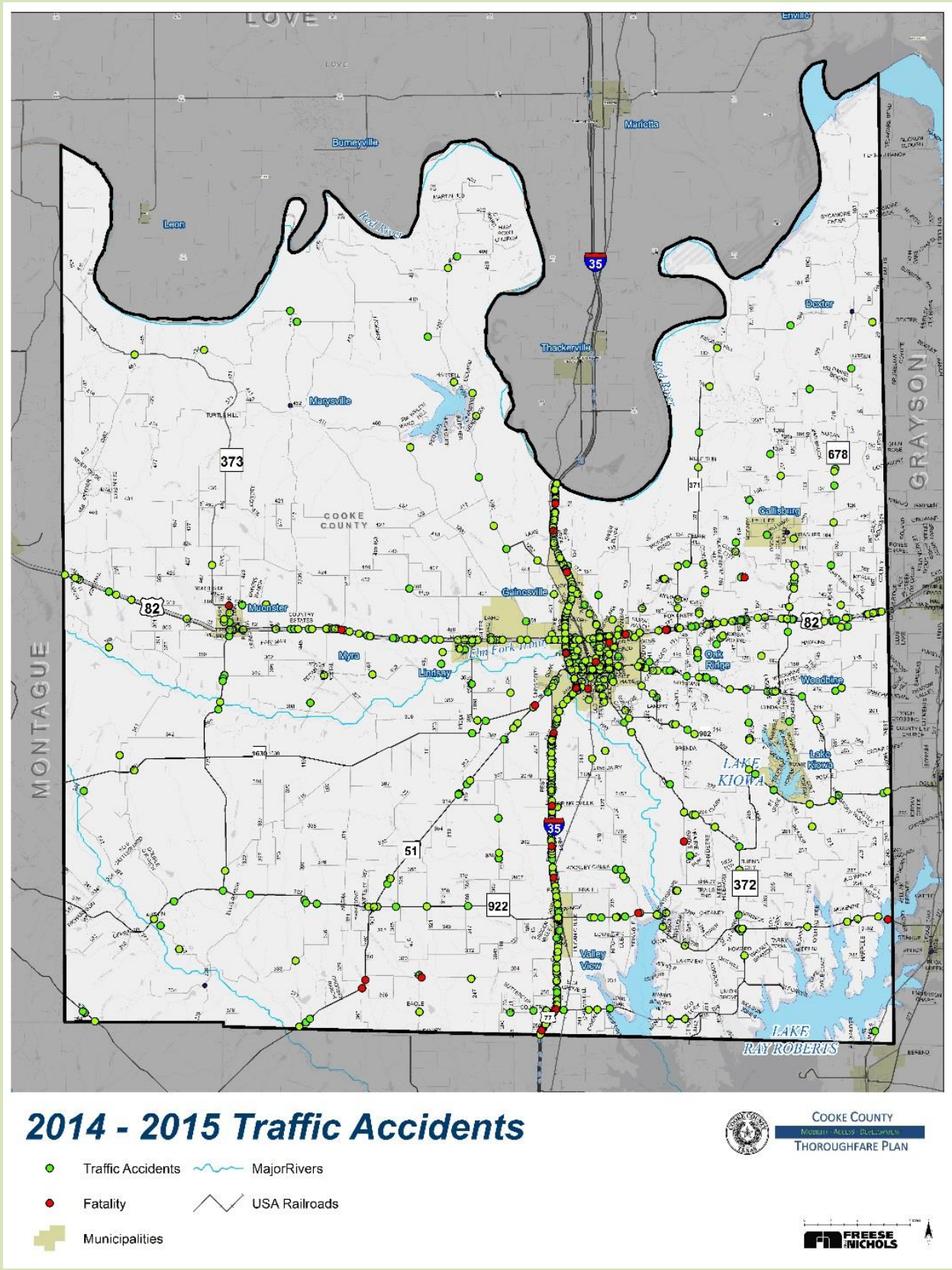


Table 4. Cooke County 2014-2015 High Traffic Crash Corridors

Corridor	2014 Accidents	2014 Traffic Fatalities	2015 Accidents	2015 Traffic Fatalities
IH35	175	8	213	7
US82	108	4	133	
FM51	31	3	43	2
FM372	30		29	
FM678	19		19	
FM922	15		21	2
Total *	**545**	**20**	**578**	**13**

*Includes all Cooke County Traffic Crashes for the indicated year.

Figure 13. Cooke County 2014-2015 Traffic Crashes



Critical Intersections

Stakeholders identified a number of critical intersections within that need to be addressed in the County Thoroughfare Plan. These intersections a characterized by either a high number of traffic crashes, inefficient geometry, in need of traffic signalization, and/or high congestion. **Table 5** contains a list of identified critical intersections located within the county. The intersection of FM51 and FM922, the site of 16 traffic crashes between 2014 and 2015, was one of the most identified critical intersection. The intersection is characterized by a 60 degree turn for commuters traveling north on FM51 from west bound FM922. To mitigate the issue, TXDOT installed a right turn lane at the intersection. The right turn lane improved the angel of the turn, but additional information is needed to gage the impact of the turn lane.

US82 and IH35

The intersection of US82 and the IH35 is currently one of the most congested intersections within the county, operating at level-of-service E according to TXDOT's 2013 traffic projections. In addition to high congestion, the intersection was also the sight of the highest total number of traffic crashes in 2014 and 2015.

FM922 and IH35

The underpass at FM922 and IH35 was identified as a critical intersection due to the low bridge clearance under IH35. The clearance, 14 feet, is the same as the maximum height allowed for trucks without requiring a special permit. This could be troublesome for some trucks and lead to truck crashes. The intersection was the site of 10 traffic crashes between 2014 and 2015.

FM1306 and IH35

The intersection of FM1306 and the southbound IH35 frontage road was identified as a critical intersection due to the high level of traffic entering and exiting the high school.

Table 5. Cooke County Identified Critical Intersections

Intersection	Issue	2014-2015 Crashes	Problem Caused
FM51 and FM922	Geometric Issues Blind Turn	16	Congestion Traffic Crashes
FM373 and US82	Truck Traffic	8	
US82 and IH35	Signal Timing	35	Congestion Traffic Crashes
FM922 and IH35	Rail Crossing Low Bridge	10	Limited Access to both sides of IH35
FM1306 and SB IH35 Frontage	High school access and egress	5	Congestion Traffic Crashes

Mobility Issues and Needs

Mobility is the primary function of all thoroughfare networks. The efficient movement of people and goods from origin to destination – regardless of mode, requires a complete and robust thoroughfare network. The following section provides a summary of identified mobility issues within Cooke County.

Connectivity Issues

Connectivity is an essential component of a thoroughfare network because it represents the number of route options a commuter has to reach his or her destination and any barriers or gaps in the network that impede or lengthen the amount of time it takes to travel from origin to destination. There are currently a number of incomplete or disrupted routes in the county that limit commuters ability to travel from origin to destination.

IH35

One of the greatest barriers to east to west connectivity in the county is IH35. The interstate highway provides a pivotal north to south connection through the county, but bisects a number of east to west routes that would improve connectivity between the east and west sides of the county.

There are currently only ___ underpasses and ___ bridges that allow commuters to travel from the east to the west side of IH35. This, according the stakeholders, limits the ability of property owners to access property owned on both sides of the highway. Increasing the number of bridges and underpasses across will improve east to west connectivity and add to the economic vitality of the corridor by making it easier for vehicles traveling on IH35 to access both sides of the interstate highway.

North to South Connectivity

Another connectivity issue identified by county stakeholders is limited north to south connectivity. There are currently only a few continuous north to south routes that allow commuters direct passage between the southern and northern Cooke County. Commuters typically have utilize a number of discontinuous corridors to travel from the southern to northern section of the county. FM1198 and FM373, for instance, are

currently the only continuous north to south routes in the western sector of the county. FM373 provides a connection from FM922 to northern Montague County, which provides an alternate connection into Oklahoma, per stakeholders. FM1198 provides a link between Denton County and US82. More connections, particularly within a mile or so of IH35, will be needed as a reliever route during the IH35 widening, and to bolster the previously mentioned Golden Triangle development area. Existing routes, such as CR207 and CR227, may be lengthened and/or realigned to improve north to south connectivity in western Cooke County.

Critical and Congested Corridors

Table 6 provides a brief overview of four congested and/or critical corridors identified by county stakeholders. These roadways are characterized by relatively high congestion, a high number of traffic accidents, unsafe road conditions, and/or poor maintenance.

US82

The most congested corridor identified by county stakeholders is US82 between Zodiac Road and Gainesville's eastern city limits. The roadway, hindered by access management issues, such as an overabundance of traffic signals and turning movements, and general congestion, accommodates about 20,000 vehicles per day and operates and level-of-service E.

CR219

CR219 accommodates about 1,200 vehicles per day and operates at level-of-service A. Conditions, however worsen when there is a crash or stalled vehicle because the roadway is narrow (22 feet) and does not have shoulders for passing.

FM922

FM922 carries about 2,000 vehicles per day and typically operates at level-of-service A. Stakeholders added this roadway to the list because of poor roadway conditions and the potential for the roadway to become a higher utilized facility.

Table 6. Cooke County Identified Congested Corridors

Roadway	Limits	Volume	LOS
US82	FM1199 to Grayson County Line	20,437	E
CR219	CR678 to FM3496	1,244	A
FM922	Montague County Line to IH35	2,014	A
FM51	Denton County Line to FM1306	4,170	A

Roadway Maintenance Issues and Needs

Cooke County stakeholders listed roadway maintenance as a primary concern in the county and identified several roadways in need of improvement. Deteriorating pavement, pot holes, flooding, and impassible dirt roads were included in the list of maintenance issues. A summary of Cooke County maintenance issues is available in **Table 7**.

FM922

FM922 is one of the most important legs components of Cooke County's transportation network, providing a direct east to west route across the county. The roadway, however has several maintenance issues that need to be address as development increases in the southeast sector of the county around Lake Ray Roberts, and the area west of IH35 in what has been identified as the "golden triangle." The roadway is negatively characterized by deteriorating pavement, pot holes, intermittent narrow lane and shoulder segments. These conditions are not only unsafe, but deterrents to development.

FM373

FM373, located in western Cooke County, provides a connection from FM922 to Montague County. Like other major roads in the county, the roadway has narrow lanes and no shoulders. The pavement is deteriorating throughout the corridor, and the segment north of Turtle Hill is unpaved, causing poor driving conditions during inclement weather.

FM1201

FM1201 is located in northern Kaufman County, connecting commuters from northwest Gainesville to the residential area around Moss Lake. The pavement along the roadway is deteriorating with a number of potholes. Stakeholders also noted that the roadway is prone to icing during the winter months.

Table 7. Cooke County Identified Roadway Maintenance Issues

Roadway	Limits	Issue
FM922	Montague County Line to Grayson County Line	Deteriorating pavement, Narrow lanes, pot holes, Needs shoulder
FM373	FM922 to Montague County Line	Deteriorating pavement, Narrow lanes, pot holes, Dirt road impassable in rain
FM1198	FM922 to US82	Deteriorating pavement, Narrow lanes, pot holes, Needs shoulder
FM1201	CR451 to Wendy Lee	Deteriorating Pavement, Icing, Pot holes,
CR123	FM678 to CR187	Deteriorating pavement, Narrow lanes, pot holes, Dirt road at northern extent
CR187	CR123 to FM2896	Dirt road, Pot holes
FM2896	CR187 to CR119	Deteriorating pavement, Narrow lanes, pot holes,
CR435	FM373 to Montague County Line	Deteriorating pavement, Narrow lanes, pot holes, Dirt road at northern extent
IH35 Frontage	Scott Creek Crossing	Flooding
IH35 Frontage	Hockley Creek Rd	Flooding

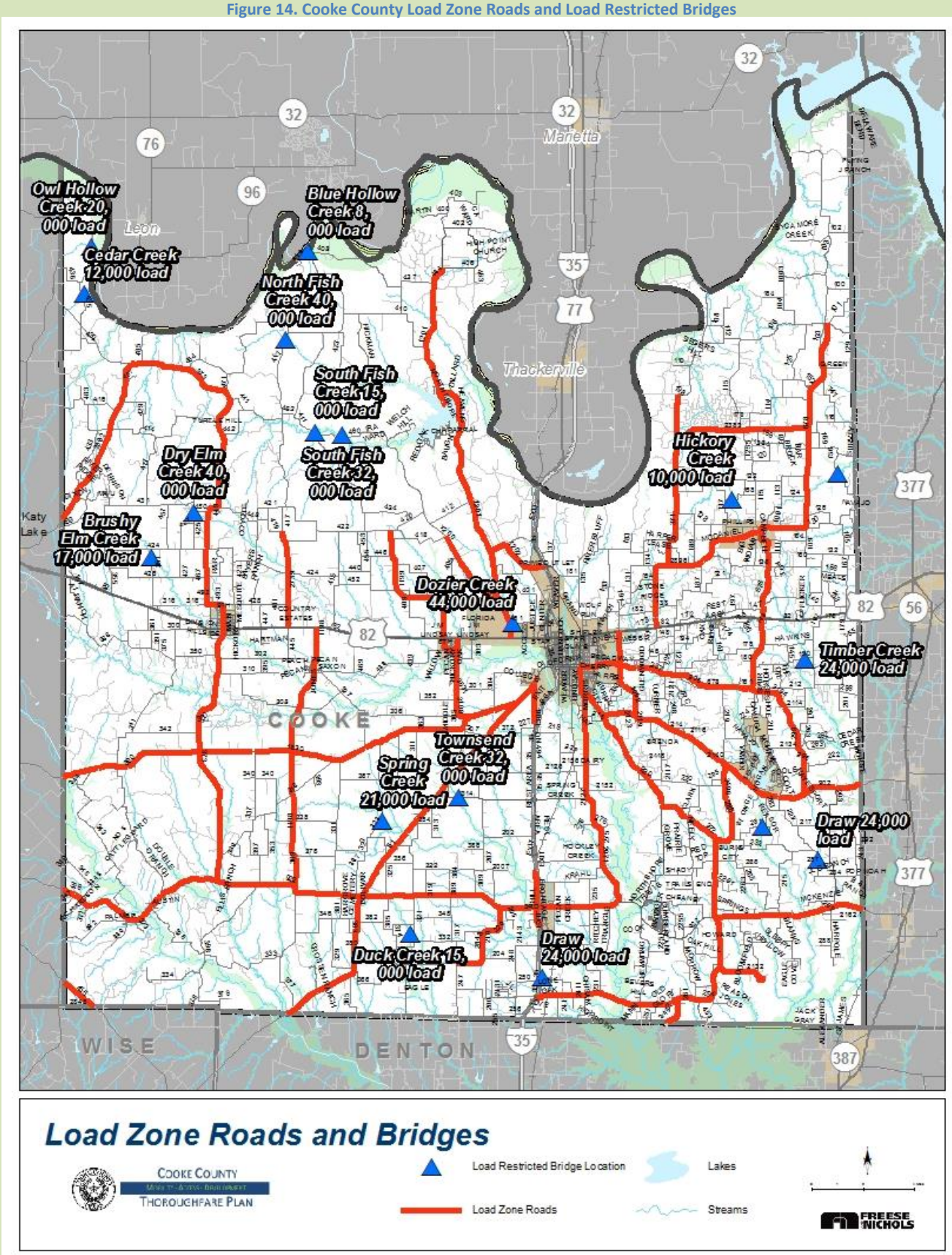
Load Zone Roads

Figure 14 maps the load zoned roadways and load restricted bridges throughout the county with gross vehicle weight (GVW) restrictions between 40,000 and 58,420 pounds. Load zone or load restricted roadways are roads, generally constructed prior to 1960, designed for lighter wheel loads than currently allowed by law. There are currently 38 Load restricted roads, including, but not limited to, FM51, FM373, FM1198, and FM922. Interestingly, the percentage of trucks on many of these roads, such as FM1198, is as high as 10 percent. The weight limits on these roads range between 2 and 22 tons.

Load Restricted Bridges

There are currently 32 bridges located within Cooke County. Of that number, 18 are included on TxDOT's list of load restricted bridges. Load restricted bridges are facilities, generally constructed prior to 1960, designed to accommodate lighter axle configurations and wheel loads than presently allowed by law. Identified load restricted bridges include, but are not limited to, the Blue Hollow Creek Bridge on CR413, which has an 8,000-pound load limit, and Brushy Elm Creek Bridge on CR351, which has a 17,000 load limit. A full list of load restricted bridges is illustrated in figure XX.

Figure 14. Cooke County Load Zone Roads and Load Restricted Bridges



Chapter 4: Growth Factors and Projected Conditions

A Travel Demand Model (TDM) is a computerized representation of a community or region's transportation system. TDMs use land use and demographic forecasts to simulate the movement of commuters throughout a transportation network under various conditions. Model results are used by transportation planners to display current network conditions and predict what impact changes to the system and/or the environment in which it operates will have on future travel demand.

Because Cooke County is not part of a Metropolotian Planning Organization with a travel demand model, TxDOT traffic projections were used as the basis to gage existing and future travel patterns and behaviors in the county. A screen line analysis was used to determine the impact of recommended roadways on the existing network. Below is a summary of the methodology used to forecast travel conditions in Cooke County.

Methodology

As mentioned above, the basis of the modeling exercise for the Cooke County Thoroughfare plan is TxDOTs travel forecasts for the County. TxDOT's network provides both existing (2013) and design year (2033) volumes - in addition to other network characteristics such as truck traffic, right-of-way, historic traffic counts, etc. This information was used to formulate both the 2013 network analysis and the 2033 existing and committed network analysis.

Identified Anticipated Growth and Development Areas

County stakeholders identified potential growth and development areas around the county. Land-uses were described by stakeholders during the planning process for new residential and commercial locations and the current thinking for general economic development. The prevailing land-use patterns were combined with growth projections from TxDOT and the Texas Water Development Board to form the functional basis a screen line analysis of traffic growth. The following development and growth characteristics we identified by county stakeholders.

- Light residential growth anticipated to the northwest, north east, and southeast of the county at large-lot subdivision densities, with an overall residential growth rate of approximately 1% for the County. Some concentrations of residential growth are anticipated in the southwest of the County.
- Gainesville is projected to have a population of approximately 19,000 and Cooke County assumed to have a population of 46,500 in 2035, based on projections by the Texas Water Development Board.
- Ongoing commercial agricultural uses and small-scale personal use agriculture throughout the County.
- Expansion of retail/commercial development along US 35, generally closer to Gainesville.
- Development of a light-industry and commercial cluster northwest of Gainesville.

Screen Line Analysis (Base Scenario)

Because the county is not included in a formal travel demand model, which utilizes travel survey or analysis zones to assign trip origins and destinations based on population and employment forecasts, a screen line analysis was conducted to understand Cooke County's traffic patterns and projected growth.

To begin the analysis, the county was divided was divided into six areas along three screen lines illustrated in **Figure 15**. Since no demographic forecasts were readily available, generally prevailing land use densities and growth patterns based on the description above were assigned to each zone. Forecasted trips were generated based on development projected in each zone and distributed along roadways intersecting the screen lines.

The link volumes of roadways were then extrapolated out 20 years using typical growth rates of 2%, which is similar to the rates used by TxDOT in statewide analysis. It should be noted that several roadways have shown historic growth rates at less than 2%, or even zero growth rates for the prior years of listed AADT reported, reflecting fluctuations or stable traffic patterns.

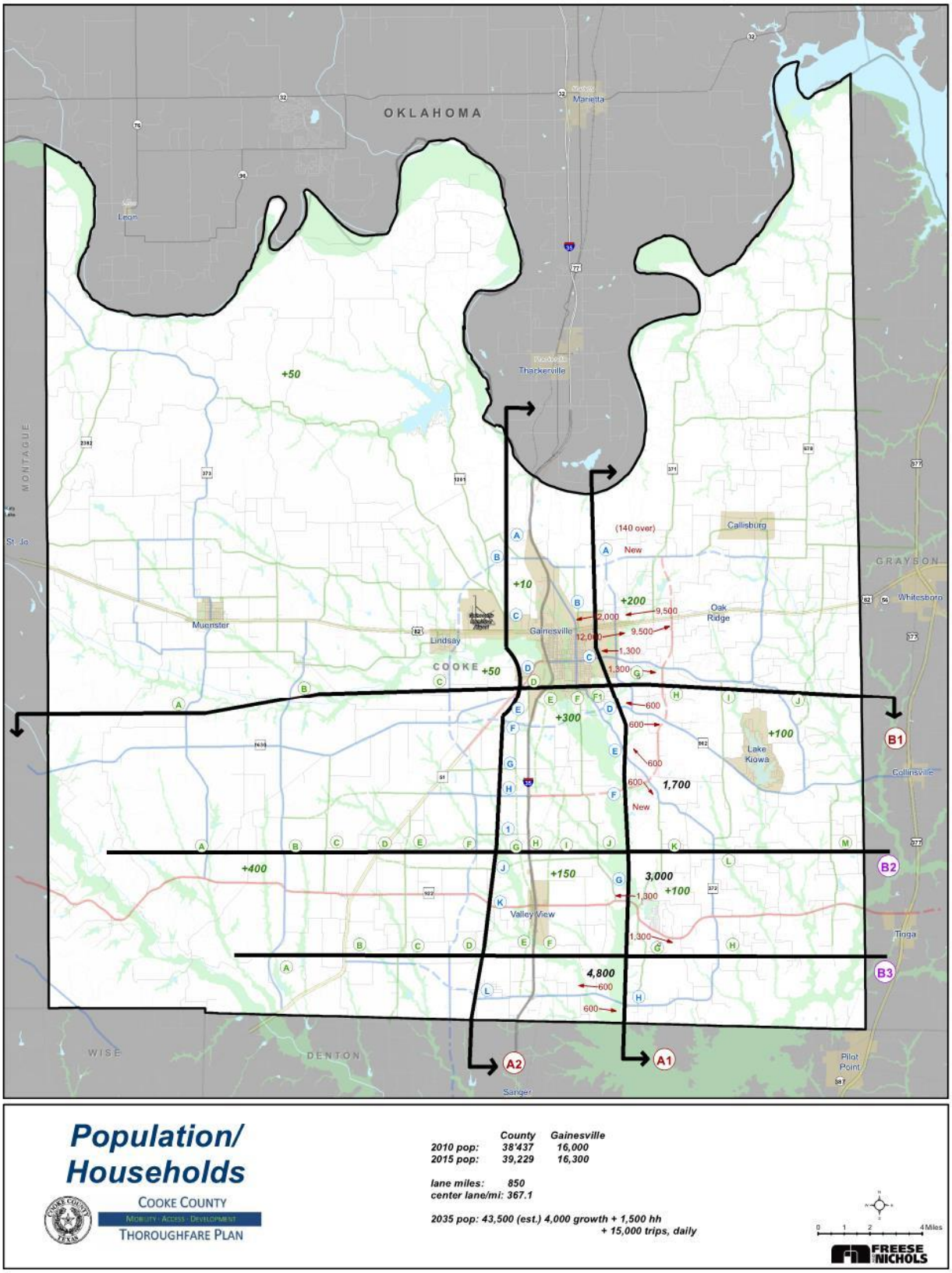
The screen line analysis was repeated with the proposed new connections from this plan, and assumed concentrations of additional development. Additional development was assumed to generate trips similar to other uses of the same type, as recorded by the Institute of Transportation Engineers (Trip Generation, 2012). Land-uses were simplified as either single-family residential, or general commercial.

Traffic distribution from the TxDOT projections was then adjusted based on assumed travel time savings from some trips using the planned connections, as well as added demand from the additional development considered, to arrive at adjusted future volumes for the plan.

Growth Factors

By looking at where growth is anticipated, and combining the information with how thru-traffic may grow, plans can better understand needs for mobility and connectivity. Future growth patterns were used as the land-use basis of the transportation analysis and long-term needs.

Figure 15. Cooke County Screen Line Analysis Map



Transportation System Alternatives

Base Scenario – 2034 Existing and Committed Network

Overall, Cooke County's existing and committed 2033 thoroughfare network operates very similar to the current 2013 network. The vast majority of the county's roads are projected to continue operating at level-of-service AB, a few segments in and around Gainesville and along IH35 are projected to reach level-of-service DE or F. The following section details the projected 2034 volumes and level-of-service in Cooke County.

Existing and Committed Network Scenario 2034 Traffic Volumes

TxDOT traffic projections were used to forecast 2034 traffic conditions in Cooke County. Given the relatively small population and employment increases projected for the county in the next 20 years (_____), 2034 traffic conditions are projected to be very similar to 2014 base conditions in terms of traffic volumes. For instance, the highest volumes within the county are projected along IH35 and US82. Volumes along IH35 are projected to range between 37,000 and 65,000; US82 volumes are forecasted from as low as 7,000 vehicles per day to as high as 40,000 vehicles per day. **Figure 16** provides an illustration of projected traffic volumes in the 2034 existing and committed network.

Existing and Committed Network Scenario 2034 Level-of-Service

As mentioned above, the majority of the roadways in the county currently operate at level-of-service A. This holds true in the 2043 Existing and Committed network as well with the exception of a few corridors projected to worsen in terms of traffic congestion. According to TxDOT projections, segments of five roadways are projected to operate at level-of-service F in 2034: California Street, Grand Avenue (FM372), US82, FM678, and the IH35 Frontage Road.

California Street, located in historic downtown Gainesville, is projected to carry as many as 28,000 vehicles per day in 2034, which is well above the roadways capacity. The roadway, however is limited to only two lanes due to right-of-way constraints caused by adjacent downtown businesses. The segment of Grand Avenue running north of US82 to the IH35/ Corporate Drive intersection is currently a two (2) lane facility projected to carry about 12,700 vehicles in 2034. The roadway, currently located within 150 feet of right-of-way, is not constrained by any impediments and can be expanded to three (3) or four (4) lanes to accommodate the

projected traffic. The segment of Grand Avenue between Main Street to Leach Street is also projected to carry about 12,000 vehicles per day in the 2034 existing and committed network. Despite being constrained to only 80 feet of right-of-way, this segment of Grand Avenue currently includes two (2) lanes and on street parking.

There may be an opportunity to remove the existing on street parking lanes to add additional capacity. The segment of US82 between Nortman Drive and IH35 was identified as one of the most congested areas within the county; the projected traffic volumes for the corridor support this assertion. The roadway, currently a four (4) lane facility within right-of-way varying from 100 to 200 feet, is projected to accommodate roughly 36,000 vehicles per day in 2034. High traffic volumes and numerous turning movements are major contributors to the congestion along the corridor. Details on each segment operating at level-of-service D or below are available in **Table 9. Figure 17** illustrates county wide level-of-service in the 2034 existing and committed network.

Table 9. Cooke County 2034 Level-of-Service D-F Roadways

Roadway	Segment	2014 Volume	2014 LOS	2034 Volume	2034 LOS
Radio Hill (FM3092)	Broadway to US82	4,219	AB	6,269	C
Broadway (FM678)	Rosedale Drive to Radio Hill Rd	4,354	AB	8,664	D
Grand (FM372)	US82 to California St	11,713	C	17,405	D
Grand (FM372)	Lanius St to Anthony St	4,231	AB	8,419	D
IH35	Corporate Dr to Old Sivells Bend	33,690	AB	59,677	D
US82	Gainesville East City Limits to Grayson County Line	18,323	E	27,234	E
FM51	FM1630 to College Ave	4,322	AB	9,955	E
US82	Nortman to IH35	24,282	E	36,085	F
US82	IH35 to East Gainesville City Limits	23,090	E	34,311	F
Grand (FM372)	Main St to Leach St	8,045	D	11,954	F
Grand (FM372)	US82 to IH35	7,454	AB	16,145	F
California Street (FM51)	Sanitary Way to IH35 Service Rd	6,314	C	12,252	F
California Street (FM51)	Culberson St to Denton St	13,991	F	27,839	F
California Street (FM51)	Denton St to Grand Ave	10,329	E	15,348	F
IH35 Service Road (NB)	US82 to California St	11,454	F	16,035	F
IH35 Service Road (SB)	US82 to California St	10,884	F	15,237	F

Figure 16. Cooke County 2034 Existing and Committed Network Traffic Volumes

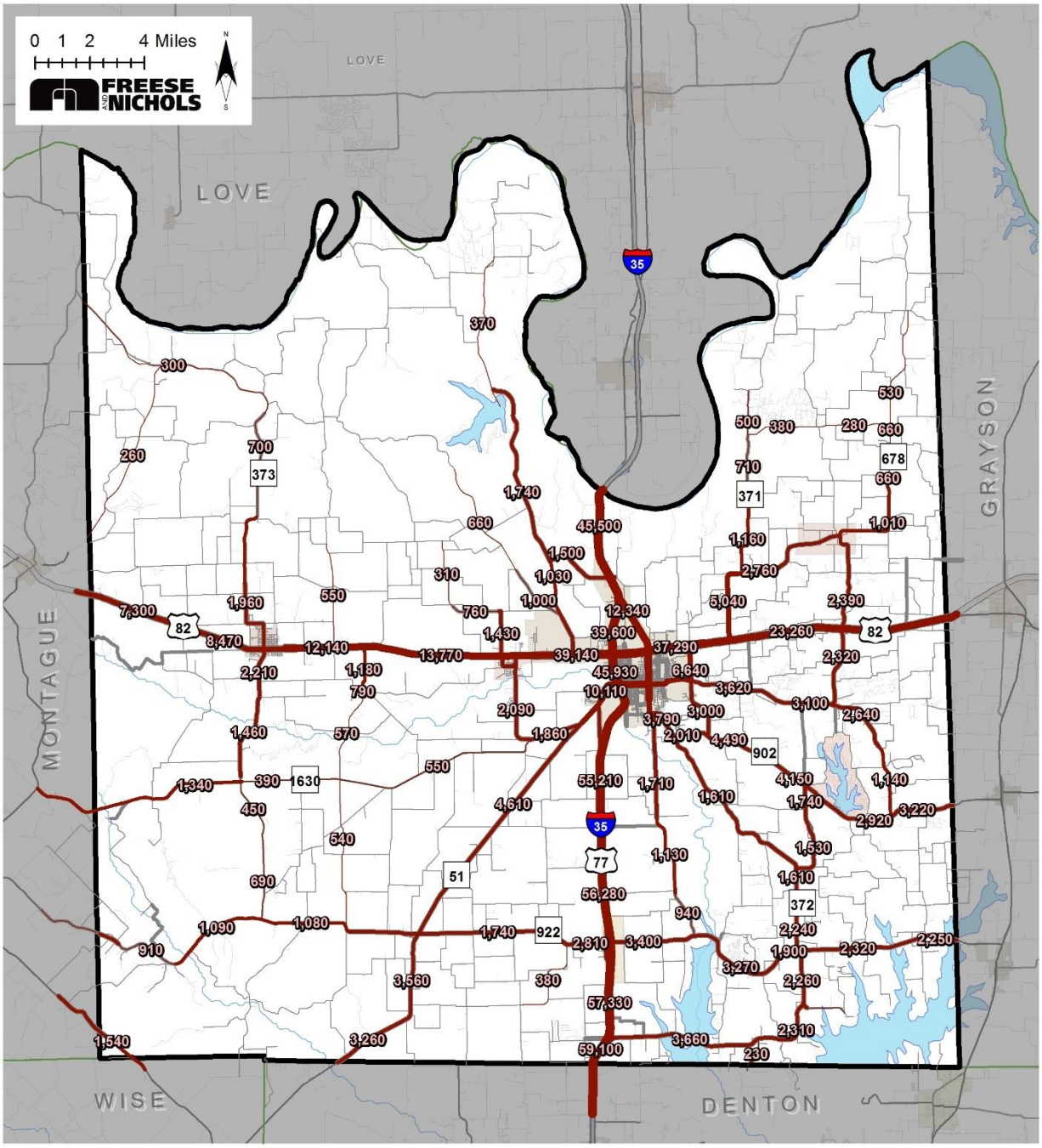
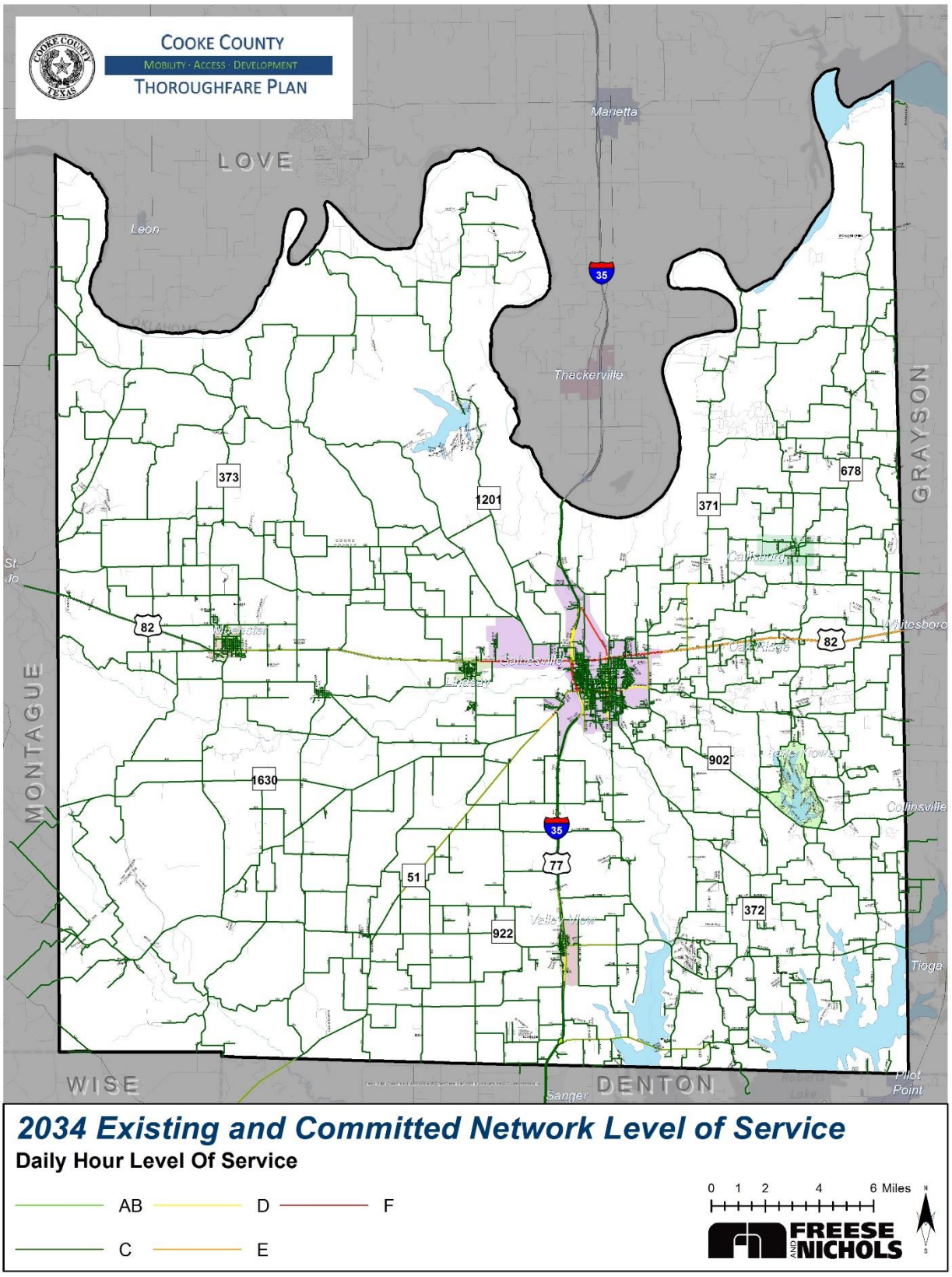


Figure 17. Cooke County 2034 Existing and Committed Network Level-of-Service



2034 Recommended Network Scenarios

The primary goal of the 2034 recommended thoroughfare network is mobility. The plan seeks to improve mobility within the county by developing more contiguous north to south and east to west corridors and filling in network gaps between county destinations and major transportation links. The following network was developed to improve overall mobility within the county. The desired effect of the recommended improvements is a more safe and efficient thoroughfare network that facilitates economic development throughout the county and meets the transportation needs of all users. Details on each recommended improvement is available in **Chapter 7.**

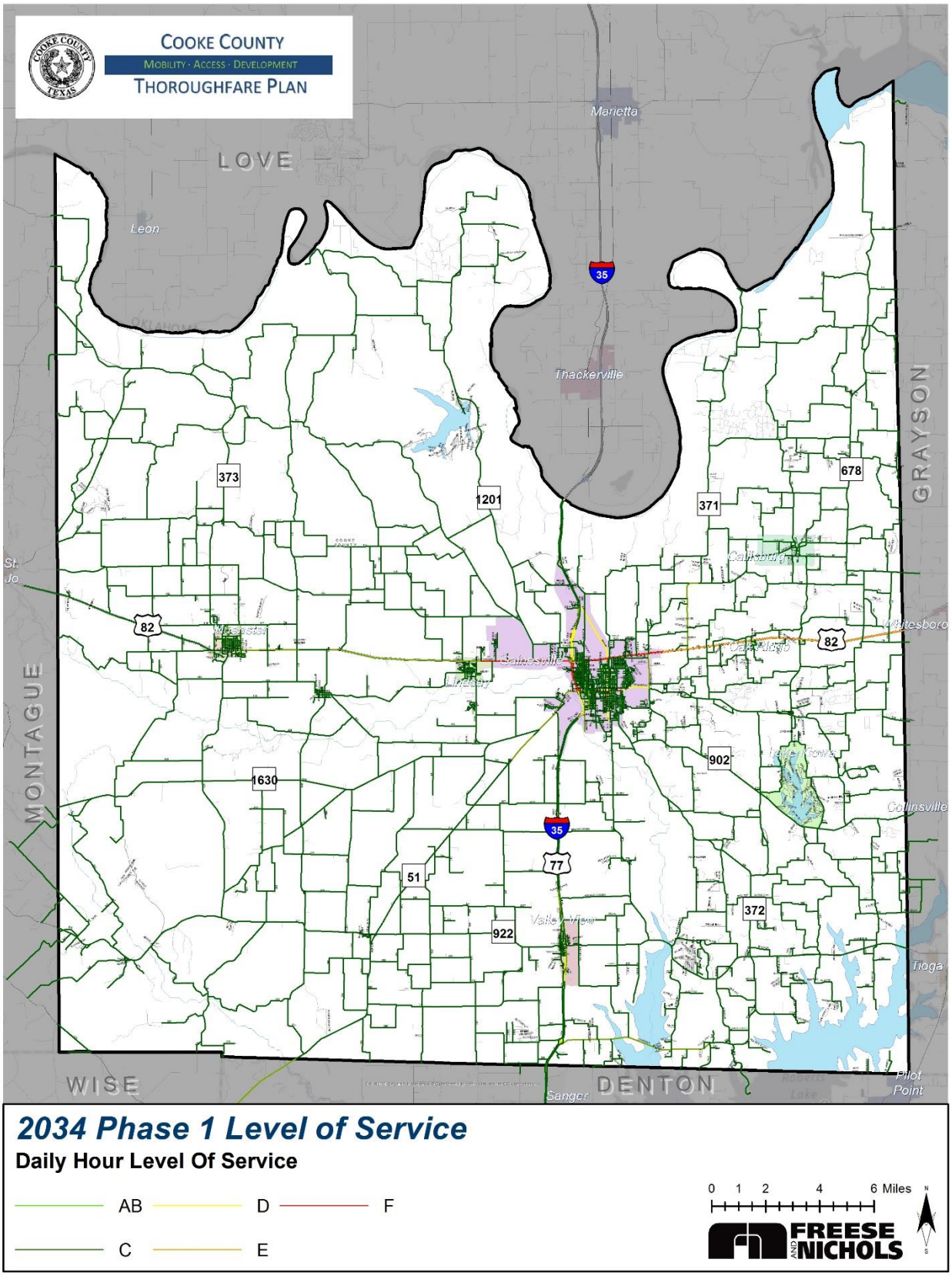
Network Analysis

A two-phased approach was developed to assess and construct the 2034 recommended thoroughfare network. Using TXDOT's existing and committed 2034 network, Phase one focused primarily on capacity, and included several capacity improvements such as lane additions, shoulders, and functional classification improvements. Phase two of the analysis examined the impact of proposed new roadway alignments on the network.

Phase One Network Analysis

As mentioned above, phase one of the network analysis examined the impact in increasing capacity and upgrading the functional classification of a several key roadways within TXDOT's 2034 existing and committed network. Higher capacity roadways not only improve the flow of traffic throughout the county, but are better suited for more intense land uses such as entertainment and retail centers that put a higher strain on the roadway network as well. **Table 10** provides a description of Phase One network improvements.

Figure 18. 2034 Phase One Daily Level-of-Service



Phase One Improvement Impacts

Overall, lane additions and functional classification upgrades had little effect on the transportation network, as the vast majority of the roadways in the 2034 existing and committed network operated at level-of-service AB. The impact, however, was substantial to many of the roadways operating at a poor level of service. FM51, between FM1306 and FM1630, is currently projected to carry over 12,000 vehicles per day in 2034 and operate at level-of-service E. Widening the roadway to three (3) lanes will decrease the level-of-service to C.

Similarly, widening grand Avenue (FM372) from two (2) to four (4) lanes between US82 and IH35 will reduce the projected 2034 level-of-service from F to D. Many other poor performing road segments, such as the southern segment of Grand Avenue, (between California Street and Lanius street) cannot be widened due to right-of-way constraints. The impact of the Phase 1 improvements on Cooke County's transportation network is illustrated in **Figure 18.** Additional details on these projects area available in C**hapter 7.**

Table 10. Cooke County Phase 1: Recommend Lane Additions

Roadway	Limits	Functional Class	Existing Lanes	Current 2034 LOS	Rec. Lanes	Phase 1 LOS
FM51	FM1306 to FM1630	Principal Arterial	2	E	3	C
FM51	FM3108 Extension to CR325	Regional Arterial	2	C	4	AB
FM922	FM51 to IH35	Principal Arterial	2	AB	4	AB
Grand Avenue	US82 to IH35	Minor Arterial	2	F	4	D
CR2121 (Loop)	CR162 to US82	Principal Arterial	2	AB	4	AB
E Spring Creek (Loop)	IH35 to CR2127	Principal Arterial	2	AB	4	AB
FM1630	FM51 to CR306	Minor Arterial	2	AB	3	AB
CR207	CR307 to CR207 Realignment	Minor Arterial	2	AB	3	AB
FM922	IH35 to Grayson County Line	Principal Arterial	2	C	3	AB
Broadway	IH35 to Grayson County Line	Minor Arterial	2	D	2	D

Phase Two Network Analysis

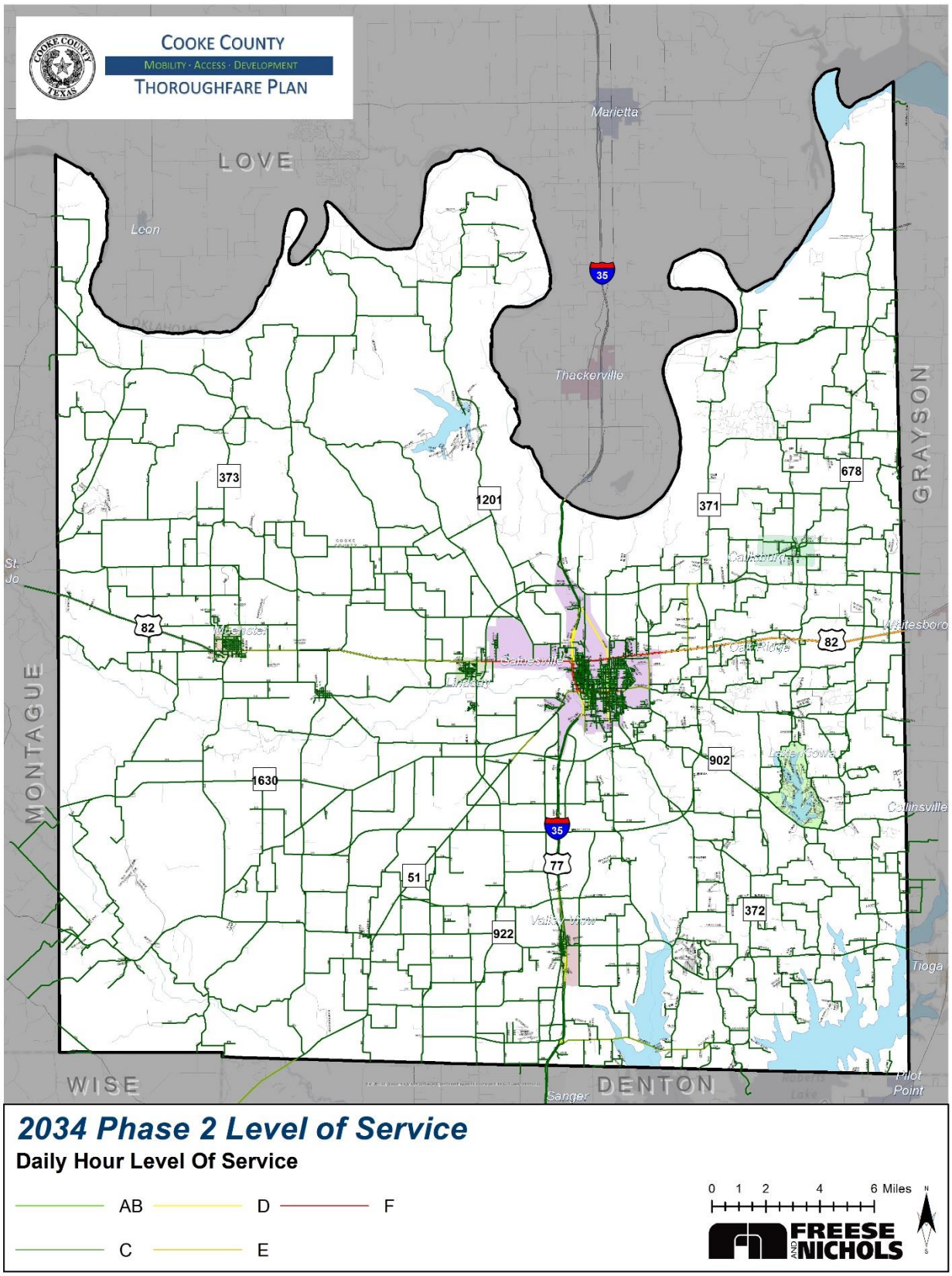
Phase two of the network analysis adds to the results of the phase one analysis by examining the impact of adding several recommended roadway alignments on TXDOT's 2034 existing and committed network for Cooke County. The recommended alignments were geared towards improving mobility in the county by filling-in gaps in existing network connections and creating more contiguous connections throughout the thoroughfare network. In addition to recommended connectivity improvements, a county loop was proposed to reduce the level of congestion through the city of Gainesville, and improve overall mobility within the county. The recommended new alignments, detailed in **Table 11**, were added to Cooke County's thoroughfare network in Phase Two of the network analysis. A screen line analysis was used to estimate the

volume and level-of-service of the proposed alignments and to determine to long-term impacts of the alignments on the overall network. **Figure 19** illustrates the impact of the Phase Two network improvements to level-of-service in Cooke County.

Table 11. Cooke County 2034 Phase Two Network Additions

Roadway	Limits	Lanes	ROW	Volume	LOS
CR116 Extension	CR118 to CR141	2	80'-100'	306	AB
CR191 Extension	CR131 to CR133	2	80'-100'	80	AB
Lone Oak Rd Extension	CR321 to CR200	2	100'-120'	3,100	AB
CR2007 Extension	CR207 to IH35	2	80'-100'	280	AB
CR227 Extension (Backage)	CR2070 to Lone Oak Rd	2	80'-100'	1,800	AB
CR227 Realignment	FM902 Extension to FM1306	2	80'-100'	3,300	AB
CR247 Extension	CR332 to FM922	2	100'-120'	130	AB
CR297 Realignment	CR312 to FM3164	2	80'-100'	170	AB
CR314 Extension	CR338 to CR323	2	80'-100'	60	AB
CR441 Realignment	CR442 to FM373	2	80'-100'	80	AB
CR439 Extension	to CR409	2	80'-100'	210	AB
FM902 Extension (West)	FM372 to CR218	3	100'-120'	4,700	AB
FM902 Extension (East)	CR312 to IH35	3	100'-120'	3,400	AB
Pecan Creek Extension	Spring Creek Dr to Krahl Rd	3	80'-100'	1,800	AB
CR181 Extension (Loop)	CR135 to CR131	4	100'-120'	80	AB
CR2121 Extension (Loop)	FM678 to CR162	4	120'	950	AB
FM3108 Extension (Loop)	CR306 to CR312	3	100'-120'	3,600	AB
E Spring Creek Extension (Loop)	FM2071 to CR2117	4	120'	7,000	AB
New Street C (Loop)	FM 1202 to FM3108	3	100'-120'	5,100	AB
FM371 Extension (Loop)	FM2896 to CR123	4	120'	1,472	AB
New Street A (Backage)	Spring Creek Rd to IH35	2	80'-100'	2,900	AB
New Street B	FM2896 to CR136	2	100'-120'	220	AB

Figure 19. 2034 Phase Two Network Level-of-Service



Phase Two Network Improvement Impacts

When coupled with the network improvements from Phase One of the network analysis, Phase Two improvements had a small impact on Cooke County's network in terms of level-of-service and volumes. There were, however, a few roadways impacted by the network additions. Level-of-service along the segment of FM51 between FM1306 and FM1630 was projected to operate at level-of-service AB, compared to level-of-service C, with the addition of the southwest portion of the Cooke County Loop. The level-of-service on the segment of Broadway Street between Radio Hill Road and Line Drive improved from level-of-service D to C. Projected volumes were reduced from 8,600 to 6,000 with traffic shifting to the recommended Spring Creek Extension and the recommended eastern segment of FM902.

Table 12. 2034 Network Scenario Level-of-Service Comparison

Roadway	Limits	Existing and Committed 2034 LOS	Phase 1 2034 LOS	Phase 2 2034 LOS
FM51	FM1306 to FM1630	E	C	AB
FM51	FM3108 Extension to CR325	C	AB	AB
FM922	FM51 to IH35	AB	AB	AB
Grand Avenue	US82 to IH35	F	D	D
CR2121 (Loop)	CR162 to US82	AB	AB	AB
US82	Nortman to FM1201	D	F	F
US82	FM1201 to Radio Hill	E	F	F
US82	Radio Hill to FM371	D	E	
FM1630	FM51 to CR306	AB	AB	AB
CR207	CR307 to CR207 Realignment	AB	AB	AB
FM922	IH35 to Grayson County Line	C	AB	AB
Broadway St (FM672)	Line Dr to Radio Hill Rd	D	D	C

Chapter 5: Transportation Planning

The process of developing a thoroughfare plan involves balancing the existing supply of infrastructure with the projected needs of the future. The previous chapter identified the process of using the technical analysis to generate thoroughfare results. These future needs help to determine how much vehicle capacity is required and what multi-modal elements should be considered such as walking bike or riding transit. Included in each functional classification recommendation is also the amount of required right-of-way that is needed as the thoroughfares are built, widened or as development occurs. Preserving the ROW is an important part of the plan for the Cooke County.

Thoroughfare Plan

Cooke County's transportation network is built on traditional thoroughfare planning concepts, which focus on functionality in providing mobility and accessibility for vehicular traffic, as well as accommodations for future transit and non-motorized forms of transportation.

Recommended County Functional Street Classification

The functional classification system developed for the Cooke County Thoroughfare Plan was designed to not only accommodate existing and projected roadway capacity demands, but to preserve right-of-way for future roadway needs. The following street section were developed with input from the Cooke County Commissioners Court, the Plan Visioning Committee, and a number of other Cooke County Cities and stakeholders. Detailed descriptions of the recommended functional classifications are available below and in **Table 13.**

Recommended Functional Classifications

- Freeway/ Highway
- Regional Arterial
- Principal Arterial
- Minor Arterial
- Collector

Thoroughfare Design Considerations

Table 13. Cooke County Recommended Functional Classification and Design Standards

Functional Classification	Area Type	Lanes*	Spacing Miles	ROW	Pavement Width (feet)	Design Speed (mph)	Median
Freeway/ Highway		4 to 8		400' - 500'			Yes
	Rural	4	1	160'	2@36	45-55	Yes
	Urban	4	1	160'	2@24	45-55	Yes
	Rural	6	1	250’	2@48	45-55	Yes
Regional Arterial AA	Urban	6	1	250’	2@36	45-55	Yes
	Rural	2	1	120'	40	35-45	Yes
	Urban	2	1	120'	40	35-45	Yes
	Rural	4	1	120’	2@36	45-55	Yes
Principal Arterial A	Urban	4	1	120’	2@24	45-55	Yes
	Rural	2	½	100'	40	30-35	No
	Urban	2	½	100'	24	30-35	No
	Rural	4	½	120’	2@36	30-35	No
Minor Arterial B	Urban	4	½	120’	2@24	30-35	No
	Rural	2	½	80'	40	30-35	No
	Urban	2	½	80'	24	30-35	No
	Rural	3	½	100’	52	30-35	No
Collector C	Urban	3	½	100’	36	30-35	No

*Lane additions are not recommended for implementation until warranted by development or congestion.

Freeway/Highway

Freeways are designed for long distance travel with a high level of mobility and very limited land access. The only freeway currently in the county is IH35, which runs north to south through the county. Lane numbers vary for highway facilities between found (4) and six (6) lanes, and freeways have up to eight (8) lanes. According to TxDOT schematics, IH35 will be widening to eight (8) lanes.

Regional Arterials

Regional arterials facilitate trips between cities and major destinations at high levels of mobility. Examples of Regional arterials include US82, which connect the cities of Muenster, Lindsay, and Gainesville, and the southern segment of FM51 which connects Gainesville to Era and the future development triangle between Gainesville, Era, and Valley View. Regional arterials are recommended to include four (4) to six (6) 12-foot lanes within 120 to 250 feet of right-of-way. Regional Arterials are illustrated in **Figure 20** and **Figure 21**.

Figure 20. Recommended Four-Lane Regional Arterial Cross Section

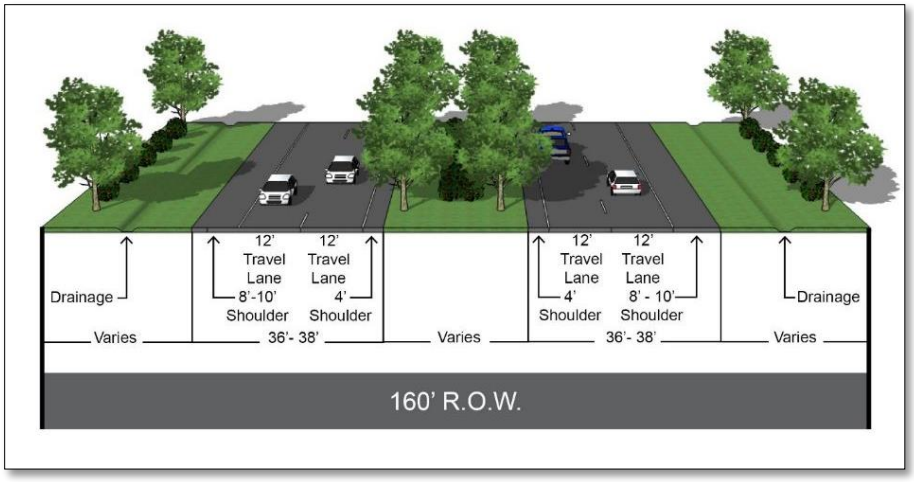
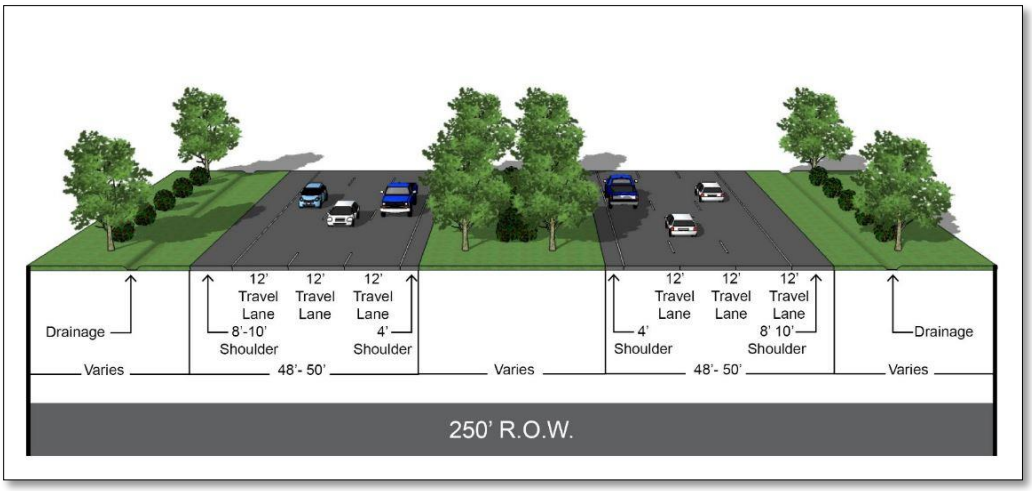


Figure 21. Recommended Six-Lane Regional Arterial Cross Section



Principal Arterials

Principal arterials are Ideal for long distance trips and handling large volumes of traffic at a high level of mobility. Examples of principal arterials include FM922, which provides a southern east to west route across the county, and the eastern segment of the Cooke County Loop, which will provide a connection around Gainesville. Principal arterials are recommended to include two (2) to four (4) 12-foot lanes within 120 feet of right-of-way. Principal arterials are illustrated in **Figure 22**and **Figure 23**.

Figure 22. Recommended Two-Lane Principal Arterial Cross Section

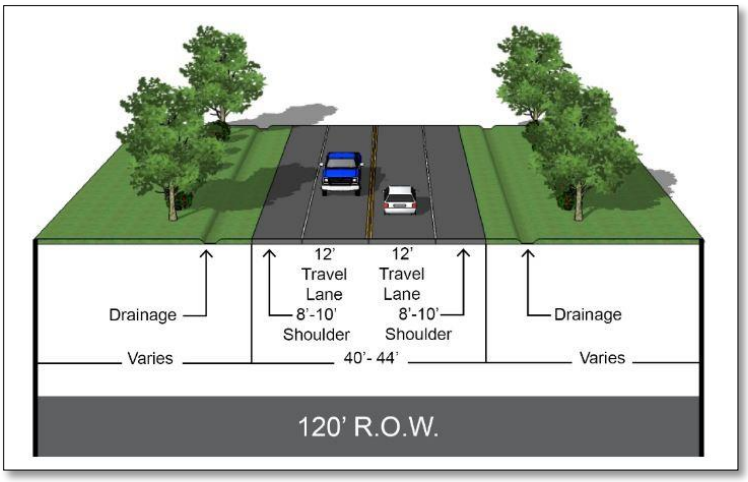
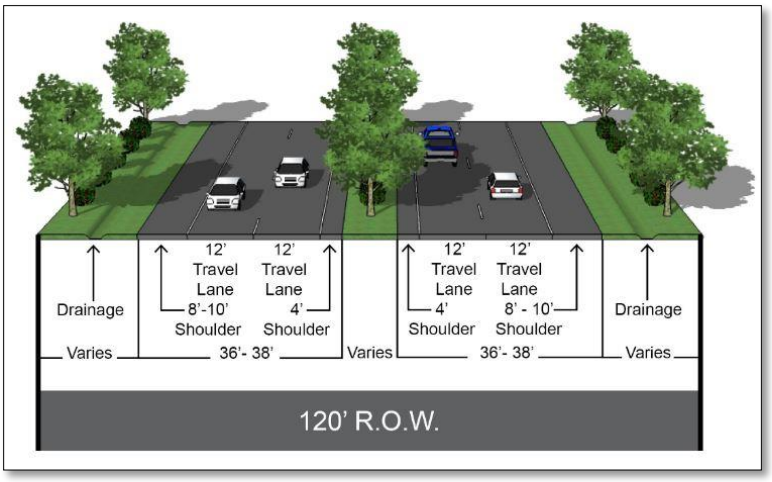


Figure 23. Recommended Four-Lane Principal Arterial



Minor Arterials

Minor arterials accommodate moderate traffic volumes at relatively low speeds and provide a link between principal arterials and collectors. Examples of minor arterials include FM1198, which travels north to south through Myra to connect US82 to FM922 and FM373, which provides a north to south connection through western Cooke County. Minor arterials are recommended to include two (2) to four (4) 12-foot lanes within 100 feet to 120 feet of right-of-way. Minor Arterials are illustrated in **Figure 24**and **Figure 25**.

Figure 24. Recommended Two-Lane Minor Arterial Cross Section

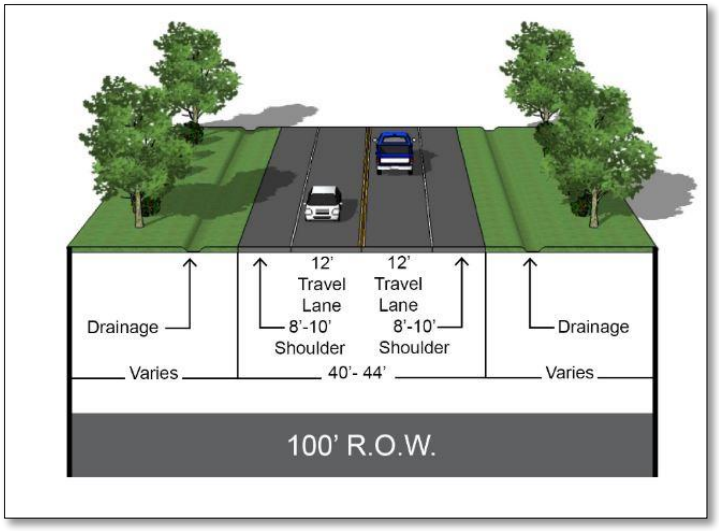
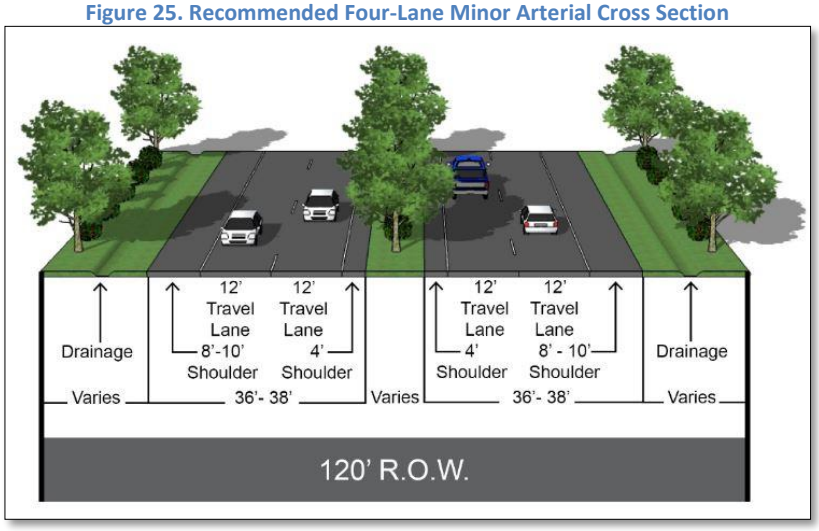


Figure 25. Recommended Four-Lane Minor Arterial Cross Section



Collectors

Collectors are Designed for short trips and low speeds, and primarily connect trips to higher functional class facilities. Examples of collectors in the county include Old Denton Road which makes a connection between the FM1630 Extension and the southeast segment of the County Loop, and CR331, which provides a north to south connection between FM1630 and FM922. Collectors are illustrated in **Figure 26** and **Figure 27**.

Figure 26. Recommended Two-Lane Collector Cross Section

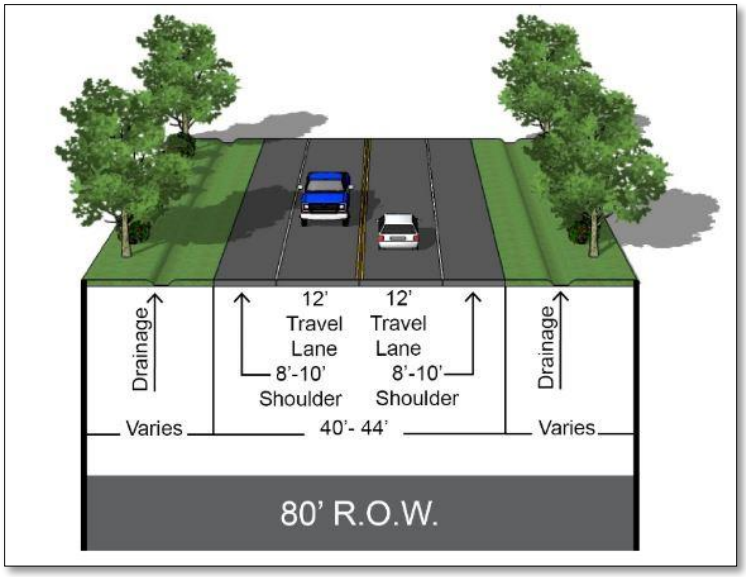
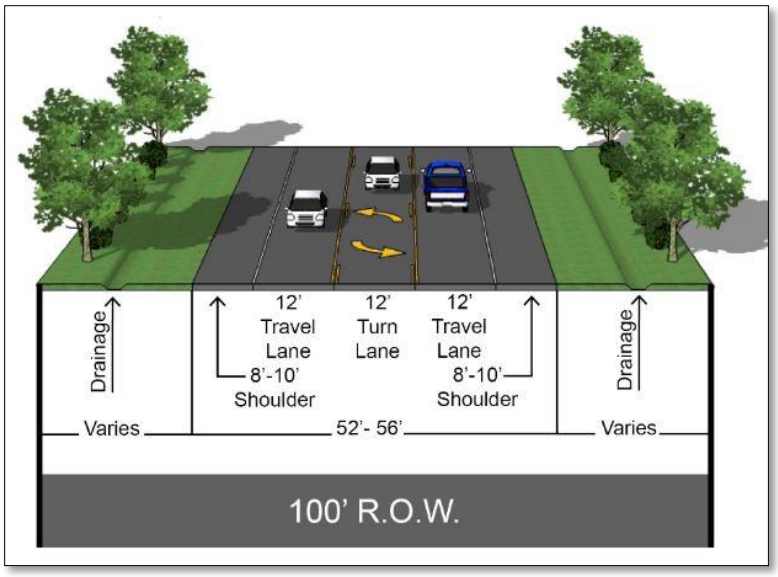


Figure 27. Recommended Three-Lane Collector Cross Section



Access and Corridor Management Standards

Access management refers to the practice of coordinating access connection points onto a roadway by considering specific design criteria for the location, spacing, design and operation of driveways, median openings and intersections. Generally, as the mobility and capacity of a roadway increase, the access on a specific facility is decreased in order to maintain the roadway efficiency and maintain traffic safety. The goal of access management is to safely balance access to land development while maintaining efficiency of the transportation system.

Under current roadway conditions, Cooke County has few roads with access management issues. In fact, US82 was the only roadway stakeholders identified within the county with access management issues. Access management, however, may become a larger issue as development occurs. Potential commercial corridors, such as FM51 and FM922 many need access management tools to accommodate future capacity demands.

Access management provides a significant benefit to the mobility and function of the roadway, and more importantly, reduces the potential for accidents by minimizing speed differentials between vehicles and turning movements. Research has shown that accident rates increase consistently with an increase in the number of roadway access points, while accident rates decrease with the construction of raised medians and controlled signalized cross access.

What is Access Management?
Access management limits the number of driveways and turning movements to improve corridor safety and reduce congestion.

Other benefits of access management include:

- Improving safety conditions
- Reducing traffic congestion and delay
- Aesthetically improving corridors
- Providing safe access to/from adjacent development
- Creating a more pedestrian friendly environment

Access and Corridor Management Strategies

A number of strategies can be used to manage traffic along arterial and freeway frontage roads. The following strategies are designed to mitigate congestion and facilitate a more balanced land use and transportation connection.

Access Connection Spacing

Access connections are facilities for entrance and/or exit from a roadway such as a connecting street (intersection) or driveway. They have a major impact on the relative flow of traffic through a corridor. It is not only based on the distance between intersections, but the speed in which commuters travel through a corridor. As mentioned above, speed differentials can have a negative impact on level-of-service in a corridor.

Proper intersection spacing can limit speed differentials and improve traffic flow within a corridor. **Table 14** details TxDOT's recommended access connection spacing for state managed (off-system) facilities below the freeway functional classification. These recommendations can be applied to non-state managed (off-system) roadways as well.

Table 14. RECOMMENDED ACCESS CONNECTION SPACING

	Minimum Connection Spacing (Feet)		
Speed Limit (mph)	**State Facilities***	**One-Way Frontage Road**	**Two-Way Frontage Road**
≤30	200	200	200
35	250	250	300
40	305	305	360
45	360	360	435
≥50	425	425	510

*Precludes new highways on new alignments, freeway mainlines, and frontage roads.

Auxiliary Lanes

Auxiliary lanes are designed to facilitate turning movements outside the general flow of traffic. Rather than commuters turning right or left from the main lanes, traffic is funneled to an auxiliary right or left turning lane or entrance ramp. This reduces the number of speed differentials in the corridor by separating the slowing or halting traffic from the main lanes. Turn lanes are usually installed at busy intersections or the entrances of major traffic generators. In addition to providing a separate lane for right and left turning traffic, raised turn lanes can provide a pedestrian refuge and reduce traffic accidents. Auxiliary lanes would also be beneficial and improve access along constrained corridors, such as SH34 through the city of Oak Point, where additional capacity for turning and passing is needed to improve safety and projected congestion.

Median Improvements

A median is right-of-way designated for the space between opposing directions of traffic on a divided roadway. Depending on the roadway setting, medians can be striped, raised (with a curb), and/or landscaped, and range can vary in width. Medians improve safety and traffic operations by physically separating traffic and/or providing a shelter for roadway crossing. Where access is needed, directional median openings can be used to restrict some turning movements while simultaneously improving access for others.

Signalized Intersection Spacing and Timing

Signalized intersections, if properly timed, can significantly reduce the start and stop traffic along a corridor. Too many intersections in a short span and/or poor signal timing, however, can cause delays and headaches for drivers. According to TxDOT access management guidelines, every traffic signal added per mile reduces travel speeds 2 to 3 mph. This can lead to serious corridor congestion and delays.

Table 15. TRAVEL TIME INCREASE PER TRAFFIC SIGNAL

Signals Per Mile	Percent Increase in Travel Time (Compared to 2 Signals per mile)
2	0
3	9
4	16
5	23
6	29
7	34
8	39

Source: TXDOT Access Management Manual, 2011

Table 15 describes the increase in travel time for every traffic signal added within a mile span. Increasing from two (2) to three (3) traffic signals can increase travel time nine percent. If multiple traffic signals are warranted within a short span along a corridor, signal maintenance and timing should be prioritized to ensure efficient traffic movement. To improve traffic signal optimization, Kaufman County and its Cities should develop traffic timing plans to interconnect traffic signals along key commercial corridors, such as SH205 and FM548. According to the Federal Highway Administration (FHWA), every dollar invested in traffic signal optimization saves $40 in time and fuel savings.

Shared Access or Consolidated Parking
Shared access allows multiple adjacent businesses to utilize a single parking entrance. This improves congestion by reducing the number of turning movements within a corridor, and facilitates a more pedestrian friendly environment.

Chapter 6: Implementation and Recommendations

Although the majority of Cooke County's 2033 existing and committed thoroughfare network operates at a relatively high level of service – experiencing little to no congestion, mobility is still limited by the lack of connectivity throughout the thoroughfare network. The following recommendations were developed to improve connectivity and mitigate issues and needs identified by county stakeholders during the thoroughfare planning process.

Recommended Critical Network Projects

Recommended critical network projects were divided into the following categories:

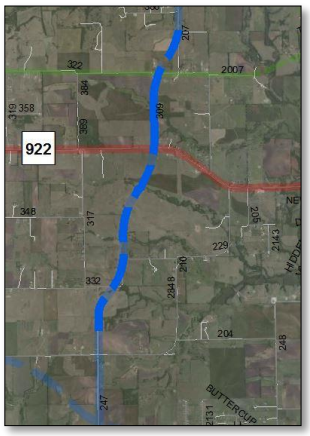
- Roadway Extensions and New Alignments
- Roadway Realignments
- Maintenance Improvements
- Bridge Improvements

Roadway Extensions and New Alignments

As mentioned above, Cooke County's thoroughfare network is limited by its lack of connectivity. A number of new alignments and roadway extensions were added to the network to improve connectivity and open up new areas around the county for development. The following section provides a summary of roadway extension and new alignments recommended for the Cooke County thoroughfare network. A complete list of new roadways extensions and new alignments is available in **Table 16**.

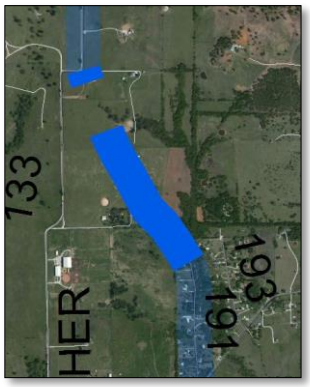
CR207/CR247 Connection

The CR207/ CR247 completes a southern extent of the north to south connection running parallel to IH35 between the Zodiac Airport, FM51, FM922, the CR200 Extension and down into Denton County. This alignment will provide a pivotal alternative north to south connection through the county during the IH35 widening and an improve overall connectivity in central Cooke County. The alignment will be a 2-4 lane minor arterial in 120 feet of right-of-way.



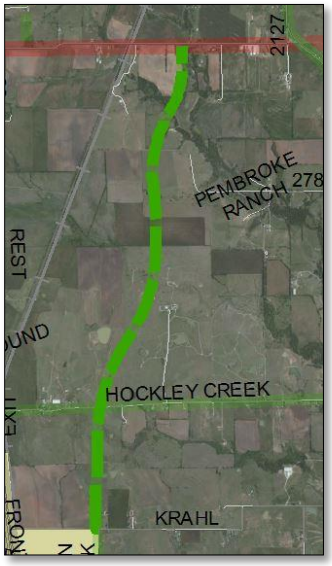
CR191 Extension

The CR191 Extension completes a small but essential connection between US82 and the CR181 Extension (Part of the Cooke County Loop). The alignment not only provides a north to south connection, but improves the framework for development north of Gainesville. The roadway is recommended to function as a two (2) to four (4) lane minor arterial in 100 to 120 feet of right-of-way.



Pecan Street Extension

The Pecan Creek Extension extends Pecan Creek north to Spring Creek. The alignment will provide an important backage road parallel to IH35, connecting FM922 to Spring Creek Dr. The alignment will also open the area east of the BNSF rail line for development. The extended roadway is recommended to be two (2) to three (3) lane collector facility in 80 to 100 feet for right-of-way.



CR200 Extension

The CR200 Extension realigns and extends CR200 to CR336. The alignment will provide a direct east to west connection from IH35 to FM51 in southern Cooke County and add to the development framework around the IH35 corridor. The roadway is recommended to be a two (2) to four (4) lane minor arterial in 100 to 120 feet of right-of-way.

Thoroughfare Plan Implementation Recommendations

New Street A

New Street A is a north to south backage road just east of IH35. The alignment stretches between Gainesville and Spring Creek Dr, providing alternative access to the proposed Cooke County Loop and opening the area south of Gainesville for development. The recommended roadway will be a two (2) to four (4) lane minor arterial.

CR116 Extension

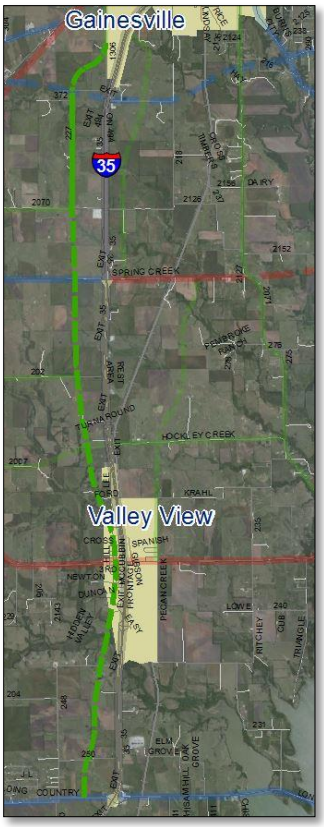
The CR116 Extension completes an east to west connection between CR116 and FM2838. Once complete, the recommended roadway will provide a direct link between FM371 in northern Cooke County to US77 in Grayson County. This connection will open up access in the northeast sector of the county and provide alternative access to employment and retail venues in Collin County. The recommended alignment will be a two (2) to three (3) lane collector within 80 to 100 feet of right-of-way.

FM902 Extension

The FM902 Extension provides a pivotal east to west connection just south of Gainesville between FM1630 and FM372. The roadway will enhance the undeveloped area south and southwest of Gainesville and provide a seamless alternative route across the IH35. The recommended roadway will be a two (2) to four (4) lane minor arterial within 100 to 120 feet of right-of-way.

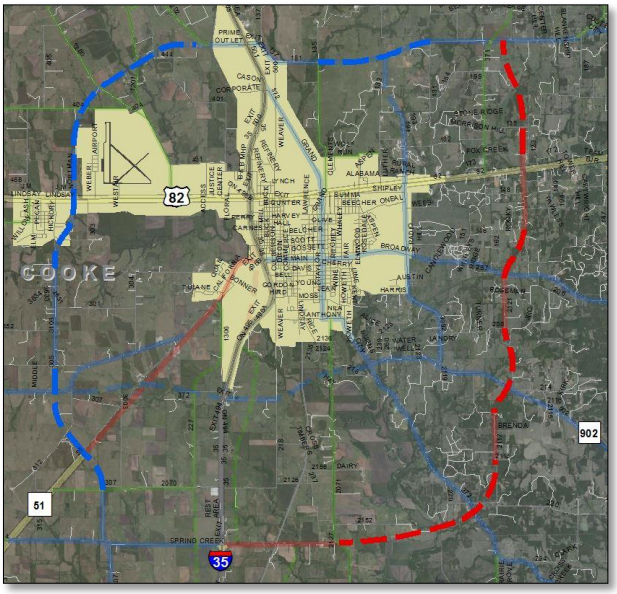
CR227 Extension

The CR227 extension is a north to south backage road just went of IH35 running from FM1306 in Gainesville to Lone Oak Road in southern Cooke County. The recommended northern extension stretches from the FM902 Extension to FM1306; the southern extension stretches from CR2070 to Lone Oak Rd. The roadway will not only provide a reliever route for IH35, but may provide development opportunities just west of IH35 where the land has gone largely undeveloped. The recommended alignment will be a two (2) to three (3) lane collector facility within 80 to 100 feet of right-of-way.



Cooke County Loop

The recommended Cooke County Loop will be an approximately 40-mile loop located in the central Cooke County around Gainesville. The loop will not only open up many undeveloped areas around the county for development, but will provide valuable connections around the county to avoid and relieve congestion in Gainesville and along US82. The loop will relieve congestion on US82 in Gainesville by redirecting commuters and heavy trucks traveling from IH35 to Gainesville around the city. The eastern segment of the loop, between FM2896 and Spring Creek Road is recommended to be a two (2) to four (4) lane principal arterial within 120 feet of right-of-way. The western segment of the loop will run from FM1202 to Spring Creek Road. The following roadways were linked to form the Cooke County Loop.



Loop Segments

- CR181
- CR2121
- FM3108
- String Creek Rd
- New Street C
- New Street D
- CR208

Thoroughfare Plan Implementation Recommendations

Table 16. Cooke County 2033 Recommended Thoroughfare Network Improvements: Roadway Extensions and New Alignments

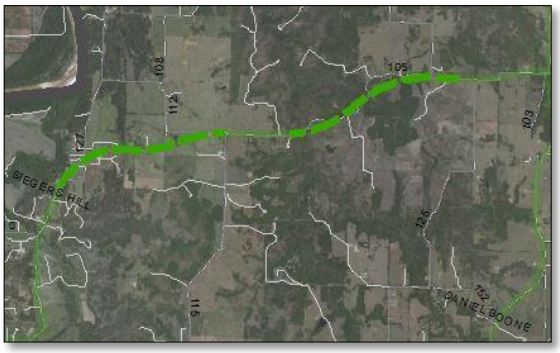
Roadway	Limits	Improvement	Lanes	ROW	Timing
CR116 Extension	CR118 to CR141	Extension	2-3	80'-100'	
CR191 Extension	CR131 to CR133	Extension	2-3	80'-100'	
Lone Oak Rd Extension	CR321 to CR200	Extension	2-4	100'-120'	
CR2007 Extension	CR207 to IH35	Extension	2-3	80'-100'	
CR227 Extension	CR2070 to Lone Oak Rd	Extension	2-3	80'-100'	
CR227 Realignment	FM902 Extension to FM1306	Realignment	2-3	80'-100'	
CR247 Extension	CR332 to FM922	Extension	2-4	100'-120'	
CR297 Extension	CR312 to FM3164	Extension	2-3	80'-100'	
CR314 Extension	CR338 to CR323	Extension	2-3	80'-100'	
CR441 Realignment	CR442 to FM373	Extension	2-3	80'-100'	
CR439 Extension	to CR409	Extension	2-3	80'-100'	
FM902 Extension	FM372 to CR218	Extension	2-4	100'-120'	
FM902 Extension	CR312 to IH35	Extension	2-4	100'-120'	
Pecan Creek Extension	Spring Creek Dr to Krahl Rd	Extension	2-3	80'-100'	
CR181 Extension (Loop)	CR135 to CR131	Extension	2-4	100'-120'	
CR2121 Extension (Loop)	FM678 to CR162	Extension	2-4	120'	
FM3108 Extension (Loop)	CR306 to CR312	Extension	2-4	100'-120'	
E Spring Creek Extension (Loop)	FM2071 to CR2117	Extension	2-4	120'	
New Street C (Loop)	FM 1202 to FM3108	New Construction	2-4	100'-120'	
New Street D (Loop)	FM2896 to CR138	New Construction	2-4	120'	
New Street A (Backage)	Spring Creek Rd to IH35	New Construction	2-3	80'-100'	
New Street B	FM2896 to CR136	New Construction	2-4	100'-120'	

Roadway Realignments

The following roadway realignments were recommended to improve the flow of traffic through the county's transportation network by facilitating more direct movement between origins and destinations. Eliminating unnecessary stops, starts, and turns on a single alignment improves overall network safety and creates a more grid-like structure, which may be more conducive to economic development. A fill detailing on recommended roadway realignments is available in **Table 17**.

CR106 Realignment

The plan recommends realigning CR106 in order to create a more contiguous and direct east to west route in the northeastern sector of the County. The recommended new alignment will correct a number of small sharp turns that wind through the northern sector or the county. The new alignment will be a two (2) to three (3) lane collector within 80 to 100 feet of right-of-way.



CR321 Realignment

The CR321 provide a north to south connection between FM51 to the Denton County line. The current CR321 alignment weaves through the county through a series of sharp turns that may prove dangerous if more development occurs and/or additional traffic is generated in the area. The CR321 Realignment was recommended to straighten out some of these curves. The northern realignment, depicted below, straightens out the curves just north and South of CR320. The central segment straightens the 90 degree turn at CR374. To improve overall regional connectivity, the plan recommends realigning the southern extent of the alignment to the west to make a connection to FM2450 in Denton County. The plan recommended this roadway be a two (2) to three (3) lane collector facility with 12 foot lanes in 100 to 80 feet of right-of-way.

North

Central

South

Thoroughfare Plan Implementation Recommendations

CR107 Realignment

The CR107 Realignment was recommended to straighten out the 90 degree just south of the CR107 and CR176 intersection. In addition to straightening the curve, a stop sign is recommended for the CR176 leg of the intersection of CR107 and CR176. The current intersection has no protection or indication of right of way for divers on either leg of the intersection. The recommended cross section for this roadway is a two (2) to three (3) lane collector facility with 12-foot lanes in 80 to 100 feet of right-of-way.

CR351 Extension

The CR351 Extension extends CR51 south of US82 where it intersections with the existing CR361 alignment. Commuters traveling south on CR351 currently have to head west at the roadways intersection with US82 for about a quarter mile to CR361 to continue heading south. The CR351 Extension will help improve overall north to south mobility in the western sector of the county. The recommended cross section for this roadway is a two (2) to four (4) lane minor arterial facility with 12-foot lanes in 100 to 120 feet of right-of-way.

CR356 Realignment

The CR356 Realignment improves the east to west connection from CR322 to FM51. The current alignment requires divers heading west on CR322 to head north at its intersection with CR321 for about a quarter of a mile, then head west on CR356 about a mile to CRCR325, then north on CR325 for about quarter of a mile to FM51. This route may be confusing to commuters, but more importantly, dangerous, given its intersecting angle with FM51. Commuters traveling south from on this route have to make a 60 angle turn to against on-coming traffic, which may be difficult to see.

To rectify the problem, the recommended realignment for CR356 moves the existing intersection with CR325 to directly t-into FM51. The eastern segment of the alignment, which currently t's into CR321 will be moved south and extended to intersect CR322 at its intersection with CR319. The recommended cross section for this roadway is a two (2) to three (3) lane collector facility with 12-foot lanes within 80 to 100 feet of right-of-way.

Table 17. Cooke County 2033 Recommended Thoroughfare Network Improvements: Roadway Realignments

Roadway	Limits	Improvement	Lanes	ROW	Timing
CR106 Realignment	CR127 to CR125	Realignment	2-3	80'-100'	
CR107 Realignment	US82 to Hawkins RD	Realignment	2-3	80'-100'	
CR207 Realignment	CR309 to CR386	Realignment	2-4	100'-120'	
CR227 Realignment	FM902 Extension to FM1306	Realignment	2-3	80'-100'	
CR321 Realignment	CR356 to CR354	Realignment	2-3	80'-100'	
CR321 Realignment	CR332 to CR336	Realignment	2-3	80'-100'	
CR351 Realignment	US82 to CR300	Realignment	2-4	100'-120'	
CR356 Realignment	FM51 to CR319	Realignment	2-3	80'-100'	
CR424 Realignment	CR423 to R & R Ln	Realignment	2-3	80'-100'	
CR208 Realignment (Loop)	CR2117 to CR2121	Realignment	2-4		
IH35 Realignment	Thompson St to New Street A	Realignment	8		
IH35 Realignment	Oklahoma border to	Realignment	8		

Maintenance Improvements

Preservation and maintenance of existing infrastructure is one of the key goals of the Cooke County Transportation Plan because the existing thoroughfare network is the foundation for all future transportation initiatives in the County. Planning for the maintenance of the existing infrastructure now will help curtail the cost of replacing them in the next 20 to 30 years. **Table 18** contains a summary of roadways recommended for short term maintenance improvements. The corridors identified below were either identified through the stakeholder input process, TxDOT's list of load zoned roads, or within areas of potential redevelopment.

FM922

FM922 was identified as a critical east to corridor through the southern sector of the county, providing a pivotal connection for commuters to both IH35 in Cooke County and US377 in Collin County. Additionally, it forms the southern edge of what stakeholders identified as the "golden triangle" for development in the county. Unfortunately, the roadway is in need of maintenance repairs. The roadway, a TxDOT identified load zone roadway, not only needs wider shoulders, but is plagued by large potholes and deteriorating pavement as well. Sort term mitigation strategies include filling potholes, adding shoulders, and resurfacing the roadway. Long-term, the plan recommends roadway reconstruction (as development persists). The recommended functional classification for FM922 is a two (2) to four (4) lane principal arterial with 12-foot lanes within 120 feet of right-of-way.

FM1198

FM1198 makes provides an important north to south connection in western Cooke County. The roadway stretches from US82 to FM51 within Cooke County, linking US82, FM1630, FM922, and FM51. Despite its overall importance to Cooke County's Thoroughfare network, the roadway is plagued with a number of maintenance issues that needs to be addressed in the mid to short-term future. Two of the greatest issues with the roadway are pavement deterioration and a lack of shoulder. The short-term solution to the pavement deterioration is resurfacing the roadway. The longer-term solution is roadway reconstruction. Shoulders are also recommended for the roadway to make it safer for police and other emergency vehicles, stalled vehicles, and bicyclists who may utilize the roadway. The recommended functional classification for the roadway is a minor arterial with two (2) to four (4) 12-foot lanes within 100 to 120 feet of right-of-way.

Table 18. Cooke County 2033 Recommended Thoroughfare Network Improvements: Maintenance Improvements

Roadway	Limits	Improvement	Load Zoned	Timing
FM922	Montague County Line to Grayson County Line	Resurface roadway, Shoulders, Fix potholes	Y	
FM373	FM922 to Montague County Line	Resurface roadway, Shoulders,	Y	
FM1198	FM922 to US82	Resurface roadway, Shoulders, Roadway reconstruction	Y	
FM1201	CR451 to Wendy Lee	Resurface roadway, Shoulders	Y	
CR123	FM678 to CR187	Resurface roadway, Widen	N	
CR187	CR123 to FM2896	Resurface roadway, Widen	N	
FM2896	CR187 to CR119	Resurface roadway, Widen	Y	
CR435	FM373 to Montague County Line	Resurface roadway, Widen	N	
IH35 Frontage	Scott Creek Crossing	Raise roadway above flood plain	N	
IH35 Frontage	Hockley Creek Rd	Raise roadway above flood plain		

Table 19. Cooke County 2033 Recommended Thoroughfare Network Improvements: Bridge Improvements

Roadway	Bridge Location	Improvement	Timing
CR413	Blue Hollow Creek	Bridge Replacement	
CR158	Hickory Creek	Bridge Upgrade	
CR435	Cedar Creek	Bridge Upgrade/ Widening	
CR411	South Fish Creek	Bridge Upgrade/ Widening	
CR460	South Fish Creek	Bridge Upgrade/ Widening	
CR451	Dozier Creek	Bridge Upgrade/ Widening	
CR323	Spring Creek	Bridge Upgrade/ Widening	

Project and Plan Implementation

Project Prioritization and Timing

Projects selected for implementation in the Cooke County Transportation Plan were prioritized based on their overall impact of the transportation network, position to leverage for additional transportation funds, feasibility, and funding. Similarly, timing for projects recommended for the Cooke County Transportation plan was based on overall network impact and/or the ability of the project to facilitate additional transportation improvements. Short-range projects include projects recommended for the one (1) to five (5) year term, medium-term projects are recommended for the five (5) to 15-year term, and long-term projects are envisioned for the 20-plus year horizon. Although projects are not recommended for the near term, additional planning, design, and engineering is recommended for the projects as funds become available. This will better position projects for implementation as new funding sources become available.

Right-of-Way Acquisition

Right-of-way acquisition will be one of the most important steps in the plan implementation process as many of the corridors in the county are not wide enough for the recommended functional classification. This step, though critical to the planning process, will not be as costly in Cooke County as it would in the more developed counties. Right-of-way acquisition, however, will become more costly and difficult as development occurs within the county. This makes identifying and designating right-of-way for new and developing corridors a high priority in terms of policy and implementation.

Funding Strategies

A number of potential funding sources have been identified that may be used to implement and fund projects recommended through the Cooke County Thoroughfare Plan. Additional details on funding sources are available in **Appendix XX.**

Implementation Matrix

The funding and implementation matrix was developed to identify potential funding sources for Plan recommendations. For this section of the document, the matrix was broken into four (4) categories:

- Roadway Construction
- Roadway Rehabilitation
- Intersection Improvements
- Miscellaneous

Roadway Construction

Roadway construction funding sources, such as Category 12: Strategic Priority Funds, are geared towards new road roadway construction, roadway realignments, and interchange construction. **Table 20** provides a list of funding sources that can be used to roadway fund construction. Category 12 Funds, specifically, are obligated to projects that promote economic development and improve interstate connectivity. Eligible projects include additional lanes and new roadways, grade separations, interchanges, bottleneck removal, and safety improvements. These funding sources would be instrumental in the construction of recommended projects such as the Cooke County Loop that will not only enhance connectivity within Cooke County's, thoroughfare network, but will improve the overall framework for economic development a well.

Table 20. Potential Funding Sources for Roadway Construction

Roadway Construction		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Street Construction	Improved Access Capacity Improvement Congestion Relief Economic Development	Category 12: Strategic Priority Funds Category 4E: Rural Mobility/Rehabilitation Category 11: Texas Mobility Fund Category 8B: Texas FM Road Expansion Proposition 7 Funds
Frontage Road Construction	Congestion Relief Economic Development Capacity Improvement	Category 12: Strategic Priority Funds Category 11 Proposition 7 Funds
Roadway Realignment	Safety Improved Traffic Flow Congestion Relief	Category 12 Category 4E Category 11 Proposition 7 Funds
Interchange Construction	Capacity Improvement Congestion Relief	Category 12 Category 11 Texas Mobility Fund Proposition 7 Funds

Roadway Rehabilitation

Roadway rehabilitation projects include investments in transportation improvements that increase capacity, improve safety, or facilitate economic development. It includes enhancements such as grade separations, roadway resurfacing, lane additions, road diets, and right-of-way acquisitions. Funding options for roadway rehabilitation include, but are not limited to Category 4F: Rehabilitation in Urban and Rural Area and Category 3C: Rehabilitation funds. Category 4F funds are geared towards the rehabilitation of on-system roadways that are functionally classified higher than minor collectors. Category 3C funds are geared towards funding lower functionally classified on-system facilities. This would include improvements to roadways such as FM373, FM1198, and FM1201. **Table 21** provides a list of funding sources that could be used to fund roadway rehabilitation improvements.

Table 21. Potential Funding Sources for Roadway Rehabilitation

Roadway Rehabilitation		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Grade Separation	Congestions Relief Safety	Category 2: Metro Corridor Funds Category 11 Texas Mobility Fund
Lane Addition	Congestion Relief Improved Capacity	Category 12: Strategic Priority Funds Category 11 Texas Mobility Fund
Roadway Widening	Congestion Relief Improved Capacity Accommodates wider vehicles	Category 12 Category 4F Category 3C Category 11: State Discretionary Funds Texas Mobility Fund
Narrower Lanes	Traffic Calming Safety	Category 11 Category 4E
Right-of-Way Acquisition	ROW for future Road Expansion	Category 2 Category 4E: Rural Mobility/Rehabilitation Proposition 7 Funds
HOV Lane	Congestion Relief Capacity Improvement	Texas Mobility Fund
Road Dieting	Traffic Calming Safety Economic Development	Category 11 Category 4E

Intersection Improvements

Intersection improvement funds are geared towards intersections safety improvement and access management projects that improve the overall flow of traffic within a corridor. Intersection improvements include traffic signalization, intersection lighting, roundabouts, turn lanes, and intersection geometry improvements. Intersection improvement funding sources include, but are not limited to Category 10A Traffic Control Devices and Category 4E: Rural Mobility/Rehabilitation. Category 10A funds can be used for the installation or rehabilitation of traffic signals and intersection lighting on on-system roadways. This would be ideal for funding traffic signal improvements along US82 in Gainesville. Category 4E funds can be used in rural unincorporated areas or cities with populations below 5,000. Eligible projects include right and left turn lanes, intersection geometry improvements, and roundabouts. This funding source would be ideal for funding projects such as intersection improvements at the intersection of FM373 and US82 in Muenster, and the intersection of FM51 and FM922 just outside Era. **Table 22** includes a list of funding sources that can be used to fund intersection improvement. Additional information on the funding sources is available in **Appendix XX**.

Table 22. Potential Funding Sources for Intersection Improvements

Intersection Improvements		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Traffic Signalization	Congestion Relief Safety	Category 10A: Traffic Control Devices category 10B: Rehab of Traffic Management Systems Category 11
Intersection Geometry Improvements	Safety Congestions Relief Capacity Improvement Accommodates Wider Vehicles	Category 4E Category 11
Intersection Lighting	Safety	Category 12 Category 11
Left and Right Turn Lanes	Safety Congestions Relief Capacity Improvement	Category 11 Category 4E
Round-A-Bout	Congestion Relief Capacity Improvement Safety Traffic Calming	STEP Funds Category 11 Category 4E

Miscellaneous Projects

Miscellaneous improvements range from bridge construction to pedestrian amenities and traffic impact assessments. Some of the eligible funding sources for these improvements include Green Ribbon Funds and Statewide Transportation Enhancement Program (STEP) funds. Green Ribbon Funds are geared towards improving the visual or aesthetic appeal of corridors. These funds are primarily used for landscaping. STEP funds are available for non-traditional transportation projects such as bike and pedestrian initiatives, landscaping, and special studies. Although federally funded, these funds are not restricted to on-system facilities. **Table 23** provides a list of funding options available for miscellaneous projects. Additional information on the funding sources is available in **Appendix XX**.

Table 23. Potential Funding Sources for Miscellaneous Transportation Projects

Miscellaneous		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Bridge Construction/ Reconstruction	Safety Capacity Improvement Accommodate Wider Vehicles	Category 6A: On System Bridge Program Funds Category 6B: Off System Bridge Program Funds Category 11
Street Lighting	Safety Economic Development	STEP Funds Green Ribbon Funds Category 11
Railroad Grade Separation Repair/ Construction	Congestion Relief Safety	Category 4G: Railroad Grade Separation Category 11
Pedestrian Amenities/ Landscaping	Traffic Calming Safety Economic Development Beautification	STEP Funds Green Ribbon Funds Category 11
Transit Expansion	Transit Needs Multimodal Connectivity	STEP Funds Category 11
Traffic Impact Assessment	Congestion Relief Traffic Calming Safety Improved Access	Regional Toll Revenue
Miscellaneous	Safety Congestion Relief Capacity Improvement	Category 4F: Rehabilitation in Urban and Rural Areas Category 4E Category 3C: NHS Rehabilitation Category 8A: Rehabilitation of FM Roads Category 11 Texas Mobility Fund

Chapter 8: Executive Summary