

Transportation Master Plan



Round Rock

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Introduction

Plan Overview

The 2023 Transportation Master Plan serves as the guiding vision for transportation investment, policy, and future needs in Greater Round Rock for the next 20-30 years for when Round Rock is built-out in the current City limits and Greater Round Rock. The document builds on the City's strategic goals, past planning efforts, and aligns transportation needs and recommendations with other City and Regional planning efforts. The following page includes goals and objectives that served as guiding principles in development of the 2023 TMP. Some of the significant recommendations and elements of the 2023 TMP include the following:

- Ultimate Roadway Plan, a plan for the roadway network at build-out to serve the City and Region - shown in Figure I.4
- Recommended street cross sections and right-of-way requirements for

implementation in the Design and Construction Standards (DACS),

- Identification of high priority projects for roadways, trails, and intersections for the short-term, and
- Collector street requirements recommendations.

Relationship to Round Rock 2030



Round Rock 2030, the city's comprehensive plan, includes the City's overarching vision, goals, and plan for future land use from 2020 to 2030. The 2023 Transportation Master Plan includes consideration of future land use projections, population, and employment in Round Rock 2030 to align with the Ultimate Roadway Plan. **Figure I.1** shows growth projections indicating growth by over 50% in both the City limits and Greater Round Rock in the next 20 years. This will create a significant need for investment to serve that growth with transportation infrastructure and managing traffic congestion. **Figure I.2** displays the plan's Future Land Use Map (FLUM) which is hosted on the Planning and Development Services Department website. The FLUM is the City's plan for projecting land uses and infrastructure demands in the City. The Transportation Master plan used the Future Land Use Map to model transportation needs and develop recommendations to serve future growth needs.

FIGURE I.1 - ROUND ROCK PLANNING AND DEVELOPMENT SERVICES DEPARTMENT

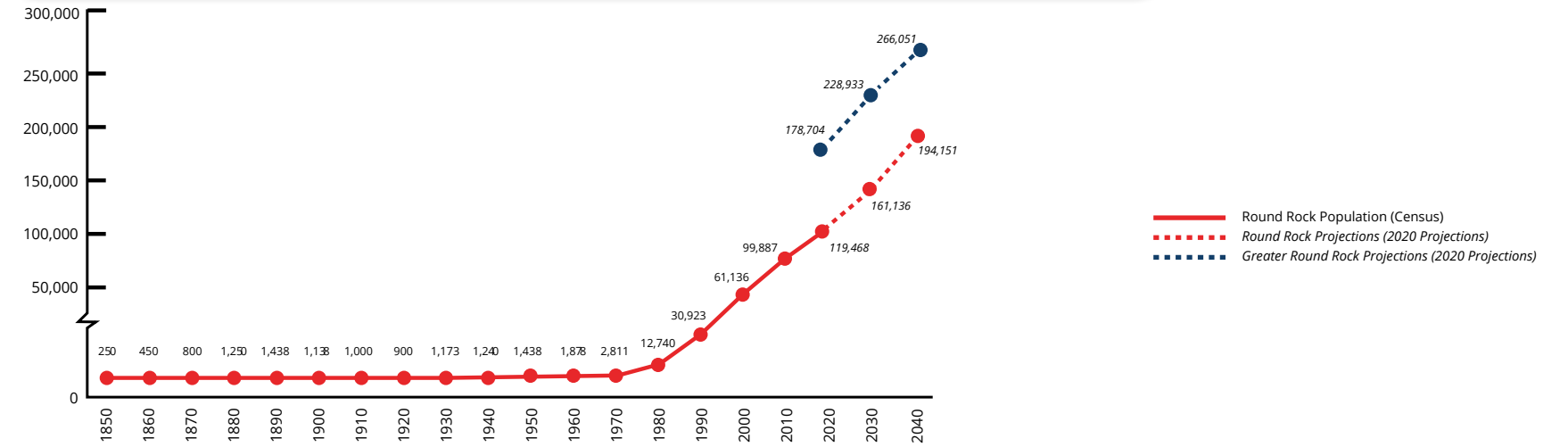
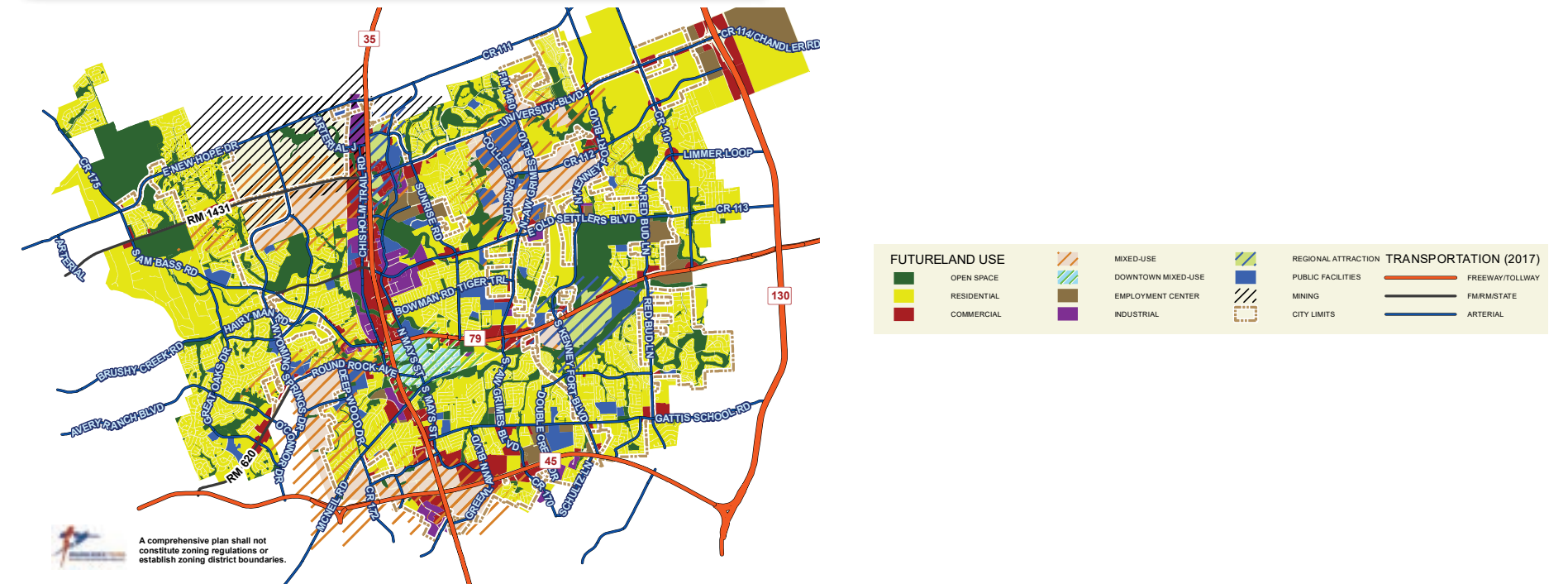


FIGURE I.2 - ROUND ROCK 2030 FUTURE LAND USE PLAN



Goals and Objectives

The goals and objectives for the Transportation Master Plan were developed in concert with staff and represent an application of the City's policies and vision established in Round Rock 2030, the City's comprehensive plan. **Figure 1.3** below illustrate how the goals and objectives of the Transportation Master Plan relate to some of the Round Rock 2030 policies. These policies serve as inspiration for the recommendations contained within the remainder of this document.

FIGURE 1.3 - PLAN GOALS AND OBJECTIVES

Relevant Round Rock 2030 Plan Policies

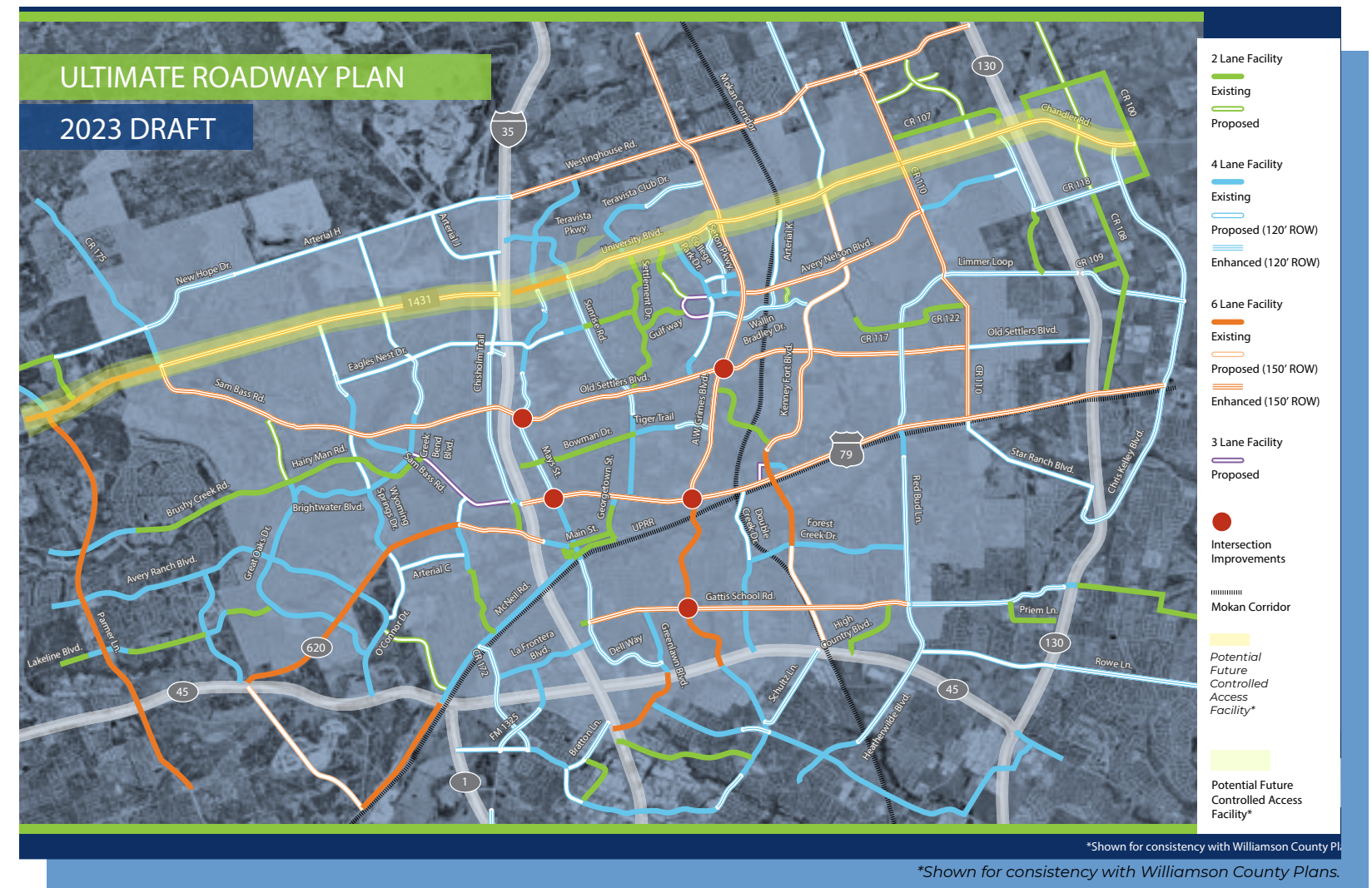
- Economic Development:**
Continue to be the "City of Choice" for new and existing businesses by focusing on quality development standards that promote and sustain economic growth while providing sufficient infrastructure and services.
- Roadway Function:**
Enhance the function and appearance of transportation corridors while accommodating safe pedestrian and bicycle travel where feasible.
- Adapting to Change:**
Adapt development codes to reflect transportation innovations, evolving technology, and changing consumer preferences.
- Mobility:**
Develop transportation options between neighborhoods and local destinations.
- Mixed Use:**
Encourage mixed-use development in locations that are compatible with the surrounding area and supported by employment and transportation infrastructure.



TMP Goals and Objectives

- Integrate trails and transit into the plan
- Increase safety measures in transportation planning
- Direction on updated policies and design standards
- Improve bottlenecks in the City
- Preserve right-of-way for full network build-out
- Plan for collectors and improved connectivity requirements

FIGURE 1.4 - ULTIMATE ROADWAY PLAN



For a full size version of this map, please see the Appendix.

Executive Summary

Icons in the executive summary represent goals and objectives of the TMP found in the Introduction.

The executive summary includes the key recommendations from the 2023 Transportation Master Plan in a concise format for ease of use. Detailed recommendations and action items for this plan are included in Chapter 6 of this document.

Ultimate Roadway Plan: Arterial System



A primary component of the Transportation Master Plan is the Ultimate Roadway Plan, which serves as the City's plan for future roadway capacity to serve Round Rock when it is fully built out in the City limits and Greater Round Rock. The primary purpose of the Ultimate Roadway Plan is to be a right-of-way preservation tool and a guide for capacity enhancements in the City to adequately serve anticipated future land use. This was developed in concert with the latest future land use plan at the time of the study and latest information from surrounding Cities, Counties, and TxDOT. **Figure I-4** illustrates the Ultimate Roadway Plan.

Collector Roadway System



Collector streets serve as the means for distributing local traffic onto the arterial system, as defined in the Ultimate Roadway Plan. Without adequate collector connectivity, additional strain is induced on the arterial system due to longer trips and more circuitous routes. The TMP includes recommendations on requirements for collector connectivity to the arterial system to ensure orderly traffic flow and to reduce strain on the arterial system. In addition, areas have been defined in Greater Round Rock where there is a lack of collector connectivity for use in evaluating potential projects to relieve the arterial system based on travel demand modeling. These recommendations are intended to be used to implement changes in the City Code and Design and Construction Standards (DACS) after plan adoption.

The Transportation Master Plan represents a significant investment in transportation, with nearly \$2 Billion in projects identified to be able to serve Greater Round Rock at build-out. Growth needs, additional capacity, funding opportunities, adjacent development, and roadway improvements can shift priorities on these corridors over time – as such, the TMP identifies high value projects that provide the necessary infrastructure to continue to support the City's Growth.

Project Development



High Priority projects for Roadways, Intersections, and Trails

The City of Round Rock has made significant investments in transportation in the past several years, focusing on development of roadway capacity enhancements, street rehabilitations, trail extensions, safety enhancements, transit systems, and intersection improvement projects. The high priority projects are anticipated to be the projects that are implemented in the next 10-15 years, but are not listed in any particular order. These projects were identified in the TMP target areas for improving congestion, safety, and connectivity. The Appendix includes additional safety specific projects in a Safety Action Plan that were evaluated.

Safety Action Plan

A Safety Action Plan was developed to help address high crash rate and high injury locations in the city with specific projects to implement safety countermeasures. The projects identified in the safety action plan are intended to define a set of projects to address areas where the most severe crashes are occurring in the City. This document was developed in line with federal requirements and can serve as a standalone document to position the City to take advantage of federal

funding programs, such as the Safe Streets for All (SS4A) grant program and the Highway Safety Improvement Program (HSIP). This document is included in the Appendix to the Report.

Corridor Study Focus Areas

The Sam Bass and McNeil corridors were identified as unique corridors in the City where right-of-way is constrained and additional detail was needed to determine concepts and projects to address needs on these corridors. Analysis and targeted public engagement was conducted for both of these corridors, including neighborhood associations and HOAs to develop solutions to improve roadway function, consistent with Round Rock 2030 policies. Recommendations are summarized in the body of the Transportation Master Plan report and full detailed corridor study documents are included in the Appendix documenting the process to evaluate each corridor.

Street Design Standards



The Transportation Master Plan includes recommendations on the right-of-way required for infrastructure for multiple modes of travel as well as standardized cross sections for different contexts. Included in Figure E.1 and E.2 are examples of different contextual street standards

to match the context of adjacent land uses, with one being a more typical suburban arterial and the other for a higher density mixed use land use with building faces at the right-of-way line with no setbacks or easements.

Recommendations related to suburban cross sections are intended to consolidate and simplify the required local, collector, and arterial street sections and be updated in the City's Design and Construction Standards (DACs) for a consistent application of requirements for development. These right-of-way requirements are documented in the Ultimate Roadway Plan by facility type as well in **Figure E.1**.

Recommendations for the urban cross sections with higher density mixed-use development as represented in **Figure E.2** are intended to align with the Mixed Use Greenfield and Large Lot District (MU-G) zoning district allowed for in City Code. These cross sections were developed based on best practices for urban design and coordinated with multiple City departments to coordinate needs for utilities, streetscape amenities, landscaping, parking, and transportation needs within the right-of-way. These recommendations are also intended to be used to develop updated design criteria in the DACs.

FIGURE E.1 - 4 LANE STREET SECTION - 120' ROW

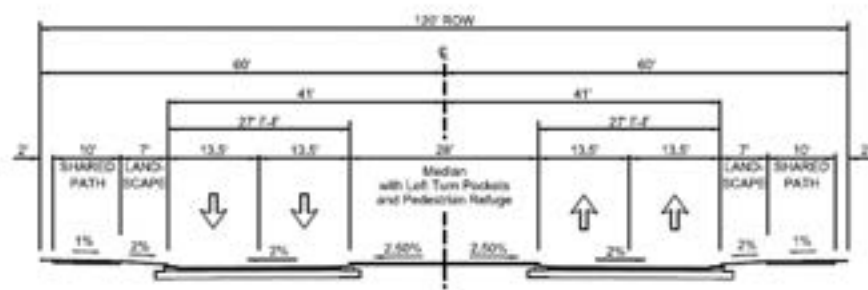
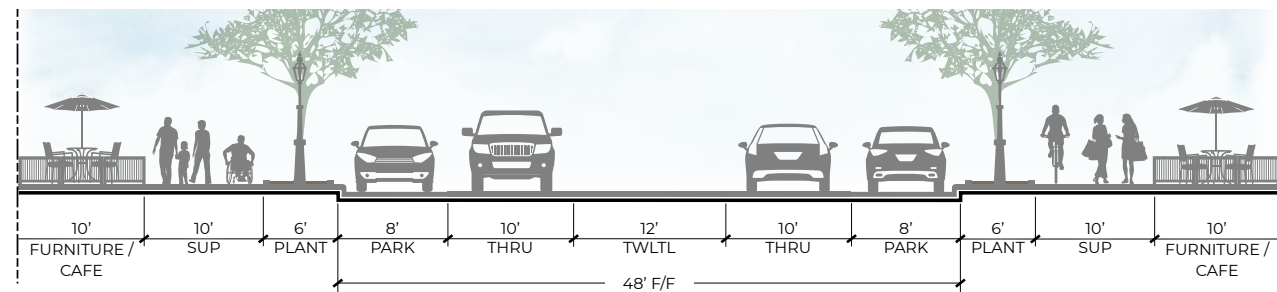


FIGURE E.2 - URBAN COLLECTOR THREE-LANE WITH PARALLEL PARKING AND FURNITURE ZONE - 100' ROW



Chapter 1

State of the City



Round Rock Transportation Master Plan

2023 Existing Conditions Overview

Existing Roadway Network

The City of Round Rock is served by three highway facilities with controlled access, including Interstate 35 and SH 130 in the North-South direction and SH 45 in the east-west direction in the southern part of the City. The arterial network is mostly complete in the developed areas of the City but is still developing in the eastern area of Greater Round Rock. Additionally, there are several roadways that are not yet built to the number of lanes in the Ultimate Roadway Plan. The existing roadway network is shown on the following page in **Exhibit 1**.

Population Growth

The City of Round Rock is continuing the trend of growing at a steady pace of 2-3% annually, resulting in population growth of 2,000 to 5,000 people per year. Approximately 1/3 of the population live in Greater Round Rock. While the transportation network is meant to serve the City's residents, many people drive to Round Rock as a destination and through it to other areas in the region.

The following graphic in **Figure 1.1** illustrates the trend of population growth in Round Rock since 1920 and the projected growth through 2040.

FIGURE 1.1 - ROUND ROCK PLANNING AND DEVELOPMENT SERVICES DEPARTMENT

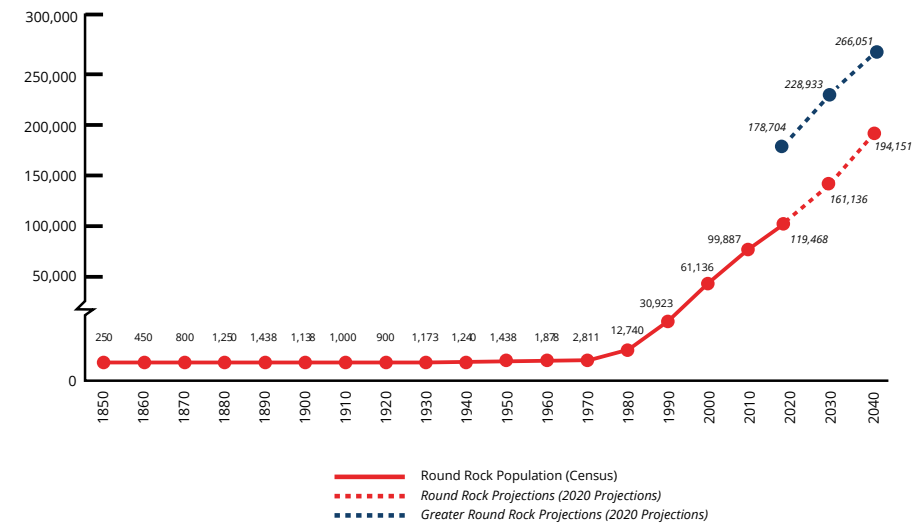
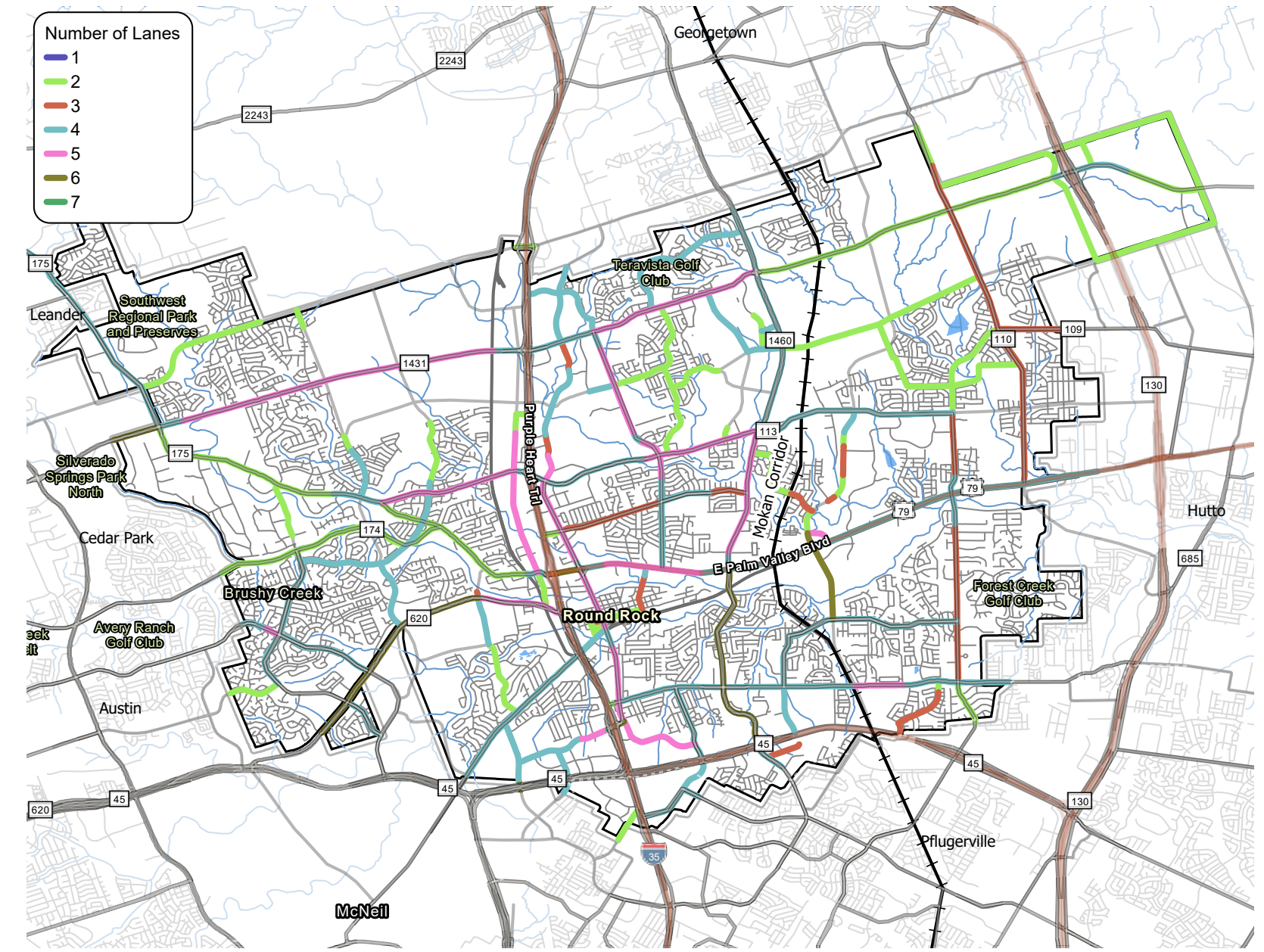


EXHIBIT 1: EXISTING ROADWAY NETWORK



Existing Congestion Levels

Figure 1.2 illustrates the performance of existing roadways in Round Rock as of Fall 2022 traffic data relative to the capacity of existing roadways in the City. It should be noted that this may not reflect fluctuations in peak hours of congestion but is more a measure of adequate throughput on roadways in the City. Green roadways represent those with lower congestion or roughly adequate capacity, yellow roadways as those nearing capacity, and red roadways as those that are deficient in capacity and likely need expansion to serve demand.

FIGURE 1.2 - EXISTING ROADWAY NETWORK LEVEL OF SERVICE (LOS)



Note: The existing Level of Service may not perfectly reflect reality observed in the travel demand model, as it is calibrated within a tolerance of existing traffic volume data counted in 2022.

Crash History

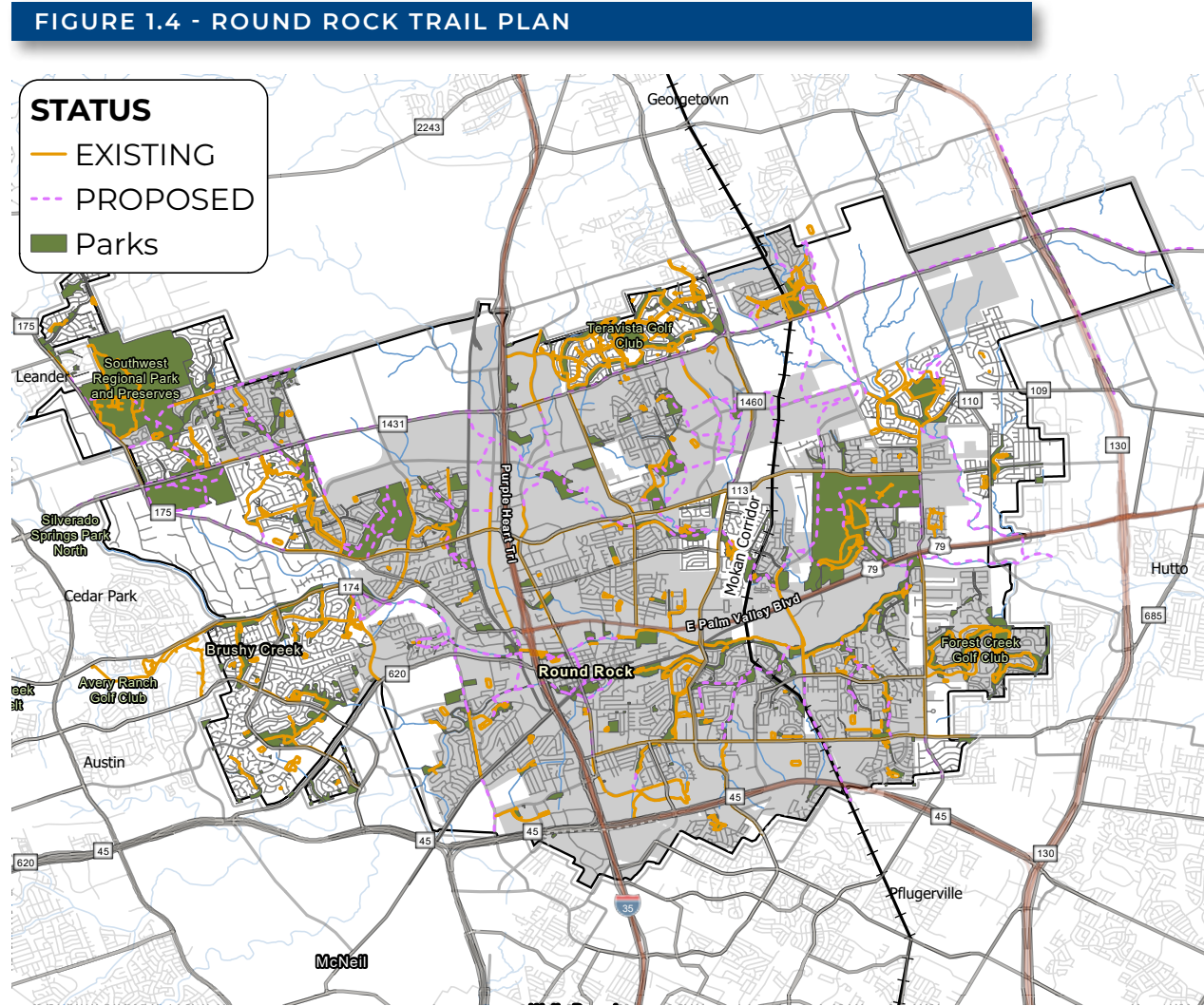
Crash data was evaluated from 2017 through 2021 (2022 data was incomplete) and compiled to create a heat map in **Figure 1.3**. Crashes were clustered along major intersections and on corridors like US 79, SH 45, Gattis School Road, Old Settlers' Blvd, AW Grimes, and Sunrise Blvd. It should be noted that a large hot spot on the map along University east of I-35 was likely influenced by construction during the crash reporting period.

FIGURE 1.3 - CRASH HISTORY (2017 - 2021)



Existing Trail System

Several trails exist within parks, along creeks, and in some locations along roadways like along Kenney Fort Blvd south of US 79. The Transportation Department has been working in recent years to incorporate shared use paths with roadway projects to help tie the trails network together with connections along roadways. Working together, the trails and shared use paths create a walkable and bikeable City. The Brushy Creek Regional Trail also connects to other communities to the west of Round Rock like Cedar Park for regional bike and pedestrian travel. Gaps in this trail were actively being constructed and designed at the time of study development. **Figure 1.4** to the right displays the City's existing Trail Plan.



Relationship to Past Plans

The Transportation Master Plan (TMP) is a document that guides future connectivity and capacity expansions of the City's transportation system. The City has identified a need to update the plan based on changes in the City of Round Rock since it was last adopted in 2017.

This document provides a review of the past plans reviewed in this task in order to gain an understanding of what current plans inform the future of the City of Round Rock's transportation network. The plans reviewed in this document include the documents outlined in **Figure 1.5**.



2017 Round Rock Transportation Master Plan

The most recent Round Rock Transportation Master Plan (TMP) was adopted in 2017. The first stand-alone TMP for Round Rock was developed in 1999 and updated in 2004. In 2016, the City recognized the need to update the 2004 TMP due to the continuous growth leading to the development of the 2017 TMP Update. The 2017 plan defines goals and policies for the City to adequately prepare for growth and mobilities needs of the community. These goals included:

- Ensure citizens of Round Rock are afforded an adequate future transportation system
- Ensure efficient utilization of the 1997 half cent sales tax dedicated to roadway improvements
- Identify major deficiencies in the existing transportation network
- Maintain the quality of life enjoyed by the citizens of Round Rock
- Identify and plan for future connectivity and mobility needs
- Foster transportation systems that support the development of major density centers
- Develop funding source mechanisms for mobility and connectivity construction and maintenance

In 2012, Round Rock's Thoroughfare Plan was updated but not adopted. Due to this, the 2017 TMP emphasized the development of the City's Ultimate Roadway Plan seen in **Figure 1.6** on page 28.

The 2017 TMP also developed new street types and cross sections to emphasize the importance of corresponding vehicular mobility with pedestrian, bicycle, and transit modes of transportation within public right-of-way. These cross sections include:

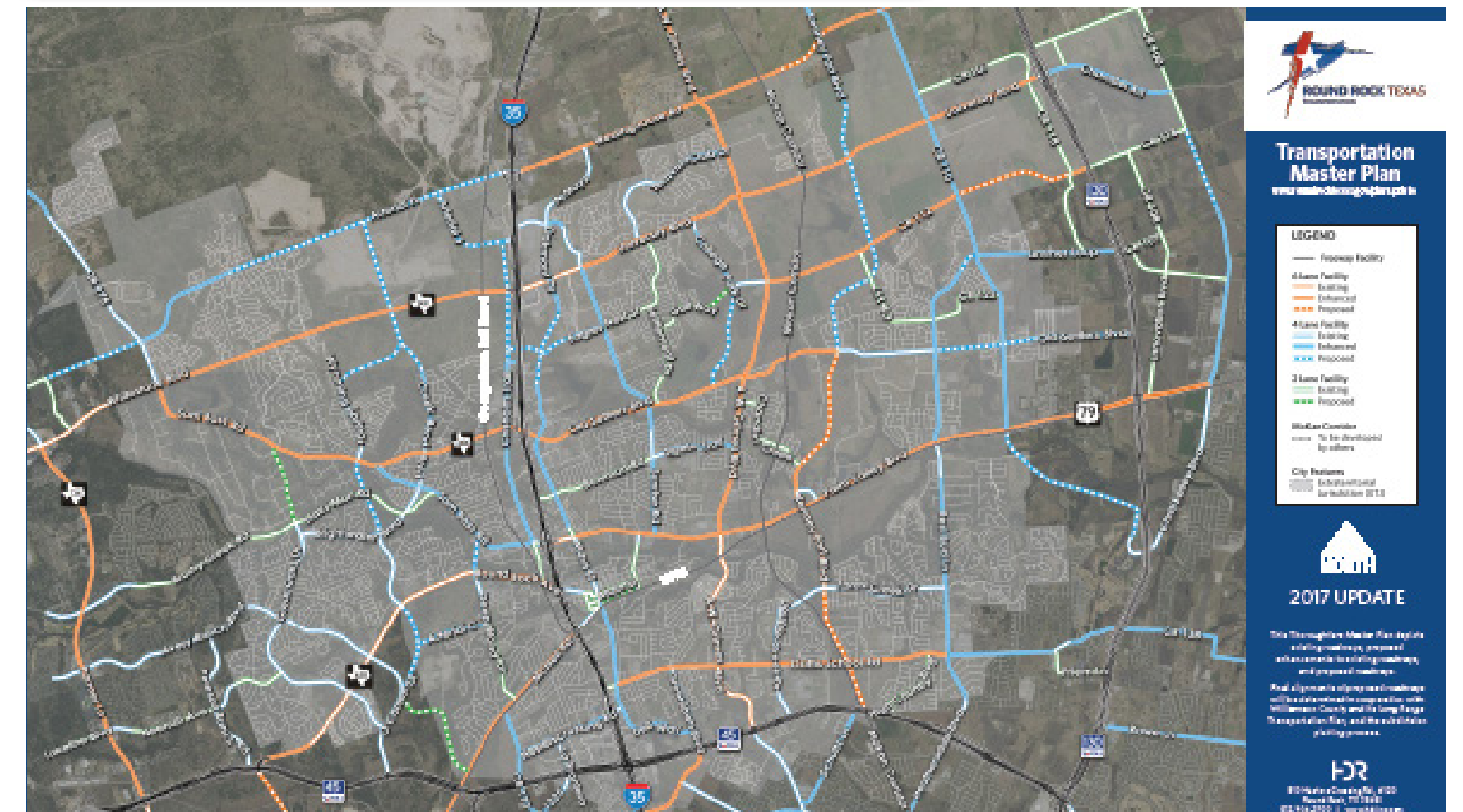
- Six-Lane Arterial with Off-Street Shared Paths
- Four-Lane Arterial with Off-Street Shared Paths
- Three-Lane Collector with Shared Paths and Parking
- Two-Lane Local Street with Parking

Cross sections from the 2017 were used in the updated Design and Construction Standards adopted in 2021.

Other focal points of this plan include the implementation of intersection safety improvements and multimodal improvements. Projects in this plan were chosen based on

four given criteria of safety and mobility (45%), connectivity (25%), environment (15%), and cost (15%).

FIGURE 1.6 - 2017 TMP ULTIMATE ROADWAY NETWORK



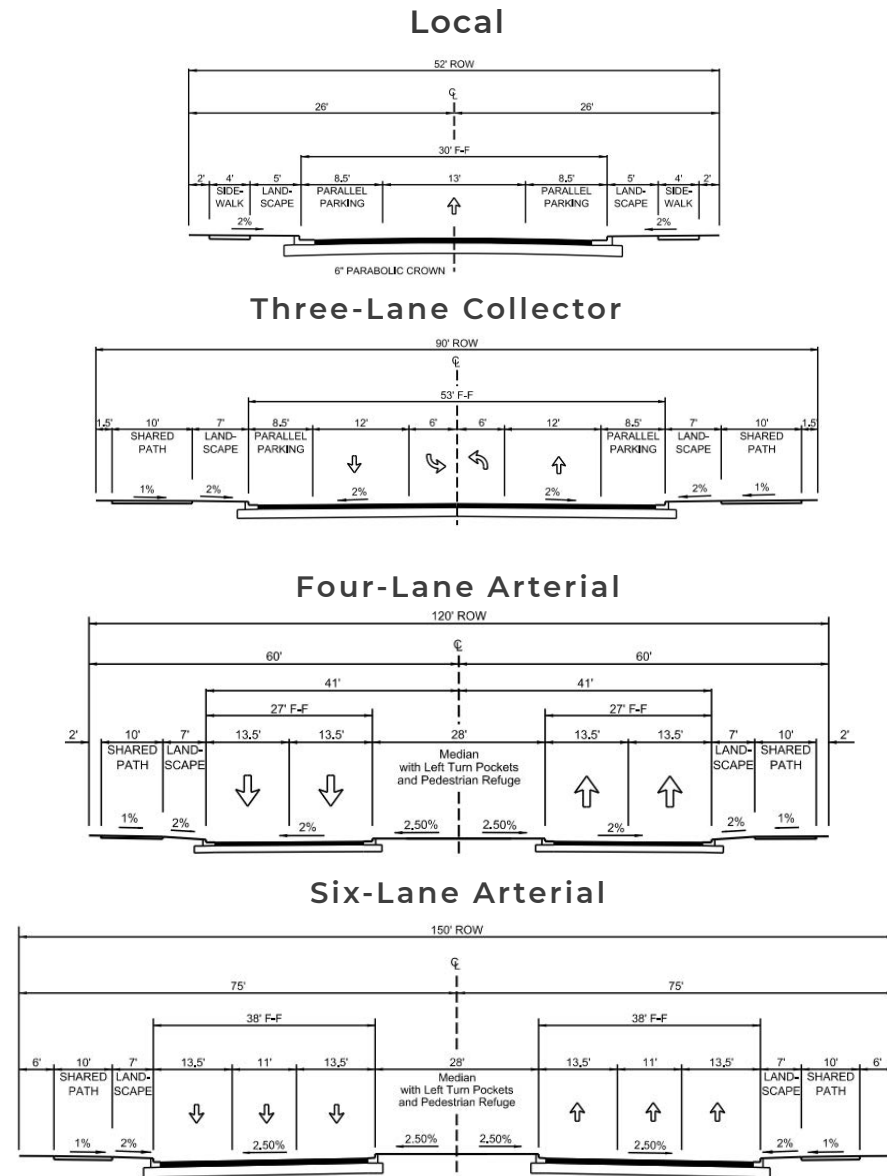
Transportation Design & Construction Standards

Round Rock's current version of the City's Design and Construction Standards (DACs) was adopted by City Council on January 28, 2021. All construction activities with the City of Round Rock are required to meet these standards. According to these standards, all streets in the city should be properly planned to integrate with the existing and proposed system from the following plans:

- Transportation Master Plan
- Comprehensive Parks, Recreation and Open Space Master Plan
- Downtown Master Plan

Figure 1.7 to the right displays a sample of the street sections found in the DACs.

FIGURE 1.7 - DACS STANDARDS FOR LOCAL WITH SIDEWALK AND COLLECTOR/ARTERIAL ROADS WITH SHARED-USE PATHS



Round Rock 2030 Comprehensive Plan

Round Rock 2030 is the current comprehensive plan for the City of Round Rock, having been adopted in 2020. It provides a thorough analysis of the city's land use, including an overview of current land use patterns, future land use, and criteria for future development. Featured in the plan are the twelve policies that will guide implementation of future projects. Of these policies, two were largely focused on transportation in Round Rock - Roadway Function & Mobility.

Round Rock 2030 Roadway Function Policy

"Enhance the function and appearance of transportation corridors while accommodating safe pedestrian and bicycle travel where feasible."

This policy prioritizes improving and connecting infrastructure for all forms of transportation. Based on public input received, pedestrian safety and walkability were major concerns associated with roadway design. In addition to function, this policy also focuses on the appearance of transportation corridors which are especially important for gateway corridors that welcome people into the city.

Roadway Function implementation strategies included in Round Rock 2030 are shown in the blue box on this page.

Round Rock 2030 Roadway Function Implementation Strategies:

- Establish streetscape design guidelines for city roadways to ensure compatibility with current and planned land uses.
- Encourage attractive xeriscaping and design elements in medians and high traffic areas.
- Consider pedestrian safety improvements at intersections, including but not limited to the creation of safer and more obvious places to cross arterials and better signage/visibility to ensure drivers are aware of pedestrian activity.
- Pursue the feasibility of a comprehensive street tree program and identify priority areas for implementing such a program.
- Explore options for park-and-ride lots and rideshare parking.
- Adopt standards for shared-use paths that are at least ten feet wide and can be utilized by both cyclists and pedestrians.
- Design single-loaded streets to provide access to open spaces where possible.
- Consider chicanes or other traffic calming measures on roadways where the city receives frequent complaints about speeding.
- Consider and prioritize corridor studies to determine future corridor enhancement programs for roadways.

Round Rock 2030 Mobility Policy

“Develop transportation options within and between neighborhoods and local destinations.”

This mobility policy prioritizes connectivity and mode of travel around Round Rock. This approach includes developing a sidewalk and trail networks and expanding public transit. Public input indicated that people would like to travel throughout Round Rock without experiencing major traffic delays. While congestion due to growth is unavoidable, developing and expanding the number of transportation options in Round Rock could reduce the number of vehicles on the road.

The Mobility implementation strategies adopted in Round Rock 2030 are shown in the blue box on this page.

Round Rock 2030 Mobility Implementation Strategies:

- Increase neighborhood connectivity of streets, trails, and bike lanes.
- Use subdivision platting and site development processes to ensure connectivity for a variety of transportation options. Examples of requirements include cross access between commercial uses, sidewalk construction, and connectivity indicators in new residential development.
- Consider pedestrian safety improvements at intersections, including but not limited to the creation of safer and more obvious places to cross arterials and better signage/visibility to ensure drivers are aware of pedestrian activity.
- Assess mobility needs for underserved populations from a land use perspective.
- Facilitate expanded fixed-route bus service including the addition of a transit stop in The District mixed-use development proposed south of SH-45 and west of Greenlawn Blvd.
- Evaluate parking demand to determine whether a park and ride location or expansion of the Transit Center downtown garage is appropriate to accommodate commuters.
- Ensure the connectivity of neighborhoods to the trail system identified in Playbook 2030: Building a Connected Community.
- Ensure mobility to and around regional attractions identified on the Future Land Use Map (FLUM).
- Evaluate the MoKan corridor (from Georgetown to Austin) as a regional transportation and transit mobility solution.
- Evaluate potential impacts of bike share and micromobility options to balance community needs and city policy preferences.
- Develop transit stop infrastructure and amenities including shade structures, benches, and trash receptacles.
- Develop a plan to manage parking supply and demand in large developments to ensure the efficient use of land.
- Reevaluate off-street parking requirements for all land uses.
- Assess connectivity to downtown from surrounding areas for all modes of transportation.

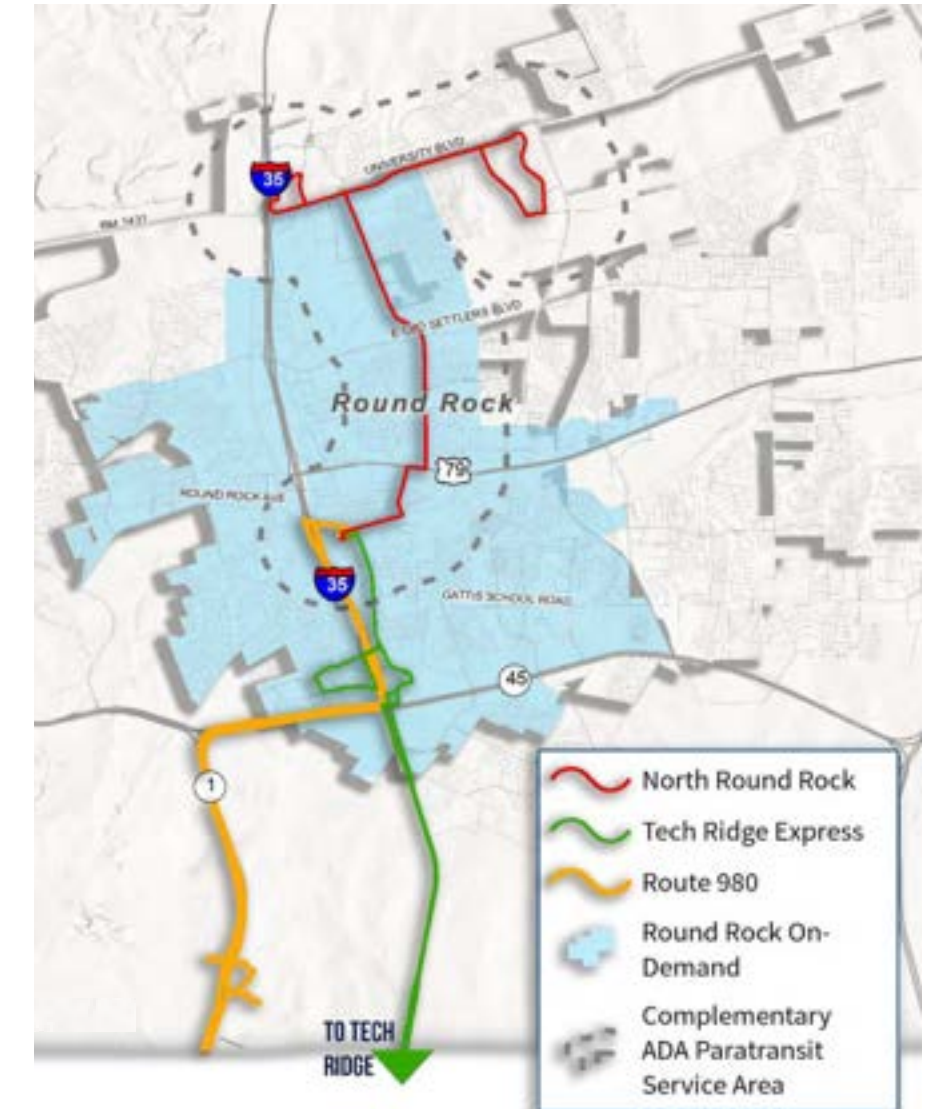
2022 Transit Development Plan

Round Rock has been planning for transit for over ten years, most recently completing a Transit Development Plan (TDP) in 2022. The goal of this TDP is to make public transportation a viable mobility option for residents of Round Rock and the surrounding areas. With the development of this plan, the City aspired to make transit services more attractive and efficient to residents and visitors, as well as using transit to accommodate the growth of the Round Rock. This plan aims to boost transit services and to support the City’s transportation goals such as improved mobility, creating desirable destinations, and increased connectivity.

The TDP process involved assessments of Round Rock’s transit demand and needs. The plan identifies the areas in the City that experience the highest demand for transit to be present and use that data to determine the most effective route and service types. The TDP lays out four transit centered visions for the City; Enhanced, Ambitious, Aspirational, and On-Demand. Each vision is displayed on maps that show different transit scenarios.

The Round Rock TDP ultimately recommends three fixed-route services as well as a weekday and Saturday microtransit service that can be used on-demand by the City’s residents using an app or phone call. A map of the final recommended transit network is shown in **Figure 1.8**.

FIGURE 1.8 - RECOMMENDED TRANSIT PLAN



2018 Roadway Impact Fee

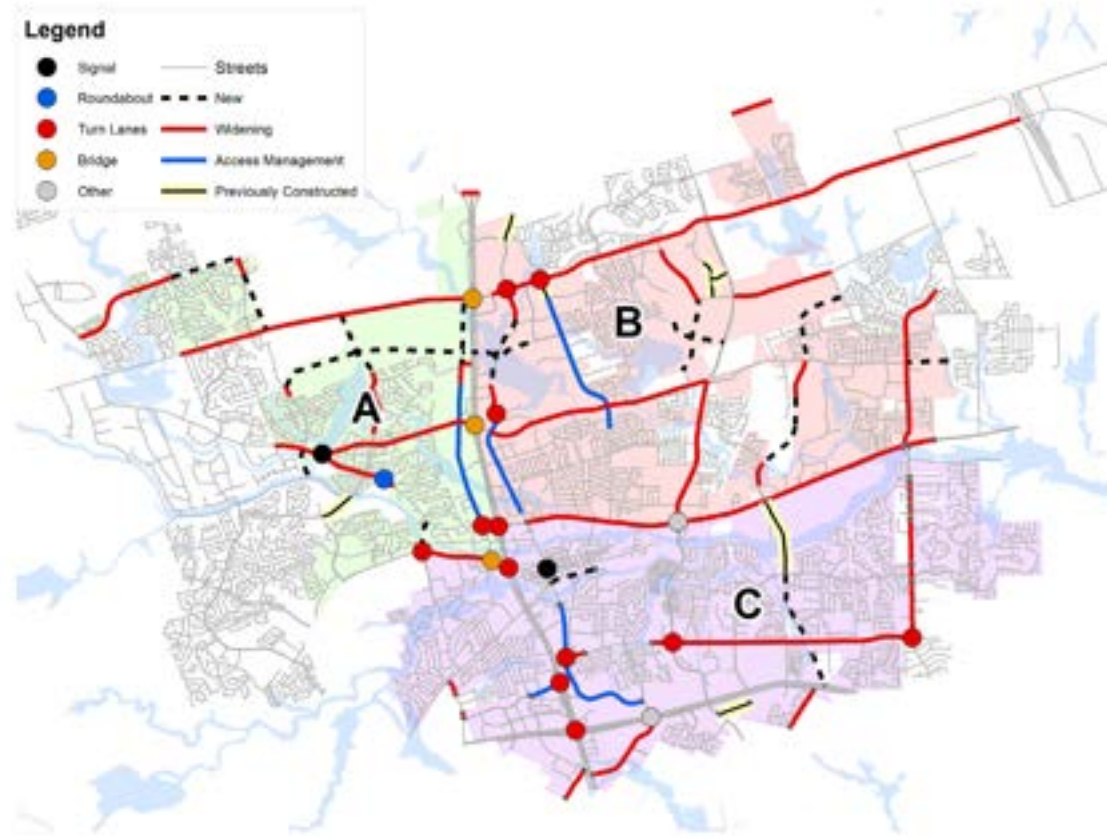
An estimated \$1.2 billion in new infrastructure is needed to accommodate Greater Round Rock's population of approximately 300,000 people based on the 2018 Roadway Impact Fee study. Impact fees help address the need for increased capacity on arterial and collector roadways that serve the overall transportation system as Round Rock continues to grow but is a funding tool limited to the City limits.

Since the adoption of the impact fee, several Capital Improvements Projects identified in the roadway impact fee study have been started or completed with the help of the roadway impact fees including:

- University Boulevard Widening - In progress
- N Mays St and University Blvd Intersection improvements - In progress
- Sunrise Rd and University Blvd Intersection improvements - In progress
- N Mays Street to Paloma Dr, new segment – Complete

These projects are only a few of the dozens identified in the Impact Fee Study that seek to accommodate the growing infrastructural needs as Round Rock continues to grow. **Figure 1.9** below displays the 2018 Roadway Impact Fee map.

FIGURE 1.9 - 2018 ROADWAY IMPACT FEES MAP



Capital Area Metropolitan Planning Organization (CAMPO) 2045 Regional Thoroughfare Plan

In 2020, the Capital Area Metropolitan Planning Organization (CAMPO) adopted their Regional Transportation Plan (RTP) which is displayed in **Figure 1.10**. This plan is a multimodal approach to addressing congestion and transportation needs over the next 25 years and uses local stakeholder outreach in development to ensure the regional nature of the plan is locally driven.

The vision statement of the RTP is to coordinate regional infrastructure and operations investments for better safety, connectivity, personal mobility, and access that balances economic growth, stewardship of scarce resources and regional competitiveness. The RTP is comprised of roadway, active transportation, and transit projects coming from analyses conducted on region-wide active transportation, safety, transit, congestion, and also specific areas of interest including the MoKan/Northeast subregion, Williams Dr in Georgetown, and the City of Luling, TX.

Included among the list of projects featured in this document are several ones specific to Round Rock mentioned in the 2017 TMP including:

- University Boulevard widening and improvements
- Gattis School Road widening and improvements

- Kenney Fort Boulevard new segment and widening
- Old Settlers Boulevard new segment
- Other corridor and transit improvements

According to the RTP, Round Rock is one of the largest activity centers in the metropolitan area with its' rapidly growing suburban development and active commercial sector. As the region continues to grow, Round Rock will continue to benefit from the increased connectivity, reliability, safety, innovation, and economic development of the transportation network.

FIGURE 1.10 - CAMPO 2045 RTP ROADWAY PROJECTS



2009 Trails Master Plan

In June of 2009, Round Rock City Council adopted *Game Plan 2020: Building an Active Community*, the City's Parks and Recreation Master Plan. The Parks and Recreation Master Plan for the City was updated and adopted in 2018, and as a result, the then existing trails evaluation from Game Plan 2020 was adopted by City Council as Round Rock's Trail Master Plan.

The Trails Master Plan provides a thorough evaluation of all trails in Round Rock to enhance the following:

- Mobility and Connectivity
- Recreation and Culture
- Community and Character
- Natural Resources and Environment
- High Value Governance

The Trails Master Plan breakdown down each trail corridors into segments to provide a detailed view of existing and future trail locations as well as amenities such as bridges, underpasses, and trailheads. **Figure 1.11** is an example of one of the segment maps for the Brushy Creek Trail Corridor.

The remaining trails evaluated in this plan include:

- Chandler Branch Corridor
- Kensington Park Corridor
- Northeast Corridor
- Northwest Corridor
- Southeast Corridor
- Southwest Corridor

FIGURE 1.11 - BRUSHY CREEK CORRIDOR FROM TRAILS MASTER PLAN



Chapter 2

Public Involvement



Round Rock *Transportation Master Plan*

Public Involvement Overview

A Public Involvement Plan was developed at the beginning of the TMP development process and included a hybrid approach strategy targeting both in-person events and virtual engagement. As has been the trend in recent years, the grand majority of engagement is coming through online activity instead of in-person activity. During the plan, a website was developed for the project with engagement for the following phases of plan development both online and in-person:

Phase 1 – Needs Assessment

Mobility Survey and Community Needs – coincides with Public Meeting #1 at the Baca Center & pop-up event at Music on Main

Phase 2 – Corridor Studies

This included visits to neighborhood associations and community events with the Round Rock West and Chisholm Valley Neighborhoods as well as a combined neighborhood event for clean-up services along Sam Bass Road

Phase 3 – Recommendations

A pop-up event was held on a Saturday in May at the new Round Rock Public Library (shown in

Figure 2.1) and online engagement was pushed out through social media, advertising, and several media stories, including one by KXAN on TV and digital media

FIGURE 2.1 - POP-UP EVENT AT THE PUBLIC LIBRARY



Agency Coordination

The Transportation Department and the project team made a concerted effort to coordinate with internal departments at the City of Round Rock as well as external partners and agencies. Internal coordination primarily focused on coordination on design standards, cross sections, and strategies for incorporating trails, transit and safety into project development and as groundwork for updating the Design and Construction Standards and City Code.

For external agencies, coordination primarily focused on active projects by other agencies, upcoming initiatives or studies, and funding opportunities for partnership. Internal and external partners included the following:

Internal Coordination Partners

- Planning and Development Services
- Fire Department
- Police Department
- Parks and Recreation Department
- Utilities Department

External Coordination Partners

- TxDOT
- City of Cedar Park
- City of Georgetown
- City of Hutto
- City of Pflugerville
- City of Austin
- Williamson County
- CAMPO



Mobility Surveys

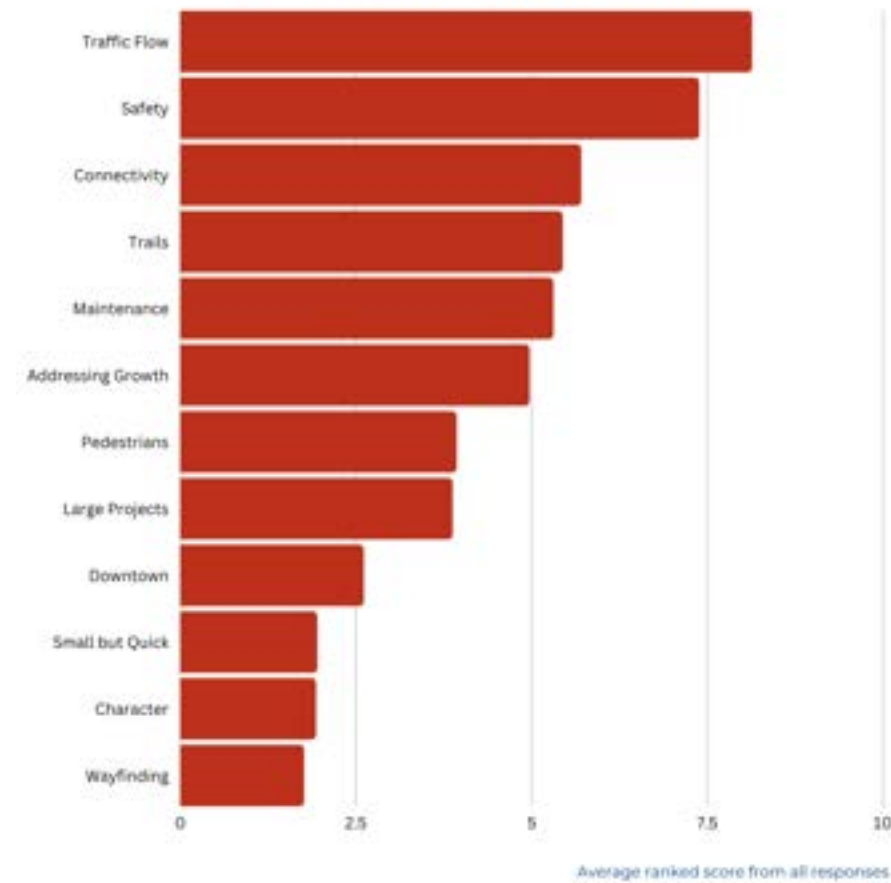
The public engagement platform Social Pinpoint was a vital tool utilized throughout all phases of public engagement. Social Pinpoint allows for the creation of online public engagement tools and catalogs the results from these activities allowing for efficient data analysis. There were two phases of public engagement during the process: the citywide mobility surveys and the corridor studies.

Fall 2022 Mobility Survey

In fall of 2022, a public meeting and online engagement period occurred which allowed for input from the community on mobility priorities and existing needs through the use of the interactive map. In addition, the community was able to give feedback on mobility priorities through a priority pyramid exercise. **Figure 2.2** displays the responses to one of the questions posed in the mobility surveys.

FIGURE 2.2 MOBILITY SURVEY RESPONSES

Please rank the following categories based on what you feel should be a priority for the City of Round Rock.



Spring 2023 Recommendations Survey

In May 2023 the Social Pinpoint website launched several activities for feedback on recommendations for the Transportation Master Plan, including:

Interactive map for high priority roadway and trail projects

A survey for recommendations related to the draft Ultimate Roadway Plan, high priority intersection improvements, and safety recommendations, and corridor studies. The results of the interactive map activity are displayed in **Figure 2.3**. Feedback was incorporated into the final recommendations of this document.

To review the community input from this survey, please see the **Appendix**.

FIGURE 2.3 MAP COMMENT RESPONSES FROM SPRING 2023 MOBILITY SURVEY



Corridor Studies and Neighborhood Outreach

The second phase of public engagement consisted of a map survey and a written survey similar to the first phase. The difference being these surveys were scaled down to the corridors of Sam Bass Rd and McNeil Rd. The map survey, hosted through Social Pinpoint, allowed participants to place comments on a map where they could see potential improvement or provide feedback on proposed projects. The written surveys for the corridors asked participants about their levels of support for various proposed safety and traffic improvements. In addition to the surveys, neighborhood meetings were held for residents and stakeholders who lived or operated along the corridors.

In total, there were 117 comments on the map survey and 295 on the written surveys. In the written surveys, approximately 2/3rds of the public were in support of the proposed recommendations with half agreement and half strong agreement.

Figures 2.4 - 2.6 to the right show summary results from the written surveys and **Exhibit 2** shows a heat map of comments received on the corridor study areas.

FIGURE 2.4 - QUESTION 4 SURVEY RESULTS

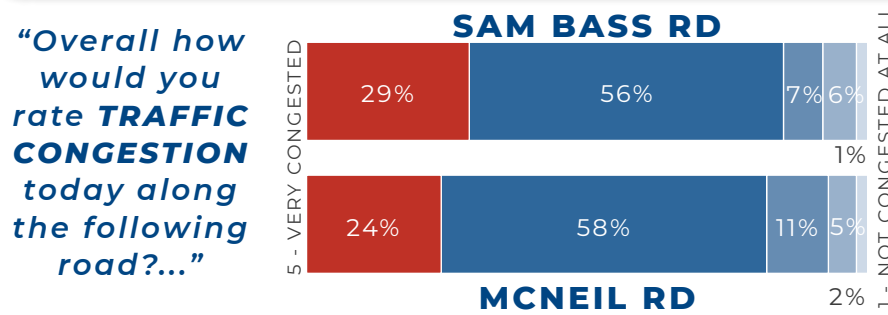


FIGURE 2.5 - QUESTION 5 SURVEY RESULTS

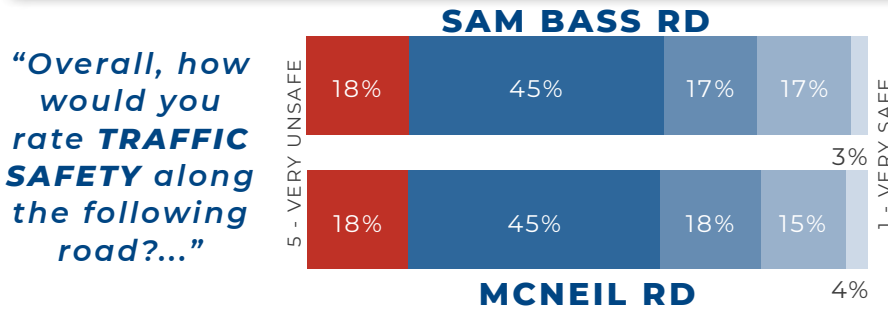


FIGURE 2.6 - SUMMARY RESULTS FOR ALL RECOMMENDED IMPROVEMENTS

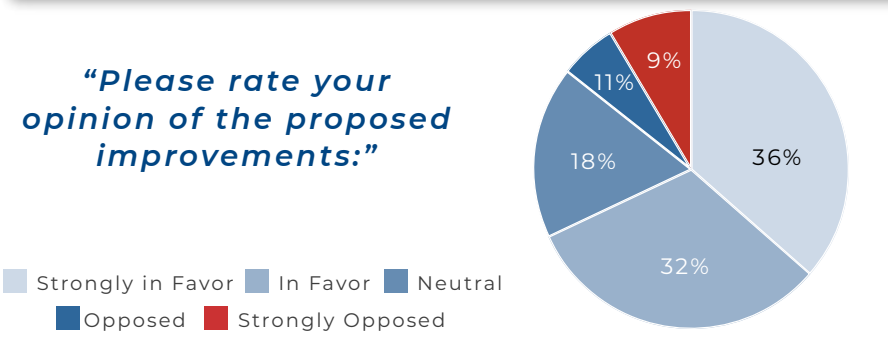


EXHIBIT 2: PUBLIC COMMENT HEAT MAP

Source: Social Pinpoint Map Survey Comments



Chapter 3

Updating the Ultimate Roadway Network



Round Rock *Transportation Master Plan*

The Ultimate Roadway Network is the plan to serve growth when Greater Round Rock is built-out. This includes determining the appropriate functional classification and associated right-of-way required to serve vehicular traffic and is based on the future land use plan for undeveloped or redeveloping areas. Travel Demand modeling is the tool used to evaluate future transportation demand and congestion based on the projected number of employees and households in discrete areas of the City. This is an iterative process of evaluating different transportation network solutions and land use scenarios to determine if the network is adequate.

Travel Demand Modeling

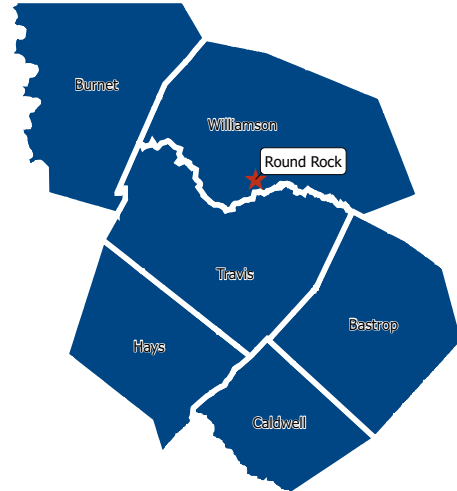
Travel Demand Modeling is a tool that is used to assess roadway capacity performance based on project land use and growth to help improve the Ultimate Roadway Plan. The Travel Demand Model used for assessment of performance of the Ultimate Roadway plan was based on the 2045 Capital Area Metropolitan Planning Organization (CAMPO) model. The CAMPO model includes highways and significant roadway connections for the entire 6 county region (shown in **Figure 3.1**) within the MPO and is used for assessing roadway

capacity improvements at a regional scale and is the modeling standard for the region.

The City’s model for this process replaced the land use and transportation network within the City and Greater Round Rock with the proposed transportation networks and more refined land uses to align with other City efforts like the Round Rock 2030 Plan. Input was obtained from surrounding cities, but their network and demographic data are not updated from what exists in the CAMPO 2045 approved model..

Several different scenarios were developed and assessed in the TMP, including developing a base year model (2022) that was calibrated based on traffic counts taken in Fall 2022 as well as a future year model (build-out within City and

FIGURE 3.1 - CAMPO COUNTIES



Greater Round Rock, 2045 for the rest of CAMPO region) based on the Ultimate Roadway Plan and latest Future Land Use Plan for the City for undeveloped parcels. A screenshot from the model is displayed in **Figure 3.2**.

The outputs from the travel demand models include the projected volumes based on where people drive to and from and anticipated driving

behavior and route choice. These volumes are compared with the capacity to develop a “Level of Service” for each roadway. See the Chart in **Table 3.1** illustrating what breakpoints exist for letter grades in Level of Service for the various model outputs. Level of Service A-C is generally considered good traffic flow, LOS D is considered to be increasing congestion, and LOS E/F is considered to be a failing LOS.

TABLE 3.1 - LEVEL OF SERVICE MEASURES

LOS	A - C (<0.65)	D (0.65 - 0.8)	E/F (>0.8)	CAPACITY
6 Lane 150' ROW	<39,000	39,000	48,000	60,000
4 Lane 120' ROW	<26,000	26,000	32,000	40,000
2 Lane 90' ROW	<10,000	10,000	12,200	15,250
Frontage 3 Lane	<19,500	19,500	24,000	30,000
Frontage 2 Lane	<13,000	13,000	16,000	20,000
Frontage 1 Lane	<6,500	6,500	8,000	10,000
3 Lane (Sam Bass)	<11,200	11,200	13,800	17,250

FIGURE 3.2 - TRAVEL DEMAND MODEL SOFTWARE



Scenarios studied and represented in this study are documented on the following pages and were based on either the base year or future year models. Scenarios studied help refine the Ultimate Roadway Plan map and test if projects recommended for the roadway impact fee CIP study were adequate to serve an interim 10-year condition. In addition, a sensitivity analysis was conducted to determine the degree of congestion if the residential future land uses continue to have increased density per recent trends.

EXHIBIT 3: FUTURE LEVEL OF SERVICE

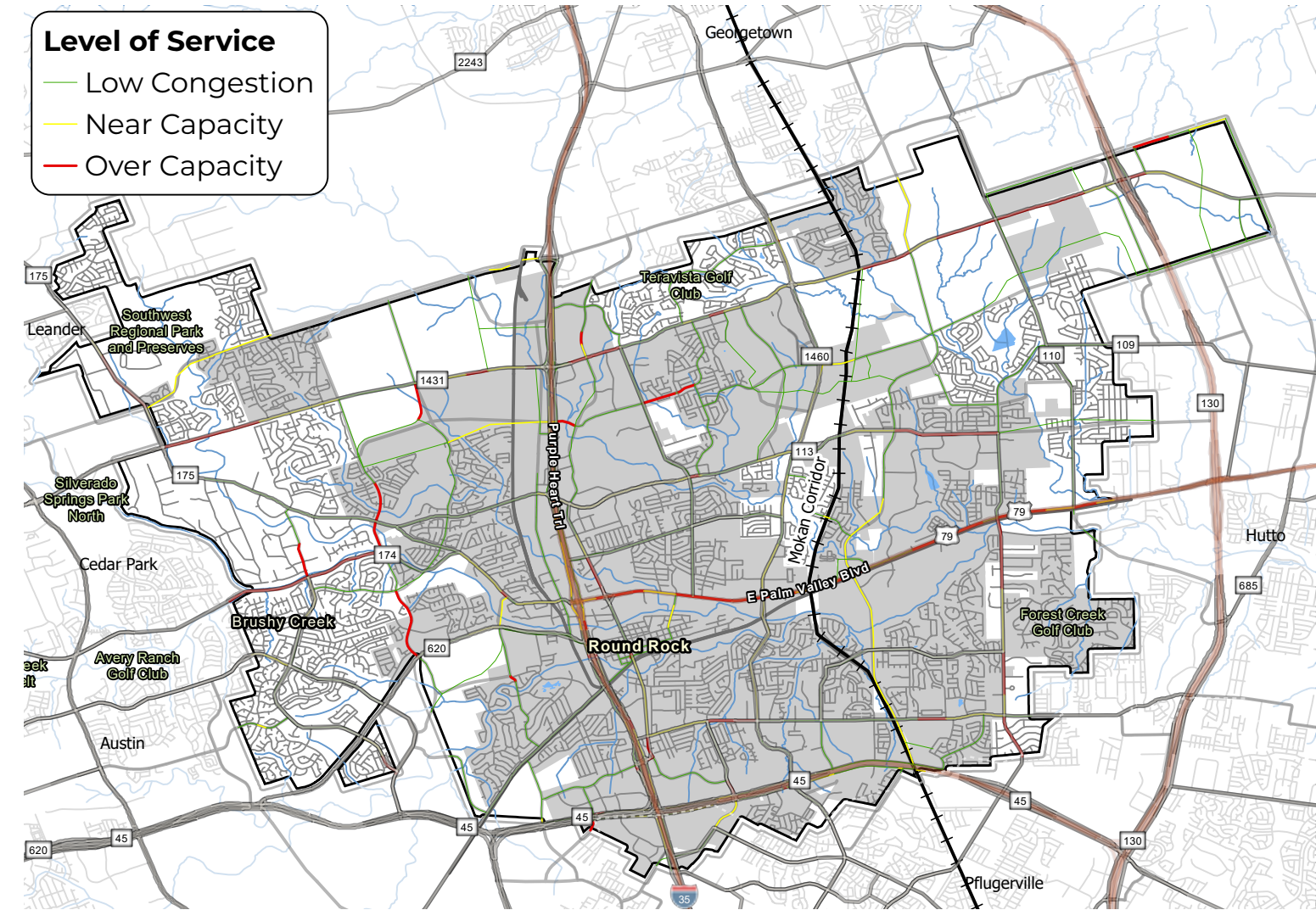


Exhibit 3 illustrates the results for the baseline future year model (reflecting 2017 Ultimate Roadway Plan and current Future Land Use Map). The future year model was used to refine

the Ultimate Roadway Plan and included several iterations to arrive at the final plan map shown in this document in Chapter 5.

Some observations from the Ultimate Roadway Network future year model is that even with significant investment to build out the arterial system, there are still some congested corridors with increased congestion or failing Level of Service. This is predominantly observed on east-west corridors like US 79/Palm Valley, University Blvd, Old Settler’s Road, and Gattis School Road. Some north-south corridors also have pockets of poorer performance, but are not as severe.

One solution to improve arterial performance, especially in areas that are less built-out on the periphery of the City, is to have a robust collector street network to relieve arterials. Collectors best function when they completely connect from one major thoroughfare to another without reducing in width or capacity and act as a distributor of local traffic to the arterial system to avoid unnecessary trips on the arterial system.

Figure 3.3 illustrates varying degrees of connectivity and how this has changed over time, with neighborhood design becoming increasingly less connected and offering fewer alternative routes. By establishing a well connected collector system, relief may be provided to arterials. Alternatively, some facilities may need to be considered for more significant capacity enhancements, such as innovative intersections, grade separations, and upgrading to access controlled facilities, if feasible.

Exhibit 4 illustrates where additional North-South, East-West, or bi-directional (represented by “BOTH”) collector capacity is needed based on modeling results, and should be prioritized in the future for relieving anticipated arterial congestion with the proposed Ultimate Roadway Plan in this document.

FIGURE 3.3 - STREET DESIGNS THROUGH THE YEARS

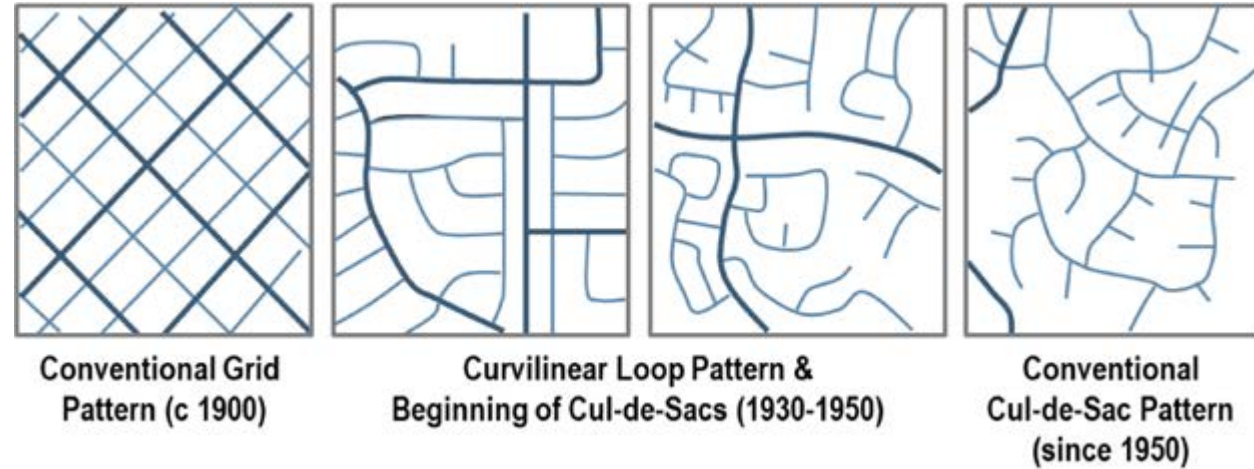
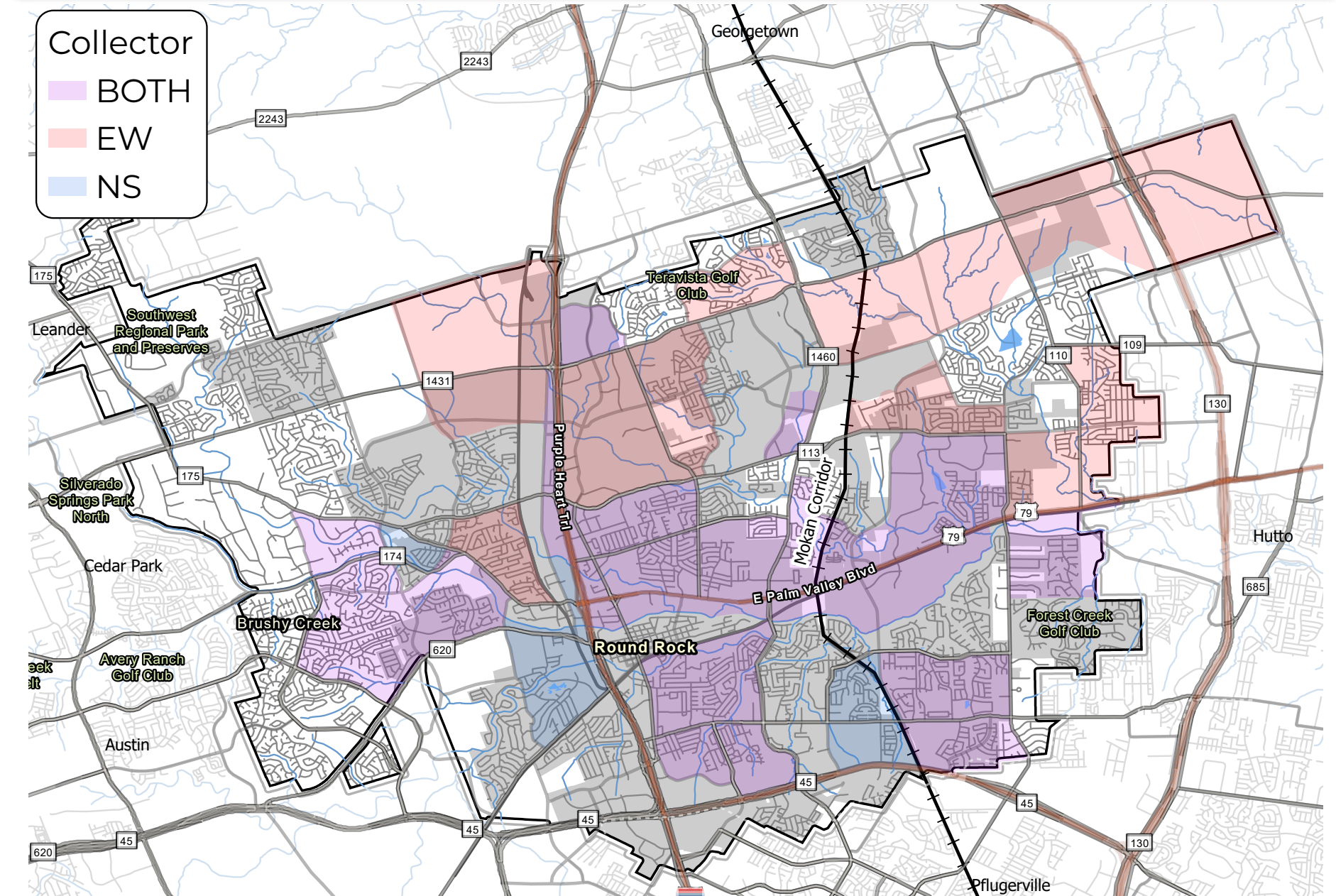


EXHIBIT 4: DIRECTIONAL COLLECTOR CAPACITY



Scenario: Higher Density Sensitivity Analysis

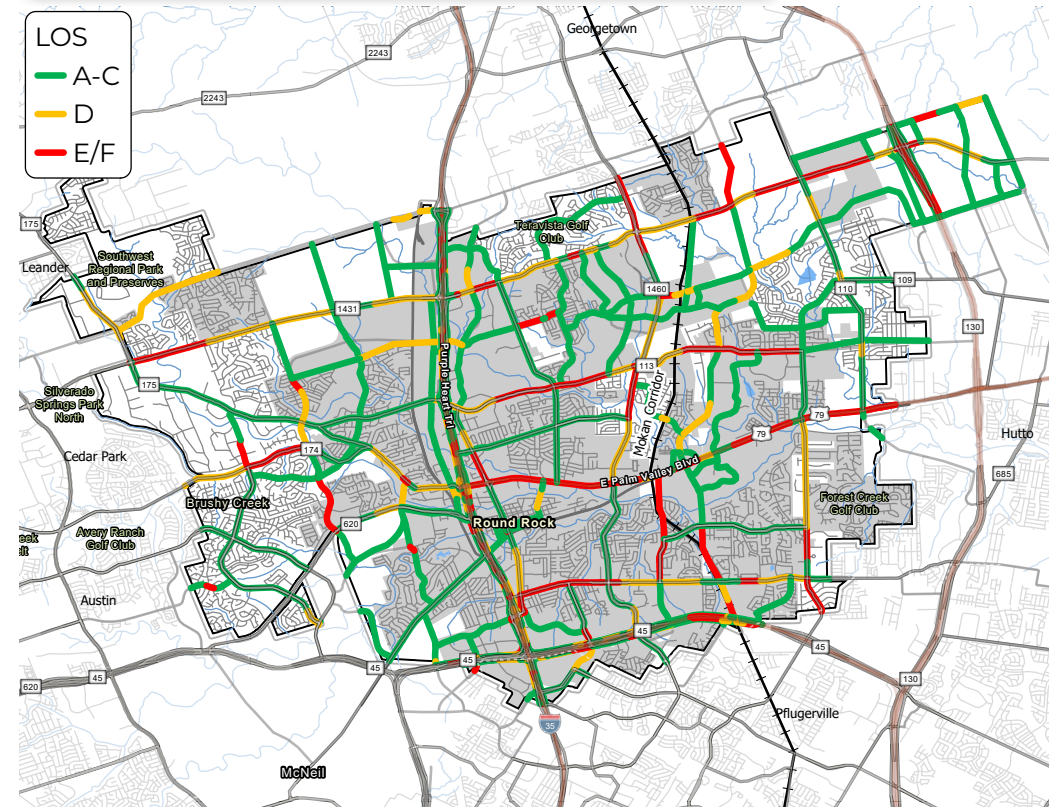
One scenario that was developed in the travel demand modeling was a scenario to assess the impact of higher density development. Historically, Round Rock has developed with roughly 4 units per acre for detached single family homes in typical subdivisions with houses on individual lots and 20 units per acre for apartment or multifamily style developments. However, in more recent years, development has generally increased densities for the same projects, resulting in densities closer to 8-10 units per acre for single family residential and closer to 30-40+ units per acre for multifamily. The future land use density assumptions were altered in a “High Density Scenario” to assess the scale of impacts on transportation if this trend continues. The results are shown in **Figure 3.4**.

As shown in the Level of Service Map, further degradation of LOS on the east-west roadways with a few instances of worsening level on North-South roadways occurs. This is most likely due to the existence of multiple north-south routes with access controlled facilities (I-35, SH 130, and 183A) that provide higher capacity flow, whereas SH 45 is the only facility of this type in Round Rock or anywhere

north of Austin. This illustrates the need to consider if other facilities, namely US 79, is worth of consideration for potential future conversion to an access controlled facility and should be further studied.

Note that many facilities are not in the City’s control, like US 79, that will require coordination with outside agencies for solutions.

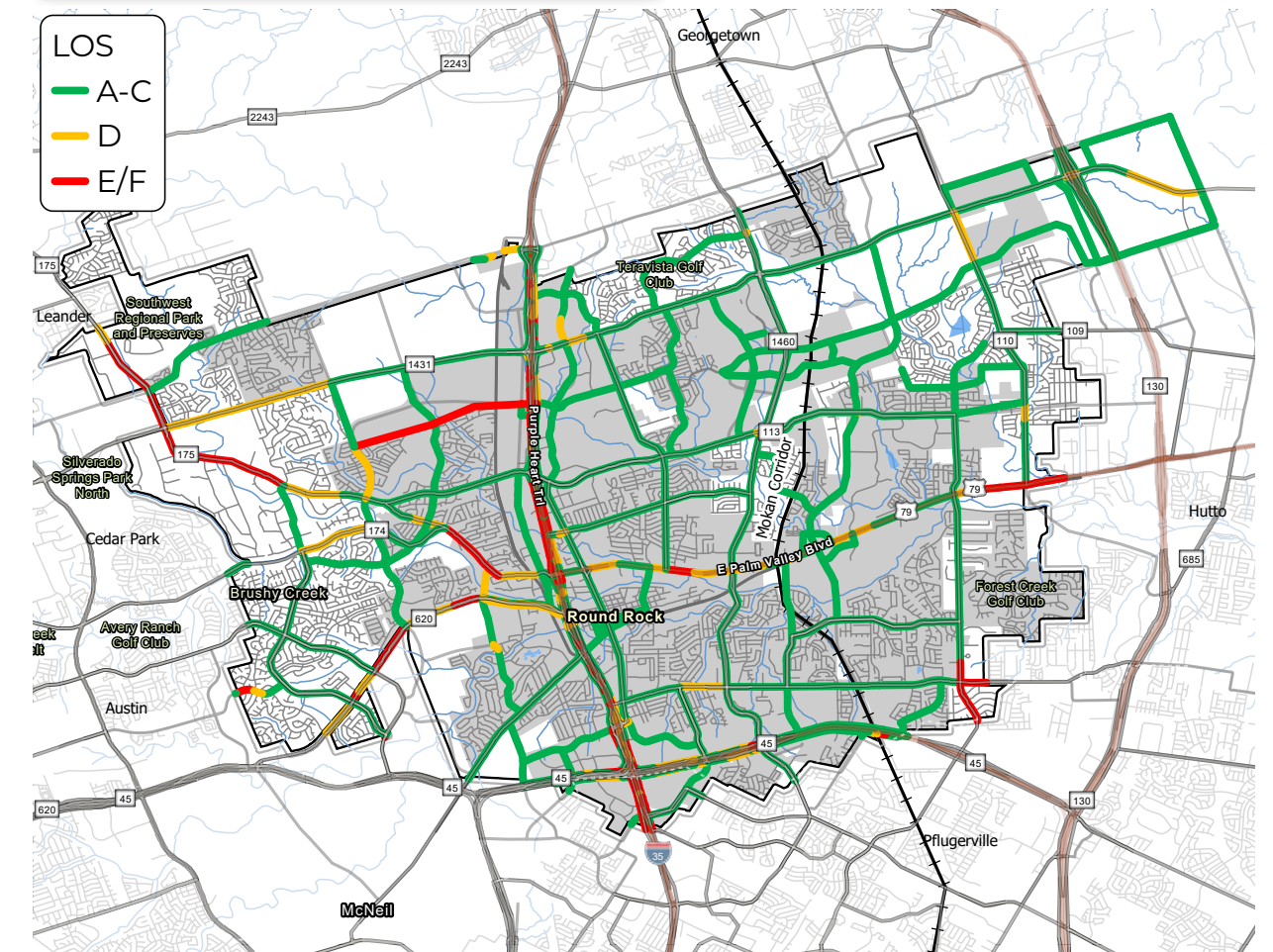
FIGURE 3.4 - HIGH DENSITY LEVEL OF SERVICE



Scenario: 10-Year Growth for Roadway Impact Fees

The 10-year growth scenario evaluated the performance of the anticipated roadway network if the projects identified as high priority in Chapter 6 were constructed and growth for a 10-year period was also observed to 2033. The results of this model are illustrated in **Figure 3.5**, which shows the alleviation of congestion among many roadways, such as A W Grimes Blvd, Avery Nelson Pkwy, and University Blvd, as capacity improvements are made on the existing roadways and additional north-south and east-west connections are constructed within the proposed network. These outputs are used to help refine the Roadway Impact Fee Study Capital Improvements Plan which started concurrently for a 5 year update during TMP development.

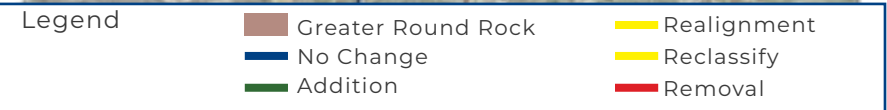
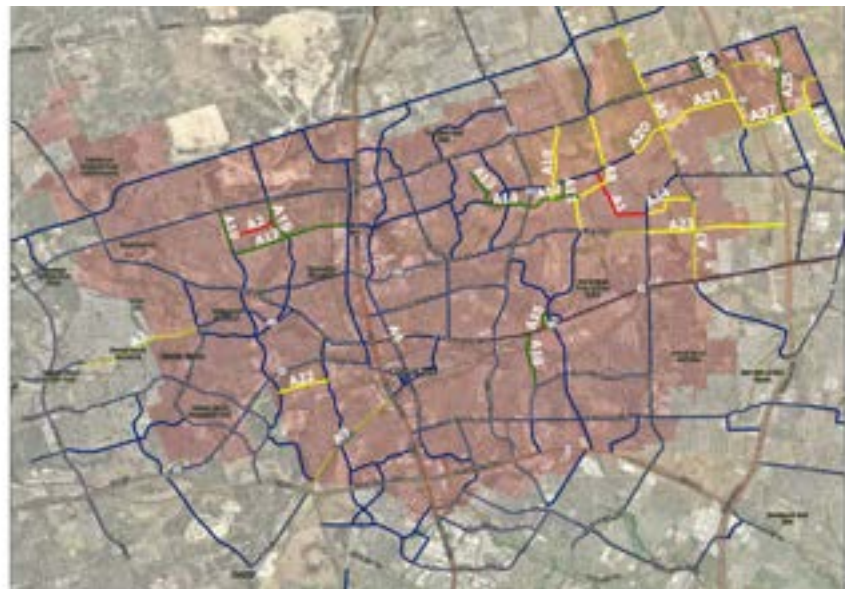
FIGURE 3.5 - 10-YEAR LEVEL OF SERVICE



Revisions to the 2017 Plan

To document changes that were made to the 2017 Ultimate Roadway Plan, the following revision list is included to summarize and keep a historical record of changes to the plan. In addition to this list, a few specific areas where significant revisions occurred are highlighted to the right. **Figure 3.6** below displays the 2017 plan's revisions, and **Table 3.2** on the following page provides details on these revisions.

FIGURE 3.6 - SUMMARY OF CHANGES TO THE 2017 ULTIMATE ROADWAY PLAN



McNeil Road – a corridor study in the Appendix documents the analysis on this corridor, which has been changed from 6 lane enhanced roadway to remain a 4 lane road without a median as in its current state with some signal operational enhancements where possible. The majority of the roadway currently lies within right-of-way owned by Union Pacific Railroad and all improvements to this roadway would require approval by UPRR. In addition, there is little to no space on the west side of the UPRR right-of-way for improvements up to property lines for neighborhoods like Round Rock West.

Sam Bass Road – a corridor study in the Appendix documents the analysis on this corridor, which has been changed from a 4 lane enhanced to a 3 lane enhanced roadway from the railroad near Chisholm Trail west to Old Settler's Blvd. Some significant challenges do exist for the section west of Chisholm Trail to Meadows Drive where right-of-way drops to as little as 40 feet in this area, especially next to the cemetery.

Northeast Quadrant – Several updates to the area surrounding the intersection of University Blvd and SH 130 were made, as this area has more recently been included in Greater Round Rock and has an underdeveloped roadway network with some substandard intersection spacing. With some substantial development in this area anticipated, a revision to disconnect southbound CR 107 at its current location to be realigned to a location further west was recommended due to anticipated issues if a signal were to be needed in the future with spacing to SH 130. In addition, edits to include Ed Schmidt Blvd recently built in Williamson County from CR 118 into Hutto is reflected properly, and an extension of CR 100 is no longer shown. Lastly, Revisions to the alignment of Avery Nelson Blvd / CR 118 through Solterra are shown, which would connect into existing CR 118 at the crossing under SH 130 as a 4-lane road from CR 110 to Ed Schmidt Blvd.

TABLE 3.2 - SUMMARY OF CHANGES TO THE 2017 ULTIMATE ROADWAY PLAN

ID	ST NAME	Segment	Roadway Class	Change	Desc.
A1	CR 117	CR 112 - CR 122	2 Lane - Existing	Removal	Removed per Staff Comments, to remain a 2 lane collector from Bluffstone to Red Bud
A2	Wyoming Springs Dr	FM 1431 - FM 3406	4 Lane - Proposed	Removal	Removed 4 Lane - Proposed per staff comments
A3	Brushy Creek Rd	Parmer Ln - Howard Ln	2 Lane - Existing	Reclassify	2 Lane - Existing to 4 Lane - Enhanced
A4	N Mays St	Northwest Dr. - Palm Valley Blvd	4 Lane - Enhanced	Reclassify	Changed from 2 Lane - Existing to 4 Lane - Enhanced
A5	CR 110	Westinghouse to US 79	6 Lane - Proposed	Reclassify	4 Lane - Enhanced to 6 Lane - Proposed
A6	CR 114/Chandler Rd	SH 130 - CR 100	6 Lane - Proposed	Reclassify	4 Lane - Enhanced to 6 Lane - Proposed
A7	CR 110	CR 164 - US 79	6 Lane - Proposed	Reclassify	4 Lane - Enhanced to 6 Lane - Proposed
A8	N Kenney Fort Blvd	CR 117 - CR 113	6 Lane - Proposed	Reclassify	4 Lane - Proposed to 6 Lane - Proposed
A9	McNeil Rd	IH 35 - CR 172	6 Lane - Enhanced	Reclassify	6 Lane - Enhanced to 4 Lane - Existing
A10	TBD	84 PUD	4 Lane - Proposed	Addition	New roadway roughly following MoKan alignment
A11	Vizcaya Pkwy	84 PUD	2 Lane - Proposed	Addition	84 PUD Addition-Extended North per staff comments
A12	Wallin Bradley Dr	84 PUD	4 Lane - Proposed	Addition	84 PUD Addition
A13	Campus Village Drive	84 PUD	2 Lane - Proposed	Addition	84 PUD Addition
A14	Wallin Bradley Dr	84 PUD	3 Lane - Proposed	Addition	84 PUD Addition-Adjusted based on comments
A15	Joe Dimaggio	Kenney Fort - E Palm Valley Blvd	3 Lane - Proposed	Addition	3 Lane Proposed Added per staff comments
A16	Double Creek Drive	Palm Valley - Forest Creek	4 Lane - Proposed	Addition	Added Per Staff Comments: Realigned to match up to the Luthern Church driveway to the North
A17	Eagles Nest St	IH35 - Wyoming Springs	4 Lane - Proposed	Addition	Added 4 Lane - Proposed per staff comments
A18	Wyoming Springs Drive	FM 1431 - Eagles Nest	4 Lane - Proposed	Addition	Added 4 Lane Proposed per staff comments
A19	Creek Bend Blvd	FM 1431 - Eagles Nest	4 Lane - Proposed	Addition	Added 4 Lane - Proposed per staff comments
A20	Avery Nelson Blvd	CR 112 to CR 110	6 Lane - Proposed	Realignment	Realign per staff comments
A21	Avery Nelson Blvd	CR 110 to CR 118	4 Lane - Proposed	Realignment	Alignment changed based on development
A22	Arterial C	Deepwood Dr - Wyoming Springs Dr	4 Lane - Proposed	Realignment	Moved North to Avoid Public Facilities
A23	E Old Settlers Blvd	Arterial A - CR 122	4 Lane - Existing	Reclassify	4 Lane - Existing to 6 Lane - Proposed
A24	CR 122	CR 122 - CR 110	3 Lane - Enhanced	Realignment	Aligned 90 degree turn for low water crossing
A25	Innovation Blvd	Avery Nelson to CR 100	2 Lane - Proposed	Addition	Added per regional coordination
A26	CR 107	Existing to University	4 Lane - Proposed	Realignment	Disconnect current intersection at University and realign as 4 lane divided further west
A27	CR 118	University to Ed Schmidt	4 Lane - Enhanced	Reclassify	Widened per staff comments
A28	Ed Schmidt Blvd	Chandler Rd to Hutto	4 lane - Enhanced	Realignment	Adjusted CR 100 to current Ed Schmidt Alignment built by Williamson County
A29	CR 108	CR 100 to Hutto	2 Lane - Proposed	Addition	Alignment with Hutto and Georgetown plans for additional road east of SH 130 where frontage roads are lacking

Chapter 4

State of Transportation Funding



Round Rock *Transportation Master Plan*

Funding for transportation has substantially increased in recent years at both the federal and state levels, creating opportunities for communities like Round Rock to seek outside funding for projects and programs. This chapter documents the various funding types used in the City of Round Rock today as well as trends and opportunities related to funding in the near term.

Economic Development (4B)

The City of Round Rock has a strong history of supporting transportation investment and capital improvements through various City funding sources, including funds earmarked as Type 4B funds from sales tax. Since 1997, when voters approved a half cent sales tax, funding from 4B funds have been used on transportation capital projects as well as other economic development spending. In 2019, an initiative called Driving Progress was initiated to allocate \$240 million in

spending on over \$1.2 Billion in needs identified in the 2017 Transportation Master Plan. Funding was issued in the form of Certificates of Obligation (CO) bonds beginning in 2020.



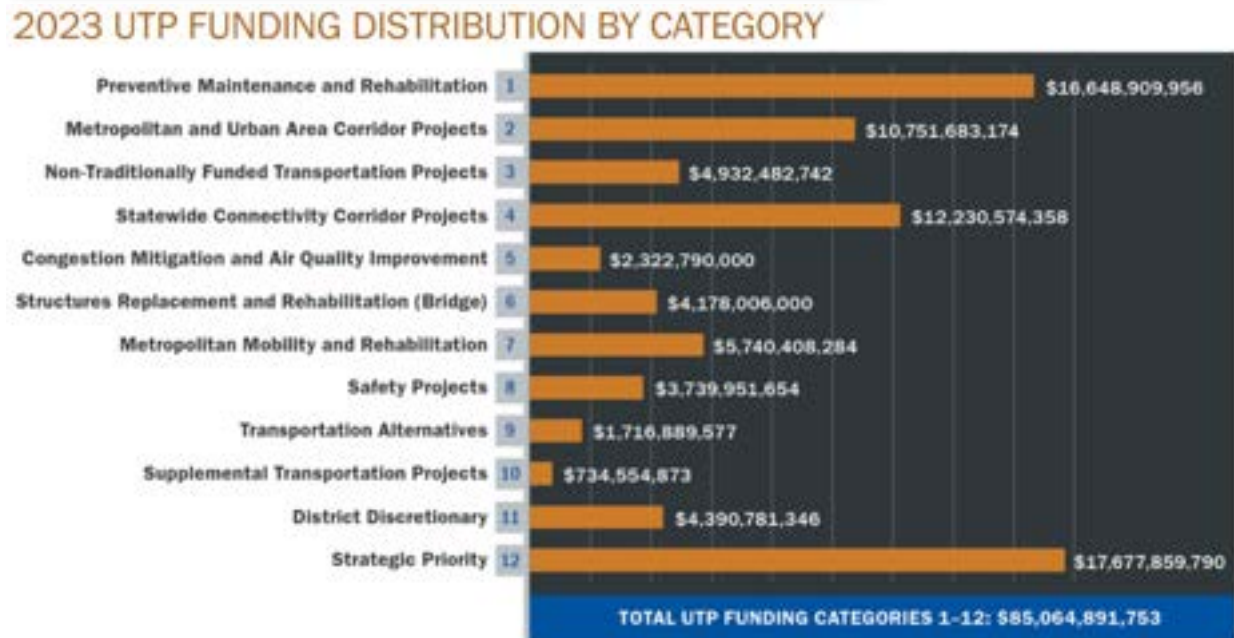
Development (Roadway Impact Fees)

Development can be a partner in getting infrastructure built to serve growth in Round Rock, and the City has chosen to quantify the impacts through development of a roadway impact fee program, initiated in 2019. A roadway impact fee study was completed and adopted with an Ordinance in March of 2019, and the City began collecting roadway impact fees in 2021. In some instances, development may construct roadways in the Impact Fee capital improvements plan in lieu of paying a roadway impact fee. These funds are tied to multiple service areas within the City and must be spent in the same general areas in which they were collected. The City has used roadway impact fee funds to pay debt incurred for various projects since collections began in 2021 to reduce the City's debt burden.

State Funding (TxDOT)

TxDOT manages and/or maintains the state transportation system, including roadways like Interstate 35, US 79, RM 620 and other roadways with state designations. In addition to managing regional thoroughfares, TxDOT identifies funding for projects through various methods and funding categories for projects on an annual basis. The local MPO's, including the Capital Area MPO for Round Rock, put together Transportation Improvement Programs (TIPs) that feed into the Statewide Transportation Improvement Program, which is approved annually and includes projects with funding for the next 4 years. Additionally, TxDOT puts together a 10 year plan called the Unified Transportation Program, which in 2023 included a historic \$100 Billion in funding statewide. TxDOT is an important funding partner for potential projects for both safety and operational improvements. Lastly, TxDOT expanded its Transportation Alternatives Program (TAP) with a significant funding increase in 2022 for pedestrian and bike or other alternative modes of transportation projects.

FIGURE 4.1 TXDOT'S UTP FUNDING BY CATEGORY



Federal Funding (IIJA)

The 2021 Infrastructure Investment and Jobs Act (IIJA) funneled significant dollars towards improving surface transportation of various kinds with \$1.2 Trillion nationally to fund ongoing programs as well as new programs. Much of the new funding was geared towards programs for safety, electric vehicles and charging infrastructure, and other special programs. The following highlights a few programs within the IIJA that could be applicable to Round Rock:

- Safe Streets for All
- Highway Safety Improvement Program
- Carbon Reduction Plans

Carbon Reduction Plans are being implemented at the MPO level, and plans for use of these proceeds are being planned for regionally by CAMPO. The funding program mirrors many characteristics of the Congestion Mitigation and Air Quality (CMAQ) funding program for urbanized areas that fall in a non-attainment zone for emissions and air quality. The Austin-Round Rock MSA has not historically been characterized as non-attainment.

Other Funding Types

CAMPO

Round Rock has been successful at securing funding in the most recent call for projects in 2018 by CAMPO and is implementing projects with funding for transportation. It is recommended to continue to pursue project calls to secure additional funding when appropriate in the future.

Bonds

In addition to the Certificates of Obligation bonds (CO bonds) mentioned in the Economic Development and 4B funding section, cities are able to hold general elections to approve spending that may result in an increase on property tax rates to fund infrastructure of various kinds. These bonds are known as General Obligation (GO) bonds. The City of Round Rock has not issued GO bonds in several years and has kept tax rates lower by securing funding through other means.

Other Agency Strategies

Partnering with Williamson County

The City of Round Rock has partnered with Williamson County in the past to fund projects from the 2019 Williamson County Bond. Partnering with Williamson County on projects, especially in Greater Round Rock, is encouraged to be pursued in future opportunities with the County.

Chapter 5 Recommendations



Round Rock *Transportation Master Plan*

This chapter defines the recommendations based on the analysis conducted for existing conditions, a needs assessment, public engagement received, and analysis of future conditions. A summary of actions related to these recommendations is found in Chapter 6 - Conclusions and Actions (Page 80).

Ultimate Roadway Plan

The Ultimate Roadway Plan, shown in **Exhibit 5** is the result of working with staff to determine anticipated needs, discussions with property owners with large parcels of land undeveloped, and modeling to determine the needs of the City. In addition, coordination with TxDOT, Williamson County, and surrounding cities occurred during plan development to align planning at jurisdictional boundaries or where jurisdictions are shared. The intended use of the Ultimate Roadway Plan is to help guide capital investments in facility expansions, enhancements, and extensions of roadways while also building shared use paths where right-of-way allows along arterial facilities for multimodal use. The Ultimate Roadway Plan includes the required right-of-way for 6 lane, 4 lane, 3 lane, and 2 lane facilities in this plan.

Additional Right-of-Way Required

In addition to the baseline right-of-way requirements in the Ultimate Roadway Plan, some locations may require additional right-of-way due to special

considerations for intersection design. At a minimum, right-of-way shall be provided within the distance specified in **Table 5.1** based on intersecting street types in the Ultimate Roadway Plan. The additional right-of-way shall be provided for a distance not less than 200 feet, but shall be provided for at least the minimum distance for a single left turn lane as defined in the latest TxDOT design criteria for turn lanes based on the posted speed limit of the roadway, inclusive of the turn lane taper. The ultimate roadway plan also identifies several intersections for potential innovative improvements or grade separation that merit special consideration for development or redevelopment on the corners of intersections that should be coordinated with staff based on intersection schematics or concepts.

In any location where a schematic design has been approved, the right-of-way requirements of the schematic shall supersede the requirements of the Ultimate Roadway Plan.

TABLE 5.1 - TURN LANE RIGHT-OF-WAY-REQUIREMENTS

		Roadway 1 Type		
		Collector	Arterial	Highway/Tollway
Roadway 2 Type	Collector	14'	14'	N/A
	Arterial	14'	28'	28'
	Highway/Tollway	N/A	28'	Determined by Schematic

EXHIBIT 5: ULTIMATE ROADWAY PLAN



*Shown for consistency with Williamson County Plans.

Street Design Recommendations

It is important that requirements for street design are well aligned with other City code requirements and well coordinated due to the competing interests in limited right-of-way space. Ultimately, the required design for streets inform the required right-of-way in greenfield conditions, whereas often in retrofit scenarios where right-of-way is inadequate or cannot be obtained tradeoffs or less ideal design must be considered. The TMP documents improvements to street design standards in the Design and Construction Standards, last adopted in 2021, as well as defining street design requirements in urban, high density Mixed Use Greenfield and Large Lot District (MU-G) Zoning as defined in the City Code. Lastly, best practices for updating collector requirements in the DACS are documented in the TMP for potential future updates. It is recommended to develop standards for landscaping and streetscapes in the DACS for street beautification, consistent with Round Rock 2030 goals.

Simplifying Cross Sections

The current DACS includes 12 cross sections with several options and varying right-of-way requirements for different street types in the Ultimate Roadway Plan. It is recommended to consolidate these to include a 6 lane 150 foot ROW, 4 lane 120 foot ROW, and 3 lane 90 foot ROW street type for greenfield development streets that are not located in the MU-G zoning districts (see following section for details). **Figure 5.1** and **Figure 5.2** illustrate current 6 lane and 4 lane street sections recommended to be kept in the DACS, while a new revised section is likely necessary for collector streets.

FIGURE 5.1 - 6 LANE STREET SECTION - 150' ROW

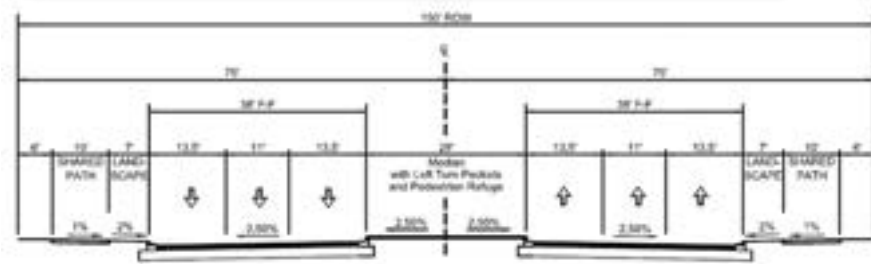
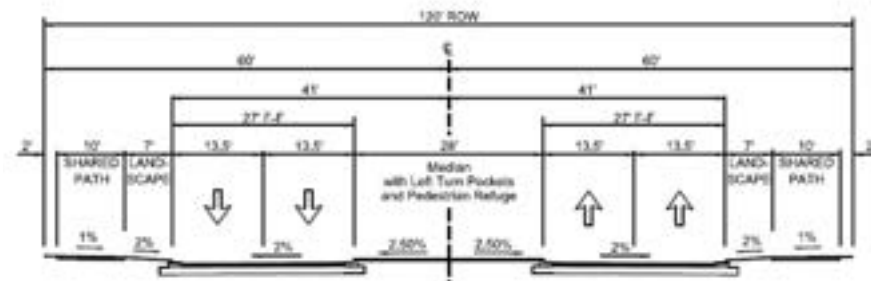


FIGURE 5.2 - 4 LANE STREET SECTION - 120' ROW



Urban Street Standards for Higher Density Development

Streets in urban settings with little to no setbacks to building lines, like existing downtown Round Rock, require a significantly different design approach. The following street sections in **Figures 5.3** to **5.6** illustrate potential street sections for incorporation into an update to the DACS, which is recommended to include specific design standards for urban settings in the MU-G zoning district. In more compact ROW there is less space to balance the need for parking, wider sidewalks, streetscapes and special utility placement. These should all be considered in urban design standards, as well as access to businesses or the use of commercial alleys in development of urban design standards.

FIGURE 5.3 - URBAN COLLECTOR THREE-LANE WITH ANGLED PARKING

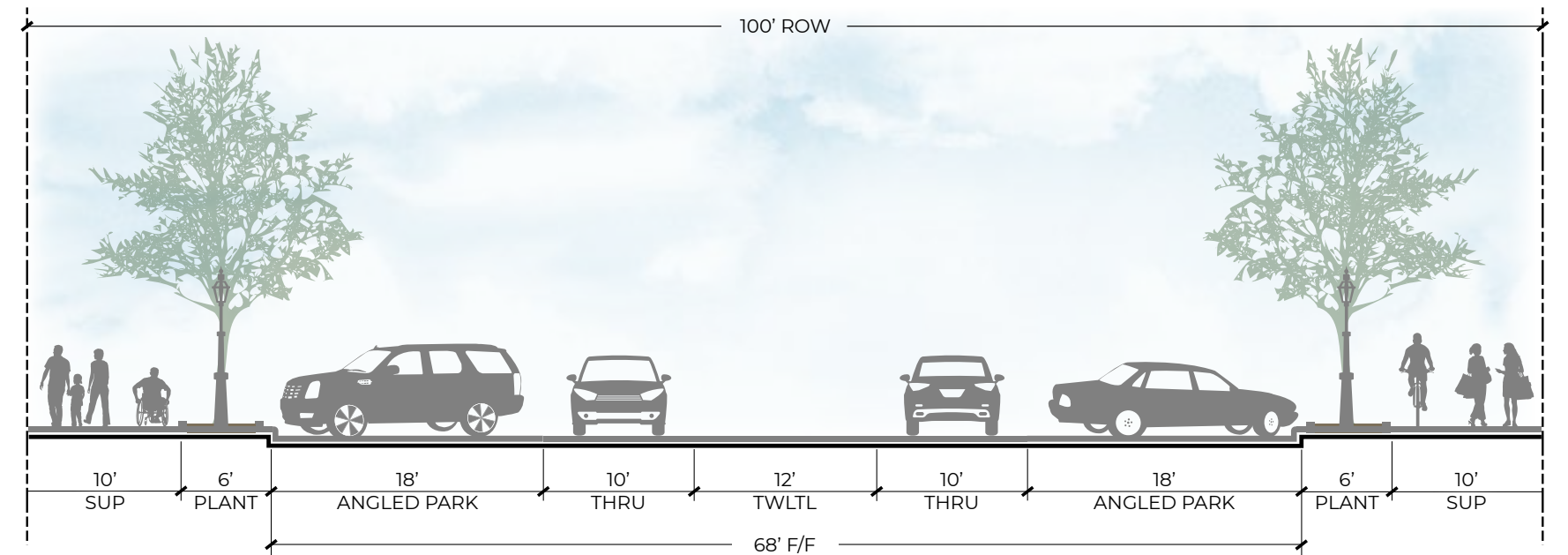


FIGURE 5.4 - URBAN COLLECTOR THREE-LANE WITH PARALLEL PARKING AND FURNITURE ZONE - 100' ROW

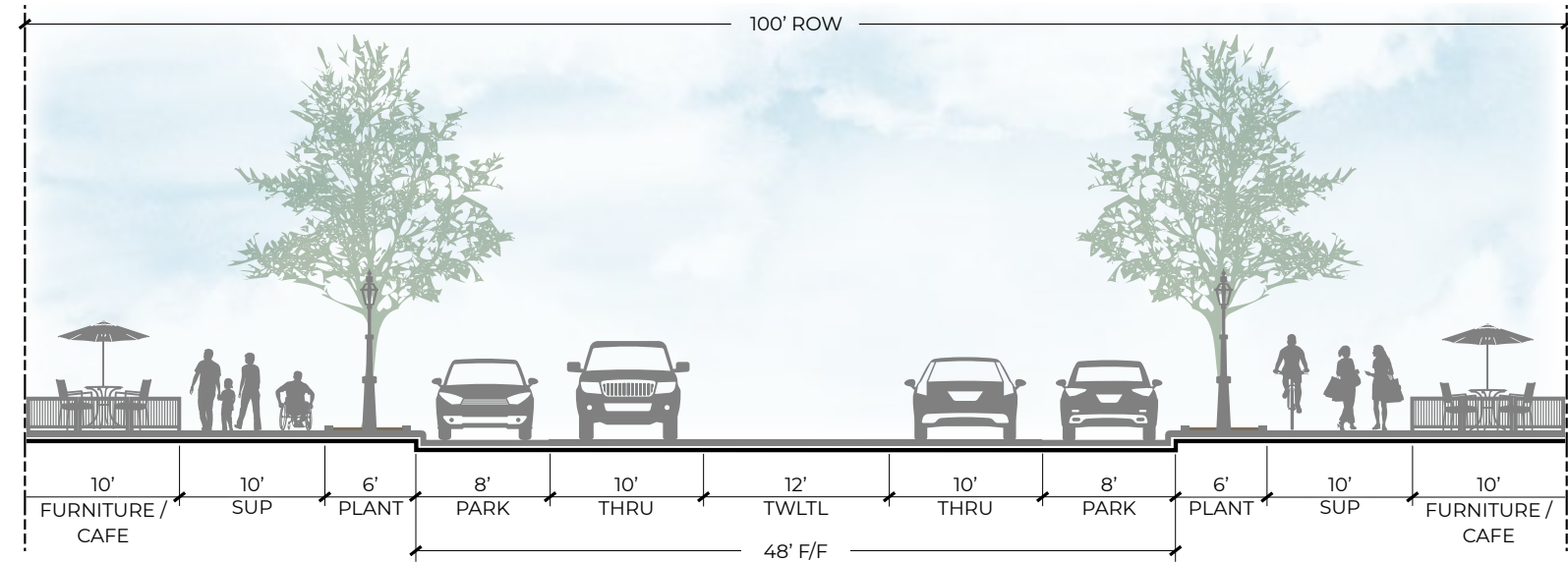


FIGURE 5.5 - URBAN COLLECTOR THREE-LANE WITH PARALLEL PARKING - 80' ROW

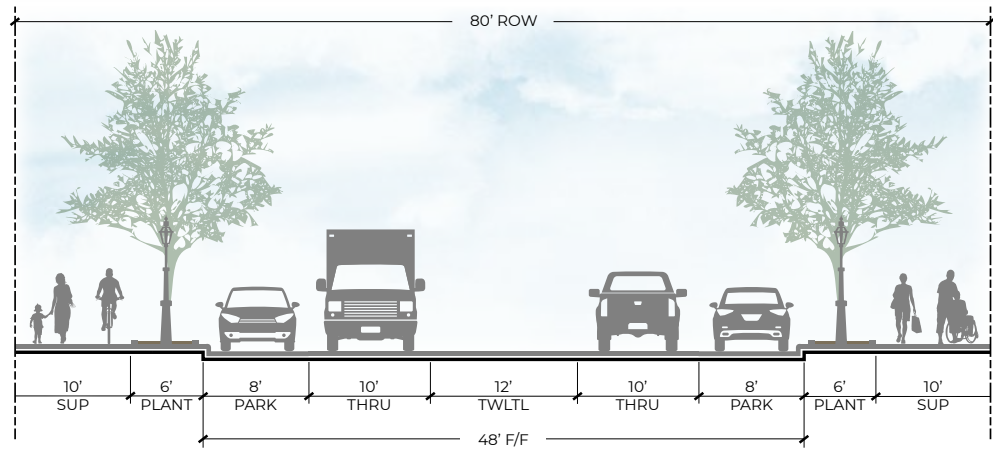
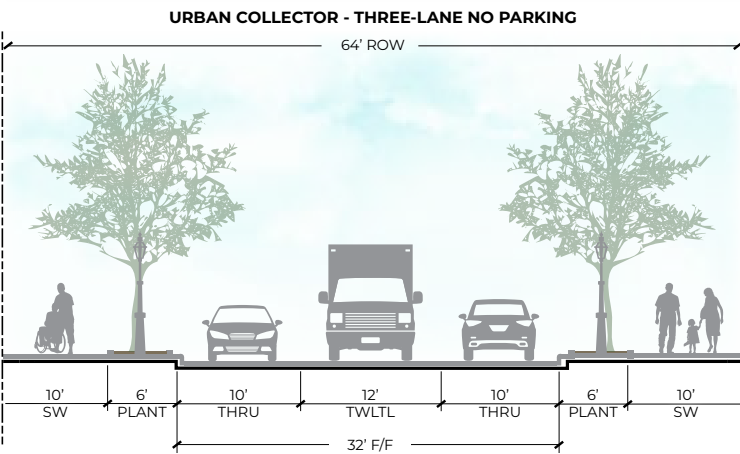


FIGURE 5.6 - URBAN COLLECTOR THREE-LANE NO PARKING



Criteria for Alternative Street Design

In addition to simplifying the number of cross sections, criteria should be developed for alternative street design based on specific hardships created by existing conditions or special considerations, along with triggers for when street sections differing from standards are allowable. The following includes a list of potential scenarios justifying the use of an alternative street design, and should be included in an update to the DACS:

1. Sections crossing creeks, floodplain, or railroad crossings, including bridge structures; these sections may require different space requirements than the 150', in some cases more space for things like slope transitions may be required
2. If a shared use path has been built or designed for one side of a roadway, continuation of that path on one side of the roadway may allow for only a sidewalk to be built on the opposite side. Where no shared use paths are present, right-of-way must be dedicated in a way where the path may be built on either side of the road per the street standard
3. In scenarios where right-of-way cannot be dedicated or obtained due to the following, alternative design may be considered:
 - Existing buildings near the current property line
4. Additional right-of-way may be required for turn lanes, roundabouts, or innovative intersection designs and transition areas
 - Utility conflicts that cannot be relocated, such as high power transmission lines
 - Existing drainage structures that cannot be moved or altered
 - Where retaining walls are required due to cross slopes

Collector Policy Recommendations

As demonstrated in Chapter 3, some corridors in the City may not operate an acceptable level of service even with significant investments and expansion citywide. Exhibit 4 in this document identifies areas where additional collector capacity is needed to relieve projected congestion at build-out as a strategy for congestion mitigation.

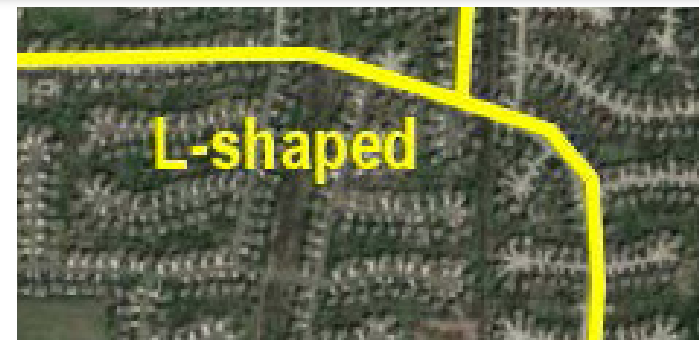
Collector policy recommendations are construed to be for primary collectors. Neighborhood collectors (collectors where houses are allowed to take access from the street) may be used, but shall not connect to arterials and must terminate at a primary collector.

1. Collector facilities shall be designed and aligned in such a way as to balance traffic flow and speed.
2. Collector facilities shall not have driveways for residential uses fronting the street.
3. Collector facilities shall be designed to allow for 2 lanes of freely flowing traffic unimpeded by parking.
4. Collector facilities shall include turn lanes at intersections with other collectors or turn lanes or a roundabout, if appropriate.
5. Collector facilities shall terminate only at another collector facility, an arterial, or with a stub-out at a property to be extended as a collector on any undeveloped adjacent parcels.
6. Collectors may either run in a general north-south or east-west direction through a development or be an “L” shape as in **Figure 5.7**.
7. Collectors must connect to Ultimate Roadway Plan

roadways at locations with a median opening, if divided.

8. Collectors should be placed at intervals along arterials where future signalization is possible, with a minimum signal spacing of 1,000’ to existing signals or other collector/arterial crossings. Street connections at less than this spacing should be considered local streets.
9. When streets would or must traverse a 100-year floodplain for a stub-out street, spacing of collector street crossings shall not exceed 1/2 mile
10. Subdivisions shall be designed to connect to adjacent existing stub-out streets.
11. Median openings on arterials should be planned at collector streets.
12. Collectors ending at a jurisdictional boundary shall be planned and designed with adjacent jurisdiction to support Round Rock collector policies.

FIGURE 5.7 - “L” SHAPED COLLECTOR



13. Neighborhood Collectors should be designed with features to encourage appropriate speeds and provide visual indications that these roadways are not for long-distance trips.
14. Collector streets shall be spaced at a maximum of ¼ of a mile, unless natural or man-made features pose constraints.

15. Collectors should be designed to handle up to 10,000 vehicles per day maximum. If projected to exceed this threshold, the facility should be upsized to an arterial facility.

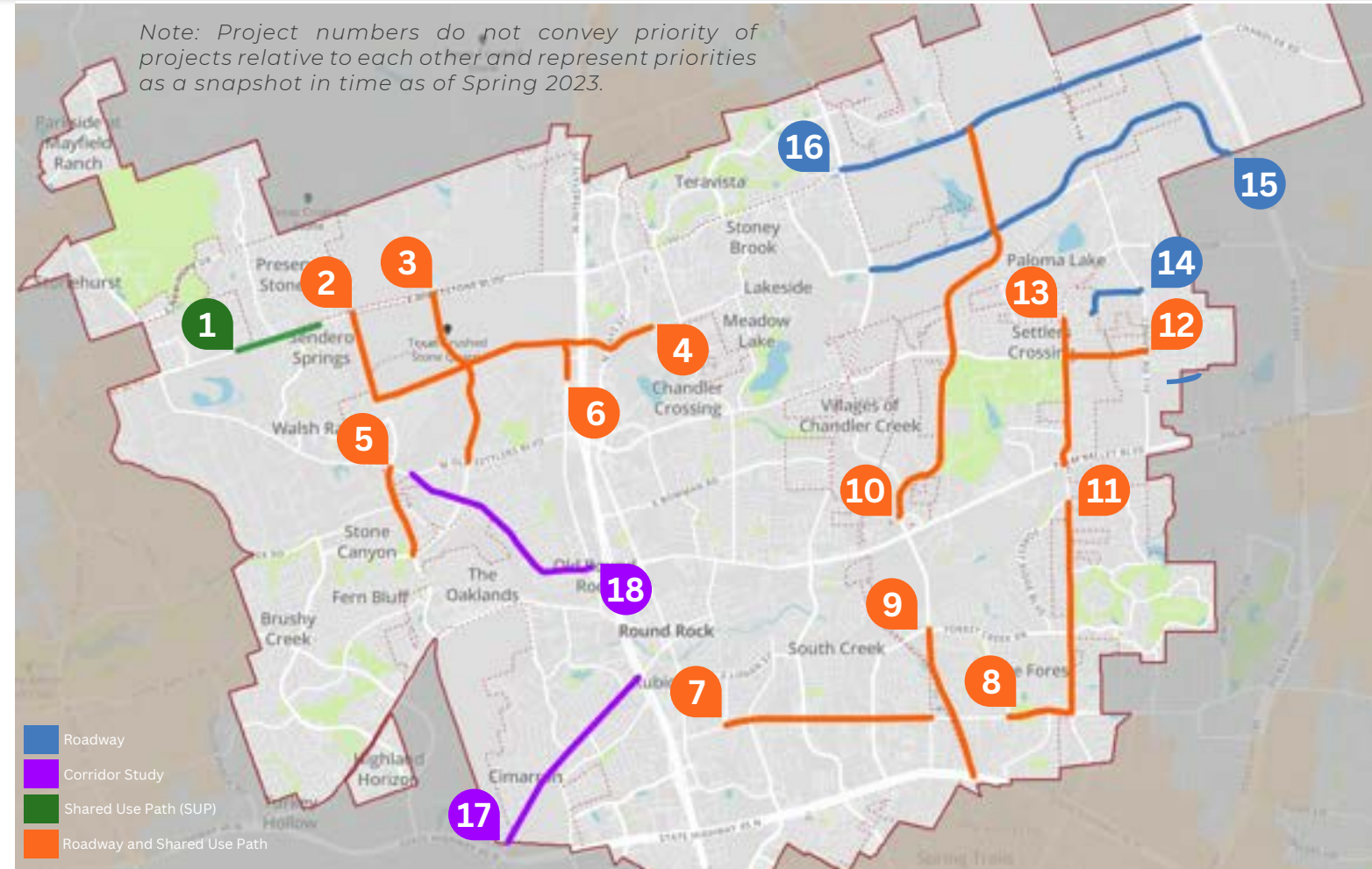
High Priority Roadway and Trail Projects

High priority roadway and trail projects were developed based on evaluating projects that had the greatest impact to connectivity, congestion relief, and serving areas of growth and need based on the travel demand modeling results in Chapter 3 - Updating the Roadway Network (Page 34). **Exhibit 6** illustrates high priority roadway and trail projects with a description of each project. In general, **a strategy of trail system build out is to continue building on the City’s success of constructing shared use paths along arterials as they are designed and completed.**

Where projects are noted as “high priority”, this does not convey a specific order, as the order of project completion is determined based on funding availability and needs on an annual basis as part of CIP programming. These represent projects that are likely to be developed in the next 10-20 years in the City of Round Rock.

In addition to the projects in Exhibit 6, the following **Table 5.2** includes the cumulative list of all roadway projects to complete the Ultimate Roadway Plan, including projects in the Roadway Impact Fee CIP in Greater Round Rock at the time of this plan development. **The projects represent roughly \$2 billion in transportation infrastructure needed to complete the Ultimate Roadway Plan for Round Rock.**

EXHIBIT 6: HIGH PRIORITY ROADWAY AND TRAIL PROJECTS



Note: Project numbers do not convey priority of projects relative to each other and represent priorities as a snapshot in time as of Spring 2023.

- 1** 1431 Shared Use Path connection along roadway to connect existing and planned off-street trails to connect to County Park (no current plans)
- 2** Wyoming Springs extension from Golden Oaks to RM 1431 as a 4 lane roadway (not yet started)
- 3** Creek Bend widening and extension as a 4 lane roadway with a SUP from Old Settlers Blvd to RM 1431
 - 4A:** Eagles Nest Extension from Cypress Blvd to future Chisholm Trail as a 4 lane roadway with a SUP (not yet started)"
 - 4B:** Eagles Nest Extension from future Chisholm Trail to Wyoming Springs as a 4 lane roadway with a SUP (not yet started)
- 4** Wyoming Springs extension from Brightwater Blvd to Sam Bass Rd as a 4 lane roadway with SUP (in design)
- 5** Chisholm Trail widening and extension as a 5 lane roadway with SUP to match existing section (not yet started)
- 6** Gattis School Road widening to a 6 lane roadway with SUP (in design)
- 7** Gattis School Road widening from Via Sonoma Trail to Red Bud Lane as a 6 lane roadway with SUP (in construction)
- 8** Kenney Fort Blvd Section 2 & 3 extension as a 6 lane roadway with shared use path (in construction)
- 9** **10A:** Kenney Fort widening and extension from Joe DiMaggio to Old Settler's Blvd as a 6 lane roadway with SUP (in construction)
10B: Kenney Fort widening and extension from Old Settler's Blvd to CR 112 as a 6 lane roadway with SUP (in design)
10C: Kenney Fort widening and extension from CR 112 to University as a 6 lane roadway with SUP (not yet started)
- 10** Red Bud Ln widening from south of Brushy Creek to Gattis School Rd as a 4 lane roadway with SUP (in design)
- 11** Red Bud Ln widening from US 79/Palm Valley to Paloma Lake Blvd as a 4 lane roadway with SUP (in design)
- 12** Old Settler's Blvd extension from Red Bud Ln to CR 110 as a 6 lane roadway with SUP (in design)
- 13** CR 122 Realignment low water crossing upgrade (not started)
- 14** **15A:** CR 112 widening and realignment from A.W. Grimes to CR 110 to 6 lane roadway (not started)
15B: Avery Nelson extension from eastern end to CR 118 as a 4 lane roadway (not started)
- 15** Widening of University Blvd to a 4 lane section from A.W. Grimes to SH 130 (in construction)
- 16** Corridor Study as part of TMP - For more information, see the Appendix
- 17** Corridor Study as part of TMP - For more information, see the Appendix
- 18**

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS

Roadway Name	From Street	To Street	Project Description	Cost
Arterial C	Wyoming Springs	Deep Wood Dr	4 Lane - Proposed	\$19,400,000
Arterial J	New Hope Rd (Future)	IH 35 SBFR	4 Lane - Proposed	\$28,500,000
Arterial K	University Blvd	Wallin Bradley	4 Lane - Proposed	\$33,500,000
Avery Nelson Pkwy	5015' E of CR 110	CR 118	4 Lane - Proposed	\$20,600,000
Avery Nelson Pkwy	A.W. Grimes Blvd	3580' E of A.W. Grimes Blvd	4 Lane - Enhanced	\$14,000,000
Avery Nelson Pkwy	3580' E of A.W. Grimes Blvd	Kenney Fort Blvd (Future)	4 Lane - Enhanced	\$11,800,000
Avery Nelson Pkwy	Kenney Fort Blvd	CR 110	4 Lane - Enhanced	\$10,200,000
Avery Nelson Pkwy	CR 110	5015' E of CR 110	4 Lane - Proposed	\$12,000,000
Avery Nelson Pkwy	CR 118	Ed Schmidt	4 Lane - Proposed	\$2,000,000
Bratton Ln	IH 35 SBFR	1160' S of Michael Angelo Way	4 Lane - Enhanced	\$53,300,000
Campus Village Dr	Zodiac Ln	Avery Nelson Pkwy	2 Lane - Proposed	\$4,800,000
Chisholm Trl Rd	W Old Settlers Blvd	Sam Bass Rd	4 Lane - Enhanced	\$37,300,000
Chisholm Trl Rd	TMP 3	RM 1431	4 Lane - Proposed	\$13,200,000
Chisholm Trl Rd	RM 1431	CR 173	4 Lane - Proposed	\$19,400,000
Chisholm Trl Rd	3250' N of Wolle Ln	1980' N of Wolle Ln	5 Lane - Enhanced	\$5,000,000
Collector	CR 112	Wallin Bradley	2 Lane - Proposed	\$2,900,000
Collector	O'Connor Dr	McNeil Rd	2 Lane - Proposed	\$13,100,000
College Park	Avery Nelson Rd	1355' N of Old Settlers Blvd	4 Lane - Proposed	\$21,700,000
CR 107	CR 107	University Blvd	6 Lane - Enhanced	\$5,000,000
CR 108	Avery Nelson Pkwy	North	2 Lane - Proposed	\$15,000,000
CR 110	Westinghouse Rd	US 79	6 Lane - Proposed	\$132,900,000
CR 118	University Blvd	Avery Nelson Pkwy	4 Lane - Proposed	\$7,800,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
CR 122	Red Bud Ln	230' SW of Rosalina Loop	4 Lane - Enhanced	\$13,700,000
CR 122	230' SW of Rosalina Loop	100' S of Emilia Ln	3 Lane - Proposed	\$2,500,000
CR 122	100' S of Emilia Ln	100' S of Rosalina Loop	3 Lane - Proposed	\$1,200,000
CR 122	100' S of Rosalina Loop	100' S of Penelope Ct	3 Lane - Proposed	\$3,500,000
CR 172	Hesters Crossing	SH 45	4 Lane - Enhanced	\$4,800,000
CR 173	IH 35 SBFR	3250' N of Wolle Ln	5 Lane - Enhanced	\$2,100,000
Creek Bend Blvd	New Hope Rd (Future)	RM 1431	4 Lane - Proposed	\$24,900,000
Creek Bend Blvd	RM 1431	West End Pl	4 Lane - Enhanced (1/2)	\$13,800,000
Creek Bend Blvd	West End Pl	Camino Del Verdes Pl	4 Lane - Proposed	\$3,500,000
Creek Bend Blvd	Brushy Creek	Wyoming Springs Dr	4 Lane - Enhanced	\$11,100,000
Deepwood Dr	Sam Bass Rd	345' N of RM 620	4 Lane - Proposed	\$19,000,000
Deepwood Dr	345' N of RM 620	RM 620	4 Lane - Enhanced	\$1,400,000
Double Creek Dr	US 79	Sweetgum Ln	4 Lane - Proposed	\$26,300,000
Eagles Nest	Chisholm Trl Rd (Future)	IH 35 NBFR	4 Lane - Proposed	\$12,300,000
Eagles Nest	IH 35 NBFR	Cypress Blvd	4 Lane - Proposed	\$21,500,000
Eagles Nest Dr	Wyoming Springs Dr	Chisholm Trl Rd (Future)	4 Lane - Proposed	\$41,600,000
Eagles Nest Dr	Chisholm Trl Rd (Future)	IH 35 NBFR	4 Lane - Proposed	\$12,300,000
Ed Schmidt Blvd	ETJ Limit	Chandler Rd	4 Lane - Enhanced	\$10,800,000
FM 1431	Sam Bass Rd	1100' W of Mayfield Ranch Blvd	6 Lane - Enhanced	\$24,700,000
FM 1460 (A.W. Grimes Blvd)	Old Settlers Blvd	375' S of Chandler Creek Blvd	6 Lane - Enhanced	\$1,900,000
FM 1460 (A.W. Grimes Blvd)	375' S of Chandler Creek Blvd	1250' N of Tiger Trl	6 Lane - Enhanced	\$1,700,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
FM 1460 (A.W. Grimes Blvd)	1250' N of Tiger Trl	US 79	6 Lane - Enhanced	\$7,000,000
Gattis School Rd	Red Bud Ln	SH 130	4 Lane - Enhanced	\$11,600,000
Gattis School Rd	Windy Park Dr	Red Bud Ln	6 Lane - Enhanced	\$9,000,000
Great Oaks Dr	Sam Bass Rd	Brushy Creek Rd	2 Lane - Proposed	\$8,900,000
Greenlawn Blvd	IH 35 NBFR	SH 45 EBFR	6 Lane - Enhanced (1/3)	\$1,100,000
Hesters Crossing Rd	Dry Creek Dr	IH 35 SBFR	4 Lane - Enhanced (AM)	\$17,300,000
Joe Dimaggio Blvd Extension	Kenney Fort Blvd	US 79	3 Lane - Proposed	\$7,000,000
Kenney Fort Blvd	CR 117	north	4 Lane - Enhanced	\$48,000,000
Kenney Fort Blvd	CR 117	145' N of Haselwood Ln	6 Lane - Proposed	\$15,100,000
Kenney Fort Blvd	CR 117	125' N of Haselwood Ln	6 Lane - Proposed	\$15,100,000
Kenney Fort Blvd	Old Settlers Blvd	2540' S of Old Settler's Blvd	6 Lane - Proposed	\$5,000,000
Kenney Fort Blvd	200' N of Bluffstone Dr	Old Settlers Blvd	6 Lane - Proposed	\$9,200,000
Kenney Fort Blvd	830' S of Gattis School Rd	SH 45	6 Lane - Proposed	\$1,800,000
Kenney Fort Blvd	2540' S of Old Settler's Blvd	4625' N of Chandler Creek Blvd	6 Lane - Proposed (1/2)	\$4,900,000
Kenney Fort Blvd	Old Settler's Blvd	2540' S of Old Settler's Blvd	6 Lane - Proposed (1/2)	\$5,000,000
Kenney Fort Blvd	4625' N of Chandler Creek Blvd	3115' N of Chandler Creek Blvd	6 Lane - Proposed	\$10,700,000
Kenney Fort Blvd	Old Settler's Blvd	2540' S of Old Settler's Blvd	6 Lane - Proposed	\$4,900,000
Kenney Fort Blvd	Chandler Creek Blvd	Joe DiMaggio Blvd	6 Lane - Proposed	\$9,600,000
Kenney Fort Blvd	2540' S of Old Settlers Blvd	Chandler Creek Blvd	6 Lane - Proposed	\$10,700,000
Kenney Fort Blvd	125' N of Haselwood Ln	200' N of Bluffstone Dr	4 Lane - Proposed	\$15,100,000
Kenney Fort Blvd	Chandler Creek Blvd	Joe DiMaggio Blvd	6 Lane - Enhanced	\$9,600,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
Kenney Fort Blvd	200' N of Bluffstone Dr	Old Settlers Blvd	6 Lane - Proposed	\$9,200,000
Kenney Fort Blvd	3115' N of Chandler Creek Blvd	Chandler Creek Blvd	6 Lane - Proposed	\$3,700,000
McNeil Extension	S Mays St	Georgetown St	3 Lane - Existing	\$17,000,000
Medical Center Pkwy	College Park	Seton Pkwy	4 Lane - Proposed	\$1,100,000
N Mays St	540' N of Steam Way	Northwest Dr	4 Lane - Enhanced (AM)	\$3,900,000
N Mays St	350' S of University Blvd	2000' S of University Blvd	4 Lane - Enhanced	\$8,300,000
N Mays St	Paloma Dr	540' N of Steam Way	4 Lane - Enhanced	\$5,500,000
New Hope Rd	1000' E of Wyoming Springs Dr	IH 35 SBFR	4 Lane - Proposed	\$60,800,000
New Hope Rd	Sam Bass Rd	240' W of Lagoon Dr	4 Lane - Enhanced (1/2)	\$16,500,000
New Hope Rd	240' W of Lagoon Dr	Flowstone Ln	4 Lane - Enhanced (1/2)	\$8,200,000
New Hope Rd	Flowstone Ln	1000' E of Wyoming Springs Dr	4 Lane - Proposed	\$11,100,000
Old Settlers Blvd	A.W. Grimes Blvd	Kenney Fort Blvd	6 Lane - Enhanced	\$29,600,000
Old Settlers Blvd	CR 110	SH 130	4 Lane - Proposed	\$20,800,000
Old Settlers Blvd	Red Bud Ln	CR 110	4 Lane - Proposed	\$20,200,000
Old Settlers Blvd	Kenney Fort Blvd	Red Bud Ln	6 Lane - Enhanced	\$28,500,000
Old Settlers Blvd	N Mays St	Sunrise Rd	6 Lane - Enhanced (1/3)	\$14,700,000
Old Settlers Blvd	Sunrise Rd	A.W. Grimes Blvd	6 Lane - Enhanced	\$31,100,000
Red Bud Ln	Guadalajara St	SH 130	4 Lane - Enhanced	\$20,000,000
Red Bud Ln	Forest Ridge Blvd	265' S of Forest Ridge Blvd	4 Lane - Enhanced (AM)	\$12,300,000
Red Bud Ln	Guadalajara St	160' N of Margarita Loop	4 Lane - Proposed	\$7,300,000
Red Bud Ln	265' S of Forest Ridge Blvd	280' S of Woodlawn Ln	4 Lane - Enhanced	\$21,500,000
Red Bud Ln	160' N of Margarita Loop	CR 117	4 Lane - Enhanced (1/2)	\$5,600,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
Red Bud Ln	280' S of Woodlawn Ln	130' S of Old Oaks Dr	4 Lane - Enhanced	\$5,500,000
Red Bud Ln	CR 117	Old Settlers Blvd	4 Lane - Enhanced (1/2)	\$4,700,000
Red Bud Ln	Old Settlers Blvd	170' N of Joseph St	4 Lane - Enhanced	\$8,500,000
Red Bud Ln	315' S of Country Dr	Wildflower Trl	4 Lane - Enhanced	\$1,600,000
Red Bud Ln	170' N of Joseph St	160' S of Covered Wagon Trl	4 Lane - Enhanced	\$3,500,000
Red Bud Ln	Wildflower Trl	295' S of Wildflower Trl	4 Lane - Enhanced	\$900,000
Red Bud Ln	160' S of Covered Wagon Trl	US 79	4 Lane - Enhanced	\$7,800,000
Red Bud Ln	295' S of Wildflower Trl	840' N of Forest Creek Dr	4 Lane - Enhanced	\$700,000
Red Bud Ln	840' N of Forest Creek Dr	340' S of Forest Creek Dr	4 Lane - Enhanced	\$300,000
Red Bud Ln	340' S of Forest Creek Dr	Gattis School Rd	4 Lane - Enhanced	\$1,200,000
Redbud Ln	Gattis School Rd.	Wilke Ridge Ln	4 Lane - Enhanced	\$11,400,000
RM 1431	1100' W of Mayfield Ranch Blvd	850' E of Stone Oak Dr	6 Lane - Enhanced	\$5,200,000
RM 1431	850' E of Stone Oak Dr	5195' E of Stone Oak St	6 Lane - Enhanced	\$5,200,000
RM 1431	5195' E of Stone Oak St	IH 35 SBFR	6 Lane - Enhanced	\$7,000,000
RM 620	Deepwood Dr	IH 35 SBFR	6 Lane - Enhanced	\$12,600,000
RM 620	Deepwood Dr	IH 35 SBFR	6 Lane - Enhanced	\$9,200,000
S Mays St	Nash St	Gattis School Rd	4 Lane - Enhanced (AM)	\$4,300,000
S Mays St	McNeil Dr	Nash St	4 Lane - Enhanced	\$5,600,000
S Mays St / Dell Way	Gattis School Rd	Greenlawn Blvd	4 Lane - Enhanced (AM)	\$21,700,000
Sam Bass Rd	RM 1431	Wyoming Springs Dr	6 Lane - Enhanced	\$66,600,000
Sam Bass Rd	Wyoming Springs Dr	W Old Settlers Blvd	6 Lane - Enhanced	\$5,700,000
Sam Bass Rd	FM 3406	Desert Willow Dr	3 Lane - Enhanced	\$3,900,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
Sam Bass Rd	Desert Willow Dr	Creek Bend Blvd	3 Lane - Enhanced	\$2,100,000
Sam Bass Rd	Creek Bend Blvd	Hairy Man Dr	3 Lane - Enhanced	\$2,400,000
Sam Bass Rd	Hairy Man Rd	Chisholm Trl Rd	3 Lane - Enhanced	\$14,800,000
Schultz	SH 45 EBFR	290' S of SH 45 EBFR	4 Lane - Enhanced	\$11,800,000
Schultz	290' S of SH 45 EBFR	255' S of Autumn Sage Way	4 Lane - Enhanced	\$15,100,000
Seton Pkwy	2400' N of Avery Nelson Blvd	Avery Nelson Blvd	3 Lane - Existing	\$1,800,000
Sunrise Rd	University Blvd	Hidden Valley Dr	4 Lane - Enhanced	\$4,800,000
Sunrise Rd	Hidden Valley Dr	325' S of Eagles Nest St	4 Lane - Enhanced (AM)	\$1,600,000
Sunrise Rd	325' S of Eagles Nest St	Applegate Cir	4 Lane - Enhanced (AM)	\$900,000
Sunrise Rd	Applegate Cir	Lake Dr	4 Lane - Enhanced (AM)	\$700,000
Sunrise Rd	Lake Dr	545' S of Lake Dr	4 Lane - Enhanced (AM)	\$300,000
Sunrise Rd	545' S of Lake Dr	Old Settlers Blvd	4 Lane - Enhanced (AM)	\$1,200,000
Sunrise Rd	Old Settlers Blvd	Country Aire Dr	4 Lane - Enhanced (AM)	\$800,000
Terravista Club Dr	Fairmeadow Dr	A.W. Grimes Blvd	4 Lane - Enhanced	\$16,100,000
Tiger Trl	Buckeye Ln	A.W. Grimes Blvd	4 Lane - Enhanced	\$8,700,000
University Blvd	SH-130	CR 100	6 Lane - Enhanced	\$32,400,000
University Blvd	University Oaks Blvd	335' W of Sunrise Dr	6 Lane - Enhanced	\$17,300,000
University Blvd	335' W of Sunrise Dr	A.W. Grimes Blvd	6 Lane - Enhanced	\$53,300,000
University Blvd	A.W. Grimes Blvd	1830' E of A.W. Grimes Blvd	4 Lane - Enhanced	\$8,200,000
University Blvd	1830' E of A.W. Grimes Blvd	Lunata Way	4 Lane - Enhanced	\$17,000,000
University Blvd	Lunata Way	Kenney Fort Blvd (Future)	4 Lane - Enhanced	\$4,300,000

TABLE 5.2 ULTIMATE ROADWAY PLAN PROJECTS (CONTINUED)

Roadway Name	From Street	To Street	Project Description	Cost
University Blvd	Kenney Fort Blvd	SH 130	4 Lane - Enhanced	\$8,500,000
US 79	IH 35 NBFR	AW Grimes	6 Lane - Enhanced	\$16,400,000
US 79	IH 35 NBFR	200' E of Red Bud Ln	6 Lane - Enhanced	\$8,200,000
US 79	AW Grimes	Red Bud Ln	6 Lane - Enhanced	\$12,800,000
US 79	AW Grimes	Red Bud Ln	6 Lane - Enhanced	\$9,200,000
US 79	200' E of Red Bud Ln	1690' E of Red Bud Ln	6 Lane - Enhanced	\$1,600,000
W Old Settlers Blvd	Sam Bass Rd	Creek Bend Blvd	6 Lane - Enhanced	\$14,600,000
W Old Settlers Blvd	Creek Bend Blvd	Chisolm Trail Rd	6 Lane - Enhanced	\$25,400,000
W Old Settlers Blvd	Chisolm Trl Rd (Future)	IH 35 NBFR	6 Lane - Enhanced	\$9,600,000
Wallin Bradley	College Park Dr	Avery Nelson Blvd	3 Lane - Proposed	\$9,500,000
Wallin Bradley	College Park (Future)	A.W. Grimes Blvd	4 Lane - Proposed	\$9,000,000
Wallin Bradley	A.W. Grimes Blvd	Kenney Fort Blvd (Future)	4 Lane - Proposed	\$20,800,000
Westinghouse Rd	IH 35 SBFR	IH 35 NBFR	6 Lane - Enhanced	\$9,200,000
Westinghouse Rd	IH 35 SBFR	IH 35 NBFR	6 Lane - Enhanced	\$9,200,000
Wyoming Springs	RM 620	O'Connor Dr	4 Lane - Proposed	\$17,000,000
Wyoming Springs Dr	RM 1431	390' N of Goldenoak Cir	4 Lane - Proposed	\$17,500,000
Wyoming Springs Dr	Alondra Way	Eagles Nest Dr (Future)	4 Lane - Enhanced	\$5,200,000
Wyoming Springs Dr	390' N of Goldenoak Cir	Alondra Way	4 Lane - Enhanced (1/2)	\$1,800,000
Wyoming Springs Dr	Sam Bass Rd	Creek Bend Blvd	4 Lane - Proposed	\$26,400,000
				\$1,962,100,000

High Priority Intersection Projects

In working with staff in development of the TMP, several bottleneck intersections were identified, and traffic counts were collected at locations throughout the City. Both short-term and long-term improvements were identified and documented below. For Long-term improvements, an Intersection Control Evaluation tool was developed to evaluate and rank out various alternatives based on expected future traffic from the Ultimate Roadway Plan modeling. These improvements are anticipated to be further in the future, but are helpful for determining if additional right-of-way may be needed and if more significant innovative intersections or grade separations may be necessary to accommodate anticipated future demand.

Short-Term Intersection Improvements

Five intersections within Round Rock were evaluated for short term improvements at bottlenecks identified by the City. Traffic counts were collected in spring 2023 and evaluated for performance in Synchro software. Existing deficiencies were noted at several locations. The improvements were recommended as short-term improvements for consideration in future CIP programs and are displayed below in **Table 5.3**.

TABLE 5.3 SHORT-TERM INTERSECTION RECOMMENDATIONS

Intersection	Recommendation
Old Settlers at AW Grimes	Add Right Turn Overlap signal heads for northbound and eastbound approaches
US 79 at Red Bud	Consider increasing cycle length to 180 seconds to clear queues Evaluate removal of split phasing on Red Bud Lane
US 79 at AW Grimes	Evaluate closure of driveway on southbound approach due to observed high incidence of crashes
Old Settlers at Sunrise	Remove permissive left turn phasing
Old Settlers at Mays	Extend Southbound Right Turn Explore lead/lag turns instead of split phasing on Mays Street

Long-Term Intersection Improvements

Six intersections were evaluated for long-term improvements to evaluate possible higher capacity intersection types at various bottlenecks in the City. A process was developed to evaluate intersections called Intersection Control Evaluation (ICE) based on methodologies established by the FHWA and implemented in other communities. Full results of the alternatives analysis with scoring can be found in the Appendix. **Table 5.4** represents the recommended long-term solution, based on projected increased volumes from Travel Demand Modeling in Chapter 4.

TABLE 5.4 LONG-TERM INTERSECTION RECOMMENDATIONS

<i>Intersection</i>	<i>Recommendation</i>	<i>Other Options Evaluated</i>
Old Settlers at AW Grimes	Implement dual left turn lanes and right turn lanes on all approaches	Grade separation, Continuous Flow Intersection
US 79 at Red Bud	Implement dual left turn lanes and right turn lanes on all approaches	Grade separation of US 79 over Red Bud, Grade separation of Red Bud over US 79
US 79 at AW Grimes	Implement a grade separated intersection	N/A
Old Settlers at Sunrise	Remove acceleration lanes on all approaches and widen for dual lefts and right turns on all approaches	Continuous flow intersection
Old Settlers at Mays	Displaced Left Turns on Mays Street at Old Settler's Blvd	Grade separation of Mays over Old Settler's (grade separation other direction determined not feasible)
University at County Road 107	Relocate southbound approach per the Ultimate Roadway Plan and a continuous green "T" intersection signal for northbound approach	Traditional signal with 4-leg approach, determined not feasible due to the anticipated queues westbound spilling into SH 130 interchange

Technology and ITS

The City is using smart technology to monitor signals and evaluate performance metrics for the system using GridSmart. The Traffic Management Center has been completed and operates daily to observe traffic and help troubleshoot issues. It is recommended that the City continue to invest in citywide communications and infrastructure for ITS. It is anticipated that the cost is \$30 Million to complete improvements desired.

Safety Projects

A Safety Action Plan (SAP) was developed as part of the TMP process, which includes a detailed analysis of crashes in the City and development of a High Injury Network (HIN). Several projects were identified with safety countermeasures to address crashes in the City. Crashes occurring along facilities with other jurisdictional authority will require continued coordination for improvement.

This safety analysis follows the industry best practices of addressing fatal and injury-related crashes by targeting the roads with the highest rate of crashes. The methodologies used to identify these roads, as well as the recommended safety improvements, are identified in the SAP for the City to implement after the adoption of the TMP. The SAP is viewable in the **Appendix**.

Crash History

The data used to develop this SAP for the City of Round Rock was pulled from the Crash Records Information System (CRIS) Database for January 1, 2017 – December 31, 2021. It is important to note that this data was filtered to exclude crashes that occurred on the main lanes of IH-35 and SH-45. During this study period, 12,845 crashes were reported by local police, 894 of which resulted in a fatality, serious injury, or minor injury (KABs). **Figure 5.8** below displays the crash severity of the studied crashes.

A heat map of all crashes and the locations of fatalities in the city during this study period is shown in **Exhibit 6** on the following page. Based on this map, it can be concluded that the highest crash clusters are in the University Blvd east of IH-35, US-79 Between IH-35 and AW Grimes, and Gattis School Rd at AW Grimes areas of the City.

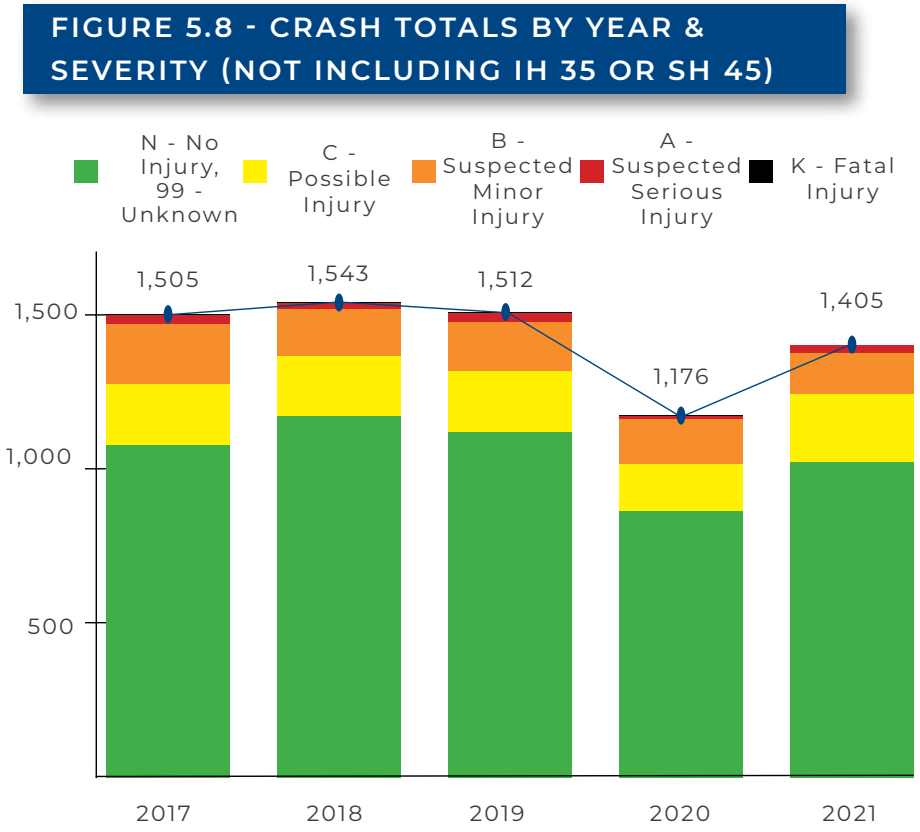


EXHIBIT 6: CITYWIDE CRASH HEAT MAP

Source: TxDOT CRIS Database (2017-2021)



Citywide High-Injury Network

The collision data used to develop the HIN was pulled from the Crash Records Information System (CRIS) for January 1, 2017 – December 31, 2021, for the City of Round Rock’s roadway network. The following High-Injury Network was developed to identify the roads and intersections that have higher rates of crashes when compared to their existing volumes within the city.

In total, the Round Rock HIN encompasses 21.76 miles of road, and has a total of 538 KAB crashes (representing over 60% of citywide KABs), and 6 fatal crashes (representing over 46% of citywide fatal crashes). KAB crashes include fatal, serious, and non-incapacitating injuries.

From the HIN, ten locations (six segments and four intersections) were selected for further study. The selected segments were between 0.22 and

0.35 miles in length. They were chosen for study based on a number of factors including high crash segment rate, high number of injuries/fatalities, and lack of current construction planned to improve conditions. **Tables 5.5** and **5.6** show the HIN Top 10 segments and intersections respectively. **Exhibit 7** is a visual representation of the Round Rock HIN Top 10 Locations including locations where a fatal crash occurred.

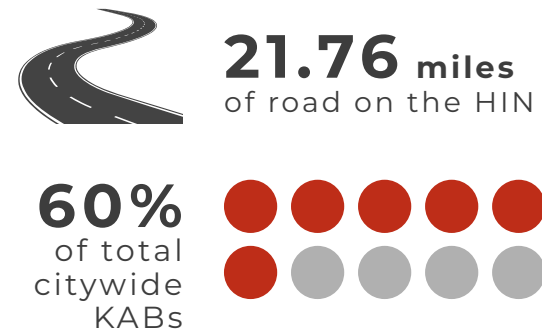


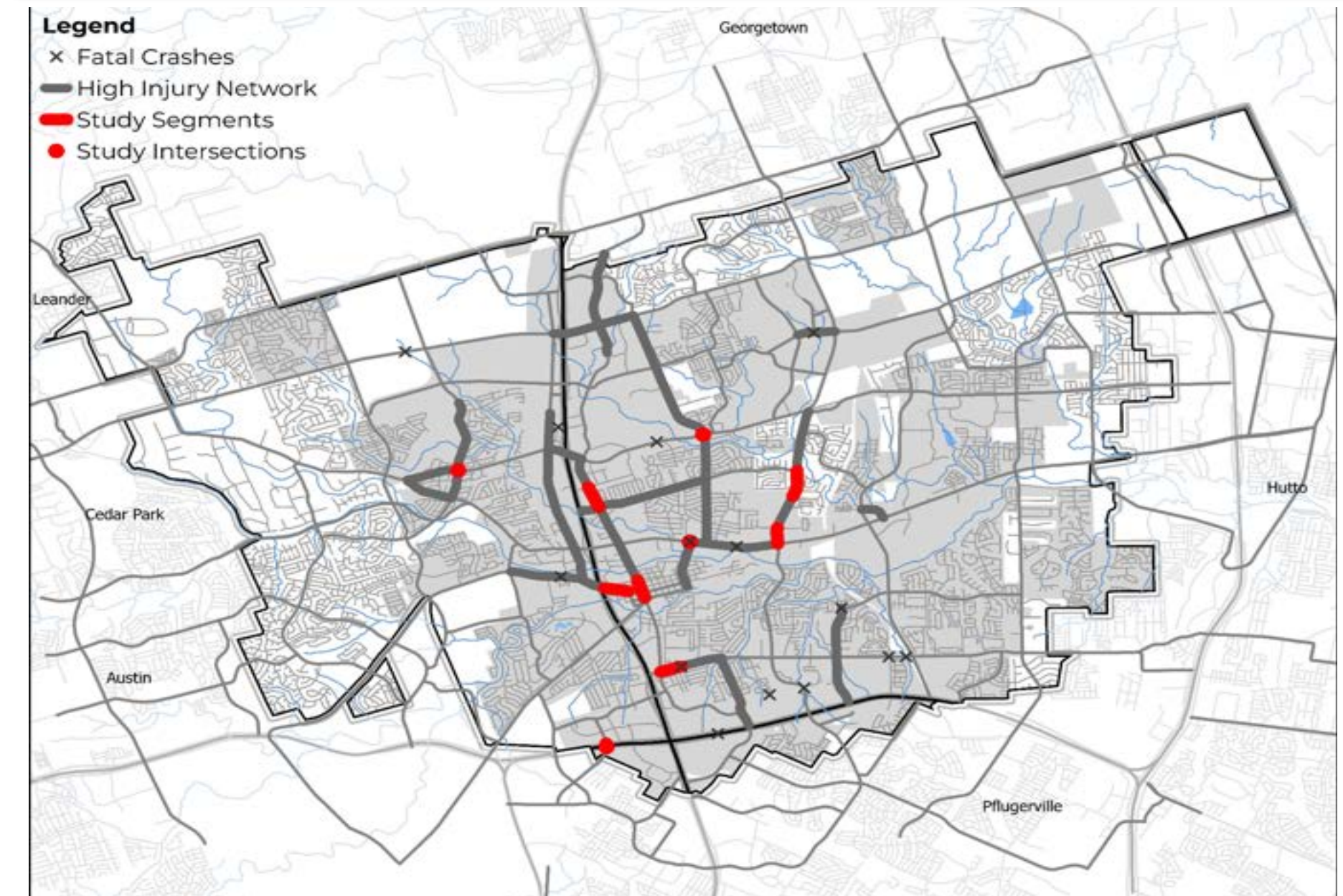
TABLE 5.5 STUDY SEGMENTS

Street Name	Limits From	Limits To	Length (Mi)	Fatality?	KABs	Crash Segment Rate
Gattis School Rd	Mays St	Surrey St	0.22	1	3	34.12
AW Grimes Blvd	Plateau Vista Blvd	US 79	0.21	-	17	178.72
N Mays St	Anderson Ave	Bagdad Ave	0.24	-	9	145.83
Round Rock Ave	I35 SBFR	Brown St	0.25	-	6	139.15
N Mays St	Texas Ave	Bowman Rd	0.29	-	10	92.62
AW Grimes Blvd	Tiger Trail	Timberline	0.35	-	7	44.94

TABLE 5.6 STUDY INTERSECTIONS

Street A	Street B	Fatality?	KABs
Georgetown	US 79	1	9
AW Grimes Blvd	Old Settlers	-	7
Creek Bend	Old Settlers	-	3
La Frontera Blvd	I 45 EBFR	-	2

EXHIBIT 7: SAFETY ACTION PLAN STUDY LOCATIONS



Safety Action Plan

With the data-driven analysis completed through the HIN development and project identification, the final step of developing the SAP is to create an action plan for next steps. With this new list of projects and dataset in hand, the City of Round Rock identified the following actions displayed in **Table 5.7** to continue progress on safety citywide:

TABLE 5.7 ACTION PLAN

Objective	Action	Timeframe
Publicly commit to the goal of reducing roadway fatalities & injuries.	Pass a resolution at City Council that commits the City of Round Rock to significantly reduce fatal & severe crashes by 2045	Short-term, 1-2 years
Move forward with identified countermeasure projects.	Obtain funding for recommended countermeasures	Short-term, 1-2 years
	Return after construction for updated data	Long-term, 8+ years
Continue to study and update the HIN.	Conduct more countermeasure studies along HIN roads	Medium-term, 3-8 years
	Update the HIN regularly (every 2-3 years) as more crash data becomes available	Medium-term, 3-8 years, Ongoing
Develop a method for reporting on safety progress.	Partner with Communications to create regular safety program reporting	Short-term, 1-2 years, Ongoing

Transit Systems

Recommendations for the transit system are largely taken from the 2022 Transit Development Plan (TDP) and adapted in the Transportation Master Plan. The City is a member of Capital Metro Transit Authority (CMTA) and currently has fixed route services for several routes as shown in **Figure 5.9**. The following are the recommendations from the TDP adopted in 2022 and incorporated in the Transportation Master Plan.

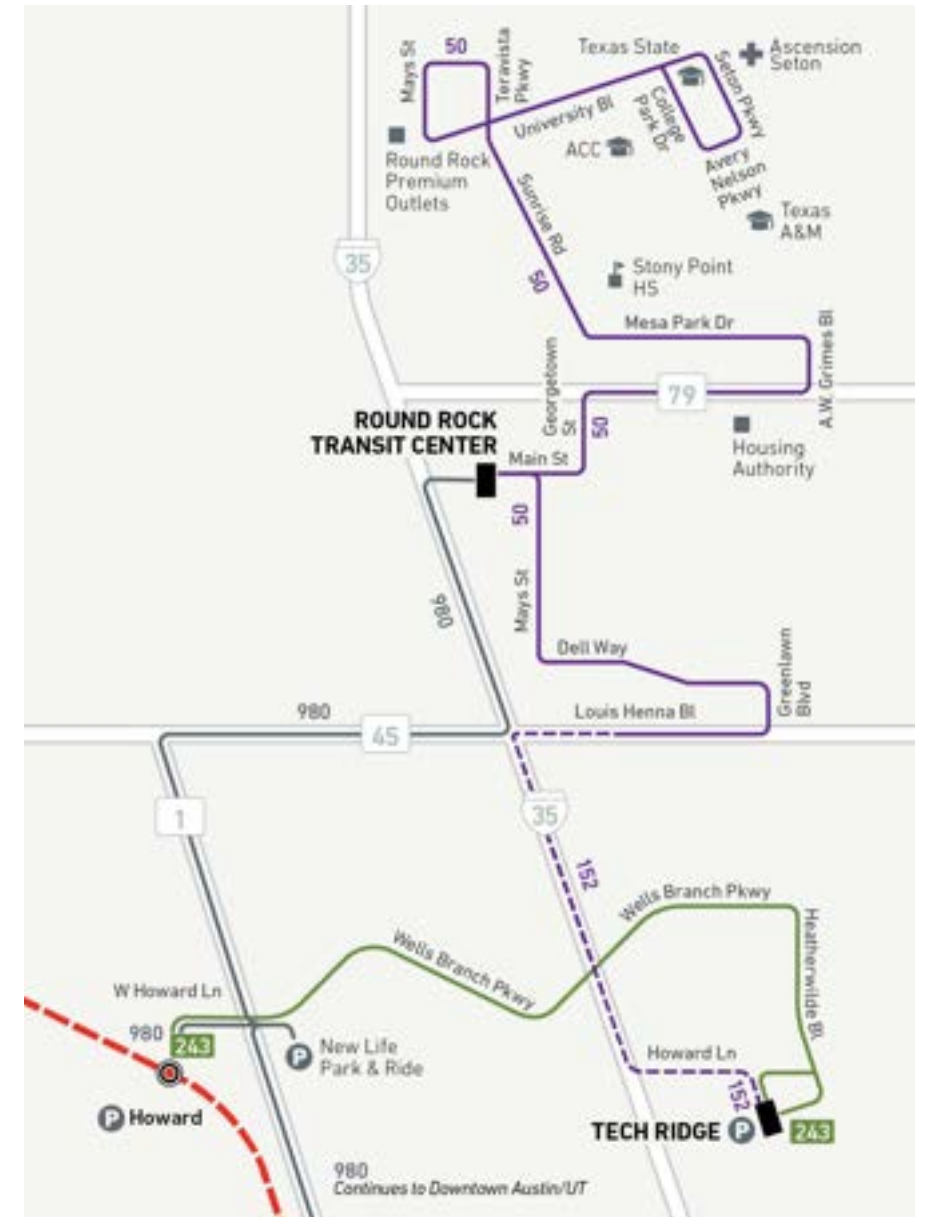
Fixed Route Services

It is recommended that the City of Round Rock continue offering fixed route service as the microtransit service begins and data is collected on usage of the microtransit system in the short-term. The following routes are recommended to be maintained: North Round Rock, Tech Ridge, and Route 980 as shown in **Figure 5.9**.

Microtransit

The City of Round Rock is moving forward with an initial phase of microtransit on-demand service with a 3rd party provider as of the development of this plan. After the first year, the current plan is to expand this service citywide to serve residents and also provide sufficient coverage for ADA users with wheelchair accessible vehicles.

FIGURE 5.9 - CURRENT TRANSIT SERVICES



Corridor Studies

The Transportation Master Plan selected the Sam Bass and McNeil corridors for study due to the constrained nature of these corridors due to limited ROW and adjacent land being developed for the majority of these corridors. The 2017 version of the Ultimate Roadway Plan calls for both of these roads to have enhanced capacity (additional lanes), but these widenings were determined to likely be infeasible. These corridors are both congested, however, so a more detailed assessment of capacity, safety, and multimodal enhancements were assessed and targeted public feedback conducted to determine long term solutions for these corridors. This corridor study approach could be replicated on other constrained corridors in the City with similar constrained characteristics. The corridor studies mentioned below are viewable in the **Appendix**.

Sam Bass Rd

The Sam Bass Road corridor limits are from Wyoming Springs Drive to IH-35 Southbound Frontage Road (SBFR), which is approximately 2.19 miles in length. Sam Bass Road is a 2-lane undivided facility from Old Settlers Boulevard to Galloping Road, and a 4-lane undivided facility from Galloping Road to IH-35 SBFR. The posted speed limit along the corridor is 35 mph and is classified as a 4-Lane Enhanced Facility on the 2017 TMP. The existing land use along the study corridor is mostly small-scale neighborhood commercial (**Figure 5.10**).

After conducting existing field observations, four intersections along the corridor were selected for additional operational and safety analysis:

- A. Creek Bend Boulevard (Signalized)
- B. Chisholm Trail Road (Signalized)
- C. Hairy Man Road (All-way Stop Controlled)
- D. Old Settlers Road (Two-way Stop Controlled)

FIGURE 5.10 - SAM BASS EXISTING LAND USE & STUDY RECOMMENDATIONS



McNeil Rd

McNeil Road is a 4-lane undivided facility throughout the corridor. Located in southeast Round Rock, the McNeil Road corridor study limits are from the City Limits to Mays Street, which is approximately 2.42 miles in length. Existing land uses in the area are mostly residential with the Round Rock Greenbelt extending off of CR 172 (**Figure 5.11**). The posted speed limit is 45 mph, from the City Limits to CR 172 and 40 mph from CR 172 to IH-35. This section of McNeil Road is classified as a 6 Lane Enhanced Facility according to the Round Rock Transportation Master Plan.

Five intersections along the corridor were selected for additional operational and safety analysis. The following outlines the corridor intersections and traffic control:

- A. CR 172 (Signalized)
- B. Deep Wood Drive (Two-way Stop Controlled)
- C. St Williams Street (Signalized)
- D. Round Rock W Drive (Signalized)
- E. McNeil Road & IH-35 Interchange (Signalized)

FIGURE 5.11 - MCNEIL RD EXISTING LAND USE & STUDY INTERSECTIONS

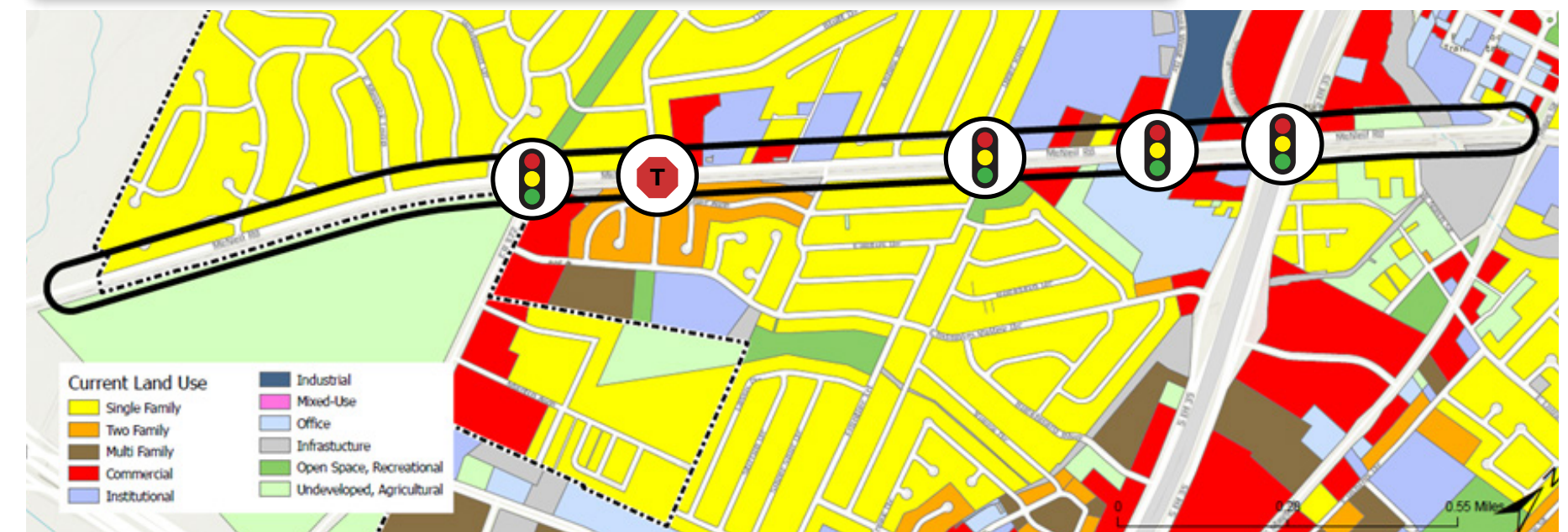
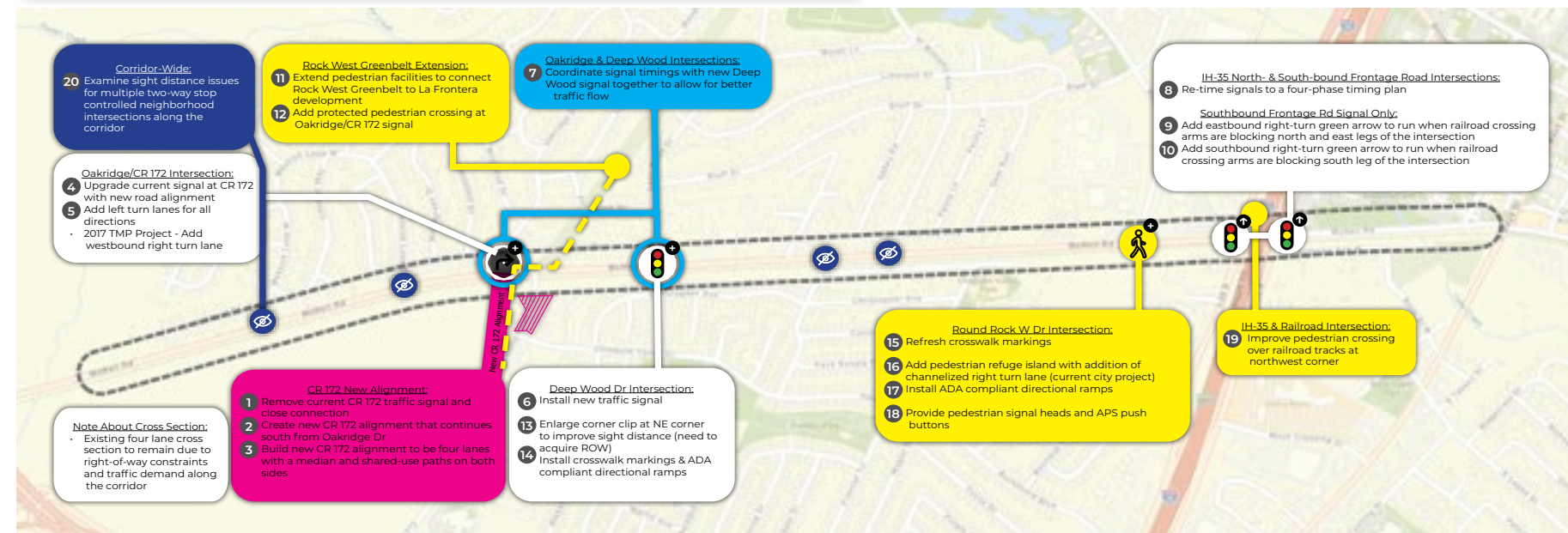


FIGURE 5.12 - SAM BASS RD RECOMMENDATIONS MAP



FIGURE 5.13 - MCNEIL RD RECOMMENDATIONS MAP



Chapter 6

Conclusions and Actions



Round Rock Transportation Master Plan

Policy Summary

This chapter summarizes all the recommendations into a chart with actionable timeframes and their relationship to the plan goals and objectives in the Transportation Master Plan applicable to each action. Recommendations are grouped into policies, projects, and programs. The actions included in this Chapter are intended to be a road map for implementation of policies, projects, and programs in the short and medium term to make progress toward the TMP's goals and objectives as a way to measure progress.

Goal	Abbreviation
Integrate trails and transit in the plan	T
Increase safety measures in transportation planning	S
Direction on updated policies and design standards	D
Improve bottlenecks in the City	B
Preserve right-of-way for full network build-out.	P
Plan for collectors and improved connectivity requirements.	C



Integrate trails and transit into the plan



Increase safety measures in transportation planning




Direction on updated policies and design standards



Improve bottlenecks in the City



Preserve right-of-way for full network build-out



Plan for collectors and improved connectivity requirements

Policies		
Action #	Description	Plan Goal
A1	Require Right-of-Way consistent with the Ultimate Roadway Plan for future infrastructure needs, to be superseded by any approved schematic plan that has been approved by the agency with jurisdiction on a roadway.	P, C
A2	Require right of way at intersections for turn lanes for a minimum of 200' from the intersection consistent with Table 4.2.	P, B
A3	Update the Transportation Design and Construction Standards to include cross sections to match the ultimate roadway plan right-of-way and add context sensitive urban street sections for application in Mixed-Use Greenfield and Large Lot Zoning Districts.	P, C, D, T
A4	Add streetscape and landscaping standards to the DACS for street beautification on City streets.	D, S
A5	Develop requirements for when alternative street design may be used in the DACS.	D, T
A6	Update collector street requirements in the City Code.	C, D
A7	Update collector street design in the DACS for both primary collectors and neighborhood collectors.	C, D
A8	Present the Safety Action Plan to council for consideration of safety related goals.	S, D

Projects		
Action #	Description	Plan Goal
B1	Incorporate shared use paths into arterial project construction with connections to trails that cross these facilities.	P, T
B2	Implement short-term and long-term intersection improvements recommended in Table 6.1 and 6.2.	B
B3	Determine which projects to be implemented from the McNeil and Sam Bass corridor studies as part of CIP development process	S, D, B
B4	Submit safety projects identified in the Safety Action Plan to CAMPO for consideration in the regional SS4A Safety Action Plan.	S, T
B5	Implement high priority roadway capacity projects.	B

Programs		
<i>Action #</i>	<i>Description</i>	<i>Plan Goal</i>
C1	Evaluate effectiveness of microtransit program after initial deployment to determine appropriate transit services in the City.	T, D
C2	Continue to invest in technology for active management of the transportation system, including building communications and ITS infrastructure.	B, S
C3	Complete an update of the 2018 Roadway Impact Fee study and assess collection rates with City Council.	D
C4	Evaluate the high injury network on a regular basis, approximately every 2-3 years.	S
C5	Develop a way to report on safety progress in the City based on crash trends and project progress.	S, D
C6	Determine if any high priority projects are good candidates for grant funding through TxDOT, CAMPO, or IIJA programs and submit projects, if appropriate.	D