FREESE AND NICHOLS

Rockwall County
Thoroughfare Plan

ADOPTED
FEBURARY 27, 2019

THE STATE OF TEXAS
COUNTY OF ROCKWALL

This Page was intentionally left blank

COMMISSIONERS COURT
February 27, 2019

STATE OF TEXAS
COUNTY OF ROCKWALL

BE IT REMEMBERED THERE WAS HELD A REGULAR MEETING OF THE COMMISSIONERS COURT ON THE ABOVE DATE WITH THE FOLLOWING MEMBERS OF THE COURT PRESENT:

Judge Sweet
Commissioner Sevier
Commissioner Gilbert
Commissioner Bailey
Commissioner Magness
County Clerk Shelli Miller

Judge Sweet called the meeting to order at 9:00 a.m.

The following is an item extracted from the official minutes of the meeting:

3. Discuss/Act on acceptance of the Rockwall County Thoroughfare Plan as updated by Freese and Nichols, Inc., and all related issues; (Magness)

Commissioner Magness discussed the Thoroughfare Plan from Freese and Nichols, Inc. with the Court. Commissioner Magness explained the amount of time and work that had been put into the creation of the Plan and that the cities had been given multiple opportunities to make sure it fit their needs. Commissioner Magness further explained that it was ready to post to the County's website.

The motion was made by Commissioner Magness, seconded by Commissioner Sevier with the Court voting 5-0 in favor of approving the Rockwall County Thoroughfare Plan as updated by Freese and Nichols, Inc.

SHELLI MILLER
ROCKWALL COUNTY CLERK

This Page was intentionally left blank

Table of Contents

Acknowledgements

Rockwall County Commissioners Court

Judge David Sweet, County Judge

Cliff Sevier, Precinct 1

Lee Gilbert, Precinct 2

Dennis Bailey, Precinct 3

David Magness, Precinct 4

Rockwall County Planning Consortium

David Sweet, Rockwall County Judge

Cliff Sevier, Commissioner Pct. 1

Lee Gilbert, Commissioner Pct. 2

Dennis Bailey, Commissioner Pct. 3

David Magness, Commissioner Pct. 4

Lorne Megyesi, Mayor, City of Fate

Michael Kovacs, City Manager, City of Fate

Brian Berry, Mayor, City of Heath

Ed Thatcher, City Manager, City of Heath

Robert Steinhagen, Mayor, City of McLendon-Chisholm

Dave Butler, City Administrator, City of McLendon-Chisholm

Jim Pruitt, Mayor, City of Rockwall

Rick Crowley, City Manager, City of Rockwall

Janet Nichol, Mayor, City of Royse City

Carl Alsabrook, City Manager, City of Royse City

Tammy Dana-Bashian, Mayor, City of Rowlett

Debby Bobbitt, Councilmember, City of Rowlett

Brian Funderburk, City Manager, City of Rowlett

Freese and Nichols, Inc.

Staron Faucher, AICP

Edmund Haas, AICP

Kevin St. Jacques, P.E., PTOE

David Pain, AICP, PTP

Namoo Haan, EIT

Rachel Capeda

Kim Dresdner, AICP, LEED AP, CNU-A

Bryan Gant

Colton Wayman

Plan Definitions

The following plan definitions were developed to provide guidance on planning concepts utilized in the development of the Rockwall County Thoroughfare Plan.

Thoroughfare Plan – A thoroughfare plan is a long-range plan that identifies right-of-way (ROW) for the location and type of roadways needed to meet future transportation system demands. It is based on existing and forecasted employment and population growth and considers existing system needs.

Capital Improvement Plan (CIP) – A CIP is a short-term plan that identifies capital infrastructure projects or purchases and includes an implementation schedule and funding options.

Metropolitan Transportation Plan (MTP) – An MTP is a comprehensive and multi-modal regional transportation plan designed to meet long-range transportation needs.

Average Annual Daily Traffic (AADT) - AADT is the total volume of vehicle traffic on a particular roadway or road segment divided by 365 days.

Average Daily Traffic (ADT) - ADT is the number of vehicles traveling along a roadway or road segment in a 24-hour period, greater than a day – but less than one year.

Traffic Volumes – Traffic volumes provide an estimate of the amount of traffic on a roadway or road segment during a particular time period. The estimate is based on several factors, including, but not limited to, the existing and projected population and employment in an area.

Traffic Counts – Traffic counts provide the actual number of vehicles passing a particular point in a roadway over a specified period of time.

Level-of-Service (LOS) – is a qualitative measure of traffic congestion, ranging from A, free flow traffic, to F – which is gridlock.

Functional Classification of Roads – Roadways are classified by their overall function in terms of how they move traffic between origins and destinations, and the level of access to adjacent land uses. Typical classifications include highways, principal arterials, minor arterials, collectors, and local roads.

Freeways/ Highways – The freeway is the highest capacity thoroughfare in the transportation system. This thoroughfare usually requires 400 feet or more right-of-way and has partial control of access from the adjacent land and streets. Access is restricted to widely spaced interchange points (typically one (1) mile apart) and land adjacent to the freeway is usually accessed by a parallel frontage road that is separated from the main freeway lanes. All thoroughfare crossings are grade separated.

Principal Arterials – Principal arterials are ideally designed to accommodate large volumes of traffic and operate at a high level of mobility. A principal arterial is designed for longer distance trips and provides access to major activity centers and adjacent cities. There should be a limited number of driveways directly accessing major arterials, and they should only connect to other principal arterials or freeways.

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. Minor arterials should be the primary access route for higher density multi-family developments.

Collector – Collectors are designed for short trips and low speeds. Their primary function is to collect and distribute traffic from local access streets to the arterial system. This thoroughfare is usually positioned to not attract through traffic movements.

Residential/ Local Street – Local streets facilitate trips within residential areas and to collector streets. Only vehicles having an origin or destination on the local street are usually attracted to it.

Cross-section – A cross-section provides an illustration of a roadway's dimensions in terms of width, number of lanes, and overall all right-of-way. They also indicate the dimensions and presence of medians, sidewalks, on-street parking, and other roadway elements.

Median – A median is a strip of land designed to separate opposing lanes of traffic on a roadway. Medians may be raised with curbs, vegetated, and/or striped.

Right-of-Way (ROW) – ROW, in terms of transportation, is an area of land designated for roadways, utilities, trails and other public infrastructure elements. The width is generally determined by the pavement section required to accommodate the traffic and perform the function for which the roadway is designed. Other considerations of right-of-way include safety areas, sidewalks and utility locations. The land is dedicated or deeded in fee simple to the perpetual use of the public or other specified entity.

Shoulder – A shoulder is the portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use and for lateral support of sub-base and surface pavement. Roadway shoulders shall be constructed adjacent to all pavement edges that are not curbed.

Sidewalk - Sidewalks are primarily pedestrian off-street facilities located between the curb line of the roadway and the adjacent property. They are an integral part of the thoroughfare network, improving pedestrian access to business and residential development, and improving overall mobility.

Stopping Sight Distance – Stopping site distance is the length of roadway a driver needs to be able to see to stop before colliding with an object on a roadway. It is composed of two parts:

1. Brake reaction distance, the distance in which the vehicle travels from the time the driver sights an object to the time the brakes are applied, and
2. Braking distance, the distance required for the vehicle to stop after the brakes are applied.

Stopping sight distance should be adequate at every point along a roadway for drivers to come to a safe stop before reaching the object.

Vertical Clearance – Vertical clearance is the minimum height a bridge structure can be to accommodate passing trucks. The minimum vertical clearance for freeway and arterial facilities, according to AASHTO guidelines is 16 feet. Consideration should be given to future roadway resurfacing which would decrease the clearance provided.

Primary Truck Route - Primary truck 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.

Secondary Truck Route - Secondary routes provide connections to rural areas and energy sector corridors. Energy sector corridors are roadways (located in identified energy sector areas) frequented by heavy trucks and other automobiles that service the oil and gas industry.

Travel Demand Model (TDM) – A 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. TDMs include the following steps:

- Trip Generation - the number of trips produced and attracted to a destination or TSZ based on trip purpose.
- Trip Distribution – the estimation of the number of trips between each TSZ, i.e., where the trips are going.
- Modal Split – the prediction of the number of trips made by each mode of transportation between each TSZ.
- Traffic Assignment – the amount of travel (number of trips) loaded onto the transportation network through path-building. This is used to determine network performance.

Traffic Survey Zone (TSZ) – TSZ's have specific demographic and land use data associated with them and are used to determine trip demand and travel patterns.

Design Speed – Design speed is the maximum safe speed maintainable over a specified section of street. It is a design standard based on geometric design elements, terrain, land use to be served, roadway type, anticipated traffic volumes and economic factors. Design speed does not reflect the speed that should be used for a particular roadway type and is generally higher than speed limits.

Traffic Delay – The additional travel time added to a vehicle or pedestrian trip due to conditions that impede the desirable flow of traffic. It is measured as the time difference between actual travel time and free-flow travel time

Traffic Signal Warrant Study – A traffic signal warrant study determines of traffic conditions, such as volumes, geometry, or other conditions are averse enough to justify installation of traffic signalization.

Roadway Right Sizing – Roadway sizing adjusts the number of lanes on a roadway or segment to accommodate projected traffic volumes.

Road Diet – Road diets reduce the number of travel lanes on roadway to accommodate other systematic roadway improvements such as turning lanes and bike and pedestrian accommodations. Road diets are typically only used on roadways with adequate capacity to accommodate existing and projected traffic volumes. Road diets can occur without reducing the overall right-of-way on a facility. Road diets re-purpose auto lanes on a street from serving through auto traffic to accommodating other uses, including center turn lanes, bicycle lanes, and sidewalks.

Flood Plain – A low lying area, typically adjacent to a river or creek, that is subject to flooding.

Chapter 1: Introduction

Purpose of the Plan

The purpose of the Rockwall County Thoroughfare Plan is to establish a framework for long-term mobility system connectivity and serve as a mechanism for the preservation of rights-of-way for network development. The plan will also serve to create a more efficient system of streets for residential and economic development. The final products of the plan are the thoroughfare plan document and thoroughfare map. The thoroughfare plan document includes transportation policy, goals and objectives, and implementation strategies to guide the growth and development of the thoroughfare network. The thoroughfare plan map is the long-term illustration of the thoroughfare network with identified rights-of-way for future preservation.

Background

Rockwall County is named for a natural rock formation discovered by farmers in the 1850s that spanned much of what is known today as Rockwall County. The county was established by the Texas Legislature in 1873. Located just east of Dallas in the North Central Texas 16-County Region, Rockwall County is the smallest county in the state of Texas, spanning only 147 square miles. The County is located within the Texas Blackland Prairie Region and is primarily bordered on the east by Lake Ray Hubbard.

The seat of Rockwall County is located within the city of Rockwall in the eastern sector of the county. Rockwall County is home to:

Rockwall County Cities

- Fate
- Heath
- McClendon-Chisolm
- Mobile City
- Rockwall
- Rowlett
- Royse City

County Profile

Understanding Rockwall County as a place, in terms of its existing residents and role in the region, will help the County better understand the needs and desires of the population with respect to transportation. Factors such as population, age, and income create issues and opportunities unique to Rockwall County with regard to the number of people using the transportation system, where they need to go, and the modes of transportation they will require to get there.

Demographics

Understanding current demographics and historical trends will also help project how needs and desires for transportation may change in the future, which is important because transportation projects are large endeavors that require substantial time and funding. **Figure 1** and **Table 1** detail past and projected population growth in Rockwall County. The county's population is projected to reach 181,561 by 2045; employment is projected to reach 58,611. Significant upgrades will need to be made to the thoroughfare network to accommodate projected growth.

Population

Rockwall County's population has increased 125 percent since 2000, growing from 43,080 to 96,788 in 2017. The recent population growth has not only increased the demand for residential, retail, and service development, but also placed a greater strain on the transportation network. Much of the growth has been concentrated in the western sector of the county around the cities of Rockwall and Heath. Growth trends are projected to slow over the next 20 years, but the population is still expected to increase an additional 88 percent by 2045.

Figure 1. Rockwall County Projected Population Growth

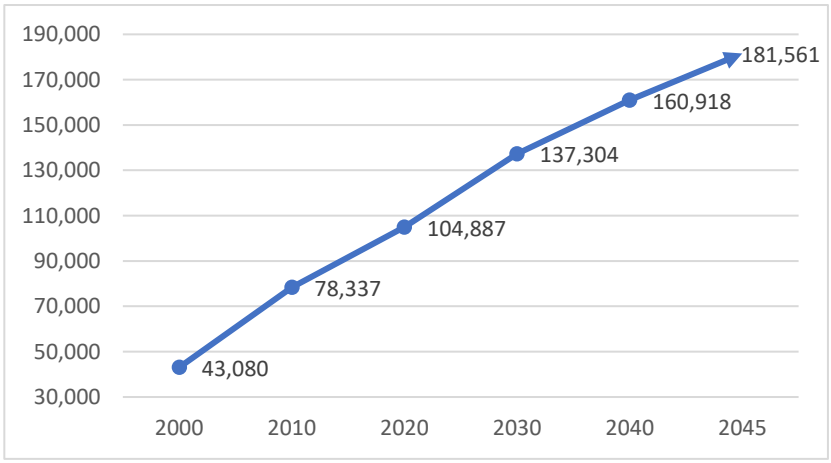


Table 1. Historical regional Growth Trends

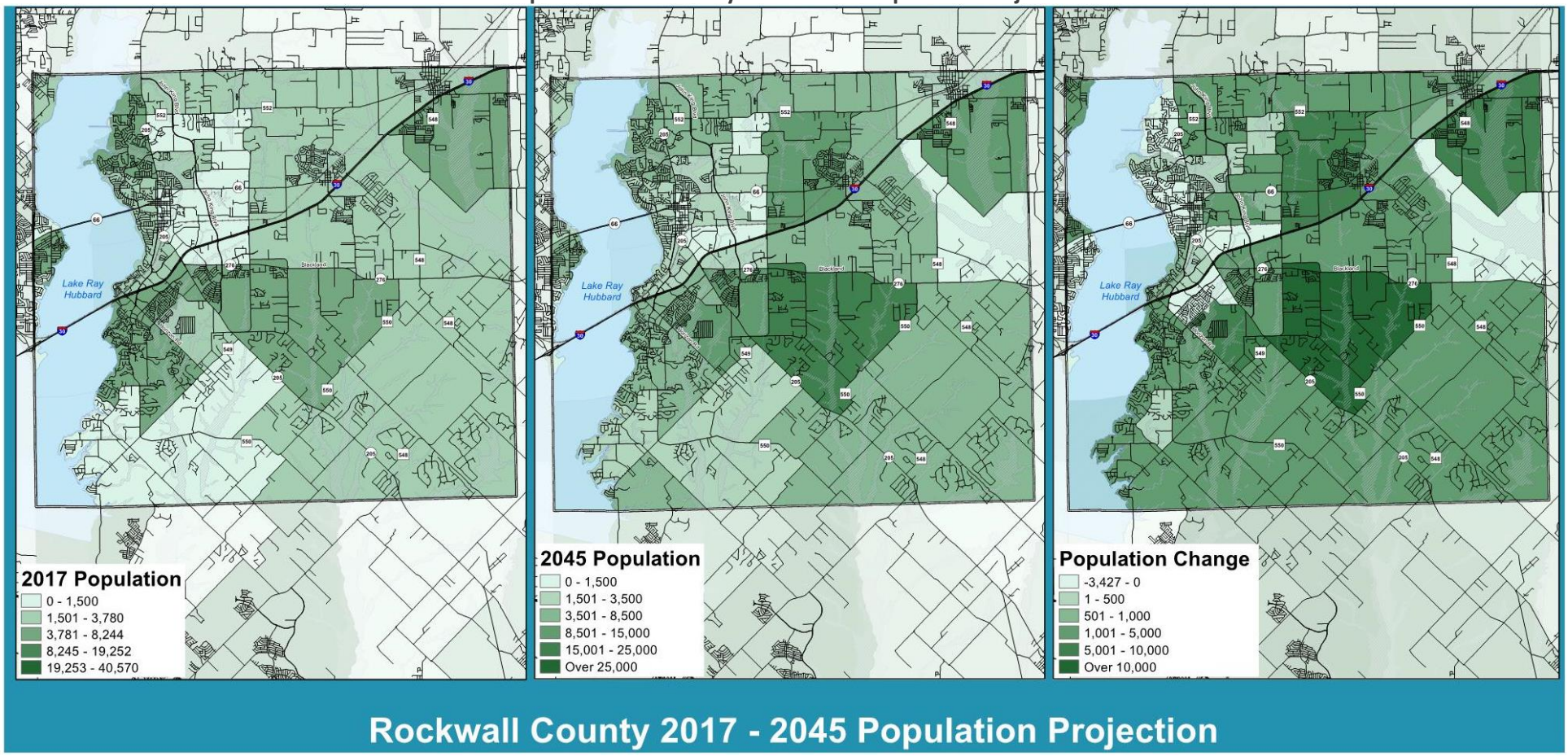
	Rockwall County			16 County Region		
Year	Population	Population Change	Percent Change	Population	Population Change	Percent Change
1970	7,046	-	-	2,506,973	-	-
1980	14,528	7,482	52%	3,116,152	609,179	24%
1990	25,604	11,076	43%	4,111,750	995,598	32%
2000	43,080	17,476	41%	5,309,277	1,197,527	29%
2010	78,337	60,861	78%	6,539,950	1,230,673	23%
2017*	96,788	18,451	23%	7,247,101	720,451	11%

Source: 2010 Census and FNI Calculations

*Estimate as of January 1, 2017

Rockwall – particularly the eastern sector – will continue to accommodate much of the population growth, but Fate and Royse City are also projected to incur significant population increases. **Map 1** illustrates projected population growth in the county. These demographic projections were vetted through Rockwall County Cities and revised to reflect planned growth and development within the county. These projections, however, were replaced by demographics provided by Rockwall County Cities through the North Central Council of Governments' (NCTCOG) Mobility 2045 update.

Map 1. Rockwall County 2017 – 2045 Population Projection



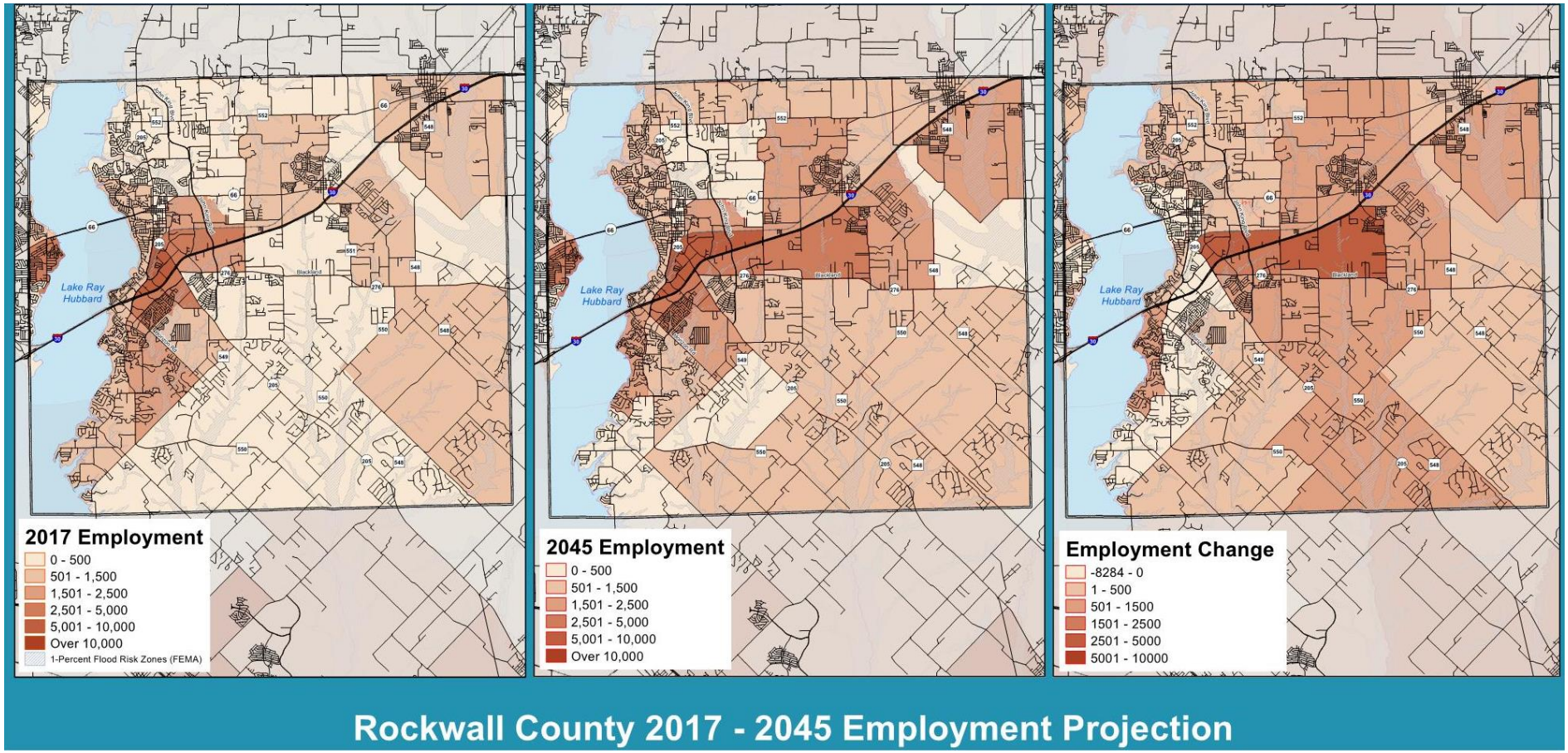
Employment

Rockwall County employment has grown 66 percent since 2010, increasing from 24,009 to 39,879. Service jobs, such as teaching and nursing, make up the bulk of the employment at 68 percent. Basic and retail employment comprise 18 percent and 14 percent, respectively. The highest concentration of jobs is located within the city of Rockwall along the IH 30 corridor.

Despite the large increase in the number of jobs within the county, 63 percent of Rockwall County residents work outside the county according to the 2016 American Community Survey. This not only indicates residents are traveling to the core of the metroplex for employment, but an increasing need for more high-paying jobs and industries within the county.

Employment is projected to grow to 58,611 by 2045 – an increase of 47 percent. Jobs will continue to concentrate along the IH 30 corridor, but employment increases are projected in Fate, Royse City, and Rockwall. Rockwall County Employment growth is illustrated in **Map 2**.

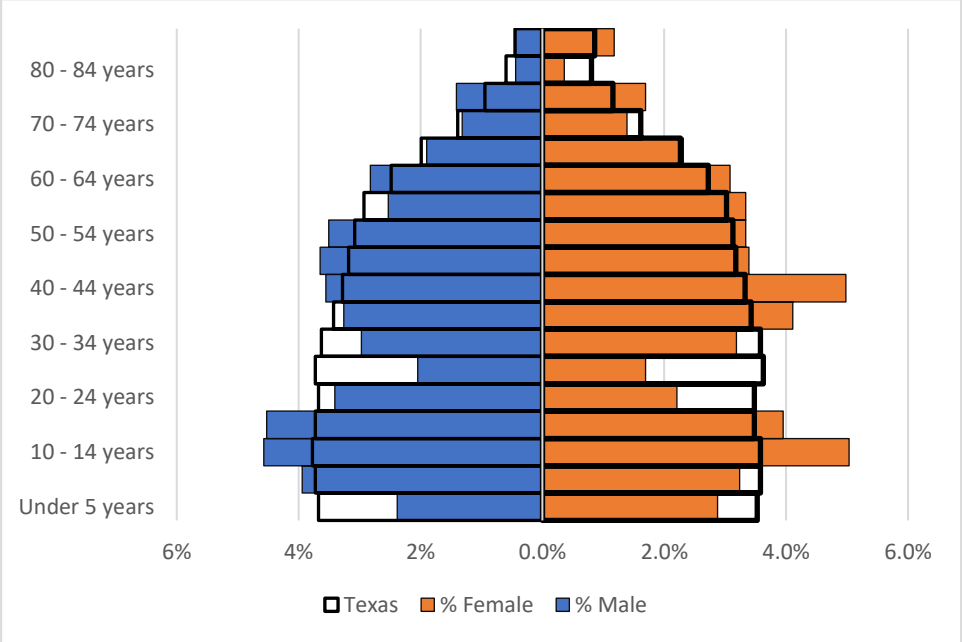
Map 2. Rockwall County 2017 – 2045 Employment Projection



Age and Gender

Figure 2 depicts the age and gender breakdown of Rockwall County and compares the data to the State of Texas. While certain Rockwall County age groups closely reflect population data for the State of Texas as a whole, there are a few cohorts that differ. Rockwall is below the state average for residents under 5 years old, as well as the 20-34-year-old age group. However, the county is higher than the state average for the 10-19, 35-54, 60-64, and 75-79-year-old age groups. Compared to state data, a smaller-than-average number of families with very young children choose Rockwall, while more established families with school-age children have sought out the county at higher-than-average rates. This latter group may be choosing to raise their families in Rockwall due to the school system and family-friendly amenities such as The Harbor.

Figure 2. Rockwall County Age Cohorts



As the number of families with school age children in the county increases, additional demand will be placed on the Rockwall County Independent School District to construct new schools. The prevalence and location of new schools may have a significant impact on traffic operations in the thoroughfare network.

Race and Ethnicity

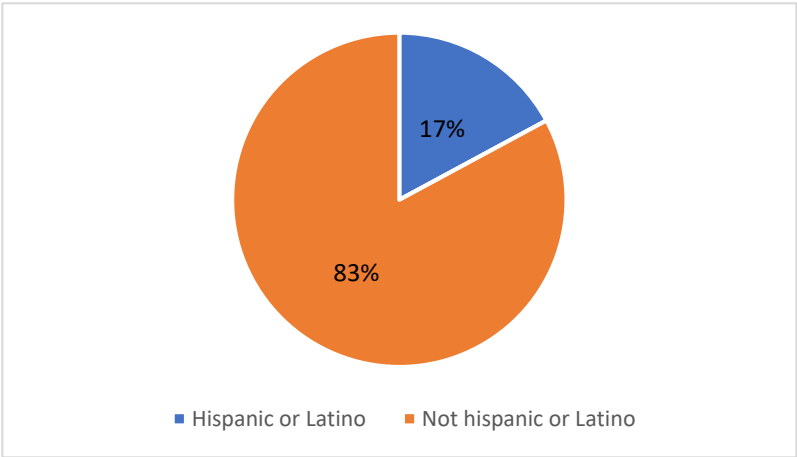
Table 2 and **Figure 3** summarize race and ethnicity in Rockwall County. Considered alone, a review of race helps illustrate the level of diversity in Rockwall County. Ethnicity, however, provides cultural guide on the needs and desires of the county residents. This information, in conjunction with other demographic variables, may be used to provide a better understanding of travel habits.

Table 2. Rockwall County Racial Distribution

Race	Percent
White	86.0%
Black or African American	6.3%
Asian	2.7%
American Indian and Alaskan Native	0.1%
Native Hawaiian and Other Pacific Islander	0.0%
Other	4.9%

Overall, Rockwall County is homogeneous in terms of racial and ethnic diversity. In fact, 86 percent of county residents identified as White. African Americans and Asians comprise roughly six and three percent of the population respectively. In terms of ethnicity, roughly 17 percent of the population identified as Hispanic; 83 percent of Rockwall County identified as Not Hispanic or Latino.

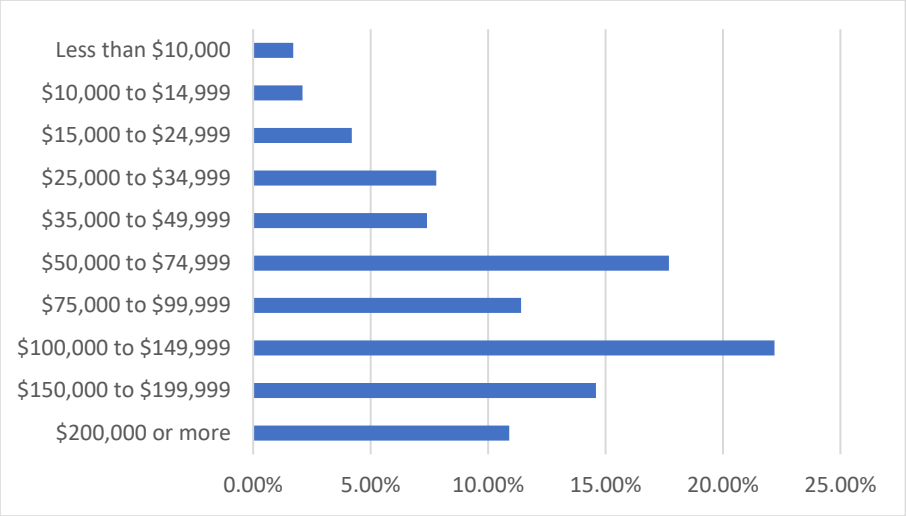
Figure 3. Rockwall County Ethnicity



Income

Income distribution is important because it helps inform county-wide decisions on the types of residential, retail, and service developments desired by the community. It is also an indicator of a community's car ownership levels, need for public transportation, and ability to finance public improvements. The median household income in Rockwall County is $95,731. This is greater than that of the State of Texas ($56,565), Dallas County ($51,411), Collin County ($89,638), and Kaufman County ($61,194). It is important to note that median income is not a measure of average; it signifies the exact middle value of all incomes earned by households in the County. **Figure 4** illustrates income distribution in Rockwall County.

Figure 4. Rockwall County Income Distribution



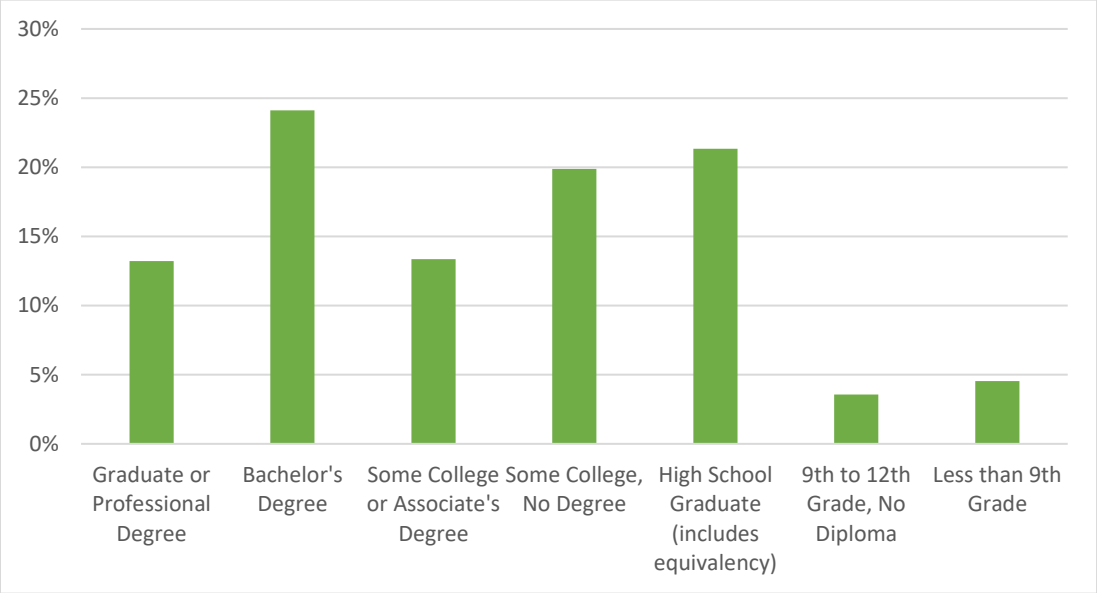
In addition to a high median household income, roughly 25 percent of Rockwall County households earn at least $150,000 annually. In fact, roughly 48 percent of the households in the county earn over $100,000. Given the relatively small number of retail, commercial, and entertainment venues, this indicates a demand for additional retail and commercial development. However, given Rockwall County's size, and some communities' desire to limit commercial development, a large percentage of county residents are likely commuting outside of the county for work and shopping. According to the American Community Survey, over 63 percent of county residents commute outside the county for work; 5 percent work from home. Given that there are currently only two direct western access points (SH 66 and IH 30) and one major north-to-south route (SH 205) for Rockwall County, better connectivity will be needed to meet future demands for east-to-west and north-to-south mobility.

It is also worth noting that approximately 16 percent of the households earn less than $35,000 a year. This subset of the population will be important to consider as planning progresses because this subgroup is more likely to have inadequate access to personal transportation. Addressing this portion of the community may require consideration for expanded public transportation or multimodal accessibility.

Educational Attainment

Considered alone, educational attainment has seemingly little correlation with transportation planning. However, education level directly correlates with earned income, which impacts transportation planning. Educational attainment helps provide background to the needs and abilities of a community's workforce. Workforce greatly influences the jobs and industries that are attracted to a community, and the different industries have a wide range of transportation needs. Educational attainment can also be an indicator of educational offerings in a community, and the location of schools often drives development patterns and therefore roadways. Rockwall County educational attainment levels are illustrated in **Figure 5.**

Figure 5. Rockwall County Educational Attainment



Incorporation of Demographic Analyses

Rockwall County's desirability as a place to live and visit is increasing, as evidenced by existing and projected demographics. This is not only realized through the demand for expanded residential, commercial, and institutional development, but reflected in the demand for additional roadway capacity as well. The Rockwall County Thoroughfare Plan will utilize existing and forecasted demographic and transportation conditions as the basis for thoroughfare system analyses and recommendations.

Plan Input

One important element in the development of the plan was the incorporation of stakeholder input. It is not only a mechanism for gathering information and opinions on issues throughout the county, but also gives county stakeholders ownership of the plan. Essential to this step was the Rockwall County Planning Consortium. The Rockwall County Planning Consortium is comprised of Rockwall County and City elected officials and staff, and representatives from TxDOT and NCTCOG. Throughout the course of the project, the planning consortium provided feedback on plan recommendations, goals and objectives, transportation network connectivity, and plan implementation.

In addition to input from the planning consortium, interviews were held with Rockwall County elected officials, City staffs, and other pertinent county stakeholders. Below is a summary of public involvement for the thoroughfare plan.

City Interviews

The thoroughfare plan was vetted through Rockwall County communities to ensure coordination between the County and City plans and to provide an opportunity for Rockwall County Cities to provide input on the future of transportation in the county. The city input process included updates to demographics for the travel demand model, thoroughfare network review and comments, incorporation of respective transportation plans, and issue and need identification.

- City of Heath – September 20, 2017
- City of Rowlett – September 19, 2017 and March 8, 2018
- City of McClendon-Chisolm – September 20, 2017
- City of Rockwall – August 22, 2017
- City of Fate – August 21, 2017
- City of Royse City – August 22, 2017

Planning Consortium Meetings/ Presentations

- July 20, 2018
- June 28, 2017
- March 8, 2017

Commissioners Meetings/ Court Briefings

- February 13, 2018
- November 20, 2017
- August 7, 2017

Previous Planning Efforts

A number of studies have been conducted within and around Rockwall County that play a role in the development of the county thoroughfare plan. The findings in these studies will provide pertinent existing conditions information that can be used to inform county stakeholders in the development of the plan. Likewise, the recommendations developed in the plan will be used to inform future studies in the region. Strategic coordination between Rockwall County and other regional agencies such as TxDOT and NCTCOG will be pivotal in the implementation of the plan. The following section is a summary of existing studies that have been completed within the region and pertain to Rockwall County.

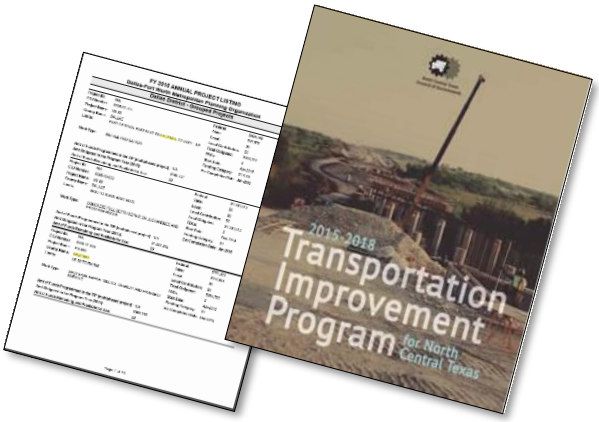
North Central Texas Council of Governments Plans

The Metropolitan Transportation Plan: Mobility 2045

NCTCOG's Metropolitan Transportation Plan (MTP) is a comprehensive regional transportation plan geared toward addressing the multimodal transportation needs of the Dallas-Fort Worth Metroplex – of which Rockwall County is a member. The plan is updated every two years to ensure compliance with federal air quality standards and covers a wide range of transportation policy issues including, but not limited to, transportation finance, social considerations, environmental considerations, mobility options, and operational efficiency. In order for projects to be considered for the MTP, the following criteria must be met:

1. Identified Funding Source (TxDOT concurrence is needed if federal or state funds are allocated to the project)
2. Local Government Support
3. Public Involvement (Satisfied or recommended through a study or similar mechanism)

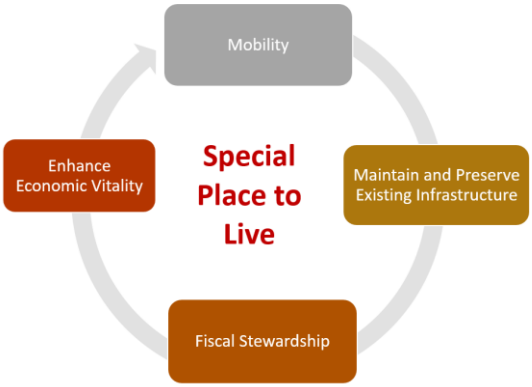
Transportation Improvement Program



NCTCOG's Transportation Improvement Program (TIP) is a multi-year listing of transportation projects located in the Dallas-Fort Worth Metroplex that have been approved for funding by federal, state, or local sources. The overall TIP is updated every two years, but modification cycles occur throughout the year to address project issues such as cost overruns/ underruns, scope changes, and funding year changes. Rockwall County transportation projects selected for funding must be entered into the TIP before they can be implemented.

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 are intended to create the framework for specific strategies to achieve the stated goals. Objectives should be: **S**pecific, **M**easurable, **A**chievable, **R**elevant, and **T**ime Oriented.



The following goals and objectives were developed for the Rockwall County Thoroughfare Plan. The goals and objectives developed for the thoroughfare plan were packaged into the following base goals: Mobility, Maintain and Preserve Existing Infrastructure, A Special Place to Live, Fiscal Stewardship, and Enhance Economic Vitality.

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 Rockwall County because as the county grows and develops, existing burdens such as congestion, truck traffic, and limited north-south mobility will only be exacerbated.

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 Metroplex.

The following mobility objectives were developed to specifically address mobility concerns within the county.

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:

- Incorporate existing City thoroughfare plans into the County thoroughfare plan to maintain and improve the connectivity between adjacent City thoroughfare plans within Rockwall County.
- Coordinate with all Cities at the end of the transportation planning process to request incorporation of the County thoroughfare network into future City thoroughfare plans to create more seamless network connectivity.
- Coordinate and incorporate existing development plans into the revised thoroughfare network.

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 extra-territorial jurisdictions (ETJ) 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:

- Evaluate designated truck routes for their ability to accommodate truck traffic and divert trucks away from commercial corridors, residential areas, and load zoned roadways.
- Develop roadway maintenance prioritization criteria based on identified pavement conditions and/or load zone rating.

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

Action and Performance Measures:

- Reduce overall Vehicle Miles Traveled (VMT) within the county by creating more direct routes between major destinations within the county.
- Develop transportation improvements to reduce forecasted 2045 Level-of-Service (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.

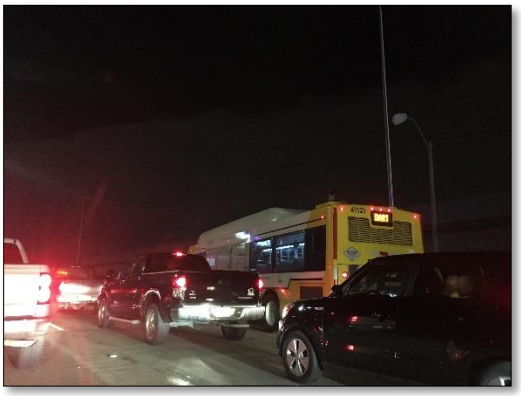
1.6 Identify feasible and direct north-to-south roadway alignments through the eastern and western sectors of the county.

Action and Performance Measures:

- Conduct detailed planning studies to identify potential alignments for advancement to the environmental documentation and conceptual schematic planning.
- Provide project information to NCTCOG and TxDOT for incorporation into the Metropolitan Transportation Plan and other agency planning documents.

1.7 Identify long-term transit and other alternative transportation feasibility and needs within the county.

Action and Performance Measures:



- Incorporate STAR Transit and DART network and service expansion plans into the thoroughfare planning process.
- Coordinate with transit agencies in the evaluation of existing and planned transit routes for feasibility.
- Coordinate with DART and other transportation agencies on communications and partnerships with Uber and Lyft on service to Rockwall from other counties in the Metroplex.

1.8 Enhance direct alternative connections between the county and major destinations throughout the region.

Action and Performance Measures:

- 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.
- Identify alignments for potential east-to-west backage roads to parallel major highways to provide traffic mitigation and improve connectivity.

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

Action and Performance Measures:

- Maintain a thoroughfare planning process to ensure efficient and desirable connections between arterial class facilities and other thoroughfares.
- Develop transitionary thoroughfare standards for County managed roadways between adjacent cities to ensure more seamless connectivity.

1.10 Coordinate with Rockwall County Independent School Districts on transportation system implications of proposed school facility expansion/needs.

Action and Performance Measures:

- Identify school bus routes within Rockwall 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.

1.11 Promote integration between transportation and land use development.

Action and Performance Measures:

- Develop a matrix of roadway treatments/characteristics that may be applied to County managed roads to accommodate different land uses that may be utilized in unincorporated areas.
- Incorporate approved master planned developments into the transportation planning process to promote connectivity with other planned facilities in adjacent areas.

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

- Participate with MPO, TxDOT, and other agencies in the planning and coordination of connections to and from the county.
- Attend MPO and agency planning meetings that coordinate and promote the county plan.

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

Objectives:

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, speed, and traffic calming.
- Identify and evaluate roadways providing access to key county traffic generators and special destinations based on traffic counts and projected volumes.

2.2 Promote the design and implementation of continuous frontage roads along existing and planned major highways within the county.

Action and Performance Measures:

- Identify alignments along planned highway/freeway classified corridors for potential frontage roads.
- Work with NCTCOG and TxDOT to test the impact of frontage roads (or extensions) on the overall County network and adjacent facilities in terms of forecasted congestion, volumes, and operational levels-of-service.

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

Action and Performance Measures:

- Develop a matrix of needed Rockwall County transportation improvements to be evaluated in the regional transportation model, prioritized, vetted through TxDOT and NCTCOG, and incorporated into the regional thoroughfare plan.
- Develop a matrix of potential funding sources for county level transportation improvements.

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 roadway improvements to improve connectivity within the county.
- Evaluate recommended roadway improvements in the travel demand model to determine the facilities' impact on the overall transportation network.

2.5 Plan and implement strategic transit, and/or other mobility options for residents traveling within the county and throughout the region.

Action and Performance Measures:

- Assist transit agencies in the identification of potential transit routes based on projected population and employment growth areas around the county.
- Identify potential bike and pedestrian connections within the county.

GOAL 2 | PRESERVATION AND MAINTENANCE OF EXISTING INFRASTRUCTURE

The tenets of Preservation and Maintenance of Existing Infrastructure include:

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

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 resources to maintain existing roadways, bridges, and culverts at or above established minimum conditions standards.

1.2 Identify future points of congestion along existing major corridors and develop potential mitigation strategies to better accommodate projected volumes.
Action and Performance Measures:

- Utilize base travel demand model outputs to pinpoint projected areas of congestion and deficiencies within the county.
- Define roadway improvements needed to reduce congestion (LOS DE) on major transportation corridors.

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

- Utilize the travel demand model to determine the most effective project phasing in terms of network operation.
- Identify alignments for backage and frontage roads paralleling IH 30 that may be used to relieve congestion and facilitate economic development.

1.4 Identify existing roadways that may need to be realigned and widened to improve connectivity to major highways and thoroughfares to 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.

1.5 Identify high accident areas and develop alternative strategies to reduce overall traffic collisions and fatalities.

Action and Performance Measures:

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

1.6 Establish proactive planning dialogue and coordination with ISDs to identify problem areas and specific site issues and optimize traffic operations between residential areas and schools.

Action and Performance Measures:

- Meet with school district representatives to glean transportation and school siting issues and needs within the county.
- Coordinate with ISDs on identified school bus routes for deficiencies.

1.7 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.

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

Action and Performance Measures:

- Integrate NCTCOG Regional Veloweb alignments into the thoroughfare plan to ensure bike and pedestrian initiatives are considered when developing and improving roadway alignments.
- Incorporate recommendations developed in the 2013 NCTCOG's Rockwall Transit Needs Assessment and Planning Study to into the thoroughfare plan recommendations to ensure transit needs are considered in plan implementation.

GOAL 3 | A SPECIAL PLACE TO LIVE

The tenets of a Special Place to Live include:

- Transportation and Infrastructure designed to reflect both people and places.
- Enhance transportation choices and accessibility.
- Blends seamlessly with the character of Rockwall County communities, neighborhoods, natural environment, employment centers, and activity centers.

1. **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.**

   1.1 Promote policies that limit the number of driveways/curb cuts along major thoroughfares and commercial corridors.
   Action and Performance Measures:
   - Identify existing and potential commercial corridors within the county based on existing future land use plans.
   - Identify existing commercial destinations within the county that may be able to consolidate and share parking between adjacent land uses and businesses.
   - Coordinate with Rockwall County Cities on developing street ordinances that limit curb cuts and encourage shared parking and driveways between adjacent commercial properties.

   1.2 Encourage sidewalks and other pedestrian amenities along commercial corridors in urbanized areas to facilitate pedestrian activity between adjacent businesses 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 along identified commercial corridors for the installation of pedestrian amenities, landscaping, and other elements to encourage pedestrian activity.

   1.3 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 city bike routes within Rockwall County.
   - Apply for Safe Routes to School Funds to aid the implementation of trails, sidewalks, and other pedestrian infrastructure between schools and residential areas.

1.4 Enhance the aesthetics of key arterial roadways, such as SH 66, SH 205, and FM 549, that act as major entry points into Rockwall County downtowns and/or other retail and commercial areas.

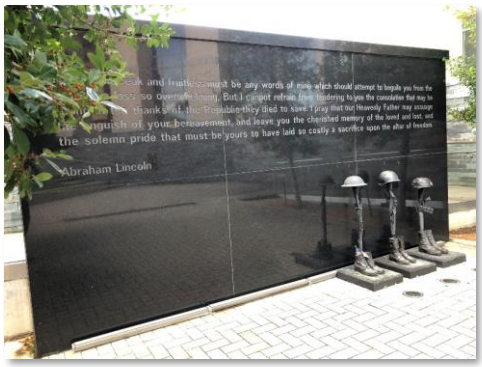
Action and Performance Measures:

- 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 destinations, neighborhoods, and highways.

1.5 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 Rockwall County Cities) to be taken into consideration when developing beautification strategies for the county.
- Identify key locations for county gateways along major thoroughfares and highways (IH 30, SH 66, SH 205, etc.) within the county.



1.6 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.

1.7 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 quiet zones along the Dallas, Garland & Northeastern Railroad (DGNO) Line.

GOAL 4 | FISCAL STEWARDSHIP

The tenets of Fiscal Stewardship Include:

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

1. **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.**

1.1 Identify funding sources to leverage existing bond program funds 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 NCTCOG and TXDOT, to fund transportation infrastructure improvements within the county.
- Consider the construction of toll roads, 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 meets preliminary requirements.
- Utilize transportation funds for both large and small-scale projects to improve the 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.

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

- Develop a Rockwall County website that provides information on upcoming opportunities for funding and public-private partnerships that may benefit the county in terms of transportation and economics.
- 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 thoroughfare plan feedback questionnaire on the Rockwall County website that allows county residents and developers the opportunity to download and provide feedback on the plan once it is adopted.

1.3 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 right of way for future transportation projects, such as the Outer Loop.
- 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

The tenets of Enhancing Economic Vitality include:

- Identify opportunities for linkages to employment centers to support job creation and retention.
- Provide a seamless and efficient connectivity to support residential and business development.
- Incorporate input from the community-at-large in an ongoing dialogue with stakeholders.

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

1.1 Invest in transportation improvements that support the physical and economic vitality of Rockwall County neighborhoods, businesses, and commercial centers.

Action and Performance Measures:

- Coordinate with cities to identify future transportation infrastructure improvements that improve the connectivity between Rockwall 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.

- Coordinate with cities to identify potential commercial corridors for the implementation of roadway design standards conducive to commercial development.

1.2 Provide for safe and effective trucking, railroad, and air freight movement to, from, and through Rockwall 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 adequate facilities.
- Provide for effective trucking, rail, and air freight movements to, from, and within the county.
- Review pavement conditions and overall congestion levels on existing truck routes to determine the long-term feasibility of the facilities as 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.

1.3 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 IH 30 and the planned Outer Loop to enhance land use/economic benefit to the adjacent communities.

1.4 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 Rockwall 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, Rockwall County Cities, and NCTCOG to fund the construction and/or enhancement of commercial corridors within the county.

Chapter 3: Existing Conditions

Rockwall County is unique because it is an amalgamation urban, suburban, and rural development. Despite increasing development pressure, the county is largely undeveloped and has the flexibility to make pivotal land use and transportation decisions that may be considered infeasible in other areas around the region. The existing conditions section of a transportation plan sets the foundation of the plan. It provides a baseline description of the County's current thoroughfare network regarding capacity, functional classification, and modal accommodations, and serves as a platform for recommended system adjustments.

Existing Network Framework

Although relatively small, the network is resilient and able to accommodate a number of land use patterns. Interestingly, the network is at the junction of two different networks and land development patterns, which may cause trouble for visitors not familiar with the county. Roadways south of SH 276 are laid out in the "Law of the Indies" system, which requires all streets and lots to be oriented 45 degrees from true north to provide equal light to every side of a home throughout the day. Roadways north of SH 276 are laid out in the Colonial layout, which orients roadways and lots in the traditional north-south grid pattern. Disruptions in the flow of traffic tend to occur when these network layouts converge due to poor intersection connectivity and visibility. Many roadways, such as FM 548, avoid this issue by veering due north just prior to its intersection with SH 267. Other facilities, such as SH 205, utilize right-turn lanes to improve the angle and visibility at the intersections.

Network Connectivity

For its size, Rockwall County's thoroughfare network is robust. There is an adequate number of contiguous north-to-south and east-to-west connections for the current population and employment centers within the county, and commuters can reach major highways and freeways for interstate and regional travel with relative ease.

The primary facility in the county, IH 30, provides an east-to-west connection across Lake Ray Hubbard and through the county, and provides access to employment and shopping venues in Dallas. It also provides a region-wide access to Rockwall Harbor on Lake Ray Hubbard. SH 66 is the secondary east-to-west facility, providing an alternate connection across Lake Ray Hubbard between the cities of Rowlett and Rockwall, and northeast through Royse City and into Hunt County. This facility is important because it provides congestion relief to IH 30 and adds to the development framework in the northern sector of the county.

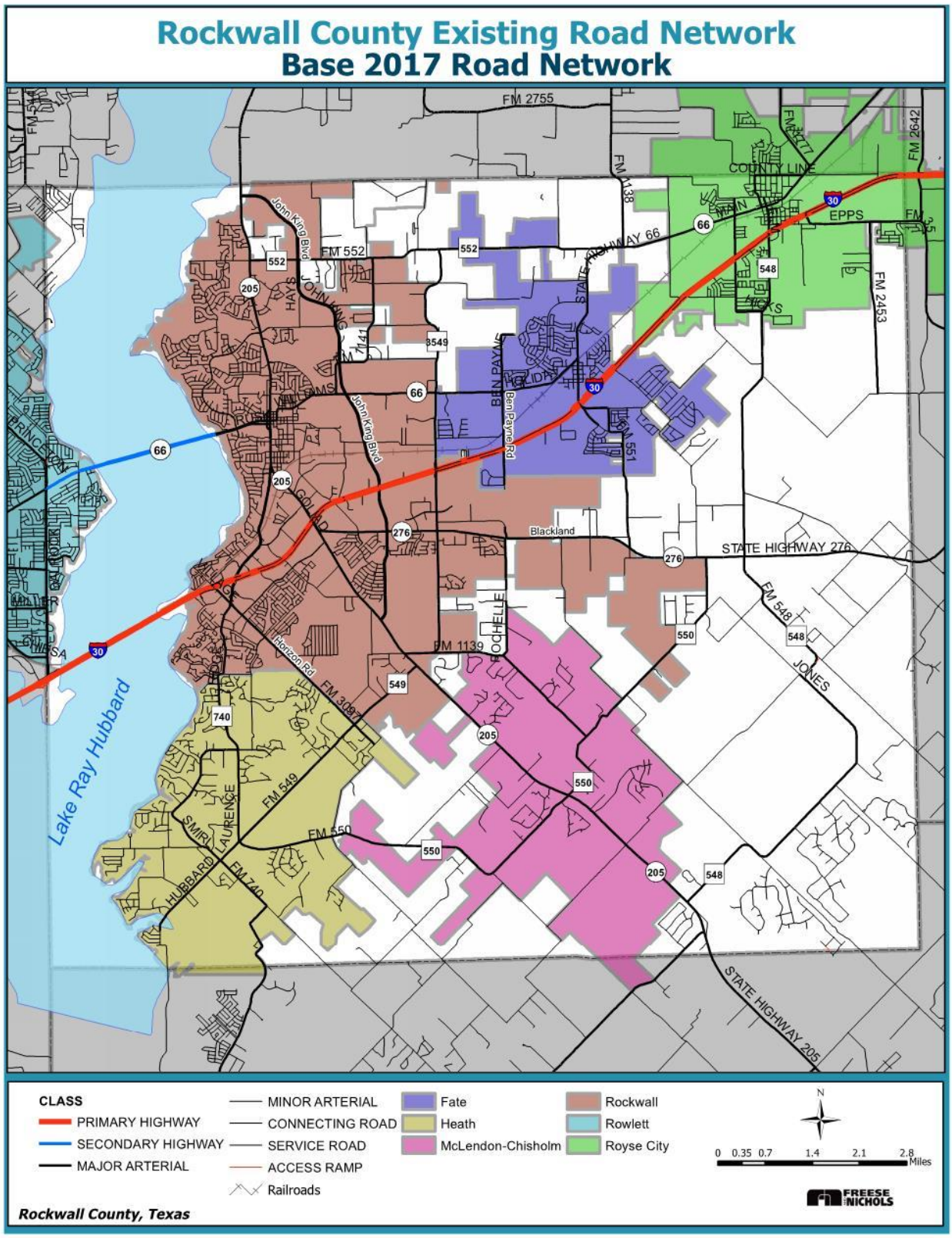
Other east-to-west facilities include SH 276 and FM 552. These two roadways are located in the central and northern sectors of the county, respectively. The southern sector of the county is limited in terms of east-to-west connectivity. In fact, there are currently no direct east-west routes across this sector of the county. Commuters have to navigate a series of zig-zagging north-south facilities to travel from east to west. Commuters traveling between southeast Rockwall County and Heath have to take FM 548, SH 205, FM 550, and FM 549 to travel directly across the southern sector of the county. SH 205 makes the most continuous east-to-west connection through the southern sector of the county, running diagonal from southeast Rockwall County to IH 30, where commuters can go east or west on IH 30 or continue north along SH 205. The limited number of true east-to-west facilities can prove cumbersome to both county residents and visitors alike.

There are currently no direct routes commuters can utilize to travel directly from north to south through the whole of Rockwall County. Roadways aligned south from the Collin County line veer east or west as they pass SH 276 and head southeast and/or southwest towards Kaufman County line.

The primary routes commuters utilize to head north or south within the county are SH 205 and John King Boulevard. SH 205, as mentioned above, runs from the southeast corner of the county to downtown Rockwall before heading north to Collin County. John King Boulevard runs north-to-south through the eastern sector of the city of Rockwall before transitioning into SH 205 and heading southeast into Kaufman County. Commuters in the eastern sector of the county can utilize FM 548 to travel from north to south. The facility travels due south from SH 66 in Royse City to SH 276, where it begins zig-zagging south into Kaufman County. Other non-direct north-to-south facilities that foster a similar travel pattern include FM 549, FM 550, and FM 551.

The network in the less developed portions of the county, particularly in the southeast, may not be adequate as development increases. There are few through connections and limited capacity to get residents from neighborhoods to major facilities. New wider and continuous facilities will be needed as development occurs within the county. **Map 3** illustrates Rockwall County's existing thoroughfare network.

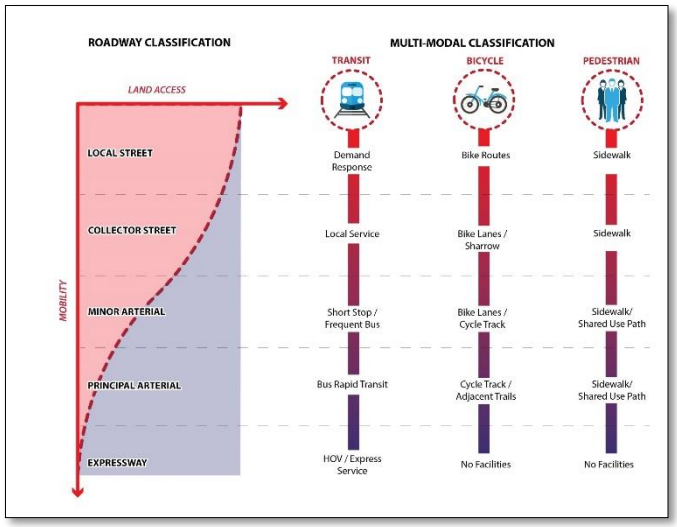
Map 3. Rockwall County Existing Road Network



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. A roadway's functional class also determines a traveler's ease of access to origins and destinations within the thoroughfare network. Typically, the higher the roadway's functional classification, the higher the level of mobility and lower the level of land use access. Freeways, for instance, typically provide no direct access to land uses, but allow continuous connectivity between regional destinations. The balance of land use access and mobility have a significant impact on the overall flow of traffic within a thoroughfare network. **Figure 6** illustrates the relationship between functional class and land use access.

Figure 6. Land Use Access and Mobility for Roadway



Functional class can be updated over time if surrounding land uses change significantly. This especially true in terms of land use density. On the macro level, a facility may move up in hierarchy as housing and employment increase in the surrounding area, and additional vehicles are attracted to the community. However, on the micro level, population and land use densification may also elicit a decrease in functional class as the area becomes more walkable. For example, a six-lane major arterial facility may be appropriate for providing access to five large industrial developments located within a seven mile stretch of roadway in a greenfield area due to the space between developments and the type and number of vehicles entering and exiting the developments. Conversely, a four-lane minor arterial facility may be sufficient for a three-mile urban and walkable mixed-use corridor with the same number of employees due to alternative modes of transportation, a shorter distance between adjacent developments, and a higher demand for land use access than mobility through the corridor.

Existing Rockwall County Functional Classification System

Rockwall County's current functional classification system was developed by NCTCOG as part of the 2016 thoroughfare planning effort. It includes freeways/ toll roads, principal arterials, minor arterials, and collector facilities. Right-of-way designations, lane configurations, and cross-sections were not developed as part of the study. **Table 3** details the current functional classifications and travel lanes. The overall thoroughfare map is illustrated in **Map 4.**

Table 3. Rockwall County Existing Functional Classifications

Functional Classification	Lanes
Principal Arterial	4 to 6
Principal Arterial Couplet	2 to 3
Minor Arterial	2 to 6
Collector	2 to 4
Freeway	
Ramps and Frontage Roads	

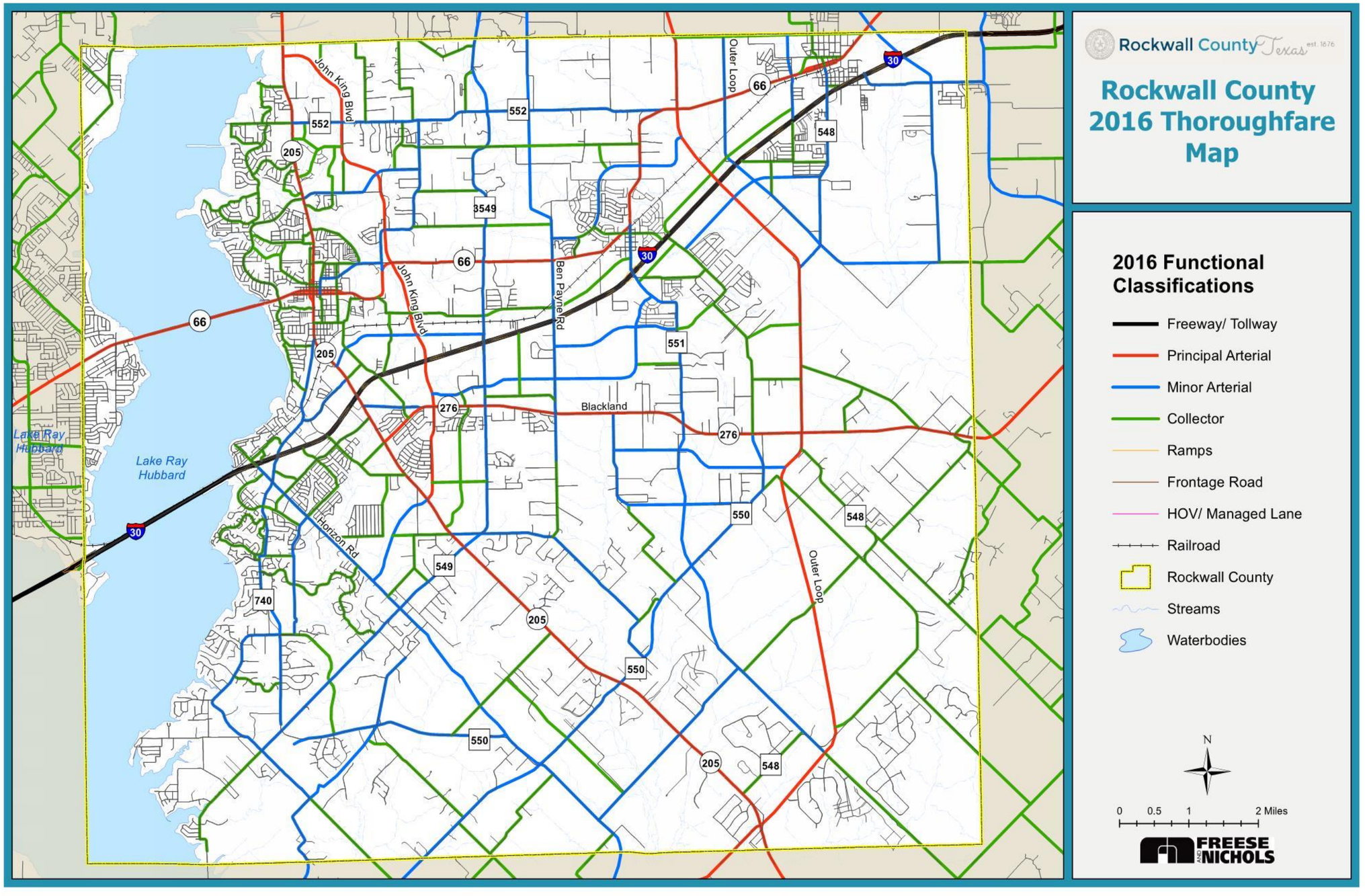
Existing Right-of-Way Designations

Right-of-way designations, detailed in the Rockwall County Subdivision and Land Development Rules and Regulations, are based on lot size rather than functional classification or traffic volumes. **Table 4** provides a description of the County's right-of-way designations. The minimum right-of-way required for a County managed roadway is 60 feet for streets with lot sizes of 1.5 acres or more, and 70 feet for roadways with lot sizes less than 1.5 acres.

Table 4. Rockwall County Right-of-Way Designations

Lot Size	Right-of-way	Pavement Width
1.5 Acre or Greater	60	26
Between .75 Acres and 1.5 Acres	70	32
Less than .75 Acres	70	38

Map 4. Rockwall County 2016 Thoroughfare Map



Freeways

As mentioned above, IH 30 provides the foundation of the County's thoroughfare network. The function of IH 30, though managed by the state, will be pivotal to the overall plan. IH 30 is part of the interstate highway system and spans east-to-west across the northern sector of the county. It passes through Fate, Rockwall, Rowlett, and Royse City.

State Highways

The county is also served by three state highways, including SH 205, SH 66, and SH 276. SH 66 runs parallel to IH 30 and provides an alternate connection across Lake Ray Hubbard. Additionally, the roadway connects the cities of Rowlett, Rockwall, Fate, and Royse City. SH 205 runs from north to south on the west side of the county from Collin County to the city of Rockwall, where the roadway continues southeast to Kaufman County. The alignment passes through the cities of Rockwall and McLendon-Chisolm. SH 276 makes an east-to-west connection through the county from SH 205 in Hunt County. The roadway runs through the city of Rockwall and into unincorporated county before crossing into Hunt County.

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. Examples of principal arterials within the county include SH 205, John King Boulevard, and SH 66.

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. Examples of existing Rockwall County minor arterials include FM 551, FM 549, and Horizon Road.

Collectors

Collectors are designed for short trips and low speeds. They serve primarily to connect trips to higher functional class facilities and provide the highest level of access to adjacent land uses. Existing collectors include, but are not limited to, Lakeshore Drive, Cornelius Road, and Wallace Lane.

Rockwall County City Thoroughfare Standards

The following functional classification systems may need to be revisited, coordinated and updated in conjunction with the overall county transportation plan as new roadways are constructed. This will help improve or maintain the efficiency of the overall network. Because of this, the overall approach to the thoroughfare plan, including the functional classification system, was holistic in nature, and based on the existing thoroughfare plans of Rockwall County Cities. The following section describes each City's thoroughfare plan. An illustration of combined Rockwall County City Thoroughfare Maps is available in **Map 5.**

City of Fate Thoroughfare Standards

The City of Fate Thoroughfare Plan was updated in 2016; standards include four functional classifications with rights-of-way ranging from 70 to 120 feet. The network also includes round-a-bout locations and the Outer Loop alignment, which passes along the city's eastern border.

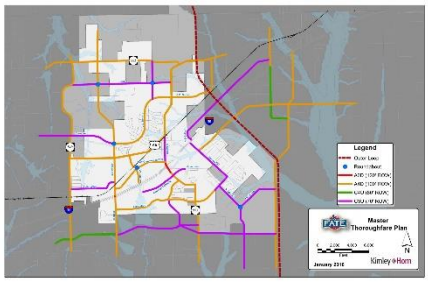


Table 5. City of Fate Functional Classifications

Functional Class	Lanes	ROW
A6D	6D	120
A4D	4D	100
C4U	4	80
C3U	3	70

City of Heath Thoroughfare Standards

The City of Heath Thoroughfare Plan was updated in 2014. The plan includes five functional classifications with rights-of-way ranging from 50 to 110 feet.

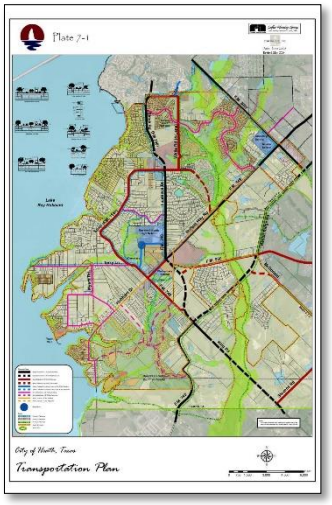


Table 6. City of Heath Functional Classifications

Functional Class	Lanes	ROW
Arterial	4D	110
Major Collector	4U	80
Minor Collector	3	60
Residential Collector	3	60
Local	2	50

City of McLendon-Chisolm Thoroughfare Standards

The McLendon-Chisolm Thoroughfare Plan was developed in 2015 and includes five functional classifications. Classifications include principal arterials, minor arterials, collectors, and local facilities. Rights-of-way range from 70 to 150 feet.

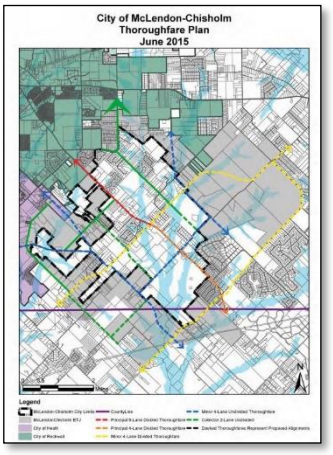


Table 7. City of McLendon Chisolm Functional Classifications

Functional Class	Lanes	ROW
Principal Arterial	6D	100-150
Principal Arterial	4D	100-120
Minor Arterial	4D	100-120
Minor Arterial	4U	100-120
Collector	2U	70

City of Rockwall Thoroughfare Standards

The City of Rockwall's thoroughfare standards were updated in 2017 and include six functional classifications. The classifications include principal arterials, minor arterials, minor collectors, and a three-lane couplet. Rights-of-way range from 57 to 110 feet.

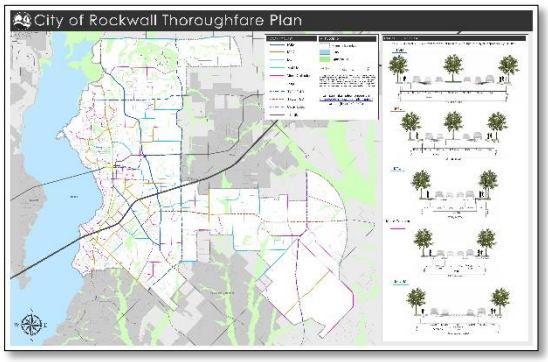


Table 8. City of Rockwall Functional Classifications

Functional Class	Lanes	ROW
P6D	6D	110
M4U-M	5R	85
M4D	4D	85
M4U	4U	65
Minor Collector	4U	60
P3U	3	57

Royse City Thoroughfare Standards

Royse City's thoroughfare standards were updated in 2018 and include five functional classifications. Functional classifications include principal arterials, minor arterials, and collectors. Rights-of-way range from 80 to 100 feet.

Table 9. Royse City Functional Classifications

Functional Class	Lanes	ROW
Principal Arterial	6D	120
Minor Arterial	5U	100
Minor Arterial	4D	100
Collector	2-4	80
Street	2U	53-70

Rowlett Thoroughfare Plan

The Rowlett's thoroughfare standards were updated in 2014. The network includes six functional classifications: major thoroughfares (A and A+), secondary thoroughfares (B, B+, and B2), and collectors (C). Rights-of-way range from 60 to 120 feet.

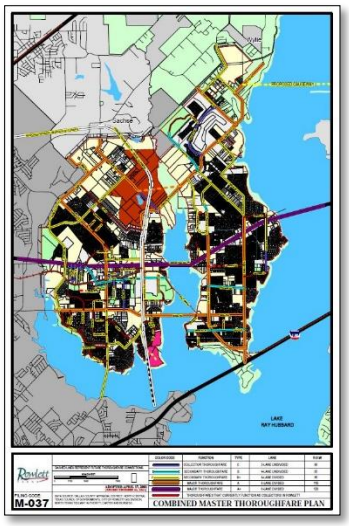
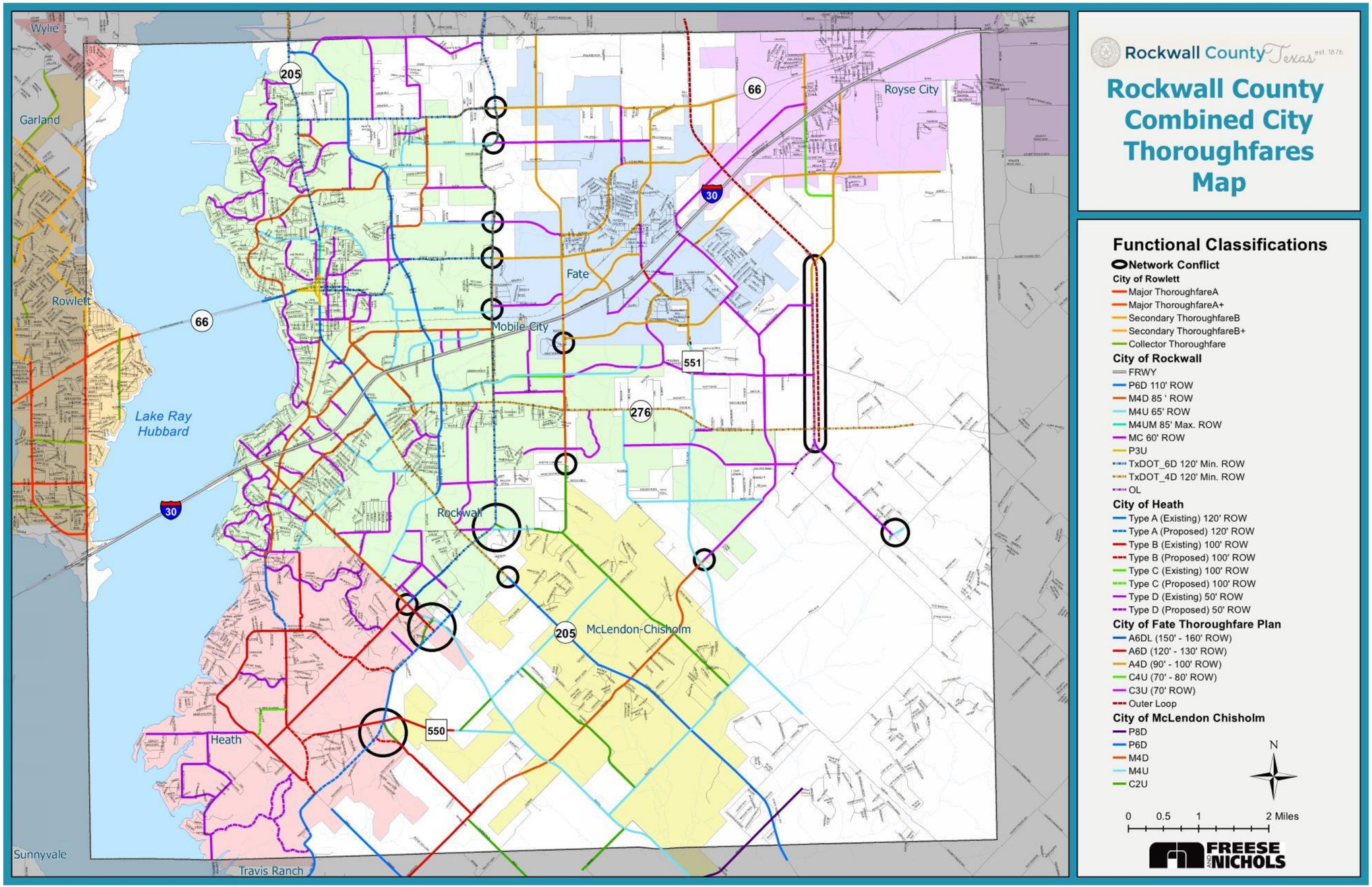


Table 10. Rowlett Functional Classifications

Functional Class	Lanes	ROW
A+	6D	120
A	4-6D	100-110
B+	4D	85-90
B	2U	65
B2	2U	80
C	2U	60-94

Map 5. Rockwall County Combined City Thoroughfares Map

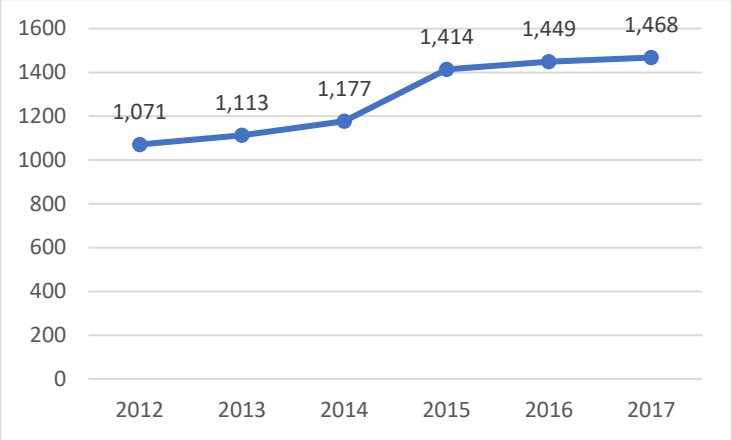


Existing Roadway Issues and Needs

Rockwall County Crash Statistics

The annual number of vehicle collisions in a county is an important indicator of how safe the roadway network is. Mapping that data can help planners and decision makers pin-point key areas for safety improvements. The location, timing, and cause of traffic collisions also provide an understanding of operational and congestion issues in a county.

Figure 7. Rockwall County 2012-2017 Traffic Collisions



Texas Department of Transportation (TxDOT) Crash Records Information System (CRIS) reported 6,824 traffic collisions in Rockwall County from 2012 to 2016; 40 of these accidents resulted in fatalities. The annual number of traffic crashes increased steadily (about 3 percent) from 2012 to 2014 but jumped nearly 17 percent between 2014 and 2016. There was a total of 1,449 traffic collisions in 2016.

Table 11. Rockwall County High Collision Corridors

High Accident Areas	Total Accidents	Rate/Mi	Rate/Vol
IH 30 from Goliad St. to Horizon Rd.	892	495	0.14
IH 30 from Epps Rd. to Floyd Rd.	441	119	0.07
Ridge Rd. from Horizon Rd. to Glenn Rd.	430	197	0.07
Goliad St. (SH 205) from FM 549 to FM 552	820	121	0.13
IH30 from Blackland Rd. to John King Blvd.	426	107	0.07
276 from Goliad St. to FM 548	294	46	0.05
SH 66 from Dalrock Rd. to William E Crawford Ave.	228	27	0.04

During this five-year period, the highest number of accidents occurred along major corridors such as IH 30, SH 66, SH 276, Goliad Street, and Ridge Road. Approximately 1,900 crashes were reported along IH 30, which makes up nearly 30 percent of the total collisions in the county. SH 66 experienced 508 crashes; 312 were reported on SH 276. Goliad Street and Ridge Road, which eventually merge into a single facility, had 764 and 453 collisions respectively.

Specific road segments with high crash rates were identified in **Table 11**. The two-mile stretch of IH 30, from Goliad Street to Horizon Road, accounted for nearly 892 traffic collisions – a rate of 492 collisions per mile. Even when controlled for traffic volumes, this segment of IH 30 had the highest rate of vehicle

collisions. The segment of Goliad Street, stretching from FM 549 to FM 552, had the second highest number of crashes with 820 collisions. This accounted for about 18 percent of the total crashes in the county during this time period. An illustration of 2012 – 2016 Rockwall County Traffic Collisions is shown in **Map 6.**

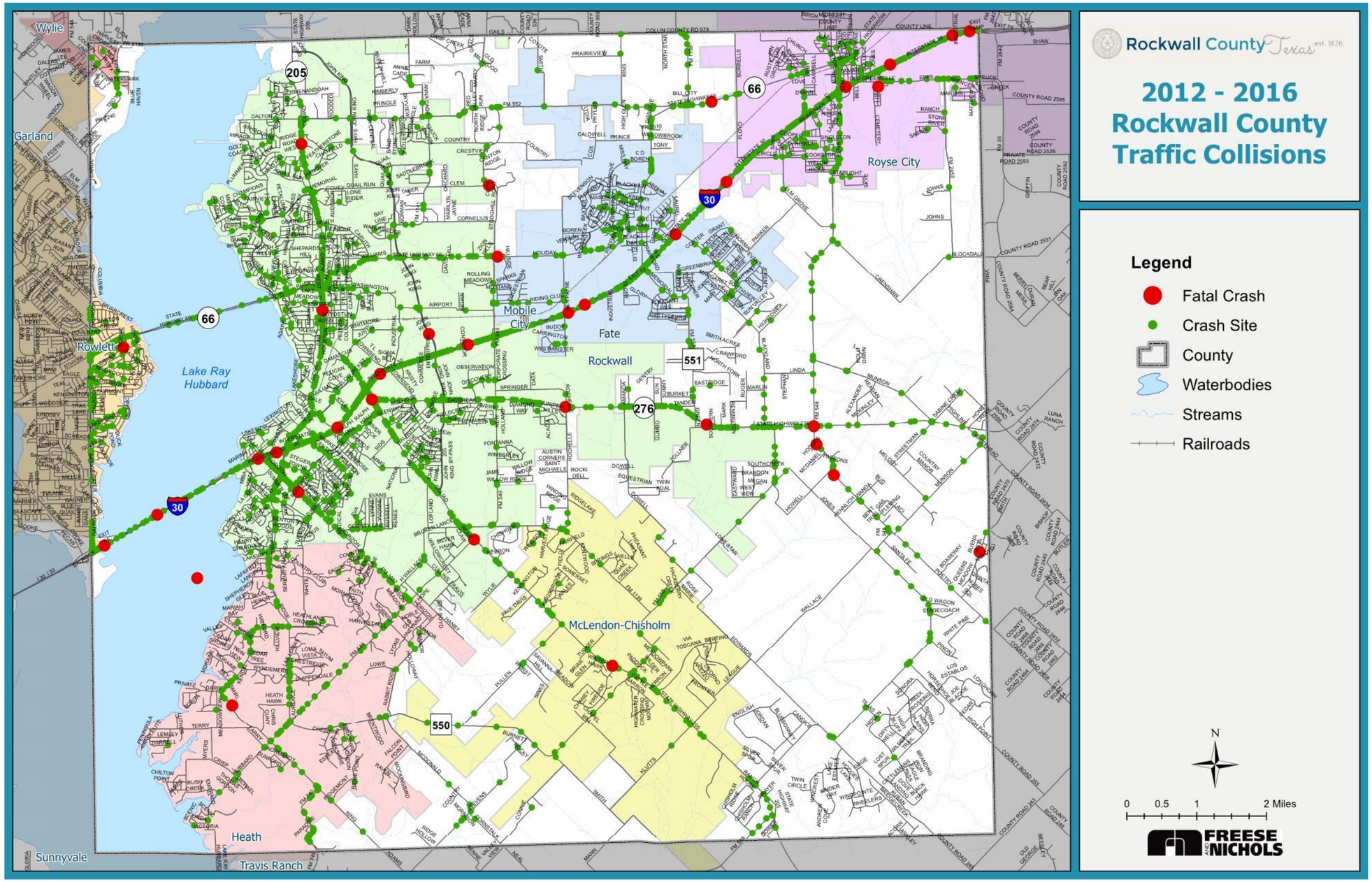
Contributing Factors

The most frequent contributing factors for Rockwall County traffic collisions included driver inattention, failure to yield on left-turns, following too closely, and failure to control speed. Interestingly, of the 6,824 total collisions that occurred between 2012 and 2016, less than three percent were caused by vehicles going over 70 miles per hour. The bulk of accidents were documented at speeds of 55 – 65 miles per hour (31 percent) and 45 – 50 miles per hour (28 percent). Many of these crashes occurred in areas with wide multilane intersections.

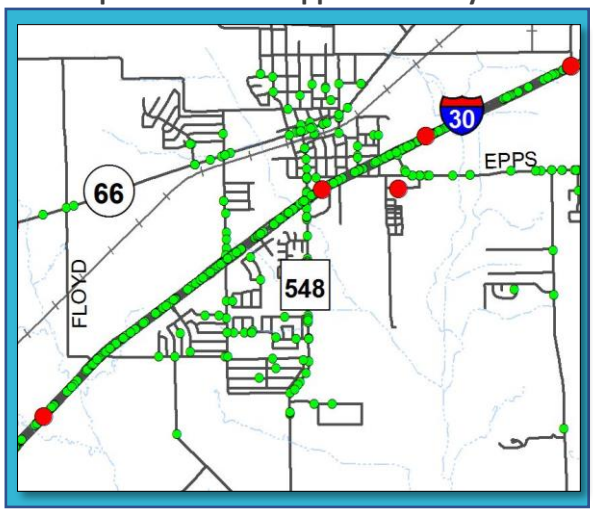
Of the crashes in this five-year period, 13 involved pedestrians. Fortunately, 91 percent of total collisions were non-injury related. The annual number of fatalities has declined since 2012, which had 12 fatalities. However, 2016 saw its rate of fatal crashes rise from 4 fatalities in 2015 to 11 in 2016.

Stakeholders identified the segment of IH 30 between Epps Road and Floyd Road as a critical corridor due to the number of traffic collisions. This segment carried a lower number of vehicles than other segments of IH 30 (32,204 VPD) but was the site of nine fatalities in 2017 alone.

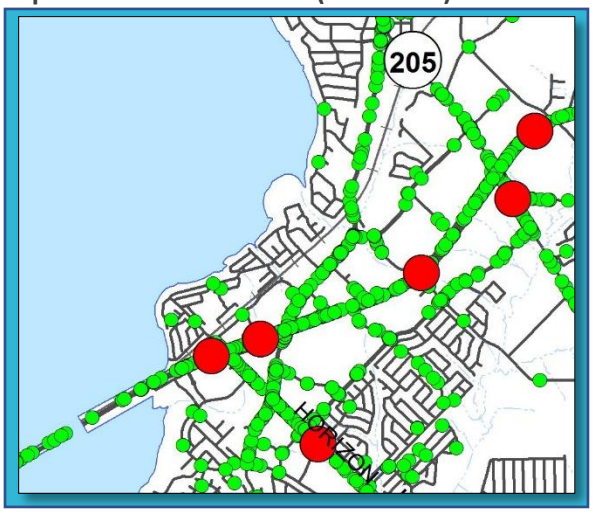
Map 6. 2012 – 2016 Rockwall County Traffic Collisions



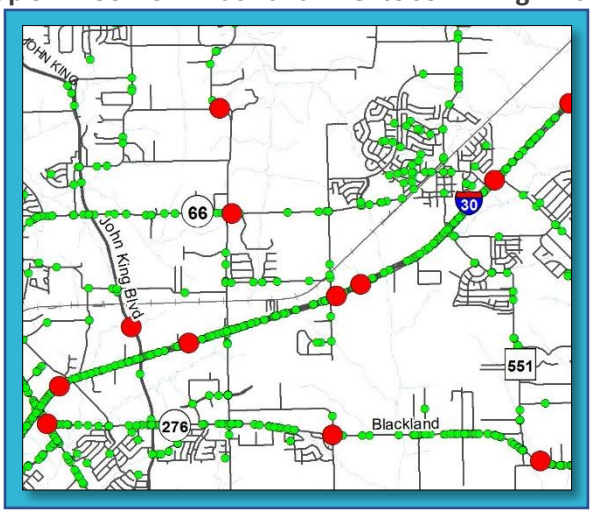
Map 7. IH 30 from Epps Rd. to Floyd Rd.



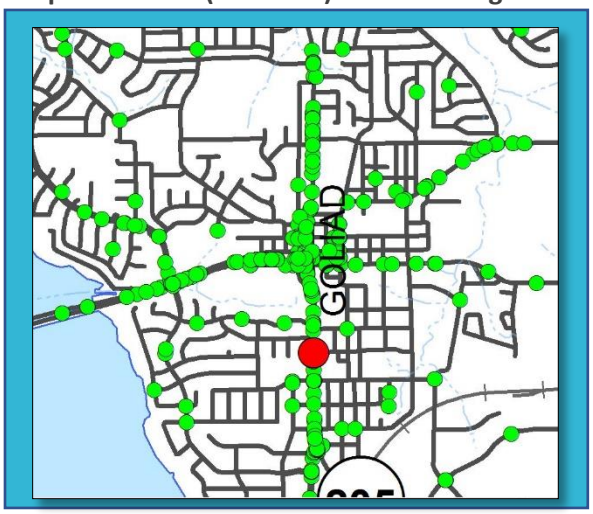
Map 8. IH 30 from SH 205 (Goliad St.) to Horizon Rd.



Map 9. IH 30 from Blackland Ave. to John King Blvd.



Map 10. SH 205 (Goliad St) North of Ridge Rd.



Connectivity and Access Issues

Connectivity and access are two of the most important elements of a thoroughfare network because they determine the ease at which commuters can travel between origins and destinations within the county. Rockwall County stakeholders identified several connectivity issues that need to be addressed in the thoroughfare plan. As mentioned previously, Rockwall County is located at the junction of two distinct roadway alignment styles: The Law of the Indies configuration and the Colonial configuration.

Because of this conflict, there are few direct north-to-south connections within the county. Commuters traveling north from the southern sector of the county have to zigzag through the landscape until they reach SH 276 before they can travel directly south to north. In addition to the need for a larger north-to-south arterial or freeway, stakeholders stressed the need for other lower functioning, but contiguous and direct, north-to-south routes. Particular areas of need include the eastern sector of the county between SH 205 and IH 30 and along the eastern edge of Rowlett between SH 66 and the northern county line.

Similarly, stakeholders also stressed the need for more east-to-west facilities. They noted the need for east-to-west roadways just south of Royse City to provide an alternative connection into Hunt County. They also emphasized the need for a northern east-to-west facility along the Collin County line and a potential bridge connection extending John King Boulevard west into Dallas County.

Critical Corridors

The following section describes Rockwall County's critical corridors. Critcal corridors include road segments county stakeholders identified as highly congested or the site of a high number of traffic collisions. Some of the causes of congestion include capacity limitations, such as too few lanes, and access management issues, such as turning movements, driveways, and/or traffic signals within a limited distance. High levels of corridor congestion may lead to higher rates of traffic collisions, trip delays, and increased driver frustration. It may also impact the economic vitality of an area as high congestion levels may deter out-of-town shoppers. **Table 12** provides a summary of identified critical corridors in Rockwall County.

Table 12. Rockwall Identified Critical Corridors

Roadway	Limits	Issue	LOS
Horizon Rd.	FM 549 to IH 30 Frontage Rd.	Collisions Access Issues Congestion	F
FM 549	Horizon Rd. to FM 740	Collisions Poor Road Conditions	ABC
SH 66	Scenic Blvd. to Lakeshore Dr.	Congestion	F
IH 30	Dalrock Rd. to Horizon Rd.	Congestion	DE
FM 548	Thunderbird to IH 30 Frontage Rd.	Congestion	ABC
SH 66	Floyd Rd. to Collin County Line	Congestion Limited Railroad Clearance	ABC
FM 35	IH 30 Frontage Rd. to Overstreet Ln.	Congestion	ABC
Erby Campbell Blvd.	SH 66 to Cookston Ln.	Congestion	ABC
SH 205	FM 549 to Sids Rd.	Congestion Collisions	DE
SH 205	FM 550 to Kaufman County Line	Congestion Collisions	DE
FM 550	Meadowcreek to Jones Rd.	Congestion	ABC

Horizon Road

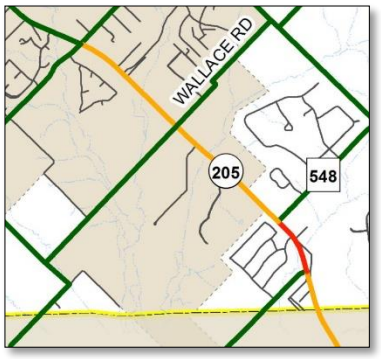
Stakeholders identified Horizon Road as a congested corridor due to high congestion levels, impaired access to residential areas, and a high rate of collisions. Roadway cross-sections vary throughout the corridor, transitioning from three lanes between FM 549 and Pullen Elementary, to two lanes (with left-turn lanes) from Pullen Elementary to Ralph Hall, to three lanes from Ralph Hall to Ridge Road, to four lanes from Ridge Road to the IH 30 frontage road. The most congested segment, according to NCTCOG 2017 traffic volumes, is between Ridge Road and the IH 30 frontage road, where the roadway accommodates about 20,000 vehicles per day at LOS F.

The segment of Horizon Road between Ridge Road and Tubbs Road, which carries up to 13,700 vehicles per day, was also identified as a critical corridor. Commuters experience greater congestion and higher volumes between Ridge Road and Ralph Hall Parkway, which operates at LOS DE. Traffic tends to back up south of Ralph Hall Parkway due to the roadway narrowing to two lanes and vehicles turning into driveways and neighborhoods. In fact, volumes south of Ralph Hall Parkway drop below 5,000 vehicles per day, but commuters experience headaches due to the number of vehicles queuing in left-turn lanes.

SH 205 (Goliad Street)

SH 205 provides a pivotal north-to-south connection though Rockwall County, providing a route from Kaufman County, through McLendon-Chisolm and Rockwall, and north into Collin County. The roadway also provides access to IH 30 and SH 66 – which are primary access connections into the county. The roadway is also among the most congested corridors in the county. Of particular note are the southern segments (from the Kaufman County Line to FM 549) and the northern segments through downtown Rockwall (from Olive Street to the Collin County Line).

SH 205 (Southern Segment)



Stakeholders identified the southern segment of SH 205 as a congested corridor. This two-lane (with left-turn lanes) segment of SH 205, accommodates mostly through traffic – given the primary land use is large lot single family development. Congestion issues include high traffic volumes, too few lanes, and a high number of traffic collisions. The segment currently accommodates up to 19,000 vehicles per day and primarily operates at LOS DE. Roadway operations reach LOS F through the half-mile stretch just south of McLendon-Chisolm, where SH 205 briefly merges with FM 548. There were 70 traffic collisions along the corridor between 2012 and 2016.

Northern Segment

The northern segment of SH 205 is currently a two-lane facility with left-turn lanes. Adjacent development is primarily residential, though there is a school, grocery store, and a few gas stations along the corridor. Congestion issues include too few driving and turning lanes, high traffic volumes, and a high number of traffic collisions. This segment of SH 205 currently accommodates as many as 23,000 vehicles per day at LOS F. In addition to high volumes, traffic also backs up, primarily during a.m. and p.m. peak periods, as commuters attempt to turn left into residential areas. There were 140 traffic collisions along the corridor between 2012 and 2016; one resulted in a fatality.

SH 66

Stakeholders identified the segment of SH 66, from Scenic Boulevard to Lakeshore Drive as a congested corridor. The corridor, primarily a four-lane bridge section, accommodates mostly pass-through traffic, but provides access to few retail, restaurant, and low-density office developments. The primary cause of congestion along the corridor is high volumes. Commuters use this segment of SH 66 as a secondary corridor into and out of the county, and the volumes generated are too high for the four-lane roadway to accommodate. The roadway currently accommodates as many as 49,000 vehicles per day at LOS F. There were 89 traffic collisions along this segment of SH 66 between 2012 and 2016.

Critical Intersections

A number of critical intersections were identified throughout the county by stakeholders during the plan input process. These intersections are not only characterized by a high number of traffic collisions, but by geometric issues, high speeds, and poor maintenance as well. **Table 13** details critical intersections located within Rockwall County.

Table 13. Rockwall County Stakeholder Identified Critical Intersections

Approach A	Approach B	Issue	Collisions
IH 30 Frontage Rd.	**SH 205**	Congestion	16
Dalrock Rd.	**SH 66**	Collisions Congestion	19
Horizon Rd.	**IH 30 Frontage Rd.**	Collisions Congestion	28
FM 552	**SH 66**	Congestion	22
IH 30 Frontage Rd.	**Erby Campbell Blvd.**	Congestion	23
SH 66	**Scenic Blvd.**	Collisions Congestion	28
SH 276	**Corporate Crossing/ New Holland Dr.**	Collisions Congestion	19
William E. Crawford Ave.	**Main St. (Fate)**	Congestion	5
SH 205	**SH 276**	Collisions Congestion	182
FM 1138	**SH 66**	Congestion	11

SH 205 and SH 276

The intersection of SH 205 and SH 276 is one of the key commercial intersections in the county. It is the site of the TA truck stop, Costco, a RaceTrac gas station, and a number of other retail and restaurant venues. The intersection was identified due to high congestion levels and traffic collisions. The eastern SH 276 approach to the intersection operates at a daily LOS F and the northern SH 205 approach at LOS DE. Additionally, the intersection was the site of 182 traffic collisions from 2012 to 2016. One collision resulted in a fatality.

SH 66 and Scenic Boulevard

Stakeholders identified the intersection of SH 66 and Scenic Boulevard as a dangerous intersection due to the high number of traffic collisions. The intersection was the site of 29 collisions between 2012 and 2016. Traffic volumes are not available for the Scenic Boulevard approach, but both SH 66 approaches operate at LOS F. The intersection is the site of a low intensity strip development, doctors' offices, and Tatiano's Italian Restaurant.

Horizon Road and IH 30

Stakeholders identified the intersection of Horizon Road and the IH 30 frontage road as critical due to high congestion levels and traffic collisions. The Horizon Road approaches operate at LOS F from both directions, and the IH 30 frontage road at LOS DE. The intersection was also the site of 28 traffic collisions between 2012 and 2016.

SH 205 and IH 30 Frontage Lanes

Stakeholders identified the intersection of IH 30 and SH 205 as a critical intersection due to high congestion levels. The north and southbound lanes of SH 205 each include two through lanes, one dual purpose (left/straight) lane, one left-turn lane, and one right-turn lane. The east and westbound IH 30 frontage lanes include two thru-lanes, one right-turn lane, one left-turn lane, and a Texas U-turn. The intersection currently accommodates about 42,000 vehicles per day and was the site of 16 traffic collisions between 2013 and 2016. The left and right-turn lanes at the intersection should provide it ample capacity to accommodate traffic volumes, but the proximity of driveways on SH 205, the SH 276/ SH 205 intersection (600 feet), and other elements may cause through traffic to back up into the intersection.

Load Restricted (Load Zone) Roadways

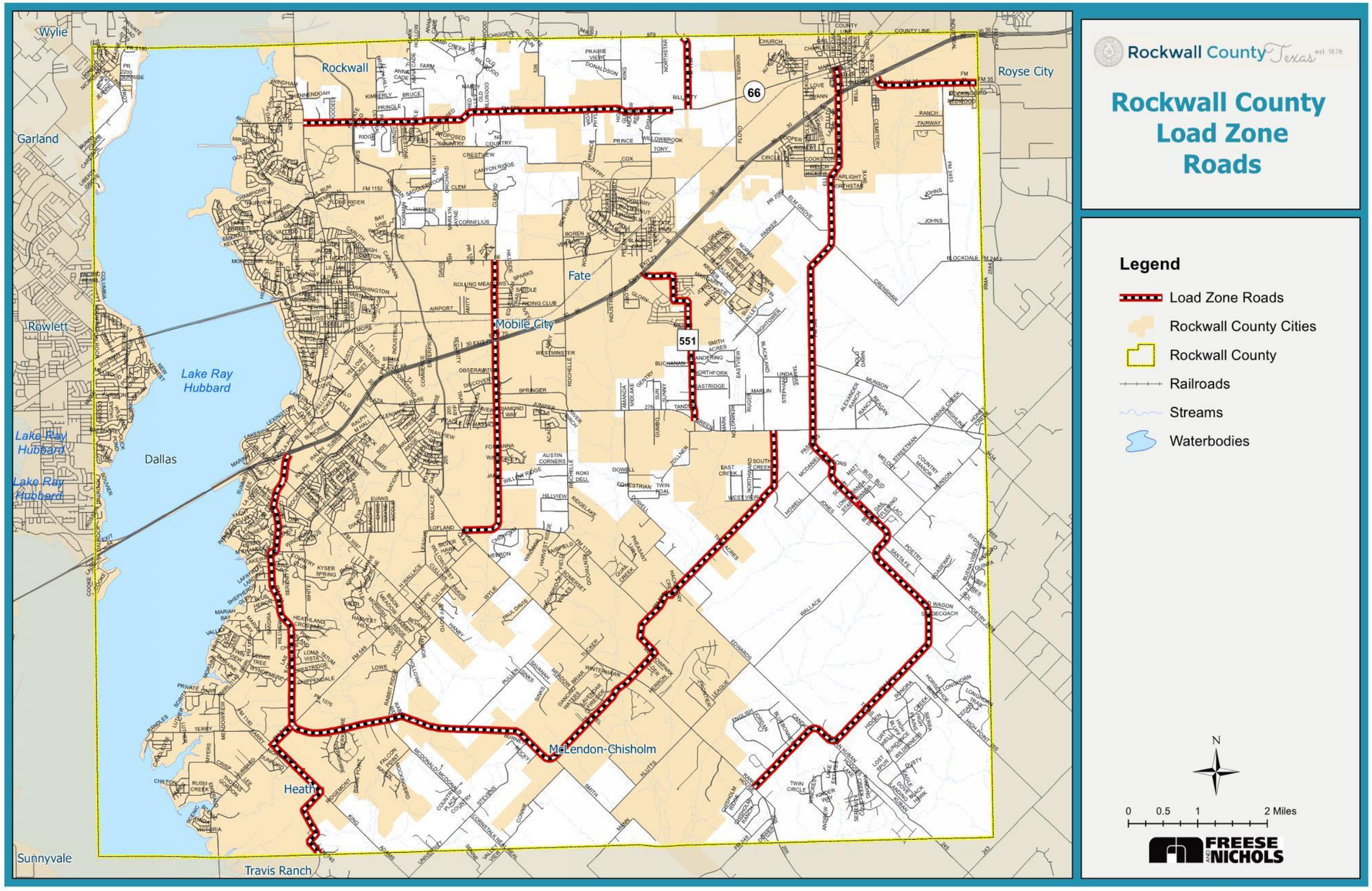
Load zone or load restricted roadways are roads generally constructed prior to 1960 and designed for lighter wheel loads than currently allowed by law. **Table 14** details existing Rockwall County load zone roads. There are currently 11 Rockwall County load zone road segments with gross vehicle weight (GVW) restrictions ranging between 40,000 and 58,420 pounds. The majority of the roadways listed are located in either low intensity development or largely undeveloped areas and accommodate a relatively low number of vehicles per day.

Table 14. Rockwall County Load Zoned Roadways

Roadway	Limits	Load Limit
FM 1138	Collin County Line to SH 66	58,420 GVW
FM 740	FM 550 to Kaufman County Line	58,420 GVW
FM 740	IH30 to Junction FM 550	58,420 GVW
FM 35	IH 30 to Hunt County Line	58,420 GVW
FM 549	SH 66 to SH 205	58,420 GVW
FM 550	SH 205 to FM 740	58,420 GVW
FM 551	IH 30 to SH 276	40,000 GVW 12,000 AX
FM 550	SH 276 to SH 205	58,420 GVW
FM 552	SH 205 to SH 66	58,420 GVW
FM 548	SH 276 to SH 205	58,420 GVW
FM 548	SH 66 to SH 276	58,420 GVW

The segment of FM 549 from IH 30 to SH 66 is currently the only load zone roadway segment in the county operating below LOS ABC; it currently accommodates about 13,000 vehicles per day at LOS F. Improving FM 549 and other Rockwall County load zoned roads will be more important as development increases in the county. Current Rockwall County load zone roadways are illustrated in **Map 11**.

Map 11. Rockwall County Load Zone Roads



Bridges

One of the most critical maintenance issues/costs for counties is bridge maintenance. Load restricted bridges not only limit truck access – which might impact the economic vitality and developability of an area – but also increase congestion and reduce roadway safety. TxDOT rates its bridges in six categories:

- Good or Better (GB) Structure – A bridge that meets current state and federal structural requirements in terms of load carrying capacity, deck geometry, vertical or horizontal clearances, and approach roadway alignment.
- Structurally Deficient (SD) Structure – A bridge is determined to be structurally deficient if it has extreme restrictions on load capacity, is frequently over-topped during flooding, deteriorated in a manner that reduces load-carrying capacity beneath its original as built-capacity, and/or closed.
- Functionally Obsolete (FO) Structure – A roadway is classified as functionally obsolete if it fails to meet deck geometry, vertical or horizontal clearances, load-carrying capacity, and/or approach roadway alignment design criteria.
- Sub-Standard for Load Only (SSLO) Structure – A bridge is determined to be sub-standard for load only if it still meets its original load bearing and design criteria, but the design is not sufficient to carry current legal loads. It is not classified structurally deficient or functionally obsolete.
- Load-Posted Bridges – A load posted bridge's safe load capacity is below the state's minimum load criteria. Its load capacity is communicated by a sign on the bridge approaches.
- Land-Locking Bridge – A bridge is land locking if it restricts traffic into an area because no other public road or bridge in the area is capable of accommodating a legal load.

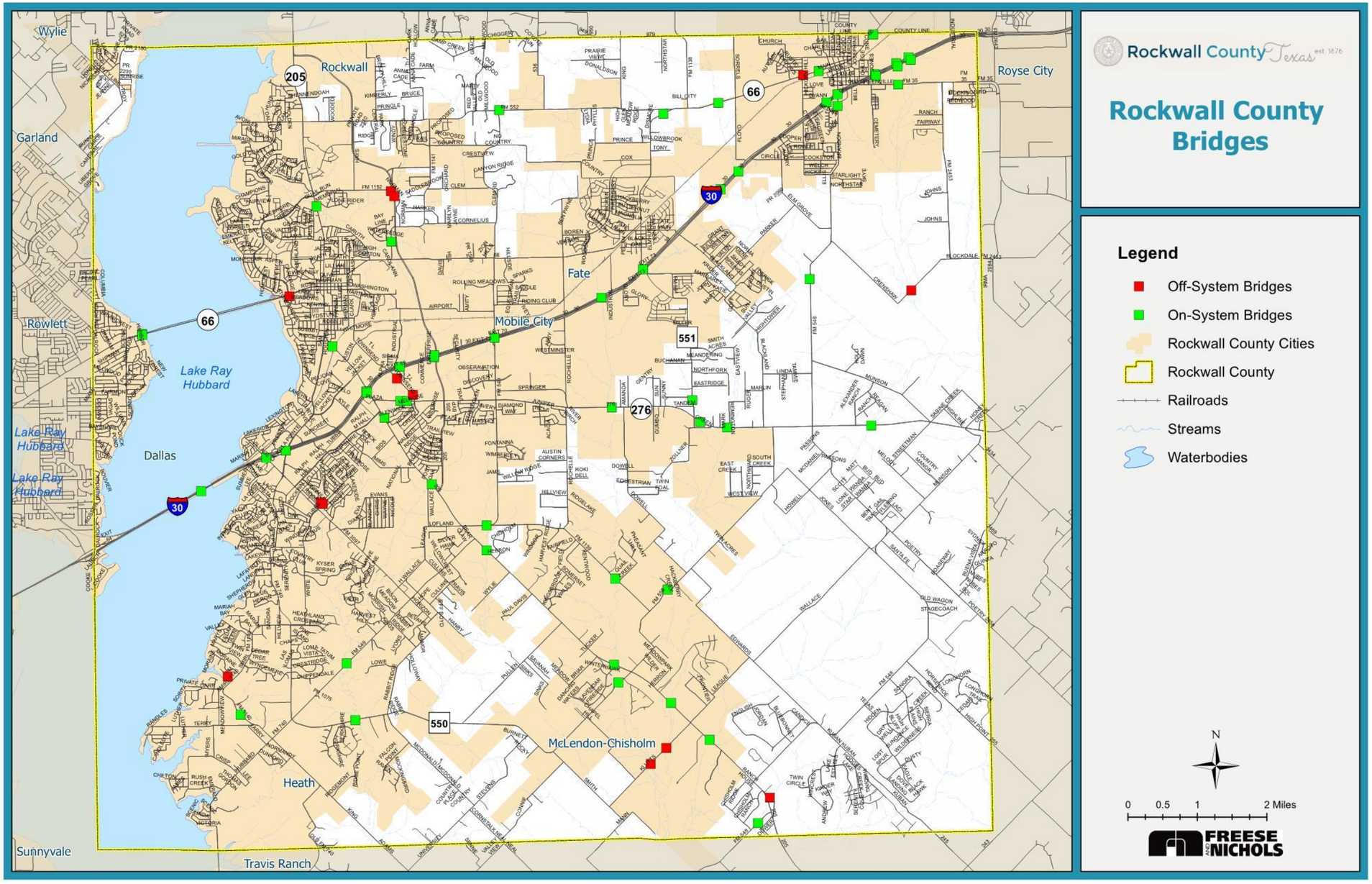
According to the TxDOT's 2016 Report on Texas Bridges (detailed in **Table 15**), there are currently 70 bridges within the county; 56 have good or better structure. Despite the high number of sufficient bridges, there are still 12 functionally obsolete bridges and two that are sub-standard for load only.

Table 15. Rockwall County Bridge Conditions

	Total Bridges	SD	FO	SSLD	GB
On-System	56	0	12	0	44
Off-System	14	0	0	2	12
Total	70	0	12	2	56

Functionally obsolete bridges include, but are not limited to, the Hackberry Creek Bridge over SH 276, the Parker Creek Bridge on FM 548, and the Long Branch Creek Bridge on SH 205. The City of Heath also noted that the bridge over Buffalo Creek on FM 549 needs to be raised and widened. Rockwall County Bridges are illustrated in **Map 12.**

Map 12. Rockwall County Bridges



Goods Movement, Freight, and Aviation

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 origin to destination, but they do impact a county's transportation network and overall quality of life. Aviation is nearly 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 people and businesses need to create and maintain a thriving economy.

Goods Movement

Truck traffic is a key concern for counties due to the stress they place on county roads. Despite Cities and Counties placing restrictions on truck traffic, trucks have the right to utilize most roads to reach their destinations. They are, however, limited by low elevation or structurally deficient bridges and roadways with tight geometry. There are few designated truck routes within the county, and it is difficult to police all truck-restricted roadways. This is not only a concern for the operation and maintenance of Rockwall County roads, but a safety issue as well. Truck volumes are illustrated in **Map 13.** According to 2017 NCTCOG traffic volumes, IH 30 had the highest truck volumes, accommodating as many as 14,000 trucks per day. Other high truck volume corridors included SH 205 and SH 66, which each accommodated as many as 2,800 trucks per day.

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. IH 30 is currently the only primary truck route in Rockwall County. Segments of SH 66 and SH 205 are included on the list of secondary routes. **Map 14** provides an illustration of the existing Goods Movement, Freight, and Aviation in Rockwall County.

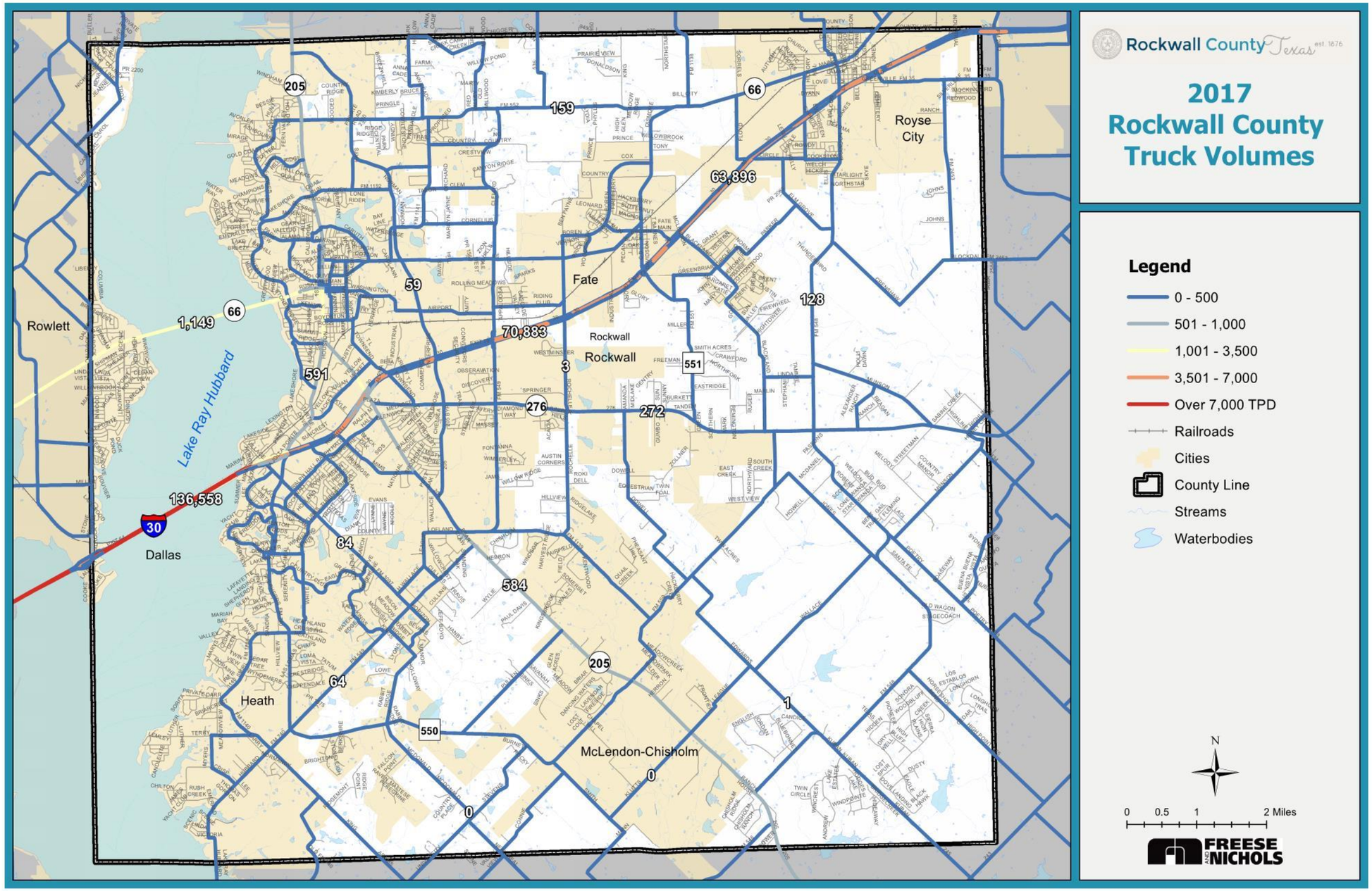
Freight

Dallas, Garland & Northeastern Railroad (DGNO) currently has the only freight rail line that traverses Rockwall County. The line bisects the northern sectors of the county, passing through Rockwall, Mobile City, Fate, and currently operates four freight trains per day. There are also 18 rail crossings along the route, including SH 205 (Goliad), SH 66, Dalrock Road, and John King Boulevard.

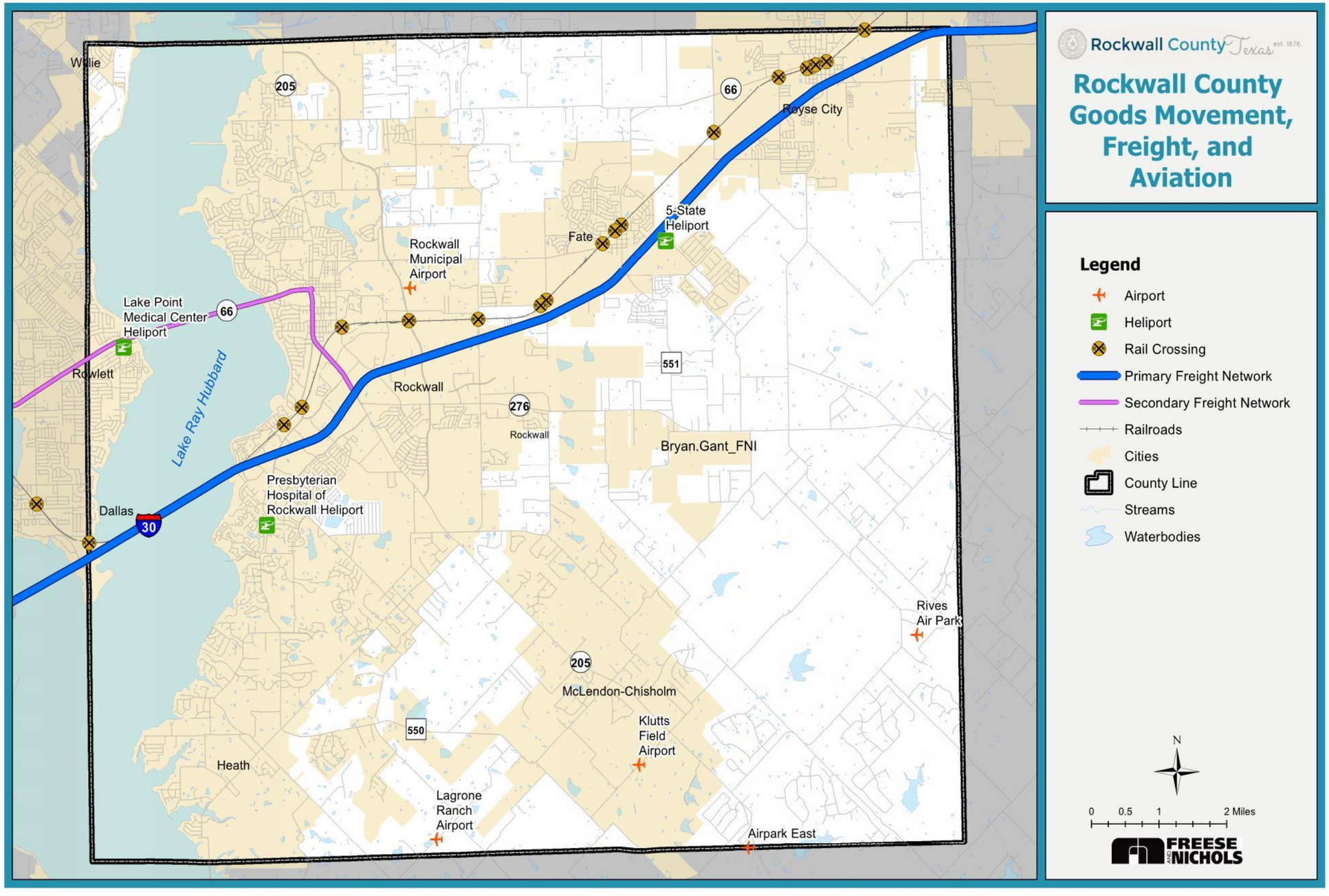
Aviation

There are currently three public airports located within Rockwall County: Rockwall Municipal Airport, Rives Air Park Airport, and Airpark East Airport. The county is also home to three private airports/ airstrips and two heliports.

Map 13. 2017 Rockwall County Truck Volumes



Map 14. Rockwall County Goods Movement, Freight, and Aviation



Chapter 4: Existing Baseline Traffic Conditions

Existing Roadway Operations

The operational efficiency of a roadway is determined by the amount of traffic it can accommodate and the relative level of ease commuters have when traveling along it. A number of roadway factors may be used to gauge the efficiency of a transportation network. Traffic Volumes, Level-of-Service (LOS), and Vehicle Miles Traveled (VMT) were used to gage the efficiency of Rockwall County's thoroughfare network. 2017 was used as the base year for the assessment of Rockwall County's thoroughfare network. The baseline analysis will help decision makers determine the impact of future and development on Rockwall County's thoroughfare network.

Traffic Volumes

Understanding current traffic volumes is an important step in determining how the road network is functioning 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. The following section summarizes 2017 traffic volumes within Rockwall County.

2017 Daily Traffic Volumes

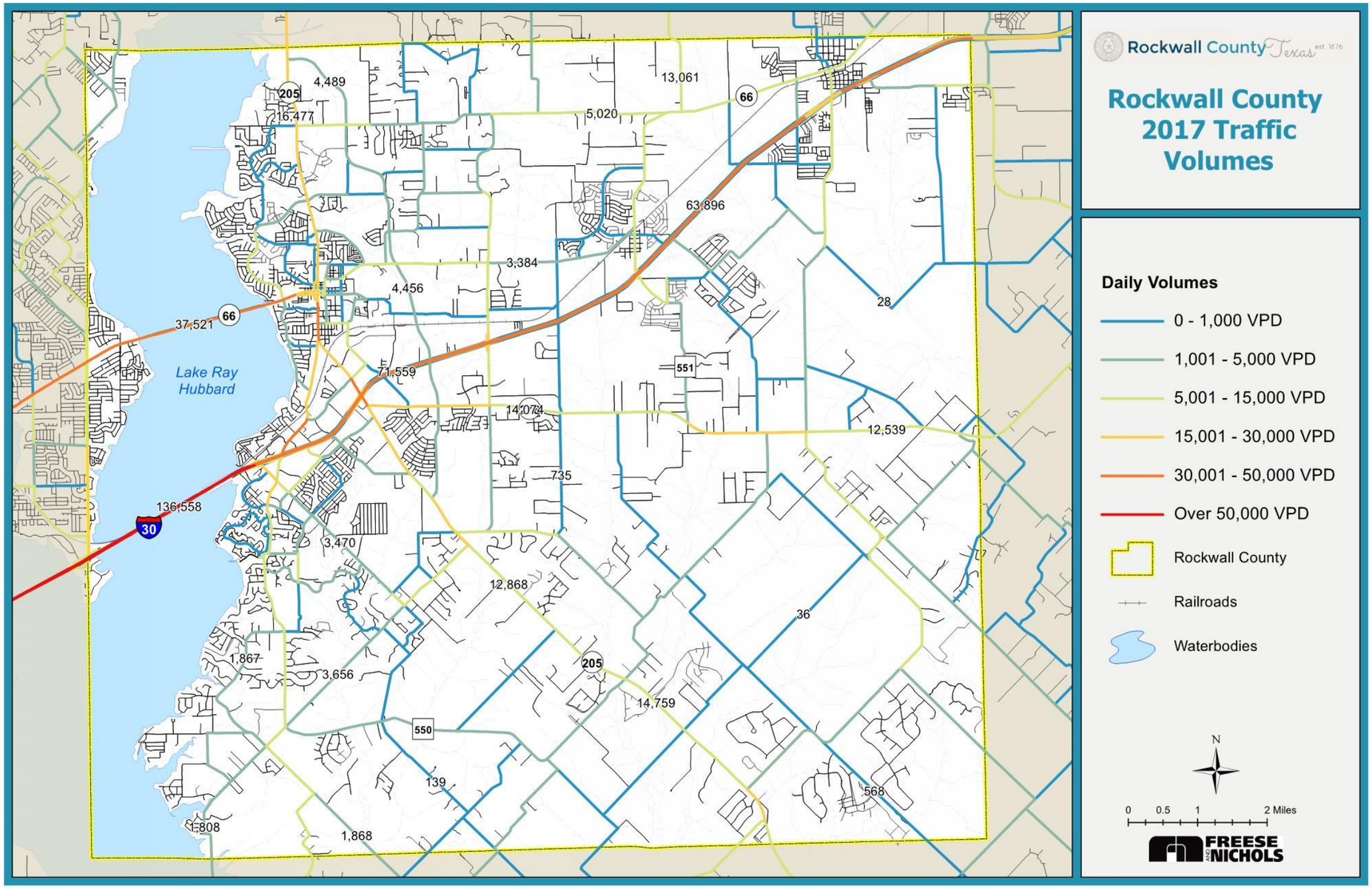
Overall, traffic volumes are relatively low compared to neighboring Dallas County and Collin County, ranging from fewer than 100 vehicles per day to over 130,000 per day. The highest volume corridor, described in **Table 16**, was IH 30, which carried as many as 136,500 vehicles per day (68,500 in each direction). The highest volume segment was the Lake Ray Hubbard Bridge between Dalrock Road and Horizon Road, which is the primary corridor into Rockwall County.

Other high-volume corridors include SH 66 through Rowlett (49,000 VPD), SH 205 (45,600 VPD), and FM 740 (31,000 VPD). These high-volume corridors provide key connections between Rockwall County cities and bolster the framework for much of the commercial development within the county. In fact, nearly 60 percent of the county's total 2017 VMT were on these facilities. 2017 traffic volumes are illustrated in **Map 15.**

Table 16. Rockwall County 2017 High Volume Corridors

Roadway	Segment	Daily Volume	Daily LOS	VMT	AM LOS	PM LOS
IH 30	Dalrock Rd. to Horizon Rd.	136,557	DE	310,250	DE	DE
SH 66 (Lakeview Pkwy.)	Dalrock Rd. to Harbor St.	49,188	F	351,485	F	F
IH 30	Greencrust St. to Kyle St.	90,834	ABC	26,932	ABC	ABC
SH 205 (Goliad St.)	Alamo Rd. to Boydstun Ave.	45,608	DE	9,412	DE	DE
SH 66	Harbor St. to Lakeshore Dr.	37,521	F	76,564	F	F
FM 740	Yellow Jacket Ln. to IH 30 Frontage Rd.	31,300	F	10,845	DE	F
Dalrock Rd.	SH 30 Frontage Rd. to Chiesa Rd.	26,528	F	7,050	F	DE
FM 740	Becky Ln. to Yellow Jacket Ln.	25,650	DE	11,206	DE	DE
SH 205 (Goliad St.)	FM 552 to Lakeshore Dr.	22,911	F	25,006	F	F
Horizon Rd.	IH 30 Frontage Rd. to FM 740	20,462	F	6,328	F	F
SH 205	FM 548 to FM 548	19,384	F	10,079	F	F
SH 276	Blackland Rd. to FM 548	16,928	F	12,019	F	F

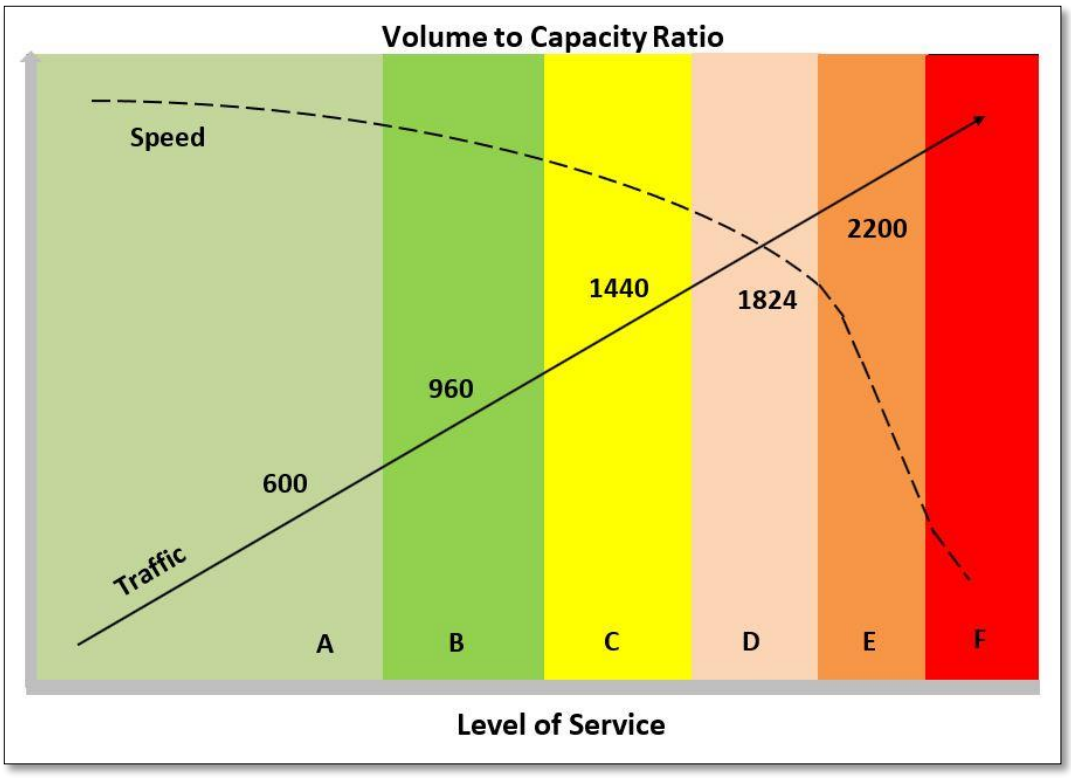
Map 15. Rockwall County 2017 Traffic Volumes



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. Traffic operations range from A through F, with A referring to free flow traffic conditions and F representing severely congested facilities. **Figure** 8 illustrates the relationship between level-of-service and traffic movement.

Figure 8. Level-of-Service, Volume to Capacity Relationship



Most agencies design roadways for LOS C and D operational conditions during the peak hours. Economically, roadways operating at LOS C or D facilitate traffic just slow 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. The following section describes level-of-service operational conditions.

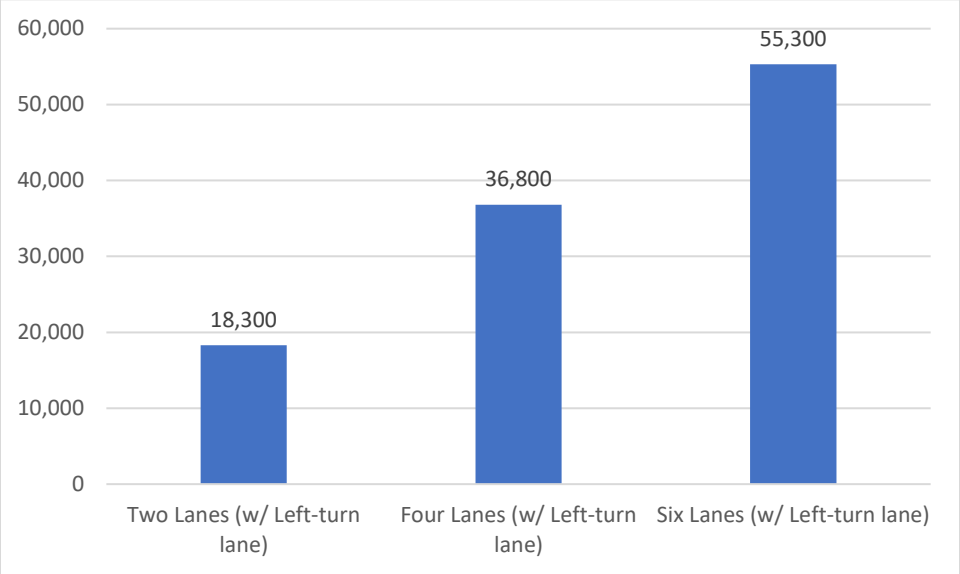
LOS ABC: Traffic flow in this category moves at or above the posted speed limit. Travel time in this category is not hindered as a result of congestion because traffic volumes are much less than the actual capacity.

LOS DE: This category is slightly more congested than LOS ABC; however, traffic volumes are beginning to reach their capacity of the thoroughfare. Traffic moves along at a fairly efficient rate, and posted speeds may not be fully reached.

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.

Figure 9 illustrates roadway capacity by lane number. Over 80 percent of the roadways evaluated in the County's 2017 network are two-lane facilities. Typically, a two-lane roadway with left-turn lanes can accommodate about 18,300 vehicles per day. As traffic volumes approach this threshold, level-of-service diminishes. These numbers reflect ideal operational conditions, however, and do not account for factors such as intersection spacing, driveways, or other access management issues. Many of the two-lane roadways in the county do not have turn lanes, but only accommodate about 1,050 vehicles per hour during peak conditions.

Figure 9. Roadway Capacity by Number of Lanes Based on LOS DE Thresholds



Source: Highway Capacity Manual, 6th Edition. 2016

2017 Rockwall County Network Level-of-Service (LOS)

As mentioned above, LOS is used to determine whether a roadway has the capacity to accommodate the volumes of traffic it experiences on a day-to-day basis or during peak hour traffic conditions. The following section details LOS on Rockwall County roadways using daily, AM, and PM traffic conditions.

Daily Level-of-Service

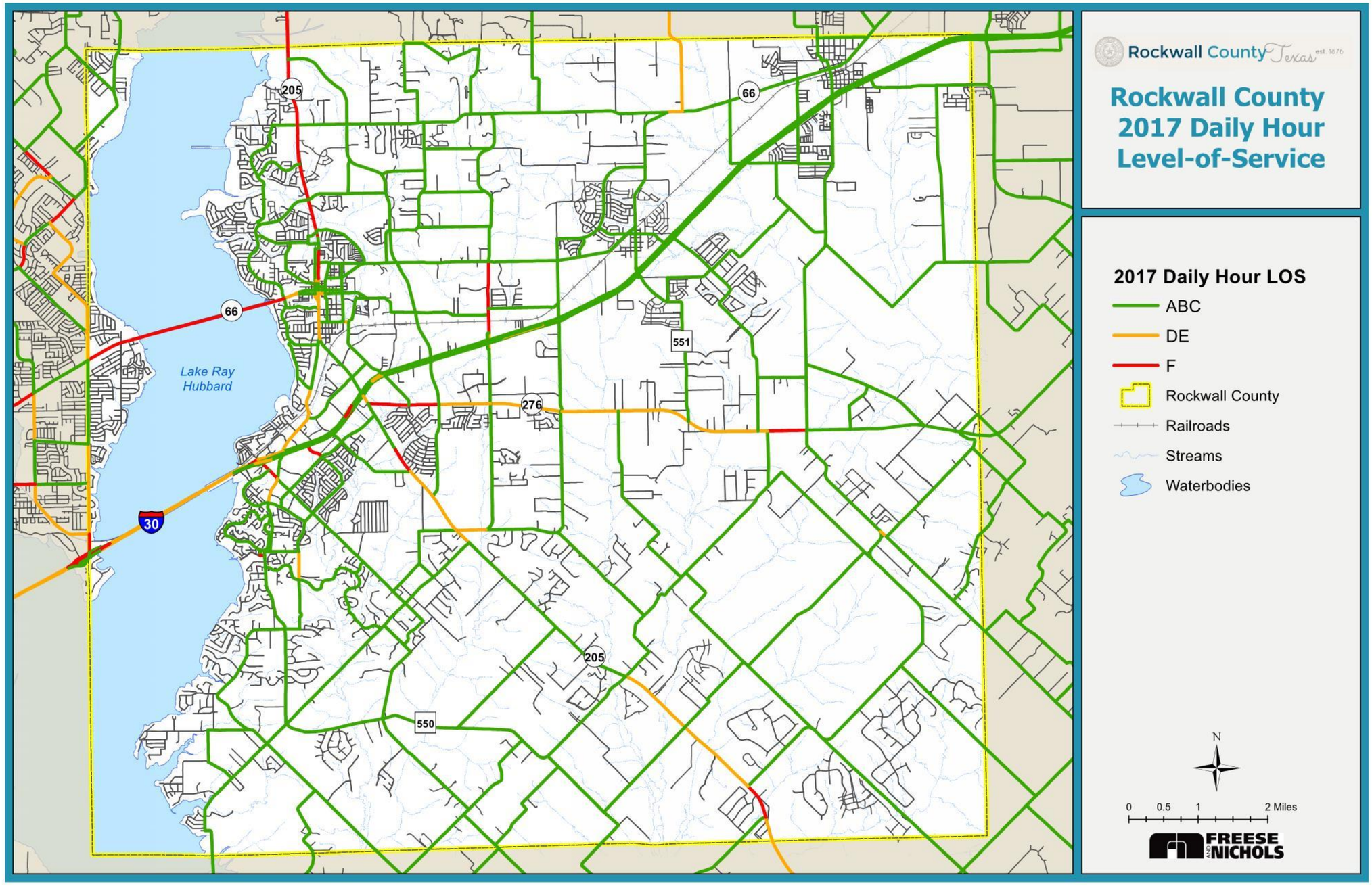
The analysis indicates that under current conditions, there is sufficient daily capacity to accommodate most of the traffic on Rockwall County's road network. In fact, the majority of the roadways within the county operate at LOS ABC. There are, however, pockets of congestion on a few roadways around the county**. Table 17** details roadways operating at LOS DE and F within the county. Road segments operating at daily LOS F include, but are not limited to, SH 205, SH 66, SH 276, FM 549, and Horizon Road. Other corridors, such as IH 30 and Dalrock Road, operate at LOS DE, but may deteriorate to LOS F as growth and development within the county persists.

Table 17. Rockwall County 2017 Level-of-Service DE and F Corridors

Roadway	Segment	Daily Volume	Daily LOS	AM LOS	PM LOS	Lanes
SH 66	Dalrock Rd. to Lakeshore Dr.	37,521	F	F	F	4
SH 205	FM 552 to Alamo Rd.	23,274	F	F	F	2
SH 205	FM 552 to John King Blvd.	16,477	F	DE	F	2
Horizon Rd.	IH 30 Frontage Rd. to FM 3097	20,462	F	F	F	2
SH 276	SH 205 to FM 549	19,665	F	DE	DE	2
FM 3549	SH 66 to IH 30 Frontage Rd.	13,145	F	DE	F	2
Dalrock Rd.	IH 30 Frontage Rd. to Chiesa Rd.	26,528	F	F	DE	4
SH 205	Live Oak St. to Olive St.	22,354	F	F	F	2
SH 276	FM 549 to FM 551	14,236	DE	DE	DE	2
SH 276	FM 550 to FM 548	16,928	F	F	F	2
SH 276	FM 551 to FM 550	15,540	F	F	DE	2
IH 30	Dalrock Rd. to Shoreline Cir.	136,557	DE	DE	DE	8
FM 1138	SH 66 to Collin County Line	13,061	DE	DE	DE	2
SH 205	FM 550 to FM 548	14,759	DE	DE	DE	2
SH 205	FM 548 to FM 548	19,348	F	F	F	2
Dalrock Rd.	Chiesa Rd. to Schirade Rd.	16,761	DE	DE	ABC	4

Many of the LOS DE and F roadways operate at a lower LOS due to limited lane capacity, others due to access management issues, such as turning movements and too many traffic signals over a short stretch of roadway. Dalrock Road, for example, is a four-lane divided roadway that accommodates about 16,761 vehicles per day at LOS DE. However, a four-lane roadway with turning lanes should be able to accommodate up to 36,800 vehicles per day. The operational conditions are driving level-of-service from C to DE. Interestingly, LOS on some roadways closely mirrored or performed better during both morning and evening peak hours. 2017 daily hour level-of-service is illustrated in **Map 16**.

Map 16. Rockwall County 2017 Daily Hour Level-of-Service



Chapter 5: Travel Demand Forecasting and Demographic Assessment

Travel Forecast Modeling

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 the impact changes to the system and/or the environment in which it operates will have on future travel demand.

TDMs can be programmed to model all modes of travel utilized in a regional transportation system; however, most TDMs - including the one used for this analysis- only include the roadway and the transit networks. Bicycle and pedestrian travel are rarely included in TDMs because of the relatively small number of trips generated by these travelers.

NCTCOG's Dallas Fort Worth Regional Travel Model for the Extended Area (DFX) was used to assess Rockwall County's thoroughfare network. The DFX forecasts trips in the region based on a number of factors. These factors include, but are not limited to, trip purposes (work, home, and shopping), trip length, and congestion. Trips are forecasted in the region based primarily on future population and employment projections. These projections help determine how many trips are going to be produced on a daily basis and where these trips are going.

Basic Model Theory

The Model is comprised of a series of mathematical models that simulate travel on the transportation system. The model divides the Rockwall County into traffic survey zones (TSZs), which have specific demographic and land use data associated with them and are used to determine trip demand and travel patterns. The modeling process encompasses the following four primary steps:

- Trip Generation – the number of trips produced and attracted to a destination or TSZ – based on trip purpose.
- Trip Distribution – the estimated of the number of trips between each TSZ – where the trips are going.
- Modal Split – the anticipated number of trips made by each mode of transportation between each TSZ.
- Trip Assignment – the amount of travel (number of trips) loaded onto the transportation network through path-building. This is used to determine network performance.

The model results will help the county predict future transportation conditions and evaluate strategies to mitigate long and short-term inefficiencies in the thoroughfare network.

Methodology

The following methodology was developed to assess Rockwall County's 2045 existing and committed road network and provide recommendations on improving long-term operational conditions within the county.

1) Demographics for NCTCOG's Metropolitan Transportation Plan were updated months prior to the start of the Rockwall County Thoroughfare Plan. Because of this, County staff felt current and projected demographics did not need to be updated for the thoroughfare plan.
2) NCTCOG's Existing and Committed 2045 network was examined for network deficiencies.
3) Recommended network additions were incorporated into NCTCOG's 2045 Network.
4) NCTCOG tested the 2045 network with recommended network additions.
5) The performance of the revised Rockwall County thoroughfare network scenario was reviewed and compared to the existing and committed network.
6) The preferred network scenario was adjusted to reflect needed capacity improvements or possible capacity reductions.
7) The 2045 Rockwall County thoroughfare network was finalized.

County Demographics

For analysis purposes, Rockwall County was divided into much smaller analysis areas known as traffic survey zones (TSZ). The TSZs are geographical areas that link land uses and the transportation system. TSZs are characterized by sociodemographic data such as income, households, population, and employment, which in turn influence potential traffic patterns. Rockwall County is currently divided into 45 TSZs.

The key demographic data inputs for this TDM were population, households, and employment. Using sociodemographic projections from NCTCOG as a base, the project team worked with stakeholders to help identify any known future growth and development patterns. After considering stakeholder feedback, projections for Rockwall County were refined to more accurately reflect where people are expected to live and work in 2045. The project team achieved this by redistributing the population and employment projection data across the TSZs based on where growth was anticipated to occur. The resulting refinements closely followed NCTCOG projections with only small increases in population and household growth for several TSZs and slight decreases in overall employment. Because differences in the TSZs were negligible, the County elected to utilize NCTCOG's base 2045 demographics. 2045 Population and Employment totals are exhibited in **Map 1** and **Map 2** in **Chapter 1** of the plan document**.**

Network Scenarios

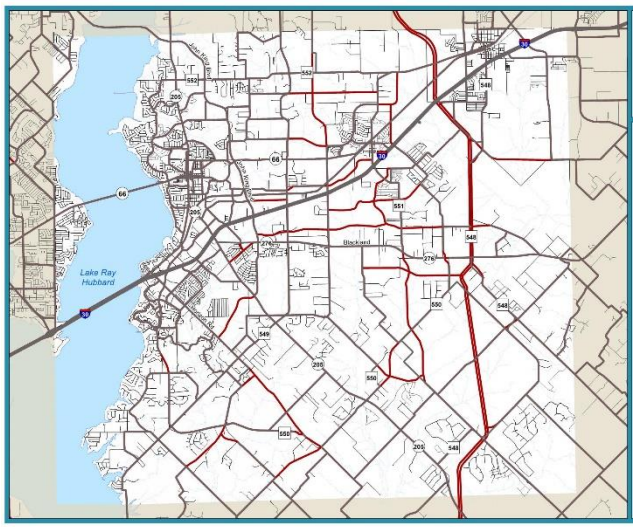
The DFX specifically modified for Rockwall County for the development of this plan aims to accurately forecast travel demand through 2045 for two different transportation improvement scenarios: The Base 2045 Existing and Committed (E+C) Network and the Revised 2045 Network. The Revised 2045 Network includes capacity improvements, such as lane additions and realignments, and new facilities, such as the continuation of the Regional Outer Loop – which connects to the alignments in Kaufman and Collin Counties. **Table 18** summarizes network additions included in the revised network. A full list of network additions is available in the **Appendix.** **Map 17** illustrates the Base 2045 Existing and Committed Network and alignments added for to create the Revised 2045 Network.

Table 18. Summary of 2045 Revised Rockwall County Thoroughfare Network Additions

Road	Limits	Functional Classification	Lanes
Ben Payne Rd.	CD Boren Pkwy. to FM 552	Minor Arterial	4
CD Boren Pkwy.	FM 552 to SH 66	Minor Arterial	2
Cornelius Rd. Extension	FM 549 to Ben Payne Rd.	Collector	2
Discovery Blvd.	Williamsburg Pkwy. to Data Dr.	Minor Arterial	4
FM 551 Extension	Edwards Rd. to SH 276	Minor Arterial	4
Outer Loop Extension	IH 30 Interchange to Kaufman County Outer Loop Alignment	Freeway/ Highway	6
FM 1139 Extension	FM 551 Extension to FM 550	Collector	2
FM 740 Extension	FM 549 to Rabbit Ridge Rd. Ext	Minor Arterial	4
Rabbit Ridge Rd. Extension	King St. to FM 550	Minor Arterial	4
Smith Rd. Extension	Rabbit Ridge Ct. to FM 550	Minor Arterial	4
John King Blvd. Extension	SH 205 to Horizon Rd.	Major Arterial	4

Map 17. Base 2045 Network and Recommended Additions

Base 2045 Network



2045 Network Additions

Base 2045 Network Volumes and Level-of-Service

The performance of the Base 2045 Existing and Committed Network was compared to the Revised 2045 Network to determine the impact of network improvements on overall system performance. The Base 2045 Network includes the existing and committed network for Rockwall County. The network is fiscally constrained, and only includes roadways that are existing or have identified and committed funding sources. It illustrates how Rockwall County's thoroughfare network will operate in 2045 if no additional improvements are made.

Base 2045 Traffic Volumes

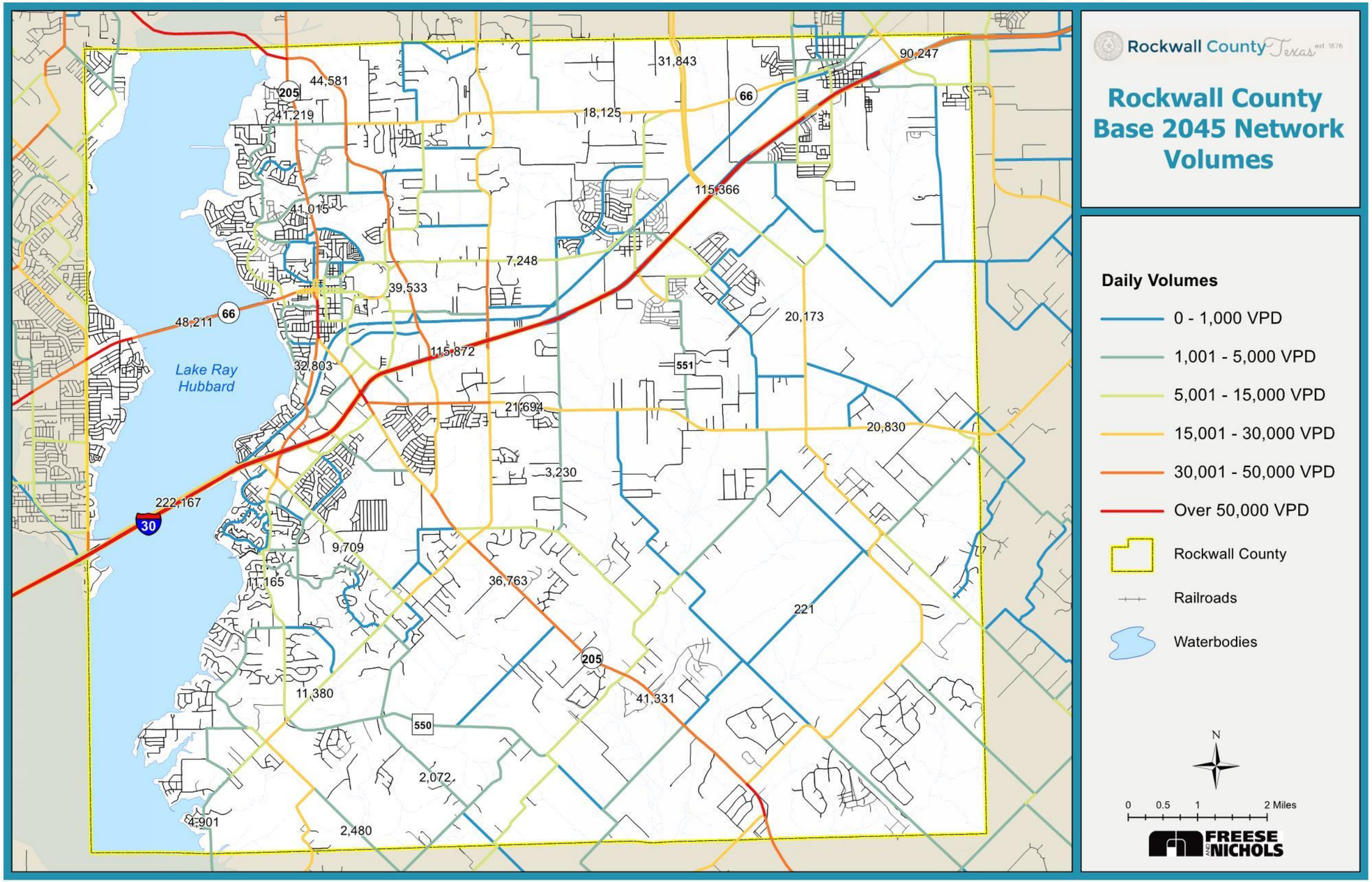
Similar to 2017, projected volumes for the existing and committed network were lower than neighboring Dallas County and Collin County. However, congestion on the highest volume corridors were projected to increase significantly. The highest volume segment in the 2045 existing and committed network, located on IH 30 between the Dallas County line and Horizon Road, was projected to accommodate about 126,800 in 2017; it is projected to carry over 222,000 vehicles per day in 2045.

Other high-volume corridors include SH 66 between Dalrock Road and Harbor Street (65,300 VPD), SH 205 and IH 30 intersection (60,000 VPD), and the John King Bridge (55,609 VPD). A summary of high-volume corridors is available in **Table 19.** Total vehicle miles traveled for the Base 2045 Network was 5.10 million compared to 2.7 million in 2017. This is an increase of 88 percent. Base 2045 traffic volumes are illustrated in **Map 18.**

Table 19. Rockwall County Base 2045 Network High Volume Corridors

Roadway	Segment	Daily Volume	Daily LOS	AM LOS	PM LOS	Lanes
IH 30	Dallas County Line to Horizon Rd.	222,167	F	F	E	8
IH 30	Circle Dr. to E. of Blackland Dr.	115,366	DE	DE	DE	6
SH 66	Dalrock Rd. to Harbor St.	62,378	F	F	F	4
IH 30	E. of Ben Payne Rd. to Glory Dr.	61,706	DE	DE	DE	6
SH 205 Goliad St.	EB IH 30 Frontage Rd. to WB IH 30 Frontage Rd.	59,795	F	F	F	6
SH 205	FM 548 to FM 548	59,026	F	F	F	6
SH 205	EB IH 30 Frontage Rd. to SH 276	58,450	F	F	DE	6
SH 205 Goliad St.	Alamo Rd. to FM 740	57,910	F	F	F	6
John King Blvd. Bridge	SH 205 to Troy Rd.	55,609	F	F	F	4
FM 3549	EB IH 30 Frontage Rd. to WB IH 30 Frontage Rd.	49,256	DE	DE	DE	6
John King Blvd.	SH 205 to FM 552	44,580	F	F	F	6
SH 205	FM 550 to FM 548	41,330	F	F	DE	6
SH 205	FM 549 to Pullen Rd.	36,762	F	F	DE	6
FM 548	SH 276 to Poetry Rd.	25,339	F	F	F	4

Map 18. Rockwall County Base 2045 Network Volumes



Base 2045 Level-of-Service

Map 19 illustrates daily level-of-service for Rockwall County's 2045 Existing and Committed Network. Based on forecasted conditions, LOS is adequate for the majority of the roadways within the county. In fact, out of the 850 miles of roadway included in the travel demand model network for Rockwall County, over 500 miles, or 60 percent, operate at LOS ABC. There are, however, several roadways, particularly in the western sector of the county, operating at LOS F. As expected, the most congested corridor in the county is segment of IH 30 between Dalrock Road and Horizon Road. This segment is projected to accommodate over 220,000 vehicles per day in 2045 at LOS F. Managing congestion along this segment of the corridor will remain pivotal in terms of traffic circulation and economic vitality as it serves as a prime gateway into the county.

Other highly congested corridors include SH 66 (Dalrock Road to Harbor Street), which is projected to carry over 60,000 vehicles per day at LOS F, SH 205 (IH 30 EB Frontage Road to SH 276), projected to carry nearly 60,000 vehicles per day at LOS F, and FM 740 (SH 205 to Lakeshore Drive), which is projected to carry roughly 33,000 vehicles per day at LOS F.

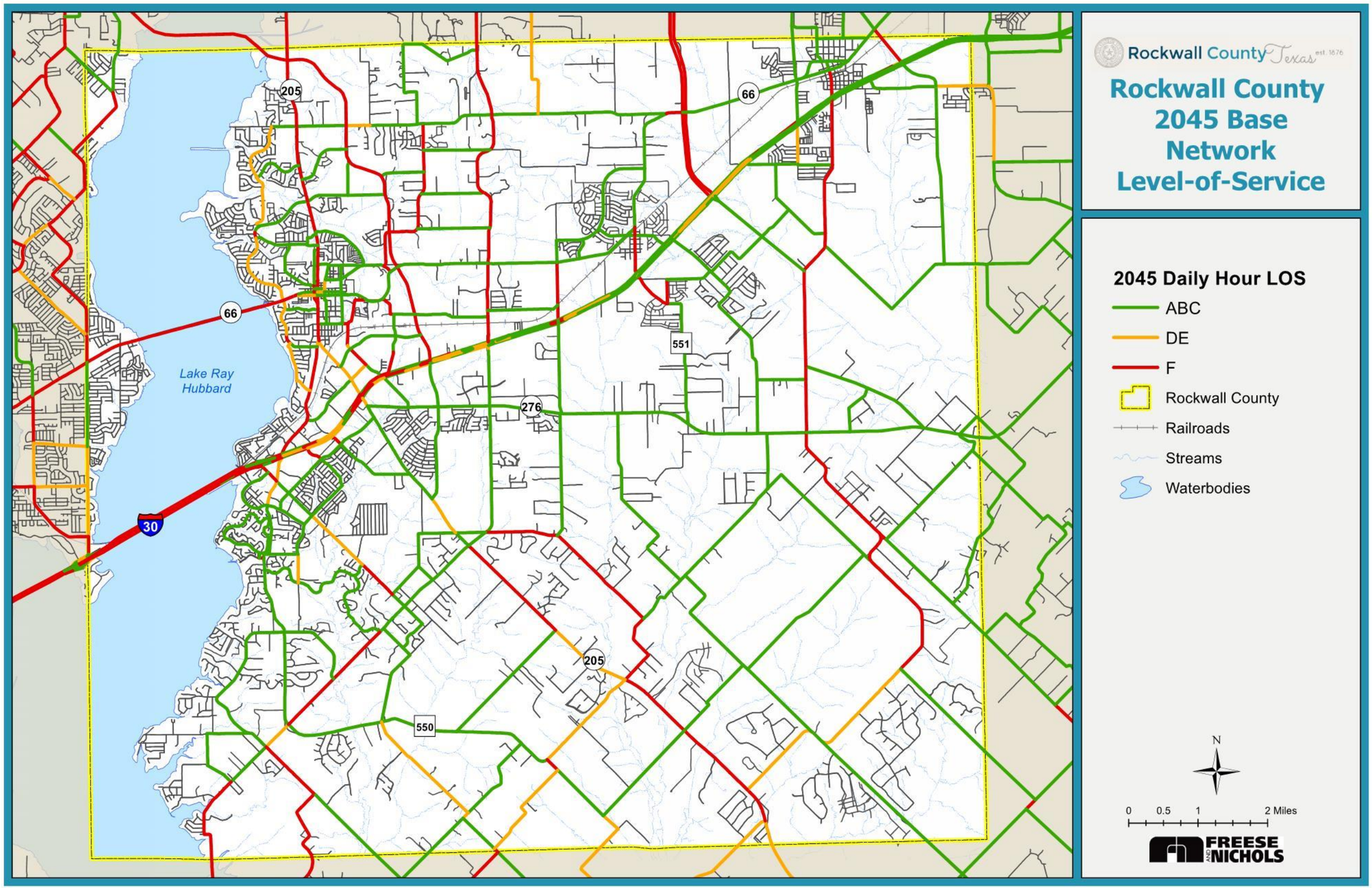
Roadway	Segment	Daily Volume	Daily LOS	AM LOS	PM LOS	Lanes
FM 1139	FM 549 to FM 550	14,140	F	F	F	2
IH 30	Dallas County Line to Horizon Rd.	222,167	F	F	E	8
SH 205 Goliad St.	EB IH 30 Frontage Rd. to WB IH 30 Frontage Rd.	59,795	F	F	F	6
SH 66	Dalrock Rd. to Harbor St.	62,378	F	F	F	4
SH 66	Harbor St. to Lakeshore Dr.	48,200	F	F	F	4
SH 205	EB IH 30 Frontage Rd. to SH 276	58,450	F	F	DE	6
SH 205 Goliad St.	Alamo Rd. to FM 740	57,910	F	F	F	6
John King Blvd.	SH 205 to FM 552	44,580	F	F	F	6
FM 548	SH 276 to Poetry Rd.	25,339	F	F	F	4
John King Blvd. Bridge	SH 205 to Troy Rd.	55,609	F	F	F	4
FM 3549	SH 66 to IH 30 WB Frontage Rd.	48,044	F	F	F	4
Outer Loop	Collin County Line to IH 30	31,843	F	F	F	4
FM 1141	FM 552 to SH 66	7,318	F	F	DE	2
Ben Payne Rd.	SH 66 to IH 30 WB Frontage Rd.	2,745	F	F	DE	2
FM 740	Lakeshore Dr. to IH 30 WB Frontage Rd.	40,553	F	F	F	4
SH 205 Goliad St.	John King Blvd. to Alamo Rd.	44,669	F	F	F	4
Horizon Rd.	County Club Dr. to Wallace Ln.	12,292	F	F	F	2

20. provides a summary of roadways projected to operate at LOS F in the 2045 Existing and committed Network.

Table 20. Rockwall 2045 Base Network Congested Corridors

Roadway	Segment	Daily Volume	Daily LOS	AM LOS	PM LOS	Lanes
FM 1139	FM 549 to FM 550	14,140	F	F	F	2
IH 30	Dallas County Line to Horizon Rd.	222,167	F	F	E	8
SH 205 Goliad St.	EB IH 30 Frontage Rd. to WB IH 30 Frontage Rd.	59,795	F	F	F	6
SH 66	Dalrock Rd. to Harbor St.	62,378	F	F	F	4
SH 66	Harbor St. to Lakeshore Dr.	48,200	F	F	F	4
SH 205	EB IH 30 Frontage Rd. to SH 276	58,450	F	F	DE	6
SH 205 Goliad St.	Alamo Rd. to FM 740	57,910	F	F	F	6
John King Blvd.	SH 205 to FM 552	44,580	F	F	F	6
FM 548	SH 276 to Poetry Rd.	25,339	F	F	F	4
John King Blvd. Bridge	SH 205 to Troy Rd.	55,609	F	F	F	4
FM 3549	SH 66 to IH 30 WB Frontage Rd.	48,044	F	F	F	4
Outer Loop	Collin County Line to IH 30	31,843	F	F	F	4
FM 1141	FM 552 to SH 66	7,318	F	F	DE	2
Ben Payne Rd.	SH 66 to IH 30 WB Frontage Rd.	2,745	F	F	DE	2
FM 740	Lakeshore Dr. to IH 30 WB Frontage Rd.	40,553	F	F	F	4
SH 205 Goliad St.	John King Blvd. to Alamo Rd.	44,669	F	F	F	4
Horizon Rd.	County Club Dr. to Wallace Ln.	12,292	F	F	F	2

Map 19. Rockwall County 2045 Base Network Level-of-Service



Revised 2045 Network Performance

The following sections summarize the performance of Rockwall County's Revised 2045 Network. The Revised 2045 Network is an enhanced version of the existing and committed network, and incorporates a number of network improvements, including the Rockwall County segment of the Regional Outer Loop. Network additions were gleaned from the previously adopted thoroughfare plan, Rockwall County Commissioners, Cities, Planning Consortium, and other stakeholders. It is important to note that the network is not fiscally constrained and includes roadways that do not have identified and committed funding sources.

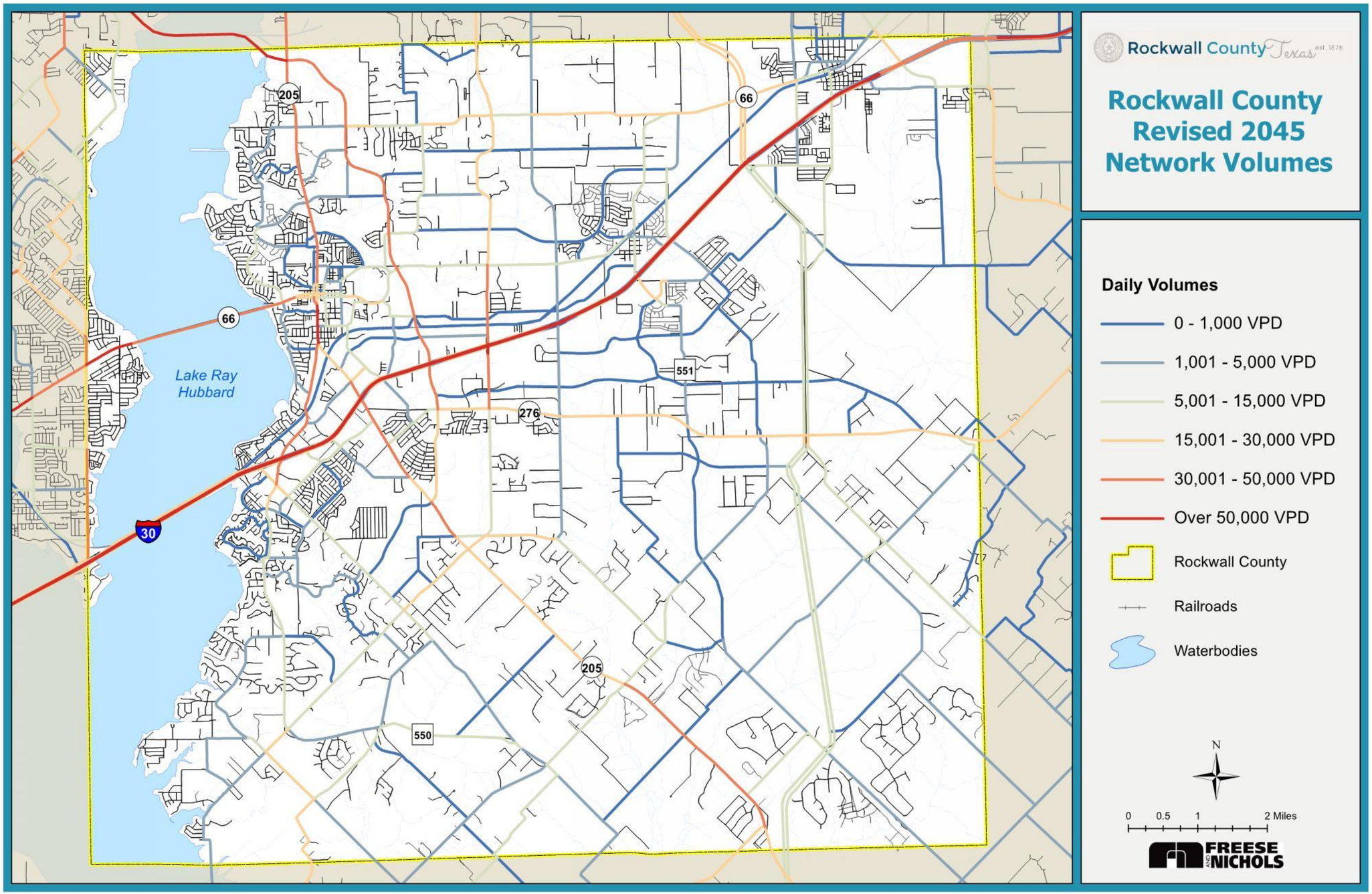
Revised 2045 Network Volumes

Volumes for the Revised 2045 Network are illustrated in **Map 20**. Overall volumes ranged from fewer than 100 vehicles per day to nearly 220,000. The highest volumes were along IH 30 with segments ranging from 116,000 to over 200,000. Like the Base 2045 Network, the highest volumes were found between Dalrock Road and Horizon Road with about 220,000 vehicles per day. Other high-volume corridors include SH 205 (55,000 VPD), SH 66 (62,000 VPD), and John King Boulevard (46,000 VPD). High volumes are anticipated along larger facilities such as IH 30, SH 205, and John King Boulevard. However, there are several smaller facilities projected to carry large volumes of traffic. FM 1141, between SH 66 and Williams Street, is a two-lane minor arterial facility projected to carry over 14,000 vehicles per day. This is twice as high as other segments within the corridor that accommodate about 7,000 vehicles per day. Similarly, volumes on the segment of FM 1139 between FM 549 and Rochelle Road spike to 19,000 vehicles per day. A summary of high-volume corridors is available in **Table 21.**

Table 21. Rockwall County 2045 Revised Network High Volume Corridors

Roadway	Segment	2045 Volume	2045 Lanes
SH 205 Goliad St.	Alamo St. to FM 740	55,245	6
SH 205 Goliad St.	John King Blvd. to Alamo St.	45,059	4
FM 740	SH 205 to Becky Ln.	40,061	4
SH 66	Dalrock Rd. to Harbor St.	61,924	4
SH 66	Harbor St. to Lakeshore Dr.	47,561	4
John King Blvd. Bridge	SH 205 to Troy Rd.	55,348	4
John King Blvd	SH 205 to FM 552	46,371	6
FM 1141	FM 552 to Williams St.	6,841	2
FM 1141	SH 66 to Williams St.	14,044	2
FM 3549	SH 66 to IH 30 WB Frontage Rd.	45,064	4
Horizon Rd.	IH 30 Frontage Rd. to FM 740	16,745	2
FM 1139	FM 549 to Rochelle Rd.	19,491	2
Outer Loop	IH 30 Interchange to Colin County Line	34,836	4
FM 1777	IH 30 WB Frontage Rd. to Collin County Line	26,144	4
Troy Rd.	Stonewall Rd. to County Line Rd.	10,488	4
Dalrock Rd.	IH 30 Frontage Rd. to Schrade Rd.	48,049	6

Map 20. Rockwall County Revised 2045 Network Volumes



Revised 2045 Network Level-of-Service

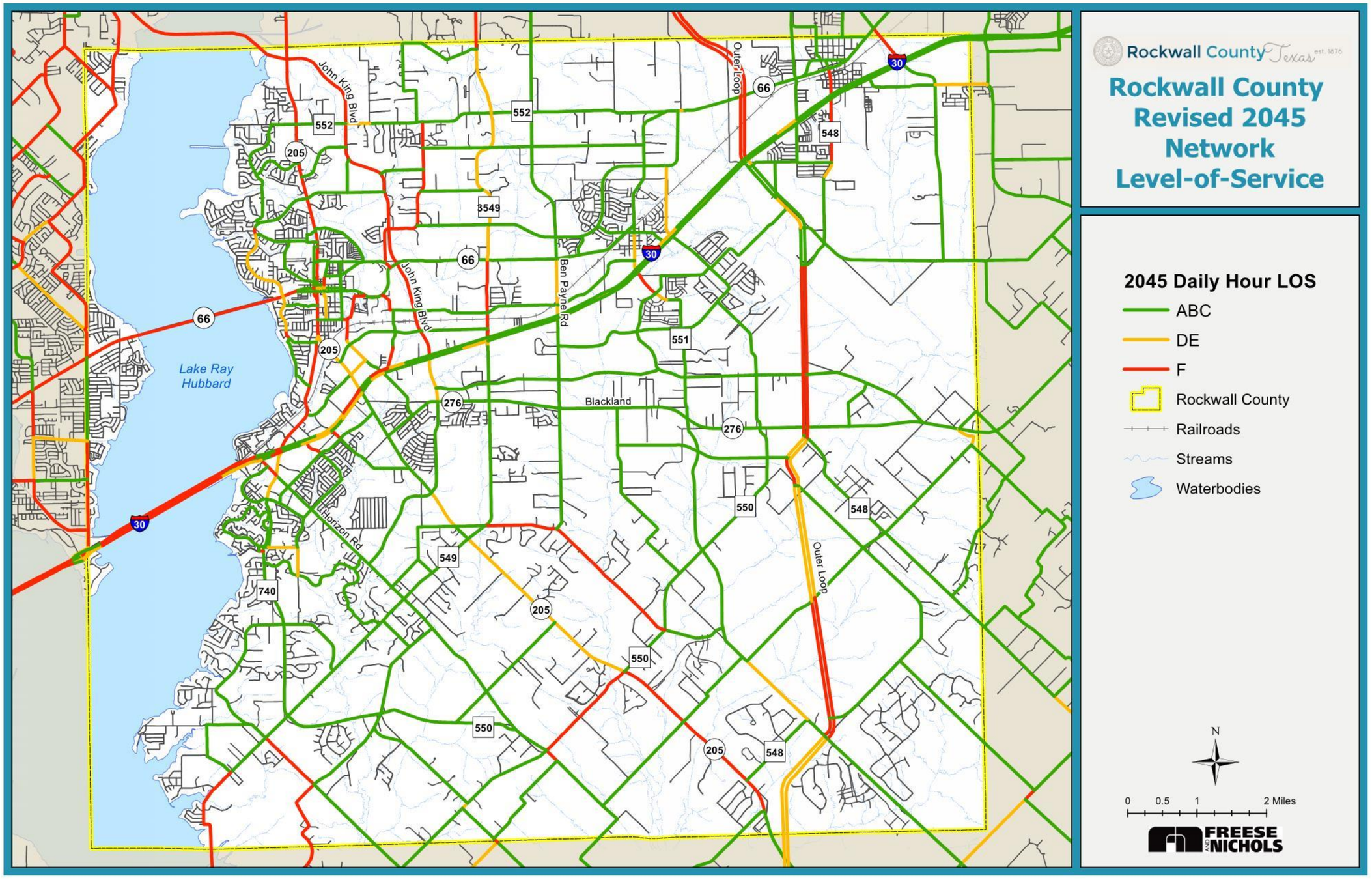
Network enhancements exhibited in the Revised 2045 Network improved operations on a number of facilities. Level-of-service (LOS) for the segment of SH 205 between FM 549 and Klutts Road, for instance, improved from LOS F to LOS DE due, in part, to the addition of the Horizon Road Extension, which runs parallel to SH 205 between the Rabbit Ridge Road Extension and FM 550. Volumes were reduced from 36,763 in the Existing and Committed Network to 28,545 in the Revised 2045 Network. Likewise, LOS on the segment of FM 549 from King Pass to FM 550 was improved from LOS F to LOS ABC. The next segment of the roadway, from FM 550 to FM 1140, was improved from LOS DE to LOS ABC. Other facilities that showed improvement, include, but are not limited to, Connie Road (from Smith Road to Cornstalk Road), which improved from LOS DE to LOS ABC, and McDonald Road (Stevens Road to Rabbit Ridge Road), which improved from LOS DE to LOS ABC.

Despite these improvements, many roadways continue to operate at LOS F. SH 205, from the Collin County Line to IH 30, continued to operate at LOS F. Widening the northern segment of the roadway (John King Boulevard to Alamo Street) to six lanes might improve LOS from F to DE, but the right-of-way is too constrained to accommodate six lanes. Other segments of the facility, such as the segment between FM 550 and FM 548, are already six lanes in the network, but are still projected to operate at LOS F. Similarly, the six-lane segment of John King Boulevard between SH 205 and IH 30 is projected to carry over 42,000 vehicles per day at LOS F. The four-lane segment of FM 3549 between SH 66 and the westbound IH 30 frontage road is projected to carry over 45,000 vehicles per day at LOS F. A summary of roadways operating at LOS F in the Revised 2045 Network is available in **Table 22.**

Table 22. Revised 2045 Network LOS F Roadways

Roadway	Segment	2045 Volume	2045 Lanes	2045 Daily LOS	2045 AM LOS	2045 PM LOS
SH 205 Goliad St.	Alamo St. to FM 740	55,245	6	F	F	F
SH 205 Goliad St.	John King Blvd. to Alamo St.	45,059	4	F	F	F
FM 740	SH 205 to Becky Ln.	40,061	4	F	F	F
SH 66	Dalrock Rd. to Harbor Rd.	61,924	4	F	DE	F
SH 66	Harbor Rd. to Lakeshore Dr.	47,561	4	F	DE	DE
John King Blvd. Bridge	SH 205 to Troy Rd.	55,348	4	F	F	F
John King Blvd.	SH 205 to FM 552	46,371	6	F	F	F
FM 1141	SH 66 to Williams St.	14,044	2	F	F	F
FM 3549	SH 66 to IH 30 WB Frontage Rd.	45,064	4	F	F	F
Horizon Rd.	IH 30 Frontage Rd. to FM 740	16,745	2	F	DE	ABC
FM 1139	Rochelle Rd. to FM 550	9,161	2	F	F	F
Outer Loop	IH 30 Interchange to Collin County Line	34,836	4	F	F	F
FM 1777	IH 30 WB Frontage Rd. to Collin County Line	26,144	4	F	F	DE
Troy Rd.	Stonewall Rd. to County Line Rd.	10,488	4	F	F	DE
Dalrock Rd.	IH 30 Frontage Rd. to Schrade Rd.	48,049	6	F	F	F

Map 21. Rockwall County Revised 2045 Network Level-of-Service



Network Scenario Comparison

Performance measures are important quantitative measures used to compare system alternatives and scenarios to each other, as well as to monitor system and individual links over time. These measures can, in turn, be linked back to plan goals and objectives. Increasingly, they are also referenced in regional and state planning and programming discussions for project prioritization. Five performance measures were used to compare the two network scenarios:

- **Vehicle Miles Traveled (VMT):** Product of the number of vehicles and the length of roadways traveled.
- **Vehicle Hours Traveled (VHT):** Product of the number of vehicles and their travel times on the roadway network.
- **Average Speed:** Average roadway speed across the network.
- **Delay:** Difference between congested travel times and free-flow travel times.
- **Level of Service (LOS):** A commonly used, simplified measure of congestion, based on ratio of volume and capacity of roadways.

System Performance

The Revised 2045 network outperformed the Base 2045 existing and committed network in terms of VMT, VHT, and travel delay. According to **Figure 10**, improvements included in the recommended 2045 network are projected to reduce VHT by nearly 3,000 hours from projected conditions in the 2045 existing and committed network. The time savings are reflected in **Figure 11** with over 4,000 fewer hours of congestion delay in the revised 2045 network.

Projected 2045 VMT, according to **Figure 12**, was nearly 2,000 miles fewer in the revised network. Average speeds, however, were slightly lower (less than one mph) in the revised 2045 network according to **Figure 13.** **Map 21** Illustrates the Revised 2045 Network Level-of-Service for Rockwall County.

Figure 10. Rockwall County 2045 Vehicle Hours

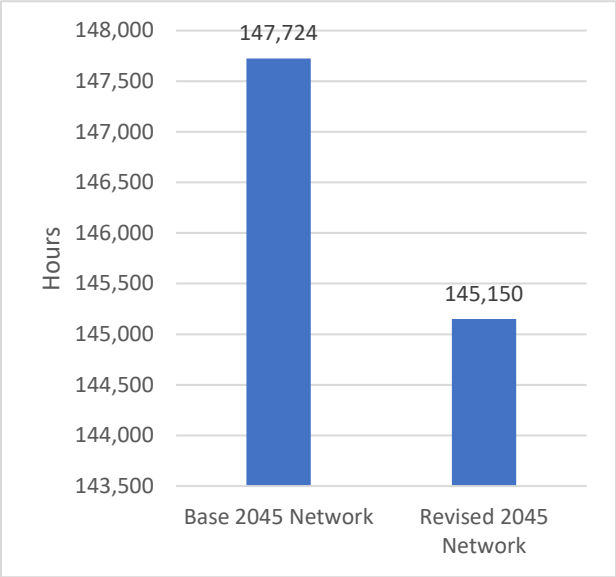


Figure 11. Rockwall County 2045 Congestion Delay

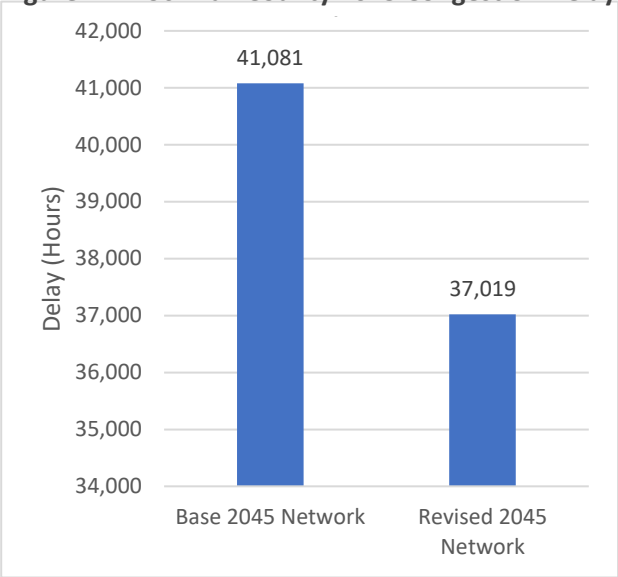


Figure 12. Rockwall County 2045 Vehicle Miles

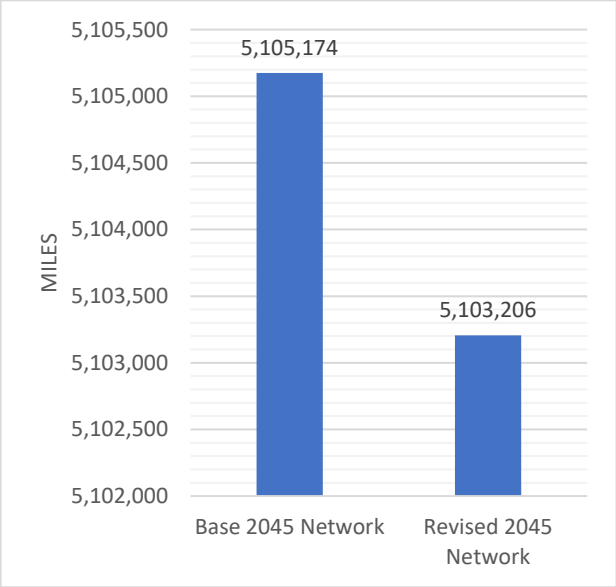
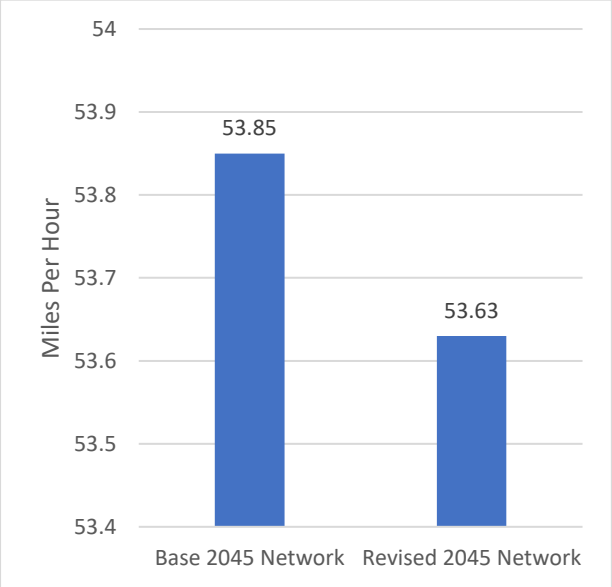


Figure 13. Rockwall County 2045 Average Speed



Chapter 6: Thoroughfare Planning and Recommendations

Thoroughfare Planning

A thoroughfare plan balances the existing supply of infrastructure with the projected needs of the future. **Chapter 5** identified the process of using the regional travel demand model to project the future conditions of Rockwall County's thoroughfare network by 2045. These future needs help to determine how much vehicle capacity is required and what multi-modal elements may need to be considered such as transit, HOV lanes, and/or bike and pedestrian enhancements. In addition to evaluating the need for infrastructure enhancements, the thoroughfare plan also identifies maintenance concerns within the county that will need to be addressed to prevent further deterioration of the existing network.

The revised Rockwall County thoroughfare network fits within the overall context of the region's transportation network. The thoroughfare plan includes a revised functional classification system of roadways, long-term roadway sizing and needs, transportation system alternatives, and implementation strategies. Typical design parameters are included for each functional classification and stipulate the amount of right-of-way needed to accommodate one or more recommended lane configurations. Roadways should be constructed and/or widened according to recommended standards as traffic demand increases or as development occurs.

Texas counties do not have land use authority but do have the power to regulate right-of-way for roadways. Preserving right-of-way for future roadway needs is an important part of the plan for Rockwall County. The Rockwall County Thoroughfare Plan is built upon traditional thoroughfare planning concepts, which focus on functionality in providing mobility and accessibility for vehicular traffic, transit, and other modes of transportation.

Recommended Thoroughfare Design Standards

Functional classification not only dictates the function and relationship between roadways in a transportation network but also provides minimum design standards as well. The design elements in a roadway directly impact the right-of-way widths needed to accommodate them adequately. The right-of-way widths are then targets for corridor preservation through County, City, and State action. The following section outlines the targeted details of each functional classification developed for the Rockwall County Thoroughfare Plan. Recommended design standards are summarized in

Table 23. Rockwall County Recommended Roadway 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	6	1	100'-120'	2@48	45-55	Yes
	Urban	6	1	100'-120'	2@36	45-55	Yes
	Rural	4	1	100'-120'	2@36	35-55	Yes
	Urban	4	1	100'-120'	2@24	35-45	Yes
	Rural	2	1	100'-120'	40	35-55	No
Principal Arterial A	Urban	2	1	100'-120'	40	35-45	No
	Rural	2	½	65'-100'	40	30-35	No
	Urban	2	½	65'-100'	24	30-35	No
	Rural	3	½	65'-100'	56	30-35	No
	Urban	3	½	65'-100'	40	30-35	No
	Rural	4	½	65'-100'	2@36	30-35	Yes
	Urban	4	½	65'-100'	2@24	30-35	Yes
	Urban	4	½	65'-100'	48	30-35	No
Minor Arterial B	Rural	4	½	65'-100'	64	30-35	No
	Rural	2	½	60'	32	30-35	No
	Urban	2	¼	60'	24	30-35	No
	Rural	3	½	80’	48	30-35	No
Collector C	Urban	3	¼	80’	40	30-35	No

*The number of lanes on a roadway do not need to be increased to meet thoroughfare standards until warranted by traffic or development.

** Pavement width for rural sections include shoulder width.

Recommended Functional Classifications

Versatility is a strength in any policy document because it gives policymakers flexibility to address unforeseen issues that may arise during the implementation phase. To provide flexibility in the thoroughfare plan, recommended functional classifications were developed with variable rights-of-way and lane configurations. This would allow policymakers the flexibility to vary rights-of-way and lane configurations seamlessly across city limits, and to support transportation continuity and connectivity despite environmental impediments, such as flood plains and constrained corridors. The range of lane configurations will facilitate multiple land uses within the prescribed right-of-way.

Recommended Cross-Sections

The following cross-sections were developed for urban roadways. Rural cross-sections are available in the **Appendix.** Roadways designated for the recommended functional classifications are illustrated in **Maps 22-24.** The recommended functional classification map for the 2018 Rockwall County Thoroughfare Plan update is illustrated in **Map 25.**

It is important to note that changes to lane configurations from existing cross-sections will not be immediately mandatory until growth, development, and/or congestion demands it. Two-lane roadways recommended for lane additions, such as FM 548, should not be widened until traffic volumes and/or development warrant it. Right-of-way designations, however, should be adopted immediately to ensure right-of-way preservation ahead of development.

Highways/ Freeways

This roadway classification is typically developed by a regional or statewide transportation agency. The right-of-way recommended for freeways and highways ranges between 400 and 500 feet to accommodate travel lanes (including frontage roads), buffer space for safety, slope grading and drainage, and room to increase capacity in the future. For initial flexibility, four to eight 12-foot lanes are recommended with 10-foot outside shoulders and minimum four-foot inside shoulders. Wide outside shoulders are beneficial for disabled and emergency vehicles, and act as a buffer between higher speed traffic and adjacent development. Additionally, wide shoulders may also accommodate bike traffic on highway sections. Bicycles are prohibited on freeway sections.

Appropriate median configurations for highway/freeway facilities vary depending on the available right-of-way and adjacent land uses. Rural highways typically have depressed or ditched medians that can span over 70 feet. The larger width allows sufficient shelter for commercial vehicles crossing in steps and sufficient space for drainage in the median. Right-of-way designated for medians in freeway sections are also important because they allow the roadway to expand from the outside-in. Expanding inward, rather than outward, has the principal benefit of setting the line of development on the edge of the roadway which avoids disturbing development and established landscaping and green areas.

Principal Arterials - A

The recommended right-of-way for an urban principal arterial is 100 to 120 feet. Conceptual lane configurations, illustrated in **Figures 14-16** include two to six 12-foot lanes, 16-foot medians (for four or six-lane sections), and five-foot minimum sidewalks on both sides of the roadway (for urban roadways). In lieu of sidewalks, divided rural principal arterials should include four-foot inside shoulders and eight to 10-foot outside shoulders. Undivided rural sections will include eight to 10-foot outside shoulders. The minimum recommended spacing between principal arterials is one (1) mile with one (1) mile minimum spacing between signalized arterial to arterial intersections and one-half mile minimum spacing between arterial to collector intersections. An additional 20 feet of ROW should be designated at arterial to arterial intersections to accommodate turning lanes. Principal arterial facilities are illustrated in **Map 22**.

Figure 14. Six-Lane Principal Arterial (Urban)

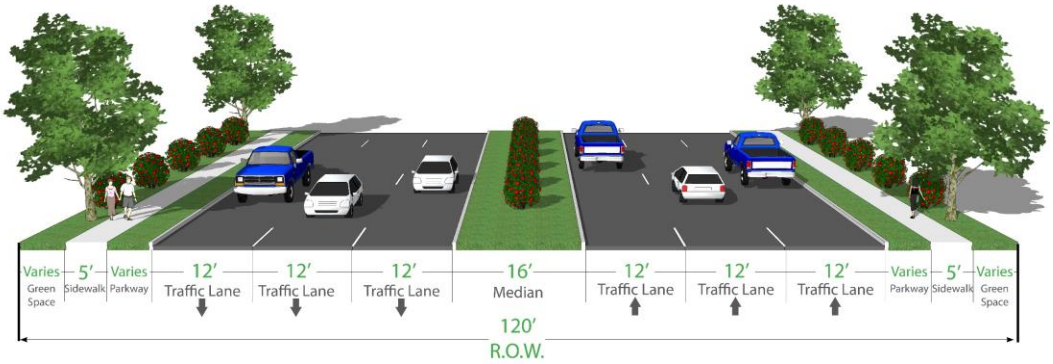


Figure 15. Four-Lane Principal Arterial (Urban)

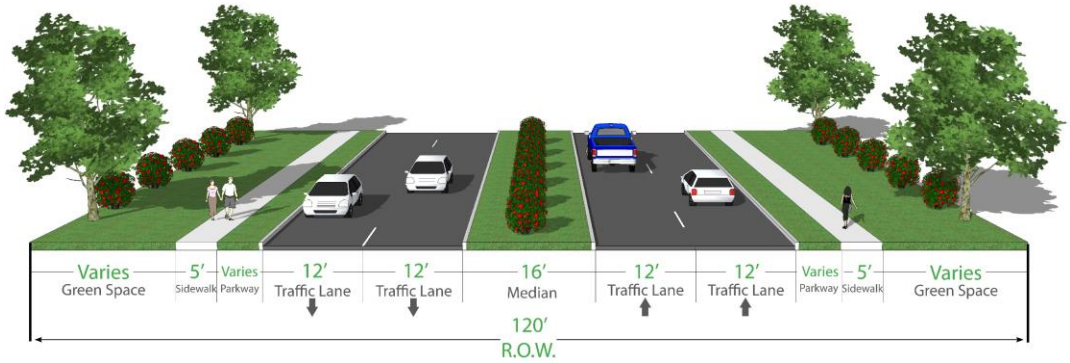
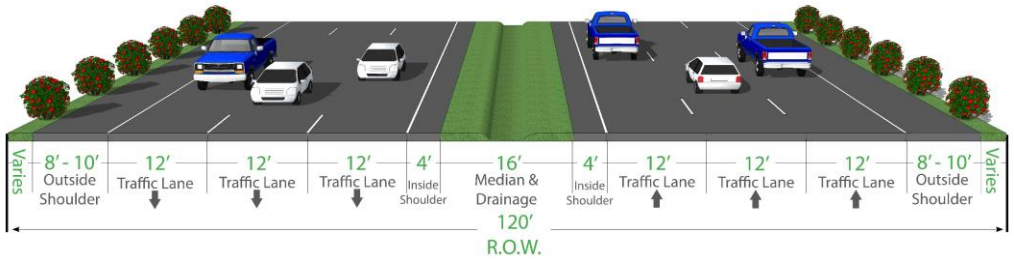
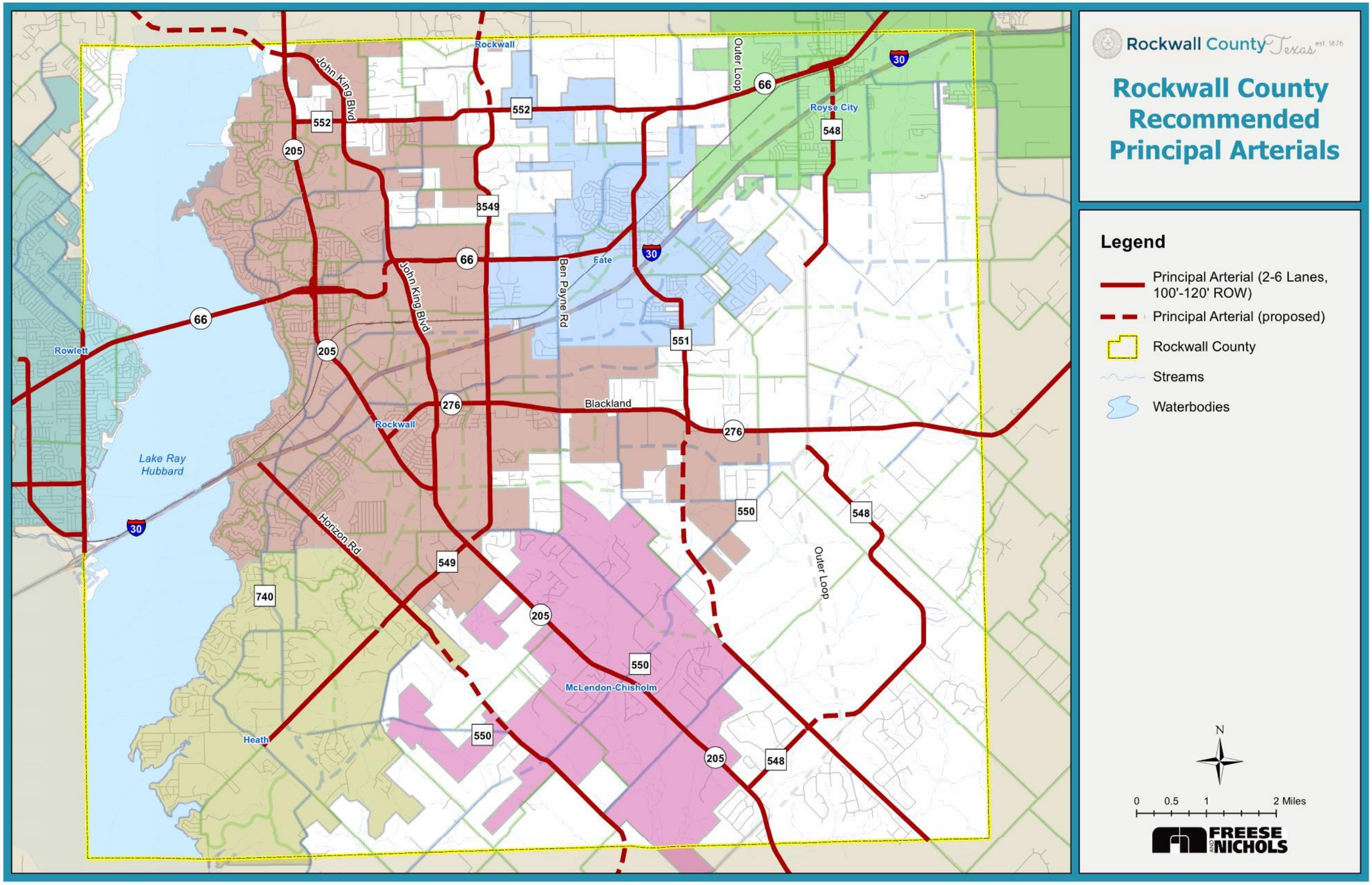


Figure 16. Six-Lane Principal Arterial (Rural)



Map 22. Rockwall County Recommended Principal Arterials



Minor Arterials – B

The recommended right-of-way for Rockwall County minor arterials is 65 to 100 feet. Conceptual configurations are shown in **Figures 17-19** and include two to four-lane sections with 12-foot lanes, 16-foot medians, and five-foot sidewalks (for urban roadways). Divided rural minor arterials will include four-foot inside shoulders and eight to 10-foot outside shoulders. Undivided rural sections will include eight to 10-foot outside shoulders. Three-lane sections should also include a 16-foot center turn lane. Four-lane undivided sections are being phased out in many areas around the state but may be appropriate where congestion demands at least four lanes, but right-of-way is too constrained within the corridor to accommodate the necessary pavement width. An additional 20 feet of ROW should be designated at arterial to arterial intersections to accommodate turning lanes. The minimum recommended spacing between minor arterials is one-half mile with one-half mile minimum spacing between signalized arterial to arterial intersections and one-half mile minimum spacing between arterial to collector intersections. **Map 23** illustrates Rockwall County minor arterials.

Figure 17. Four-Lane Minor Arterial (Urban)

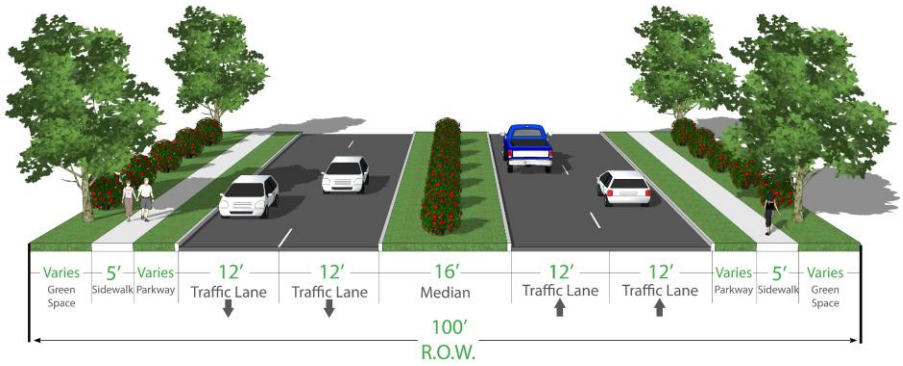


Figure 19. Three-Lane Minor Arterial (Urban)

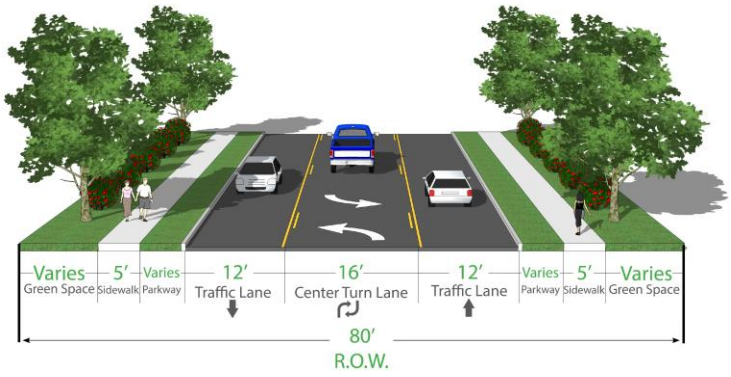
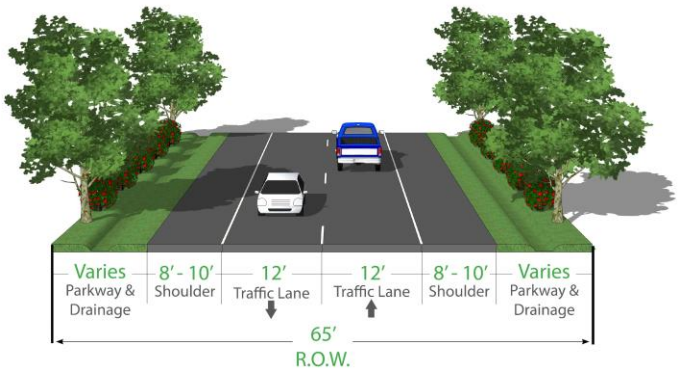
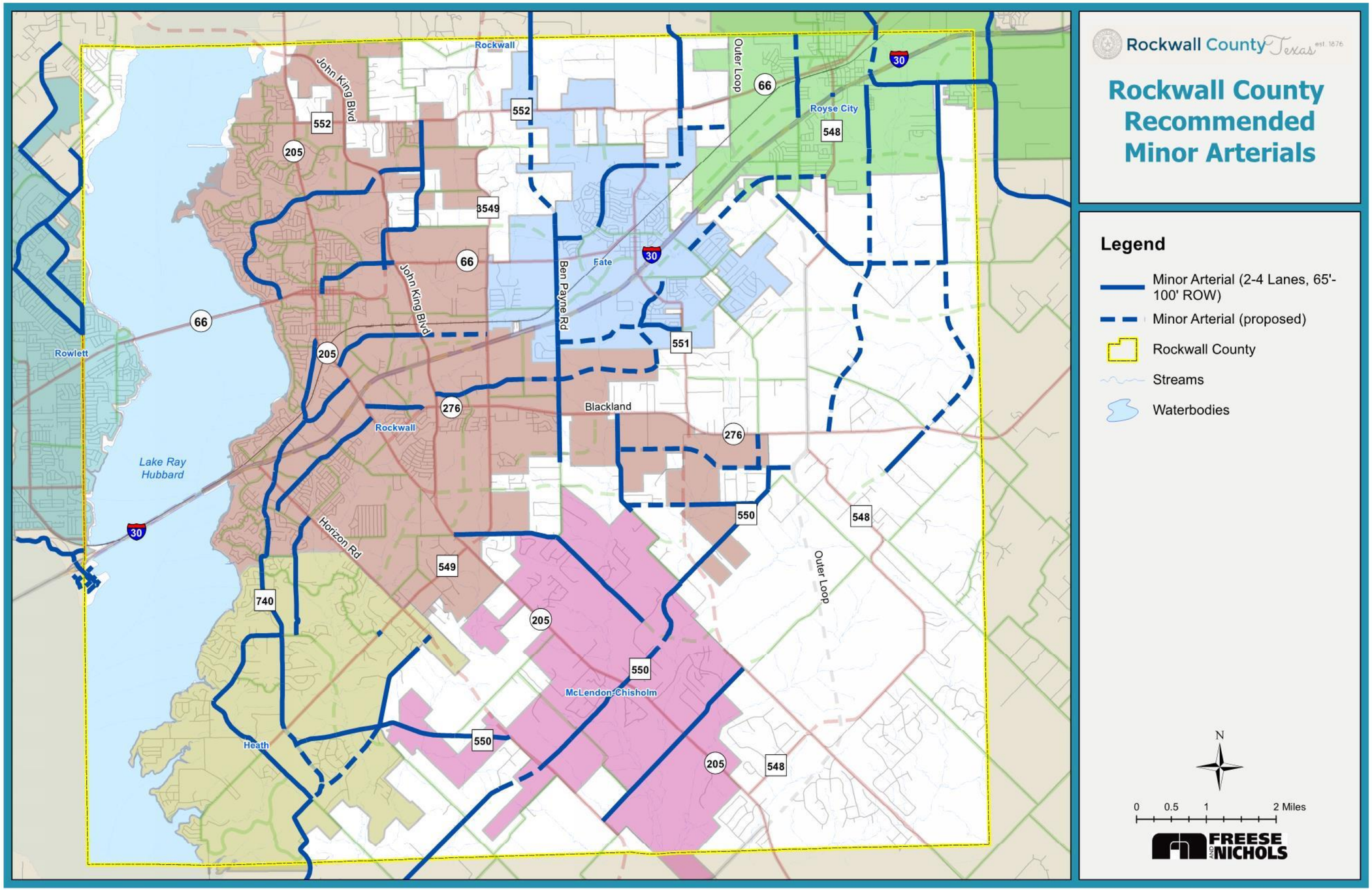


Figure 18. Two-Lane Minor Arterial (Rural)



Map 23. Rockwall County Recommended Minor Arterials



Collectors - C

The recommended right-of-way for collector streets is 60 to 80 feet. Conceptual lane configurations for collectors are depicted in **Figures 20-22** and range from two to three lanes with 12-foot travel lanes, 16-foot center lanes, and five-foot sidewalks (for urban sections). Rural collectors should include four-foot shoulders. Collector facilities should be spaced a minimum of one quarter-mile apart with at least a half-mile between signalized intersections. Rockwall County collectors are illustrated in **Map** 24**.**

Figure 20. Three-Lane Collector (Urban)

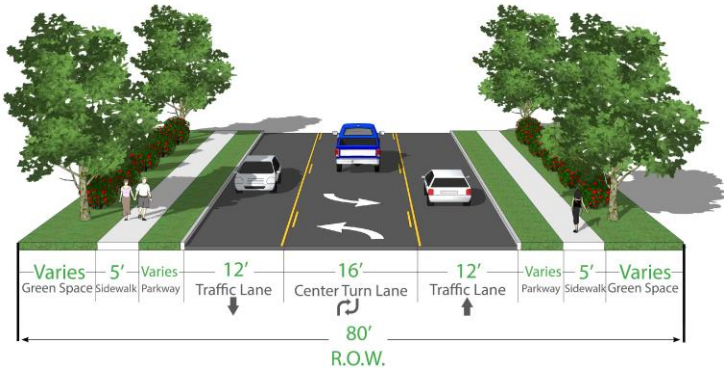


Figure 21. Two-Lane Collector (Urban)

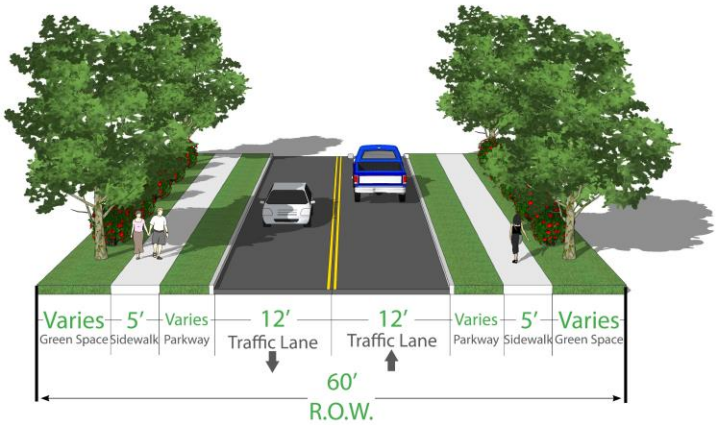
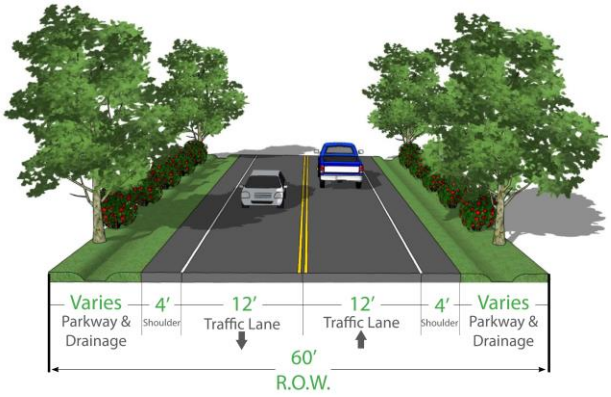
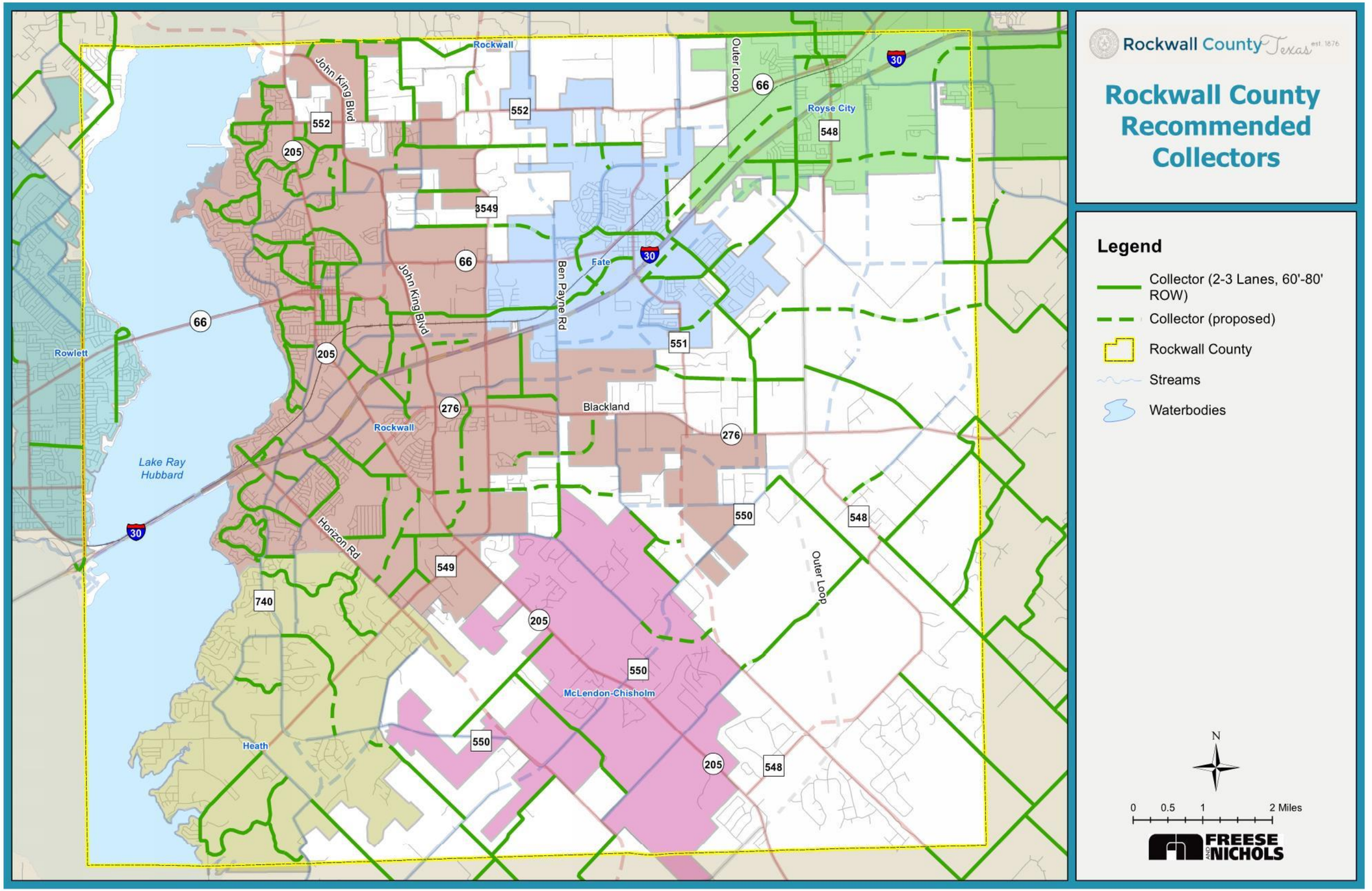


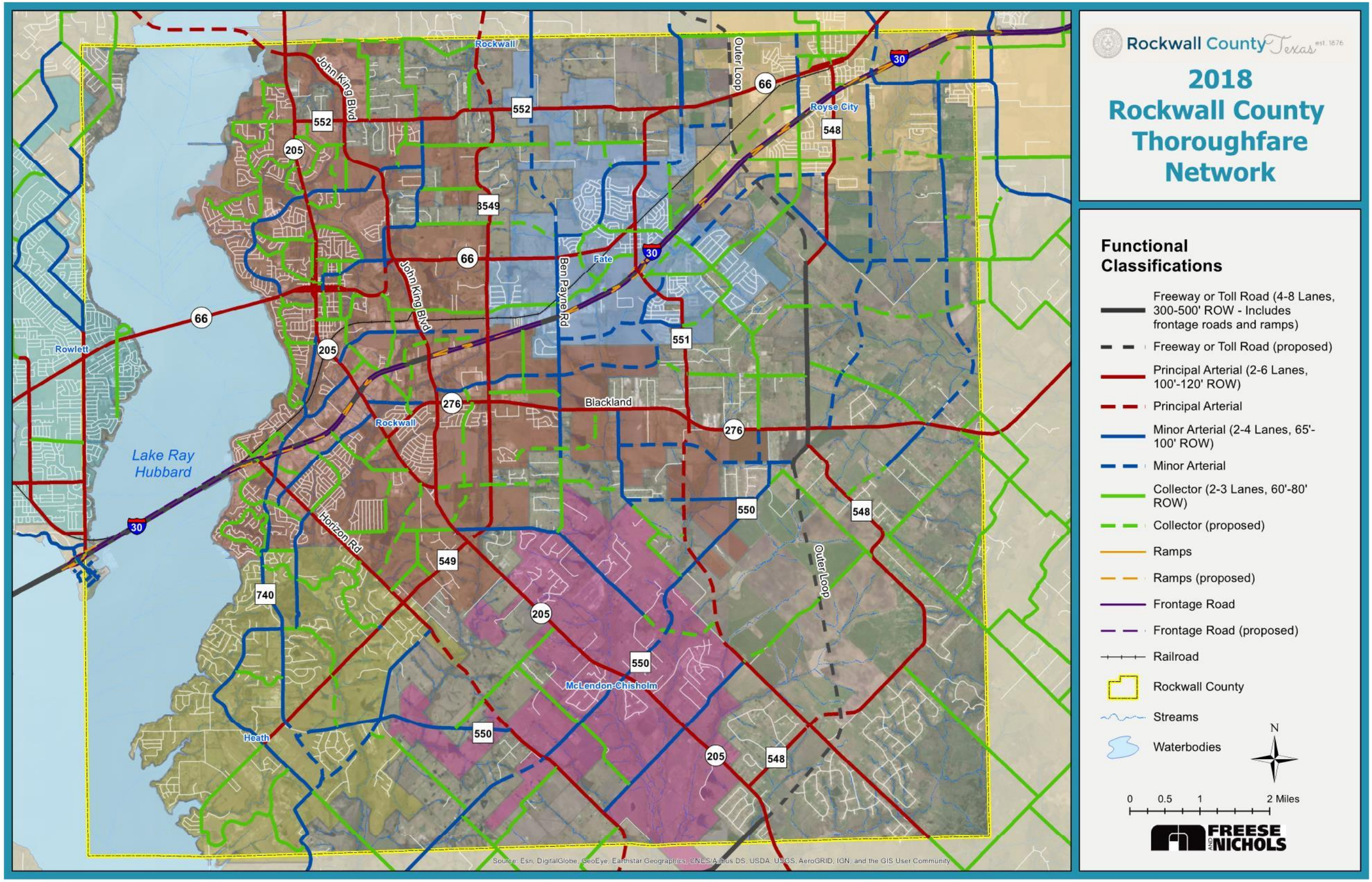
Figure 22. Two-Lane Collector (Rural)



Map 24. Rockwall County Recommended Collectors



Map 25. Rockwall County Thoroughfare Network



Recommended Network Enhancements

The following section summarizes network improvements recommended for Rockwall County's 2018 Thoroughfare Plan. Network improvements include new roadway alignments, roadway right sizing/ lane additions, and intersection improvements. The following roadways are recommended to be added to or modified in Rockwall County's thoroughfare network.

Recommended Roadway Additions

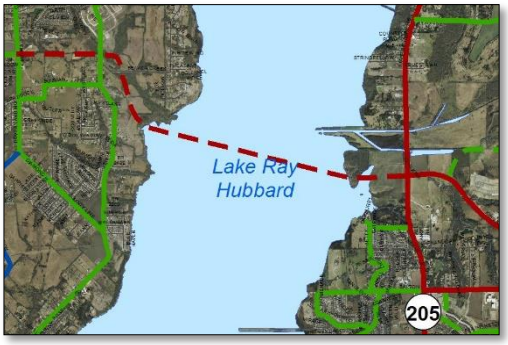
Table 24 provides a summary of recommended roadway additions. Descriptions of the recommended alignments are included in the following paragraphs. A full list of network improvements is available in the **Appendix.**

Table 24. Summary of Recommended Roadway Additions

Road	Limits	Functional Classification	Lanes
Ben Payne Rd.	CD Boren Pkwy. to FM 552	Minor Arterial	4
CD Boren Pkwy.	FM 552 to SH 66	Minor Arterial	2
Cornelius Rd. Extension	FM 549 to Ben Payne Dr.	Collector	2
Discovery Blvd.	Williamsburg Pkwy. to Data Dr.	Minor Arterial	4
FM 551 Extension	Edwards Rd. to SH 276	Minor Arterial	4
Linda Ln. Extension	Blackland Rd. to FM 551	Collector	3
Outer Loop Extension	IH 30 Interchange to Kaufman County Outer Loop Alignment	Highway	
FM 1139 Extension	FM 551 Extension to FM 550	Collector	2
FM 740 Extension	FM 549 to Rabbit Ridge Ext.	Minor Arterial	4
Rabbit Ridge Rd. Extension	King St. to FM 550	Minor Arterial	4
Horizon Rd. Extension	Rabbit Ridge Ct. to FM 550	Minor Arterial	4
John King Blvd. Extension	SH 205 to Horizon Rd.	Major Arterial	4
John King Blvd. Bridge	SH 205 to Troy Rd.	Major Arterial	4
FM 549 Extension	Horizon Rd. to FM 1139	Minor Arterial	4
Gettysburg Blvd. Extension (West)	Rochelle Rd. to Williamsburg Pkwy. Ext.	Minor Arterial	4

John King Boulevard Bridge

The John King Boulevard Bridge will provide an additional east-to-west connection between Dallas County and Rockwall County across Lake Ray Hubbard. The bridge is projected to carry 55,348 vehicles per day at LOS F in 2045 and reduce congestion on IH 30 by 10 percent and SH 66 by 20 percent. The proposed four-lane bridge would extend across Lake Ray Hubbard from the existing John King alignment and make an eventual connection to Alanis Street in Wylie (Dallas County). The proposed roadways connecting to the bridge would be two-to-four-lane principal arterials within 100 to 120 feet of right-of-way (ROW).



Ben Payne Road Extension

Ben Payne Road is recommended to be extended from CD Boren Parkway, through FM 552, where it will merge into Smith Road. The roadway will improve north-to-south connectivity within the county and add to the overall development framework in northern Rockwall County. The roadway is projected to carry 6,270 vehicles per day in 2045 and operate at LOS ABC. It would be classified a two-to-four-lane minor arterial within 65 to 100 of ROW. The Ben Payne Road extension would also reduce congestion on FM 3549, which is projected to operate at LOS F if Ben Payne Road is not extended. The extension would improve operations on the FM 3549 to LOS DE.

Cornelius Road

The plan recommends extending Cornelius Road east to the Ben Payne Road and Boren Parkway intersection. The extension will provide a seamless east-to-west connection between the cities of Fate and Rockwall and improve the overall development framework north of SH 66. It would be a two-to-three-lane collector facility within 60 to 80 feet of ROW.

Prince Lane Extension

The plan recommends extending Prince Lane east to Country Lane. The roadway will improve east-to-west connectivity in between the cities of Fate and Rockwall and improve the development framework in central Rockwall County. The functional classification for the roadway would be a two-to-three-lane collector facility within 60 to 80 feet of ROW.

FM 3549 Extension

FM 3549 is recommended to be extended from FM 552 to the Collin County line. The extension will connect the existing Stodgehill Road alignment (FM 3549) to the existing Old Millwood Road alignment to create a continuous north-to-south route from SH 205 to the northern county line. The connection improves the development framework in the northern sector of the county and is projected to accommodate about 15,357 vehicles per day at LOS ABC in 2045. The roadway would be a two-to-four-lane minor arterial within 65 to 100 feet of ROW.

FM 1138 Extension

The plan recommends extending FM 1138 south to connect to CD Boren Parkway. The extension, part of the City of Fate's Thoroughfare Plan, will improve connectivity between Royse City and Fate, and enhance the overall development framework in the area. The alignment is projected to carry about 5,000 vehicles per day in 2045 and operate at LOS ABC. It will be classified as a two-to-four-lane minor arterial within 65 to 100 feet of ROW.

McClendon Lane Extension

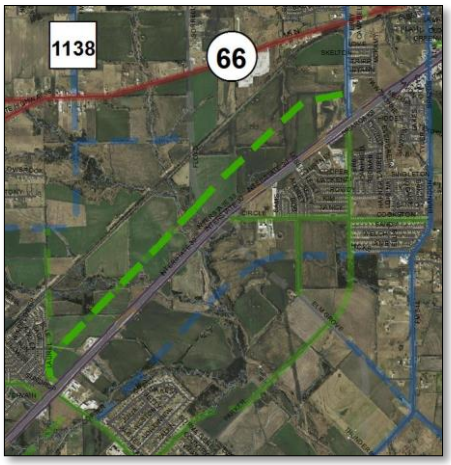
The McClendon Lane Extension, located between CD Boren and Fate Main Street, will help further define the edge of the city of Fate. Additionally, the alignment will provide an alternate connection to IH 30, which would help move traffic from any future development planned north of Fate to IH 30 without significantly hindering circulation within the city. The roadway is projected to carry and 5,014 vehicles per day at LOS DE by 2045. It would be a two to three-lane collector facility within 60 to 80 feet of ROW.

Discovery Road Extension

The Discovery Road Extension is located between Rochelle Road in the City of Rockwall's ETJ to Williamsburg Parkway in Fate. The roadway, in conjunction with the Linda Lane Extension (located in the city of Fate), will create a contiguous east-to-west route parallel to SH 276. The extension should also provide some congestion relief to SH 276. The Discovery Road Extension would be a two-to-four-lane minor arterial facility within 65 to 100 feet of ROW. The roadway is projected to accommodate 4,907 vehicles per day at LOS ABC.

Linda Lane Extension

Linda Lane will be extended west from Blackland Road to the existing North Fork Road alignment and continue west from FM 551 to Williamsburg Parkway. The roadway will transition into the Discovery Road Extension west of Williamsburg Parkway. The Linda Lane Extension would be a two-to-three-lane collector facility within 60 to 80 feet of ROW. The roadway is projected to carry about 5,476 vehicles per day at LOS ABC.

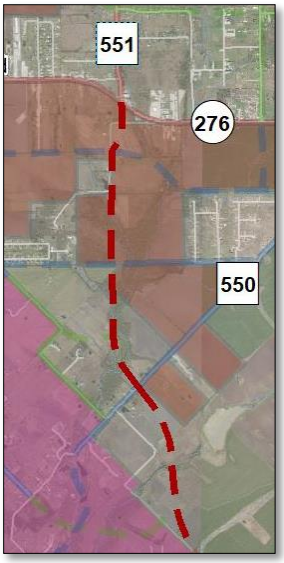


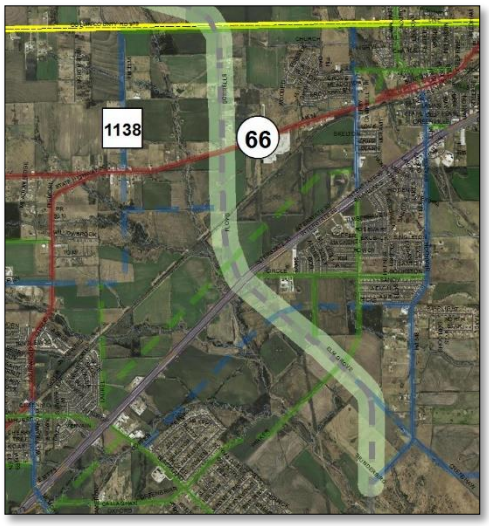
New Royse City Street A

New Royse City Street A is located north of IH 30 between Erby Campbell Boulevard and the McClendon Lane Extension. The roadway provides a backage connection along the north side of IH 30 to help support development along the IH 30 corridor and improves connectivity between the cities of Fate and Royse City. The roadway would be a two-to-three-lane collector facility within the 60 to 80 feet of ROW.

FM 551 Extension

The FM 551 Extension will extend the existing FM 551 alignment south from SH 276 to Edwards Road. The alignment will provide a contiguous north-to-south route in central Rockwall County, and given its proximity to the Outer Loop alignment, improve the overall development framework in the county. The roadway would be a two-to-six-lane principal arterial within 100 to 120 feet of ROW.



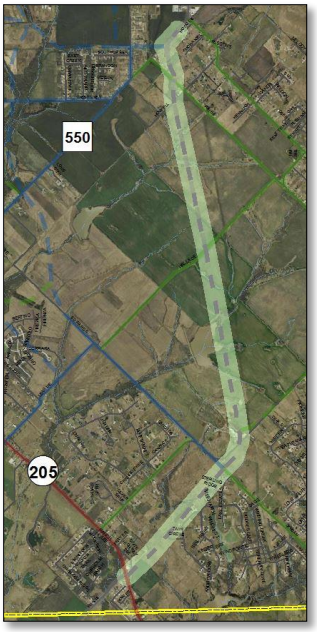


Outer Loop – Northern Section

While included in the 2016 Rockwall County Thoroughfare Plan, the northern segment of the Outer Loop alignment was shifted eastward from its previous alignment at FM 1138 to Floyd Road. The revised alignment will improve north-to-south connectivity at the county and regional levels by connecting to the alignments in both Collin and Kaufman Counties. The roadway, to be initially constructed as four frontage lanes (two in each direction), will preserve the right-of-way between the lanes for eventual freeway construction. At completion, the Outer Loop is proposed to be a six-lane highway facility with frontage roads and will require 400 feet of ROW.

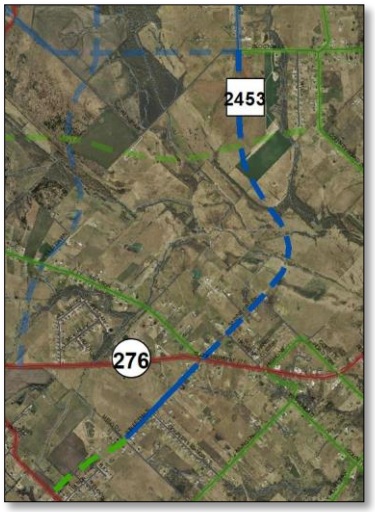
Outer Loop – Southern Section

Similar to the northern segment of the Outer Loop, the southern sector would be initially constructed as four divided frontage lanes with additional ROW preserved between the lanes for eventual roadway expansion. The southern sector of the roadway would connect to the Kaufman County North - South Connector (Outer Loop) alignment. At completion, the Outer Loop will be a six-lane highway facility with frontage lanes within 400 feet of ROW.



Horizon Road Extension

Horizon Road would be extended from Rabbit Ridge Road to FM 550. The connection, though on a diagonal alignment, would provide a seamless north-to-south connection in southwestern Rockwall County. The extension would also create a grid-like road structure, which will be more conducive to development. The connection is projected to accommodate 4,383 vehicles per day in 2045 at LOS ABC. The roadway would be a two-to-four-lane minor arterial within 65 to 100 feet of ROW.



FM 2453 and Streetman Road Extensions

FM 2453 would be extended south from Blockdale Road to SH 276, where it will transition into the existing Streetman Road alignment. Streetman Road would also be extended from Melody Lane to FM 548. The connection will improve north-to-south connectivity in the eastern sector of the county and improve the overall development and land use framework for both Rockwall and Hunt Counties. The roadway will be a two-to-four-lane minor arterial within 65 to 100 feet of ROW.

Recommended Roadway Sizing

Rockwall County's thoroughfare network relies on the principle of supply and demand. If a County does not appropriately plan for and designate enough roadway capacity (supply) for increased population or employment growth (demand), the transportation network may perform poorly. This principle not only applies to roadway capacity, but transit, bicycle, and pedestrian provisions as well. In contrast, a city or county with a declining population may experience lower levels of congestion in the future and need less capacity to accommodate demand.

The main goal of the thoroughfare planning process is to plan for a future transportation system that balances the supply and demand so that the provision and utilization of resources are optimized and the system functions safely and efficiently. The results of the technical analyses provide an opportunity for the transportation network to be "right-sized" in locations and along corridors that are available for expansion (or reduction). The adjustments to the network and the thoroughfare plan were based on the following issues related to system needs and sizing:

- A corridor that is expecting volumes greater than the capacity.
- A corridor that is planned for increased capacity but does not have the projected demand to justify the increased capacity.
- A corridor may need additional capacity as a result of the projected volumes, but expansion is constrained.
- Increased use of alternate modes such as biking, walking, and riding transit could reduce vehicle demand on a corridor.

Roadway Widenings

Despite the available capacity in the overall thoroughfare network, the model run on the revised 2045 network revealed a number of roadways in need of additional capacity to accommodate future traffic demand. The two-lane segment of FM 3549 between SH 66 and the westbound IH 30 Frontage Road, for instance, carried over 12,500 vehicles per day in 2017; it is projected to accommodate over 45,000 vehicles per day in 2045. The roadway was widened from two to four lanes in the Revised 2045 Network, is still projected to operate at LOS F. Adding two additional lanes and left-turn lanes at the intersections may improve LOS to E, but other operational conditions, such as traffic signals or driveways may increase delay within the corridor.

Table 25 summarizes roadways recommended for additional lanes. FM 740 (Hubbard Drive to Rabbit Ridge Road) is recommended to be widened from two to four lanes, which would improve LOS from F to D. Widening the FM 1139 (FM 549 to Rochelle Road), which is projected to carry nearly 20,000 vehicles per day, from two to four lanes would improve the roadway's performance from LOS F to E. Horizon Road (EB IH 30 Frontage Road to FM 740), is projected to accommodate roughly 17,000 vehicles per day at LOS F in 2045. Adding two lanes would improve roadway operations to LOS C.

Table 25. Recommended 2045 Network Roadway Sizing

Roadway	Limits	2017 Lanes	2017 Volumes	2017 LOS	Model 2045 Volumes	Model 2045 Lanes	Model 2045 LOS	Revised 2045 Lanes	Revised 2045 LOS
FM 3549	SH 66 to IH 30 WB Frontage Rd.	2	12,654	F	28,509	4	F	6	E
FM 740	King Rd. to Kaufman County Line	2	10,030	ABC	28,169	4	F	5 - 6	D
FM 3549	SH 66 to Camp Creek Rd.	2	5,570	ABC	20,478	4	F	5 - 6	C
FM 740	Hubbard Dr. to Rabbit Ridge Rd.	2	9,236	ABC	17,210	2	F	4	D
FM 550	SH 205 to Horizon Rd.	2	3,061	ABC	10,866	2	F	3 - 4	C
FM 1139	FM 549 to Rochelle Rd.	2	6,674	ABC	19,491	2	F	4	E
FM 1139	Rochelle Rd. to FM 550	2	3,221	ABC	9,161	2	F	4	C
Horizon Rd.	IH 30 Frontage Rd. to FM 740	2	20,462	F	16,745	2	F	4	C
Horizon Rd.	FM 740 to FM 549	2	5,086	ABC	11,929	2	ABC	4	AB
FM 1141	FM 552 to Williams St.	2	3,932	ABC	6,841	2	F	2 - 3	C
FM 1141	SH 66 to Williams St.	2	2,268	ABC	14,044	2	F	4	D
Ben Payne Rd.	SH 66 to IH 30 WB Frontage Rd.	2	894	ABC	12,117	2	F	4	AB
SH 66	Dalrock Rd. to Harbor Rd.	4	49,188	F	61,924	4	F	6	F
Airport Rd.	SH 66 to Industrial Blvd.	2	759	ABC	13,438	2	F	4	D

Recommended Intersection Improvements

A number of critical intersections were identified in the plan's stakeholder input process. **Table 26** summarizes planning level recommendations to improve conditions at the identified intersections. These recommendations were developed to improve connectivity, relieve congestion, or improve safety. Because the recommendations are based on planning level assessments, more detailed operational analyses will be needed for final implementation.

IH 30 Frontage Road (EB/WB) and SH 205

The intersection of the IH 30 and SH 205 was identified as one of the most congested intersections in the county, accommodating about 42,000 vehicles per day in 2017 at LOS DE. Operational conditions are projected to deteriorate to LOS F by 2045. Mitigation strategies to address operational concerns at the intersection include dual left and/or right-turn lanes, driveway consolidation on SH 205, and the planned relocation of the SH 276/ SH 205 intersection.

FM 552 and SH 66

The intersection of FM 552 and SH 66 was identified as a performance and safety concern due to geometric issues at the intersection. Northbound commuters approaching the intersection on SH 66 have to make a 180-degree turn across oncoming traffic to travel west on FM 552. This condition causes traffic at the intersection to back up during peak conditions. The intersection is equally arduous for vehicles entering the intersection from the eastbound lanes of FM 552. To address this issue, a left-turn lane should be constructed on SH 66 to accommodate left-turning traffic, and FM 552 should be realigned to create a "T" intersection with SH 66.

SH 276 and SH 205

The intersection of SH 276 and SH 205 was identified due to congestion caused by vehicles queuing at the intersection and a high number of traffic collisions. The intersection currently accommodates about 40,000 vehicles per day at LOS F. The SH 276 westbound approach accommodates about 20,000 vehicles per day at LOS F. To mitigate the issue, SH 276 would be realigned about one-half mile south and T-into SH 205 at the current Sids Road and SH 205 intersection. In addition to the realignment, SH 276 will be widened to six lanes with left and right-turn lanes. Left and right-turn lanes would also be constructed on SH 205.

Table 26. Critical Intersection Recommendations

Intersection	Issues	Recommendation	Timing
IH 30 Frontage Lanes (EB/WB) and SH 205	Congestion	Dual left-turn lanes Dual right-turn lanes Driveway consolidation on SH 205	5 to 10 Years
Dalrock Rd. and SH 66	Congestion Collisions	Right-turn lanes on Dalrock Rd. Left-turn lane on Dalrock Rd.	0 to 5 Years
Horizon Rd. and EB IH 30 Frontage Lanes	Congestion Collisions	Widen Village Bridge to 4 lanes w/ left-turn lanes Widen Horizon Rd. to 4 lanes w/ right-turn lanes	0 to 5 Years
FM 552 and SH 66	Congestion Intersection Geometry	Left-turn lane on SH 66 Reconfigure FM 552 to T-into SH 66	0 to 5 Years
IH 30 Frontage and Erby Campbell Pkwy.	Congestion	Right-turn lane on Erby Campbell Pkwy.	10 to 20 + Years
SH 66 and Scenic Blvd.	Congestion Collisions	Right-turn lanes on SH 66 Left-turn lanes on Scenic Blvd.	5 to 10 Years
SH 276 and Corporate Crossing	Congestion Collisions	Widen SH 276 to four lanes with left and right-turn lanes	0 to 5 Years
William E. Crawford Ave. and Fate Main St.	Congestion	Left-turn lanes on Crawford Ave.	5 to 10 Years
SH 205 and SH 276	Congestion Collisions	Realign Intersection Widen SH 276 to six lanes with left and right-turn lanes Left and right-turn lanes on SH 205	0 to 5 Years
FM 1138 and SH 66	Congestion	Widen SH 66 to four lanes Left-turn lanes on SH 66 Left-turn lanes on FM 1138	0 to 5 Years

Capital Improvements Planning

Projects selected for implementation in the thoroughfare plan were prioritized based on several factors:

- The projects overall impact of the transportation network
- The projects position to leverage for additional transportation funds
- The feasibility of the project
- The ability of the project to compete for availability funding

The following tables illustrate recommended roadway construction and enhancement prioritization for the Rockwall County Thoroughfare Plan.

Project Prioritization

The implementation timing for projects recommended for the Rockwall County Thoroughfare Plan was based on the availability of identified funding for recommended projects, overall network impact, and/or the ability of the project to facilitate additional transportation improvements. Short-range projects include projects recommended implementation within the first five years of the plan's adoption. Medium-term projects are recommended for implementation within the ensuing five to 10 years. Long-range projects are envisioned for the 10 to 20 plus year horizon. Projects recommended for the medium- or long-range horizons may warrant some level of planning, design, and engineering to better position them for implementation as funds become available. An illustration of Rockwall County Thoroughfare Network Implementation and Timing is available in **Map 26.**

The following tables summarize projects by their recommended implementation timing. **Table 27** summarizes short-term projects, such as the FM 3549 widening, IH 30 widening, and the SH 66 and FM 552 intersection improvements. **Table 28** includes medium-term project such as the FM 549 Extension, John King Bridge, and Discovery Boulevard Extension. **Table 29** summarizes long-term projects such as the Outer Loop, the northern Ben Payne Extension, and the FM 1139 Extension. The complete list of projects with recommended timing is available in the **Appendix.**

Although the Outer Loop is a high priority project for the county, it is recommended for implementation in the 10 to 20 plus year horizon. Once implemented, the roadway will provide pivotal transportation arteries within the county that significantly impact the overall transportation network in terms of congestion, connectivity, and economic development. Although the project is long-term, preliminary analysis will be needed prior to project implementation to determine the most feasible alignment through the county.

Short Term Projects (0 – 5 Years)

Table 27. Summary of Recommended Short-Term Projects

Roadway	Limits	Scope	Timing
FM 3549	IH 30 to SH 66	Widen roadway from 2 to 4 lanes	0 - 5 Years
FM 552	SH 205 to SH 66	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 276	SH 205 to Hunt County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
FM 549	SH 276 to SH 205	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 66/ Dalrock Rd. Intersection	SH 66 and Dalrock Rd. Intersection	Construct left and right-turn lanes	0 - 5 Years
SH 205	N of John King to Collin County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
John King Blvd. (SH 205)	N of FM 549 to Collin County Line	Widen roadway from 4 to 6 lanes	0 - 5 Years
SH 205	N of FM 549 to Kaufman County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
IH 30	FM 740 to SH 205	Widen roadway from 6 to 8 lanes w/ 6 frontage lanes	0 - 5 Years
Horizon Rd. Interchange/ Bridge	Horizon Rd. and IH 30	Reconstruct bridge and widening to 4 lanes	0 - 5 Years
IH 30 Frontage Lanes	Dalrock Rd. to Horizon Rd.	Construct 6 frontage lanes (3 each direction)	0 - 5 Years
IH 30	SH 205 to FM 2642	Widen roadway from 4 to 6 lanes w/ 6 frontage lanes	0 - 5 Years
SRTS Trail Project	W of Dunford Dr. to FM 740	Construct shared use path	0 - 5 Years
FM 548	SH 205 to Kaufman County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 276 Realignment	SH 276 to Sids Rd.	Realign SH 276 to intersect SH 205 at Sids Rd.	0 - 5 Years
SH 66/ FM 552 Intersection	SH 66 and FM 552 Intersection	Realign FM 552 to T into SH 66; Left-turn Lanes on SH 66	0 - 5 Years

Mid-term Projects (5 – 10 Years)

Table 28. Summary of Recommended Mid-Term Projects

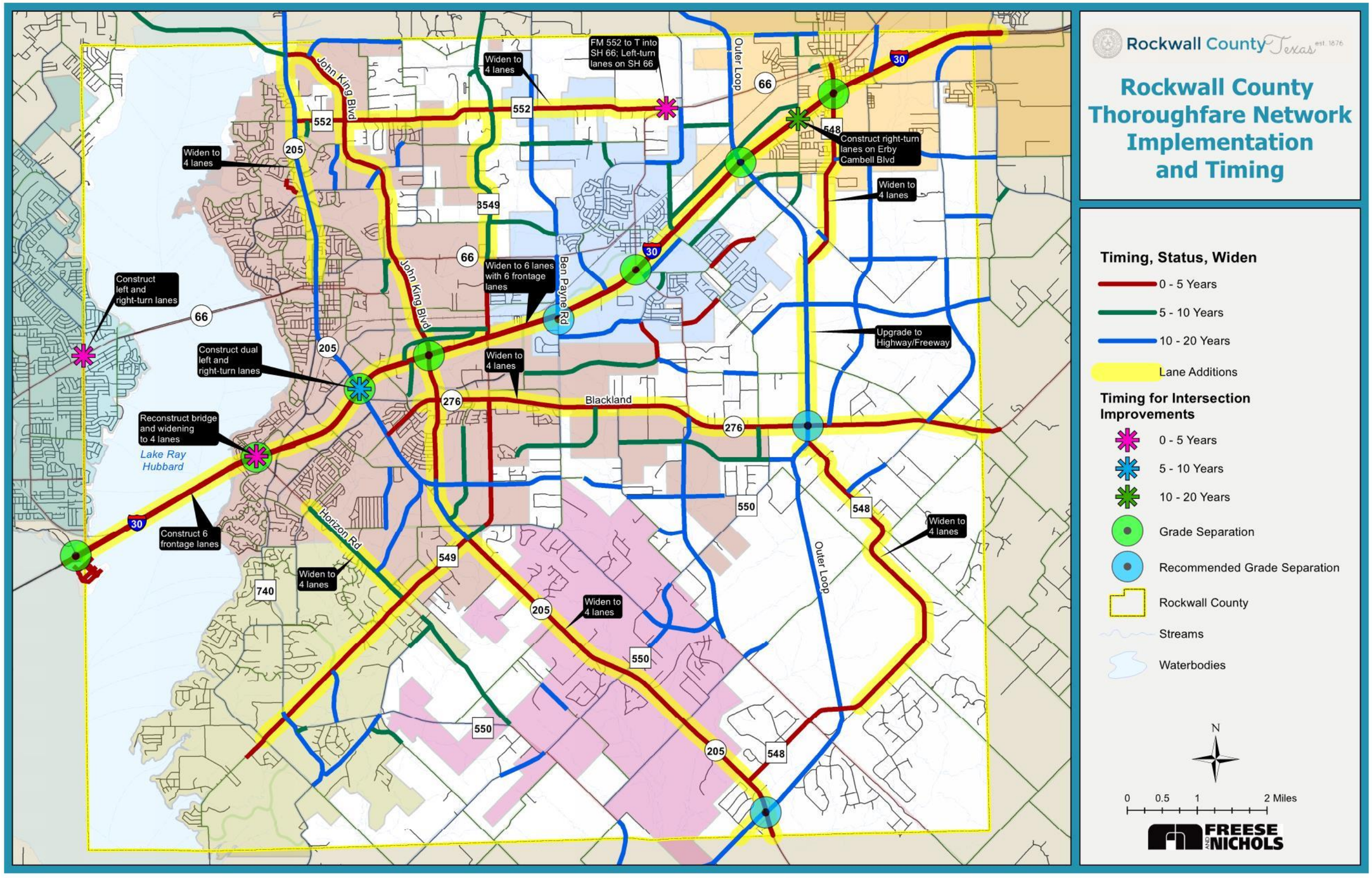
Roadway	Limits	Scope	Timing
FM 549 Extension	FM 1139 to SH 205	Extend roadway from FM 1138 to SH 205	5 - 10 Years
FM 3549 Extension	FM 552 to Old Millwood Rd.	Extend roadway from FM 552 to Millwood Rd.	5 - 10 Years
FM 3549	SH 66 to Collin County Line	Widen roadway from 2 to 4 lanes	5 - 10 Years
Cornelius Rd. Extension	FM 549 to Ben Payne Rd.	Extend roadway from FM 549 to Ben Payne Rd.	5 - 10 Years
John King Blvd. Extension	SH 205 to Horizon Rd.	Extend roadway from SH 205 to Horizon Rd.	5 - 10 Years
Smith Rd. Extension	Rabbit Ridge Ct. to FM 550	Extend roadway from Rabbit Ridge Ct. to FM 550	5 - 10 Years
Discovery Blvd.	Williamsburg Pkwy. to Data Dr.	Extend roadway from Williamsburg Pkwy. to Data Dr.	5 - 10 Years
Gettysburg Blvd. Extension (West)	Rochelle Rd. to Williamsburg Pkwy. Ext	Extend roadway from Rochelle Rd. to Williamsburg Pkwy. Ext.	5 - 10 Years
Stableglen Dr.	Stableglen Dr. to SH 205	Extend roadway from existing Stableglen Dr. to SH 205	5 - 10 Years
John King Blvd. Bridge	SH 205 to Troy Rd.	Construct 4-lane major arterial bridge from SH 205 to Troy Rd.	5 - 10 Years
FM 550 Realignment	Meadowcreek Ln. to Existing FM 550	Realign FM 550 Appx. 1,900' south of existing alignment; reconnect west of McDonald Rd. intersection	5 - 10 Years
McDonald Rd. Realignment	Falcon Point Dr. to Rabbit Ridge Rd. Ext.	Realign roadway from Falcon Point Dr. to Rabbit Ridge Rd. Ext.	5 - 10 Years
IH 30 Frontage Lanes (EB/WB)/ SH 205 Intersection	IH 30 Frontage Lanes (EB/WB) and SH205	Construct dual left-turn lanes Construct dual right-turn lanes Driveway consolidation on SH 205	5 - 10 Years

Long-term Projects (20 + Years)

Table 29. Summary of Recommended Long-Term Projects

Roadway	Limits	Scope	Timing
SH 205	N of FM 549 to Kaufman County Line	Widen roadway from 4 to 6 lanes	10 - 20 + Years
Outer Loop	Collin County Outer Loop Alignment to Kaufman County Outer Loop Alignment	Realign the existing alignment approximately .75 miles east of planned alignment Extend alignment south to connect to Kaufman County Outer Loop alignment	10 - 20 + Years
FM 551 Extension	Edwards Rd. to SH 276	Extend roadway from Edwards Rd. to SH 276	10 - 20 + Years
Ben Payne	CD Boren Pkwy. to FM 552	Extend roadway from CD Boren to FM 552	10 - 20 + Years
Ben Payne	IH 30 Frontage Rd. to SH 66	Widen roadway from two to four lanes	10 - 20 + Years
Heartland Crossing Extension	Wilford Way to FM 550	Extend roadway from Wilford Way to FM 550	10 - 20 + Years
FM 740 Extension	FM 549 to Rabbit Ridge Rd. Ext	Realign roadway from FM 549 to Rabbit Ridge Rd. Ext	10 - 20 + Years
FM 1139 Extension	FM 551 Ext to existing FM 550	Extend roadway from FM 551 Ext to existing FM 550	10 - 20 + Years
Gettysburg Blvd. Extension (West)	Blackland Rd. to Williamsburg Pkwy. Ext	Extend roadway from Rochelle Rd. to Williamsburg Ext.	10 - 20 + Years
North Fork Rd. Extension (West)	Williamsburg Pkwy. Ext to FM 551	Extend roadway from Williamsburg Ext. to FM 551	10 - 20 + Years
Camp Creek Rd.	John King Blvd. to Anna Cade Rd.	Extend roadway from Anna Cade Rd. to John King Blvd.	10 - 20 + Years
Rabbit Ridge Rd. Extension	King St. to FM 550	Extend roadway from King St. to FM 550	10 - 20 + Years
CR 2526 Extension	FM 2453 to FM 35 (Hunt County)	Extend roadway from FM 2453 to FM 35 (Hunt County)	10 - 20 + Years
IH 30 Frontage/ Erby Campbell Blvd. Intersection	IH 30 Frontage and Erby Campbell Blvd.	Construct right-turn lane on Erby Campbell Blvd.	10 - 20 + Years

Map 26. Rockwall County Thoroughfare Network Implementation and Timing



Recommended Corridor and Access Management Strategies

A number of strategies can be used to manage traffic along arterial roadways and freeway frontage roads to enhance their traffic operations. 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. standards for access connection spacing are not only based on the distance between intersections, but the speed in which commuters travel through a corridor as well. Speed differentials between the curb lane and adjacent lane are caused by the closeness of access connections and 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 30** details TxDOT's recommended access connection spacing for state managed (on-system) facilities below the freeway functional classification. These recommendations can be applied to non-state managed (off-system) roadways as well.

Table 30. 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

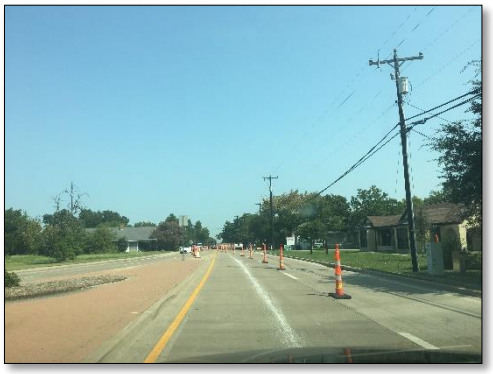
*Precludes new highways on new alignments, freeway mainlines, and frontage roads.

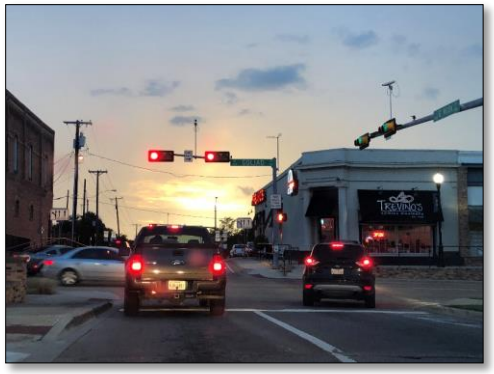
Auxiliary Lanes

Auxiliary lanes are designed to facilitate turning movements apart from 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. Turning lanes are usually installed at busy intersections or the entrance driveways of major traffic generators. Dual right- or left-turning lanes are good for extremely busy intersections, such as SH 205 and IH 30, that have a high number of vehicles making the same turning movements. The provision of auxiliary lanes at intersections increase the length of the crosswalk crossings for pedestrians. Consideration should be given to providing a minimum of six feet of raised-curb pedestrian refuge for very wide street crossings.

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 can vary in width. Medians improve safety for traffic operations by physically separating traffic and/or providing a shelter for roadway crossing by pedestrians. 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 by providing for progression of through traffic along the corridor. Too many intersections in a short span and/or poor signal timing, however, can cause delays and contribute to aggressive driving behaviors. According to the TxDOT Access Management Manual guidelines, every traffic signal added per mile reduces travel speeds 2 to 3 mph. This can lead to serious corridor congestion and delays.

Table 31 describes the increase in travel time for every traffic signal added within a mile span. Increasing from two to three 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. According to the Federal Highway Administration (FHWA), every dollar invested in traffic signal optimization saves $40 in time and fuel savings.

Table 31. 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

Shared Access or Consolidated Parking

Shared access allows multiple adjacent businesses to utilize a single parking entrance. This improves traffic flow by reducing the number of turning movements within a corridor. Fewer driveway openings also facilitate a more pedestrian friendly environment.

Additional Policy Recommendations

- Update the County's Subdivision Regulations to include right-of-way and functional classification recommended in the County Thoroughfare Plan.
- Recommended functional classifications should apply to newly constructed or reconstructed facilities. Existing roadways only need to be upgraded in terms of ROW preservation and designation until existing or projected volumes exceed the roadway's current capacity.
- ROW should be designated along existing facilities that do not meet recommended right-of-way standards. Roadways should not have to be widened until development or projected volumes indicate the need for additional capacity.
- The County Thoroughfare Plan should be updated every 10 years to keep pace with population, employment, and other development trends within the county.
- Develop a coalition between Rockwall, Hunt, Collin, and Kaufman Counties to coordinate on the Outer Loop alignment and implementation within Collin, Rockwall, and Kaufman Counties.
- Develop a county road pavement index to assess pavement conditions and inform maintenance decisions on County-managed roads.
- Annually assess current roadway network pavement and bridge conditions and prepare a plan to address deficiencies within a five-year time frame.
- Coordinate with Independent School Districts within Rockwall County to prioritize improvement to roadway heavily utilized by school busses.
- Explore options to leverage the Downtown Rowlett Park and Ride station for future transit options such as bus rapid transit, light rail, and express bus service.
- Update the county engineering standards to comport with thoroughfare plan recommendations.

Chapter 7: Funding and Implementation Strategies

Projects recommended for implementation in the Rockwall County Thoroughfare Plan will be prioritized based on available funding, potential to leverage additional transportation improvements, and economic benefit. Projects selected for implementation range from new road construction and realignments to rehabilitation to intersection improvements. In addition to prioritization of recommended projects, a number of funding sources were identified and categorized based on the types of transportation projects eligible for the funds.

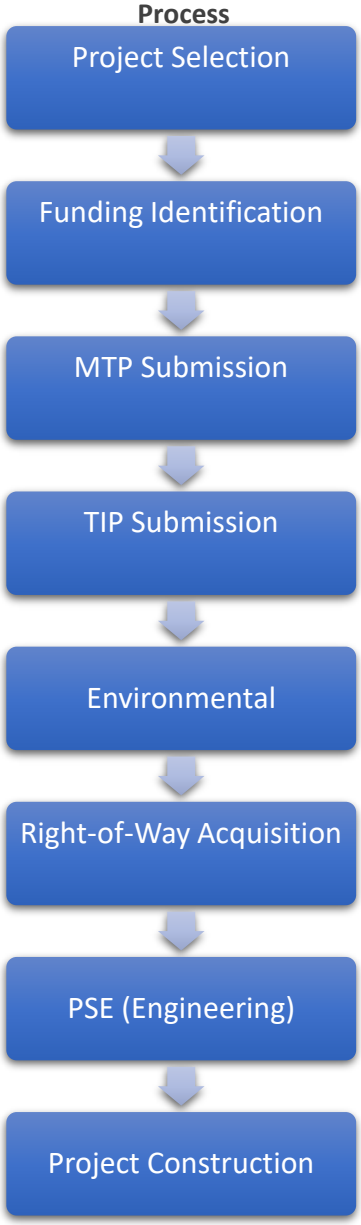
Project Implementation Process

Figure 23 summarizes the process for moving a project from the planning and discovery phase to construction. All projects selected for funding and implementation may follow this process from selection to construction. It is important to note that once funded, all projects must be submitted to NCTCOG's Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP). Depending of the funding source (typically federal or state funds), and/or whether the project is located on an on-system facility, projects will also be subject to the environmental review process, where the environmental impacts of a project are gauged and mitigated through an Environmental Assessment and/or Environmental Impact Statement. Projects with local or non-federal or non-state funds and not located on state facilities may only require Categorical Exclusion documentation.

Right-of-way can be acquired at any time during the implementation phase but should be started as early as possible in the project's life cycle to ensure timely completion of the project. This is particularly important in the implementation of the thoroughfare network as the functional classification recommendations in the plan may require right-of-way acquisition along existing and recommended roadway alignments.

More detailed information on the project implementation process, including details on the environmental documents required for the project is located in the **Appendices**.

Figure 23. Project Implementation Process



Recommended Funding Strategies

A number of potential funding sources have been identified for the implementation of recommended transportation improvements in Rockwall County. Descriptions of recommended funding sources are available in the **Appendix.**

Implementation Matrix

The funding and implementation matrices were 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 32** provides a list of funding sources that can be used to fund roadway 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 Outer Loop, Horizon Road Extension, and the McDonald Road Realignment. Additional details on the funding sources in **Table 32** are available in the **Appendices.**

Table 32. 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: State Discretionary Funds 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 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. **Table 33** provides a list of funding sources that could be used to fund roadway rehabilitation improvements.

Table 33. Potential Funding Sources for Roadway Rehabilitation

Roadway Rehabilitation		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Grade Separation	Congestion Relief Safety	Congestion Mitigation and Air Quality (CMAQ) Category 2: Interstate Maintenance Category 11 Texas Mobility Fund
Lane Addition	Congestion Relief Improved Capacity	STP-MM Category 12: Strategic Priority Funds Category 11 Texas Mobility Fund
Roadway Widening	Congestion Relief Improved Capacity Accommodates wider vehicles	Surface Transportation Program-Metropolitan Mobility (STP-MM) Category 12 Category 4F: STBG Rehabilitation in Urban and Rural Areas Category 3C Category 11 Texas Mobility Fund
Narrower Lanes	Traffic Calming Safety	Category 11 Category 4E
Right-of-Way Acquisition	ROW for future road expansion	Category 4E Proposition 7 Funds Category 4C: Metropolitan Mobility/ Rehabilitation
HOV Lane	Congestion Relief Improved Capacity	Texas Mobility Fund Category 2
Road Dieting	Traffic Calming Safety Economic Development	Category 11 Category 4E

Intersection Improvements

Intersection improvement funds are geared towards intersection 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. 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. **Table 34** includes a list of funding sources that can be used to fund intersection improvements. Additional information on the funding sources is available in the **Appendices.**

Table 34. Potential Funding Sources for Intersection Improvements

Intersection Improvements		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Traffic Signalization	Congestion Relief Safety	CMAQ Category 10A: Traffic Control Devices Category 10B: Rehab of Traffic Management Systems Category 11
Intersection Geometry Improvements	Safety Congestion Relief Improved Capacity Accommodates Wider Vehicles	CMAQ Category 4E Category 11
Intersection Lighting	Safety	Category 12 CMAQ Category 11
Left-and Right-Turn Lanes	Safety Congestion Relief Improved Capacity	CMAQ Category 11 Category 4E
Round-A-Bout	Congestion Relief Improved Capacity Safety Traffic Calming	CMAQ 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 the Surface Transportation Block Grants (STBG). STBG 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 35** provides a list of funding options available for miscellaneous projects. Additional information on the funding sources is available in the **Appendices**.

Table 35. Potential Funding Sources for Miscellaneous Transportation Projects

Miscellaneous		
Recommendation	**Problem Addressed**	**Potential Funding Source(s)**
Bridge Construction/ Reconstruction	Safety Improved Capacity Accommodate Wider Vehicles	Category 6A: On System Bridge Program Funds Category 6B: Off System Bridge Program Funds Category 11 Category 2: Interstate Maintenance
Street Lighting	Safety Economic Development	CMAQ STEP Funds Category 11
Railroad Grade Separation Repair/ Construction	Congestion Relief Safety	Category 4G: Railroad Grade Separation Category 11 Category 4A: STBG Safety
Pedestrian Amenities/ Landscaping	Traffic Calming Safety Economic Development Beautification	CMAQ STEP Funds Green Ribbon Funds Category 11 Category 4B: STBG Transportation Enhancements
Transit Expansion	Transit Needs Multimodal Connectivity	CMAQ STEP Funds Category 11
Traffic Impact Assessment	Congestion Relief Traffic Calming Safety Improved Access	CMAQ Regional Toll Revenue
Miscellaneous	Safety Congestion Relief Improved Capacity	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

Conclusion

Successful implementation of the Rockwall County Thoroughfare Plan will require coordination between a number of agencies and stakeholder groups in terms of public buy-in and funding. Two of the biggest deterrents to the plan's implementation are: public buy-in and a lack of agency coordination. Public participation is essential to the implementation of a project. Many projects, though planned, designed, and funded, have fallen apart due to public disapproval. In order to avoid this, all recommendations presented in this plan need to be vetted through the public participation process prior to implementation. Each project needs to be specifically and explicitly presented and reviewed by the public to provide awareness of any negative or positive impacts of the project.

The current work in progress on roadways throughout the county would not be possible without the leadership of elected officials from across the county advocating together for improvements to roads and other transportation infrastructure in the county. To implement this plan, continued leadership and coordination in the county is indispensable.

Agency Coordination

Agency coordination is also essential in the implementation of transportation projects. Because transportation is regional, different agencies and jurisdictions have to communicate to ensure more seamless connectivity. One City or County's strategy to widen a roadway in order to accommodate more traffic can be a nightmare to an adjacent City or County that has not prepared for an influx of traffic due to a roadway capacity increase in an adjacent county or municipality. Successful implementation of the County thoroughfare plan will require constant and transparent communication between all Rockwall County Cities, in addition to Dallas, Hunt, and Kaufman Counties, NCTCOG, and TxDOT.

Appendices

Recommended Network Improvements

Table 36. Recommended Network Improvements (0-5 Years)

Roadway	Limits	Scope	Timing
FM 3549	IH 30 to SH 66	Widen roadway from 2 to 4 lanes	0 - 5 Years
FM 552	SH 205 to SH 66	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 276	SH 205 to Hunt County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
FM 549	SH 276 to SH 205	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 66/ Dalrock Road Intersection	SH 66/ Dalrock Rd. Intersection	Construct left- and right-turn lanes	0 - 5 Years
SH 205	N. of John King Blvd. to Collin County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
John King Blvd (SH 205)	N. of FM 549 to Collin County Line	Widen roadway from 4 to 6 lanes	0 - 5 Years
SH 205	N. of FM 549 to Kaufman County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
IH 30	FM 740 to SH 205	Widen roadway from 6 to 8 lanes w/ 6 frontage lanes	0 - 5 Years
Horizon Interchange/ Bridge	Horizon Rd. and IH 30	Bridge reconstruction and widening to 4 lanes	0 - 5 Years
IH 30 Frontage Lanes	Dalrock Rd. to Horizon Rd.	Construct 6 frontage lanes (3 each direction)	0 - 5 Years
IH 30	SH 205 to FM 2642	Widen roadway from 4 to 6 lanes w/ 6 frontage lanes	0 - 5 Years
SRTS Trail Project	W. of Dunford Dr. to FM 740	Construct shared use path	0 - 5 Years
FM 548	SH 205 to Kaufman County Line	Widen roadway from 2 to 4 lanes	0 - 5 Years
SH 276 Realignment	SH 276 to Sids Rd.	Realign SH 276 to intersect SH 205 at Sids Rd.	0 - 5 Years
SH 66/ FM 552 Intersection	SH 66/ FM 552 Intersection	Realign FM 552 to T into SH 66 Construct left-turn Lanes on SH 66	0 - 5 Years

Table 37. Recommended Network Improvements (0-5 Years) Continued

Roadway	Limits	Scope	Timing
Memorial Drive Extension	Quail Run Rd. to Featherstone Dr.	Extend Memorial Dr. from Quail Run Rd. to Featherstone Dr.	0 - 5 Years
SH 276/Corporate Crossing Intersection	SH 276/Corporate Crossing Intersection	Widen SH 276 to 4-lanes with left- and right-turn lanes	0 - 5 Years
SH 205/SH 276 Intersection	SH 205 and SH 276	Realign Intersection Widen SH 276 to 4 (6 ultimate) lanes with left- and right-turn lanes Left- and right-turn lanes on SH 205	0 - 5 Years
FM 1138/ SH 66 Intersection	FM 1138 and SH 66	Widen SH 66 to 4 lanes Left-turn lanes on SH 66 Left-turn lane on FM 1138	0 - 5 Years
Horizon/ EB IH 30 Frontage Lanes Intersection	Horizon and EB IH 30 Frontage Lanes	Widen Village Bridge to 4-lanes w/ left-turn lanes Widen Horizon to 4 lanes w/ right-turn lanes	0 - 5 Years
Panhandle Drive	Country Rd. to Quail Run Rd.	Extend Panhandle Rd from Country Rd to Quail Run Rd.	0 - 5 Years
FM 549	SH 205 to FM 740	Widen Roadway from 2 to 4 lanes from SH 204 to FM 740	0 - 5 Years

Table 38. Recommended Network Improvements (5 -10 Years)

Roadway	Limits	Scope	Timing
FM 549 Extension	FM 1139 to SH 205	Extend roadway from FM 1138 to SH 205	5 - 10 Years
FM 3549 Extension	FM 552 to Old Millwood Rd.	Extend roadway from FM 552 to Millwood Rd.	5 - 10 Years
FM 3549	SH 66 to Collin County Line	Widen roadway from 2 to 4 lanes	5 - 10 Years
Cornelius Road Extension	FM 549 to Ben Payne Rd.	Extend roadway from FM 549 to Ben Payne Rd.	5 - 10 Years
John King Boulevard Extension	SH 205 to Horizon Rd.	Extend roadway from SH 205 to Horizon Rd.	5 - 10 Years
Horizon Road Extension	Rabbit Ridge Ct. to FM 550	Extend roadway from Rabbit Ridge Ct. to FM 550	5 - 10 Years
Discovery Boulevard	Williamsburg Pkwy. to Data Dr.	Extend roadway from Williamsburg Pkwy. to Data Dr.	5 - 10 Years
Gettysburg Boulevard Extension (West)	Rochelle Rd. to Williamsburg Pkwy. Ext.	Extend roadway from Rochelle Rd. to Williamsburg Ext.	5 - 10 Years
Rabbit Ridge Road Extension	King St. to FM 550	Extend roadway from King Street to FM 550	5 - 10 Years
Stableglen Drive	Stableglen Dr. to SH 205	Extend roadway from existing Stableglen Dr. to SH 205	5 - 10 Years
Justin Road Extension	John Kind Blvd. to FM 549	Extend roadway from John Kind Blvd. to FM 549	5 - 10 Years
New Collector 2	IH 30 WB Frontage to Justin Rd. Ext.	Construct 2-lane collector from IH 30 WB Frontage Rd. to Justin Rd. Ext.	5 - 10 Years
New Royse City Collector 1	McLendon Ln. Ext. to Hickory Hill Rd.	Construct 2-lane collector from McLendon Lane Ext. to Hickory Hill Rd.	5 - 10 Years
New Royse City Minor Arterial	FM 548 to Blackland Dr.	Construct 4-lane minor arterial from FM 548 to Blackland Dr.	5 - 10 Years
John King Bridge	SH 205 to Troy Rd.	Construct 4-lane major arterial bridge from SH 205 to Troy Rd.	5 - 10 Years

Table 39. Recommended Network Improvements (5 -10 Years) Continued

Roadway	Limits	Scope	Timing
FM 550 Realignment	Meadow Creek Ln. to Existing FM 550	Realign FM 550 Appx. 1,900' south of existing alignment; reconnect east of Old Dowell intersection	5 - 10 Years
McDonald Road Realignment	Falcon Point Dr. to Rabbit Ridge Rd. Ext.	Realign roadway from Falcon Point Dr to Rabbit Ridge Rd. Extension	5 - 10 Years
McClendon Lane Extension	New Royse City Collector to CD Boren Pkwy. Ext.	Extend Roadway from New Royse City Collector to CD Boren Pkwy. Ext.	5 - 10 Years
IH 30 Frontage Lanes (EB/WB)/ SH205 Intersection	IH 30 Frontage Lanes (EB/WB) and SH205	Dual left-turn lanes Dual right-turn lanes Driveway consolidation on SH 205	5 - 10 Years
SH 66/ Scenic Blvd Intersection	SH 66 and Scenic Blvd.	Right-turn Lanes on SH 66 Left-Turn Lanes on Scenic Blvd.	5 - 10 Years
Crawford Rd./Fate Main Street Intersection	Crawford Rd. and Fate Main St.	Left-turn lanes on Crawford Rd.	5 - 10 Years
Horizon Road (FM 3079)	FM 740 to FM 549	Widen roadway from two to four lanes	5 - 10 Years
New Fate Collector 1	Cd Boren Pkwy. to Prince Ln.	Construct two to three-lane collector	5 - 10 Years
Erby Campbell Road Extension	Ame Rd. to Elm Grove Rd.	Extend Erby Campbell rd. to Elm Grove Rd at Parker Rd. intersection	5 - 10 Years
New Fate Collector 2	Blackland Rd. to Erby Campbell Rd.	Construct two to three- lane collector	5 - 10 Years
FM 1141 Realignment	Williams St. to FM 66	Extend FM 1141 to SH 66	5 - 10 Years

Table 40. Recommended Network Improvements (10 -20 + Years)

Roadway	Limits	Scope	Timing
SH 205	N. of FM 549 to Kaufman County Line	Widen roadway from 4 to 6 lanes	10 - 20 + Years
Outer Loop	Collin County Outer Loop Alignment to Kaufman County Outer Loop Alignment	Realign the existing alignment Approximately .75 miles east of planned alignment; Extend alignment south to connect to Kaufman County Outer Loop Alignment	10 - 20 + Years
FM 551 Extension	Edwards Rd. to SH 276	Extend roadway from Edwards Rd. to SH 276	10 - 20 + Years
Ben Payne Road	CD Boren Pkwy. to FM 552	Extend roadway from CD Boren to FM 552	10 - 20 + Years
Heartland Crossing Extension	Wilford Way to FM 550	Extend roadway from Wilford Way to FM 550	10 - 20 + Years
FM 740 Extension	FM 549 to Rabbit Ridge Rd. Ext.	Realign Roadway from FM 549 to Rabbit Ridge Ext	10 - 20 + Years
FM 1139 Extension	FM 551 Extension to existing FM 550	Extend roadway from FM 551 Extension to existing FM 550	10 - 20 + Years
Gettysburg Blvd Extension (West)	Blackland Rd. to Williamsburg Pkwy. Ext	Extend roadway from Rochelle Rd. to Williamsburg Ext	10 - 20 + Years
North Fork Extension (West)	Williamsburg Pkwy. Ext. to FM 551	Extend Roadway from Williamsburg Ext. to FM 551	10 - 20 + Years
North Fork Extension (East)	FM 551 to Blackland Rd.	Extend Roadway from FM 551 to Blackland Rd.	10 - 20 + Years
Camp Creek Road	John King Blvd. to Anna Cade Rd.	Extend roadway from Anna Cade Rd. to John King Blvd.	10 - 20 + Years
CR 2515 Extension	FM 35 to Hunt County Line	Extend roadway from FM 35 to Hunt County Line	10 - 20 + Years
Elm Grove Realignment	Existing Elm Grove Rd. to FM 548	Realign Elm Grove Rd. to intersect FM 548 at Crenshaw Rd.	10 - 20 + Years
Blockdale Road Extension	Existing Blockdale Rd. to Crenshaw Rd.	Extend roadway to Crenshaw Rd.	10 - 20 + Years
CR 2526 Extension	FM 2453 to FM 35 (Hunt County)	Extend roadway from FM 2453 to FM 35 (Hunt County)	10 - 20 + Years
New Collector 3	FM 2453 to CR 2584 (Hunt County)	Extend roadway from FM 2453 to CR 2584 (Hunt County)	10 - 20 + Years
New Fate Minor Arterial	CD Boren Pkwy. to Outer Loop	Construct roadway from CD Boren Pkwy. to Outer Loop	10 - 20 + Years
Dowell Road Realignment	FM 551 Ext to Old Dowell Rd.	Extend Dowell Rd. from FM 551 Ext to Dowell Rd.	10 - 20 + Years

Table 41. Recommended Network Improvements (10 -20 + Years) Continued

Roadway	Limits	Scope	Timing
IH 30 Frontage / Erby Campbell Intersection	IH 30 Frontage and Erby Campbell Rd.	Right-turn lane on Erby Campbell Rd.	10 - 20 + Years
FM 2453 Extension	Blockdale Rd. to SH 276	Extend roadway to SH 276	10 - 20 + Years
Streetman Road Extension	Melody Ln. to FM 548	Extend roadway to FM 548	10 - 20 + Years
Cemetery Road Extension	Cemetery Rd. to SH 276	Extend roadway from Cemetery Rd. to SH 276	10 - 20 + Years
Stevens Road Realignment	Stevens Rd. to FM 550	Realign Stevens Rd. to intersection Smith Rd at the FM 550 intersection	10 - 20 + Years
Zoellner Road Extension	Zoellner Rd. to Dowell Rd.	Extend roadway from Zoellner Rd. to Dowell Rd.	10 - 20 + Years
Somerset Park Road	SH 205 to Rochelle Rd.	Construct roadway from SH 205 to Rochelle Rd.	10 - 20 + Years
Rocki-Dell Lane Extension	Rocki-Dell Ln. to Dowell Rd.	Extend Roadway from Rock-Dell Ln. to Dowell Rd.	10 - 20 + Years

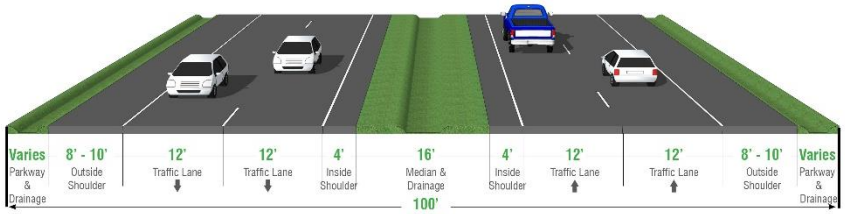
Table 42. Rockwall County Base 2045 Network LOS F Roadways

Roadway	Segment	2045 Volume	2045 Lanes	2045 Daily LOS	2045 AM LOS	2045 PM LOS
SH 205 Goliad	Alamo St. to FM 740	55,245	6	F	F	F
SH 205 Goliad	John King Blvd. to Alamo St.	45,059	4	F	F	F
FM 740	SH 205 to Becky Ln.	40,061	4	F	F	F
FM 740	Beck Ln. to WB IH 30 Frontage Rd.	32,748	4	F	F	DE
SH 66	Dalrock Rd. to Harbor Rd.	61,924	4	F	DE	F
SH 66	Harbor Rd. to Lakeshore Dr.	47,561	4	F	DE	DE
John King Bridge	SH 205 to Troy Rd.	55,348	4	F	F	F
John King Boulevard	SH 205 to FM552	46,371	6	F	F	F
John King Boulevard	FM 552 to IH 30 WB Frontage Rd.	39,444	6	F	F	F
FM 1141	FM 552 to Williams St.	6,841	2	F	F	DE
FM 1141 (Pinch Point)	SH 66 to Williams St.	14,044	2	F	F	F
FM 3549	SH 66 to IH 30 WB Frontage Rd.	45,064	4	F	F	F
FM 3549	SH 66 to Camp Creek Rd.	20,478	4	F	F	DE
Ben Payne Road	SH 66 to IH 30 WB Frontage Rd.	2,614	2	F	DE	DE
FM 548	SH 30 EB Frontage Rd. to Cookston Ln.	14,265	2	F	ABC	ABC
FM 551	IH 30 EB Frontage to Williamsburg Pkwy	18,041	2	F	F	F
Horizon Road	IH 30 Frontage Rd. to FM 740	16,745	2	F	DE	ABC
Market Center Drive	Ralph Hall Pkwy. to IH 30 EB Frontage Rd.	7,890	2	F	ABC	ABC
Mims Road	Ralph Hall Pkwy. to IH 30 EB Frontage Rd.	9,485	2	F	ABC	ABC
FM 1139	FM 549 to Rochelle Rd.	19,491	2	F	ABC	ABC
FM 1139	Rochelle Rd. to FM 550	9,161	2	F	F	F
FM 550	SH 205 to Horizon Rd.	10,866	2	F	ABC	ABC

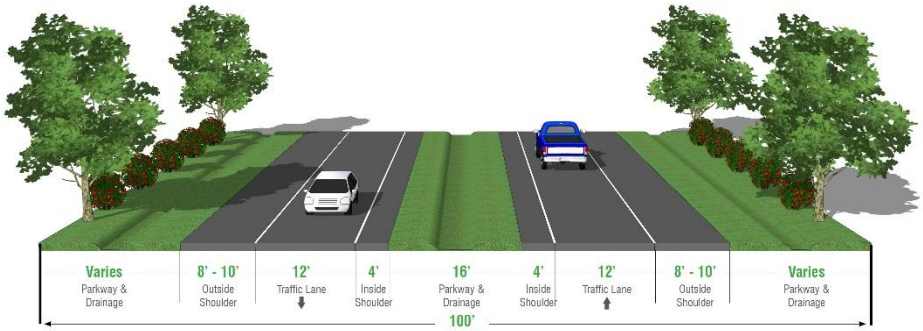
Table 43. Rockwall County Base 2045 Network LOS F Roadways Continued

Roadway	Segment	2045 Volume	2045 Lanes	2045 Daily LOS	2045 AM LOS	2045 PM LOS
Smith Road	FM 550 to Connie Rd.	6,340	2	F	F	F
SH 205	FM 550 to Connie Rd. to FM 548	44,485	6	F	F	DE
Hubbard Drive	Crisp Rd. to Kaufman County Line	4,985	2	F	F	DE
FM 740	Hubbard Dr. to Rabbit Ridge Rd.	17,210	2	F	F	F
FM 740	King Rd. to Kaufman County Line	28,169	4	F	F	F
Outer Loop	Wallace Rd. to Kuban Rd.	26,969	4	F	F	F
Outer Loop	FM 548 to SH 276	27,266	4	F	F	F
Outer Loop	IH 30 Interchange to Colin County Line	34,836	4	F	F	F
FM 1777	IH 30 WB Frontage Rd. to Collin County Line	26,144	4	F	F	DE
Troy Road	Stonewall to County Line Rd.	10,488	4	F	F	DE
Troy Road	County Line Rd. to Collin County Line	6,039	2	F	F	F
Airport Road	SH 66 to Industrial Blvd.	13,438	2	F	F	F
Industrial Boulevard	Industrial to IH 30 EB Frontage Rd.	4,359	2	F	F	ABC
Renfro Street	SH 66 to Townsend Dr.	6,477	2	F	ABC	ABC
TL Townsend Drive	Renfro St. to N. of Justin Rd.	13,854	4	F	F	DE
Dalrock Road	IH 30 Frontage Rd. to Schrade Rd.	48,049	6	F	F	F
Dalrock Road	SH 66 to Princeton Rd.	38,655	6	F	F	F
Dalrock Road	Princeton Rd. to Liberty Grove Rd.	16,614	4	F	F	F

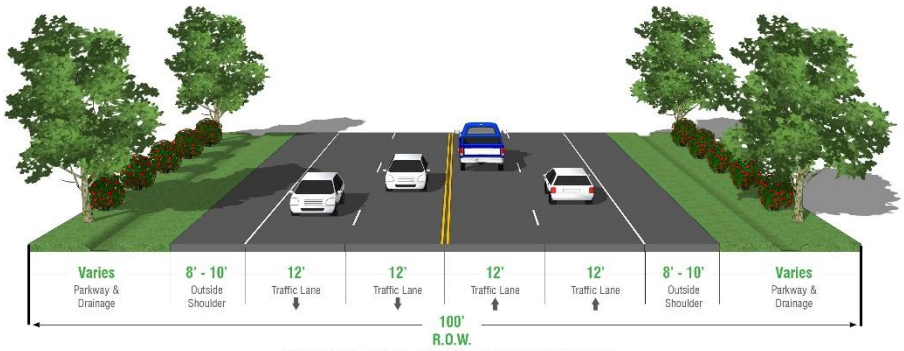
Additional Cross-Sections



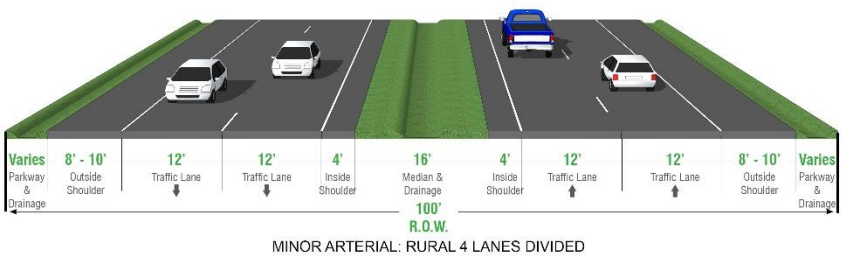
PRINCIPAL ARTERIAL: RURAL 4 LANES



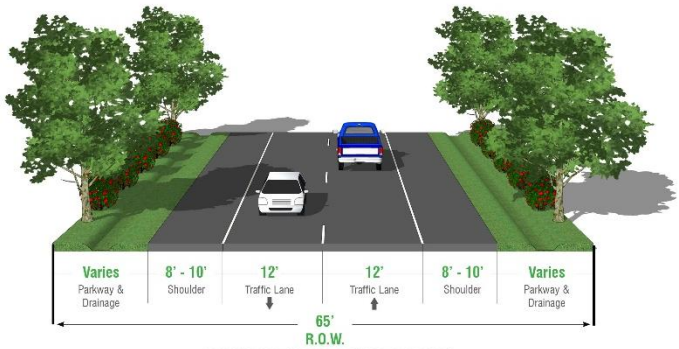
PRINCIPAL ARTERIAL: RURAL 2 LANES



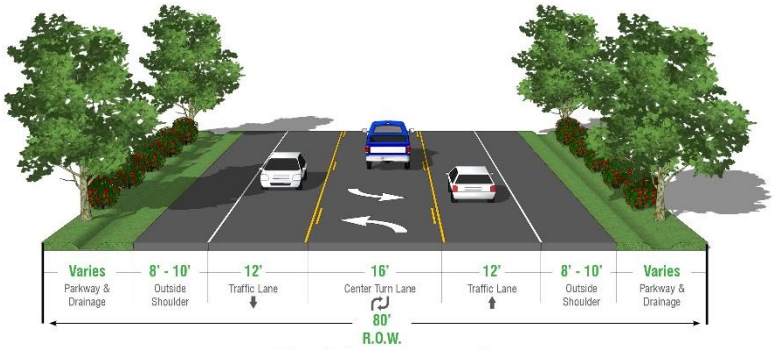
MINOR ARTERIAL: RURAL 4 LANES UNDIVIDED



MINOR ARTERIAL: RURAL 4 LANES DIVIDED



MINOR ARTERIAL: RURAL 2 LANES



COLLECTOR: RURAL 3 LANES

Potential Plan Funding Source Descriptions

Bridge Program: Federal funds designated for the replacing or rehabilitating structurally deficient or functionally obsolete bridges on public roads.

Category 6A and 6B: On-system(6A) and Off-system (6B) Bridge Program Funds. Category 6 funds are federal dollars set aside to rehab or replace structurally deficient or functionally obsolete bridges.

Category 2: Interstate System Funds. Funds allocated towards the rehabilitation and preventative maintenance of interstate highway system facilities. Funds may also be used on high occupancy vehicle (HOV) lanes.

Category 3C: National Highway System Funds: Rehabilitation. Funds allocated towards the rehabilitation needs on non-interstate portions of the national highway system in Texas.

Category 4A: Surface Transportation Block Grant (STBG): Safety. Federal funds allocated to safety projects under the Federal Hazard Elimination Program (FHEP) and the Federal Railroad Signal Safety Program (FRSSP). FEHP funds can be used on all public roadway except interstate highways. FRSSP can be used to fund highway-rail grade crossing safety projects on any public road.

Category 4B: STBG Transportation Enhancements. These funds are allocated to projects beyond the scope of typical highway project and include projects such as bike and pedestrian amenities, landscaping, historic preservation, highway environmental pollution mitigation, etc.

Category 4C: STBG Metropolitan Mobility/ Rehabilitation. Funds allocated towards mobility projects in within MPO boundaries with populations above 200,000. These funds can only be used on roadways classified higher than a rural minor collector.

Category 4D: STBG Metropolitan Mobility/ Rehabilitation. Funds allocated towards mobility projects in areas with populations between 5,000 and 200,000. These funds can only be used on roadways classified higher than a rural minor collector.

Category 4E: Rural Mobility. Rehabilitation Funds. Funds allocated to rural cities of 5,000 or fewer people (or outside city limits). Can be used on roadway classified higher than a rural minor collector in a non-urbanized area.

Category 4F: STBG Rehabilitation in Urban and Rural Areas. Funds allocated to on-system facilities in rural and urban areas for the rehabilitation of main lanes and structures. Can be used on roadway classified higher than a rural minor collector in a non-urbanized area.

Category 4G: STBG Railroad Grade Separations. Funds allocated towards the replacement of deficient railroad underpasses and construction of grade separations on state facilities. Can be used on roadway classified higher than a rural minor collector in a non-urbanized area.

Category 5: Congestion, Mitigation, and Air Quality (CMAQ). Funds allocated towards projects in non-attainment areas designed to improve air quality by reducing congestion. Projects selected for these funds must demonstrate an air quality benefit.

Category 10A: Traffic Control Devices. Funds allocated towards the installation and/or rehabilitation of non-interstate signs, pavement markings, lighting, and traffic signalization.

Category 10B: Rehabilitation of Traffic Management Systems. Funds allocated for the maintenance and rehabilitation of operation traffic management systems. These funds cannot be used to for the installation of new traffic management systems.

Category 11: State Discretionary Funds. Funds miscellaneous projects located on on-system facilities at the district's discretion. These funds cannot be used for right-of-way acquisition.

Category 12: Strategic Priority Funds. Funding allocated to projects (selected by the transportation commission) that promote economic development, provide system connectivity with adjoining states and Mexico, or other strategic transportation needs.

Proposition 1: Texas Constitutional Amendment for Transportation Funds: Gas Tax Funds. State funds designated for the construction, maintenance, rehabilitation, and right-of-way acquisition for non-tolled public roads.

Proposition 7: Texas Constitutional Amendment for Transportation Funds: General Sales and Use Tax Funds. State funds designated for the construction, maintenance, rehabilitation, and right-of-way acquisition for non-tolled public roads.

Texas Mobility Funds: Funds allocated to projects that add capacity to state highway system corridors. Improvements include: additional lanes, bottleneck removal, grade separations, interchanges, HOV lanes, and new roadways.

Green Ribbon Funds: State funds allocated towards corridor beautification.

Rockwall County Thoroughfare Plan Questionnaire

Please answer the following transportation questions for the Rockwall County Thoroughfare Plan. The answers you provide will serve as a basis for the existing conditions analysis.

1. **What are your main transportation concerns within Rockwall County?**

   _____

   _____

2. **Which areas within the county do you envision becoming major destinations in the next 10-20 years?**

   _____

   _____

3. **What are some of the barriers to transportation connectivity in Rockwall County?**

   _____

   _____

4. **Which areas outside the county do you foresee being major destinations for Rockwall County residents within the next 10-20 years?**

   _____

   _____

5. **Which major corridors do you primarily utilize to get to and from work?**

   _____

   _____

6. **Please use the map on the back of the questionnaire to identify missing connections you would like to see constructed in the next 10-20 years.**

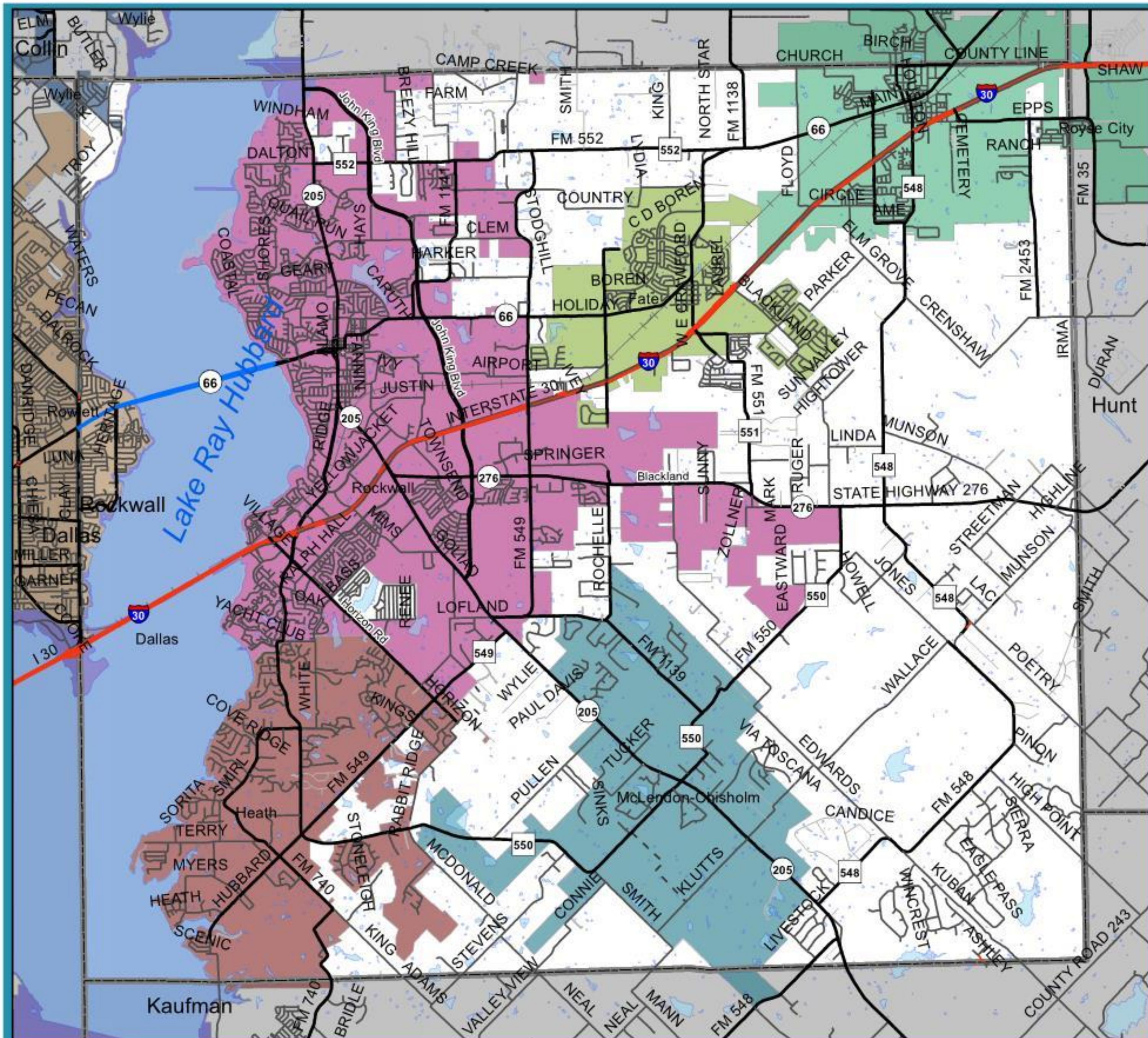
7. **Please use the map on the back of the questionnaire to identify safety concern areas** (specifically indicate the safety concern)**.**

8. **Please rank the following in order from greatest to least (1-5) importance to the future of transportation in Rockwall County.**
   - ___ Improved accessibility between residential areas, schools, employment, and retail/ entertainment.
   - ___ Improved roadway network connectivity to support/ attract new retail, restaurant, and entertainment venues.
   - ___ Traffic signalization and congestion mitigation through road/ intersection modifications.
   - ___ Enhancing the character/ aesthetics of roadways to facilitate economic development.
   - ___ Better enforcement of traffic laws.

9. **Please rank the following in order from highest to lowest priority (1-6) for transportation funding.**
   - ___ Transportation Safety Initiatives
   - ___ Roadway Maintenance
   - ___ Congestion Relief
   - ___ Traffic Signalization
   - ___ New Roadway Construction
   - ___ Accommodation of alternative transportation modes (walking, biking, transit, and etc.).

Rockwall County Thoroughfare Plan

Rockwall County, Texas



Legend

CLASS
- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- MAJOR ARTERIAL
- MINOR ARTERIAL
- SERVICE ROAD
- ACCESS RAMP
- CONNECTING ROAD
- DRIVEWAY
- OTHER
- PRIVATE ROAD
- TRAIL
- Railroads

CITY
- Dallas
- Fate
- Heath
- McLendon-Chisholm
- Rockwall
- Rowlett
- Royse City
- Wylie
- County
- Waterbodies

N

0 0.35 0.7 1.4 2.1 2.8 Miles

Please use this map to identify transportation issues and needs.

FREESE AND NICHOLS