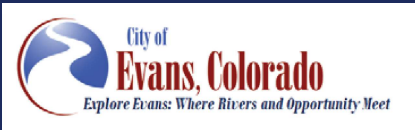


CITY OF EVANS MULTI-MODAL TRANSPORTATION MASTER PLAN



Provided by:

FEHR & PEERS

APRIL 2022



ACKNOWLEDGEMENTS

MASTER PLAN STEERING COMMITTEE

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Kalen Myers, Planning Commission
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Tammy Mortenson, City Council Ward 2
Kent Henson, Assistant Superintendent of Support Services, Greeley-Evans Weld County School District 6
Michael Thuener, Resident at-large

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Allison Moeding, Economic Development Manager
Katelyn Puga, City Planner
Anna Jerub, GIS Administrator
Heather Utrata, Community Development Technician and Photographer
Jen Baiamonte, Recreation Events and Facilities Operations Manager
Kristen Wolf, Recreation Programs Manager
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Rick Brandt, Chief of Police
Jacque Troudt, Finance Director
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Chlose Bennett, Network and Systems Administrator
Anna Jereb, GIS Administrator

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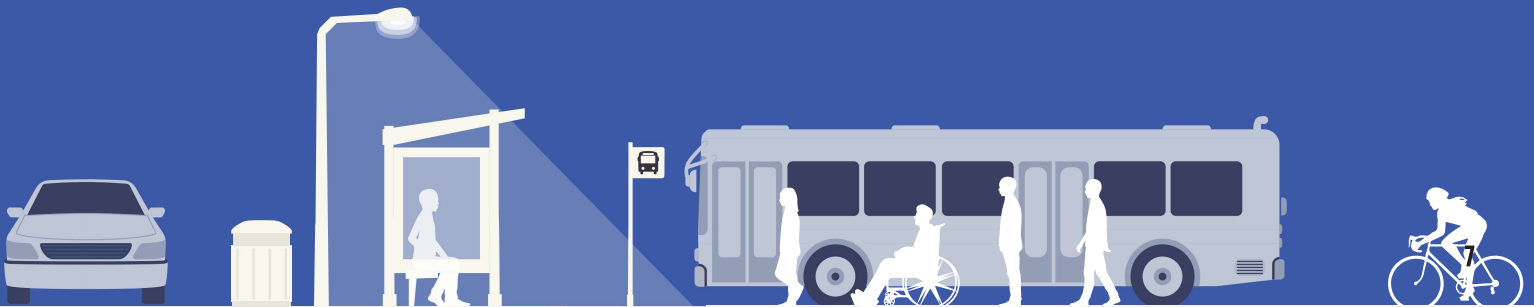
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CHAPTER 1 INTRODUCTION





INTRODUCTION

WHY DID EVANS UNDERTAKE A TRANSPORTATION PLAN?

The current City of Evans Transportation Master Plan was adopted in 2004. At the time, the community sought to provide a transportation network that would accommodate anticipated travel demand for 2030. By 2020, the horizon year of the 2004 plan was approaching and the City identified a need to update its mobility plan. This update to the Transportation Plan, which was named the City of Evans Multi-Modal Transportation Master Plan (MMTMP), was undertaken as part of the citywide Master Plan update. The Master Plan re-envisioned the future of Evans and identified a land use plan that will allow the community to accommodate growth and maintain a high quality of life. This MMTMP is intended to complement the Master Plan by identifying a future mobility network that will meet the transportation needs of Evans in 2045 and provide community members with options to travel by vehicle, transit, bicycle, or on foot. Moreover, as communities in Northern Colorado grow, there is an increasing need for collaboration to ensure regional mobility needs are met. The MMTMP development process included input from surrounding communities to ensure Evans is a partner in advancing connectivity across the region.

WHAT HAS CHANGED SINCE THE PREVIOUS TRANSPORTATION PLAN?

Evans has grown as a community since the previous transportation plan. At the time, there were approximately 15,000 residents compared to more than 21,000 today. The 2004 Plan included a number of recommendations for transportation infrastructure improvements that have since either been implemented or are currently in the planning and design process. Significant investments have included construction of the 23rd Avenue extension from 37th Street south to 42nd Street, the widening of 47th Avenue from 32nd Street to 37th Street (scheduled for completion in 2021), design of the 37th Street widening from 35th Avenue to 47th Avenue, and construction of the initial segment of the Evans Ditch Trail. The MMTMP has carried forward recommendations from the 2004 Transportation Plan that were determined to still be valuable for fulfilling existing and future connectivity needs.

MULTI-MODAL TRANSPORTATION MASTER PLAN ORGANIZATION

MMTMP PLANNING PROCESS



COMMUNITY UNDERSTANDING

The MMTMP begins with a review of existing conditions that shows how the transportation network in Evans currently functions and highlights potential future mobility needs. The mobility future of Evans is informed by both community input and through analysis of future travel demand. Chapter 3 summarizes the public outreach that was conducted during the planning process and Chapter 4 outlines the future conditions of Evans as determined through growth forecasts for the community and emerging mobility technologies that have implications for how resident travel patterns may shift in the coming years.

GOALS AND PERFORMANCE MEASURES

Based on the foundational analysis conducted through the existing and future conditions analysis, as well as community outreach, it was found that regional connectivity is a core need for Evans. As the community grows, it will continue attracting new residents who work outside of Evans in Weld and Larimer Counties, for example, and have a need for regional travel. Given the growing need for integrating its transportation network with the wider region, the Evans MMTMP leverages a set of goals from the North Front Range Metropolitan Planning Organization's (NFRMPO) Regional Transportation Plan to establish the community's own transportation vision. In order to achieve these goals, the MMTMP includes a performance measures framework in Chapter 6 that outlines metrics for tracking MMTMP implementation progress, benchmarks for each metric that communicate how the transportation network performs today, and performance targets for 2025, 2035, and 2045.

TRANSPORTATION PLAN PROJECTS

The MMTMP planning process involved collaboration between the project team, City staff, key stakeholders, and the public to develop a set of transportation infrastructure projects that will accommodate future travel demand while meeting the MMTMP goals. To ensure that recommendations align with future needs, the potential MMTMP projects were evaluated using a travel demand model to test potential scenarios.

The planning team examined whether the volume of travel generated by future land uses could be met with the already planned roadway capacity improvements being undertaken in Evans, or if additional investments would be needed to ensure the community can maintain strong connectivity in the future. Details and results of the scenario testing are provided in Chapter 7. The recommended transportation projects are divided into three future networks: the City of Evans roadways, the Active Transportation ('active transportation' is defined as travel by foot, bicycle, or assistive mobility device) network of sidewalks, bicycle lanes, and trails, and a proposed transit network that shows a vision for how Greeley-Evans Transit service could be transformed to serve more of Evans.

FUNDING AND IMPLEMENTATION

The MMTMP concludes with a financial plan for realizing the future transportation network for Evans. This plan provides an outlook for the transportation funding Evans can expect through 2045 along with the cost of fully implementing the recommended projects. This chapter includes guidance on pursuing additional funding so that MMTMP implementation is not restricted to only what can be achieved using anticipated revenues. The final chapters of the MMTMP feature a set of programs and policies that will support plan implementation and specific next steps for implementation, including project phasing.

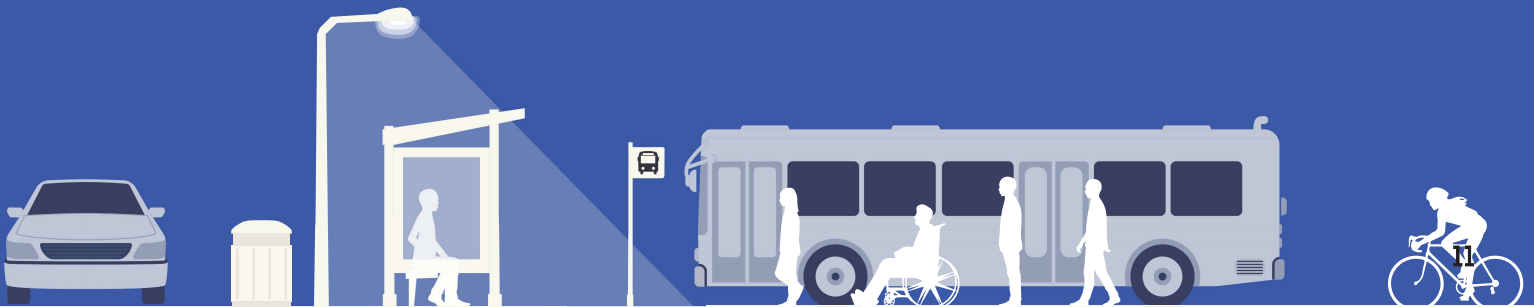
TRANSPORTATION OPPORTUNITIES

As Evans looks to the future of the community, there are numerous opportunities for supporting the future land use vision laid out in the Evans Master Plan through transportation investments. For example, with anticipated growth south of the Platte River, the City will likely need additional connectivity to the south and to the west. Opportunities explored in this MMTMP include a 35th Avenue extension south of 49th Street with a bridge over the South Platte River, trail connectivity along the Platte and Big Thompson Rivers that provide access to regional non-motorized corridors, and support for enhanced community livability by pursuing greater sidewalk connectivity and comfortable conditions for walking and bicycling. These mobility enhancements would also provide connections between Greeley and Evans, which would serve the significant demand for travel between the two communities.

The Master Plan is the result of the Evans community collaborating to identify a common vision for the City and to establish how that vision will be achieved. The MMTMP will play a critical role in ensuring that Evans has the mobility network needed to enjoy the necessary cohesiveness for successful Master Plan implementation.



CHAPTER 2 EXISTING CONDITIONS



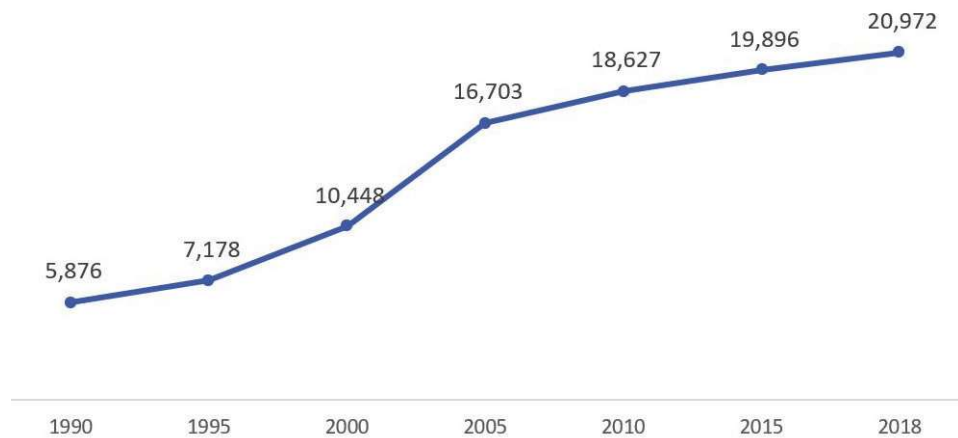


EXISTING CONDITIONS

OVERVIEW

The City of Evans supports roughly 21,000 residents, more than half of whom commute outside of Evans for work. The City of Evans has experienced significant changes, growing approximately 40% since the previous Transportation Plan was developed in 2004. With a growing population and employment base, the community is at an opportune moment to establish new ways of accommodating travel demand. With many residents of Evans taking short, local trips to their jobs in Greeley, shopping and dining areas, parks and open space, and the library or post office, the MMTMP explores how to improve access to these key destinations. This existing conditions analysis examines the changes to the Evans mobility network since 2004, identifies recent travel patterns and trends, and identifies preliminary opportunities for strengthening transportation connections both within the community and with the wider Front Range region.

Figure 2.1: City of Evans Population (1990-2018)



Data: Colorado State Demographers Office, Community Profile for Evans (March 2020)

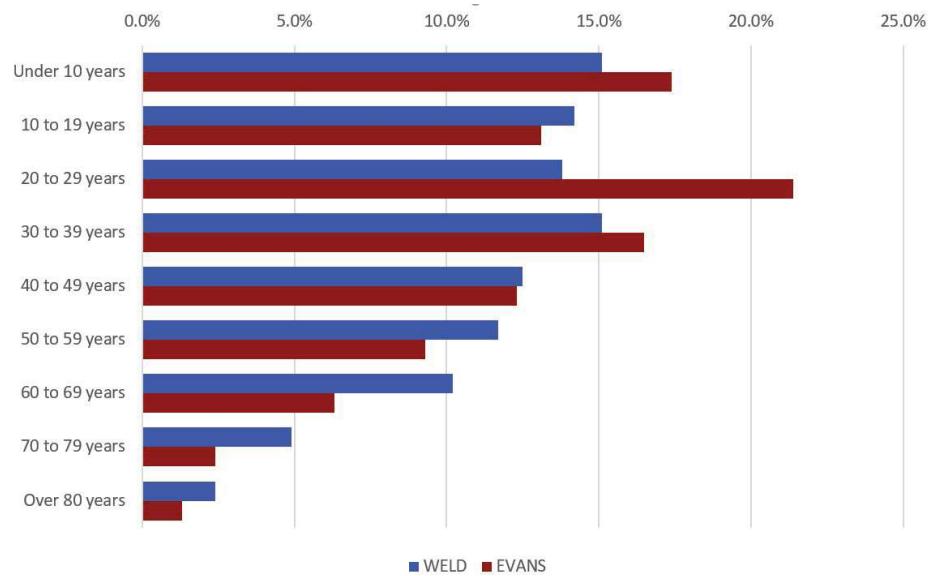
EVANS BACKGROUND POPULATION

The population of Evans has been growing steadily since 1990 (Figure 2.1). Growth was rapid between 1990 and 2005 with an average annual growth rate of about 7.2%. The fastest period of growth occurred between 2000 and 2005, with an annual average growth rate of 9.8% across those five years. Since 2005 Evans has continued to grow at a

slower but steady rate (about 1.8% annually). Growth is expected to continue in Evans and surrounding communities. The Colorado State Demographer’s office forecasts the population in Weld County to increase by 2.9% annually between 2020 and 2030 and 2.7% annually between 2030 and 2040. The MMTMP considers population growth trends for determining how many potential trips will need to be accommodated daily on the local transportation network.

Figure 2.2 compares Evans and Weld County by age of population. The median age in Evans (29.1 years) is 5.3 years younger than Weld County (34.4 years). Over half (52%) of Evans residents are under the age of 30 with 20- to 29-year-olds being the largest age groups (21.4%). Since Evans skews younger than Weld County as a whole, there is a need for the local transportation system to accommodate the travel needs of daily commuters and families that require connectivity to neighboring communities for work and shopping opportunities, and within Evans to schools, parks, and other destinations.

Figure 2.2: City of Evans Population by Age (2019)



Data: Colorado State Demographers Office, Community Profile for Evans (March 2020)

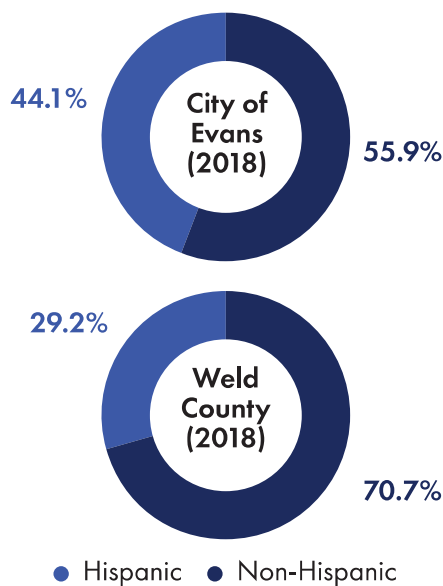
RACE AND ETHNICITY

Table 2.1 displays the racial and ethnic makeup of Evans’s population from 2000 to 2018 compared to the makeup of Weld County across the same time period. A larger portion of Evans’s population identifies as Hispanic than across Weld County. Of Evans residents, 44.1% identified as Hispanic in 2018, compared to 29.2% of Weld County residents (see **Figure 2.3**).

Table 2.1: Racial and Ethnic Makeup of Evans and Weld County (2000-2018)

Race/Ethnicity	City of Evans			Weld County		
	2000	2010	2018	2000	2010	2018
Hispanic (all-races)	40.1%	43.1%	44.1%	27.0%	28.4%	29.2%
Non-Hispanic	59.9%	56.9%	55.9%	73.0%	71.6%	70.7%
White	56.6%	53.4%	48.8%	70.0%	67.6%	66.0%
Asian	0.6%	0.8%	3.2%	0.8%	1.1%	1.4%
Black	0.6%	0.7%	1.0%	0.5%	0.8%	1.1%
Native American/ Native Alaskan	0.5%	0.5%	0.6%	0.4%	0.6%	0.3%
Native Hawaiian/ Pacific Islander	<0.1%	<0.1%	0.2%	0.1%	0.1%	0.1%
Other	0.1%	0.3%	<0.1%	0.1%	0.1%	0.1%
Two Races	1.5%	1.2%	2.2%	1.1%	1.4%	1.7%
Total Population	100%	100%	100%	100%	100%	100%

Figure 2.3: Proportion of Residents Who Identify as Hispanic (Evans and Weld County)



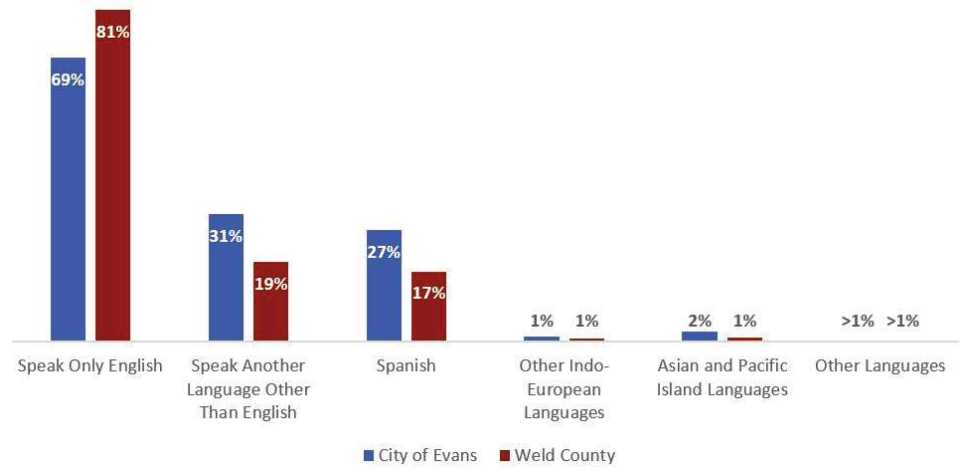
Data: US Census Bureau:
 1. 2000: 2000 Census
 2. 2010: 2010 Census
 3. 2018: 2014-2018 American Communities Survey

Data: US Census Bureau – 2014-2018 American Communities Survey

LANGUAGES SPOKEN AT HOME

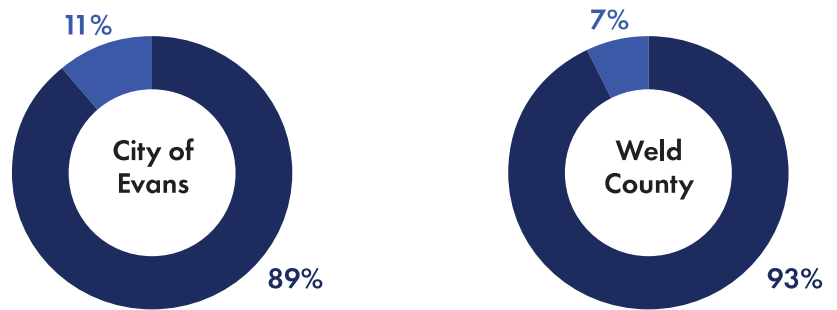
Almost a third of Evans residents speak a language other than English. The most common language spoken other than English is Spanish. Twenty-seven percent of all Evans residents speak Spanish compared to 17% in overall Weld County (see **Figure 2.4**). Eleven percent of all Evans residents speak English less than “very well”, compared to 7% across Weld County (see **Figure 2.5**). Given the relatively high share of Spanish language usage in the community, the City placed a heavy emphasis on multilingual outreach for the MMTMP.

Figure 2.4: Languages Spoken at Home 2019 (Evans and Weld County)



Data: US Census Bureau – 2015-2019 American Communities Survey

Figure 2.5: English Proficiency 2019 (Evans and Weld County)



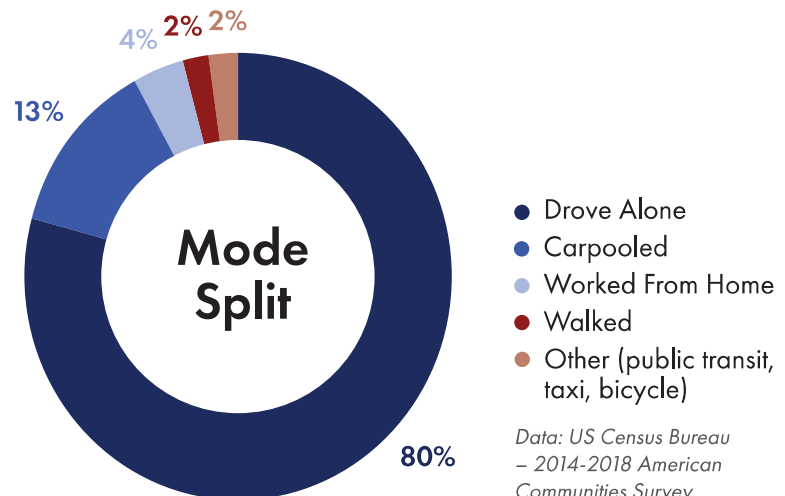
- Speak Only English or Speak English “Very Well”
- Speak English Less Than “Very Well”

Data: US Census Bureau – 2015-2019 American Communities Survey

MODE SPLIT

Figure 2.6 displays the transportation mode split in 2018 of people commuting to work. Most workers who live in Evans commute to work by car with 80% driving alone to work and 13% carpooling. Four percent of workers worked from home, 2% walked to work, and 2% either took transit, a bike, or a taxi. The MMTMP evaluates Evans’s goals for future transportation mode shift and includes recommendations on ways to achieve these goals.

Figure 2.6: Mode Split - Commute to Work (2018)



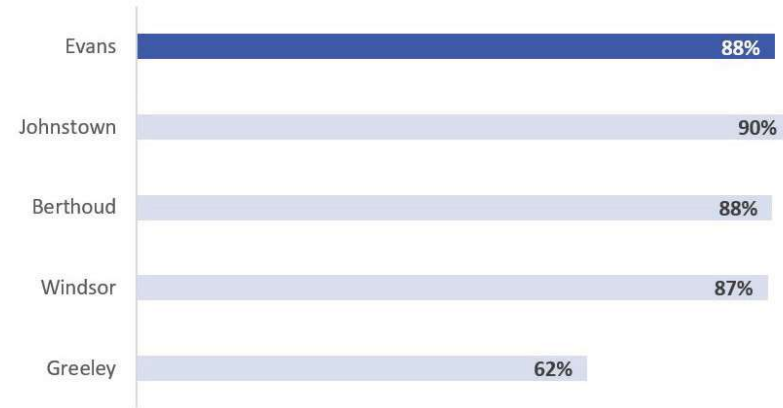
Data: US Census Bureau – 2014-2018 American Communities Survey

LOCAL TRAVEL TRENDS

Figure 2.7 and Figure 2.8 display the commute flow of workers who either live or work within a given community. The majority of workers associated with Evans (either live or work in Evans) either commute into Evans but live elsewhere (88% of Evans workers) or live in Evans and commute elsewhere for work (94% of Evans working residents). Only 6% of Evans working residents live and work in Evans. This is similar to neighboring communities of similar size. In contrast, 33% of working Greeley residents live and work in Greeley.

Figure 2.7: Share of workers who commute in by community

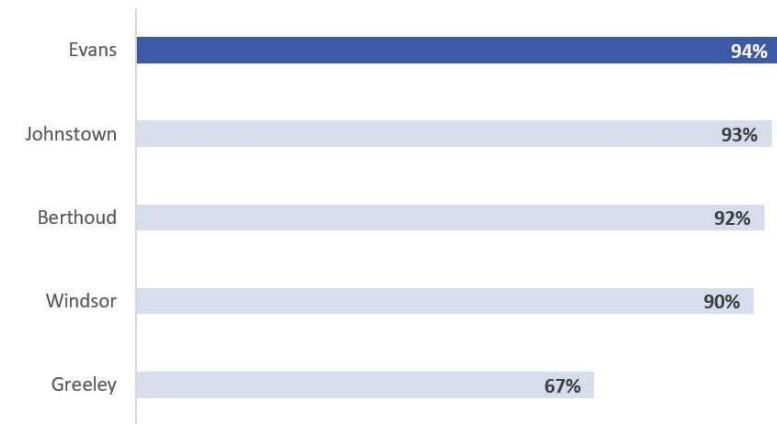
Percent of people who work in each community who live outside of the community and commute in.



Data: LEHD On the Map, American Communities Survey (2013-2017 5yr estimates)

Figure 2.8: Share of residents who commute out for work by community

Percent of residents of each community who commute out of the community for work.



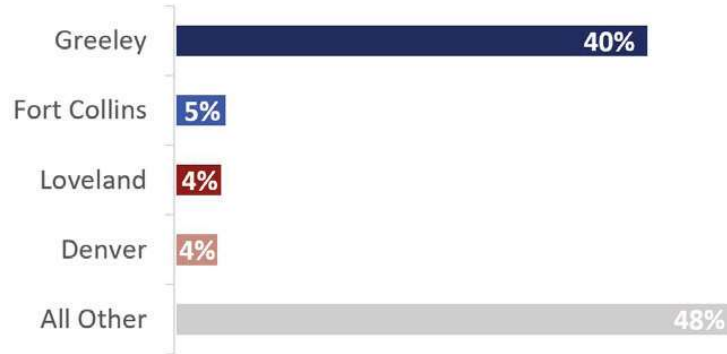
Data: LEHD On the Map, American Communities Survey (2013-2017 5yr estimates)



Figure 2.9 shows the top four home locations for employees commuting into Evans. **Figure 2.10** displays the top four work locations for Evans residents who commute out of the city. Evans exchanges the most workers with Greeley. According to the American Communities Survey (2013-2017 5-year estimates) an estimated 1,748 employees commuted from Greeley into Evans (about 40% of employees commuting into Evans). An estimated 3,459 Evans residents commuted to Greeley for work in 2017 (about 35% of people commuting out of Evans).

Figure 2.9: Home locations of Evans employees who live outside of Evans

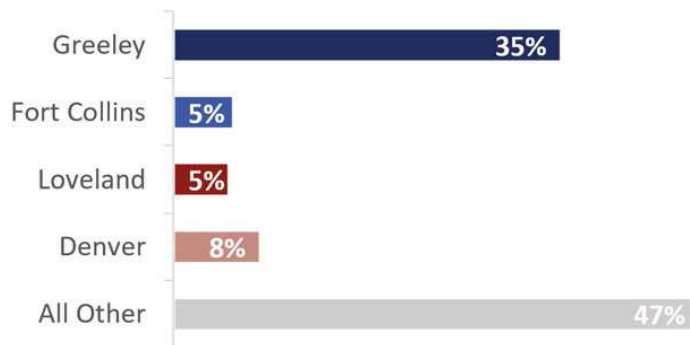
Home locations of Evans employees who live outside of Evans



Data: LEHD On the Map, American Communities Survey (2013-2017 5yr estimates)

Figure 2.10: Job locations of Evans residents who work outside of Evans

Job locations of Evans residents who work outside of Evans



Data: LEHD On the Map, American Communities Survey (2013-2017 5yr estimates)





PREVIOUS PLANNING EFFORTS

Previous planning efforts in the City of Evans and the region were reviewed in order to gain insight into the community context and goals over time, understand previous community input and priorities, and extract projects and action items from previous planning efforts.

This section details the previous plans and studies that were reviewed and the highlights from those efforts that are most relevant to the development of the 2021 MMTMP.

CITY OF EVANS TRANSPORTATION MASTER PLAN (2004)

The 2004 City of Evans Transportation Plan was developed to create roadway and multi-modal recommendations to accommodate the growth projected for Evans from 2004 to 2030.

The plan includes an inventory of existing conditions and separate recommendations for trails and multi-use, transit, roadways, and intersection safety. **Figure 2.11-Figure 2.14** display maps of the recommendations from this plan. The plan also includes a

customized toolbox of traffic calming improvements for the city to employ. The current MMTMP planning process involved examining which of these recommendations have already been implemented since the 2004 plan and evaluating whether to carry over outstanding recommendations from the 2004 plan into the 2021 MMTMP.

Figure 2.11: Trails and Multi-use Plan (2004)

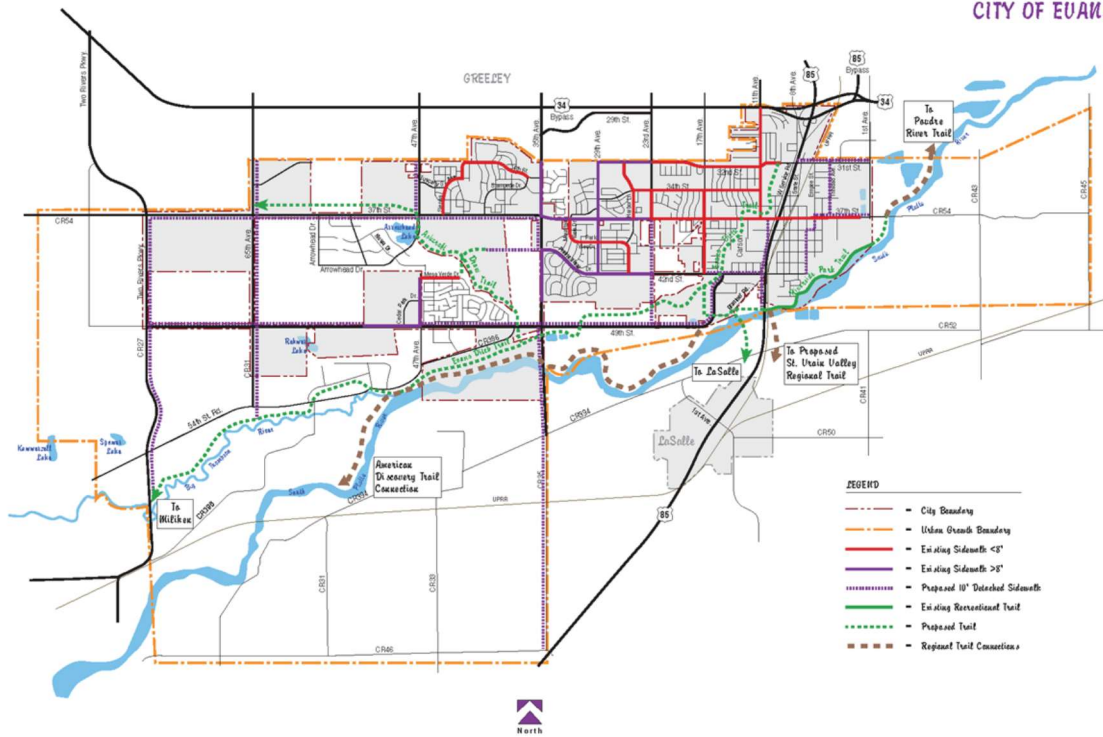


Figure 18
TRAILS and MULTI-USE PLAN

Figure 2.12: Transit Improvement Plan (2004)

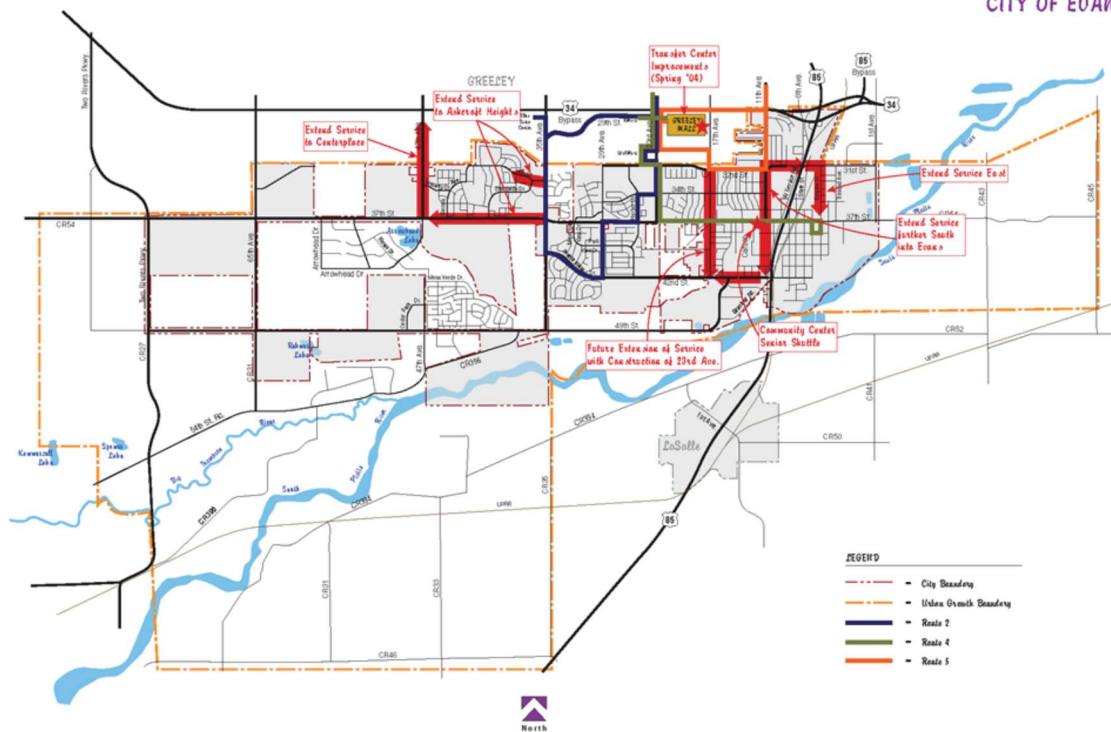


Figure 19
TRANSIT IMPROVEMENT PLAN

Figure 2.13: Master Streets Plan (2004)

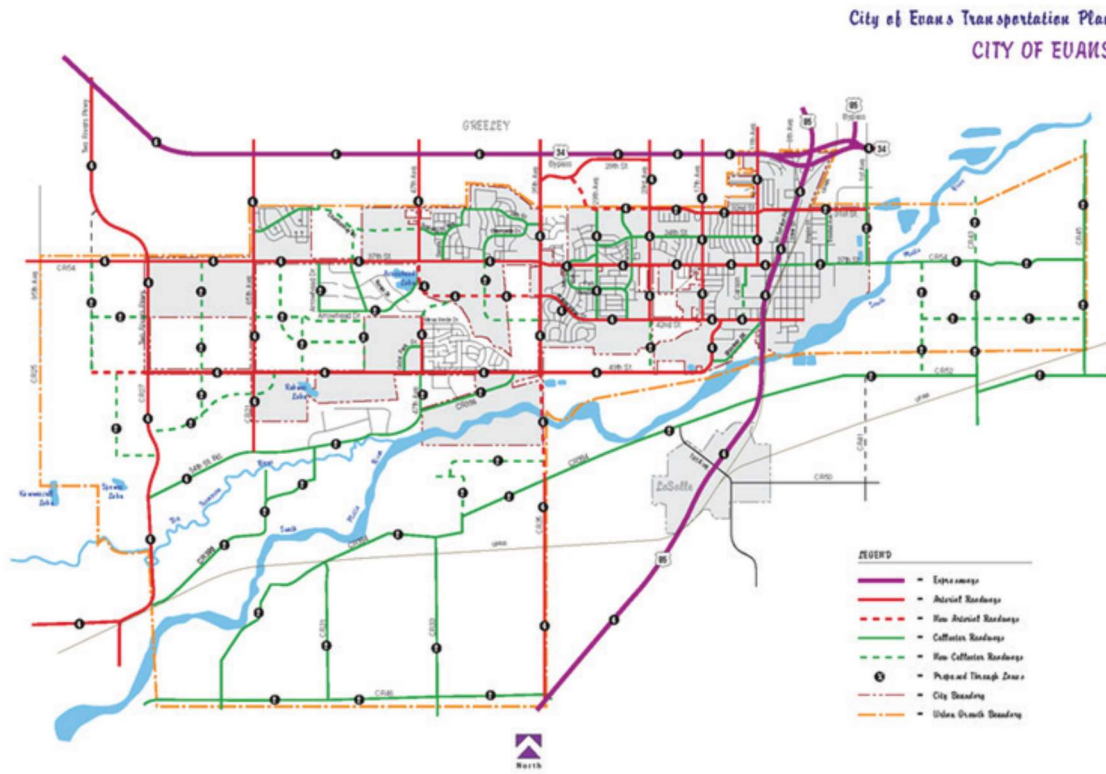


Figure 20
MASTER STREETS PLAN

Figure 2.14: Safety and Intersection Projects (2004)

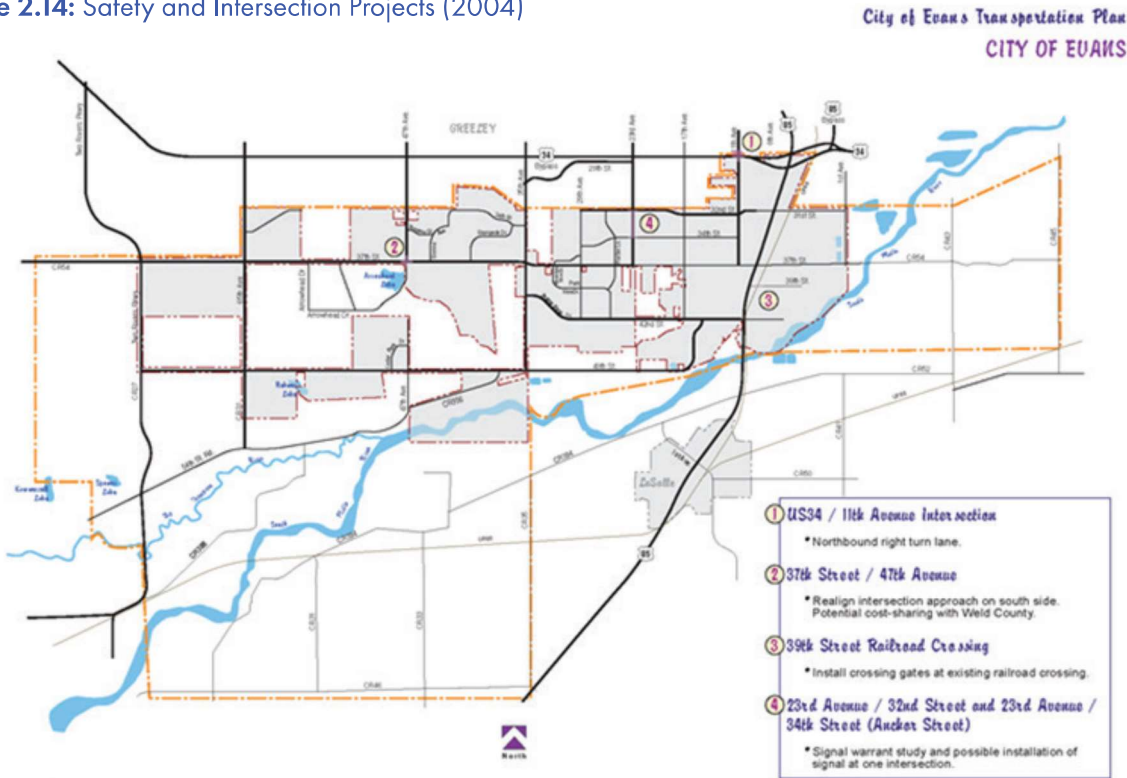


Figure 23
SAFETY & INTERSECTION PROJECTS

SOUTH PLATTE RECREATION CORRIDOR MASTER PLAN (2015)

The 2015 South Platte Recreation Corridor Master Plan was developed to create a cohesive vision for a recreation corridor along the Platte River. The plan brought together previous plans and ongoing planning efforts along the corridor to create one master vision. The plan developed a proposed alignment for a trail along the Platte River as well as identifying needed connections to the trail and future opportunities for extensions. The plan also included a table of actionable steps for different agencies to take to construct the trail and necessary amenities and connections to complete the recreation corridor. **Figure 2.15** displays the proposed trail alignment and **Figure 2.16** displays additional recommendations from the plan.

OPEN SPACE AND TRAILS MASTER PLAN (2004)

The 2004 Open Space and Trails Master plan was created to provide guidance on the development of trails and open space as the City of Evans grows. The plan developed a network of existing and proposed trails as well as selecting appropriate locations for future parks. These recommendations can be seen in **Figure 2.17**.

CITY OF EVANS COMPREHENSIVE PLAN (2010)

The 2010 Comprehensive Plan was developed to guide land use and growth in the City of Evans. The goals of the plan were to create orderly future growth, plan for the need for recreational opportunities, foster economic development, and create a sense of neighborhood cohesion and community identity. The plan lays out policies to address each goal and creates future land

Figure 2.15: Map of Proposed Poudre River Trail Alignment

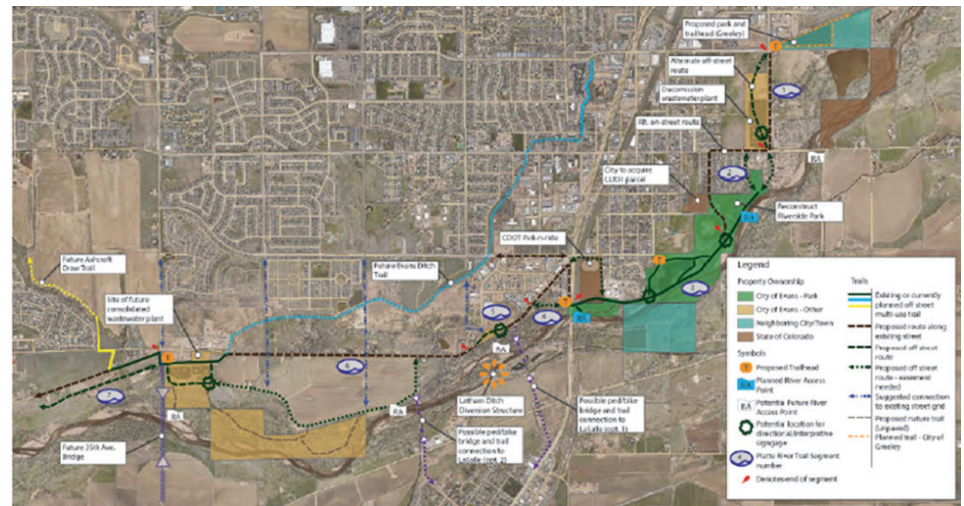


Figure 2.16: Map of Additional Recreation Corridor Recommendations

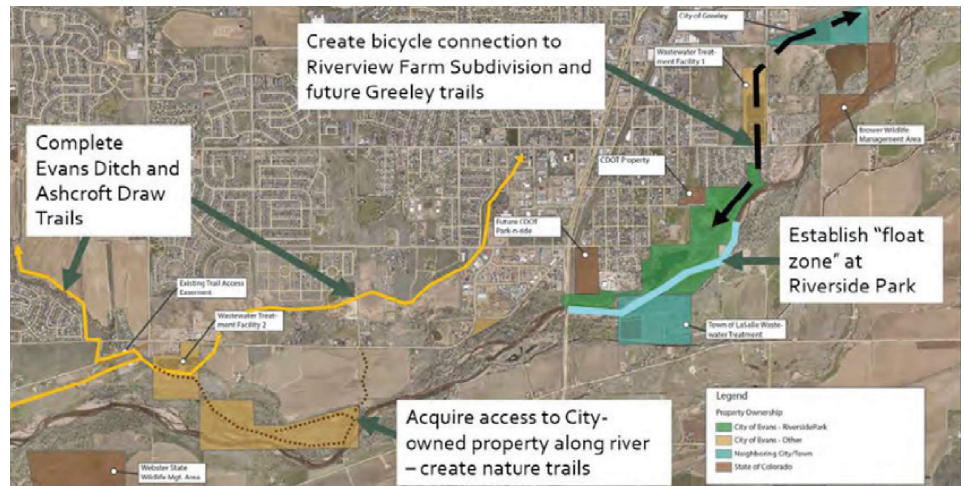
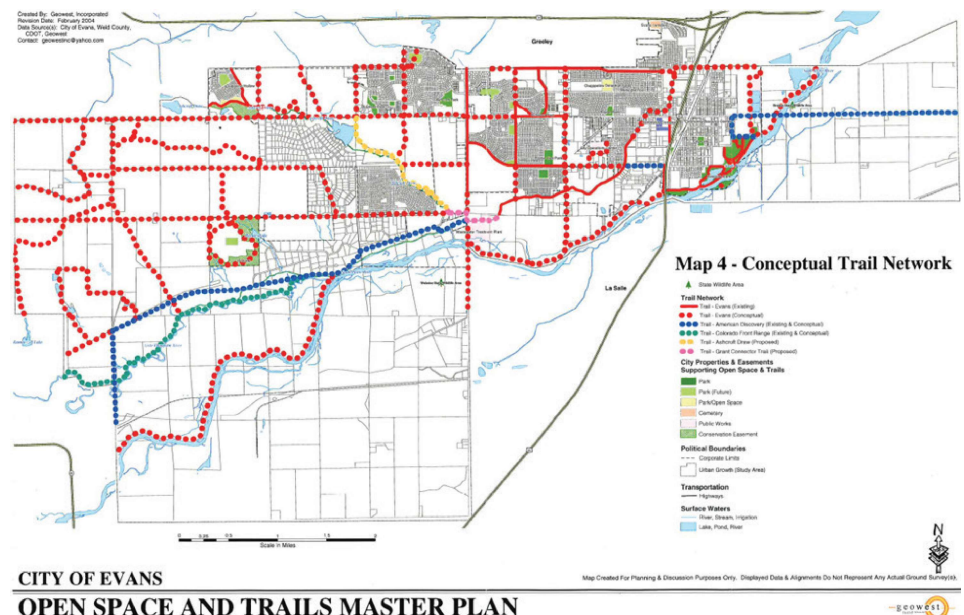


Figure 2.17: Conceptual Trail Network



use map to inform future land use decisions and potential developers interested in working in Evans.

FREEDOM PARKWAY ACCESS CONTROL PLAN (2018)

Freedom Parkway is a main east-west transportation thoroughfare that stretches from I-25 west of Evans to County Road 49 east of Evans. The Parkway is planned to be widened to four lanes in areas where it is only two lanes currently. The Access Control Plan was adopted in 2018 by Weld County to shape the access points along the corridor as the corridor develops. The plan puts forth access recommendations and policies to improve safety, access, and mobility along the corridor.

TWO RIVERS PARKWAY ACCESS AGREEMENT (2001)

The purpose of this study was to look at alternative connections from western Greeley to US-85 to the south. The plan recommended connecting 83rd Avenue and 71st Avenue, County Road 27 ½, and SH 60 to create a north south connection from West Greeley to US-85. This parkway runs through Evans's urban growth boundary and west of currently incorporated Evans. These connections have been built since the 2001 study except for the connection of 71st Avenue to 77th Avenue/ County Road 27 ½. In the 2001 study it was recommended the Parkway be built as a two-lane road but that it may need to be widened in 15 or 20 years from the study date to a four-lane roadway to accommodate growth.

US-85 ACCESS CONTROL PLAN (1999)

The US-85 Access Control Plan dictates access points along the US-85 corridor. It includes placements of existing and future access points

as well as identifying future access closures. Conversion to a signalized intersection was recommended at 42nd Street and it was recommended for turning movement restrictions at 39th Street that would limit turns to right-in and right-out for north bound traffic on US-85. Since the access control plan was developed, the signal has been added and the turning restriction at 39th Street has been implemented. Additional service road closures at intersections with arterial streets along the corridor have also been completed including 8th Avenue at the NW corner of 31st Street and the West service road at NW and SW corners of 37th Street. The MMTMP recommendations are consistent with the access control plan, which called for frontage road and signal operations modifications to improve safety conditions and traffic flow.

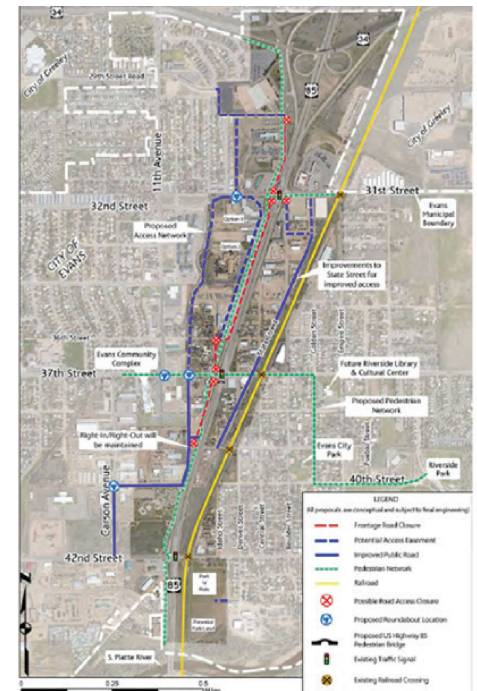
US-85 CORRIDOR VISIONING STUDY (2018)

This study proposes possible beautification and signage elements to improve the US-85 Corridor. These improvements include adding trees, new raised and vegetated medians, strategic "gateway" signage, and fence design guidelines along the corridor.

US-85 OVERLAY DISTRICT MASTER PLAN (2014)

The main objective of this plan was to create a new future land use map for the overlay district to help unify disjointed land uses. Most relevant to the MMTMP, the plan also identified vehicle and pedestrian infrastructure and access improvements within the overlay district including changes to access points, new roundabouts, and a proposed pedestrian bridge. **Figure 2.18** displays a map of these transportation recommendations.

Figure 2.18: US-85 Overlay District Transportation Improvements



NFRMPO 2045 RTP (2019)

The North Front Range Metropolitan Planning Organization's 2045 Regional Transportation Plan lays out projects throughout the region to improve quality of life, mobility, multi-modal travel, and traffic operations throughout the region. The vision and goals set forth in this plan will also serve as the vision and goals for the MMTMP. Of the RTP a few key projects particularly impact Evans's transportation system. **Figure 2.19** displays the locations of roadway capacity projects and roadway projects in and around Evans in the RTP. The north-south transit project is bus service from Eaton to Denver. The east-west transit project is a bus route from Loveland to Greeley. All corridor roadway projects are to widen a two-lane roadway to four lanes. The two intersection projects are new interchanges. The MMTMP cross-lists recommendations from the RTP that are located in Evans.

Prioritized RTP Projects that touch Evans

The North Front Range MPO has identified currently unfunded projects from the RTP to be prioritized for future funding and implementation. Projects on this prioritized list which pass through Evans are listed below:

- US-34 & US-85 Interchange Reconfiguration
- US-85 PEL Corridor Improvements (I-76 to WCR100)

2045 REGIONAL TRANSIT ELEMENT (RTE)

The 2045 Regional Transit Element (RTE) is a long-range plan that establishes a community-inspired vision for northern Colorado’s transit system. The plan outlines goals and identifies strategies to continue enhancing the region’s transit network. There are three recommendations from this plan that are most relevant to Evans:

- Poudre Express - Fort Collins to Greeley (Implemented 2020)
- US 34 Transit Service - Loveland to Greeley (along northside of Evans)
- US 85 Transit Service - Eaton to Denver (through Evans)

NFRMPO REGIONAL ACTIVE TRANSPORTATION PLAN (2021)

The Regional Active Transportation Plan is an update to the 2016 Regional Non-motorized Corridors Plan and includes a high-level summary of existing regional active transportation infrastructure in the North Front Range Metropolitan Planning (NFRMPO), provides the 15 member agencies and other planning partners with tools to support their active transportation planning activities, and positions the NFRMPO and its partners to various funding opportunities. The plan includes a map of the Regional Active Transportation Corridors (Figure 2.20). The corridors related to Evans

Figure 2.19: NFRMPO 2045 RTP Projects Near Evans

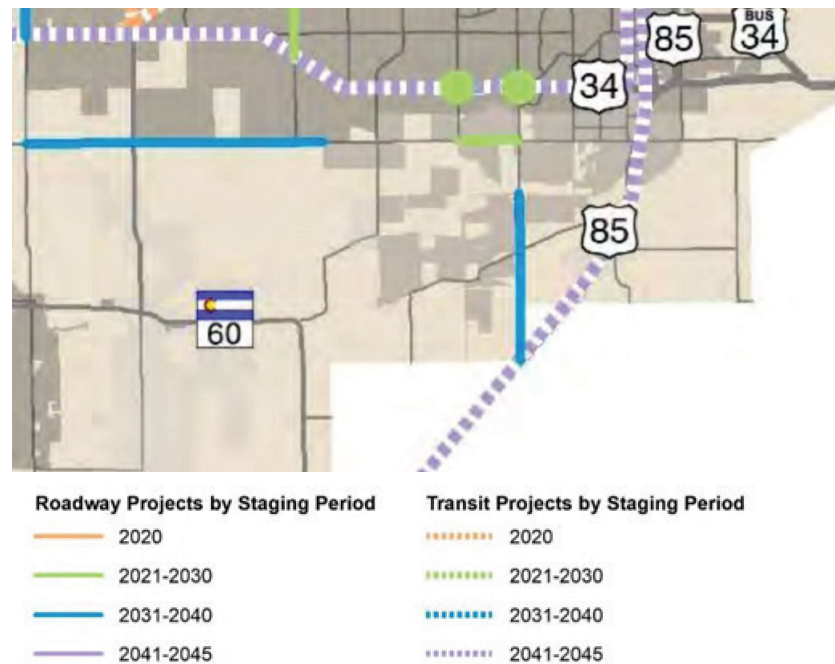
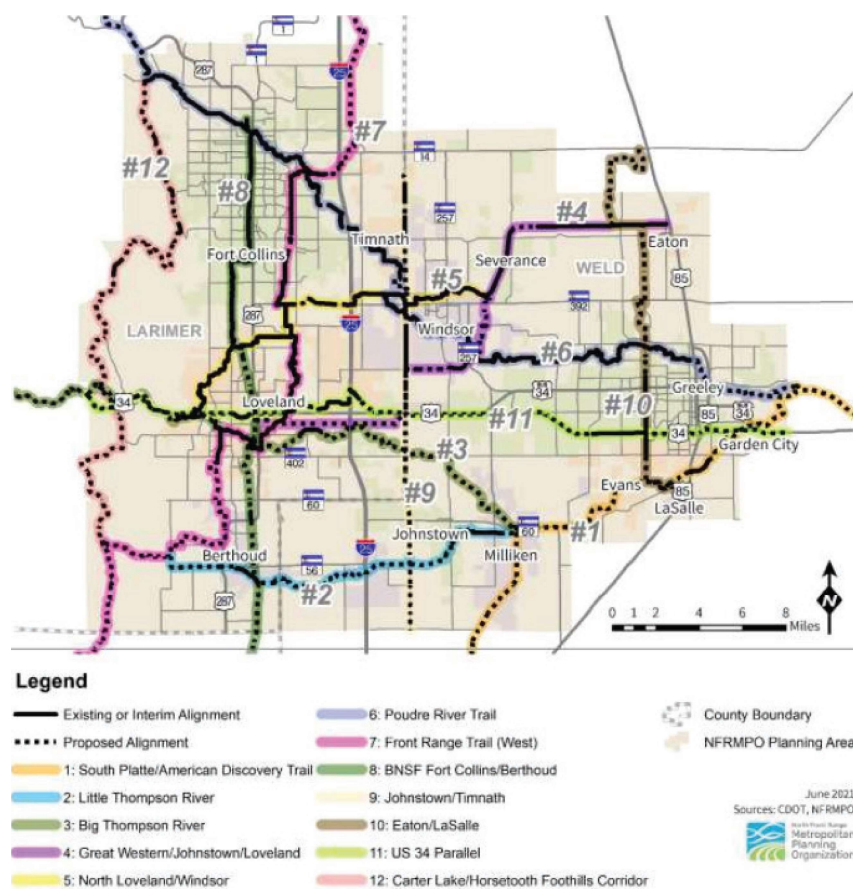


Figure 2.20: Regional Active Transportation Corridors



are the Platte River Trail, Big Thompson Trail, US 85, and US 34. All of these corridors are planned to have dedicated shared-use paths for both bicycles and pedestrians completely separate

from roadways. Evans should look for regional partnerships and funding opportunities to help implement these projects within Evans’s jurisdiction.

MILLIKEN TRANSPORTATION MASTER PLAN (2008)

The Town of Milliken developed a transportation master plan in 2008. The most relevant pieces to Evans are the proposed trails which would connect Milliken, Evans, and other surrounding communities. These trails are the same as those proposed in the NFRMPO Non-motorized Corridors. See **Figure 2.20** for a map of the NFRMPO Regional Non-motorized corridors.

GREELEY TRANSPORTATION MASTER PLAN (2011)

The City of Greeley is in the process of updating its Transportation Master Plan. The previous Transportation Master Plan was adopted in 2011. The most relevant element of the plan to the MMTMP is the 2035 Bicycle Vision laid out in the plan (**Figure 2.21**). This vision proposes new recreation trails and multi-use paths adjacent to Evans. Recommendations in this plan for new trails and paths will consider connections to existing and proposed trails in Greeley. Any new information that becomes available from Greeley’s current planning process will also be considered in the formation of recommendations.

GREELEY-EVANS TRANSIT 5-10 YEAR STRATEGIC PLAN (2016)

The Greeley-Evans Transit Strategic Plan lays out the current conditions and planned improvements for the transit system. The plan lays out service enhancements for the two routes that currently serve Evans (see **Table 2.2**).

In addition to enhancements of existing service the strategic plan also puts forward a possible future route running through the west side of Evans. **Figure 2.22** displays the existing GET routes and two possible future routes (#8 and #9). Future route #8 would connect the westside of Evans to the Greeley Mall transit center and a potential transfer center on the westside of Greeley.

Figure 2.21: Greeley 2035 Bike Vision Map

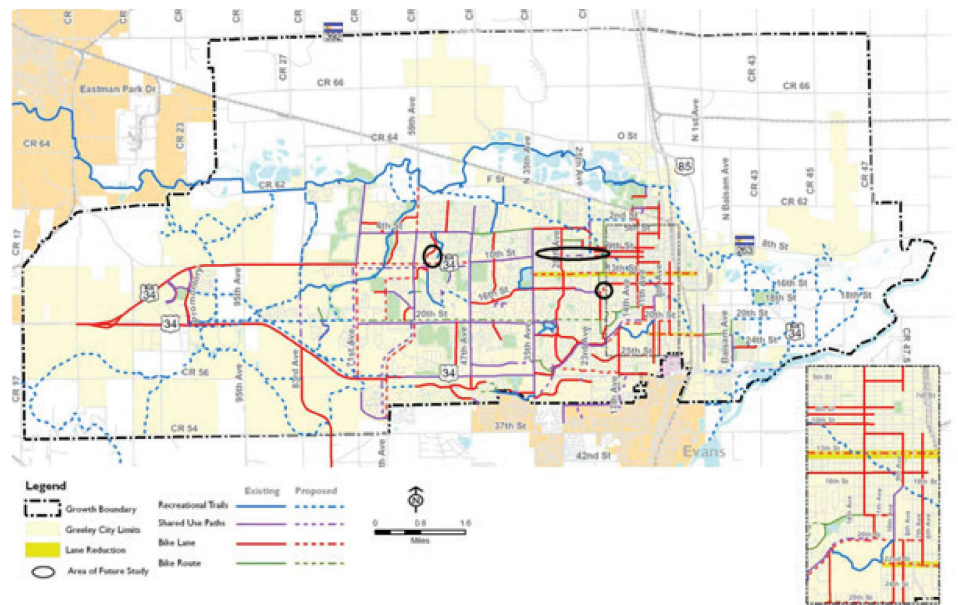
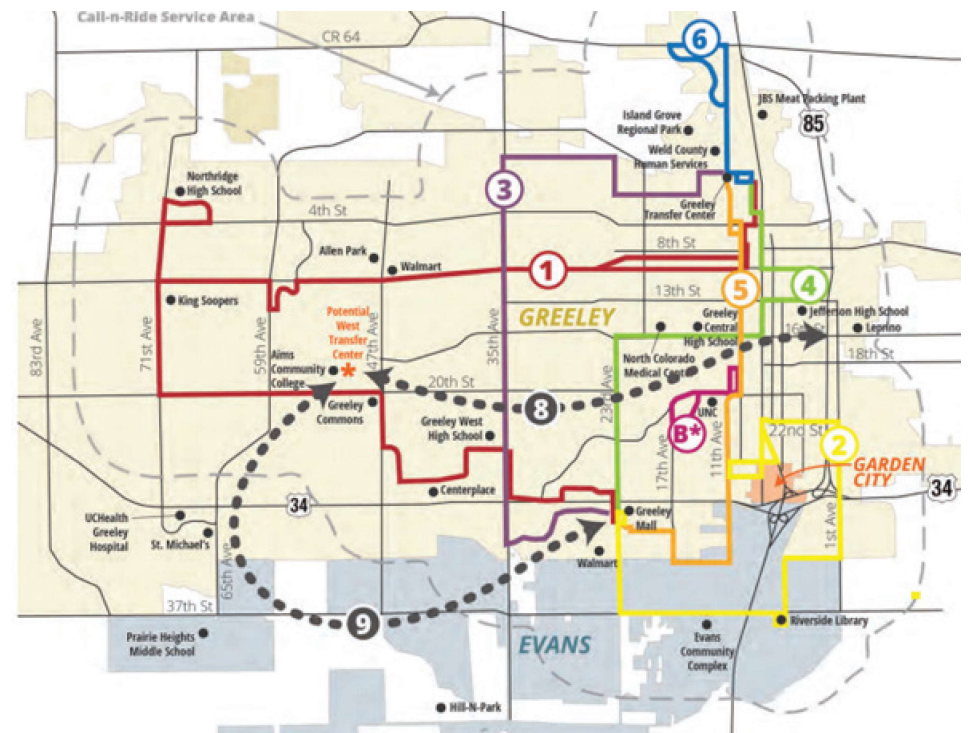


Table 2.2: GET Strategic Plan Route Enhancements

Route	Near Term (0-3 years)	Mid Term (3-10 years)	Long Term (10+ years)
2	Simplify routing and/or determine viability of route extension(s) Improve peak headways to 30 minutes	Improve headways to 30 minutes	Improve peak headways to 15 minutes
5	Extend service hours	Study potential of transitioning route to rapid bus service Improve peak headways to 15 minutes	Implement rapid bus service

Figure 2.22: GET Service Map with Potential Future Routes



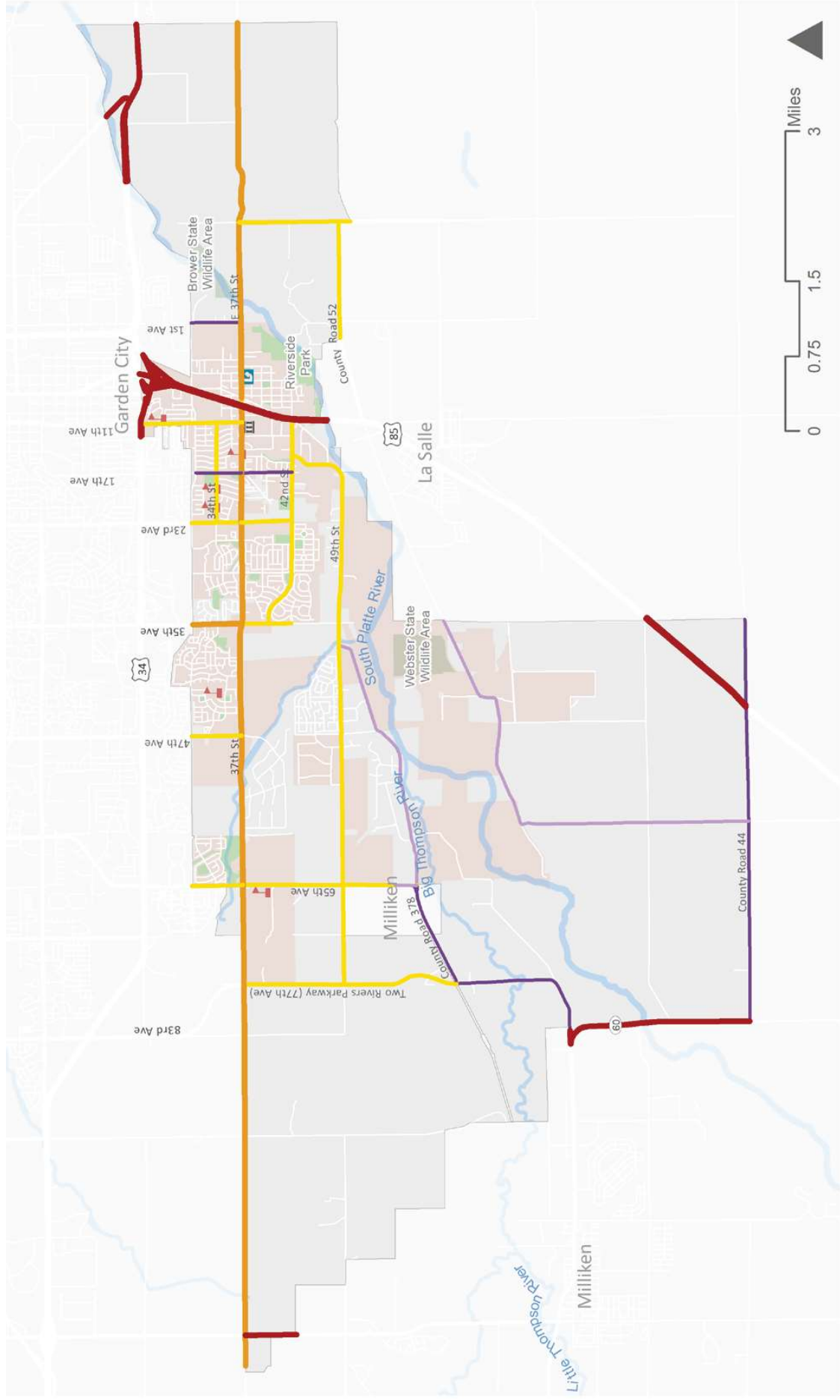
SURVEY OF EACH TRANSPORTATION MODE

The roadway, transit, bicycle, and pedestrian networks were each evaluated to develop an understanding of how mobility currently functions in Evans. The following section highlights strengths of the existing transportation network, connectivity concerns that could be addressed through the MMTMP, and initial opportunities for expanding travel options throughout Evans and for connecting to neighboring communities.

VEHICLES

Evans is regionally connected via two highways: US-34, which runs east-west and US-85 which runs north-south and provides a direct connection to Denver. Evans currently has a growing grid of city-managed arterial roadways that provide connectivity throughout the community (**Figure 2.23**).

Figure 2.23: Existing Road Classifications (2021)



Road Classifications

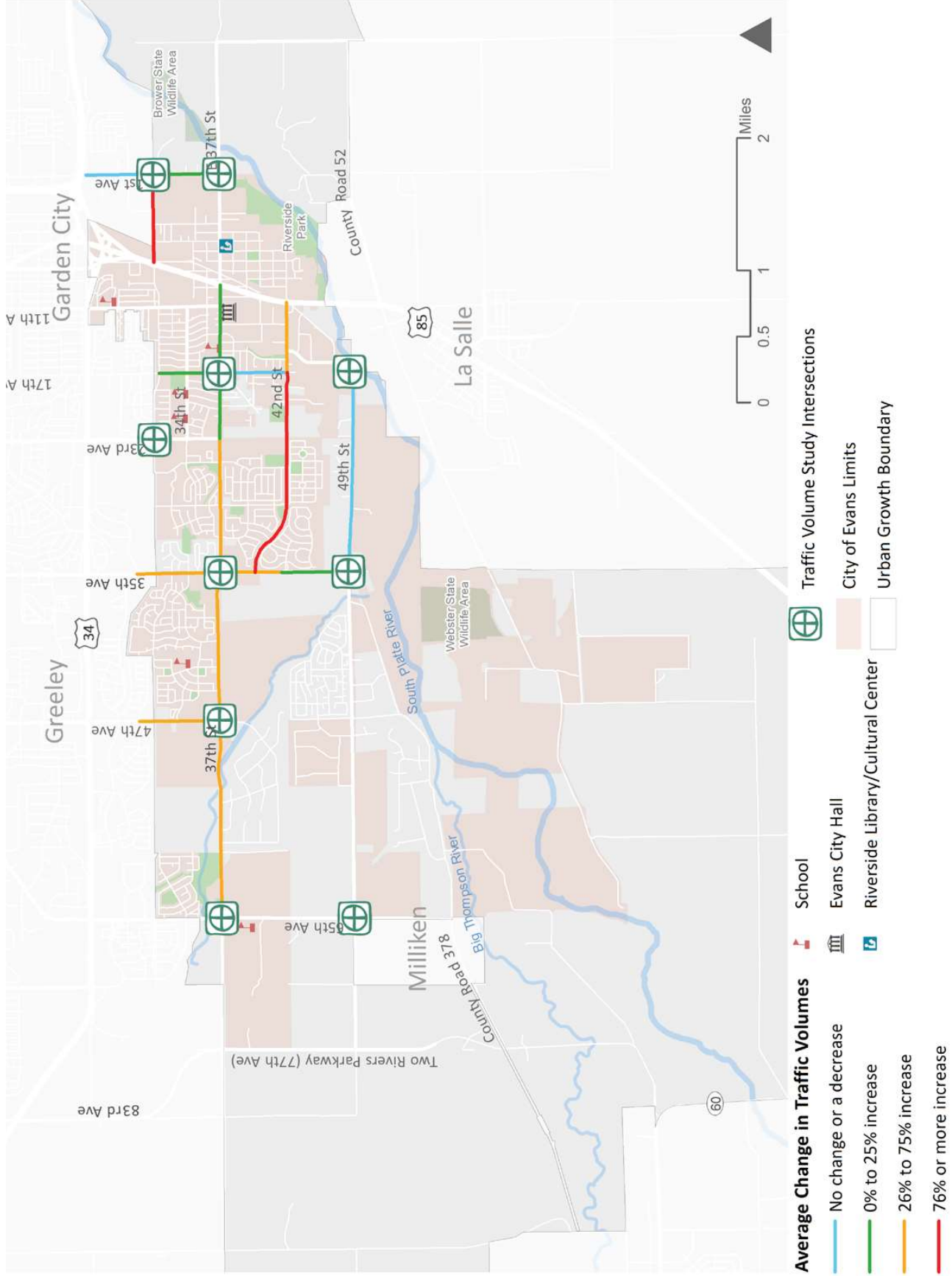
- Highway
- Gateway Arterial (Major Arterial within Evans)
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- School
- Evans City Hall
- Riverside Library/Cultural Center
- City of Evans Limits
- Urban Growth Boundary



Traffic Volumes

The growth in traffic volumes in Evans has slightly outpaced the rate of population growth in the community. The growth in traffic volumes in western Evans, where more residential development has occurred over the past 10 years, is more pronounced (**Figure 2.24**). Additionally, traffic volumes have grown along 42nd Street/Prairie View Drive with increased development on the corridor. The MMTMP identifies opportunities for shifting trips associated with future growth onto other transportation modes to help ensure the growth can be accommodated without the need for significant additional investments in expanding roadway infrastructure.

Figure 2.24: Change in Traffic Volumes from approximately 2005-2017 / 2018



Current Roadway and Streetscape Standards

The City of Evans currently has eight different road classifications as shown in **Table 2.3**. The street standards shown in **Table 2.3** are the standards as of September 2021. **Chapter 10** of the MMTMP includes recommended updates to these original street standards. The widest right of way (ROW) in the City on a non-highway facility can be found on Freedom Parkway, or 37th Street, which is designated as a Gateway Arterial. All arterials and collector streets in Evans have 12-foot-wide travel lanes, with arterials also having a raised, landscaped median. On-street parking is permitted only on local streets and six (6) foot bicycle lanes

are currently striped only on minor collectors. Sidewalk requirements are listed in the pedestrian network portion of this existing conditions chapter.

Chapter 10 of the MMTMP includes recommended changes to these street standards in order to better accommodate multi-modal facilities and to promote traffic calming.

Opportunities for Additional Connections

As Evans grows there may be development pressures and opportunities south of the Platte River that spur the need for additional connectivity. The MMTMP process involved evaluating a range of connectivity needs based on a future travel demand analysis and determining

where adequate capacity is needed to meet the demand. Initial opportunities identified during the existing conditions review included an extension of 35th Avenue and continued expansion of 23rd Avenue. These projects are contingent upon the feasibility of adding utilities south of the Platte River and would require further study.

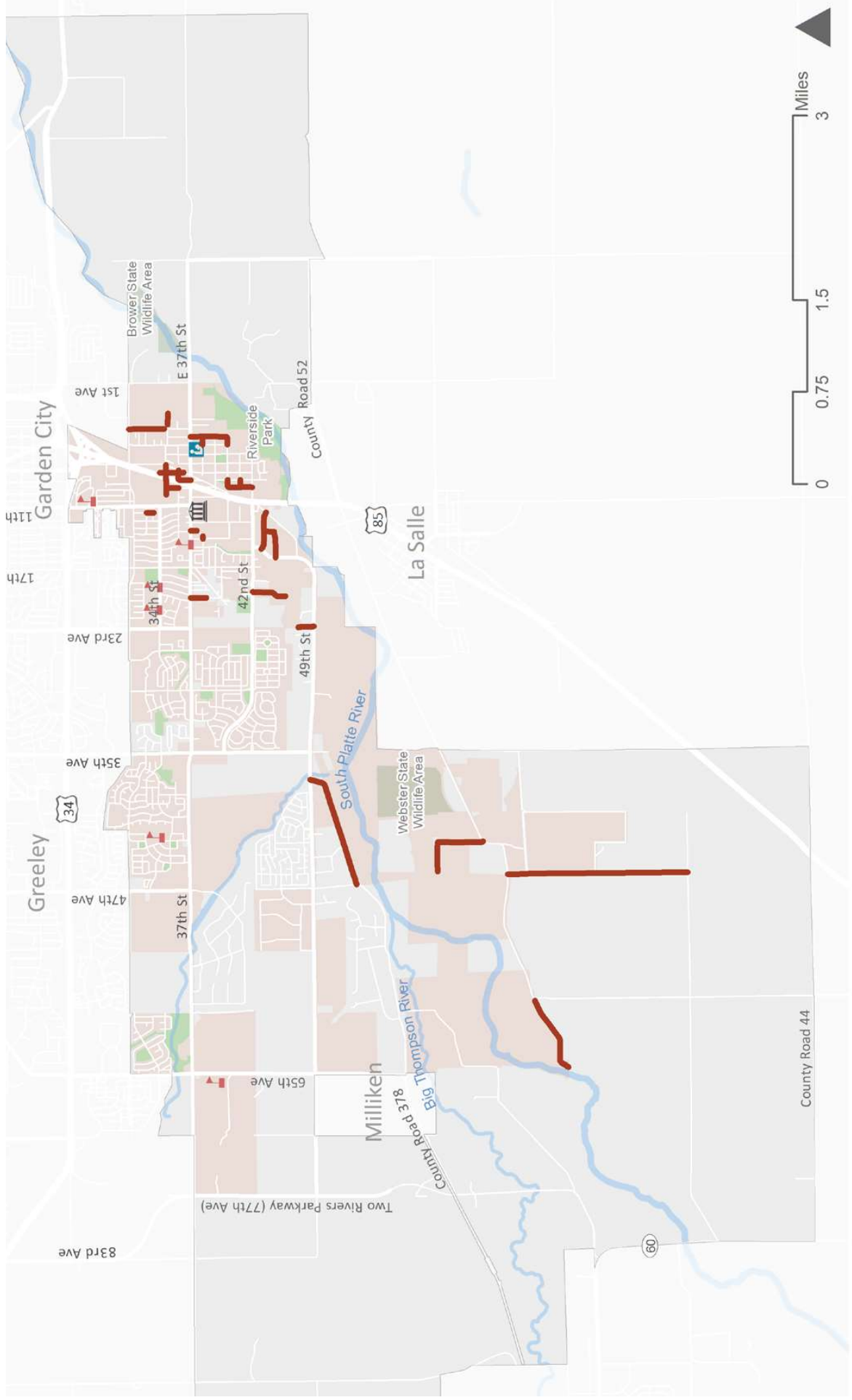
Unpaved Roadways


Evans has approximately 13.6 lane miles of unpaved roadways. Due to low traffic volumes, some of the roadways shown in **Figure 2.25** may remain unpaved. However, unpaved roadways that experience higher traffic volumes, like the gravel roads in East Evans, may require surfacing to provide more reliable travel conditions.

Table 2.3: City of Evans Street Parameters

Classification	Gateway Arterial (Freedom Parkway)	Arterial	Major Collector	Commercial Collector	Minor Collector	Local	Rural Local	Alley
ROW Width (ft)	120	110	80	70	65	60	60	30
Roadway Width (ft)	72	68	52	42	40	38	28	20
Roadway Width @ Intersections (ft)	120-140	80	64	50	40	38	28	20
Travel Lanes	4	4	4	2	2	2	2	2
Travel Lane Width (ft)	12	12	12	12	12	12	12	10
Bike Lanes	NA	NA	NA	NA	YES	NA	NA	NA
Bike Lane Width (ft)	NA	NA	NA	NA	5	NA	NA	NA
Parking Lane Width (ft)	NA	NA	NA	N/A	N/A	7	NA	NA
Traffic Volume ADT (<)	35,000	20,000	10,000	5,000	5,000	2,500	2,500	500
Design Speed (mph)	60	60	55	50	40	30	30	25
Posted Speed (mph)	45	45	35	35	30	25	25	20

Figure 2.25: Unpaved Roadways



-  Unpaved Roads
-  School
-  Evans City Hall
-  City of Evans Limits
-  Riverside Library/Cultural Center
-  Urban Growth Boundary

Note: Unpaved roadways only shown within incorporated areas.
Source: City of Evans

TRANSIT

Overview

Greeley Evans Transit (GET) is made up of eight routes, two of which directly serve the City of Evans: Route 2 and Route 5. Both routes connect to the other six routes in Greeley including the Poudre Express regional route that connects Greeley, Windsor, and Fort Collins (**Figure 2.26**). In addition to fixed-route bus service, GET also provides paratransit service, and a Call-N-Ride service which is open to the general public and provides door to door trips on evenings and Sundays when fixed route bus service is no longer running. GET also provides a shuttle to the UC Health medical campus, picking up riders at GET transfer stations and taking them to and from UC Health.

Route 2 (60-minute frequency)

Route 2 runs every 60 minutes from the Greeley Transit Center to the King Soopers in Greeley at 11th Avenue and 26th Street. The route operates

from 6:35 AM to 6:25 PM on weekdays and 7:35 AM to 5:25 PM on Saturdays. GET does not operate any service on Sundays. It runs east-west through Evans on 37th Street then turns north back to Greeley on Empire Street. Route 2 connects to destinations in Evans including the Centennial Village Apartments, Evans Fire Station #2, Centennial Elementary School, City Hall, Sundown Shopping Center, and the public library.

Route 5 (30-minute frequency)

Route 5 runs every 30 minutes between the GET Regional Transportation Center at 1st Street and 10th Avenue and the Greeley Mall Transit Center. The route operates from 6:05 AM to 6:18 PM on weekdays and 7:05 AM to 5:48 PM on Saturdays. GET does not operate any service on Sundays. Route 5 runs north-south on 11th Avenue and east-west on 32nd Street through Evans. The route runs near several destinations in Evans including Sam's Club, Dos Rios and Chappelow Elementary Schools, and the Verge apartments.

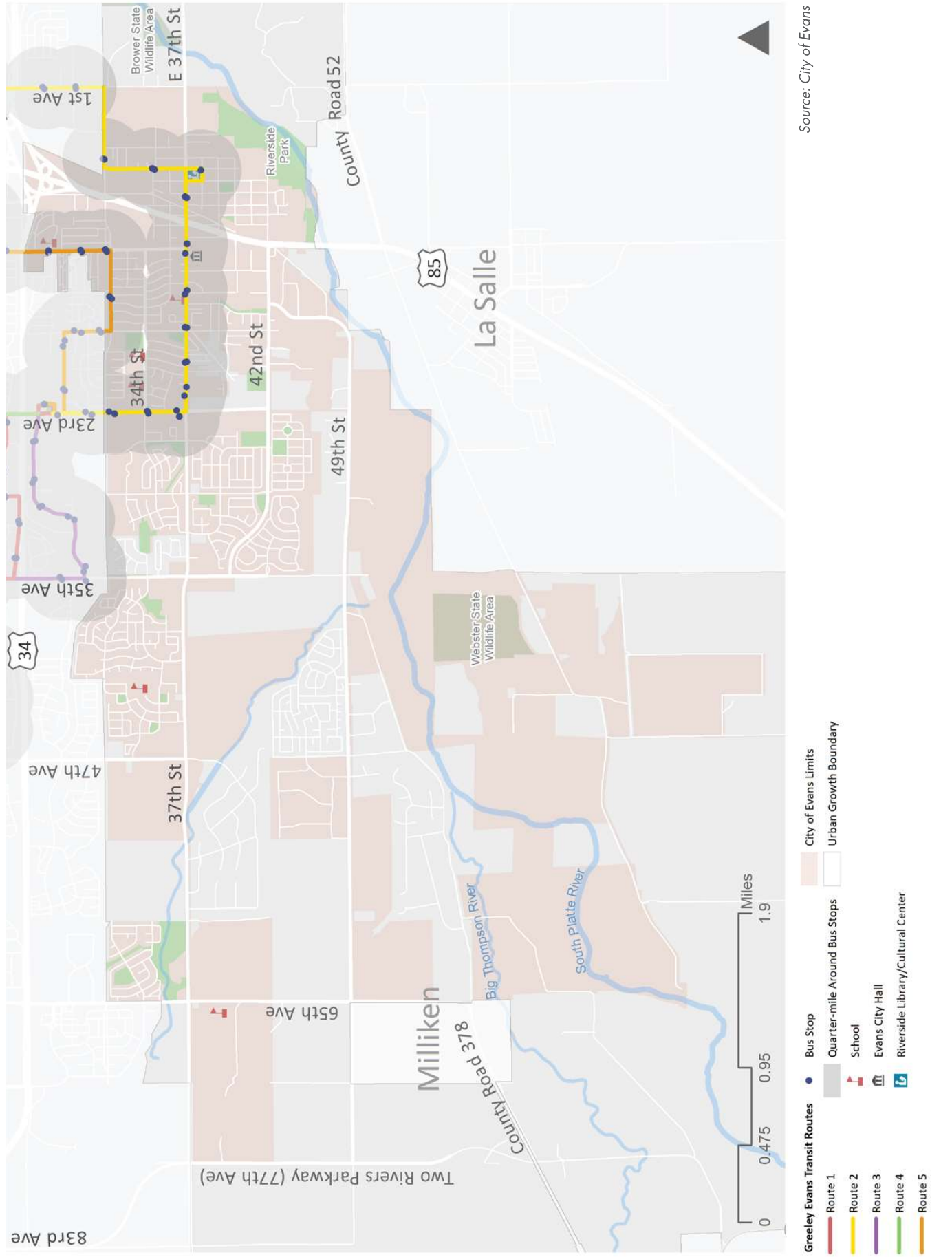
Fares

For fixed route service a one-way bus pass is \$1.50, and a day pass is \$4.50. There are also options to buy multiple ride or day passes or an annual pass. Seniors can get a discount card that gives half-off fares and people 18-years old or younger can ride for free. In addition, students ride for free with a valid school identification card.

For Call-N-Ride and UC Health Shuttle service a one-way trip is \$3.00.



Figure 2.26: Fixed-Route Transit Map



Ridership

Greeley-Evans Transit has experienced an overall growth in ridership from 2011 to 2019 (See **Figure 2.27**). Ridership numbers dropped significantly in 2020 due to the COVID-19 pandemic when schools and places of employment were closed at different periods of time and many people worked from home or participated in school virtually. Additionally, Greeley-Evans Transit suspended fixed-route service in March and April of 2020 at the beginning of the pandemic lock down restrictions.

Figure 2.28 displays characteristics of riders as a share of total ridership on the two routes that serve Evans, Route 2 and Route 5. School aged riders (Kindergarten through 12th Grade) make up a significant portion of riders on both routes: 57% of riders on Route 2 and 25% of Riders on Route 5. Pass holders also make up a significant portion of ridership: 21% of riders on Route 2 and 40% of riders on Route 5.

Table 2.4 displays the weekly ridership (boardings plus alightings (departing)) at each stop in Evans from July 13 to 18, 2020. Collecting stop level ridership data is a relatively new practice for Greeley-Evans Transit, having started in 2020. Due to COVID-19 these ridership numbers are likely lower than they would have been in previous years. Additionally, since these numbers are from the summer, the travel patterns of school age riders are likely different than they would be during the school year.

With these limitations of the data in mind, the higher ridership stops in Evans for Route 2 appear to those near civic services (Evans Community Complex, City Hall, and the recreation center), Riverside Library and commercial areas. Most civic services and commercial areas are currently served by transit. However, any that are not currently served by transit or future civic, commercial areas, and employment centers should be served by future transit

Figure 2.27: Total Annual GET Ridership (2011-2020)

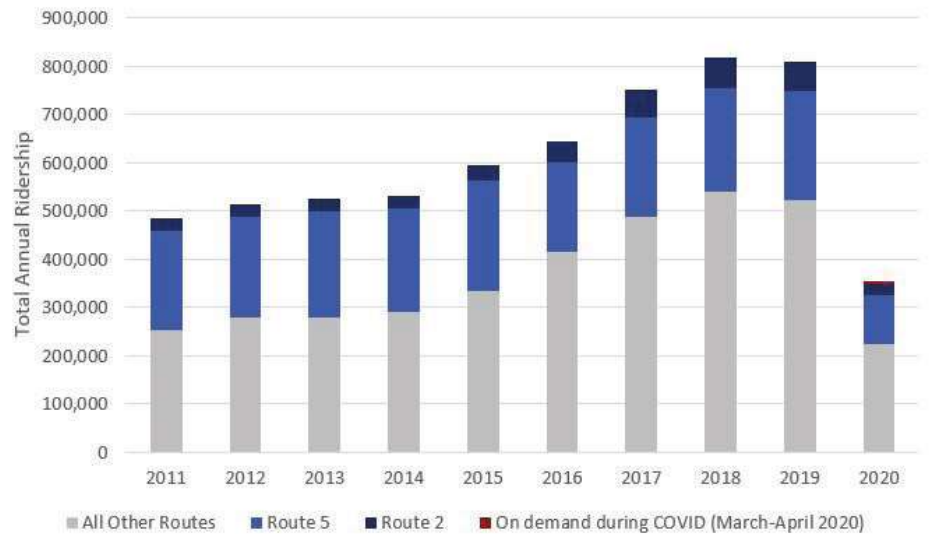
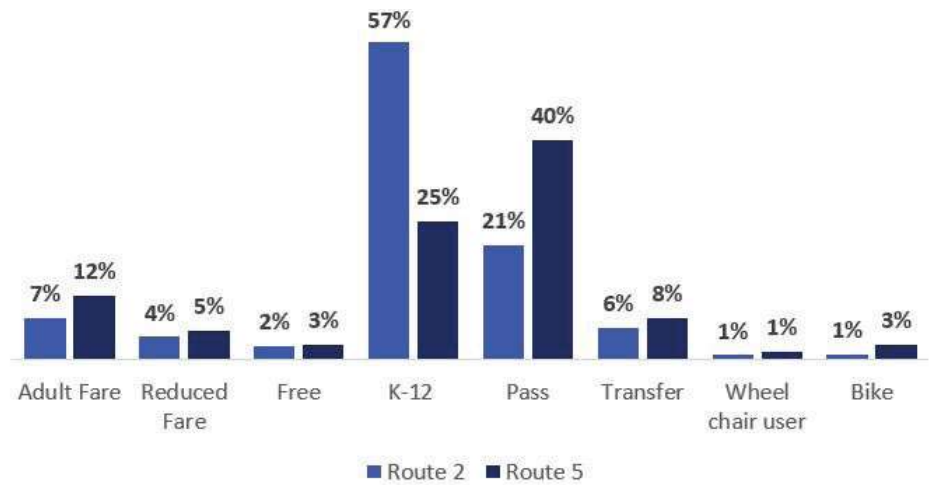


Figure 2.28: Rider Characteristics as Share of Total Annual Ridership (2019)



service. The two highest ridership stops in Evans on Route 5 are adjacent to apartment complexes. There are several apartment complexes in Evans that are not currently served by transit that may be important locations for future transit service or micro-transit or shuttle programs. Additional transit service should also focus on connecting to more schools as school age riders are a large portion of overall ridership.

Evans's ridership (boarding or alighting at an Evans stop) made up 21% of Route 2 ridership and 11% of Route 5 ridership for the week. Stop level data should be reevaluated once additional data is available.

Human Service Providers & Private Transportation Providers

In addition to Greeley-Evans Transit there are several human service providers that operate transportation services:

- Envision
- Foothills Gateway
- Senior Resource Services
- Heart & Soul Paratransit

Opportunities

The City of Evans has the opportunity to work with Greeley-Evans Transit to continue to identify opportunities

Table 2.4: Weekly Ridership by Stop in Evans

Route	Bus Stop Location	Total Weekly
2	23rd Ave / Sams Club (32nd St)	32
2	Riverside Library	30
2	37th St / 17th Ave	25
2	37th St / 11th Ave	23
2	Empire St / 35th St	22
2	23rd Ave / 37th St	16
2	23rd Ave / Anchor Dr (34th St)	12
2	37th St / Boulder St	10
2	37th St / 23rd Ave - Westbound	8
2	31st St / Empire St	4
2	37th St / Myrtle St	4
2	37th St / Burlington Ave	2
2	37th St / Marigold Ct - Eastbound	0
5	11th Ave @ 29th St	220
5	11th Ave @ 29th St	220

for new service areas, stops, and improved frequencies of fixed-route transit, particularly near apartments, civic services, and commercial areas. However, due to the lower density nature of Evans, traditional fixed-route transit may not always be the best solution for increasing transit access across the city. In addition to looking for opportunities to improve fixed route transit, the city should also consider the following opportunities to increase transit ridership and access throughout Evans:

- **Accessible bus stops with amenities for transit riders**
Many but not all bus stops in Evans have benches and very

few have additional amenities such as shelters, lighting, or trash cans. Comfortable and accessible stops that include amenities like shelters from heat and weather, lighting, benches, and bicycle parking can have positive impacts on ridership and make transit more accessible to many.

- **Prioritize pedestrian and bicycling improvements that connect to bus stops**
Where transit service does already exist, improving the comfort of the bicycle and pedestrian facilities connecting to a stop can make taking transit accessible to more people.

- **Public Information / Transit Marketing Campaign**
Launch a marketing/public information campaign to educate residents and employees in Evans to encourage transit ridership and educate people on transit options. Such a campaign could include working with employers or schools to provide incentives to employees or students who use transit. This effort could build on the success of RideNoCo, a program of the North Front Range Metropolitan Planning Organization that works to expand transportation resources in Larimer and Weld Counties by enhancing opportunities for coordination between transportation providers.
- **Partner with Human Service Providers**
Coordinate and develop partnerships with local human service providers to understand what needs they have. Work with human service providers and private transportation providers to understand how they may be able to work with the city to improve or expand service and to meet existing unmet needs for local trips and to connect more people to existing fixed-route transit.
- **Shuttle or Micro-Transit**
Where traditional fixed- route service may not be appropriate or where extended service hours are needed, shuttles or on-demand micro-transit services should be considered as ways to connect more people to transit as well as replacing some local trips that would otherwise need to be taken by car. Greeley-Evans Transit’s “Call-n-Ride” service is a great example of this type of program.

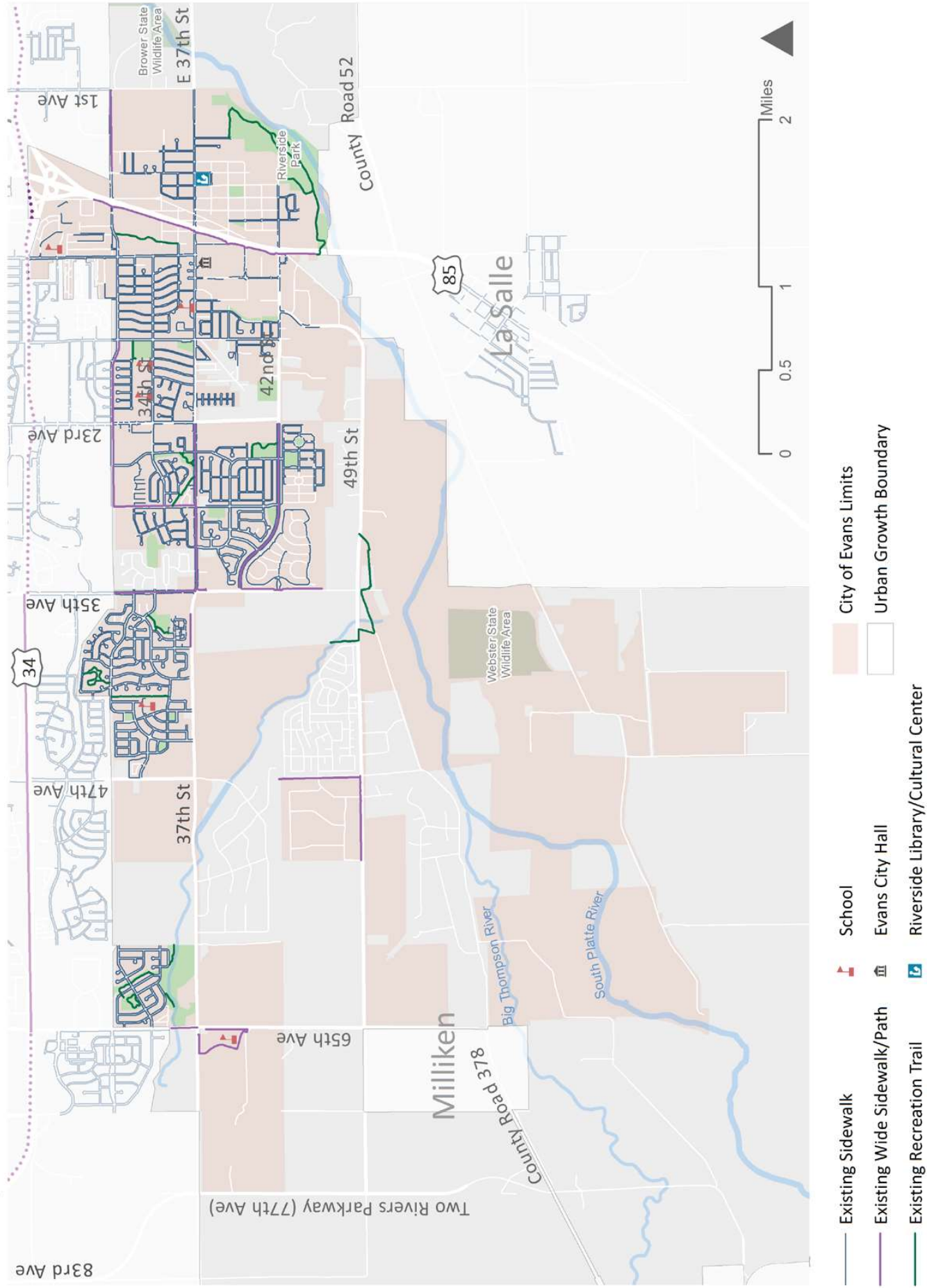
ACTIVE TRANSPORTATION

Pedestrian Network

Currently Evans has a robust existing sidewalk network which includes smaller pedestrian walkways and wide bike and pedestrian paths throughout the city. There are some gaps in this network currently, but there are also many planned wide (10 foot) sidewalks and trails identified in previous planning efforts that can bridge gaps. A focus on prioritizing and implementing previously proposed projects would go a long way toward improving the pedestrian network in Evans. **Figure 2.29** shows the existing pedestrian facilities (as of October 2021) throughout Evans. A list and map of all the proposed pedestrian facilities can be found in **Chapter 9**.

In addition to improving connectivity, public outreach identified that a lack of shade and other pedestrian amenities (such as benches, shelters, pedestrian scale lighting) are barriers to walking and accessible transportation around Evans.

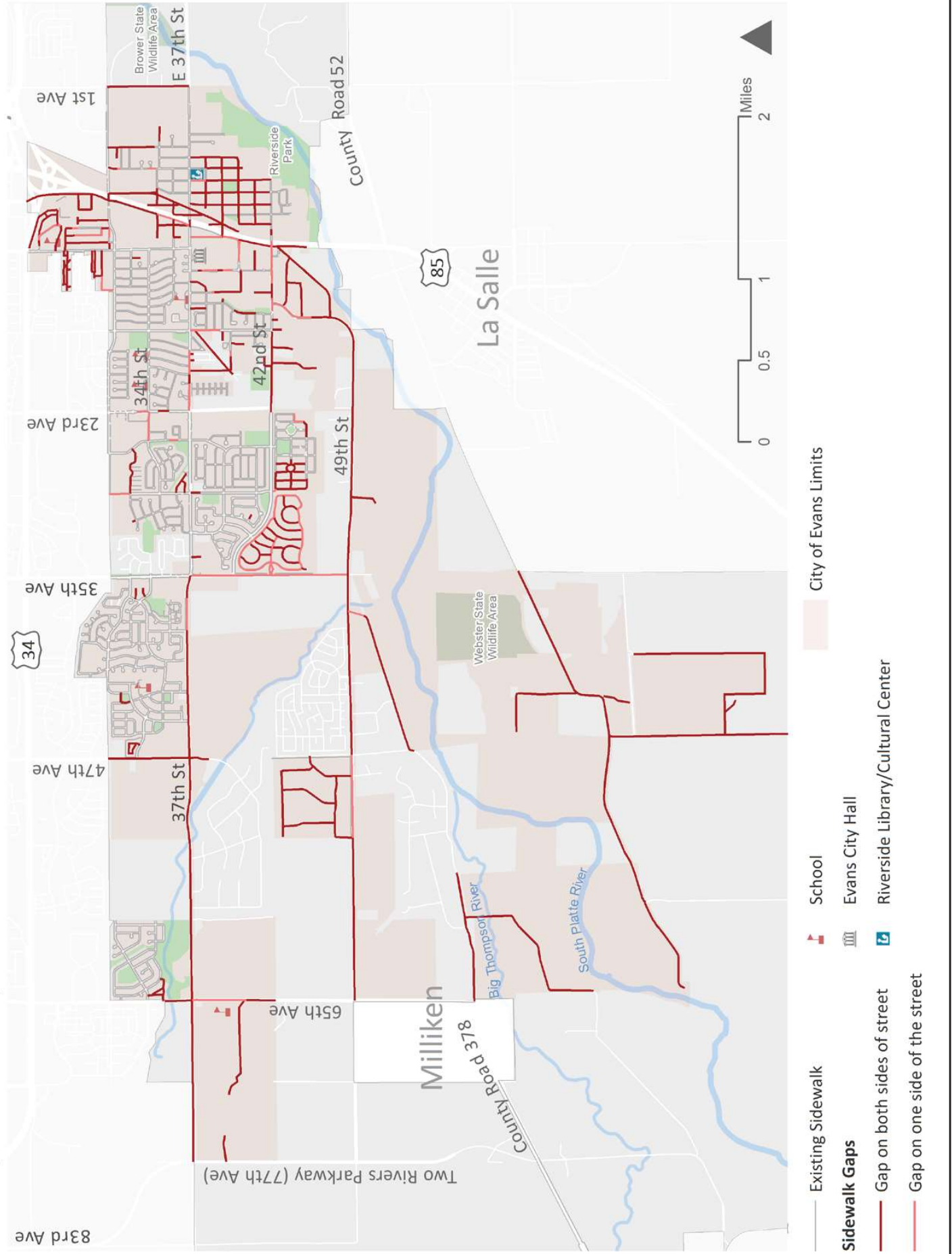
Figure 2.29: Evans Pedestrian Network



Sidewalk Gaps

As part of the existing conditions analysis for the MMTMP, a dataset of sidewalk gaps within the City of Evans was developed. This dataset looked at roadways within Evans City limits and identified locations where sidewalks are missing on one or both sides of the street. **Figure 2.30** displays a map of the existing sidewalk gaps. For roadways within the City of Evans limits, 34% of the potential sidewalk network has been completed. There are many places where sidewalk gaps exist on one or both sides of a roadway. As land develops or roadways are reconstructed, these sidewalk gaps can be filled to create a more connected pedestrian network.

Figure 2.30: Map of Existing Sidewalk Gaps

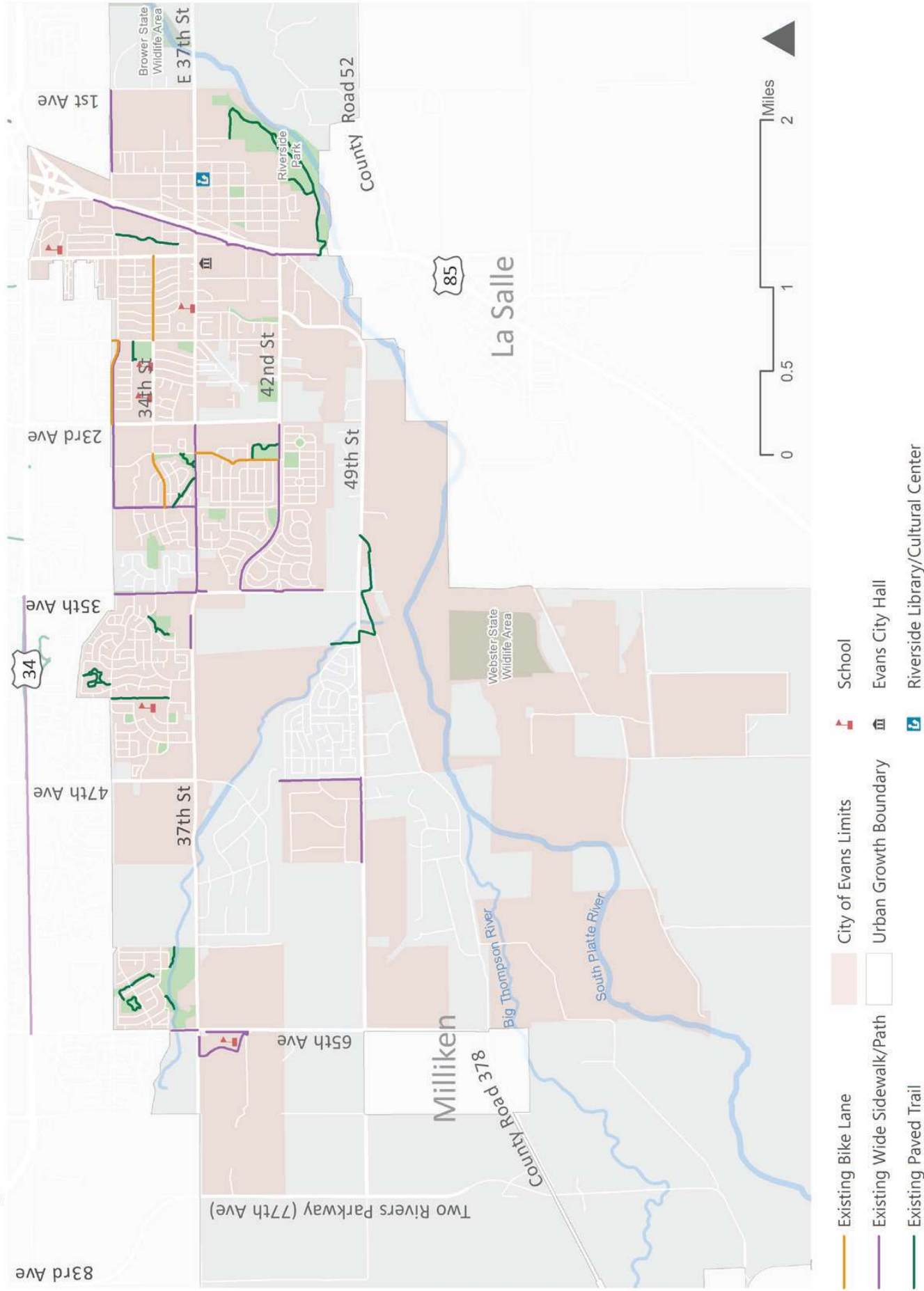


Bicycle Network

The City of Evans bicycle network is currently made up of disconnected facilities. Previous planning efforts have identified locations for future trails and wide sidewalks to create a more connected bicycle network. Public outreach showed an interest from Evans residents in higher-comfort bicycle facilities around the city where people biking have their own lanes separate from traffic or are entirely off-street on paved trails. Similarly to the pedestrian network, this portion of the MMTMP will focus on how to prioritize and implement new bicycle facilities. **Figure 2.31** displays the existing bicycle facilities in Evans and a list and map of all the proposed bicycle facilities can be found in **Chapter 9**.

Street conditions, traffic, and a lack of bicycle parking were top barriers to bicycling identified by respondents to the MMTMP community survey. A maintenance plan and funding for bicycle facilities, traffic calming improvements on bicycle priority streets, and encouragement or requirement of bicycle parking facilities are all important to the success of the Evans future bicycle network.

Figure 2.31: Evans Bicycle Network



Sidewalk, Trail, and Bike Lane Standards

Bicycle Lanes

Bicycle lanes are listed as appropriate on collector roads (major, minor, and commercial) only and have a minimum width of 5 feet but a preferred width of 6 feet. Minor collectors are estimated to have 5,000 ADT, a designed speed of 40 MPH, and a posted speed of 35 MPH.

Parking Lanes

Parking lanes are listed as appropriate on local roads only and have a minimum width of 9 feet.

Sidewalks

- Sidewalk requirements vary by roadway type:
- Arterials: 10-foot detached sidewalk
- Major Collector: 8-foot detached sidewalk
- Minor and Commercial Collector: 8-foot attached sidewalk
- Local: 5-foot detached, or 6-foot attached
- Rural Local and Alley: No sidewalk requirements

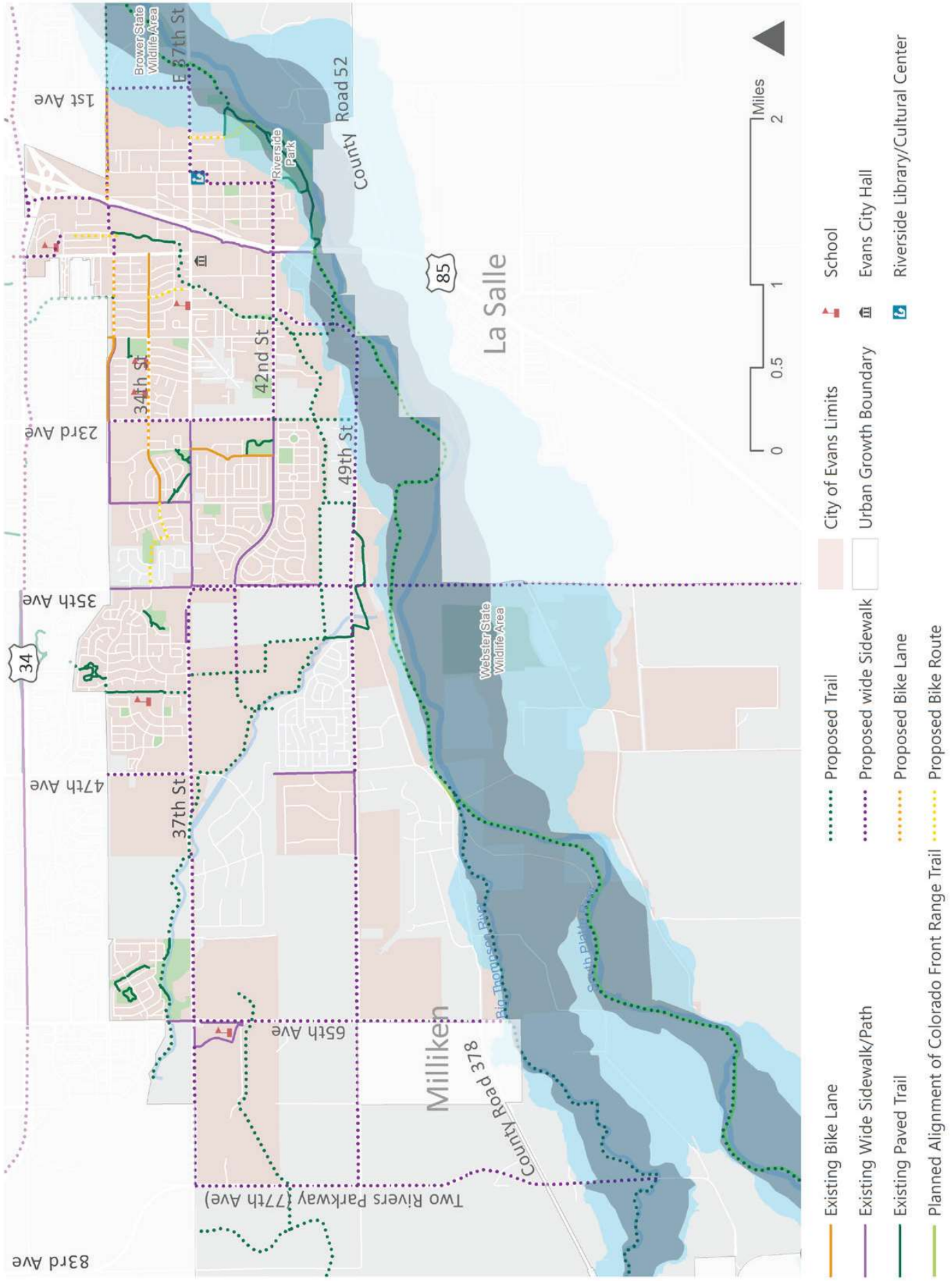
Paved Trails

According to Evans's Open Space and Trails Plan (2004) paved multi-use trails should be 8-10 feet wide. The Open Space and Trails Plan also recommends a three-foot soft-surface path adjacent to the trail were possible or appropriate.

Gaps and Opportunities

Opportunities to bridge infrastructure and network gaps in the bicycle and pedestrian network were identified in previous planning efforts but have not yet been able to be implemented due to a lack of available funding. This MMTMP focuses on a path towards implementation of these projects, including potential partnerships and creative grant and funding opportunities, to help move the Evans vision closer to reality. New opportunities for connections identified through this current state analysis include more frequent and comfortable bicycle and pedestrian connections to Greeley's bicycle and pedestrian network and by utilizing the floodway and existing easements as opportunities to create new trail connections. **Figure 2.32** displays the new floodway and floodplain through Evans as well as proposed bicycle and pedestrian facilities.

Figure 2.32: Floodway & Floodplain with Bicycle Facilities Map



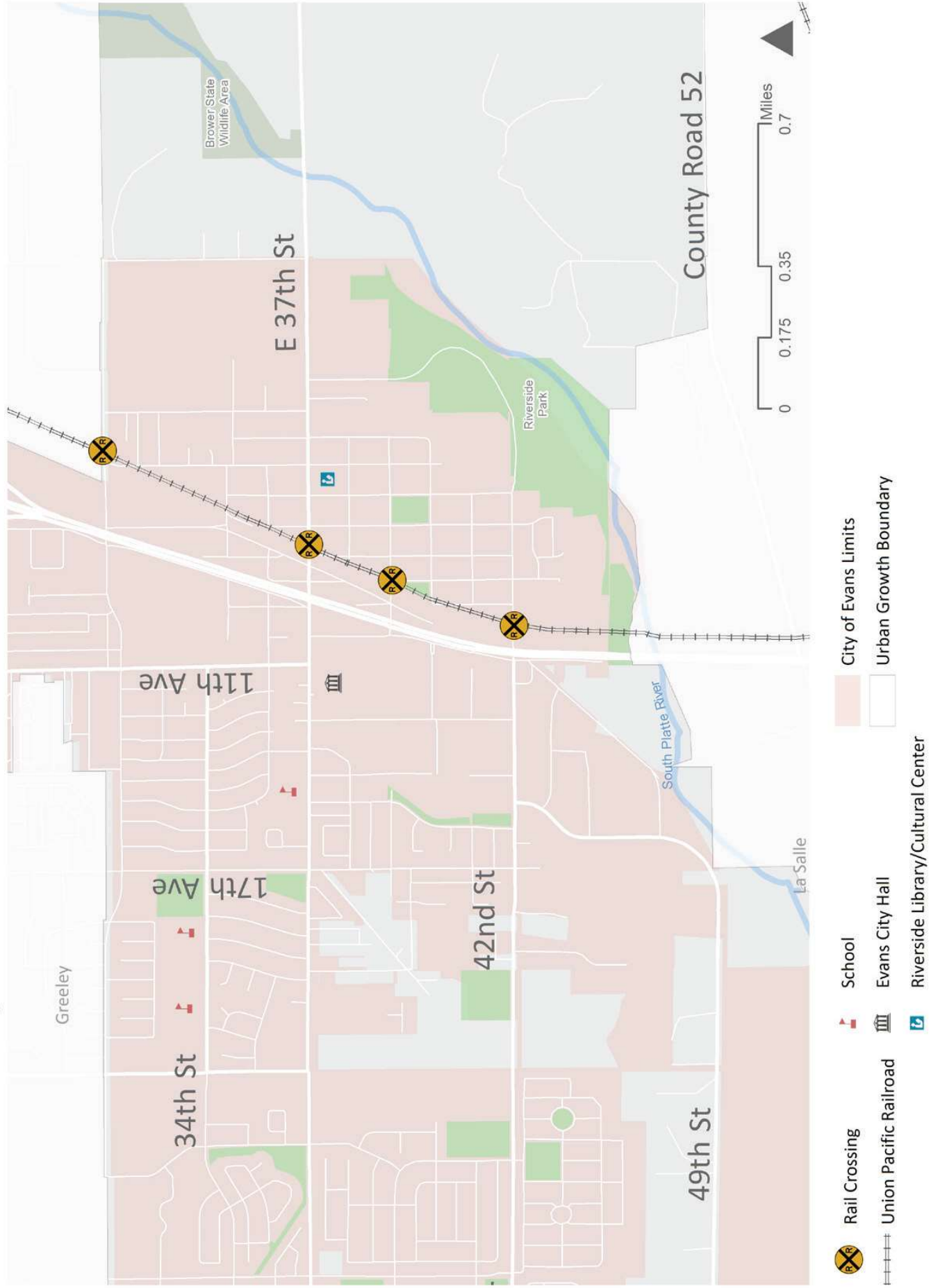
Freight

Rail Crossings

There are four roadways that currently have at-grade freight rail crossings. All four (31st Street, 37th Street, 39th Street and 42nd Street) are located in East Evans (**Figure 2.33**). Given that the freight railroad tracks cross through some of the more densely populated neighborhoods in Evans, it is important to note the potential impacts of freight rail on safety, traffic circulation, and quality of life. Lengthy wait times during train crossings can delay east-west travel and leave East Evans residents facing connectivity issues with the rest of the city. This is especially likely to be an issue at the 31st Street and 37th Street crossings where there are approximately 3,870 and 4,580 vehicles crossing the train tracks per day respectively. Frequent grade crossings can also pose a safety issue for bicyclists and pedestrians. These issues can be mitigated through signage and enhanced barriers that prevent users from entering the crossing when trains are present.

A quiet zone study for the freight corridor through Evans was completed in early 2021 and provided estimated costs to install improvements for establishing a quiet zone along this corridor. The quiet zone would likely be established in three phases for the four rail crossings (**Figure 2.33**) as two of the crossings (37th and 39th Streets) would need to be implemented jointly due to their proximity (<1/4 mile apart). The estimated cost to implement the quiet zone is approximately \$1.1 million. The City will need to seek outside funding along with local funds to create a quiet zone for the entire corridor, which is less than 1.2 miles.

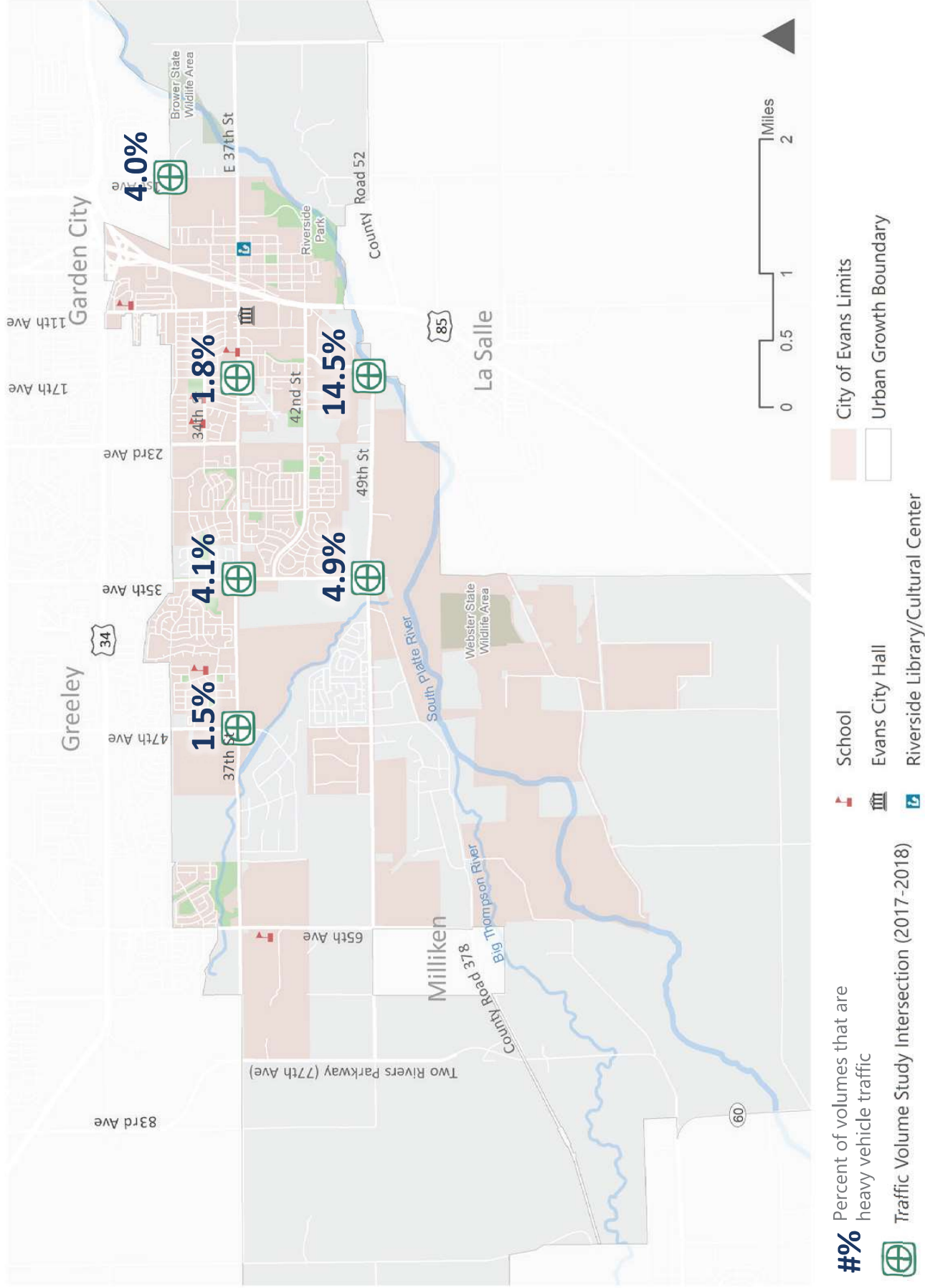
Figure 2.33: At-Grade Rail Crossings



Heavy Vehicle Volumes

Freight trucks make up a significant percentage of local traffic in certain pockets of the community. Current Freight haul routes include Two Rivers Parkway, State Highway 60, US 34, and US 85. Figure 2.34 shows heavy vehicle volumes at selected intersections. For the purposes of this analysis, heavy vehicles were considered to be trucks with three or more axles. While heavy vehicles make up a low percentage of overall traffic through the center of Evans on 37th Street, they have a more significant presence along 49th Street where freight vehicles are needed to serve the industrial land uses. The final MMTMP recommendations (Chapter 9) ensure current freight vehicle routing is compatible with the locations where multi-modal travel is occurring and that freight routes have minimal interaction with recommended locations of trail crossings, future transit routes, or corridors where future residential development may occur.

Figure 2.34: Heavy Vehicle Volumes by Intersection (2017-2018)



SAFETY

CRASH ANALYSIS

Evans has seen roughly the same number of annual traffic crashes since 2014, holding steady at a little over 400 each year (**Figure 2.35**). In 2020, crashes dropped dramatically, likely due to behavior change and reduced driving during the COVID-19 pandemic, but it remains to be seen whether that downward trend continues.

High Crash Locations

Examining the geographic distribution of crashes reported over the past four years, several corridors and intersections emerge as the most challenging locations for people walking, bicycling, and driving in Evans.

As seen in **Figure 2.36**, three corridors stand out for the density of crashes that occur along them – 37th Street from 65th Avenue to Marigold Court, 31st and 32nd Streets from Harbor Lane to 1st Avenue, and 11th Avenue from US-34 to 37th Street. More than 40 crashes occurred on each of these corridors in the past four years, many of which involved pedestrians and cyclists and/or resulted in serious injuries (serious crashes are any resulting in death or serious injury, otherwise known as KSI crashes). The segment of 37th Street identified was the location of 74 crashes, 31st/32nd Street hosted 103 crashes, and 11th Avenue hosted 42 crashes.

Two intersections stand out for the prevalence of serious crashes: 31st Street & US-85 and 32nd Street & 23rd Avenue. There have been nine crashes in the past four years at 31st Street & US-85 that involved a serious injury, and one crash involved a crossing pedestrian. At 32nd Street and 23rd Avenue, seven crashes involved a serious injury, one of which was also pedestrian-involved.

Figure 2.35: Total Crashes Per Year (As of October 2021)

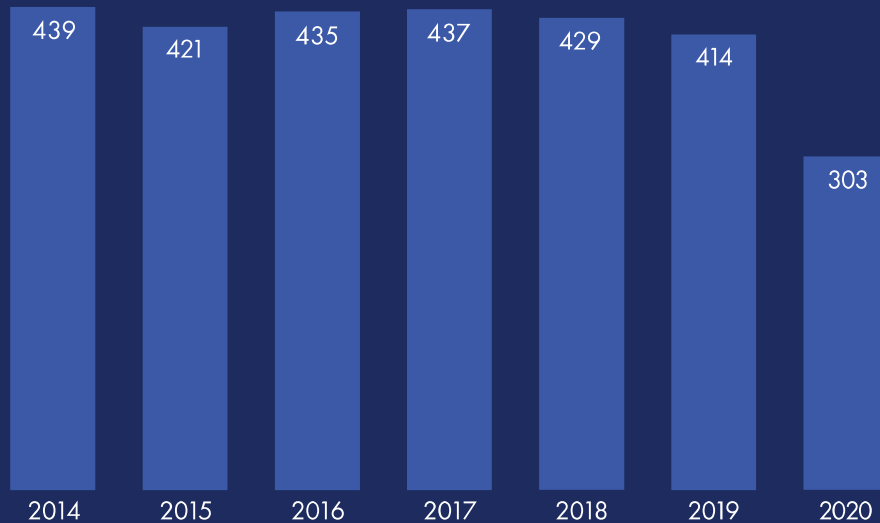
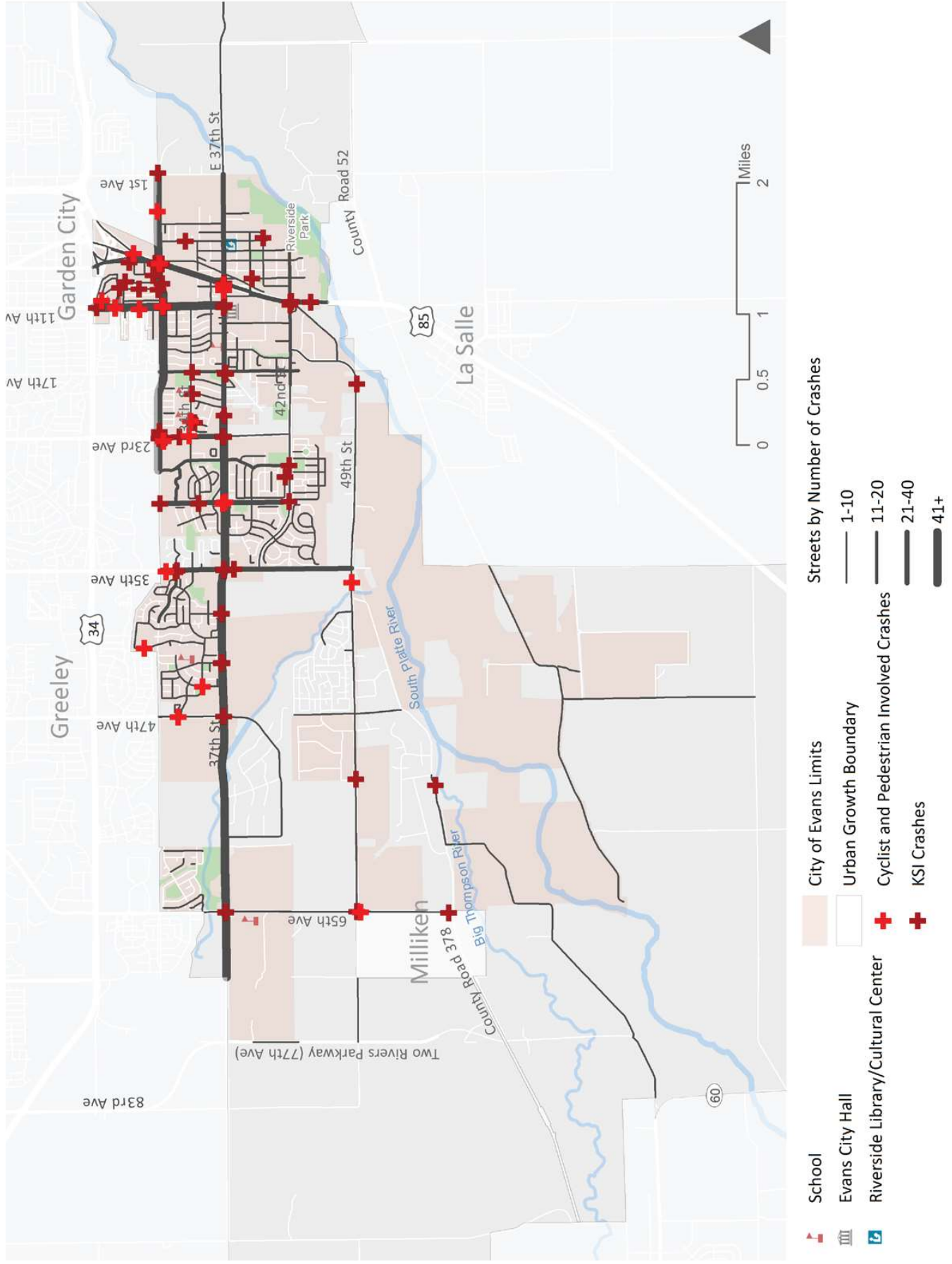


Figure 2.36 Traffic Crash Map, 2018-2021



Crash Types

The primary crash types in Evans are rear ends, broadsides, and sideswipes. Crashes involving people walking are far more frequent than those involving people cycling, which suggests the need to prioritize safe sidewalks and crosswalks.

Safety at Major Pedestrian Crossings

The existence of two U.S. highways in and near Evans creates a major north-south barrier to accessing Greeley by rolling or on foot (US-34) and a major east-west barrier to accessing the eastern part of the city (US-85). There are a few key connections across these highways that provide access for people walking and rolling. None of these intersections feature facilities for people riding bicycles. The posted speed limit on US-85 for vehicles traveling into Evans is 45 mph, and pedestrian crossings of US-85 were flagged by residents as being challenging (community input is further detailed in **Chapter 3**). Many of these crossings also appear on the map in **Figure 2.36** as hotspots for serious crashes.

Already mentioned previously, the intersection of US-85 and 31st Street has seen nine crashes involving serious injuries and one involving a pedestrian. Pedestrians crossing US-85 at 31st Street navigate the Frontage Roads as well as the highway travel lanes, making this crossing challenging when heavy vehicle volumes are present. (**Figure 2.38**). Additionally, there is one crosswalk in the east-west direction on the south side and one in the north-south direction on the east side.

A similar situation exists at the crossing of US-85 at 37th Street, minus one frontage road (**Figure 2.39**). This intersection hosts slightly fewer crashes than the 31st Street intersection.

Figure 2.37: Primary Crash Events

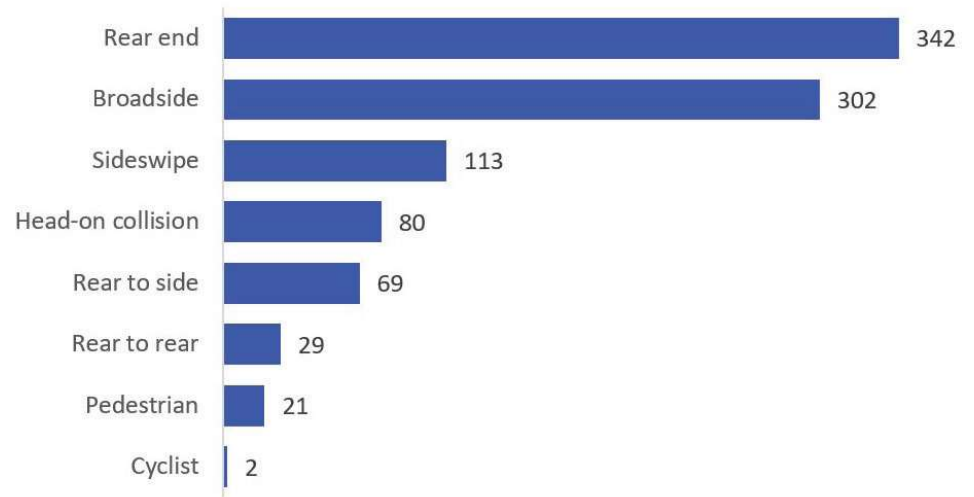


Figure 2.38: US-85 and 31st Street



Figure 2.39: US-85 and 37th Street



The intersection just south at 42nd Street also hosts fewer crashes than 31st Street but still poses significant challenges for bicyclists and pedestrians. With eight lanes of traffic, the crossing distance of US-85 is approximately 110 feet (**Figure 2.40**). Presently, crosswalks are present on the east and south sides of the intersection.

While travelling east-west in Evans is made difficult by US-85, travelling north-south is also challenging due to conditions that can make crossing US-34 challenging. With 35% of Evans residents who work outside of Evans travelling just north to neighboring Greeley, these connections are extremely important. With safe crossings of US-34, Evans residents would have a viable option other than driving to make the short trip to Greeley. They could have a pleasant walk or bike trip to work, while reducing traffic congestion on key travel corridors.

Numerous crashes occur at the primary crossing of US-34 at 11th Avenue each year. While pedestrians have a complete set of crosswalks, they must navigate wide crossing distances with 45 mph traffic (**Figure 2.41**). Sidewalks are between four and six feet wide and directly adjacent to traffic along 11th Avenue.

The other key connection across US-34 at 8th Avenue lacks sidewalks or facilities for people bicycling (**Figure 2.42**).

Figure 2.40: US-85 and 42nd Street



Figure 2.41: US-34 and 11th Avenue



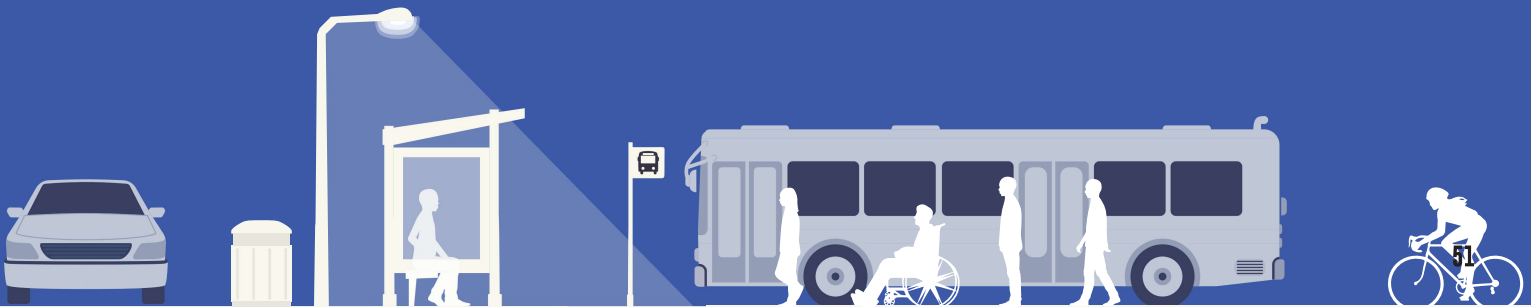
Figure 2.42: US-34 and 8th Avenue



CONCLUSION

The MMTMP explores how to build upon the strengths of the existing transportation system while improving access to key local and regional destinations through enhanced transit connectivity, expanded pedestrian and bicycle facilities, traffic calming, safer intersections, and street amenities like shade, lighting, and enhanced bus stops. It is through understanding the current state of transportation in Evans that the City can envision opportunities to expand service, improve infrastructure, and embrace alternative modes of transportation to serve not only a growing community, but a connected region.

CHAPTER 3 PUBLIC OUTREACH





PUBLIC OUTREACH

OVERVIEW

The MMTMP was informed by a comprehensive public outreach process. This chapter summarizes the engagement efforts the City of Evans undertook and highlights the most consistent themes regarding transportation needs that emerged during the plan development process. Outreach initiatives included surveying, virtual community workshops, and two open house-style events (Figure 3.1). In addition, the MMTMP effort was represented at local events like Heritage Days and the Bike to Work Day event, where community members could provide feedback on plan recommendations. The planning process was guided by a Master Plan steering committee; project staff met with the committee regularly throughout the process to provide updates and seek input on plan recommendations. In total, approximately 400 community members provided input specifically on the MMTMP and approximately 2,000 community members provided input for the Master Plan. This chapter provides a

Figure 3.1: May 27th, 2021 Master Plan Community Event (credit: Heather Utrata)



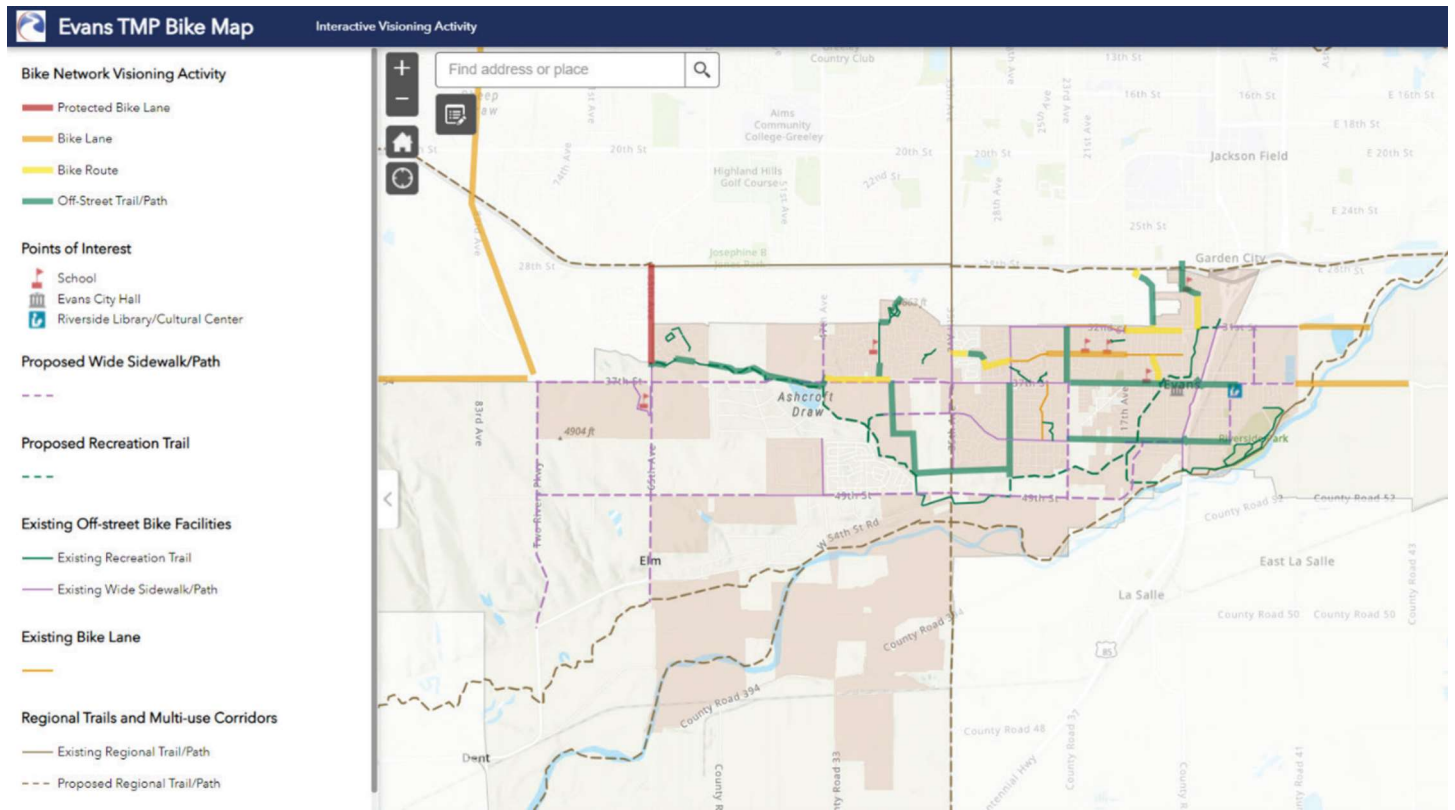
summary of the outreach activities along with a digest of the key takeaways that informed plan recommendations.

MASTER PLAN STEERING COMMITTEE

The MMTMP project team met with the City of Evans Master Plan Steering Committee six times from January 2021 to September 2021

to provide updates on the planning process, seek input on community priorities, and to obtain feedback on plan milestones. The Committee membership represented a wide range of community interests including local elected officials, school district representatives, City staff, community group representatives, and regional partners. Initial meetings were held virtually due to COVID-19. Committee

Figure 3.2: Example of Online Transportation Connection Visioning Map Used by Evans Master Plan Steering Committee Members



members used an online mapping tool to show project team members locations where travel is currently challenging and also to highlight potential opportunities for new connections. An example is shown in **Figure 3.2**.

Starting in July 2020, the project team had developed draft future transportation networks and was able to collaborate with the Steering Committee to obtain feedback. Committee members were provided with draft network maps by transportation mode, along with tables describing each project, and were asked to provide feedback on whether the suggested improvements would improve connectivity in the community and whether additional opportunities could be evaluated (**Figure 3.3**). The Steering Committee oversaw the plan development process and provided critical guidance on how best to tailor the MMTMP to the community’s needs.

Figure 3.3: Master Plan Steering Committee Members Providing Input on Proposed Transportation Improvements (credit: Heather Utrata)



COMMUNITY TRANSPORTATION SURVEY

OVERVIEW

Community members were surveyed about the existing transportation network during the summer of 2020 and 104 individuals submitted responses. The top four types of transportation improvements that respondents wanted prioritized in the MMTMP were: improved traffic flows on major roadways (22% of respondents), a balance of all modes (21% of respondents), building and improving sidewalks (18% of respondents), and improving safety for all modes of transportation (17% of respondents) (**Figure 3.4**). The survey results also showed that driving is currently the most common (**Figure 3.5**) and least challenging (**Figure 3.6**) mode of transportation in Evans. Survey respondents identified what types of improvements they would like to see to improve transportation in Evans. Common responses in the survey results across modes included the desire for bicycle facilities separated from traffic, mitigation of vehicle speeds, improved amenities for people walk, bicycling, and taking transit. Additional survey responses are broken up by mode in this section.

Figure 3.4: Top Four Responses - What are the most important factors the City should consider when prioritizing transportation projects and spending?

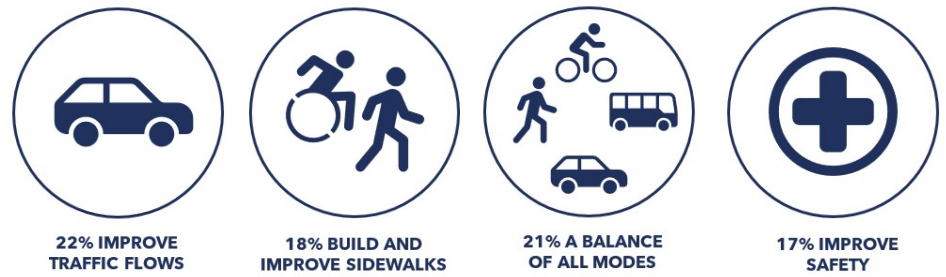


Figure 3.5: Share of survey respondents who use each mode of transportation three or more days per week

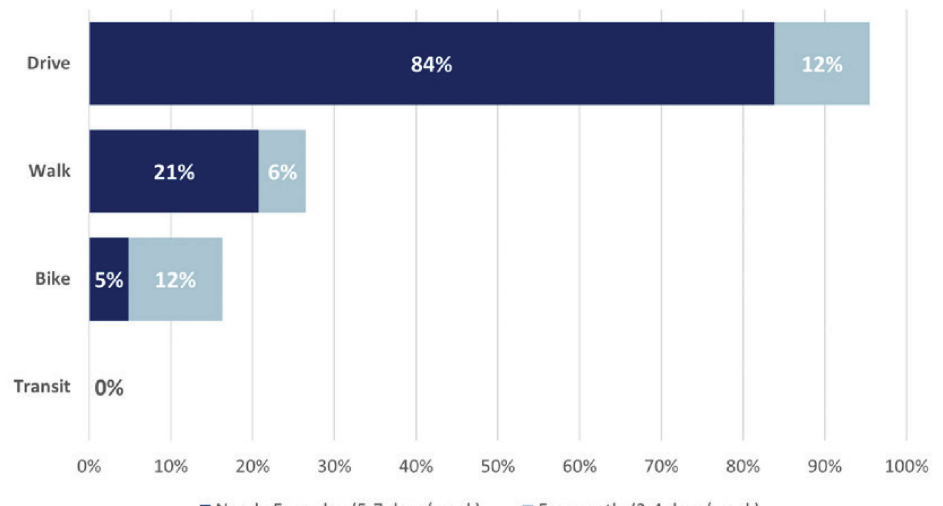
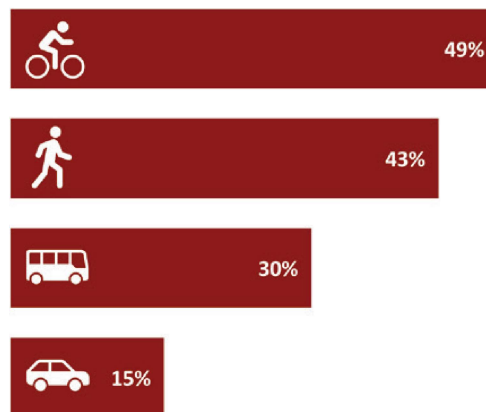


Figure 3.6: Share of survey respondents who identified each mode of transportation as challenging to use



Bicycling

Survey respondents most commonly cited the lack of separated bicycle lanes or paths as a barrier to them choosing to bicycle in Evans (Figure 3.7). The next most common barrier cited was street conditions, followed by traffic intensity. About a quarter of respondents also noted missing bicycle parking at destinations as a hindrance.

Survey respondents most frequently identified trails as desired locations to ride, with 40% of participants reporting using the facilities (Figure 3.8). Roughly a quarter of participants also reported biking to shopping areas, public facilities, recreation facilities, or restaurants.

Walking

Most survey respondents agreed that they would walk more often with street amenities like shade and lighting (Figure 3.9). About half agreed that they would walk more often with amenities like waste receptacles and benches. Fewer respondents (20%) noted that drivers in their neighborhood follow posted speed limits.

Figure 3.7: What prevents you from bicycling in Evans?

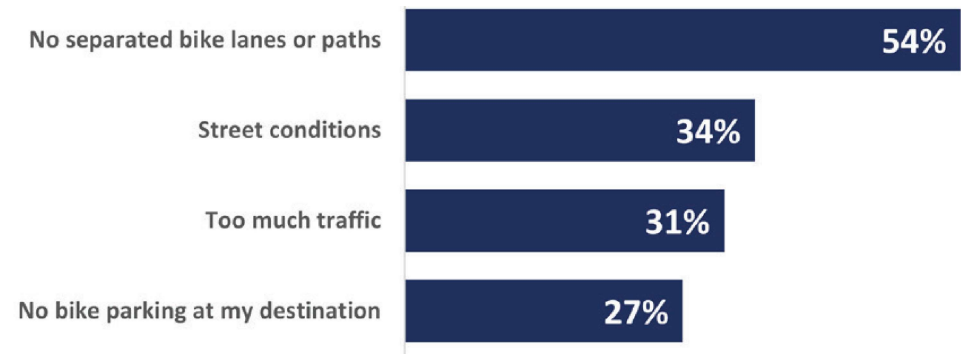


Figure 3.8: Top five desired destinations to bike to in Evans

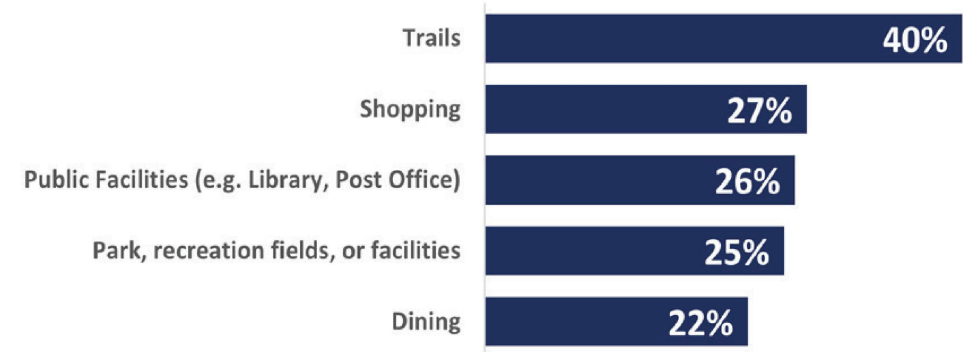
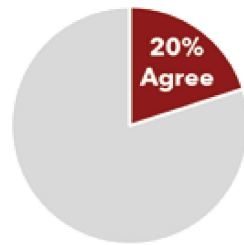
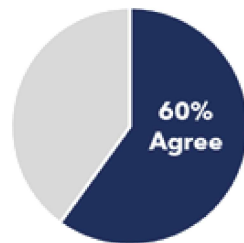


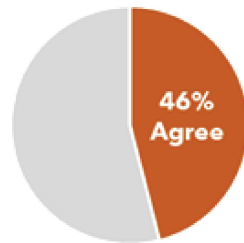
Figure 3.9: Survey results about walking conditions in Evans



Drivers follow the posted speed limit in my neighborhood



I would walk more frequently if sidewalks had more shade and better lighting



I would walk more frequently if there were trash cans and benches along the street

Transit

Most survey respondents wished transit provided access to shopping, followed by dining, followed by public facilities (Figure 3.10).

When asked what improvements could encourage them to ride transit, survey respondents most often noted access to key destinations, stop amenities, their ability to access the transit system itself, and increased service hours (Figure 3.11).

Driving

When asked about the best ways to improve vehicle safety, most participants cited the need for separated bicycle facilities, better crossings at intersections, speed enforcement, and traffic calming elements (Figure 3.12).

VIRTUAL WORKSHOPS

The initial community outreach events for the Master Plan and MMTMP were held as virtual sessions in December 2020. In total, 10 community members participated and provided input to inform the planning process. Participants at these early events expressed an interest in seeing greater pedestrian connectivity (specifically in regard to crossing US-85), improved access to trails, and improved traffic flow at signalized intersections.

COMMUNITY EVENTS

The City of Evans hosted two Master Plan Community Events on May 27, 2021 and August 4th 2021 to gather public input on the MMTMP. These events doubled as opportunities for the public to give input on the Evans Master Plan as well. More than 200 community members (representing 70 households) participated in the May 27th event, representing neighborhoods throughout the City

Figure 3.10: Top three desired destinations for transit



Figure 3.11: Top Four Responses - What improvements could encourage you to ride transit?



Figure 3.12: Top Four Responses - What improvements could improve vehicle safety?



including, but not limited to, Grapevine Hollow, Tuscany, Ashcroft Heights, Hunter’s Reserve and more historic neighborhoods east of 23rd Avenue. The most represented neighborhood was the eastern Evans neighborhood of Old Town with approximately 25% of households attending the event. The August 4th event was open to the public but outreach was specifically targeted to gather input from Spanish speaking Evans community members. Approximately 30 community members attended the August 4th community event. At both events, participants were asked to provide feedback on three aspects of the MMTMP:

1. How to prioritize local investment in transportation
2. What types of transportation facilities residents would like to see in Evans
3. Specific locations where transportation enhancements should be made or where new transportation infrastructure should be added

This section details the results of interactive exercises that engaged participants at each event on one of the three topics listed previously.

PRIORITIZING INVESTMENTS

Event participants were asked to allocate “Evans Dollars” among six buckets representing potential investment areas for the transportation network (**Figure 3.13**). Participants were each provided with five dollars to allocate between the six buckets. Participants were able to place multiple dollars in a single bucket if that bucket represented a particularly important transportation priority to them. This exercise was designed to stimulate consideration for which improvements areas would be most beneficial to the community and to illustrate the trade-offs and decisions that are made at the City level regarding transportation investments.

The results of the dollar voting exercise are shown in **Figure 3.14**. Event participants invested most heavily

in new trails and bicycle lanes. The second highest investment priority was improving roadway crossings.

Figure 3.14: Transportation Priorities Dollar Voting Results

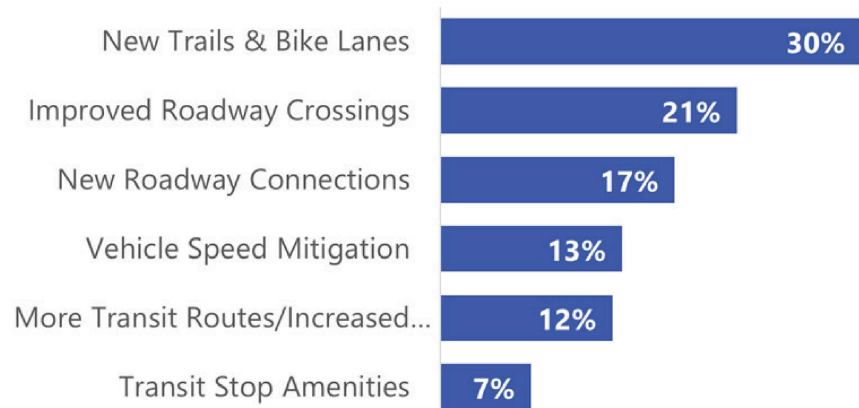
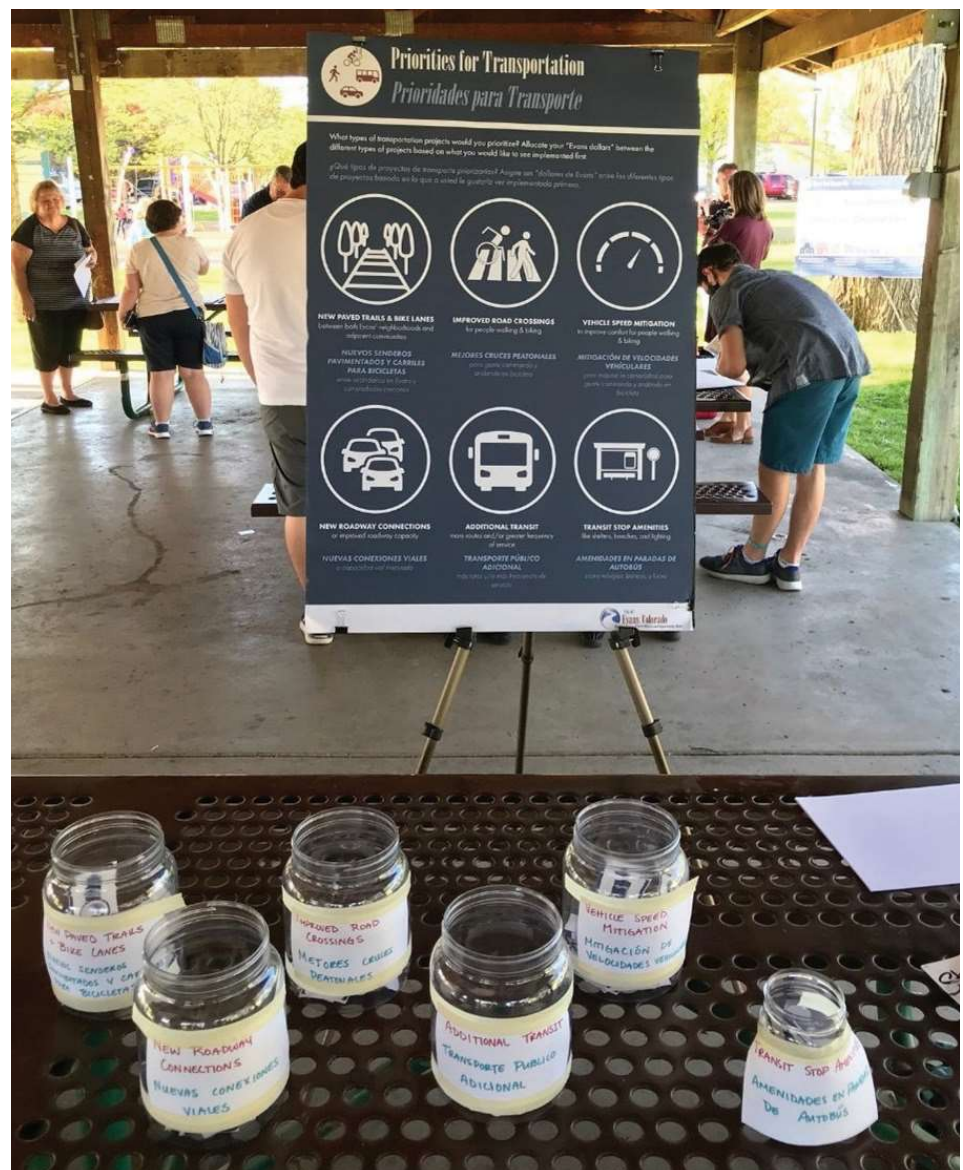


Figure 3.13: Transportation Priorities Dollar Voting



In addition to the dollar voting exercise, event participants shared several pieces of direct feedback with project staff on which types of transportation improvements should be prioritized:

- Adding pedestrian crossings along 11th Avenue in the vicinity of 34th Street
- Roadway maintenance should be prioritized before additional infrastructure is added
- Beyond transit amenities, expanding bus service to serve Prairie View Drive would be beneficial
- In addition to new bicycling facilities, adding signage and wayfinding along existing trails would help community members better navigate these facilities

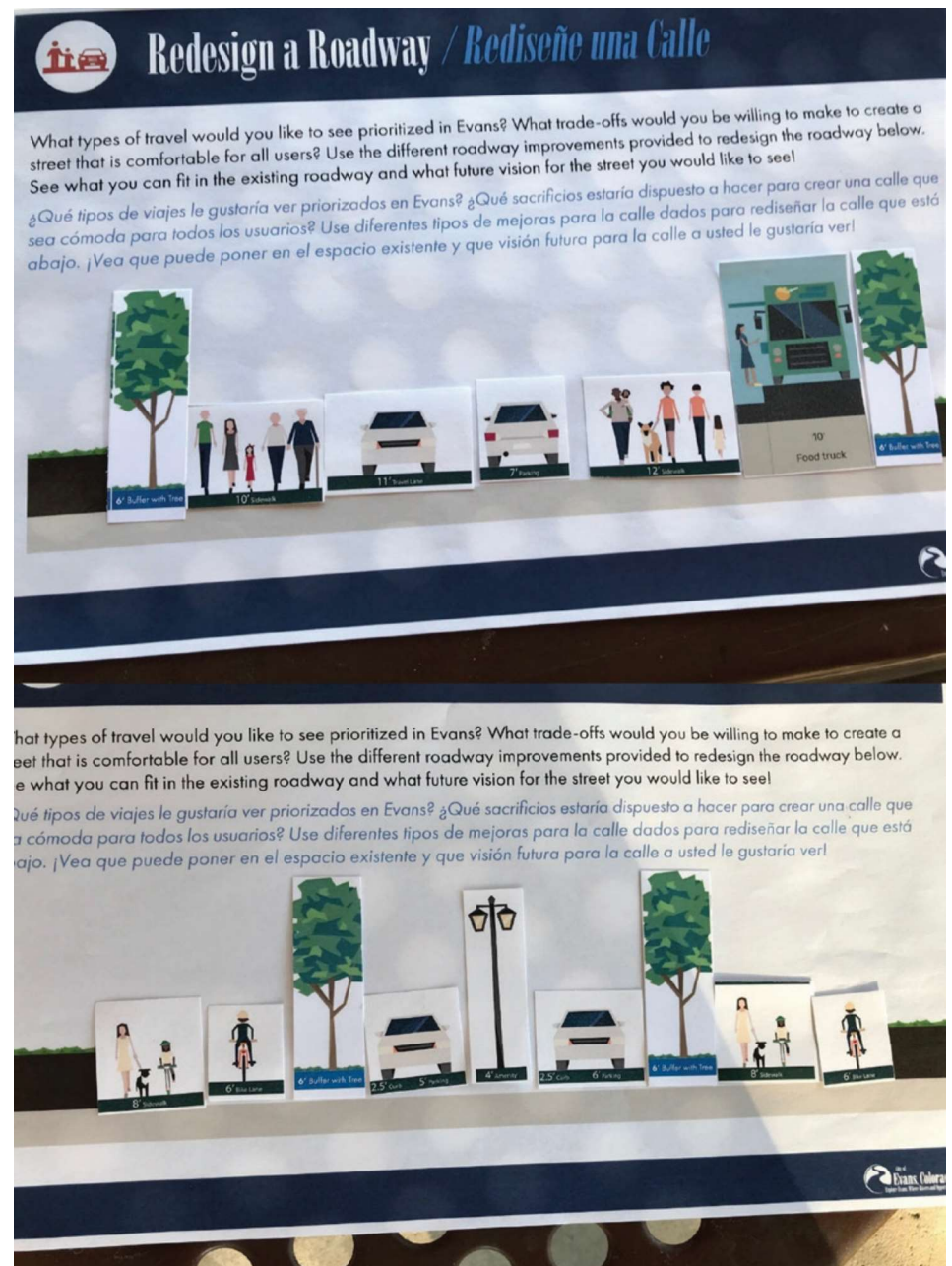
POTENTIAL FACILITY TYPES

Event participants provided input on the type of transportation infrastructure they would like to see in the community through two stations: a roadway cross section design exercise and a multi-modal transportation infrastructure visual preference survey,

Roadway Cross Section Design

One station focused on developing roadway cross section designs that community members felt would create an improved travel environment. Participants were provided paper figures of different transportation elements like vehicle travel lanes, on-street parking, bicycle lanes, planted medians, transit facilities, and wide sidewalks. These figures were printed to scale, which allowed participants to assemble a collection of transportation elements that would fill the width of a standard, four-lane, arterial roadway in Evans. Examples of roadway cross sections designed by participants are shown in **Figure 3.15**. Participants demonstrated an interest in seeing more landscaping and multi-modal travel facilities like wide sidewalks and protected bicycle lanes.

Figure 3.15: Roadway Cross Section Designs



Participants were asked to vote on different types of multi-modal transportation infrastructure they might like to utilize or see in the community. Event participants could use green dots to vote in favor of an element and red dots to denote elements they did not support (Figure 3.16). The voting exhibit board was divided by transportation mode; results by mode are detailed below.

Walking

The station asked participants to consider pedestrian enhancements that could potentially improve both the experience of walking along a roadway and also the comfort of crossing roads at intersections and mid-block locations.

Figure 3.17 shows the voting results for corridor-level improvements. Adding more pedestrian-scale lighting was considered the most beneficial improvement that could be made along pedestrian corridors, followed by more shade.

Figure 3.16: Multi-modal Infrastructure Visual Preference Survey Board

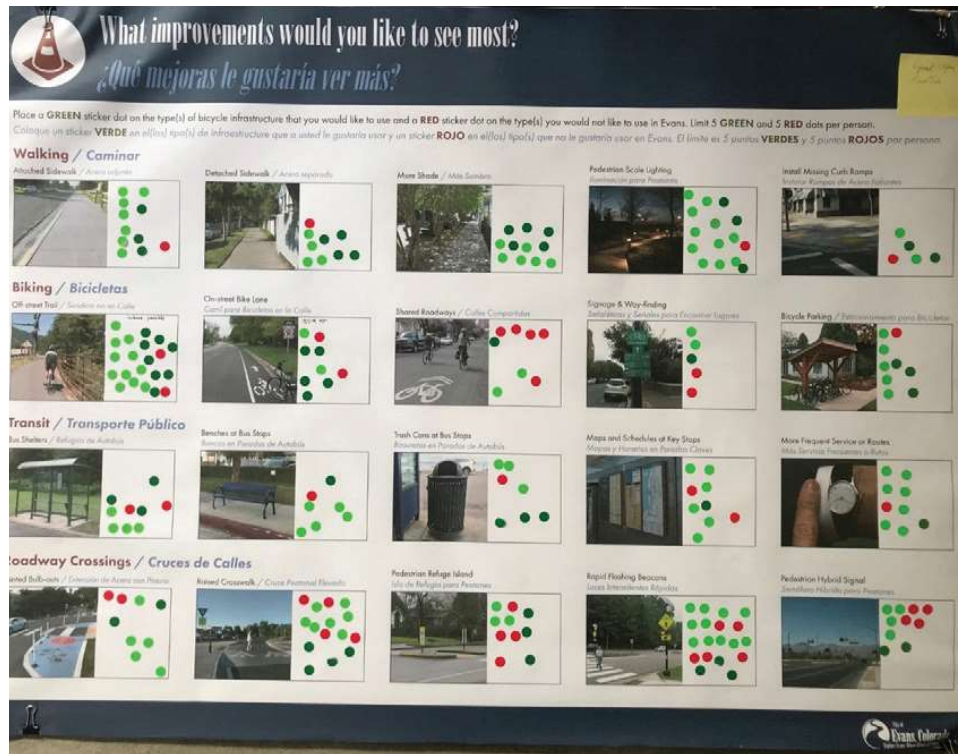
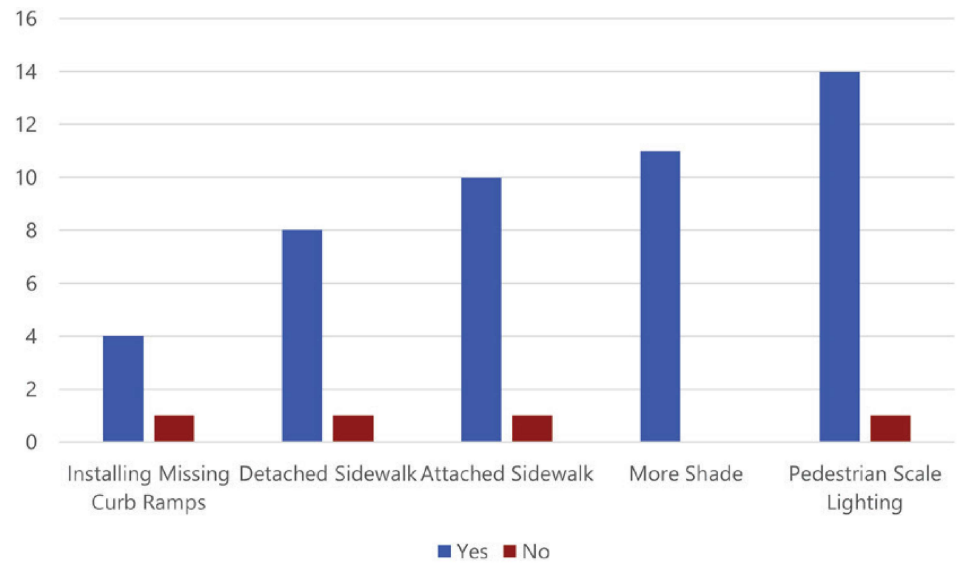


Figure 3.17: Results of Visual Preference Survey for Pedestrian Enhancements Along Corridors



When considering crossing treatments, participants identified Rectangular Rapid Flashing Beacons (RRFB) as the most favored treatment (**Figure 3.18**). RRFBs can be installed at mid-block crossings where no traffic signal is present, or at roundabouts to enhance the pedestrian crossing experience. RRFBs are push-button activated, and alert motorists to yield to pedestrians through activation of high visibility flashing lights. While RRFBs were generally supported by participants, it should also be noted that several participants were not in favor of this treatment.

In addition, raised crosswalks, which compel motorists to slow vehicles down at pedestrian crossings through introduction of a vertical traffic calming element, represented the second most supported crossing treatment. Painted bulbouts were the third most supported treatment and also received the least opposition. Painted bulbouts are a low-cost treatment for narrowing the roadway at intersections, which creates a traffic calming effect, and are effective at providing a reduced crossing distance for pedestrians.

Bicycling

Participants were provided visual examples of five infrastructure treatments that could enhance the experience of riding a bicycle in Evans:

- Off-street trails that are completely separated from vehicle traffic
- On-street bicycle lanes
- Shared roadways on local streets with low-traffic volumes (also known as bicycle boulevards)
- Signage/Wayfinding to help bicyclists navigate the community
- Bicycle parking to increase the number of locations where bicycles can be safely stored while riders are shopping, going to appointments, working, etc.

Figure 3.18: Results of Visual Preference Survey for Pedestrian Enhancements at Intersections

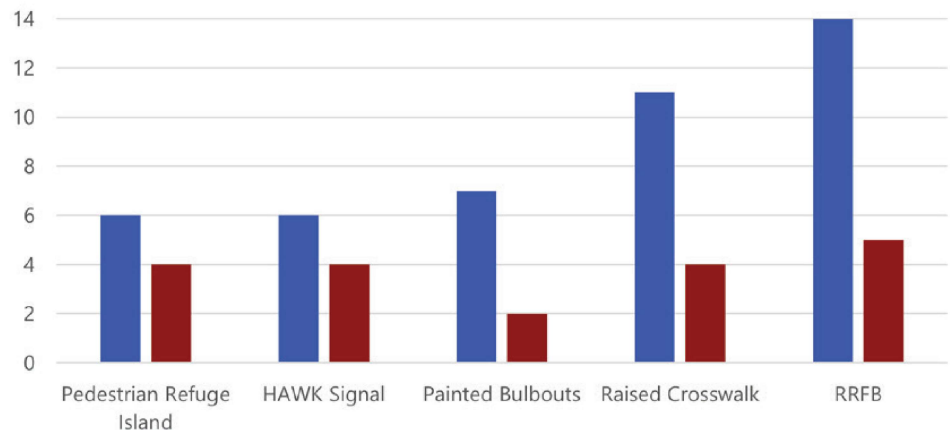
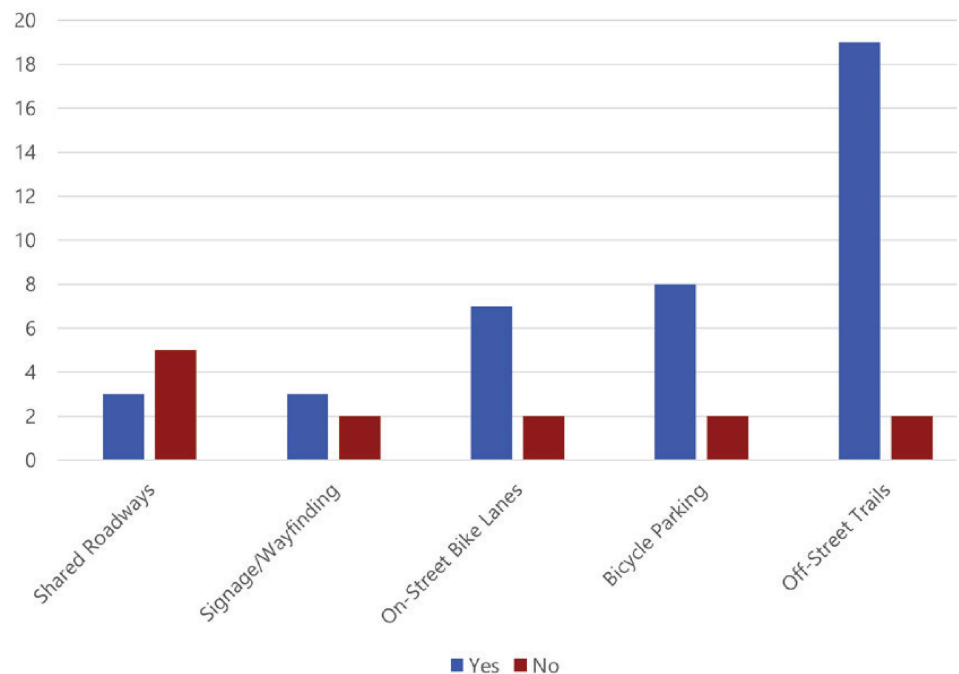


Figure 3.19: Results of Visual Preference Survey for Bicycle Treatments



Of the five options, participants favored off-street trails most heavily (**Figure 3.19**). Shared roadways were the least supported type of bicycle treatment, though respondents tended to have a more favorable reaction upon learning the treatment type would be used exclusively on local streets.

Transit

Participants were shown a set of five potential transit service improvements. Based on the anecdotal experience of the project staff person facilitating the station, few participants were transit riders. This may explain why fewer participants voted for the potential transit improvements than for the bicycling or pedestrian improvements.

The most favored transit improvement was more frequent service, followed by maps and schedules at key stops (Figure 3.20). While some participants did express an interest in more amenities like bus shelters, the results suggest that making the service more user-friendly by decreasing wait times for buses and making information about how to ride more available would potentially help community members who do not currently ride Greeley-Evans Transit to begin using the service.

POTENTIAL PROJECT LOCATIONS

The final aspect of transportation in Evans for which participants provided input was the preliminary set of transportation projects being considered for the MMTMP. Participants were shown a map displaying potential transportation projects grouped by mode: roadway widenings/new connections, new active transportation facilities like trails, and potential corridors for expanded transit service (Figure 3.21). Project staff encouraged participants to add additional project ideas to the map, show support for suggested projects using a sticker dot, or to share reactions directly with the project staff person facilitating the station.

Participants expressed the most support for the following projects:

- Roadway widening and transit service on 37th Street west of 35th Avenue
- 35th Avenue extension to County Road 394
- Pedestrian and bicycle facilities and crossing improvements on 37th Street
- Pedestrian and bicycle crossing improvements on 35th Avenue
- Intersection Safety Enhancements
- 49th Street widening between 47th Avenue and 65th Avenue

Figure 3.20: Results of Visual Preference Survey for Transit Improvements

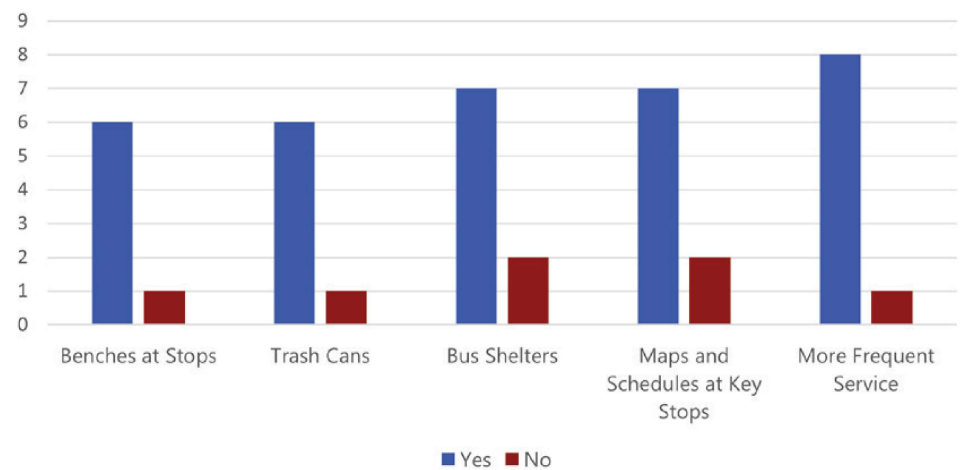
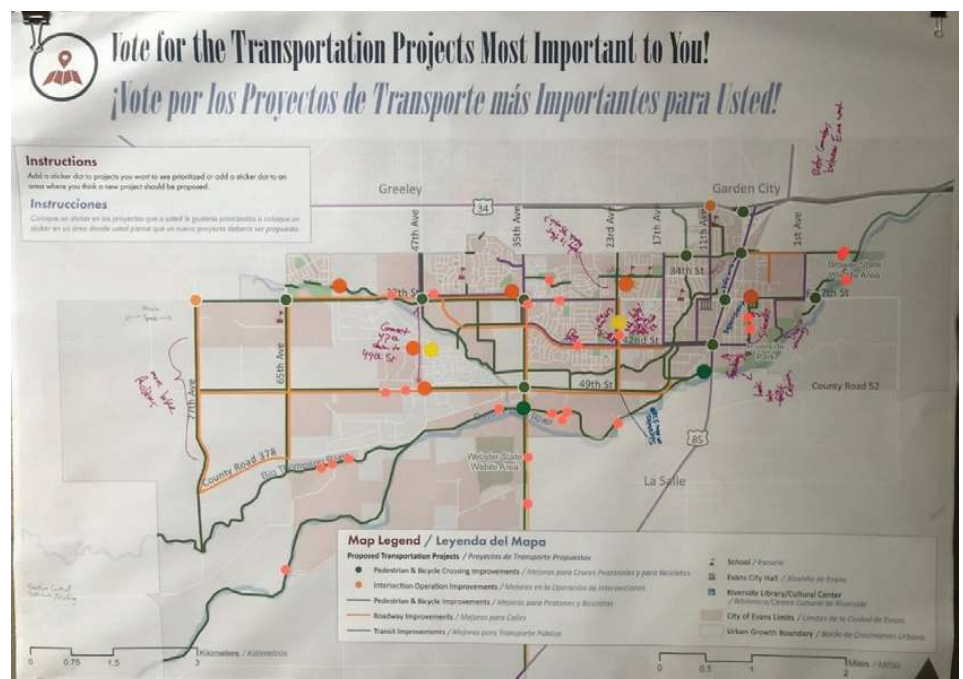


Figure 3.21: Community Input on Potential Transportation Projects



- Big Thompson River Trail
- Extending 35th Avenue south
- Trail connection through Brower State Park

In addition, participants offered new suggested projects that would enhance their experience of traveling in Evans:

- Traffic calming measures along 42nd Street where speeding vehicles can cause uncomfortable travel conditions
- Further upgrading the new section of 23rd Avenue to ensure there are sidewalks on both sides of the street
- Evaluating the intersection of 23rd Avenue and 34th Street for a traffic signal
- Expanding 47th Avenue south to connect with 49th Street
- Establishing a trail connection through Riverside Park
- Adding a bus route to serve Prairie View Drive
- Adding a pedestrian crossing on 11th Avenue at 34th Street

GENERAL COMMUNITY EVENT TAKEAWAYS

In summary, participants at the Community Event MMTMP stations expressed an interest in seeing more active transportation facilities, specifically additional trails and enhancements like lighting and improved street crossings to make walking more comfortable. While participants value the existing roadway network in Evans, there was general support for bridging gaps by fully connecting the street grid, which may reduce the need for out of direction travel. While few participants were transit users, there was a general acknowledgment that making the service

easier to use, through more public education on how to ride transit, and more useful, by increasing frequency and extending routes to service more corridors within Evans, would help make transit a more viable travel option.

INTERCEPT EVENTS

The MMTMP effort was represented at Heritage Days and at the Evans Bike to Work Day event. City staff displayed a map of potential project and solicited input from event participants. Corridor projects that received high levels of community support during the intercept events included the 37th Street widening and multi-modal improvements, 42nd Street enhancements, and 23rd Avenue bicycling improvements. In total, 34 community members provided input during the intercept events.

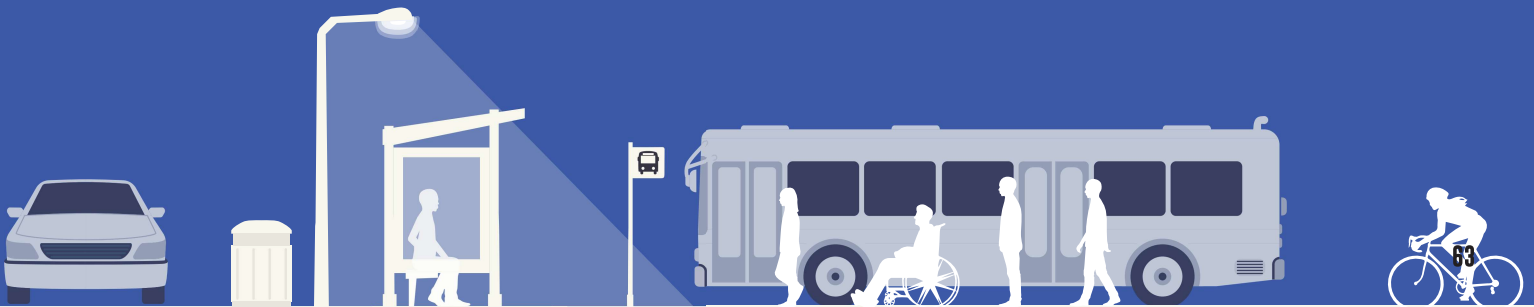
CONCLUSION

In total, the MMTMP outreach process reached 403 community members, including Steering Committee participation (**Table 3.1**). In light of COVID-19 and the associated challenges with conducting community engagement, the MMTMP outreach efforts still reached a wide range of community members representing a multitude of Evans neighborhoods. The major community priorities that emerged from public outreach included a desire to see more roadway connections to areas of the community that are growing, more opportunities for travel using trails, and increased safety at intersections, particularly for pedestrians. This plan seeks to reflect the community priorities as shared by participants in the outreach process.

Table 3.1: Public Engagement Participation Summary

Outreach Effort	Participation
Master Plan Steering Committee	6 meetings (with participation ranging from 4-25 members)
Community Survey	104 Responses
Virtual Workshops	10 participants
Community Events	230 participants
Intercept Events	34 participants
Total	403 Community Members

CHAPTER 4 FUTURE CONDITIONS





FUTURE CONDITIONS

OVERVIEW

This chapter on future growth and emerging transportation and land use trends in the City of Evans illuminates areas of population and employment growth and suggests opportunities for transportation connections to meet intensifying demand. In 2045, Evans will likely have more jobs in the central area of the City and more residents living in outlying areas that are currently less developed and connected to key destinations. By proactively improving vehicle, transit, bicycle, and pedestrian access to employment centers, shopping areas, recreational amenities, and other highly frequented locations, the City of Evans can prepare for growth and ensure future residents can enjoy a high quality of life.

FORECASTING GROWTH

Future population and employment forecasts were determined in order to assess the potential level of daily travel demand that Evans may generate by

2045. Forecasts were developed based on several inputs, including previous growth trends, proposed future land uses, the development potential of areas that are currently undeveloped, and the anticipated capacity of any utilities, like water and sewer pipes, that may be extended to serve future development. Population and employment change was divided at the Transportation Analysis Zone (TAZ) level. TAZs are the geographic unit utilized for travel demand forecasting. **Chapter 7** highlights how the travel demand model was used to assess the potential future daily travel patterns in Evans based on the TAZ-level growth forecasts discussed in this chapter. **Figure 4.1- Figure 4.3** display the future population and employment of Evans at the TAZ level.

POPULATION FORECASTS

The population of Evans is predicted to double between today and 2045, from approximately 21,200 residents to 42,100 residents. Most of this growth will occur outside of present-day central

Evans and instead in the southwest and east areas of the City (**Figure 4.1**). This growth in less developed areas of Evans will require the City to find creative ways of transporting these new residents, from traditional road construction to the expansion of sidewalks and transit. It should be noted that existing data is shown for 2015 since that is the base year of the NFRMPO travel demand model.

The number of households in Evans is predicted to grow from approximately 7,100 today to 14,100 households in 2045. Most of this growth is expected to occur outside of central Evans in the southwest and eastern areas of the City (**Figure 4.2**).

Figure 4.1: Evans Population Forecasts, 2015-2045

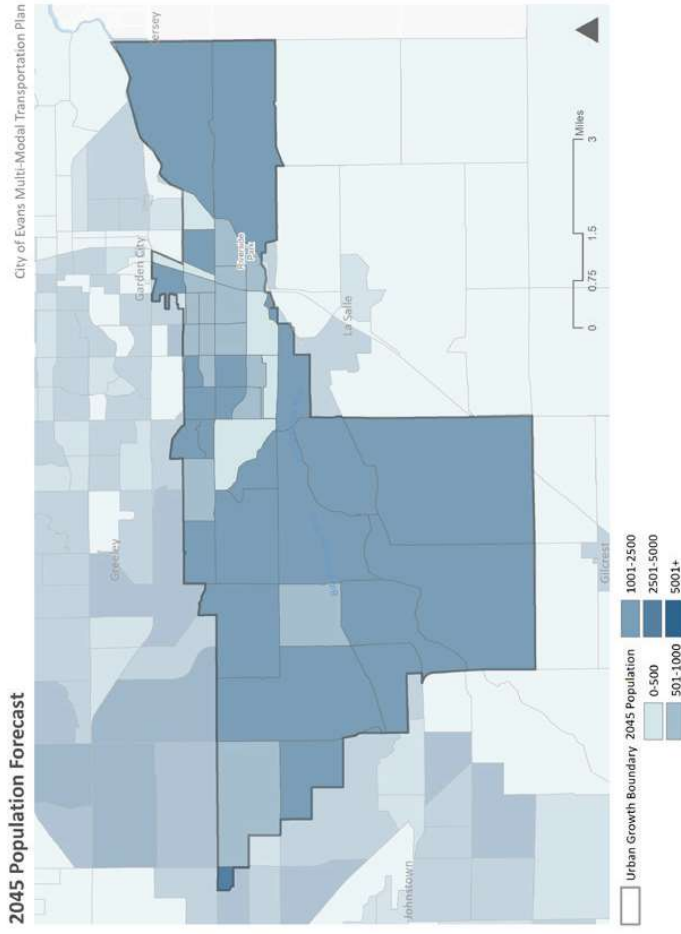
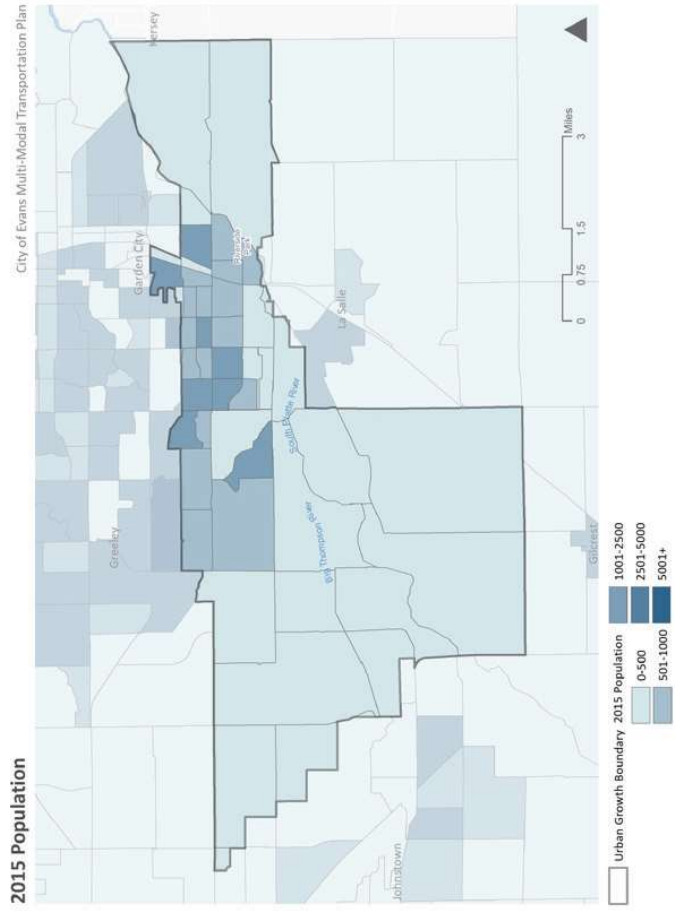
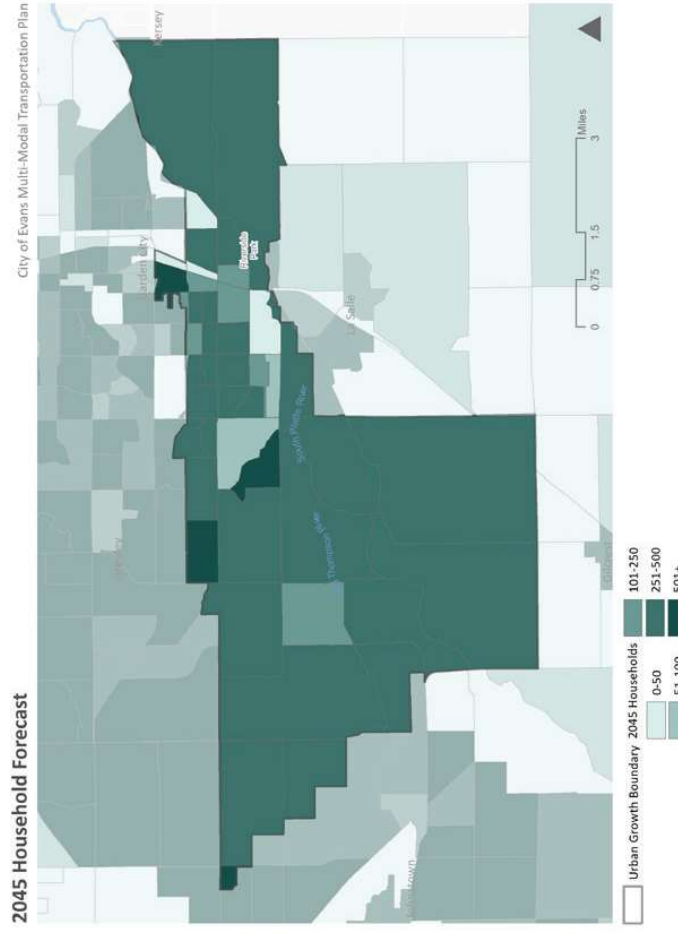
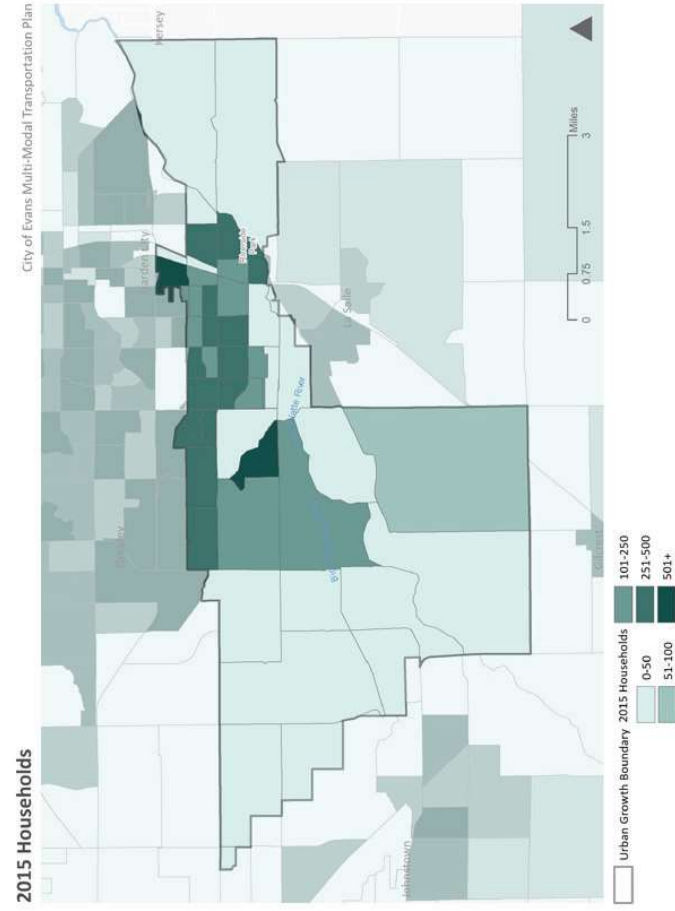


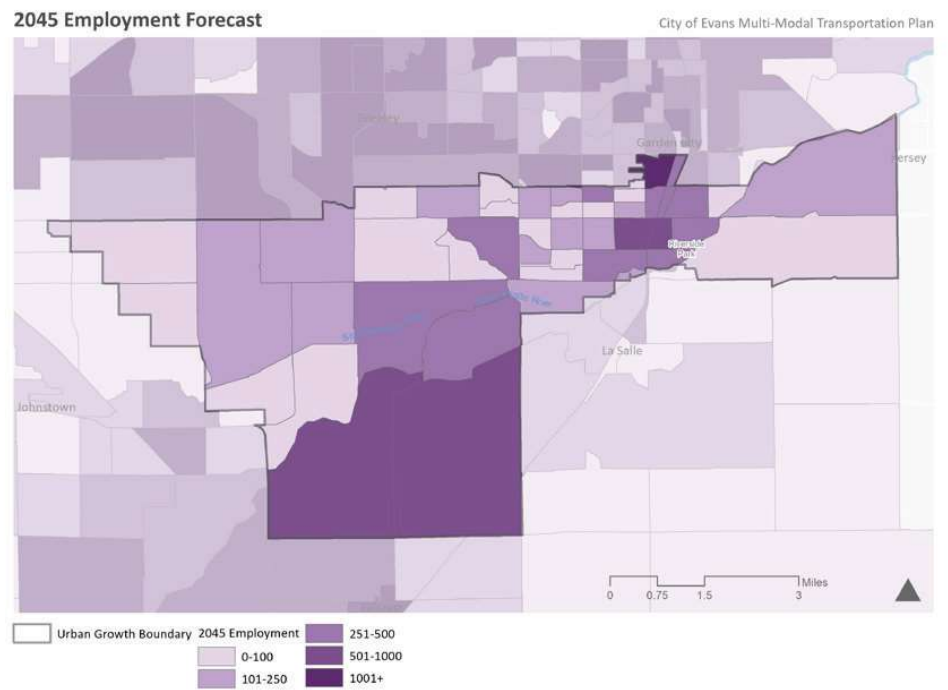
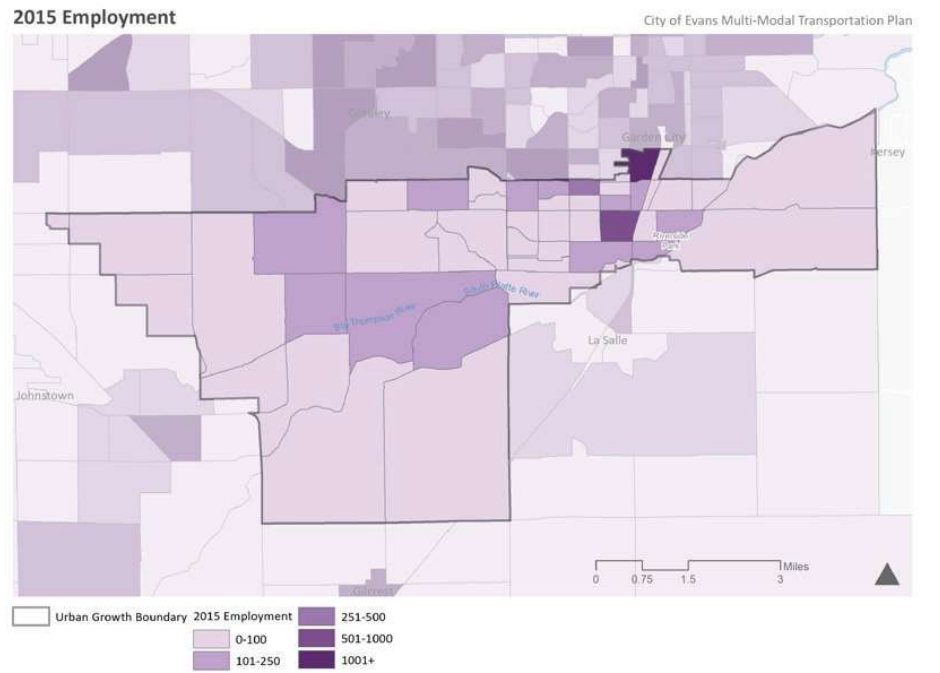
Figure 4.2: Evans Household Forecasts, 2015-2045



LOCAL ECONOMY

The number of jobs located in Evans is expected to nearly double from 5,159 jobs today to 10,200 jobs in 2045. Most of this growth is anticipated to occur in central and south Evans near the South Platte River (Figure 4.3). The significant employment growth in these areas, paired with population growth in the east and west areas of the City, highlights the need for strong multi-modal connections across Evans, redundancy in the roadway network so that drivers have alternative route options during peak travel times, and viable alternatives to driving for short trips. Offering various modes of transportation can reduce congestion during peak commute times.

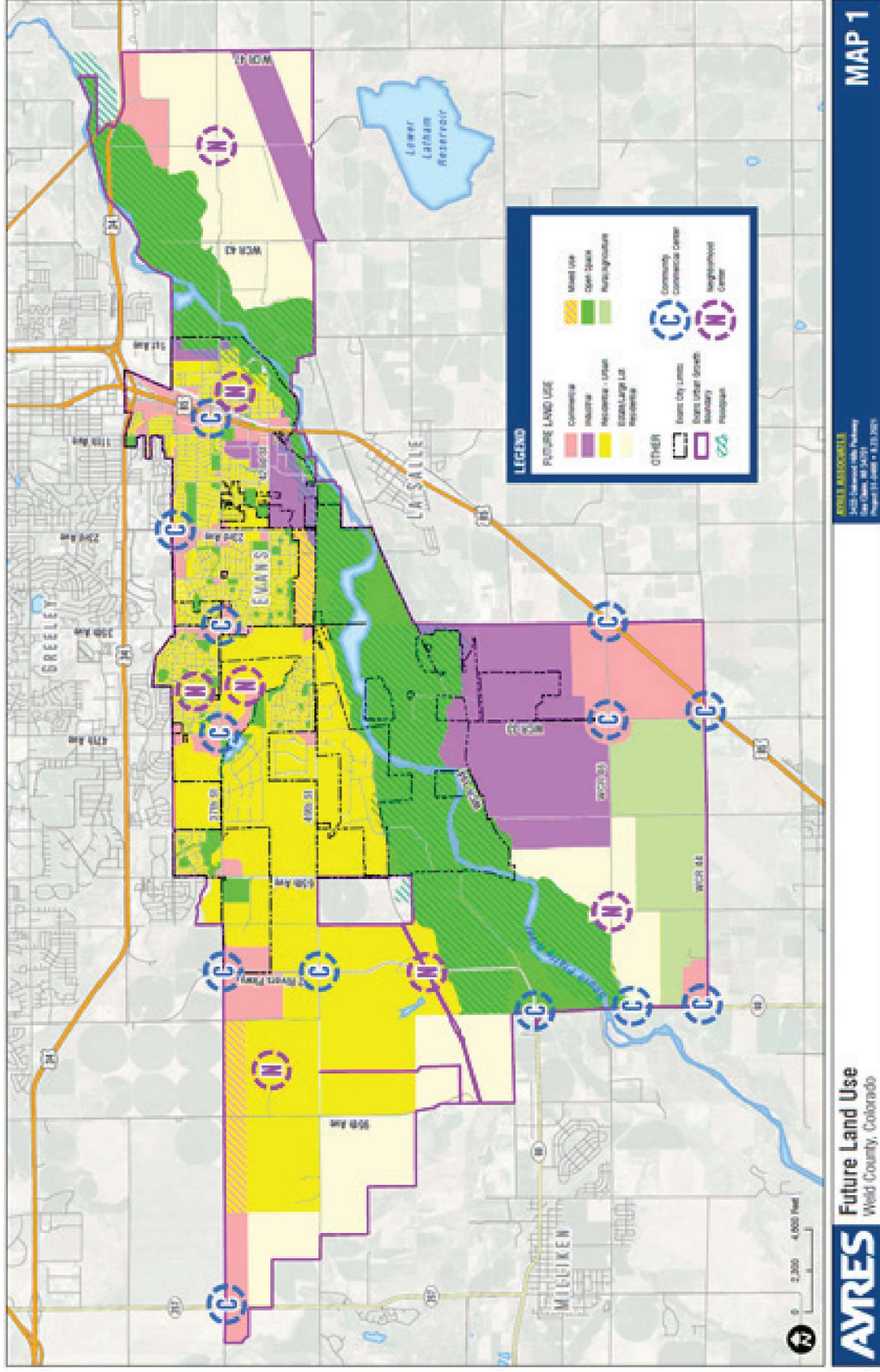
Figure 4.3: Evans Employment Forecasts, 2015-2045



FUTURE LAND USE

In developing the community Master Plan, Evans has planned a future land use map that extends the urban growth boundary west and designates residential land uses for the central and western areas of the City, with large lot single family mainly located in the far west and easternmost edges (Figure 4.4). This corresponds with where population and household growth is expected to occur. Most commercial and industrial uses will be located in central, northeast, northwest, and south Evans, and along US-85. This corresponds with expected employment growth in these areas.

Figure 4.4: Evans Master Plan Future Land Use Map





HIGH TRAVEL DEMAND LOCATIONS

With many residents of Evans taking short, local trips, the MMTMP explores how to improve access to these key destinations. Most residents of Evans currently commute to jobs outside of the City, but a large portion of these external trips are five miles or less, to neighboring Greeley or elsewhere. This makes north-south connections across US-34 extremely important. Better pedestrian and bicycle connectivity could reduce congestion by providing comfortable alternatives to driving.

Residents would also benefit from enhanced connectivity to shopping and dining areas such as the Greeley Mall and the main commercial area of Evans just to the south, parks and open space, and civic buildings like the library and post office.

EMERGING MOBILITY

New technology is rapidly changing the transportation environment in cities. Intelligent Transportation Systems, autonomous, connected, and electric

vehicles, and microtransit are quickly evolving and will dramatically change how people get around. These emerging technologies could be disruptive to the systems already in place, or they could contribute to a positive transformation that improves the mobility options available to people by making transportation more affordable and convenient. It will depend upon whether cities respond retroactively or prepare proactively. Most of the emerging trends and technologies listed here are being tested or appearing mainly in large, urbanized areas with resources to adopt them, while smaller cities and towns have been less likely to incorporate the strategies. While the City of Evans may not be an early adopter, it can begin to set the framework for their eventual arrival.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) aim to improve efficiency and safety of roadways in real time using technology. These technologies include

those that can immediately notify and call emergency responders to the scene when a crash occurs, traffic cameras to enforce speed limits and red lights, signs that mark changes to the speed limit based on construction or school day hours, and Advanced Traffic Management Systems such as Adaptive Signal Control and Transit Signal Priority (TSP). Adaptive Signal Control allows traffic signals to automatically adjust timing based on current traffic conditions to reduce congestion and bicycle and pedestrian crossing times. TSP allows traffic signals to communicate with approaching transit vehicles to extend green time in their direction of travel and improve schedule reliability. This technology is improving to allow signal pre-emption, or interruption of a current signal indication. Signal pre-emption can also be applied to extend or change signals for approaching emergency vehicles.

ITS could be applied at any major intersection project in Evans but would be particularly effective and useful at the major north-south connections across US-34 (8th Avenue and 11th Avenue) and east-west connections across US-85 (31st Street, 37th Street, 42nd Street). These intersections are dangerous for pedestrians, cyclists, and drivers alike. Emerging ITS technologies could improve congestion and safety in these locations.

AUTONOMOUS AND CONNECTED VEHICLES

Autonomous vehicles (AV) and connected vehicles (CV) are two rapidly evolving technologies with the potential to significantly impact future travel patterns and behavior. AVs sense the environment and move through the street network with either little or no human intervention. CVs communicate with one another and connected infrastructure like traffic signals to improve roadway safety and efficiency. This technology allows roadway operators like CDOT to

send notifications about traffic, icy road conditions, and more directly to drivers to improve travel time and help avoid dangerous situations. Both technologies are still being perfected and more widely implemented but will soon have major implications for infrastructure.

The costs and benefits of AVs have been widely debated in the transportation and infrastructure community. AVs will increase transportation access for youth, older adults, and people with disabilities by allowing them to independently operate a vehicle. Though the validity of this claim remains to be seen, a major argument in favor of AVs is that they will improve traffic safety by reducing or removing human operation of vehicles, with human error cited as the cause of 94% of crashes. If transportation network companies replace their current model with a shared fleet of autonomous, electric vehicles that continually circle, pick up, and drop off passengers, space currently used for private vehicle parking could be converted to other public use like parks, seating, pick-up and drop-off areas, and delivery vehicle parking. This would be a sustainable model that reduces emissions and pollution.

On the other hand, they have the potential to increase vehicle miles travelled (VMT) and demand for public space for parking and travel lanes in the alternate scenario that every current car owner purchases an AV, alongside new users drawn by the ability to multitask or to independently operate a vehicle. It's likely that AVs will also increase emissions of greenhouse gases and pollution in the short term, until every AV is also an EV. Like transportation network companies, AVs could also draw users from transit due to the appeal of new technology. It's also been suggested that they will incentivize sprawl when users don't mind longer commutes because they are able to make more effective use of their time.

Although perfected technologies are

not currently on the market, Evans can preemptively implement policies to lay the groundwork for positive outcomes from AVs and CVs. These strategies include developing pick-up and drop-off zones; setting maximum speeds for AVs and required passing distances from people biking; setting land use policies that promote compact, walkable, development; encouraging shared AVs and the use of AVs for transit; repurposing space for people walking and people biking; reducing or eliminating parking requirements; and requiring data sharing from AV companies.

ELECTRIC VEHICLES

Changes in the automotive industry, including state and federal regulatory and financial incentives, are prompting automakers to ramp up production of electric vehicles (EVs) and pledge to phase out the manufacture of gas-powered vehicles. At the City level, the shift to EVs will mean better air quality, lower greenhouse gas emissions, and less noise.

Evans can stay on the forefront of this

transition by establishing EV parking spots, increasing the number of charging stations on public property, and ensuring that developers include EV charging stations and infrastructure within new residential, retail, and commercial sites. These are changes that can be pursued through the upcoming update to the Land Use Code. To support the adoption of EVs by residents, the City and Xcel Energy can adjust utility rate structures, provide additional access to renewable energy, upgrade electricity distribution infrastructure to accommodate increased demand from EVs, and pursue emerging technologies that will further support the adoption of EVs like wireless charging and battery recycling.

The City may also consider transitioning its vehicle fleet to electric. Beyond that, the GET bus fleet will be required to transition to zero-emission vehicles (ZEVs) over the next two decades, since the state of Colorado has a goal to convert 100% of the state transit fleet to ZEVs by 2050. Transit buses have a life cycle of 15 to 20 years, so the fleet conversion will become a major



component of GET's transit planning in the near term. The transition will affect route design, fleet size, facility needs, charging or fueling capabilities, and possible on-street infrastructure.

MICROTRANSIT

As GET continues to expand, it should remain conscious of areas with high transit propensity due to a combination of high-density land use, low-income households, older adult, and youth populations. Marketing to areas in central Evans, near US-34 and US-85, and in areas with denser housing is likely to be the more efficient strategy for growing fixed route ridership. This has the added benefit of reducing traffic congestion to and from these locations by offering an alternative to driving for those residents and removing single occupancy vehicles from the road.

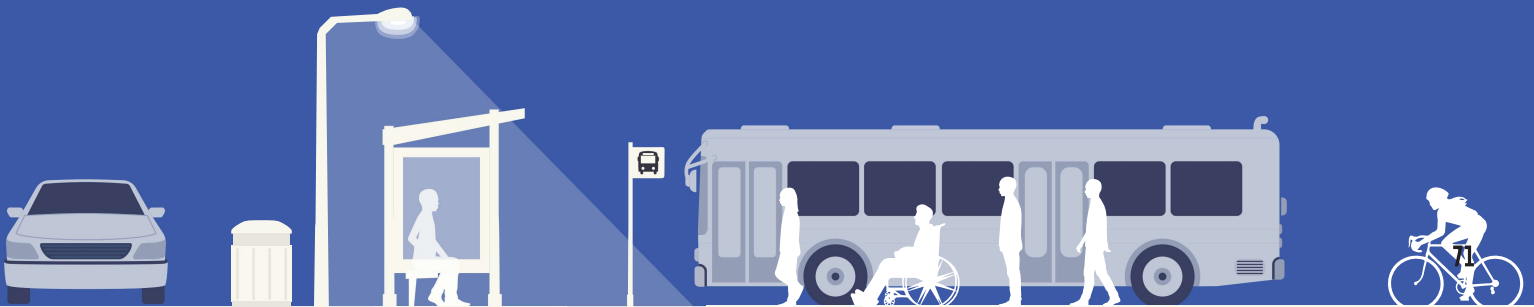
To serve Evans residents in areas with lower transit propensities, such as in the areas with large lot single-family residential in the east and west edges of the City, GET should explore alternative service delivery models to fixed-route transit such as microtransit. Microtransit is privately or publicly operated, technology-enabled transit service that typically uses multi-passenger/pooled shuttles or vans to provide on-demand or fixed-schedule services with either dynamic or fixed routing. Passengers request trips in real time using a smartphone app. Some transit agencies have experimented with microtransit pilots in their service areas to supplement fixed-route transit, employ services that could allow them to compete with emerging technology such as transportation network companies (TNCs), and attract new riders.

The results of these pilots are mixed, but in situations in which a transit agency is attempting to extend the reach of fixed-route transit into lower density areas, microtransit can be more effective (for example, Lone Tree's Link on Demand has been immensely



popular). Microtransit can be more convenient for some people than traveling to a transit stop, and flexible service might provide first-and-last-mile connections with faster response times than is possible with scheduled service. However, picking people up at their doorstep involves traveling greater distances, making it less efficient and more expensive per rider to provide the service. Also, unlike fixed-route transit, in which subsidies for bus and train service fall as more people ride, microtransit requires additional subsidies as usage increases. This is a delivery model that Evans might consider if demand for transit service increases in lower density areas of the City.

CHAPTER 5 VISION, GOALS, & OBJECTIVES





VISION, GOALS, & OBJECTIVES

OVERVIEW

The vision, goals, and objectives for the Evans Multi-Modal Transportation Master Plan (MMTMP) were adapted from the North Front Range Metropolitan Planning Organization's (NFRMPO) Regional Transportation Plan (RTP) as they specifically apply to the City of Evans. The regional vision, goals, and objectives were crafted by NFRMPO staff and the Transportation Advisory Committee members. The MMTMP's vision, goals, and objectives were founded on those created in the RTP in order to ensure Evans community goals also reflect regional priorities and to facilitate collaboration on plan implementation with regional partners. For the Evans MMTMP the same high-level goal categories and intentions were used but the language of each goal and objective was adapted to fit the Evans local context and community priorities. The vision, goals, and objectives in this plan helped guide the development of plan recommendations

and performance measures. This chapter contains the overall goals and objectives to be implemented which will enable the vision and values of the City to be realized. In Chapter 6, specific performance measures are provided which illustrate how the objectives will be met.

VISION

Evans seeks to create a multi-modal transportation system that is safe, reliable, affordable, and provides multiple convenient travel options for all community members.

The future transportation network in Evans should first strengthen local connections within Evans and then connect to the greater region. The transportation network should also enhance the quality of life of people who live, work, and play in Evans, strengthen local economic vitality, and be sensitive and supportive of the natural environment.

GOALS AND OBJECTIVES

GOAL 1: MOBILITY

Provide safe, affordable, and efficient transportation options for people of all ages, abilities, and socio-economic status traveling within Evans and connecting to neighboring communities.

Objectives:

- 1.1 Reduce the overall crash rate through implementation of traffic calming strategies.
- 1.2 Reduce the number of severe and fatal traffic crashes that occur in Evans.
- 1.3 Reduce the number of crashes involving people bicycling, walking, or rolling in Evans.
- 1.4 Create a transportation system that is safe, efficient, and affordable for people of all ages and abilities.
- 1.5 Ensure ample multi-modal connections to neighboring communities where Evans residents travel, like Greeley, and the region.

GOAL 2: OPERATIONS

Optimize the transportation operations and implementation of all modes of travel, creating a comprehensive multi-modal network of transportation options within Evans that connects to the larger region.

Objectives:

- 2.1 Improve travel time reliability for all modes of travel.
- 2.2 Mitigate congestion on key corridors like Freedom Parkway.
- 2.3 Investigate options for incentivizing carpooling or shifting travel to different modes (like walking, biking, and transit) when considering options to relieve roadway congestion.
- 2.4 Coordinate with Greeley-Evans Transit to enhance transit reliability and efficiency within Evans and between Evans and neighboring communities.
- 2.5 Pursue creative funding opportunities like grants and partnerships with different public, private, or non-profit organizations.
- 2.6 Balance the efficiency, safety, and comfort of all travel modes when allocating funding and prioritizing projects for implementation.

GOAL 3: MULTI-MODAL

Implement a multi-modal transportation system with complete and connected networks for walking, biking, and transit where those modes of transportation are as efficient, reliable, and safe as driving within Evans and when connecting to neighboring communities.

Objectives:

- 3.1 Implement new infrastructure that allows people to travel by walking, biking and taking transit.



- 3.2 Fill in existing gaps in the multi-modal transportation network to create complete and connected transportation options.
- 3.3 Prioritize multi-modal infrastructure around schools, key destinations, and in areas with a significant previous crash history.
- 3.4 Allocate funding and implementation equitably, considering people of all ages, abilities, and socio-economic status.
- 3.5 Increase mode share of non-single occupancy vehicle modes.
- 3.6 Improve amenities that support multi-modal travel like bus stops, pedestrian, and bicycle amenities.

GOAL 4: ECONOMIC DEVELOPMENT AND QUALITY OF LIFE

Create a multi-modal transportation system that supports local businesses in Evans, attracts new local employment opportunities, and provides multiple transportation options for commutes

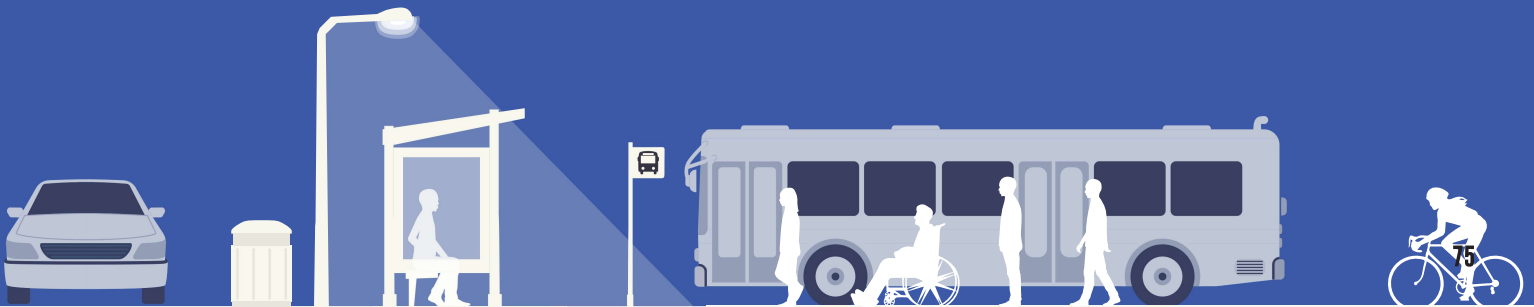
to work, school, healthcare, shopping, and recreation.

Objectives:

- 4.1 Invest in multi-modal transportation infrastructure in commercial and civic hubs in Evans to make it comfortable for people to walk, roll, bike, and linger in the community hubs of Evans.
- 4.2 Maintain transportation infrastructure to ensure traveling around Evans is comfortable and reliable year-round.
- 4.3 Designate truck routes through and around Evans to ensure goods can move through Evans efficiently and conflicts between freight and other modes of transportation are minimized.
- 4.4 Implement a connected network of wide multi-use sidewalks and off-street trails to improve both transportation and recreation opportunities.



CHAPTER 6 PERFORMANCE MEASURES





PERFORMANCE MEASURES

MEASURING THE PROGRESS OF PLAN IMPLEMENTATION

Creating and tracking performance measures for the MMTMP allows the City of Evans to measure how successful the MMTMP is at achieving the community's stated transportation goals. Additionally, the performance measures provide community members with updates on the City's progress towards implementing this plan. The MMTMP performance measures were crafted to be specific, measurable, and have clear targets. This allows for the performance measures to be tracked through time and makes progress on plan implementation transparent to the public. Each measure is tied to specific community goals to make it simple to understand how each measure is helping to achieve the stated goals. The City will continue to collect and update data on at least an annual basis and share this data with residents through an online dashboard that will follow MMTMP adoption.

PLAN PERFORMANCE MEASURES, BENCHMARKS, AND TARGETS

Table 6.1 – Table 6.6 display the performance measures to be tracked during implementation of this plan. Each measure has also been given a benchmark with the existing conditions of that measure (where data is available). These benchmarks will be used as a comparison for plan progress and are the basis for the development of targets for three separate future years; 2025, 2035, and 2045. As additional data is collected and benchmarks are set, targets may be updated to reflect changing circumstances. These performance measures are organized by category; Safety Outcomes (**Table 6.1**), Motor Vehicles (**Table 6.3**), Bicycles/Pedestrians (**Table 6.4**), Transit (**Table 6.5**), and Overall MMTMP Implementation (**Table 6.6**).

Table 6.1: Performance Measures – Safety Outcomes

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)				Data Sources (Underlined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes
		Mobility	Operations	Multi-modal	Economic Development & Quality of Life			2025	2035	2045	
Safety Outcomes	Number of crashes resulting in injury or death	Objectives 1.2, 1.4	Objective 2.6			City of Evans Annual Crash Data	2019: 25 Crashes resulted in injury or fatality (423 total crashes) 2020: 20 Crashes resulted in injury or fatality (307 total crashes)	10	5	0	The performance targets will be lowered every 10 years.
Safety Outcomes	Crash rate (number of crashes relative to vehicle volumes) on key arterials	Objectives 1.1, 1.4	Objective 2.6			City of Evans Annual Crash Data, City of Evans Traffic Counts	Benchmarks set by corridor (see Table 6.2)	5% Reduction	10% Reduction	10% Reduction	Target will be adjusted every 10 years and can be tailored to the corridors where Evans collects data (since those corridors change year to year)
Safety Outcomes	Number of crashes involving bicyclists and pedestrians	Objectives 1.3, 1.4	Objective 2.6	Objective 3.3		City of Evans Annual Crash Data	2019: 6 Pedestrian involved crashes. 1 bike involved crash. (423 total crashes) 2020: 10 Pedestrian involved crashes. No bike involved crashes. (307 total crashes)	5	2	0	This metric would include all traffic crashes where a person walking or biking was involved. This is different from 2.1 as that is tracking all fatal or severe crashes independent of whether they are vehicle-vehicle crashes or crashes involving people walking or biking.

Table 6.2: Benchmarks for Crash Rate by Corridor

Corridor	Crash Rate (crashes/million vehicle miles traveled on the corridor)	Analysis Year
11th Avenue	0.56	2016
23rd Avenue	0.73	2018
35th Avenue	1.72	2017
37th Street	1.20	2017
42nd Street	3.03	2017
49th Street	0.30	2018
US 85	2.00	2018

Table 6.2 displays the existing crash rates on seven key corridors in Evans. These corridors were selected based on available crash and volume data. The crash rate is shown as the number of crashes per year/million vehicle miles traveled per year on each corridor. The right-most column shows the year of the data analyzed to find the crash rate for each corridor. Different analysis years were chosen based on the most current volume counts available for each corridor. In the future the City can prioritize collecting annual counts for these corridors in order to compare the crash rates more accurately between corridors and over time.

Table 6.3: Performance Measures – Motor Vehicles

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)				Data Sources (Undefined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes
		Mobility	Operations	Multi-modal	Economic Development & Quality of Life			2025	2035	2045	
Motor Vehicles	At least 75% of roadways have a volume to capacity (V/C) ratio of less than 0.90 (in both the AM and PM peak hours)		Objectives 2.1, 2.2		Objectives 4.2, 4.3	Daily vehicle volume counts, roadway lane data, roadway posted speed limit	More than 75% of Evans roadways have a V/C ratio less than 0.9	Maintain at least 75% of roadways at V/C ratios less than 0.9	Maintain at least 75% of roadways at V/C ratios less than 0.10	Maintain at least 75% of roadways at V/C ratios less than 0.11	With development traffic demand will increase. Targets strive to keep traffic operations manageable (above 0.6)
Motor Vehicles	% of roadways with a Pavement Condition Index score of 70 or above	Objective 1.4	Objective 2.1			City of Evans PCI GIS Layer (Update Annually)	26%	40%	50%	60%	Evans is tracking; biannual scans of roads are a goal until network wide average of 70; once this metric is met, the scans may be less frequent
Motor Vehicles	% of unpaved lane miles paved (of roads identified as needing paving)	Objective 1.4	Objective 2.1			City of Evans Roadway GIS Layer with Surface Type Attribute (Update Annually)	0%	5	2	0	This metric would include all traffic crashes where a person walking or biking was involved. This is different from 2.1 as that is tracking all fatal or severe crashes independent of whether they are vehicle-vehicle crashes or crashes involving people walking or biking.

Table 6.4: Performance Measures – Bicycles/Pedestrians

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)			Data Sources (Underlined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes	
		Mobility	Operations	Multi-modal			Economic Development & Quality of Life	2025	2035		2045
Bicycle / Pedestrian	% of residents and employers within 1/4 mile of a completed trail or dedicated bike facility	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objectives 4.1, 4.4	Residential Parcels or Addresses, LEHD On the Map (US Census Bureau), City of Evans Trail and Bike Facility GIS Layers (Update Annually)	Benchmark to be determined by using parcel or address data. Targets can be adjusted once benchmark is determined.	50%	75%	100%	GIS already has this layer, updating annually could be a good frequency for tracking this metric
Bicycle / Pedestrian	% of businesses and employers with bike parking on site	Objective 1.4		Objectives 3.5, 3.6	Objectives 4.1, 4.2	American Communities Survey (US Census Bureau), LEHD On the Map (US Census Bureau), <u>City of Evans Bike Parking GIS Layer (Update Annually)</u>	Benchmark to be determined once data is collected. Targets can be adjusted once benchmark is determined	30%	65%	100%	TMP is likely to include a recommendation that the City either require or nudge new development to include on-site bike parking. We suggest this be tracked starting in 2035 to allow time for a bike parking program to get off the ground.
Bicycle / Pedestrian	% of proposed trail network completed	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.4	City of Evans Existing and Proposed Trails GIS Layers (Update Annually)	35%	50%	75%	100%	
Bicycle / Pedestrian	% of arterials that have 10-foot-wide detached sidewalks per City standards	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.4	City of Evans Existing and Proposed Wide Sidewalk/Multi-use Path GIS Layers (Update Annually)	15%	30%	65%	100%	Since older arterials do not have sufficient right-of-way to meet the cross-section in all instances, the initial target will be the baseline as exists today.
Bicycle / Pedestrian	% of Regional Non-Motorized Corridors completed within Evans future growth boundary	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.4	City of Evans Existing and Proposed Trails GIS Layers (Update Annually)	20%	N/A	50%	100%	Questionable political support for funding; may come when development occurs; can identify now to encourage identification of need & intent. Recommend to begin tracking further out due to the lead time for project implementation.

Continued Table 6.4: Performance Measures – Bicycles/Pedestrians

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)			Data Sources (Underlined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes	
		Mobility	Operations	Multi-modal			Economic Development & Quality of Life	2025	2035		2045
Bicycle / Pedestrian	Miles of completed on-street bike lanes	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.4	City of Evans Existing and Proposed On-street Bike Facility GIS Layers (Update Annually)	80%	90%	100%	100%	A proposed and existing on-street bike lanes layer would need to be created. Fehr & Peers can provide the current version of this layer based on the transportation plan.
Bicycle / Pedestrian	% of sidewalk network completed within Evans City Limits	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.4	City of Evans Sidewalk and Sidewalk Gap GIS Layers (Update Annually)	34%	40%	70%	100%	Be shovel ready, prioritize

Table 6.5: Performance Measures – Transit

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)			Data Sources (Underlined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes	
		Mobility	Operations	Multi-modal			Economic Development & Quality of Life	2025	2035		2045
Transit	% of residents within 1/2 mile of a transit stop	Objectives 1.4, 1.5		Objectives 3.1, 3.2, 3.5	Objective 4.1	Residential Parcels or Addresses, LEHD On the Map (US Census Bureau), Greeley Evans Transit GIS Layer (Coordinate with GET)	Benchmark to be determined by using parcel or address data. Targets can be adjusted once benchmark is determined.	20%	40%	60%	GIS already has this layer, updating annually could be a good frequency for tracking this metric The targets for this metric will change if additional residential density or new commercial spaces are added near transit or if new transit stops are added.
Transit	% change in Ridership on GET Routes that serve Evans	Objectives 1.4, 1.5	Objectives 2.4, 2.3	Objectives 3.4, 3.5, 3.6		Greeley Evans Transit Ridership Data by Route (Coordinate with GET)	2019 Annual Ridership on Routes Serving Evans: Route 5 - 224,930 Route 2 - 59,580 * 2020 Annual Ridership on Routes Serving Evans: Route 5 - 101,298 Route 2 - 24,673 * Fixed route service was suspended for a few months in 2020 and overall ridership was down due to the COVID-19 Pandemic	2.5% increase from 2019 ridership	5% increase from 2025 ridership	5% increase from 2035 ridership	Fairly simple to measure; educational campaign to increase ridership; more service out west and working with the School District. As the City of Evans works to extend/increase routes, the targets will be adjusted to reflect the capacity of the new transit ridership markets. These draft targets are conservative and assume no route extensions for the time being.

Table 6.6: Performance Measures – Overall MMTMP Implementation

Category	Performance Measure	Related Plan Goals (See Chapter 5 for more details on plan goals & objectives)			Data Sources (Underlined text notes new datasets and sources)	Benchmark	Performance Measure Target			Notes
		Mobility	Operations	Multi-modal			Economic Development & Quality of Life	2025	2035	
Overall MMTMP Implementation	Number of MMTMP Projects Implemented	Objectives 1.4, 1.5	Objectives 2.1, 2.2, 2.3, 2.5, 2.6	Objectives 3.1, 3.2, 3.4, 3.5, 3.6	Objective 4.1, 4.3, 4.4	0%	35%	70%	100%	Targets will be set based on the final prioritization and recommended phasing of projects.
Overall MMTMP Implementation	Number of projects completed that enhance multimodal transportation within 1/2 mile of schools	Objectives 1.4, 1.5		Objective 3.3		20 Corridor Projects (number of MMTMP recommended active transportation projects that are located within 1/2 mile of schools)	5 out of 20	10 out of 20	20 out of 20	Increase portfolio of "shovel ready" projects No separate GIS layer is needed for this metric. Instead this metric would help identify projects that can leverage Safe Routes to Schools grants.
Overall MMTMP Implementation	Percentage of project dollars acquired by external funds and grants or that leverage funding from both local sources and regional partners		Objective 2.5		City of Evans Finance Department, Community Development Department, Operations and Engineering	A benchmark and targets are not appropriate for this measure. Instead the dashboard will include a chart with the different sources of transportation funding on an annualized basis.	N/A	N/A	N/A	Initiatives to support this metric could be hiring a grant writer or developing a strategic plan for identifying reliable ongoing funding sources.

FUTURE ONLINE DASHBOARD

The dashboard will visually display the data tracked for the performance measures in the MMTMP and will be the most up-to-date reference for tracking the performance measures. The dashboard will provide the Evans community with a way to easily track the progress made on the implementation of the MMTMP.

POTENTIAL FUTURE MEASURES

The plan's performance measures, detailed in the previous sections, focus on metrics that can be measured with data the City already tracks or plans to begin tracking in the near future. In addition to these performance measures the City may wish in the future to track other metrics that will require collecting additional data. This section provides more information on potential future performance measures and the data required to track these.

TRAVEL TIME RELIABILITY

Data sources: *Acyclica, Streetlight with Trip Attributes, INRIX, Greeley-Evans Transit performance metrics*

Travel time reliability means maintaining consistent travel time throughout the day to the greatest extent possible. This will be important longer term when more development occurs and traffic volumes grow. This metric uses aggregated cell phone location data to understand the average travel times being experienced on different corridors. This metric helps track if overall travel times are getting longer due to congestion and helps identify where congestion mitigation may be needed. Data sources that use

aggregated location-based cell phone data can help track the effectiveness of mode shift on improving reliability of travel time. Walking, bicycling, and transit with dedicated lanes or transit prioritized signals tend to have greater travel time reliability than driving in traffic. Tracking will require additional investment due to data collection costs.

TRAIL AND SIDEWALK MAINTENANCE

Data sources: *City of Evans Existing Trails & Sidewalk GIS Layers with Maintenance Attributes (Update Annually)*

Trail and sidewalk maintenance is an important piece of having a comfortable and connected bicycle and pedestrian network. When Evans adopts trail and sidewalk maintenance standards, keeping track of which facilities meet these standards and which fall short, is an effective way to help prioritize maintenance funding as it becomes available. The City would need a data set that tracks the maintenance condition of trails and sidewalks that is updated annually.

VEHICLE MILES TRAVELED (VMT) PER CAPITA

Data sources: *City of Evans Count Stations, Location Based Data (e.g. Streetlight)*

This metric can help Evans assess whether people are having to drive more and further, or if they are choosing other modes of travel such as walking, bicycling, or carpooling as the City grows. This metric can help illustrate how people are moving around the community and this information can be tied to how the Evans transportation system is

affecting air quality, noise pollution, and other environmental factors.

AIR QUALITY

Data sources: *Local and regional air quality monitoring data*

In the future Evans could collect and track air quality information in the community and use this to understand how shifts in transportation patterns could improve local air quality.

MODE SPLIT

Data sources: *American Community Survey Estimates, Local Travel Surveys*

In the future Evans may decide to pursue a mode split goal (share of people traveling by each transportation mode), hoping to shift people's travel from driving alone to other options like carpooling, transit, walking, or bicycling. This can have important benefits to public health and air quality. The US Census Bureau collects commute mode data through the American Community Survey, but a local travel survey could also provide this data with greater detail and including more than just commute trips.

HIGH FREQUENCY TRANSIT

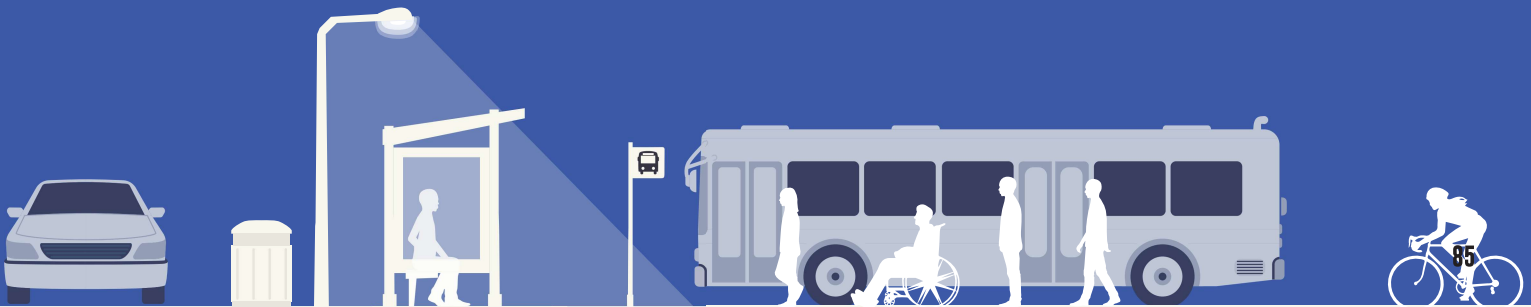
Data sources: *Data of Bus Stops Served by High Frequency Transit, Greeley-Evans Transit*

Since Evans is a relatively small community, the share of the population living near transit might suggest high ridership potential, but hides the fact that existing service is infrequent. As transit frequency increases in Evans, tracking the share of population and jobs near bus stops served by high-frequency transit can give a better representation of how many people in Evans have access to convenient transit service.



CHAPTER 7

SCENARIO MODELING





SCENARIO MODELING

OVERVIEW

Scenario modeling was performed for the Multi-Modal Transportation Master Plan (MMTMP) using the North Front Range Metropolitan Planning Organization's (NFRMPO) Travel Demand Model. Scenario modeling allows for the testing of various implementation scenarios to estimate how much travel demand will be generated by the estimated 2045 population of 44,400 residents and 9,800 jobs (per the forecasts listed in **Chapter 4**) and the relative impact of that travel demand when considering different combinations of roadway projects on traffic operations. Three scenarios for 2045 traffic conditions were tested for this analysis:

- **Low-Investment Scenario:** implementation of projects that are currently in the Capital Improvements Program
- **49th Street Connection Scenario:** the Low-Investment Scenario with a new connection on 49th Street between 83rd

Avenue and 95th Avenue and a paved connection between 65th Avenue and 83rd Avenue

- **Full-Build Scenario:** Full implementation of the MMTMP roadway projects list

These scenarios and their analysis results are described in greater detail below. This chapter concludes with a discussion of the overall result of this analysis and how it can inform the prioritization of implementation of the roadway projects recommended in the MMTMP.

SCENARIO DESCRIPTIONS

This section details the three different implementation scenarios that were tested in the analysis; 2045 Low-Investment Scenario, 2045 49th Street Connection Scenario, and a 2045 Full-Build Scenario.

2045 LOW-INVESTMENT SCENARIO

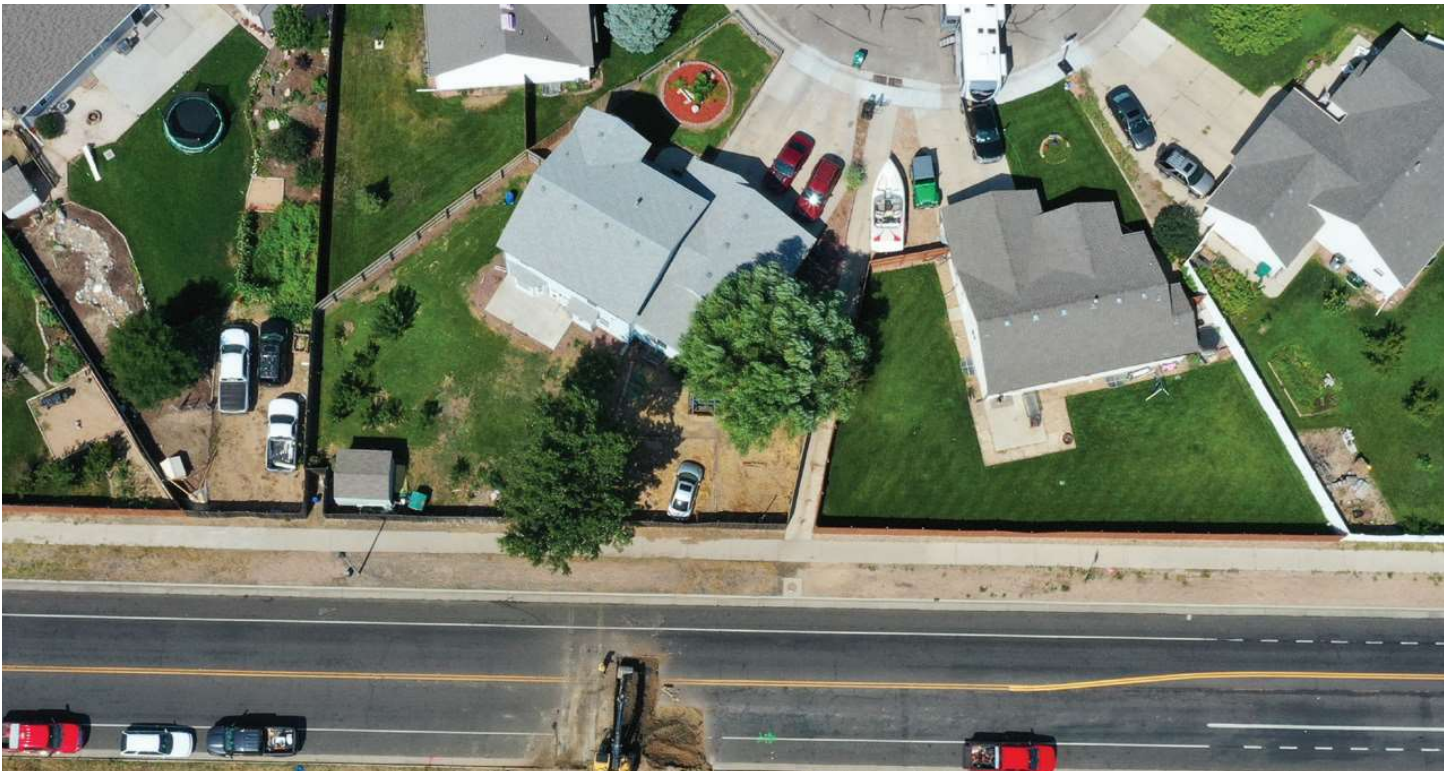
The Low-Investment Scenario was analyzed to understand the future

traffic conditions if only currently funded projects were implemented. This scenario was used as the baseline to understand the impact of additional investments on future traffic conditions. This scenario envisions a future where almost no funding is made available for new capital roadway projects. This analysis assumed the implementation of the following projects which are either currently in design or construction:

- Freedom Parkway Improvements (Roadway Widening of 37th Street from 2-lanes to 4-lanes from 35th Avenue to 65th Avenue)
- 23rd Avenue Widening (from 2-lanes to 4-lanes from 37th Street to 42nd Street)

2045 49TH STREET CONNECTION SCENARIO

The 2045 49th Street Connection Scenario analyzes a 49th Street paved connection between 83rd Avenue and 95th Avenue. This 49th Street connection is in addition to the already funded projects analyzed in the Low-Investment



Scenario. This connection would create an additional east-west corridor through Evans to help alleviate congestion on the existing east-west corridors like 32nd Street, Freedom Parkway, and 42nd Street. This scenario models a future where there is limited funding for capital roadway projects and the 49th Street Connection is prioritized. The projects included in this analysis are:

- Freedom Parkway Improvements (Roadway Widening of 37th Street from 2-lanes to 4-lanes)
- 23rd Avenue Widening from 37th Street south to 42nd Street
- 49th Street Connection between 83rd Avenue and 95th Avenue
- 49th Street Paved from 65th Avenue to 83rd Avenue

2045 FULL-BUILD SCENARIO

The Full-Build Scenario analyzes what future traffic conditions may be like if all roadway projects recommended in the MMTMP are implemented. See **Chapter 8** for a full list and map of all

roadway project recommendations. This scenario assumes a future where ample funding for new capital roadway projects is available.

ANALYSIS METHODOLOGY

The three scenarios described previously were analyzed using the NFRMPO Travel Demand Model. The model baseline volume assumptions were verified against existing traffic counts. Model land use assumptions were adjusted to reflect the final future land use map, created as part of the Evans Master Plan, in order to account for expected future development patterns and visions set forth in the Master Plan.

SCENARIO RESULTS

This section compares the results of these three separate scenarios. The results compared are estimated Average Daily Traffic Volumes (ADT), and the estimated volume to capacity ratios for three peak hours: AM Peak Hour, Midday Peak Hour, PM Peak

Hour.

The following pages display maps of the results of each scenario:

- **Figure 7.1 - Figure 7.3** display the ADT results for each scenario
- **Figure 7.4 - Figure 7.6** display the AM Peak Hour results for each scenario
- **Figure 7.7 - Figure 7.9** display the Midday Peak Hour results for each scenario
- **Figure 7.10 - Figure 7.12** display the PM Peak Hour results for each scenario

Figure 7.1: Low Investment Scenario - ADT

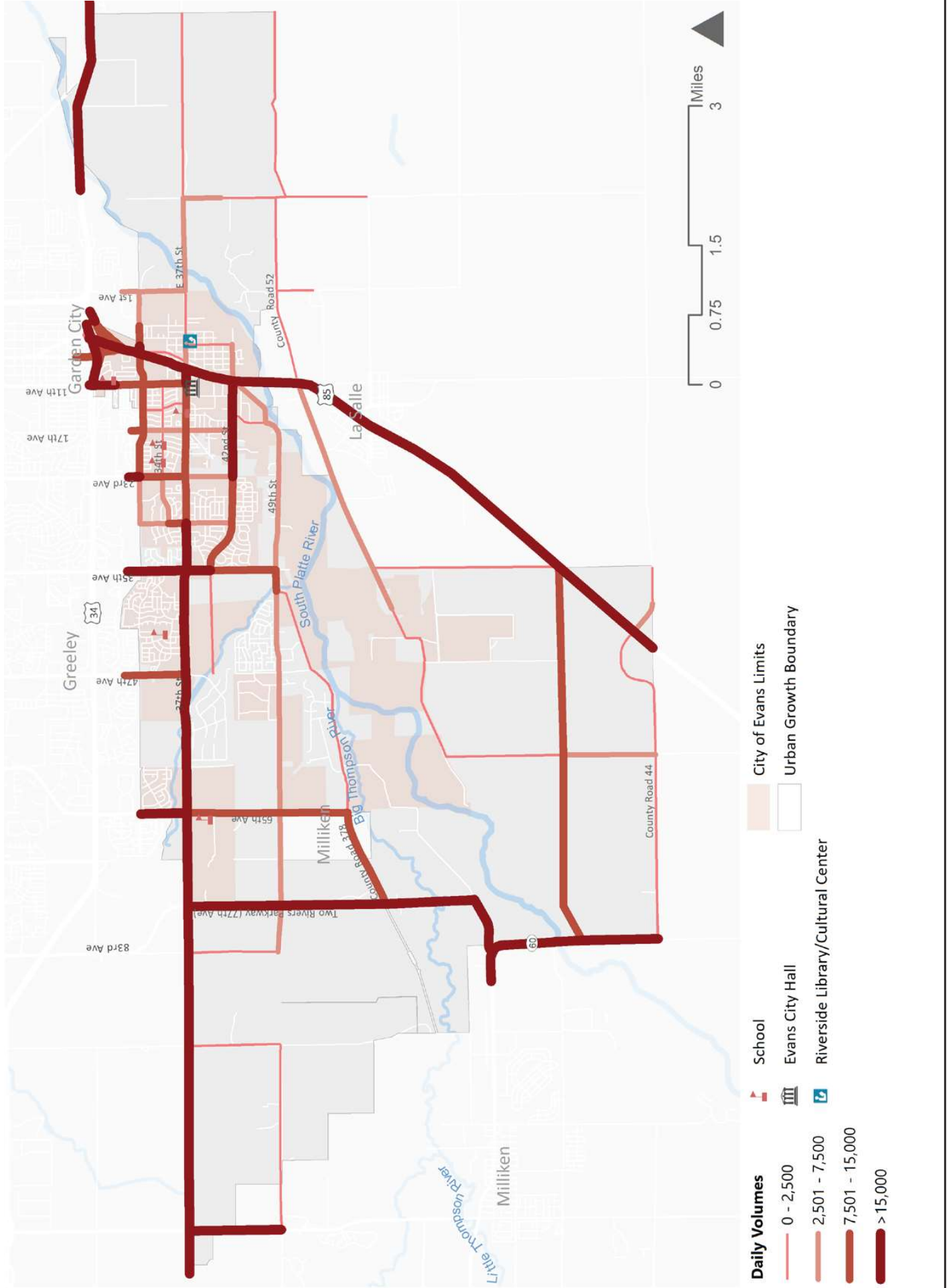


Figure 7.2: 49th Street Connection Scenario - ADT

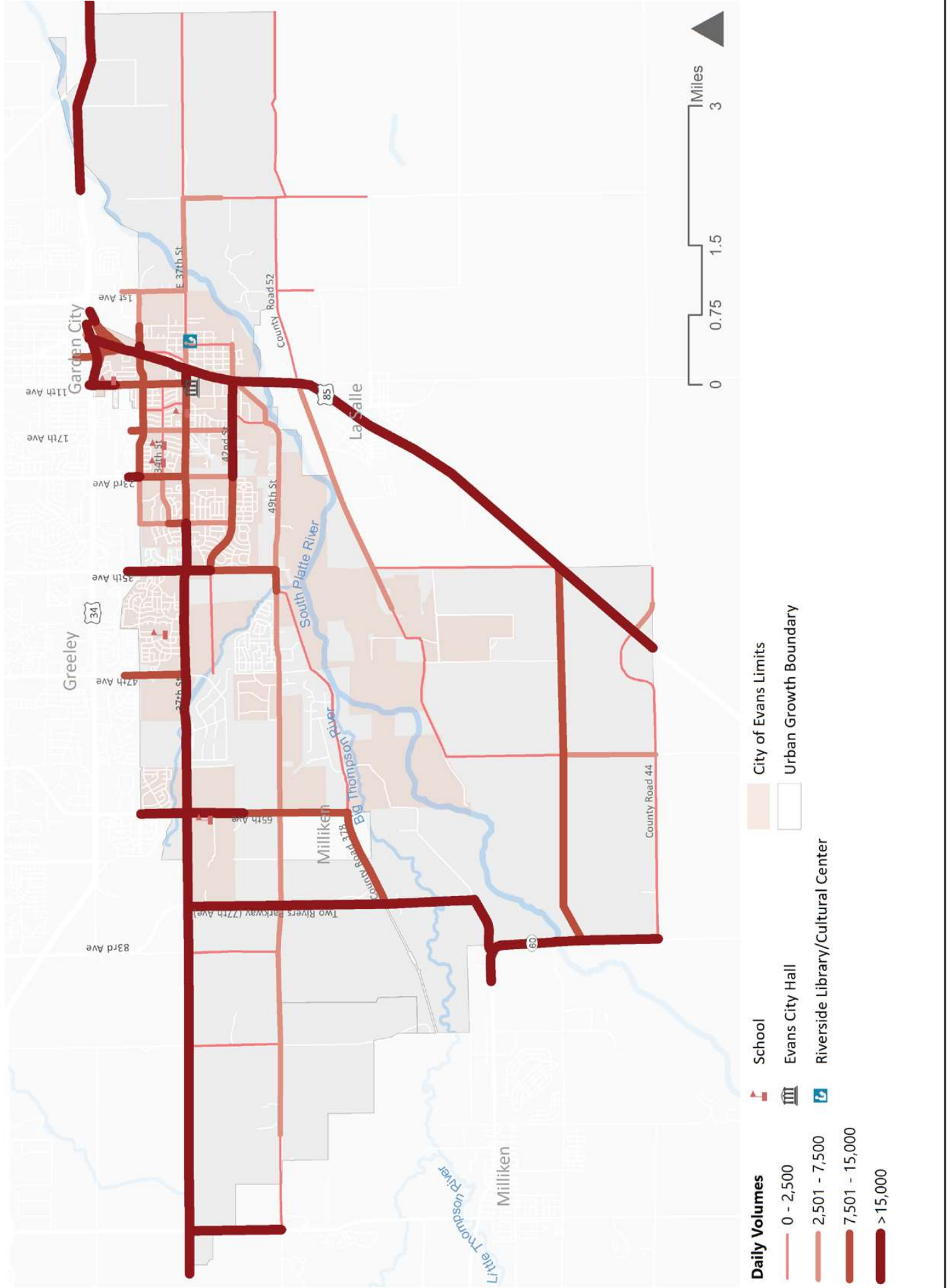


Figure 7.3: Full-Build Scenario - ADT

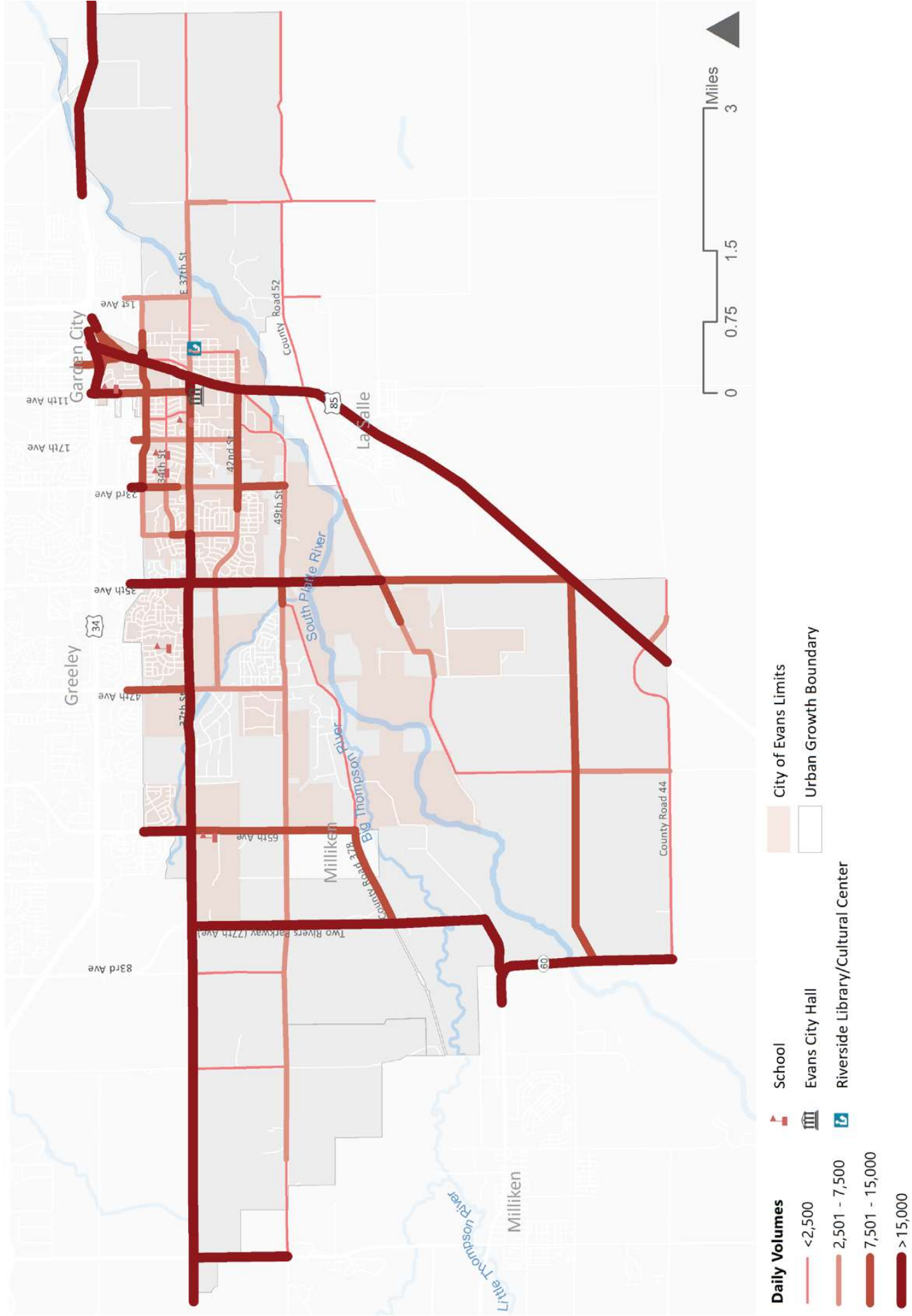


Figure 7.4: Low-Investment Scenario – Volume to Capacity Ratios in the AM Peak Hour

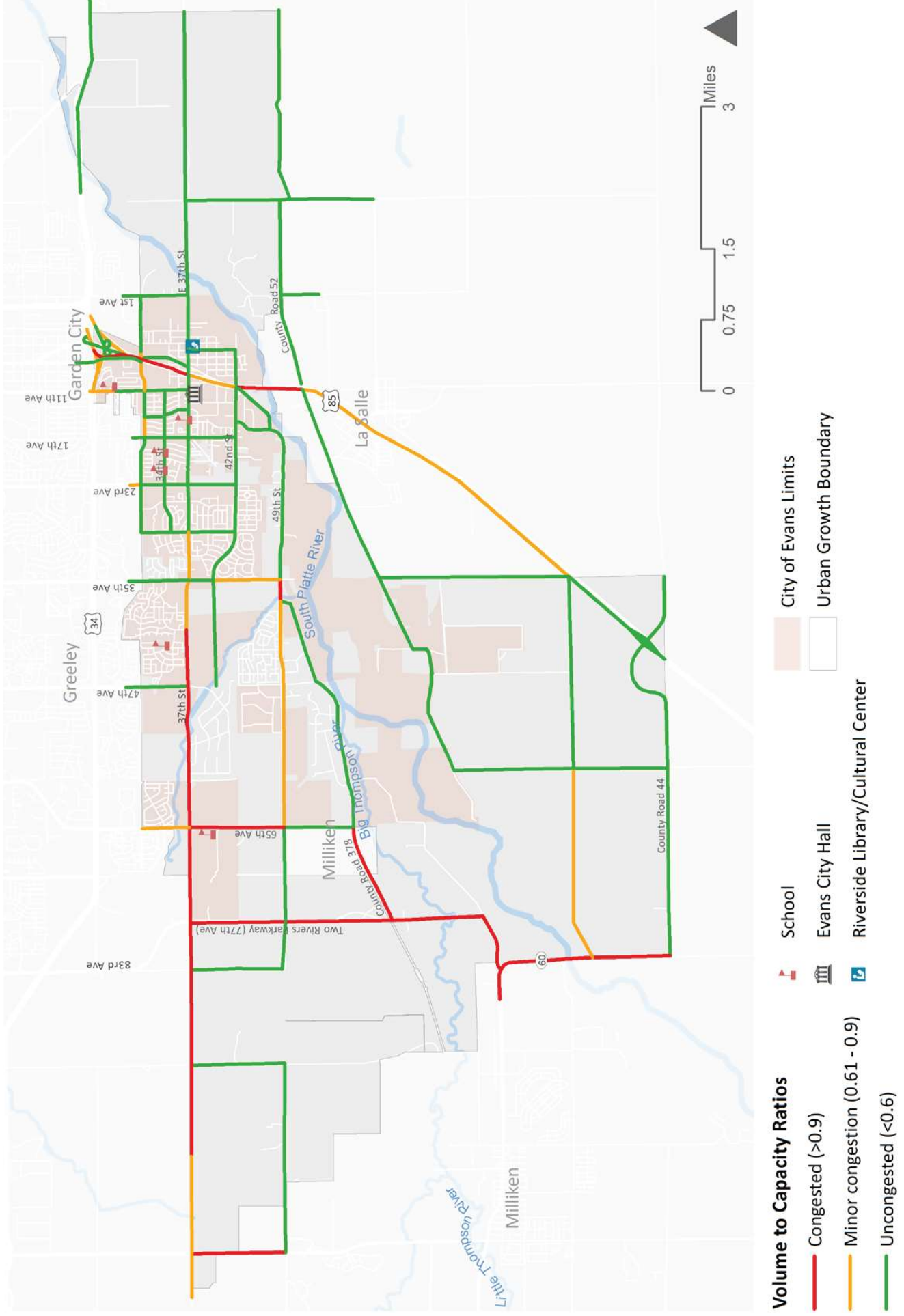


Figure 7.5: 49th Street Connection Scenario – Volume to Capacity Ratios in the AM Peak Hour

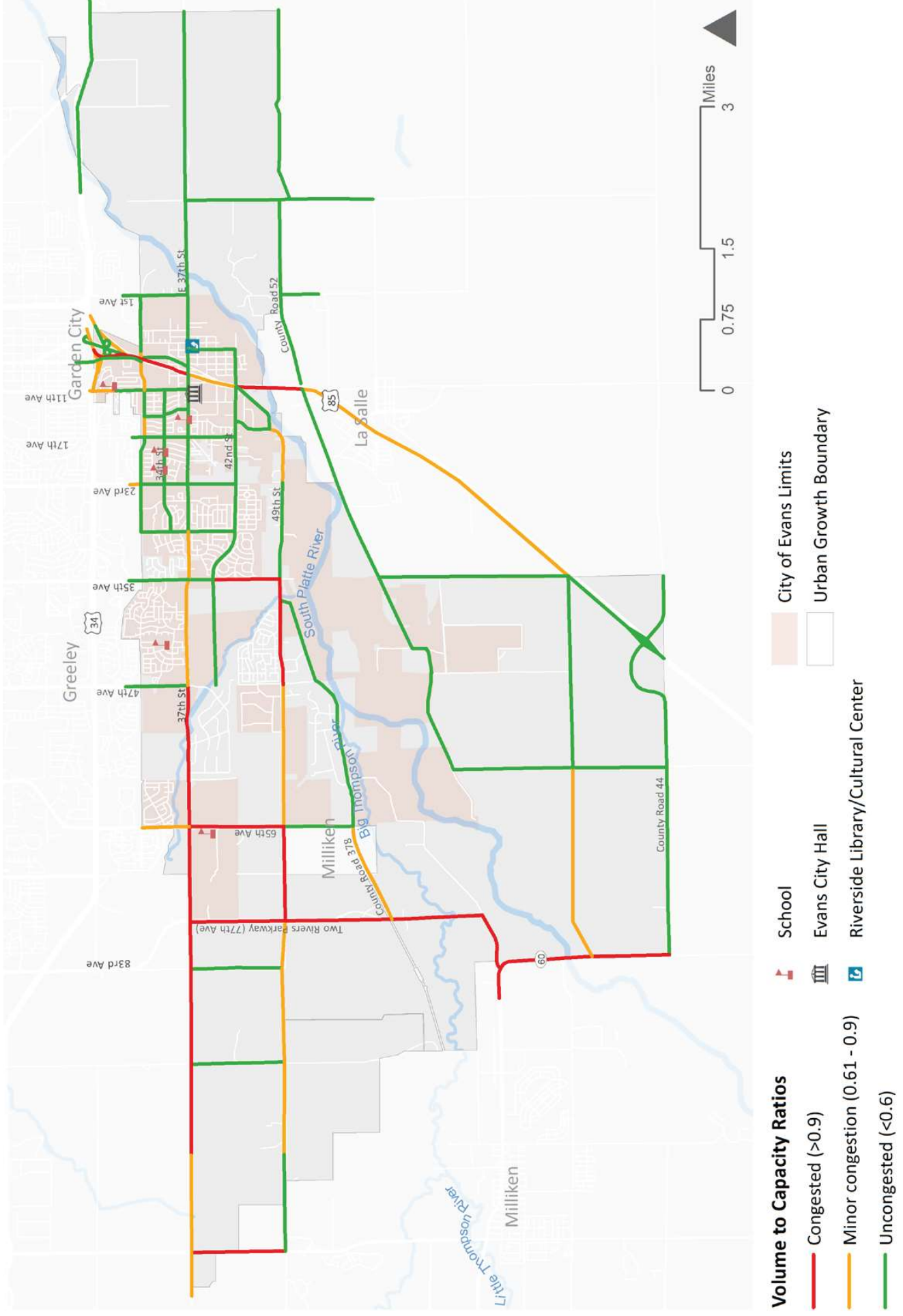


Figure 7.6: Full-Build Scenario – Volume to Capacity Ratios in the AM Peak Hour

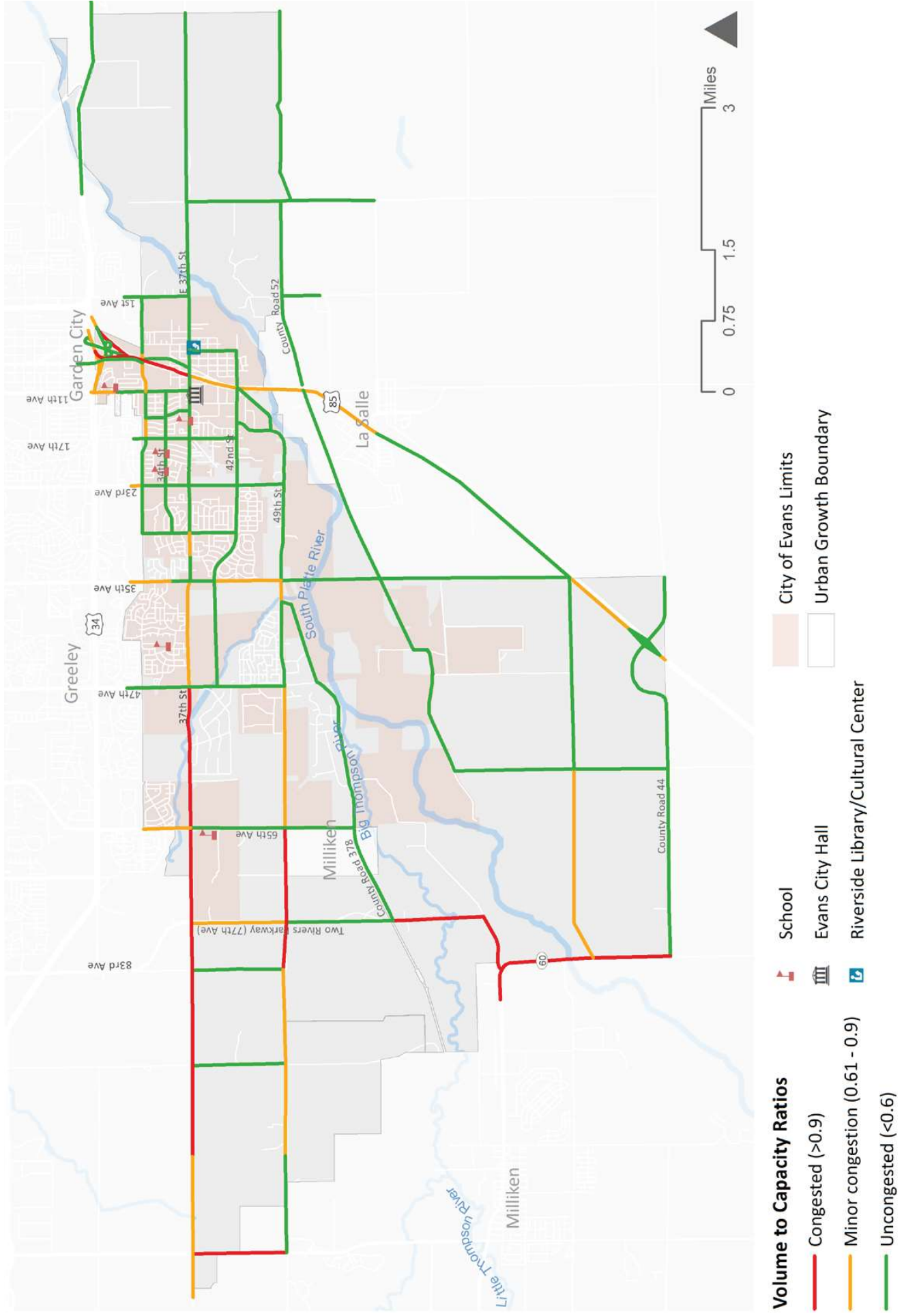
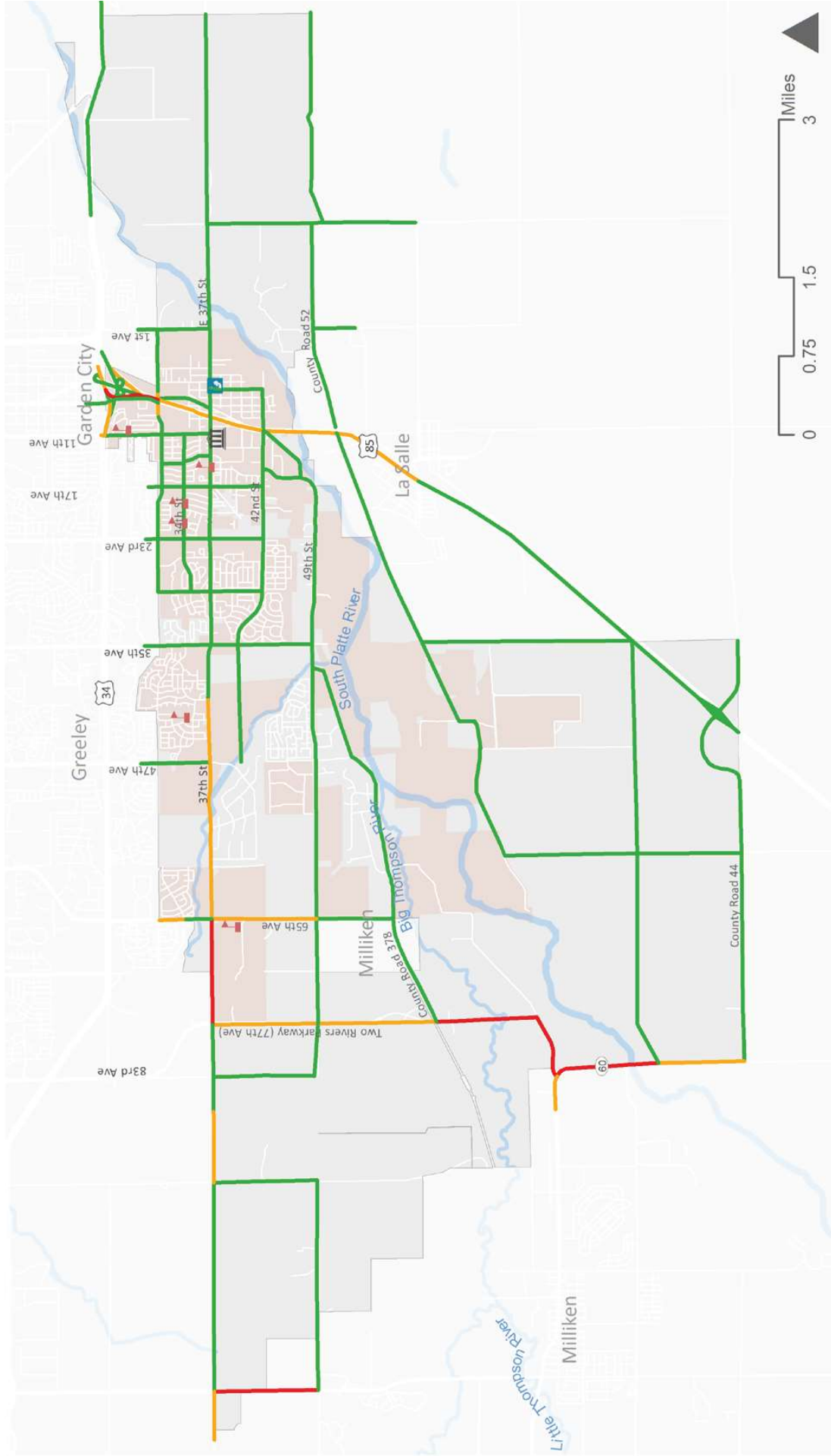


Figure 7.7: Low-Investment Scenario – Volume to Capacity Ratios in the MIDDAY Peak Hour



Volume to Capacity Ratios

Red line: Congested (>0.9)

Orange line: Minor congestion (0.61 - 0.9)

Green line: Uncongested (<0.6)

Red triangle: School

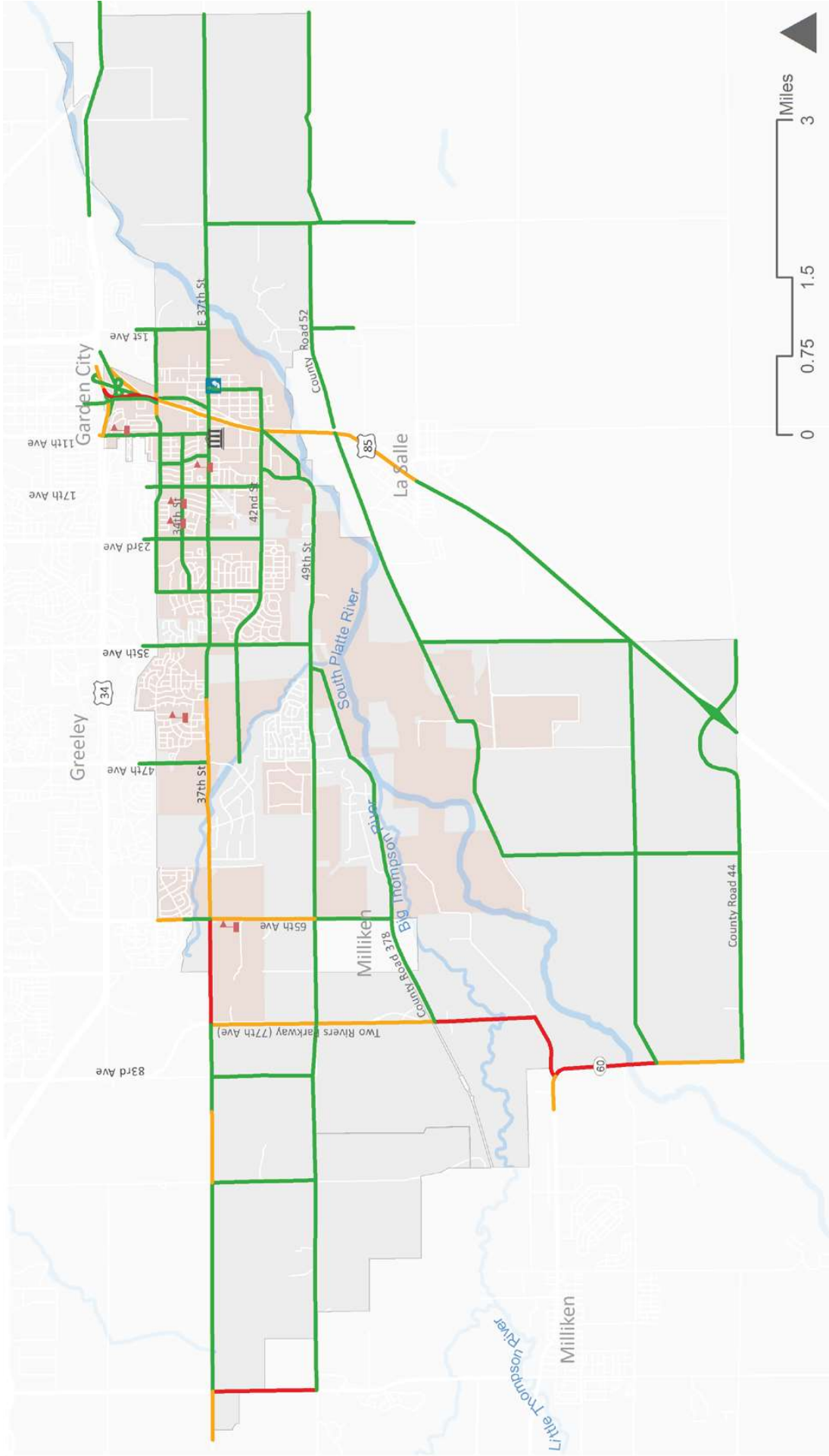
Classical building icon: Evans City Hall

Blue square icon: Riverside Library/Cultural Center

Light brown shaded area: City of Evans Limits

White shaded area: Urban Growth Boundary

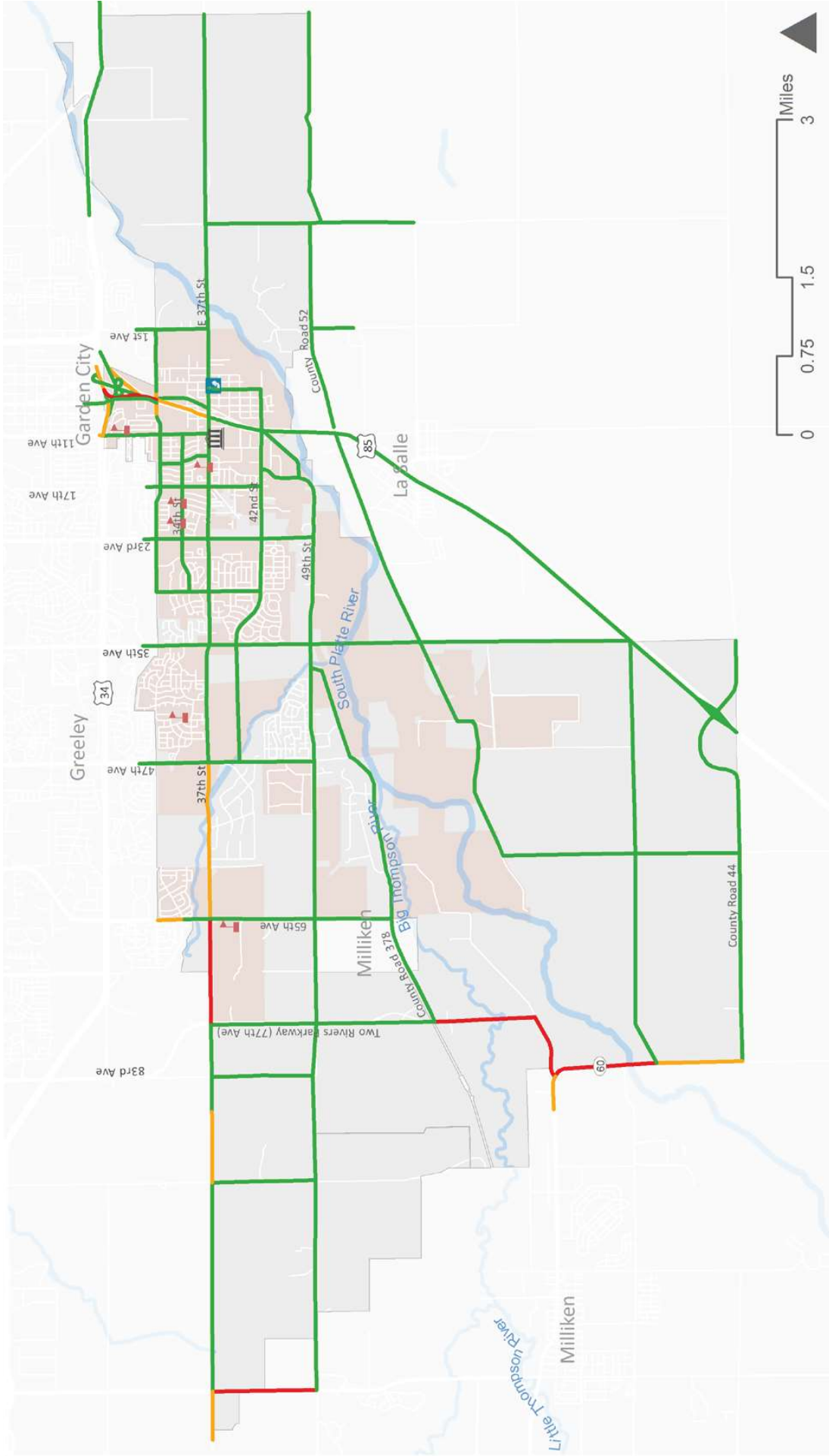
Figure 7.8: 49th Street Connection Scenario – Volume to Capacity Ratios in the Midday Peak Hour



- Volume to Capacity Ratios**
- Congested (>0.9)
 - Minor congestion (0.61 - 0.9)
 - Uncongested (<0.6)

-  School
-  Evans City Hall
-  Riverside Library/Cultural Center
-  City of Evans Limits
-  Urban Growth Boundary

Figure 7.9: Full-Build Scenario – Volume to Capacity Ratios in the Midday Peak Hour

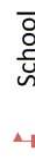


Volume to Capacity Ratios

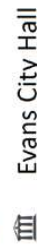
Red line: Congested (>0.9)

Orange line: Minor congestion (0.61 - 0.9)

Green line: Uncongested (<0.6)



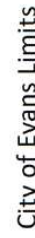
School



Evans City Hall



Riverside Library/Cultural Center



City of Evans Limits



Urban Growth Boundary



Figure 7.10: Low-Investment Scenario – Volume to Capacity Ratios in the PM Peak Hour

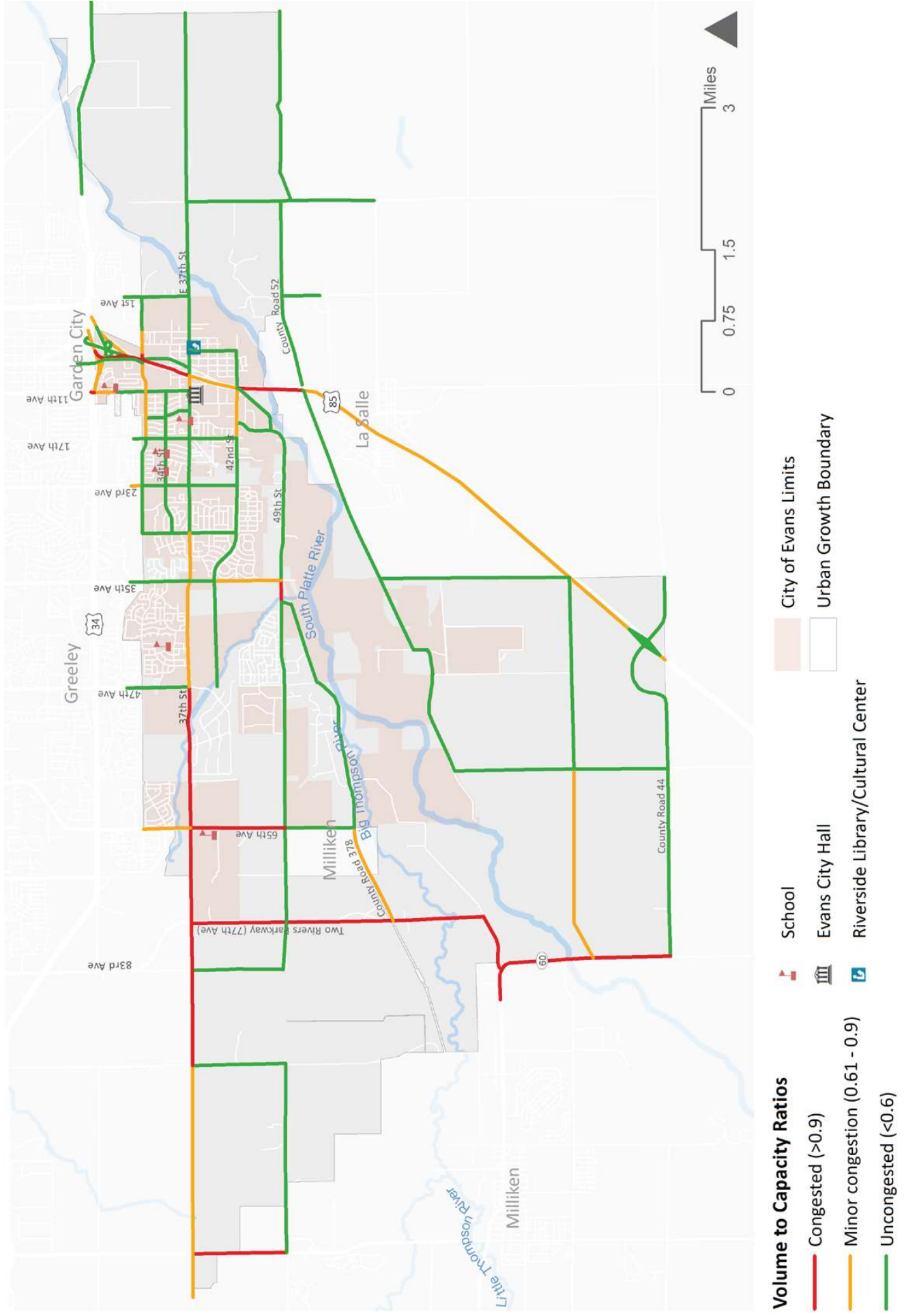
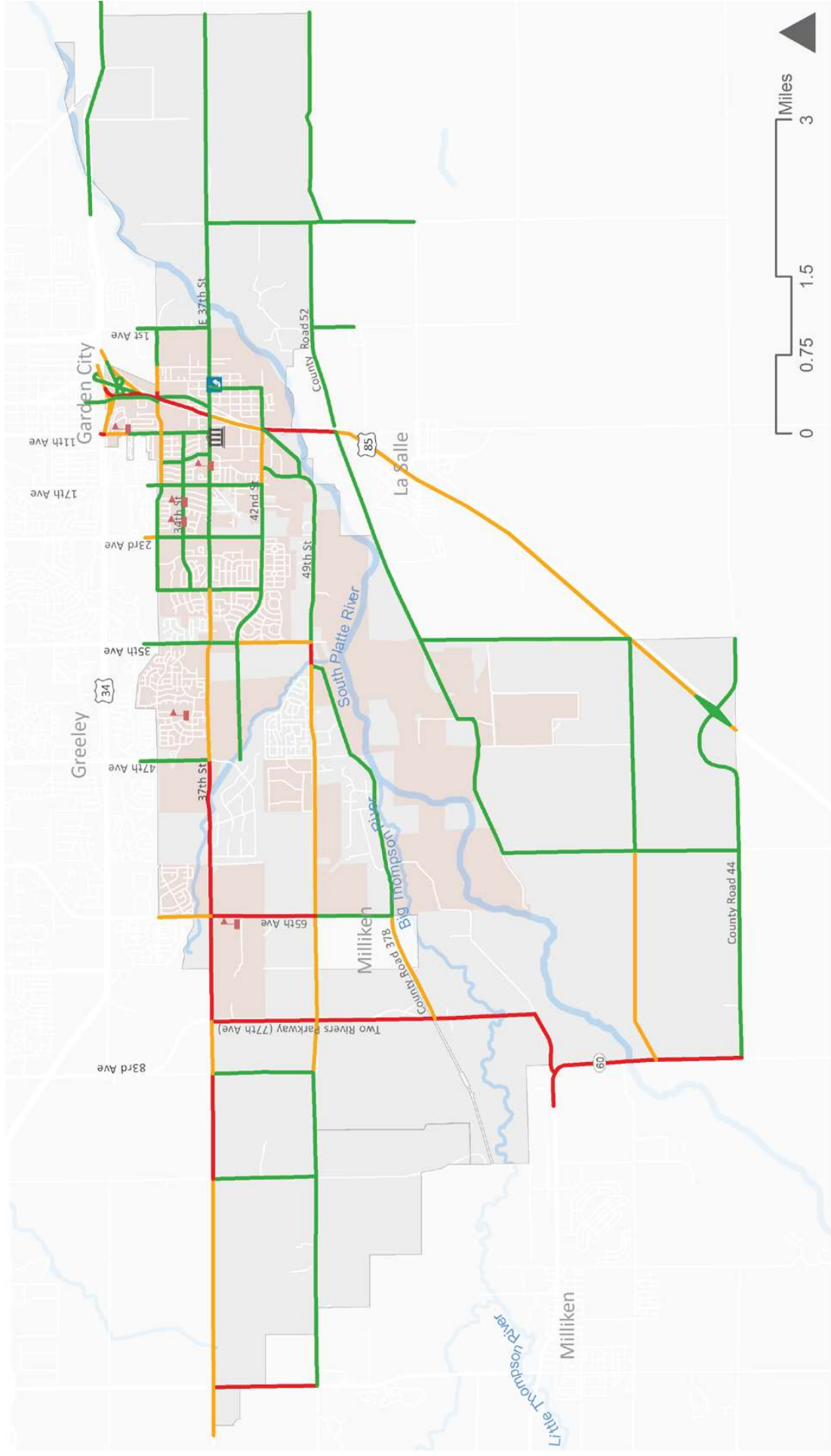


Figure 7.11: 49th Street Connection Scenario – Volume to Capacity Ratios in the PM Peak Hour

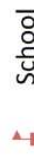


Volume to Capacity Ratios

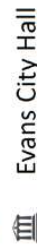
Congested (>0.9)

Minor congestion (0.61 - 0.9)

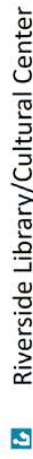
Uncongested (<0.6)



School



Evans City Hall



Riverside Library/Cultural Center



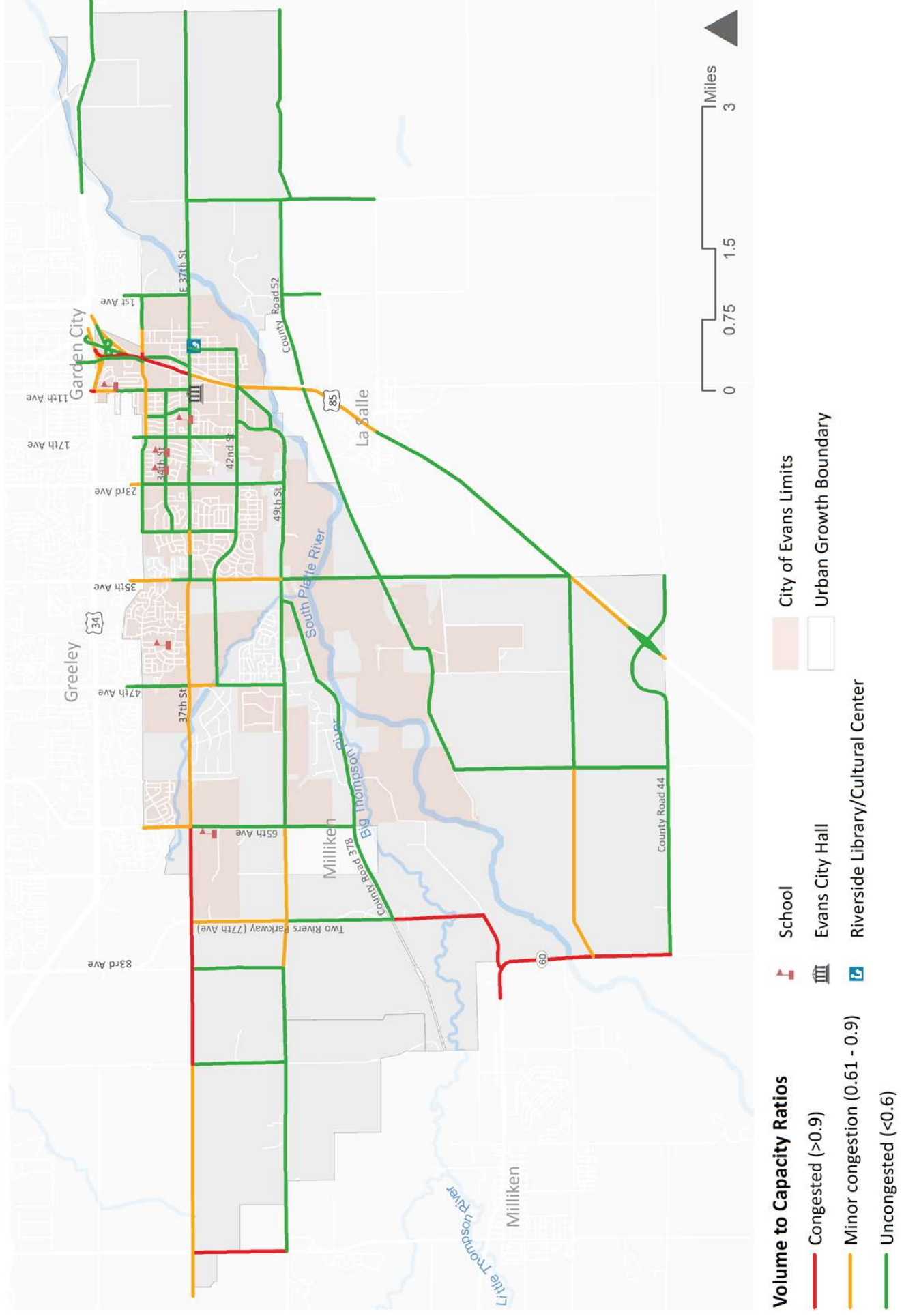
City of Evans Limits



Urban Growth Boundary



Figure 7.12: Full-Build Scenario – Volume to Capacity Ratios in the PM Peak Hour



RESULTS DISCUSSION

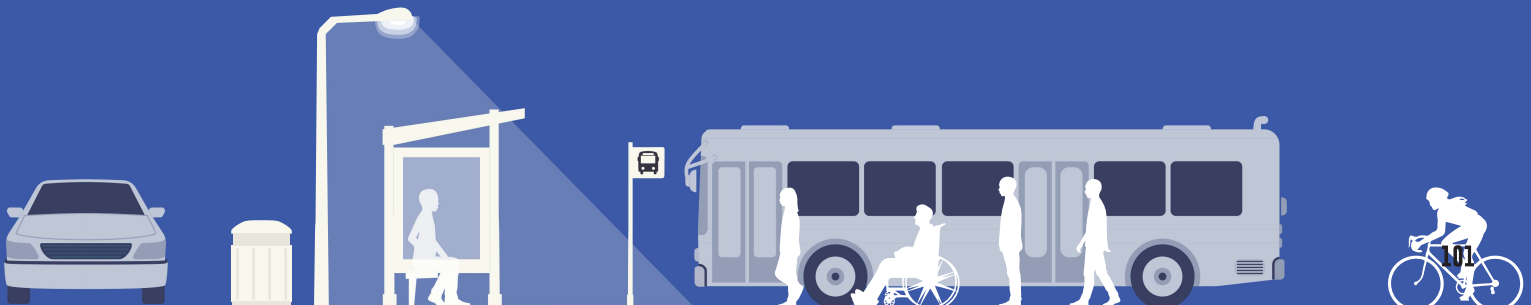
Comparing the different scenarios modeled indicates that Evans is expected to experience some increased congestion with the growth of population and commercial activity that is projected for the community. Congestion is estimated to be greatest during the AM and PM peak hours on the east-west corridors and on Two-Rivers Parkway. In the 49th Street Connection scenario, significant relief of congestion is provided by the additional east-west corridor created on 49th


Street. Similarly in the Full-Build Out scenario, the additional north-south connections on 47th Avenue, 35th Avenue, and 23rd Avenue, provide relief of the congestion on Two-Rivers parkway through the City of Evans. Through this modeling analysis it was found that the proposed paving and widening projects had less of an effect on congestion than the new roadway connections. This modeling analysis can act as one piece of information for planning the implementation of new roadway projects. Where capacity or congestion are the issues a new

roadway project aims to address, it is important to consider how new or improved multi-modal connections could shift drivers off the road and address capacity issues through transportation demand management as well. In addition to the results of this analysis, **Chapter 8** includes project prioritization for all MMTMP projects and **Chapter 10** provides recommended programs and policies that can help further transportation demand management efforts and provide supplemental improvements to the capital projects recommended in the MMTMP.



CHAPTER 8 RECOMMENDED PROJECTS AND FUTURE MODAL NETWORKS





RECOMMENDED PROJECTS AND FUTURE MODAL NETWORKS

OVERVIEW

This chapter gives an overview of how recommendations were developed, the methodology used to prioritize projects, and details on the specific projects for each mode of travel (roadway, active transportation, and transit). This chapter shows a complete, connected, and comfortable future transportation network for all modes of travel.

PROJECT DEVELOPMENT

The MMTMP shows a vision for the future of travel by each transportation mode in Evans. These recommended projects and networks were developed collaboratively with City staff, stakeholders, and community members. Development of recommendations began by detailing the projects that were recommended in the previous 2004 Transportation Master Plan (TMP) and working with existing data and City staff to understand which of these projects had been implemented, which should be carried forward into the MMTMP, and which were no

longer relevant projects for the City's goals. The list of projects to be carried over from the previous TMP was then built upon with additional projects based on an analysis of existing gaps in networks, community and stakeholder input, and the knowledge of City staff. This list of projects in the MMTMP reflects an iterative planning process that sought to address existing needs and align with expected future development based on the future land use map created for the City of Evans Master Plan. These projects were then prioritized using a variety of inputs which are described in the next section of this chapter. Planning level cost estimates were also developed for all recommended projects. Where possible, these cost estimates were based on local or regional data from previous or ongoing projects.

PROJECT PRIORITIZATION METHODOLOGY

The projects put forth in this chapter include a prioritization score. The higher the score the higher priority that

project is relative to the other projects for the same mode of transportation (roadway, active transportation, transit). This prioritization methodology and the inputs assessed were developed in collaboration with City staff. The following inputs were used to prioritize proposed roadway projects and on-street active transportation projects:

ACCESS TO KEY DESTINATIONS

Projects within 1/2 mile of bus stops, schools, parks, shopping centers, civic buildings (like the Evans Community Complex, the Riverside Library, and post office), regional highways, and trail access points received higher scores for improving access to key destinations.

SAFETY

Two datasets that can indicate safety concerns in a study area are the historic number of crashes on a proposed project segment and the Pavement Condition Index (PCI) of a project segment. Pavement condition is an important factor in roadway safety

because worn out pavement has less friction which can contribute to increased skidding or hydroplaning when the pavement is wet. Potholes and ruts in pavement can also reduce a driver's control over maneuvering their vehicle. Both of these factors contributed to each project's safety score with the number of crashes being weighted twice as much as the PCI of a corridor. Crashes resulting in death or severe injury were weighted as two crashes. For the active transportation projects, each crash involving a cyclist or pedestrian was weighted as four crashes. Bicycle and pedestrian-involved crashes are less prevalent nominally but tend to be more severe in nature. Weighting bicycle and pedestrian-involved crashes more heavily helps to normalize crash data during the prioritization process.

Pursuing a project that would include a roadway resurfacing can have safety benefits. Projects on roadways that currently have a low Pavement Condition Index rating were given a high-priority score for PCI improvements.

DEMAND

Projects that were proposed in areas of high demand were given higher scores for prioritization. Demand was estimated by the combined population and employment density around each project. For roadway projects, the existing volume to capacity ratio was

also considered an indicator of high demand and increased the priority of roadway projects in areas with high volume to capacity ratios.

IMPROVED ACCESS FOR LOW-INCOME HOUSEHOLDS

Projects planned near greater concentrations of low-income households were given greater priority to ensure improved infrastructure is being constructed in ways that improve access and transportation options for low-income residents. Lower income households tend to ride transit at higher rates than middle to high-income households. According to the American Public Transportation Association, 13% of U.S. households have an annual income of less than \$15,000 but among households that use transit regularly, that share is higher at 21%.¹ In addition, low-income households tend to have lower vehicle access and ownership rates, which often results in a higher rate of transit use. In addition to locating bus stops in areas with higher percentages of low-income households, creating comfortable bicycle and pedestrian connections between households and stops is an important component in improving transit access.

COMMUNITY INPUT

Projects were given higher points for prioritization if they had been mentioned

as priorities for community members either through surveys, online community meetings, or in-person outreach events.

RECOMMENDED PROJECTS AND FUTURE MODAL NETWORKS

The recommended projects and future modal networks are broken up by project types: roadways, active transportation, and transit. Each subsection includes a map of the proposed projects, a table listing details and prioritization of each project, examples of the types of recommendations included in the projects list, and a map that shows what the complete network for each mode of transportation would look like after the implementation of all projects listed in this chapter.

ROADWAY

Figure 8.1 displays a map of the proposed roadway infrastructure projects. Table 8.1 includes greater details about each project. The "Map ID" column references the number label of that project on the map in Figure 8.1. Projects listed in the tables are in order of highest priority score.

¹"Who Rides Public Transportation" American Public Transportation Association, 2017.



Figure 8.1: Proposed Roadway Projects

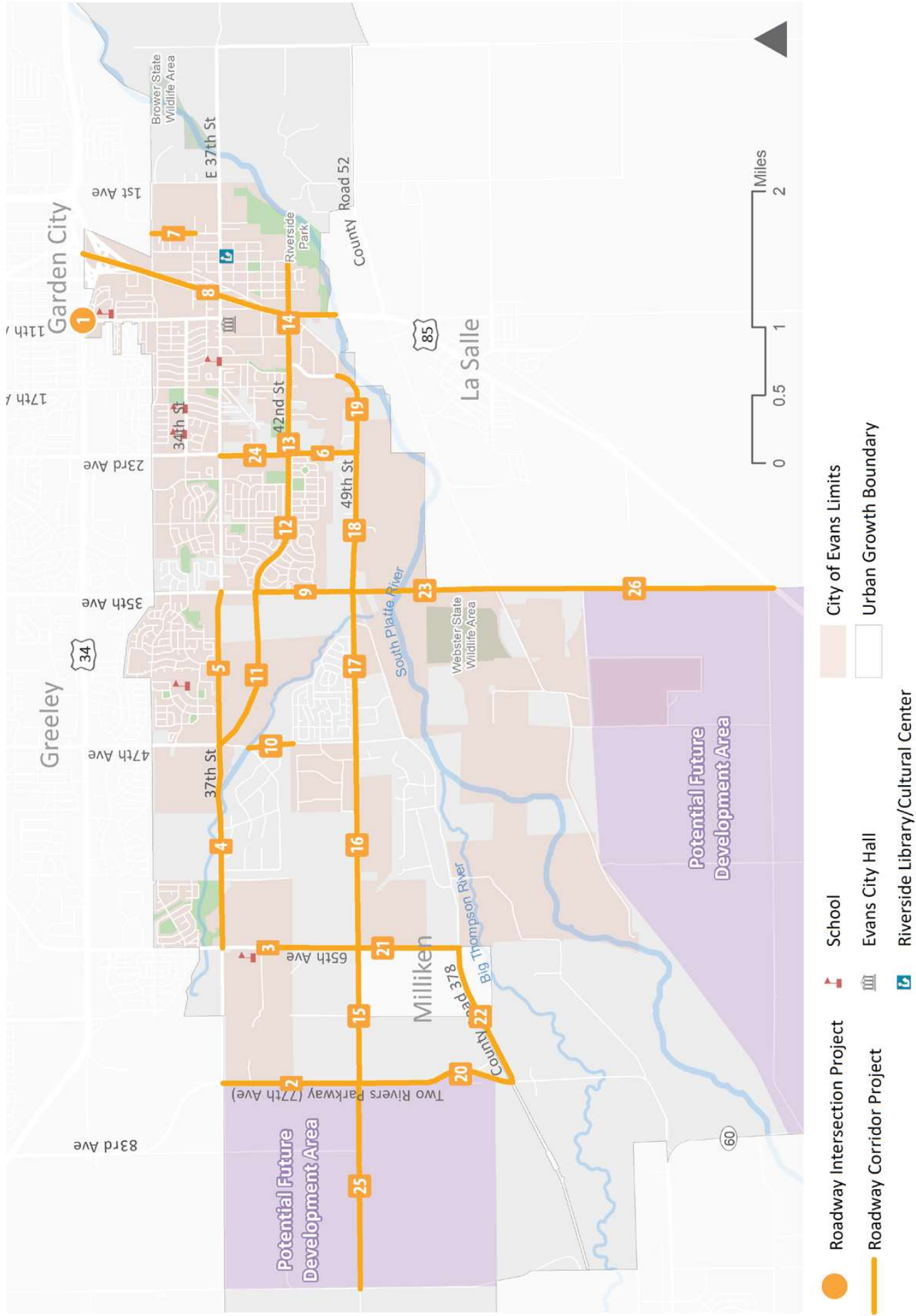


Table 8.1: Proposed Roadway Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Prioritization Score	Priority Level (High, Medium, Low)	Cost Estimate
8	US-85 & 31st Street (southeast and southwest corners)	31st Street	US-85	Access Management Plan Implementation	34	High	\$2,600,000
5	37th Street	35th Avenue	47th Avenue	Roadway Widening	33	High	\$11,070,000
12	Prairie View Drive	23rd Avenue	35th Avenue	Maintenance Improvements	33	High	\$1,490,000
1	11th Avenue & US 34	11th Avenue	US-34	Intersection Operations Improvements	28	High	\$20,000
4	37th Street	47th Avenue	65th Avenue	Roadway Widening	27	High	\$14,760,000
9	35th Avenue	Prairie View Drive	49th Street	Roadway Widening	27	High	\$6,860,000
14	42nd Street	17th Avenue	Riverside Park	Speed Mitigation Improvements	27	High	\$100,000
24	23rd Avenue	37th Street	42nd Street	Roadway Widening	25	High	\$5,040,000
7	Trinidad Street	31st Street	35th Street	Roadway Paving	21	Medium	\$1,640,000
16	49th Street	47th Avenue	65th Avenue	Roadway Widening	20	Medium	\$14,890,000
11	Prairie View Drive	35th Avenue	47th Avenue	New Roadway	19	Medium	\$7,370,000
18	49th Street	35th Avenue	Stone Gate Drive	Roadway Widening	19	Medium	\$10,010,000
13	42nd Street	17th Avenue	23rd Avenue	Roadway Widening	18	Medium	\$4,880,000
17	49th Street	35th Avenue	47th Avenue	Roadway Widening	18	Medium	\$10,950,000
3	65th Avenue	37th Street	49th Street	Roadway Widening	16	Medium	\$7,020,000
23	35th Avenue	49th Street	CR 394	New Roadway	16	Medium	\$38,830,000
26	35th Avenue	CR 394	US 85	Roadway Widening	16	Medium	\$20,180,000
10	47th Avenue	Arrowhead Drive	Mesa Verde Drive	New Roadway	15	Low	\$2,290,000

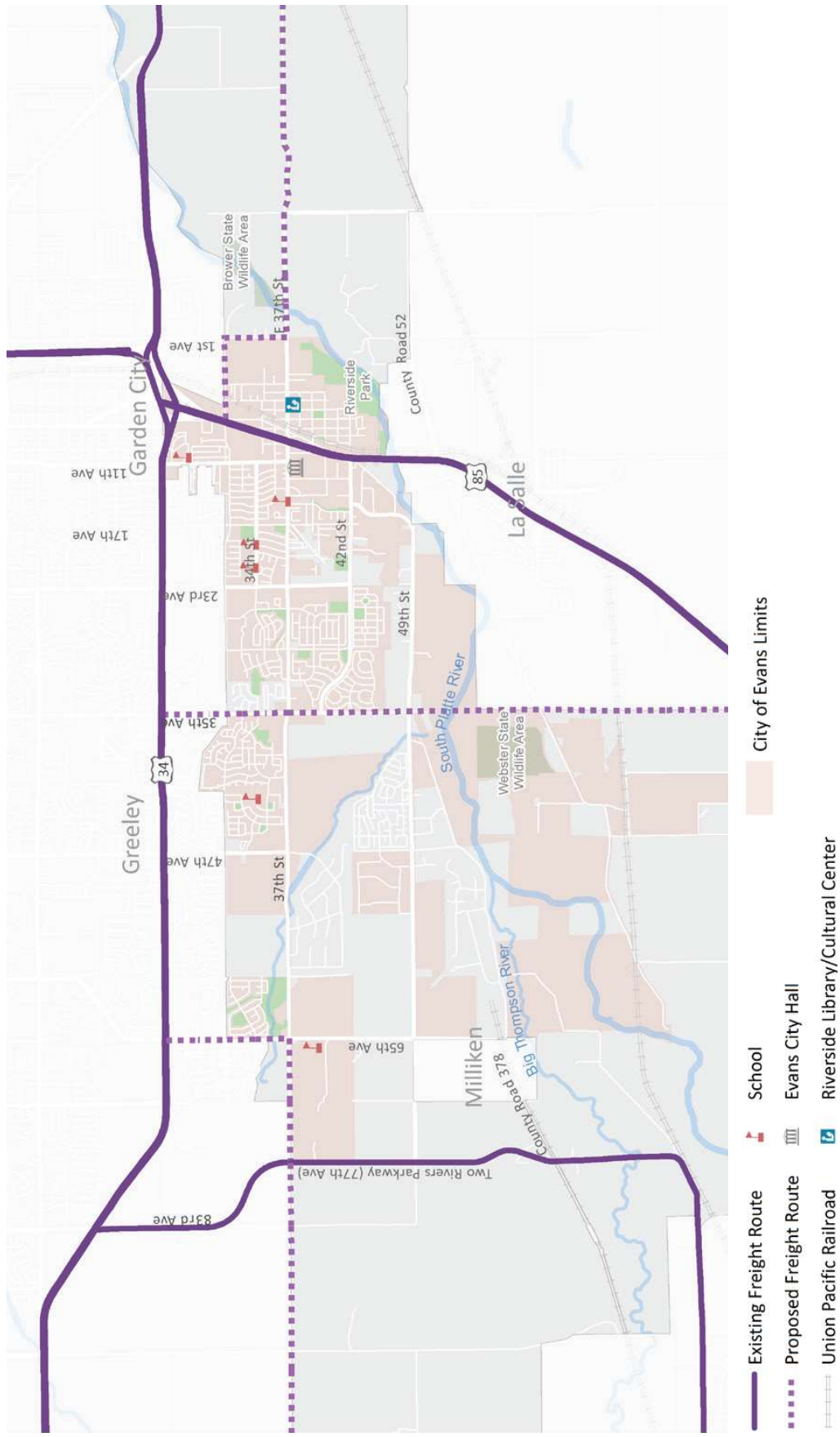
Continued Table 8.1: Proposed Roadway Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Prioritization Score	Priority Level (High, Medium, Low)	Cost Estimate
21	65th Avenue	54th Street Road	49th Street	Roadway Widening	15	Low	\$7,390,000
22	54th Street Road	Two Rivers Parkway	65th Avenue	Roadway Widening	14	Low	\$10,520,000
2	Two Rivers Parkway	37th Street	49th Street	Roadway Widening	13	Low	\$9,930,000
6	23rd Avenue	42nd Street	49th Street	New Roadway	13	Low	\$3,490,000
19	49th Street	Stone Gate Drive	Brantner Road	Roadway Widening	13	Low	\$6,300,000
15	49th Street	Two Rivers Parkway	65th Avenue	Roadway Paving	10	Low	\$2,500,000
20	Two Rivers Parkway	49th Street	54th Street Road	Roadway Widening	10	Low	\$11,420,000
25	49th Street	95th Avenue	77th Avenue	New Roadway	8	Low	\$5,060,000

Freight Routing

Considering the proximity of US-34 and US-85 to Evans, these US highways carry the majority of the freight traffic that moves to, from, and through Evans. Through the Evans MMTMP process, roadways were identified as priority routes on 37th Street and 1st Avenue, 37th Street and 65th Avenue, Two Rivers Parkway, Two Rivers Parkway, and SH 60, to direct freight traffic to US-34 and US-85. Freight traffic that is traveling through the heart of Evans is most likely traveling to reach a destination within Evans. Additionally, if 35th Avenue is extended down to County Road 394 in the future, this roadway would serve as north-south freight route through Evans, offering connections between US-34 and US-85. This would help alleviate demand at the existing US-34/US-85 interchange in Greeley and provide redundancy in freight routes, which can help ensure easier goods movement through the region. **Figure 8.2** displays a map of these Existing and Proposed freight routes.

Figure 8.2: Freight Routes



Descriptions of Improvements & Sample Cross Sections

Access Management Plan

An Access Management Plan is a future-oriented document that provides detailed information about how parcel access should be managed relative to a major roadway. In the case of Evans, there is a US-85 Access Management Plan that dictates which intersections should be signalized, which driveways should be turn restricted (e.g. right-in/right-out movements only), and which access points can be consolidated to help reduce the number of opportunities to turn onto or off of US-85. The remaining US-85 Access Management Plan projects in Evans are improvements to the southwest and southeast corners of US-85 at 31st Street.

Roadway Widening

In order to accommodate development on a corridor or growth in traffic volumes, a roadway may be widened to provide additional capacity. In most instances in Evans, a two-lane arterial would be widened to four lanes as needed. The wider roadway would create additional capacity not only for vehicles but also for pedestrians and bicyclists with the inclusion of wide sidewalks. **Figure 8.3** illustrates the

proposed cross section for a standard arterial.

Prairie View Drive Improvements

Prairie View Drive, east of 35th Avenue is planned to undergo maintenance improvements, some of which may require reconstruction of the roadway in some sections. Prairie View Drive west of 35th Avenue is planned to be a new four-lane arterial roadway.

Intersection Operations Improvements

Signalized intersections may require traffic signal re-timing as traffic conditions change. This can occur when a capacity enhancement project generates higher travel volumes along a corridor or when a significant development is added near the intersection.

Speed Mitigation Improvements

Speed mitigation, or traffic calming, measures can include vertical treatments like speed humps, or horizontal treatments that narrow the roadway, like chicanes (**Figure 8.4**).

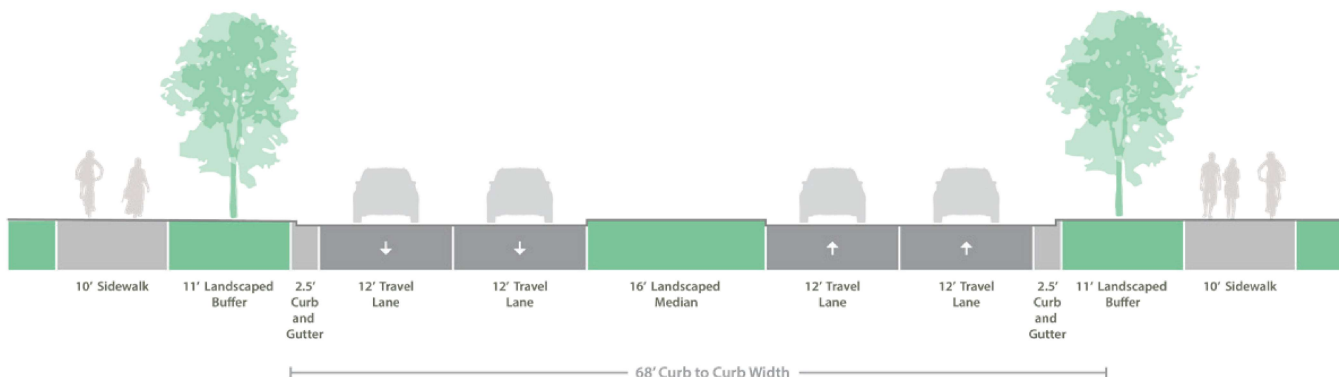
Figure 8.4: Example of a Chicane (source: SF Better Streets)



Figure 8.3: Cross Section of an Arterial Roadway

Arterial Cross Section

110-foot Right-of-way



New Roadway

New roadway projects listed in the project table refer to new two-lane roadways that may be minor collectors or rural local roadways depending on their context, with the exception of Prairie View Drive west of 35th Avenue which is planned to be a four-lane arterial (**Figure 8.3**). **Figure 8.5** and **Figure 8.6** illustrate the cross sections for new minor collectors and rural local roads respectively.

Two of the planned new roadways may face significant barriers to

implementation. The extension of 47th Avenue from 37th Street to 49th Street would need to account for the floodplain, wetlands, existing utilities, right-of-way acquisition, and realignment of existing roads. Similarly, the 23rd Avenue extension would require moving overhead utilities and may also require realigning intersections. The City will need to communicate to existing and future landowners in these areas about planned utility work as the area develops.

Roadway Paving

Roadway paving projects refer to roadways that are currently unpaved that are planned to become paved roadways in the future.

Vision Future Roadway Network

Figure 8.7 displays a summary map of the changes to the roadway network in Evans following MMTMP implementation. **Figure 8.8** shows the future Evans roadway network by street classification at full build out.

Figure 8.5: Cross Section of a Minor Collector Roadway

65-foot Right-of-way

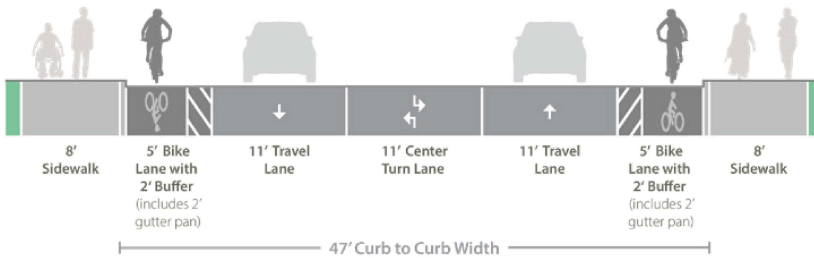


Figure 8.6: Cross Section of a Rural Local Roadway

60-foot Right-of-way

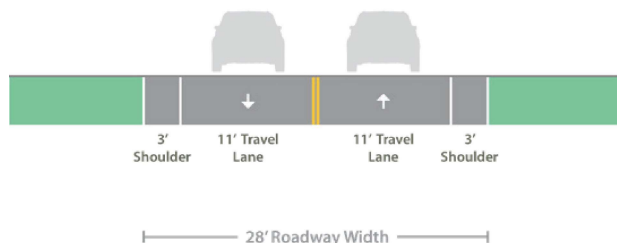


Figure 8.7: Changes to Roadway Network

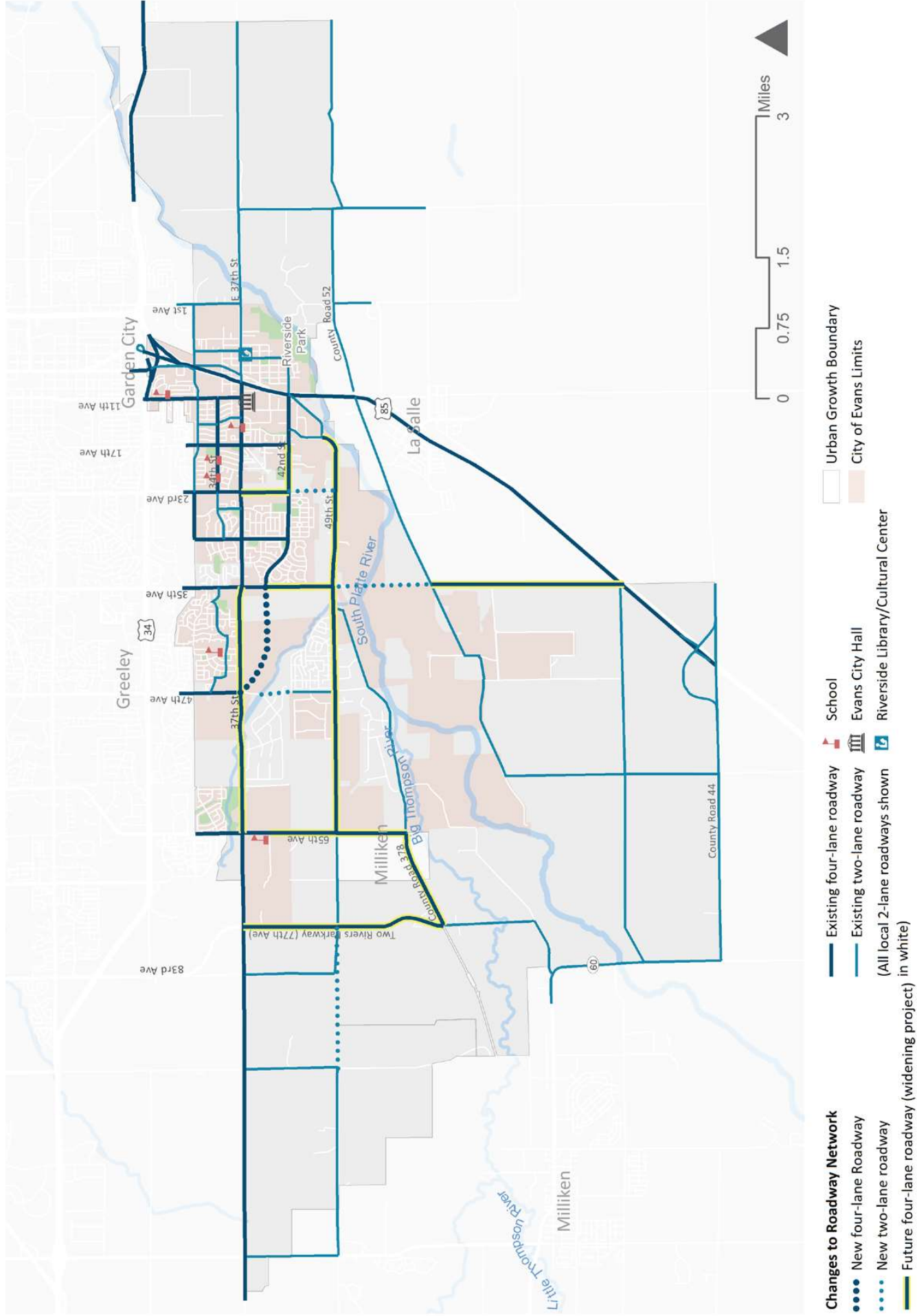
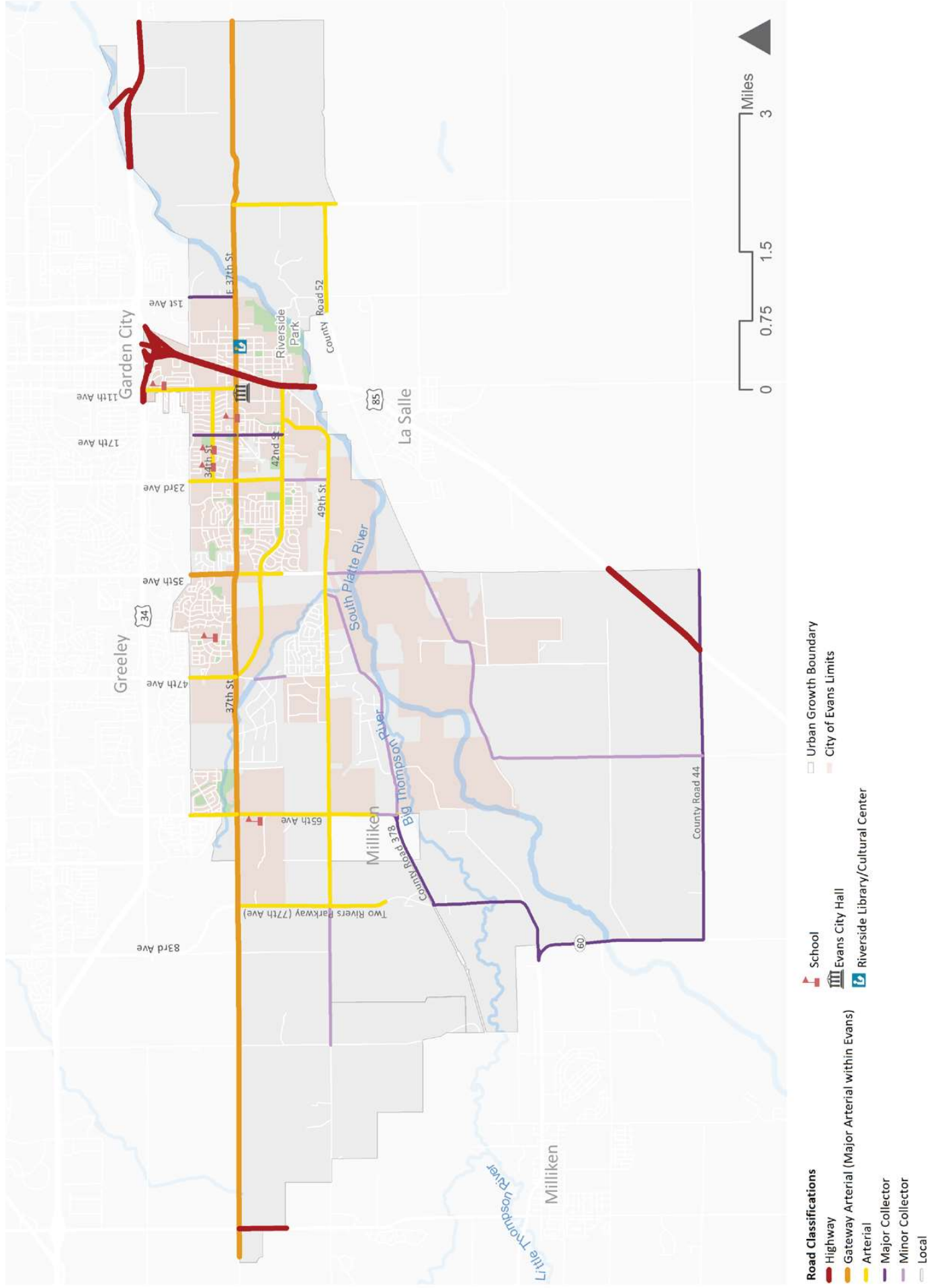


Figure 8.8: Future Roadway Network



ACTIVE TRANSPORTATION

Proposed Projects

Figure 8.9 displays a map of the proposed active transportation infrastructure projects.

Table 8.2 – Table 8.4 include greater details about each project. The “Map ID” column references the number label of that project on the map in **Figure 8.9**.

Table 8.2 displays proposed intersection projects, **Table 8.3** displays proposed trail projects, and **Table 8.4** displays proposed on-street corridor projects. Trail projects were not assigned a prioritization score because the methodology is not compatible with off-street improvements. Instead trail projects were given priority levels of high, medium, or low relative to each other. These priority levels were assigned based on public enthusiasm for the projects and proximity to existing residences or destinations. Projects listed in the tables are listed by priority level. It should also be noted that all wide sidewalks listed in **Table 8.4** would be constructed as part of the roadway widening projects listed in this MMTMP. The wide sidewalk implementation costs shown in **Table 8.4** are already included in the roadway widening project costs but shown separately here.

Figure 8.9: Proposed Active Transportation Projects

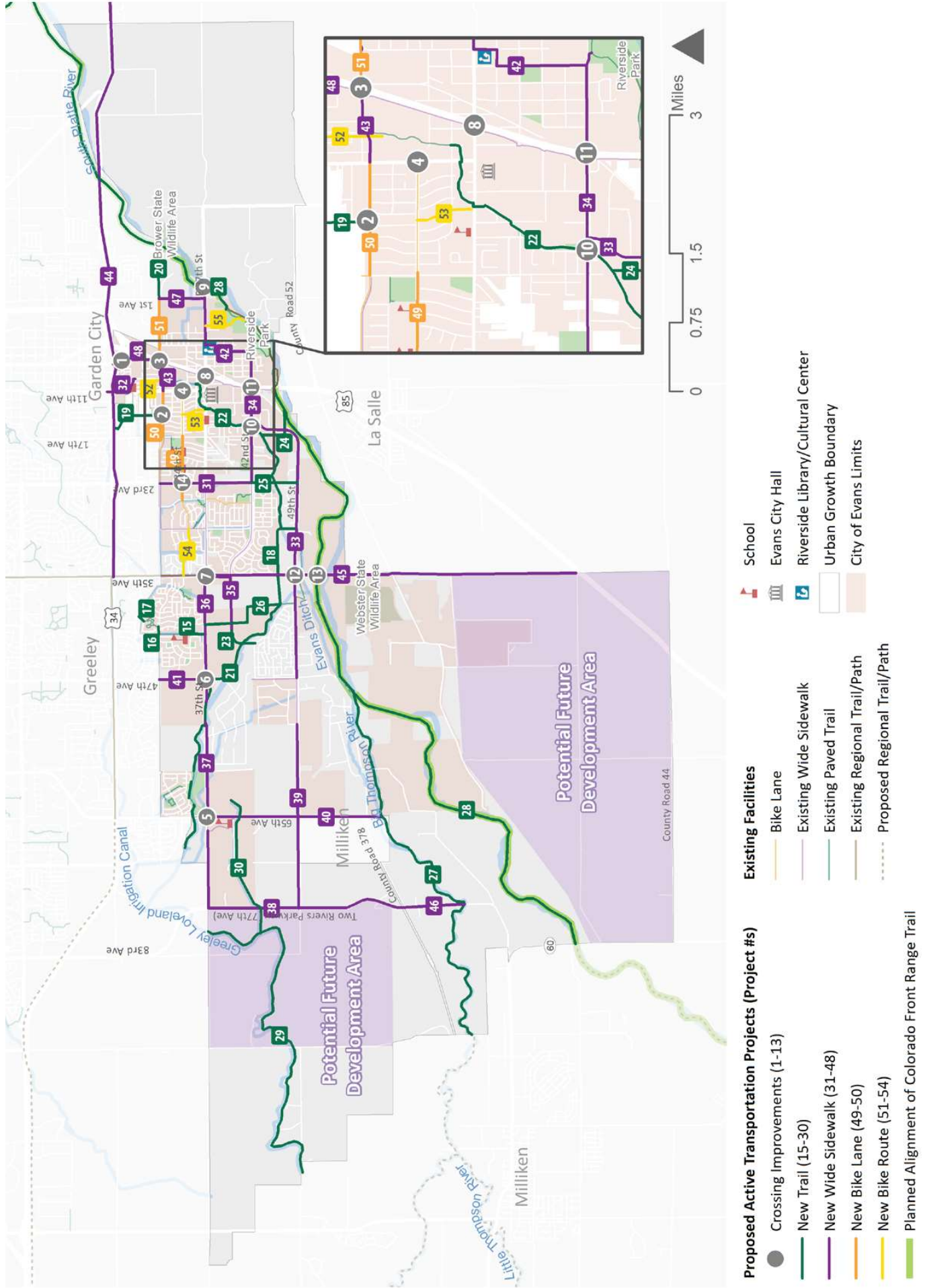


Table 8.2: Active Transportation Intersection Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Partnerships or Cost Sharing	Prioritization Score	Priority Level (High, Medium, Low)	Cost Estimate
3	31st Street & US-85	US-85	31st Street	Study Improved Bike & Pedestrian Crossings with Implementation of US-85 Access Management Plan	Possible Safe Routes to School Project	29	High	\$50,000
14	34th Street & 23rd Avenue	34th Street	23rd Avenue	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	28	High	\$340,000
8	US 85 / 37th Street	US 85	37th Street	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	27	High	\$40,000
1	8th Avenue & US 34	8th Avenue	US 34	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	26	High	\$70,000
2	Pleasant Acres Road/32nd Street	Pleasant Acres Road	32nd Street	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	26	Medium	\$30,000
4	11th Avenue & 34th Street	11th Avenue	34th Street	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	26	Medium	\$340,000
7	35th Avenue & 37th Street	37th Street	35th Avenue	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	24	Medium	\$40,000
11	US 85 / 42nd Street	US 85	42nd Street	Improved Bike & Pedestrian Crossing		24	Medium	\$40,000
13	35th Avenue & Platte River Trail	35th Avenue	Platte River Trail	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	24	Medium	\$80,000
10	Evans Ditch Trail & 42nd Street	Evans Ditch Trail	42nd Street	Trail Access Point		19	Low	\$80,000
5	65th Avenue / 37th Street	65th Avenue	37th Street	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	18	Low	\$40,000
12	35th Avenue & 49th Street	35th Avenue	49th Street	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	18	Low	\$40,000
6	37th Street / 47th Avenue Connection	Ashcroft Draw Trail	37th Street Trail	Improved Bike & Pedestrian Crossing		16	Low	\$80,000
9	37th Street & Platte River Trail	37th Street	Platte River Trail	Improved Bike & Pedestrian Crossing	Possible Safe Routes to School Project	15	Low	\$80,000

Table 8.3: Active Transportation Trail Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Partnerships or Cost Sharing	Priority Level (High, Medium, Low)	Cost Estimate
18	Ashcroft Draw & Evans Ditch Trail Connector	Ashcroft Draw Trail	Evans Ditch Trail	Trail (Local)		High	\$1,340,000
21	Ashcroft Draw Trail	65th Avenue / Orchard Park Drive	Existing Path near Grand Canyon Drive / 49th Street	Trail (Local)	Possible Safe Routes to School Project	High	\$4,820,000
22	Evans Ditch Trail	49th Street	36th Street	Trail (Local)	Possible Safe Routes to School Project	High	\$3,990,000
28	South Platte River Trail	Riverside Park	Evans Boundary	Trail (Regional)	Milliken, Greeley, NFRMPO	High	\$6,070,000
15	Tuscany Neighborhood Connector	Milan Street	37th Street	Trail (Local)	Possible Safe Routes to School Project	Medium	\$250,000
16	32nd Street Trail Connection	Ashcroft Channel Trail	Crickets Run at Ashcroft Heights	Trail (Local)	Possible Safe Routes to School Project	Medium	\$140,000
17	Ashcroft Heights/Hudson Park Connector	Maverick Lane	Hudson Park	Trail (Local)	Possible Safe Routes to School Project	Medium	\$120,000
19	29th Street Trail Connection	32nd Street	15th Street / US 34 Underpass	Trail (Local)	Possible Safe Routes to School Project	Medium	\$960,000
20	31st Street Trail Connection	1st Avenue	Platte River Trail	Trail (Local)		Medium	\$920,000
23	Hill-n-Park Neighborhood Connector	Mesa Verde Drive	Future Prairie View Drive Sidewalk	Trail (Local)		Medium	\$590,000
24	Industrial Park Trail Connector	Evans Ditch Trail	South Platte River Trail	Trail (Local)		Medium	\$790,000
25	23rd Avenue Trail Extension	42nd Street	49th Street	Trail (Local)		Medium	\$790,000
26	Tuscany #3 Trail Connection	Ashcroft Draw Trail	37th Street	Trail (Local)	Possible Safe Routes to School Project	Medium	\$1,560,000
30	Peakview Trail	Greeley Loveland Irrigation Canal	East of 65th Avenue	Trail (Local)	Peakview Developer	Medium	\$2,560,000
27	Big Thompson River Trail	Evans Future Growth Boundary	South Platte River Trail	Trail (Regional)	Milliken, NFRMPO	Low	\$5,750,000
29	Greeley Loveland Irrigation Canal Trail	CR 52	Freedom Parkway	Trail (Local)	Greeley, NFRMPO	Low	\$6,840,000

Table 8.4: Active Transportation On-Street Corridor Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Partnerships or Cost Sharing	Prioritization Score	Priority Level (High, Medium, Low)	Cost Estimate
31	23rd Avenue Sidewalk	32nd Street	42nd Street	Wide Sidewalk	Possible Safe Routes to School Project	32	High	\$830,000
43	31 st Street Sidewalk	11th Avenue	Empire Street	Wide Sidewalk	Possible Safe Routes to School Project	30	High	\$470,000
50	32nd Street Bike Route	17th Avenue	11th Avenue	Bike Lane	Possible Safe Routes to School Projects	29	High	\$60,000
44	US 34 Non-Motorized Corridor	9th Avenue	County Road 47	Wide Sidewalk	Greeley, Garden City, NFRMPO, Possible Safe Routes to School Project	28	High	\$3,980,000
49	Anchor Drive Bike Lane	Harbor Lane	17th Avenue	Bike Lane	Possible Safe Routes to School Projects	28	High	\$80,000
32	11th Avenue Sidewalk	Lakeside Drive/29th Street road	27th Street	Wide Sidewalk	Possible Safe Routes to School Project	26	High	\$330,000
48	8th Avenue Sidewalk	Southgate Drive	28th Street	Wide Sidewalk	Possible Safe Routes to School Projects	26	High	\$340,000
51	31 st Street	US-85	1 st Avenue	Bike Lane		26	High	\$80,000
42	Golden Street/37th Avenue Sidewalk	Riverside Parkway / 42nd Street	37th Street / Platte River Trail	Wide Sidewalk		25	Medium	\$900,000
34	42nd Street Sidewalk	23rd Avenue	Riverside Parkway / Platte River Trail	Wide Sidewalk		24	Medium	\$1,110,000
52	Lakeside Drive Bike Route	32nd Street	29th Street Road	Bike Route	Possible Safe Routes to School Projects	24	Medium	\$60,000
45	35th Avenue Non-motorized Corridor	US 85	37th Street	Wide Sidewalk		23	Medium	\$2,550,000
33	49th Street/Industrial Parkway Sidewalk	47th Avenue	42nd Street	Wide Sidewalk		22	Medium	\$2,060,000
53	15th Avenue Bike Route	14th Street	37th Street	Bike Route	Possible Safe Routes to School Projects	22	Medium	\$60,000
54	35th Street / Anchor Drive Bike Route	35th Avenue	29th Avenue	Bike Route		19	Medium	\$130,000

Continued Table 8.4: Active Transportation On-Street Corridor Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Partnerships or Cost Sharing	Prioritization Score	Priority Level (High, Medium, Low)	Cost Estimate
55	Riverside Parkway Bike Route	37th Avenue	Platte River Trail	Bike Route		16	Low	\$100,000
37	West 37th Street Sidewalk	Two Rivers Parkway	Ashcroft Draw Trail	Wide Sidewalk	Possible Safe Routes to School Project	15	Low	\$1,220,000
40	65th Avenue Sidewalk	West 37th Street	Big Thompson River Trail	Wide Sidewalk	Possible Safe Routes to School Project	15	Low	\$1,220,000
41	47th Avenue Sidewalk	37th Street	Evans/Greeley Border	Wide Sidewalk	Possible Safe Routes to School Project	14	Low	\$340,000
47	1st Avenue Sidewalk	31st Street	37th Street	Wide Sidewalk		12	Low	\$330,000
35	Future Prairie View Drive Sidewalk	35th Avenue	Hill-n-Park Neighborhood Connector	Wide Sidewalk		11	Low	\$380,000
38	Two Rivers Parkway Sidewalk	West 37th Street	County Road 378	Wide Sidewalk		8	Low	\$1,350,000
39	49th Street Sidewalk	Two Rivers Parkway	Charleston Avenue	Wide Sidewalk		7	Low	\$1,240,000

Glossary of Improvements

Improved Bike & Pedestrian Crossing

Crossing improvements that enhance bicyclist and pedestrian comfort at intersections and mid-block locations can include a variety of treatments. At intersections where pedestrians must cross several lanes of traffic, a pedestrian refuge island that allows pedestrians to wait halfway across a roadway before completing crossing can be the preferred treatment (**Figure 8.10**). Alternatively, curb extension, or bulb-outs, can reduce the crossing distance (**Figure 8.11**). Curb extensions can be accomplished either through rebuilding curb or installing flexible bollards and paint to represent the additional curb zone. Both treatments have been shown to reduce pedestrian waiting times at crossings, decrease the percentage of vehicles that pass a pedestrian instead of yielding, and increase the distance between the yielding location and the crosswalk. A 2013 study evaluated both types of treatments using staged crossings and found an average decrease in pedestrian crossing time of 4.9 seconds and an increase in driver yielding compliance from 61.5% to 82%. Studies in a variety of locations around the U.S. have also found these treatments to be effective in enhancing roadway crossing comfort for pedestrians.²

At signalized intersections, traffic signals can be retimed to allow pedestrians to enter the crosswalk before vehicles are provided with a green signal (this is referred to as a pedestrian leading interval). At mid-block locations, a

² Van Hengel, D. Build It and They Will Yield: Effects of median and curb extension installations on motorist yield compliance. Presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., 2013.

Figure 8.10: Pedestrian Refuge Island

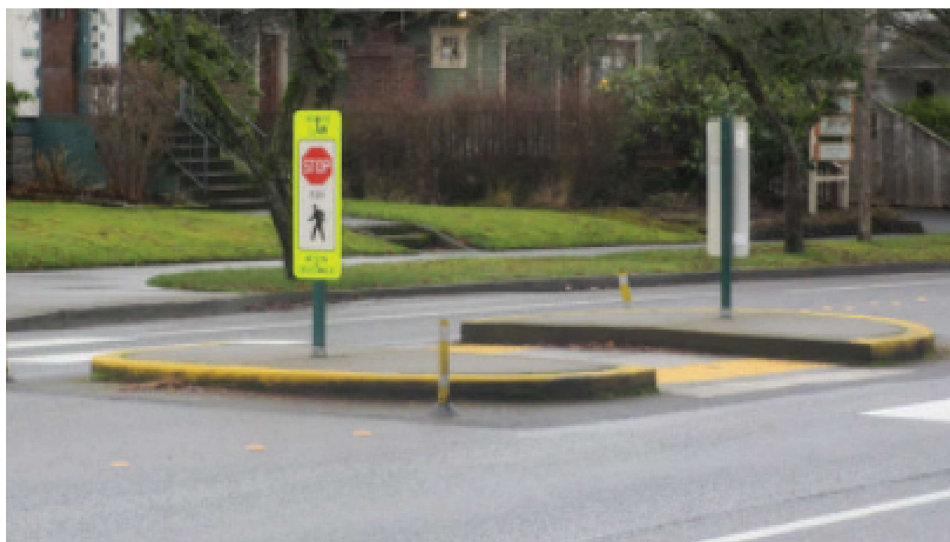


Figure 8.11: Curb Extension



Figure 8.12: RRFB



Rectangular Rapid Flashing Beacon (known as an RRFB) can serve as a stop control for vehicles that is activated upon request from a pedestrian (Figure 8.12). RRFBs are appropriate in locations where either the side street volume does not warrant a traffic signal or four-way stop control but there are relatively high volumes of pedestrian crossings, or if the crossing is mid-block and there is high pedestrian crossing demand. The City of Evans will evaluate each location identified as needing a crossing improvement in this MMTMP to assess the appropriate treatment.

Trail (Local & Regional)

Off-street trails like the Evans Ditch Trail and proposed Big Thompson River and Platte River Trails are multimodal travel facilities that are totally separate from vehicle traffic (Figure 8.13). The trail alignment is typically located along a waterway or other corridor that is unlikely to be developed and is not appropriate for a roadway. Trails can serve both local travel needs and provide connections to neighboring communities.

Figure 8.13: Example of a Trail Facility



Bicycle Lane

A bicycle lane is a designated lane for people bicycling and is typically separated from the adjacent vehicle travel lane or parking lane by a single white painted line. The National Association of City Transportation Officials (NACTO) recommends that bicycle lanes be five to six-feet wide and should also feature a space between the bicycle lane and on-street parking when present. In some settings, a buffered bicycle lane may be the desired treatment. This type of facility has a painted buffer with limited cross hatching between the bicycle lane and vehicle travel lane. The buffer is typically two feet wide, which is enough separation between bicyclists and vehicle traffic to increase the feeling of safety and comfort while riding, particularly on corridors with high vehicle volumes.

When selecting the appropriate facility type for on-street bicycle infrastructure, the City will consider the existing right-of-way, vehicle speeds, vehicle volumes, travel lane requirements, and on-street parking.

Wide Sidewalk

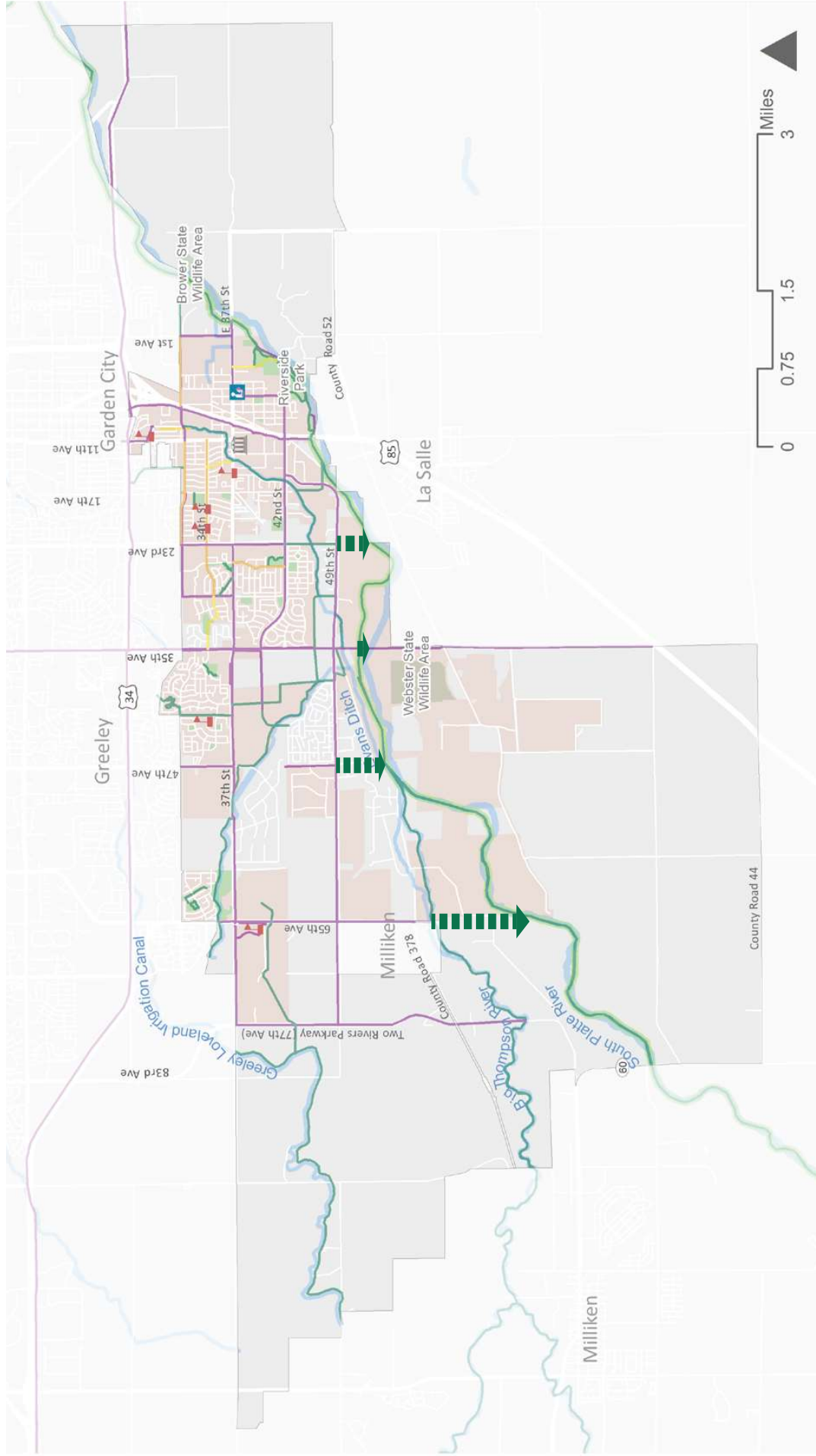
A wide sidewalk, which can sometimes be referred to as a side-path, is a low stress facility that runs alongside a roadway but is separated from vehicle traffic by a landscaped buffer. In Evans, a wide sidewalk is 10 feet in width to accommodate people who walk, bicycle, skate, or use wheelchairs or mobility devices. The buffer between the sidewalk and the roadway should be at least two feet wide. Wide sidewalks can be integrated into the trails network to provide community and regional multimodal connections that are totally separate from vehicles.

Vision Future Active Transportation Map Network

Figure 8.14 displays a map of what the complete active transportation network in Evans would look like after full implementation of the active transportation recommendations in the MMTMP. Given the significant regional active transportation corridors that will serve Evans, like the Platte River Trail, it is also important for the City to consider connectivity needs of active transportation users traveling between Greeley and these regional facilities. Wayfinding signage and active transportation corridor designations should be considered on all major north-south connections between Greeley and Evans in order to provide this level of connectivity.



Figure 8.14: Future Active Transportation Network



Future River Access

Future Active Transportation Network

Paved Trail

Wide Sidewalk

Bike Lane

Bike Route

Planned Alignment of Colorado Front Range Trail

School

Evans City Hall

Riverside Library/Cultural Center

Urban Growth Boundary

City of Evans Limits

TRANSIT

Proposed Projects

Figure 8.15 displays a map of the proposed transit projects.

Table 8.5 includes greater details about each project. The “Map ID” column references the number label of that project on the map in **Figure 8.15**.

Implementation of transit projects will require close collaboration with Greeley Evans Transit. A near-term priority is extending transit service on 37th Street in order to expand the share of Evans residents that live within a ½ mile of transit service. Transit projects were given a priority level of high, medium, or low.

These levels were assigned based on the public enthusiasm for each service improvement and the proximity of each proposed service to existing residences or destinations. Projects are listed by their priority level in **Table 8.5**.

Figure 8.15: Proposed Transit Service Improvements

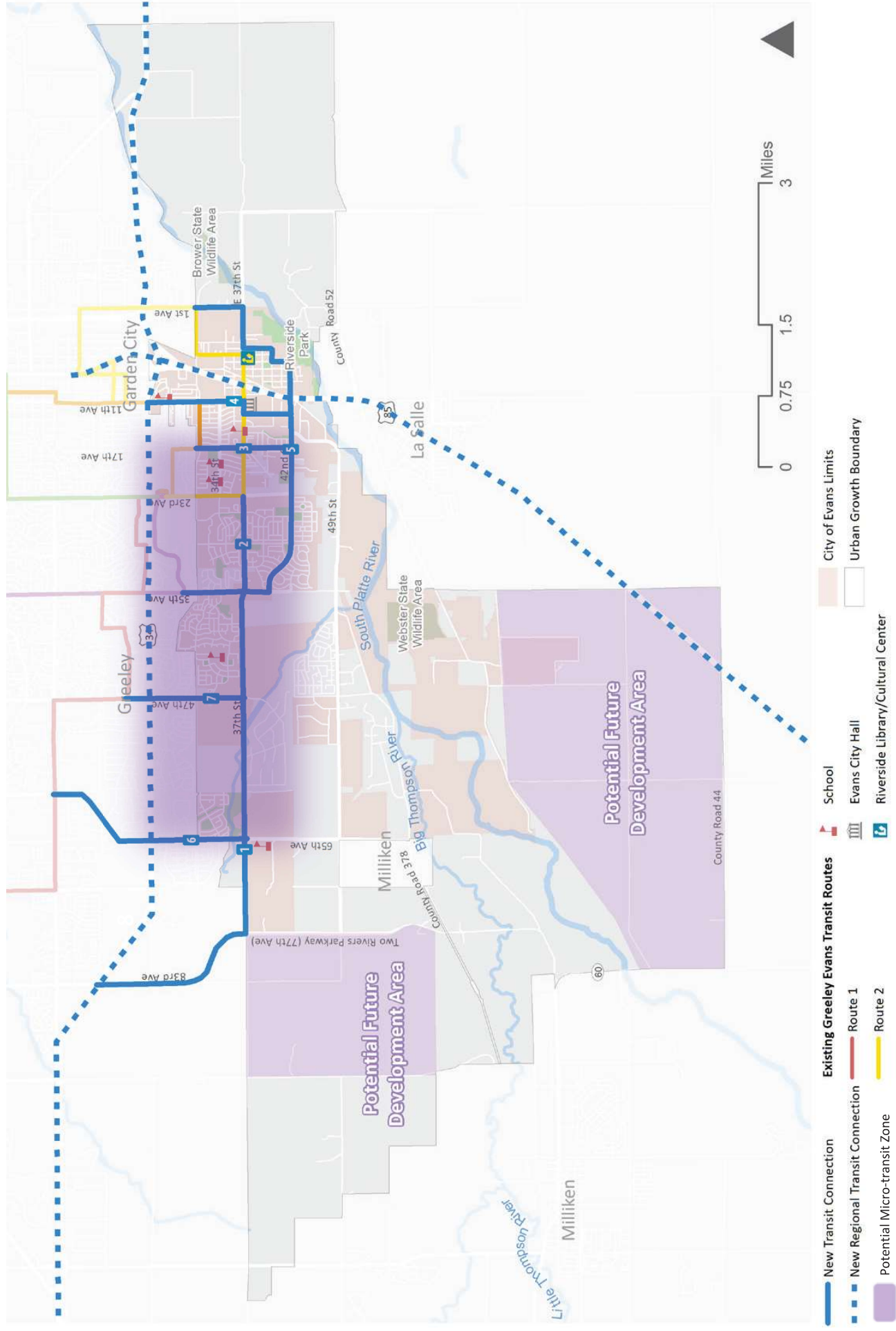


Table 8.5: Proposed Transit Projects

Map ID	Project Name	Extent 1	Extent 2	Improvement Description	Priority Level (High, Medium, Low)	Cost Estimate
1	37th Street/Two Rivers Parkway Transit Connection	Greeley/Two Rivers Parkway	35th Avenue	Fixed-route Transit Connection	High	\$90 / Service Hour
2	37th Street Transit Connection	35th Avenue	23rd Avenue	Fixed-route Transit Connection	High	\$90 / Service Hour
5	42nd Street Transit Connection	35th Avenue	1st Avenue	Fixed-route Transit Connection	High	\$90 / Service Hour
8	Potential Microtransit Zone	TBD	TBD	Microtransit Zone	Medium	\$75 / Service Hour
3	17th Avenue Transit Connection	Greeley	42nd Street	Fixed-route Transit Connection	Medium	\$90 / Service Hour
4	11th Avenue Transit Connection	Greeley/US-34	42nd Street	Fixed-route Transit Connection	Medium	\$90 / Service Hour
6	65th Avenue Transit Connection	37th Street	Greeley	Fixed-route Transit Connection	Low	\$90 / Service Hour
7	47th Avenue Transit Connection	37th Street	Greeley	Fixed-route Transit Connection	Low	\$90 / Service Hour

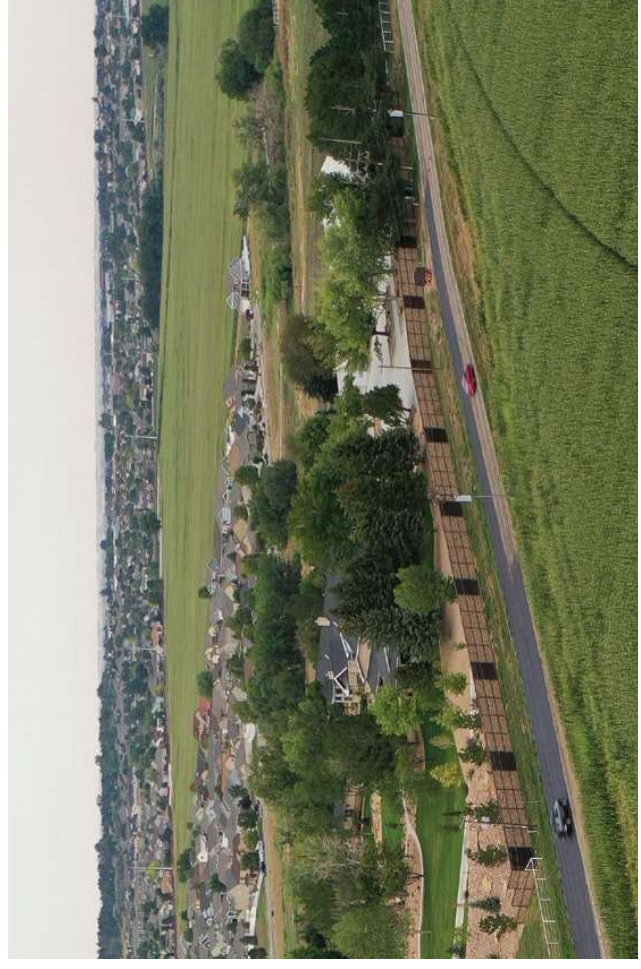
Descriptions of Improvements

Fixed-Route Transit Connection

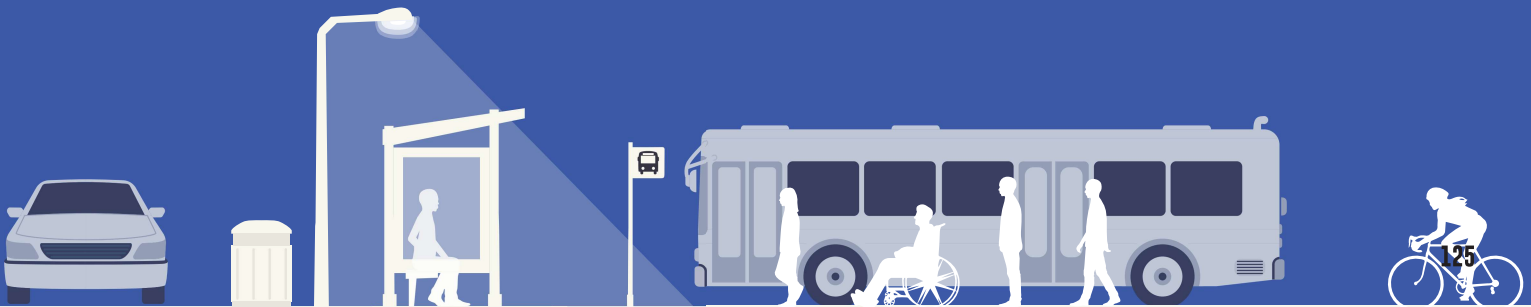
Fixed-Route transit is bus service that operates at regularly scheduled intervals and serves designated stops. Greeley-Evans Transit Routes 2 and 5 are the current fixed-route options in Evans.

Microtransit Zone

Microtransit is a form of on-demand transportation that allows riders to schedule rides using either a smartphone app or a call-in service. Riders can be picked up and dropped off anywhere within the zone. Microtransit provides greater origin/destination flexibility than fixed-route transit, though is often confined to a specific geography. The vehicles are typically sedans or passenger vans.



CHAPTER 9 FUNDING PLAN





FUNDING PLAN

OVERVIEW

Funding is one of the most important elements to achieving MMTMP implementation. It is important to plan ahead in order to secure new funding sources, prioritize infrastructure projects to be shovel-ready when funds are available, and be realistic and practical for the possibilities of funding challenges in the future. This chapter details the existing and potential funding sources that are expected to be available to pay for design and implementation of the MMTMP projects listed in **Chapter 8**. The final section of this chapter provides a fiscally constrained project list that represents the priorities which can be funded within the City's anticipated transportation funding without seeking outside grant or partnership assistance.

TOTAL OF MMTMP PROJECT COST ESTIMATES

Planning level cost estimates were developed for all recommended projects, as shown in **Chapter 8**. Where possible these cost estimates

were based on local or regional data from previous or ongoing projects. If all of the MMTMP projects were to be implemented by 2045, it would cost an estimated total of \$226.1 million over the next 23 years. This would be an average cost of \$9.8 million per year. The estimated implementation cost includes design and construction but not maintenance.

FUNDING IMPLEMENTATION OF THE MMTMP

Transportation in Evans is currently funded through a combination of different sources. Looking ahead to MMTMP implementation, there is a need to balance anticipated revenues from existing funding sources against the total estimated cost of the projects described in this chapter. In the event that implementation costs outstrip available funding, the City can implement a fiscally constrained plan that focuses on the top priority projects or identify additional funding sources to implement projects that are lower priority but still play an important role in meeting the goals of this MMTMP.

CURRENT TRANSPORTATION FUNDING IN EVANS

Traditionally, Evans funds transportation capital projects, operations, and maintenance through four main sources:

1. City Funds (Street Impact Fund, Park Impact Fund, Conservation Trust Fund, CIP Streets Fund)
2. Local Taxes
3. General Fund
4. Grants

Each source is funded through different mechanisms and supports implementation of new projects, maintenance of existing assets, operations of the existing system, or a combination of all three.

City Funds

The City of Evans has four different funds that are used to fund transportation infrastructure. Each is profiled below, along with a description of recent revenues.

Capital Projects Streets Fund

The Capital Projects Streets Fund is the main source of funding for major transportation assets in Evans like new roadways and roadway widenings. The Fund also supports ongoing maintenance activities of existing infrastructure. Sources include Weld County Road and Bridge fees, Highway Users Tax, periodic grant awards, and transfers from the Evans General Fund. Evans received a significant grant award for supporting project implementation in 2022; this award causes the budgeted amount for Capital Projects Street Fund expenditures in 2022 to be much higher than the average forecasted amount over the next five years of approximately \$2.2 million. Since grant funding is not necessarily available year to year, the MMTMP assumes the Fund will allocate approximately \$2.2 million per year towards MMTMP implementation and roadway maintenance.

Street Impact Fund

The Street Impact Fund is dedicated solely to transportation infrastructure improvements that are identified in the Evans Capital Improvement Program. It is funded through impact fees that are levied on new development. Revenues are contingent upon the level of development activity but are expected to average approximately \$863,000 per year based on historical averages and anticipated development trends. The Street Impact Fund has recently been utilized to fund the design and construction of improvements like the widening of 35th Avenue and the 23rd Avenue extension.

Park Impact Fund

The Park Impact Fund is utilized to support acquisition and development of parks and trails in Evans. It is funded through development impact fees. Anticipated average revenues over the coming years are approximately \$976,000 per year with the majority of expenditures allocated to land acquisition, park design, and construction. For the 2022 Capital Budget, a relatively small share (20%) of the Fund expenditures are planned to be allocated for trail design. While the Park Impact Fund is a meaningful source of funding for design and implementation of the trails projects listed in this MMTMP, it should be assumed that no more than 25% of annual Fund revenues will be put towards trails.

Conservation Trust Fund

The Conservation Trust Fund can support capital improvements of recreational facilities on public sites. Evans is scheduled to utilize funding from the Conservation Trust Fund to support the Evans Ditch Trail, for example. Revenue for the Fund comes from the Colorado Lottery. The Fund is forecasted to average approximately \$234,000 annually in revenues, and it is assumed that 30% will be allocated annually towards implementing projects from this MMTMP. This assumed share is based on the projected amount of Conservation Trust Fund allocation towards trails design and construction as a share of total Fund revenue in the five-year planning period of 2022-2026.

Local Taxes

Evans has two local taxes that fund transportation improvements: the Food Tax and the Road Tax. The Food Tax

was traditionally used for funding roadway improvements but is scheduled to instead be used for funding other capital needs in the City following the 2022 budget. The Road Tax is forecasted to generate an average of approximately \$3.05 million annually between 2022 and 2026 and revenues are forecasted to grow 2% annually. By 2045, the Road Tax Fund will potentially generate approximately \$4.6 million in annual revenues that could be used towards MMTMP implementation.

General Fund

The City of Evans General Fund is used to partially fund the Capital Projects Streets Fund as previously discussed. In addition, approximately \$200,000 is also allocated from the General Fund as a payment from the City of Evans to Greeley-Evans Transit in order to fund the share of transit service that is provided in Evans.

Grants

As noted previously, Evans is able to secure grant funding for roadway improvements and trail initiatives. The amount of grant funding varies by availability and by the capacity of City Staff to pursue funds. It is estimated that Evans will generate an additional \$250,000 annually in external grant funds that will be allocated towards MMTMP implementation.

ANTICIPATED REVENUES

Table 9.1 shows the anticipated revenues from the regular transportation funding sources Evans utilizes. These figures show the total amount that could be allocated towards MMTMP implementation, though not all projects listed in the MMTMP are eligible for funding from each source.

Table 9.1: City of Evans Anticipated Revenues for Transportation Funding

Funding Source	Near-Term Budgeted Revenue for 2022-2026 (2021 Dollars)	Total Anticipated Revenue 2022-2045 (2021 Dollars)
Capital Projects Streets Fund	\$10,961,676	\$50,423,710
Street Impact Fund	\$4,312,994	\$19,839,770
Park Impact Fund	\$1,220,161 *	\$5,612,739
Conservation Trust Fund	\$350,757 *	\$1,613,481
Road Tax Fund	\$15,296,966	\$73,951,629
General Fund	\$1,000,000 (not including annual general fund transfer to Capital Projects Streets Fund)	\$4,600,000
Grants	\$1,250,000	\$5,750,000
Total	\$33,392,553	\$161,791,329

* Represents share of revenue that can be allocated towards MMTMP implementation and not total 2022-2026 revenue for the funding source

ADDITIONAL FUNDING OPPORTUNITIES

The total anticipated revenues that can fund transportation in Evans leaves a funding gap of approximately \$64.3 million. In order to bridge this gap the City can look to a variety of funding sources, including:

- **Federal Highway Safety Improvement Program (HSIP):** Eligible projects in this category include improvements or corrections to safety issues on any local or regional public roads and trails or paths. Funded activities must be consistent with Colorado's Strategic Highway Safety Plan. Projects are selected competitively through CDOT.
- **USDOT Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (formerly BUILD and TIGER):** Since 2009, USDOT has distributed grants for planning and capital investments in surface transportation infrastructure. Grants are awarded on a competitive basis for projects that will have a significant local or regional impact. RAISE funding can support roads, bridges, transit, rail, ports, or intermodal transportation.
- **Infrastructure for Rebuilding American (INFRA):** The FAST (Fixing America's Surface Transportation) Act established the Nationally Significant Freight and Highway Projects (NSFHP) program to provide financial assistance—competitive grants, known as INFRA grants, or credit assistance—to nationally and regionally significant freight and highway projects that align with the program goals to improve safety, efficiency and reliability of freight; improve global competitiveness; reduce highway congestion; improve connectivity; and addressing growing demand for freight.
- **Advanced Transportation and Congestion Management Technologies Deployment Program (ATCMTD) grants:** In July 2020, the U.S. Department of Transportation's Federal Highway Administration (FHWA) published a Notice of Funding Opportunity (NOFO) for \$60 million in ATCMTD grants to fund new technologies that improve transportation efficiency and safety.
- **5310 Enhanced Mobility of Seniors and Individuals with Disabilities:** This formula fund supports public transportation for seniors and individuals with disabilities by funding eligible capital, purchased service, and preventive maintenance projects for transportation providers. Eligible projects include vehicle purchases, passenger shelters, purchased services, preventive maintenance, travel training, marketing programs, development of centralized call centers, and other equipment that supports transportation to meet the special needs of seniors and individuals with disabilities. NFRMPO administers 5310 funding for Weld and Larimer Counties.
- **FTA Mobility On-Demand (MOD) Sandbox Program:** The MOD program envisions a multimodal, integrated, automated, accessible, and connected transportation system in which personalized mobility is a key feature. The Sandbox Demonstration Program seeks to fund project teams to innovate, explore partnerships, develop new business models, integrate transit and MOD solutions, and investigate new, enabling technical capabilities such as integrated payment systems, decision support, and incentives for traveler choices.
- **Surface Transportation Block Grant:** A formula grant distributed to states who then distribute it through discretionary grants. This grant primarily funds capital improvements.
- **Public Transportation Innovation Program:** The program is a competitive grant process that provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers. It funds research, development, demonstration and deployment projects, and evaluation of technology of national significance to public transportation.
- **CDOT Funding Advancements for Surface Transportation and Economic Recovery Act (FASTER):** This category includes safety-related projects, such as: asset management, transportation operations, intersection and interchange improvements, and shoulder and safety-related widening, and pedestrian and advanced by local governments and selected based on priority and data within CDOT Region 4.
- **Safe Routes to School (SRTS):** This program was formed to: Enable and encourage children to walk and bike to school; make walking and biking safer and more appealing; facilitate planning development, and implementation of projects that improve safety, reduce traffic, fuel consumption, and air pollution around schools. There is no longer dedicated federal SRTS funding, but the Colorado SRTS program has been continued with state funding and a local agency match requirement. This is a competitive program where projects are screened by a statewide selection advisory committee.

FISCALLY CONSTRAINED PROJECT LIST BASED ON COST ESTIMATES AND ESTIMATED FUNDING AVAILABLE

The following list of projects can be accomplished within the expected funds available to the City described in the previous section, according to the planning level cost estimates that were conducted for the MMTMP. These projects were selected based on their relative cost estimates and how well they scored in the project prioritization described in **Chapter 8**. The projects shown in **Table 9.2** are organized by transportation mode and are sorted by need as determined through the prioritization process. Projects are displayed in **Figure 8.1**, **Figure 8.9**, and **Figure 8.15**. While the projects shown in **Table 9.2** represent the set of initiatives that could be completed within anticipated revenues, needs and funding resources are likely to shift over time. The City of Evans will revisit all projects listed in this MMTMP regularly and assess implementation priorities as local needs evolve.

- **Great Outdoors Colorado (GOCO):** Funding from the Colorado Lottery is awarded to a variety of project types, including trail projects, across the state by the GOCO Board. GOCO Board members are appointed by the Governor and confirmed by the Colorado State Senate.
- **Regional Priorities Program (RPP):** The goal of this program is to implement regionally significant projects identified through the transportation planning process. These funds are flexible in use and are allocated to the regions by the Colorado Transportation Commission on an annual basis. The allocations are based on regional population, CDOT on-system lane miles, and CDOT on-system truck Vehicle Miles Traveled (VMT).
- **Multimodal Options Fund (MMOF):** The legislation states that the Multimodal Options Fund should promote a “complete and integrated multimodal system” through objectives such as benefitting seniors, providing enhanced mobility for the disabled population, or providing safe routes to school. Local recipients are required to provide a match of project funding equal to the amount of the grant, with exemptions allowed. The current MMOF funding is available through June 30, 2023.
- **Colorado Energy Office:** Funding is available through HB21- 1253 to local government proposed projects to support the development and construction of renewable and clean energy infrastructure in all areas of the state especially in communities in which renewable and clean energy infrastructure is sparse and with consideration to geographical diversity in these awards.
- **Metropolitan Planning:** Federal funds are allocated to the NFRMPO to provide for a continuing, comprehensive, and cooperative (3C) transportation planning process in the region.
- **NFRMPO Congestion Mitigation and Air Quality Improvement Program (CMAQ):** The FAST Act continued the CMAQ program to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).
- **NFRMPO Surface Transportation Block Grants:** The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
- **CDOT/NFRMPO Transportation Alternatives Program (TAP):** Eligible projects for TA grants include planning or construction projects for on and off-road pedestrian and bicycle facilities, community enhancement activities, and safe routes to schools. Projects are screened and selected by CDOT Region 4 and funds are awarded through a competitive process to local entities.

Table 9.2: Evans MMTMP Fiscally Constrained Plan

Type	Map Id	Project Name	Extent 1	Extent 2	Improvement Description	Cost Estimates
Active Transportation	14	34th Street & 23rd Avenue	34th Street	23rd Avenue	Improved Bike & Pedestrian Crossing	\$340,000
Active Transportation	8	US 85 / 37th Street	US 85	37th Street	Improved Bike & Pedestrian Crossing	\$40,000
Active Transportation	1	8th Avenue & US 34	8th Avenue	US 34	Improved Bike & Pedestrian Crossing	\$70,000
Active Transportation	2	Pleasant Acres Road/32nd Street	Pleasant Acres Road	32nd Street	Improved Bike & Pedestrian Crossing	\$30,000
Active Transportation	4	11th Avenue & 34th Street	11th Avenue	34th Street	Improved Bike & Pedestrian Crossing	\$340,000
Active Transportation	7	35th Avenue & 37th Street	37th Street	35th Avenue	Improved Bike & Pedestrian Crossing	\$40,000
Active Transportation	11	US 85 / 42nd Street	US 85	42nd Street	Improved Bike & Pedestrian Crossing	\$40,000
Active Transportation	13	35th Avenue & Platte River Trail	35th Avenue	Platte River Trail	Improved Bike & Pedestrian Crossing	\$80,000
Active Transportation	5	65th Avenue / 37th Street	65th Avenue	37th Street	Improved Bike & Pedestrian Crossing	\$40,000
Active Transportation	12	35th Avenue & 49th Street	35th Avenue	49th Street	Improved Bike & Pedestrian Crossing	\$40,000
Active Transportation	6	37th Street / 47th Avenue Connection	Ashcroft Draw Trail	37th Street Trail	Improved Bike & Pedestrian Crossing	\$80,000
Active Transportation	19	29th Street Trail Connection	32nd Street	15th Street / US 34 Underpass	New Trail (Local)	\$960,000
Active Transportation	22	Evans Ditch Trail	49th Street	36th Street	New Trail (Local)	\$3,990,000
Active Transportation	21	Ashcroft Draw Trail	65th Avenue / Orchard Park Drive	Existing Path near Grand Canyon Drive / 49th Street	New Trail (Local)	\$4,820,000
Active Transportation	20	31st Street Trail Connection	1st Avenue	Platte River Trail	New Trail (Local)	\$920,000
Active Transportation	25	23rd Avenue Trail Extension	42nd Street	49th Street	New Trail (Local)	\$790,000

Continued Table 9.2: Evans MMTMP Fiscally Constrained Plan

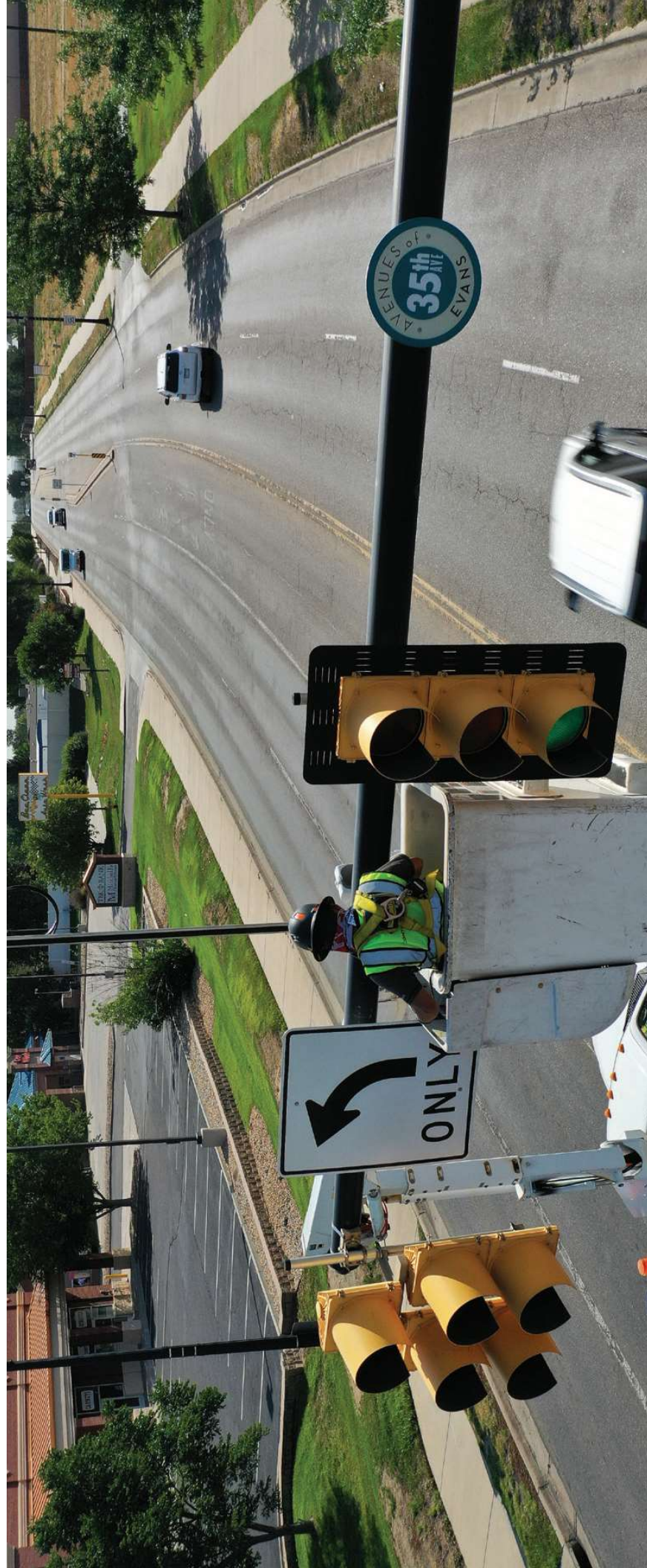
Type	Map Id	Project Name	Extent 1	Extent 2	Improvement Description	Cost Estimates
Active Transportation	16	32nd Street Trail Connection	Ashcroft Channel Trail	Cricket Run at Ashcroft Heights	New Trail (Local)	\$140,000
Active Transportation	17	Ashcroft Heights/Hudson Park Connector	Maverick Lane	Hudson Park	New Trail (Local)	\$120,000
Active Transportation	23	Hill-n-Park Neighborhood Connector	Mesa Verde Drive	Future Prairie View Drive Sidewalk	New Trail (Local)	\$590,000
Active Transportation	3	31st Street & US-85	US-85	31st Street	Study Improved Bike & Pedestrian Crossings with Implementation of US-85 Access Management Plan	\$50,000
Active Transportation	15	Tuscany Neighborhood Connector	Milan Street	37th Street	New Trail (Local)	\$250,000
Active Transportation	50	32nd Street Bike Route	17th Avenue	11th Avenue	New Bike Lane	\$60,000
Active Transportation	49	Anchor Drive Bike Lane	Harbor Lane	17th Avenue	New Bike Lane	\$80,000
Active Transportation	51	31st Street	US-85	1st Avenue	New Bike Lane	\$80,000
Active Transportation	10	Evans Ditch Trail & 42nd Street	Evans Ditch Trail	42nd Street	Trail Access Point	\$80,000
Active Transportation	52	Lakeside Drive Bike Route	32nd Street	29th Street Road	New Bike Route	\$60,000
Active Transportation	53	15th Avenue Bike Route	14th Street	37th Street	New Bike Route	\$60,000
Active Transportation	54	35th Street / Anchor Drive Bike Route	35th Avenue	29th Avenue	New Bike Route	\$130,000
Active Transportation	55	Riverside Parkway Bike Route	37th Avenue	Platte River Trail	New Bike Route	\$100,000
Active Transportation	9	37th Street & Platte River Trail	37th Street	Platte River Trail	Improved Bike & Pedestrian Crossing	\$80,000
Roadway	8	US-85	31st Street	US-85	Access Management Plan Implementation	\$2,600,000
Roadway	5	37th Street	35th Avenue	47th Avenue	Roadway Widening	\$11,070,000
Roadway	12	Prairie View Drive	23rd Avenue	35th Avenue	Improvements	\$1,490,000
Roadway	1	11th Avenue & US 34	11th Avenue	US-34	Operations Improvement Study	\$20,000

Continued Table 9.2: Evans MMTMP Fiscally Constrained Plan

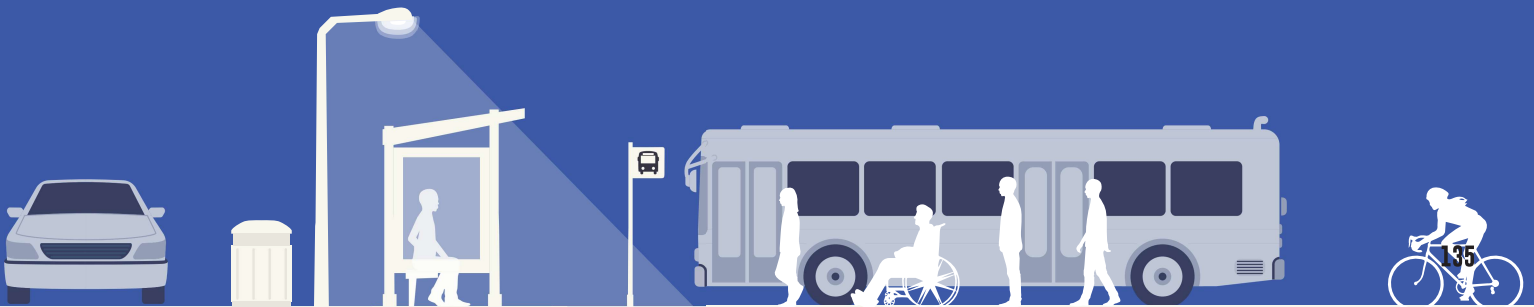
Type	Map Id	Project Name	Extent 1	Extent 2	Improvement Description	Cost Estimates
Roadway	4	37th Street	47th Avenue	65th Avenue	Roadway Widening	\$14,760,000
Roadway	9	35th Avenue	Prairie View Drive	49th Street	Roadway Widening	\$6,860,000
Roadway	14	42nd Street	17th Avenue	Riverside Park	Speed Mitigation Improvements Study	\$100,000
Roadway	24	23rd Avenue	37th Street	42nd Street	Roadway Widening	\$5,040,000
Roadway	7	Trinidad Street	31st Street	35th Street	Roadway Paving	\$1,640,000
Roadway	16	49th Street	47th Avenue	65th Avenue	Roadway Widening	\$14,890,000
Roadway	11	Prairie View Drive	35th Avenue	47th Avenue	New Roadway	\$7,370,000
Roadway	18	49th Street	35th Avenue	Stone Gate Drive	Roadway Widening	\$10,010,000
Roadway	13	42nd Street	17th Avenue	23rd Avenue	Roadway Widening	\$4,880,000
Roadway	17	49th Street	35th Avenue	47th Avenue	Roadway Widening	\$10,950,000
Roadway	3	65th Avenue	37th Street	49th Street	Roadway Widening	\$7,020,000
Roadway	23	35th Avenue	49th Street	CR 394	New 2-Lane Rural Local Roadway	\$8,830,000
Roadway	26	35th Avenue	CR 394	US 85	Roadway Widening	\$20,180,000
Roadway	10	47th Avenue	Arrowhead Drive	Mesa Verde Drive	New Roadway	\$2,290,000
Roadway	21	65th Avenue	54th Street Road	49th Street	Roadway Widening	\$7,390,000
Roadway	19	49th Street	Stone Gate Drive	Brantner Road	Roadway Widening	\$6,300,000
Transit	1	37th Street/Two Rivers Parkway Transit Connection	Greeley/Two Rivers Parkway	35th Avenue	New Transit Route/Connection	\$90/service hour
Transit	2	37th Street Transit Connection	35th Avenue	23rd Avenue	New Transit Route/Connection	\$90/service hour

Continued Table 9.2: Evans MMTMP Fiscally Constrained Plan

Type	Map Id	Project Name	Extent 1	Extent 2	Improvement Description	Cost Estimates
Transit	3	17th Avenue Transit Connection	Greeley	42nd Street	New Transit Route/Connection	\$90/service hour
Transit	4	11th Avenue Transit Connection	Greeley/US 34	42nd Street	New Transit Route/Connection	\$90/service hour
Transit	5	42nd Street Transit Connection	35th Avenue	1st Avenue	New Transit Route/Connection	\$90/service hour
Transit	8	Potential Micro-transit Zone	TBD	TBD	New Transit Service	\$75/service hour



CHAPTER 10 PROGRAMS AND POLICIES





PROGRAMS AND POLICIES

OVERVIEW

While physical infrastructure that gets people where they want to go in Evans is key to realizing the goals and objectives of the Multi-Modal Transportation Master Plan, implementing programs and policies that create that desired infrastructure and guide users navigating the transportation system will achieve the MMTMP vision. Initiatives that modernize the development code (a process that the City of Evans will undertake beginning in 2022), proactively prepare for emerging technologies, and make more efficient use of the system that is built will align the City’s transportation system with broader community values and help Evans reach its vision for transportation.

PROGRAMS AND POLICIES

The programs and policies listed in **Table 10.1** below are grouped by the overarching goal and objective they achieve. Additional details on each initiative are provided, along with implementation



Table 10.1: Programs and Policies

Goal Areas	Objectives	Policy or Program	Details	Implementation Partners	Implementation Effort
Economic Development & Quality of Life	1.1 Improve bus stop amenities	Development Code Update: Transit Amenities	Add code requirements for large developments adjacent to bus stops to provide high quality bus stop amenities, such as shelters, benches, trash cans, and pedestrian scale lighting. Ensure there is a plan in place to maintain these stops and amenities once they are constructed.	Planning Division, GET, development community	Low
	1.2 Improve bicycle parking	Development Code Update: Bicycle Parking	Require new developments or significant redevelopments to provide bicycle parking on site for residents, employees, and visitors.	Planning Division, development community	Low
	2.1 Improve connectivity of the transportation network	Development Code Update: Street Connectivity	Add a street connectivity requirement in the zoning code for subdivisions and other large developments. Limit and discourage the use of cul-du-sacs or other dead-end roadways in new developments. Where cul-du-sacs or dead-ends are necessary or make sense, require bicycle and pedestrian cut-throughs be built to still allow for a connected active transportation network.	Planning Division, development community	Low
	2.2 Reduce potential conflict points with vehicles	Development Code Update: Curb Cuts	Encourage alley loading garages to limit curb cuts on the streets to create more comfortable environments for people walking, rolling, and biking. Encourage new development to be more street facing with walkable entrances and limit car entrance points to reduce curb cuts.	Planning Division, Public Works Department, development community	Low
		Development Code Update: Street Design Standards	While the Evans City Code already includes street standards based on classification, the code should be updated with the recommended standards in the MMTMP to align with current best practices for creating safe and comfortable streets for all. Tailoring street standards to the traffic volumes, speed, and surrounding land use contexts of roadways will improve comfort for people walking, rolling, and biking.	Planning Division, Public Works Department, development community	Low
Mobility	2.3 Create a more safe and comfortable street environment	Complete Streets Policy	Evans could also design a new Complete Streets policy to provide specific recommendations for the type of low stress pedestrian and bicycle facilities for each street classification. This policy could also address aesthetics, landscaping, and lighting to create more lively, attractive, and safe streets for all modes. The City's next Development Code update should include an expectation for complete streets design.	Planning Division, Public Works Department, NFRMPO, development community	High
	2.4 Ensure transportation facilities are accessible for all users	Accessibility Policy	Ensure that new development provides for ADA accessibility. Retrofit existing transportation facilities to be accessible and consider the addition of universal design features. Consider accessibility for all community members when determining transportation improvement priorities.	Planning Division, Public Works Department, development community	Low
	2.5 Proactively prepare for emerging technologies	Micromobility Policy	The Evans City Code already includes a policy on "Low-powered electric vehicles and EPAMs," but this policy should be updated to include guidance on parking and potential rules for micromobility companies that operate scooter and bike share that may wish to locate in Evans in the future.	Planning Division	Low
		Transportation Network Company (TNC) Policy	Evans should work with TNCs to reach a data-sharing agreement so that in exchange for operating in the City, the companies share valuable origin-destination and trip data. This will help the City better plan transit and other transportation systems to serve places where residents wish to go.	Planning Division	Moderate
	Autonomous Vehicle (AV) Policy	Evans can preemptively implement policies to lay the groundwork for positive outcomes from AVs. These strategies include developing pick-up and drop-off zones; setting maximum speeds for AVs and required passing distances from people biking; setting land use policies that promote compact, walkable, development; encouraging shared AVs and the use of AVs for transit; reducing or eliminating parking requirements; and requiring data sharing from AV companies.	Planning Division, NFRMPO	Moderate	

Table 10.1: Programs and Policies

Goal Areas	Objectives	Policy or Program	Details	Implementation Partners	Implementation Effort
Multi-modal	3.1 Reform parking policy to efficiently use space and reduce single occupancy vehicle trips	Parking Policy Reform	Update parking requirements in the zoning code to be more flexible based on mixed and dense land-use contexts where less parking is often needed and allow for creative and beneficial ways of meeting requirements like shared parking agreements, on-street parking credits, or multi-modal transportation credits. Consult updated best practices to ensure requirements are not too high, which can lead to developments being over parked, discouraging walking and biking and wasting valuable land as unused parking.	Planning Division, Public Works Department	Moderate
	3.2 Enhance bicycle and pedestrian facilities	Multimodal Priority Policy	When planning capacity enhancements, prioritize projects that include bicycle and pedestrian facilities.	Planning Division, NFRMPO	Low
	3.3 Create a safe environment for children to walk and bike to school	Safe Routes to School Program	Designate Safe Routes to School corridors that improve students' ability to walk and bike to school.	Planning Division	Low
Operations	3.4 Improve transit utilization	Transit Information Campaign	Create a marketing and informational campaign to encourage people to make some of their trips by bus and provide information on where the bus goes and how to ride.	Planning Division, GET, NFRMPO	Moderate
	4.1 Calm traffic speeds and reduce crashes	Safety Monitoring Program	Monitor vehicle speeds on key corridors, collect uniform crash data, and create an internal process for implementing safety improvements on high-crash roadways.	Planning Division, NFRMPO, Police Department	Moderate
		Traffic Calming Policy	Consider creating a Citywide traffic calming policy that uses speed calming measures, signal improvements, improvements to roadway geometry, intersection tightening, and other treatments to slow vehicles on dangerous corridors.	Planning Division, Public Works Department	High
	4.2 Reduce traffic congestion	Traffic Signal Timing Adjustment	Evaluate traffic signal timing as traffic volumes grow to maintain acceptable vehicle Level of Service and adequate multi-modal Level of Service.	Planning Division, Public Works Department	Moderate
	4.3 Implement priority infrastructure projects	Capital Improvement Program	Implement priority infrastructure projects recommended in the MMTMP. Pursue external funding sources to augment local funding for MMTMP implementation.	Planning Division, Public Works Department	High

Source: Fehr & Peers, 2021.

UPDATED STREET DESIGN STANDARDS

The Multi-Modal Transportation Master Plan includes recommended updates to the City of Evans Street Design Standards within the Development Code. While the Evans City Code already includes street standards based on classification, these design standards should be updated to align with current best practices for creating safe and comfortable streets for all. Tailoring street standards to the traffic volumes, speed, and surrounding land use contexts of roadways will improve comfort for people walking, rolling, and biking.

The recommended Street Design Standards in **Table 10.2** below were developed referencing AASHTO and NACTO guidelines. In general, the recommended standards are designed to calm traffic and reduce potential conflicts between people walking, bicycling, and driving. Reducing design speeds of streets to be closer to posted speed limits is intended to mitigate speeding and severe injury and fatal crashes. Reducing street widths for certain road classifications and at intersections, providing guidance on landscaped buffers for pedestrians, and including space for cyclists each improve comfort for people walking, rolling, and bicycling. The recommended cross sections by each roadway class are shown in **Figure 10.1 - Figure 10.8**.

Table 10.2: Updated Street Design Standards

Classification	Gateway Arterial (Freedom Parkway)	Arterial	Major Collector	Commercial Collector	Minor Collector	Local	Rural Local	Alley
ROW Width (ft)	120	110	80	70	65	60	60	30
Roadway Width (ft)	72	68	52	47	47	36	28	20
Roadway Width at Intersections (ft)	120-140	80	64	47	47	36	28	20
Travel Lanes	4	4	4	2	2	2	2	-
Travel Lane Width (ft)	12	12	12	11	11	11	11	-
Median	Yes	Yes	No	Yes	Turn Lane	No	No	No
Median Width (ft)	20	16	-	11	11	-	-	-
Bike Lanes	-	-	-	Yes	Yes	-	Shoulder	-
Bike Lane Width (ft)	-	-	-	7	7	-	3	-
Parking Lane Width (ft)	-	-	-	-	-	7	-	-
Traffic Volume ADT (<)	35,000	20,000	10,000	5,000	5,000	2,500	2,500	500
Design Speed (mph)	50	50	40	35	35	30	30	15
Posted Speed (mph)	45	45	35	30	30	25	25	15
Sidewalk Type	Detached	Detached	Detached	Attached	Attached	Attached	None	None
Sidewalk Width (ft)	10	10	8	8	8	5	-	-
Landscaped Buffer Width (ft)	14	11	6	-	-	-	-	-

ROAD CLASSIFICATION CROSS SECTION DIAGRAMS

Figure 10.1: Gateway Arterial Cross Section

120-foot Right-of-way

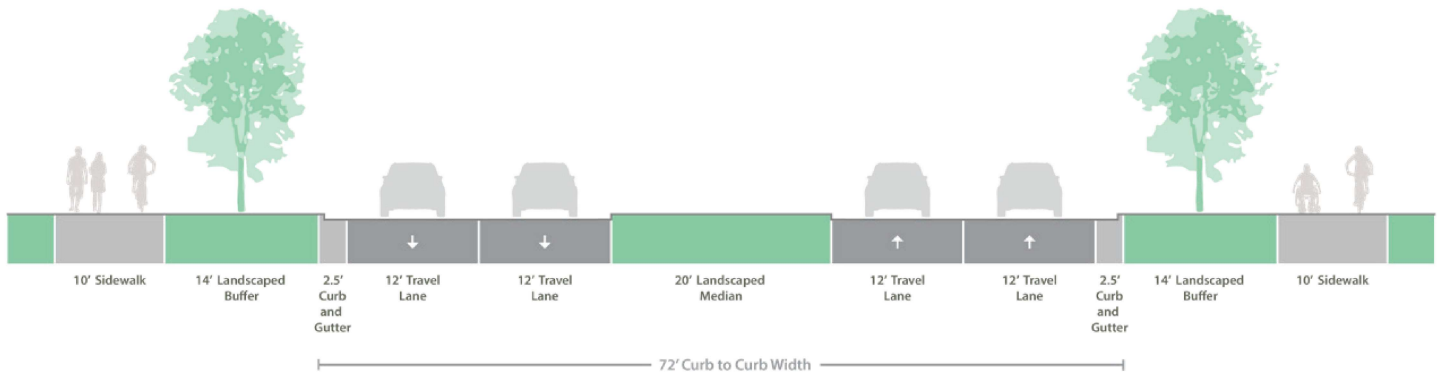


Figure 10.2: Arterial Cross Section

110-foot Right-of-way

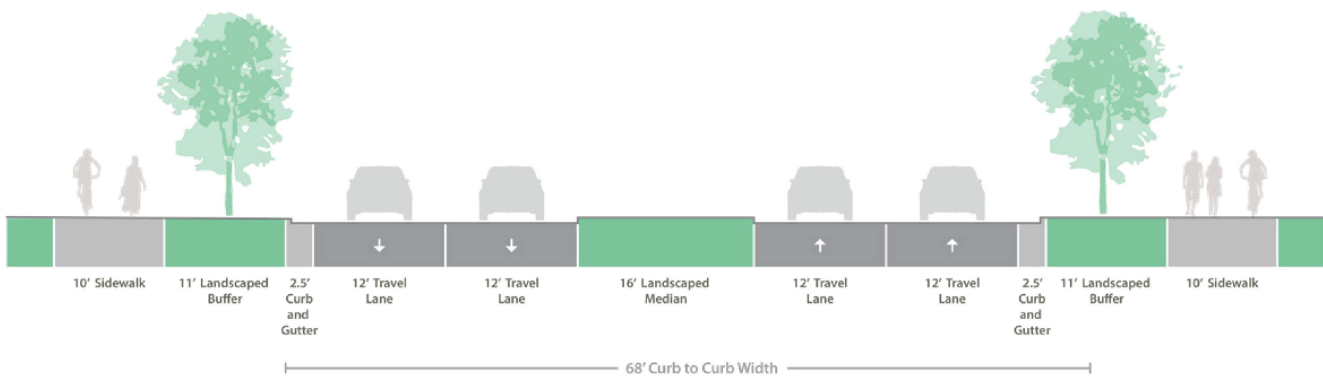


Figure 10.3: Major Collector Cross Section

80-foot Right-of-way

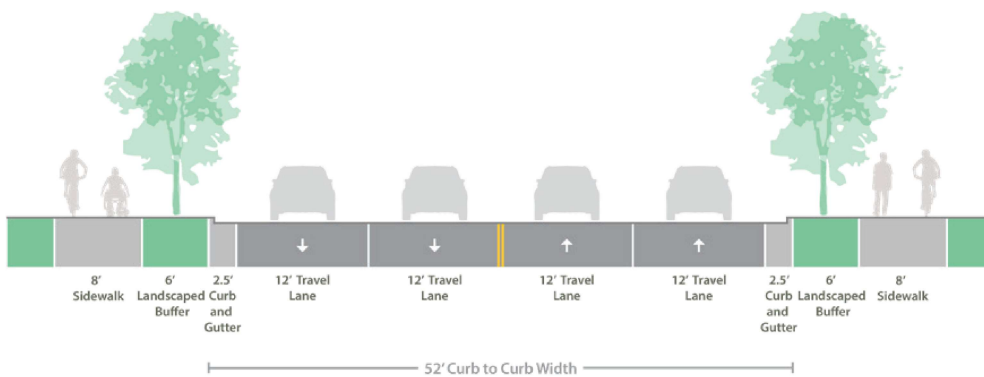


Figure 10.4: Commercial Collector Section

70-foot Right-of-way

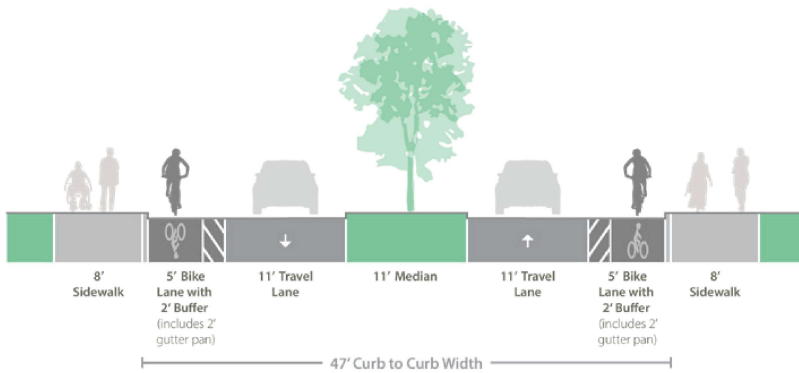


Figure 10.5: Minor Collector Cross Section

65-foot Right-of-way

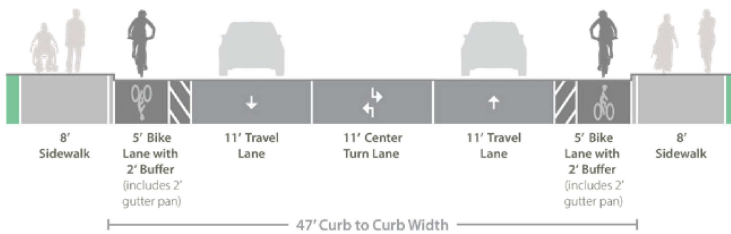


Figure 10.6: Local Road Cross Section

60-foot Right-of-way

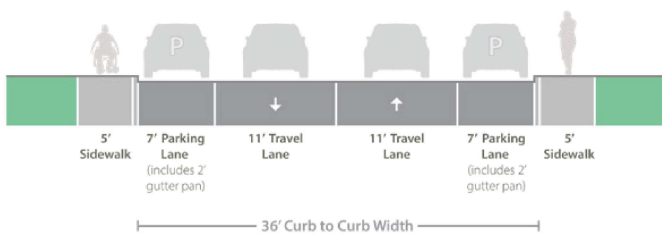


Figure 10.7: Rural Local Road Cross Section

60-foot Right-of-way

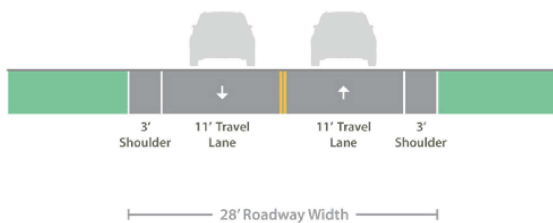


Figure 10.8: Alley Cross Section

60-foot Right-of-way



REGIONAL COLLABORATION AND PARTNERS

For most programs and policies listed above, the City of Evans Planning Division will lead implementation and be responsible for crafting language and goals of the initiatives. Some programs and policies that involve changes to physical infrastructure, such as parking policy reform, traffic calming, and traffic signal timing adjustment, will require collaboration with the Public Works Department to ensure the City is coordinated across departments. Many of the initiatives will also require collaboration with the development community, such as installing bus stop amenities and bike parking or updating street design standards.

Some of these policies and programmatic initiatives will benefit from collaboration across jurisdictions. By forming partnerships with nearby

Greeley, neighboring municipalities, and the regional planning organization NFRMPO, the City can arrive at more successful outcomes in the realms of project planning, funding, and implementation. On transit-related initiatives, the City of Evans and Greeley can collaborate with Greeley Evans Transit to achieve uniform outcomes. On broader initiatives that would benefit the region as a whole, such as an Autonomous Vehicle Policy, Transit Information Campaign, and Safety Monitoring Program, the NFRMPO can be a key partner in promoting the programs and achieving widespread implementation.

TRAIL MAINTENANCE STANDARDS

As part of the MMTMP process, the City of Evans developed a set of trails maintenance standards that will be used moving forward to manage the Evans

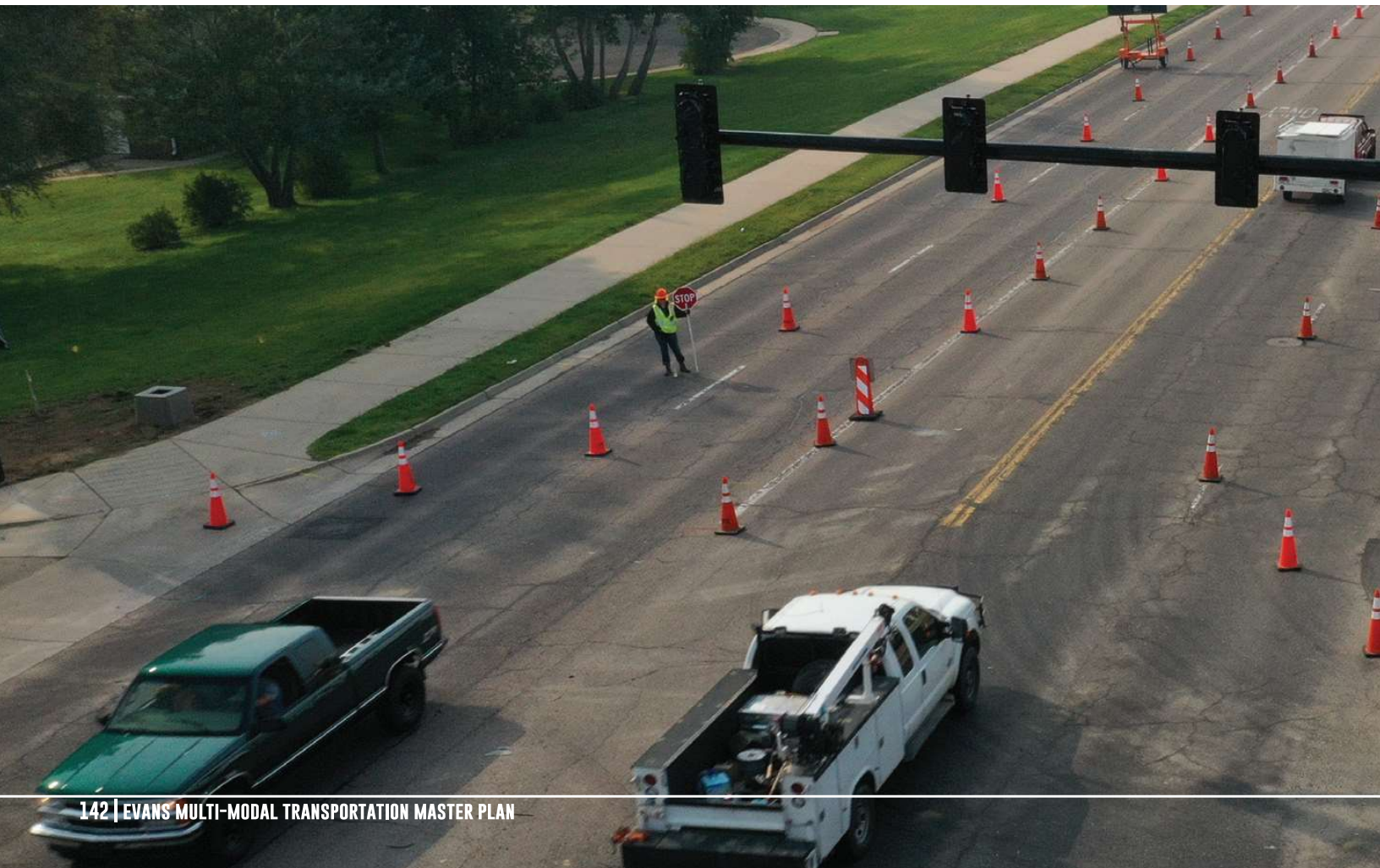
trail network, especially as it begins to grow. These standards can be found in the appendix.

SAFETY PROGRAMS AND POLICIES

Many of the policies and programmatic initiatives listed above can enhance safety for all users of the transportation network and contribute to an overarching effort to reduce crashes in Evans.

DEVELOPMENT CODE UPDATE ON CURB CUTS

Limiting the number of curb cuts along the street reduces the number of conflict points between people walking and rolling and vehicles entering midblock. Traditionally auto-oriented development patterns included numerous curb cuts within a given development in order to increase access for drivers. Encouraging new development to reduce curb



cuts will make it a more comfortable experience for those walking and rolling along the street and increase access to the development by active transportation modes.

COMPLETE STREETS POLICY

Developing a new Complete Streets policy goes one step further than street design standards by providing specific recommendations for the type of low stress pedestrian and bicycle facilities for each street classification. This policy could also address aesthetics, landscaping, and lighting to create more lively, attractive, and safe streets for all modes. A Complete Streets Policy can be included as part of a Development Code update.

SAFE ROUTES TO SCHOOL PROGRAM

Evans could establish a Safe Routes to School (SRTS) program that uses a mix of strategies to encourage

children to walk and bike to school. A major component of an SRTS program is engineering through redesigning infrastructure on designated Safe Routes to School corridors to improve sidewalks and crossings. By identifying these key corridors, the City can prioritize investments that protect students on their way to school, making highly frequented streets safer over time. Safe Routes to School programs also use engagement, education, and encouragement with events like Walk to School Day and Bike to School Day to introduce alternative transportation options to the community.

SAFETY MONITORING PROGRAM AND TRAFFIC CALMING POLICY

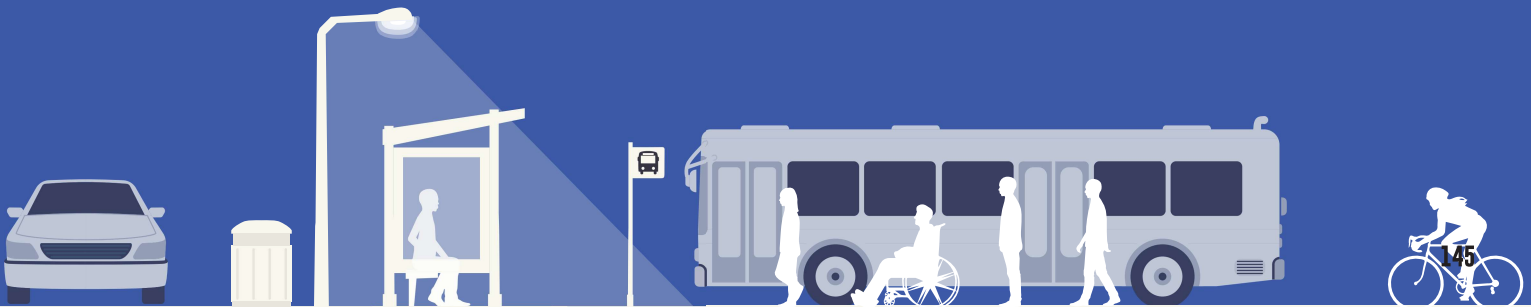
Evans can gain a better understanding of the most dangerous streets and intersections in its jurisdiction by monitoring vehicle speeds on key corridors, collecting uniform crash

data, and creating an internal process for implementing safety improvements on high-crash roadways. The City can also go a step further by prioritizing investments that will improve safety on particularly high crash corridors, including speed calming measures, signal improvements, improvements to roadway geometry, intersection tightening, and other treatments.





CHAPTER 11 NEXT STEPS





NEXT STEPS

As Evans looks to 2045 and begins to realize the future land use map shown in the Community Master Plan, the transportation network will become an increasingly important tool for helping to maintain the existing quality of life community members enjoy while also providing reliable connectivity to both new destinations in Evans and regional destinations. This MMTMP lays out a vision for a multi-modal transportation network that will accommodate the travel needs of tomorrow's Evans. This vision was informed by the community, through a public outreach process, and by analysis, through an evaluation of travel demand forecasts and emerging mobility options. The resulting future transportation network discussed in **Chapter 8** is the product of the City collaborating across departments and planning efforts to ensure the future of transportation in Evans is multi-modal.

IMPLEMENTING THE MMTMP

As noted in **Chapter 9**, the full build-out of the future transportation network will require additional funding beyond what Evans anticipates receiving through its usual transportation funding mechanisms. To pursue projects beyond the fiscally constrained plan, Evans will seek outside funding from grants to supplement the usual funding sources. In addition, Evans will seek new regional partnerships through intergovernmental agreements and through working groups with communities like Greeley to ensure that initiatives crossing community boundaries are pursued as joint efforts.

The MMTMP implementation will be underpinned by the programs and policies outlined in **Chapter 10**. These policies will help ensure that any projects pursued through the MMTMP implementation will automatically incorporate safety considerations, access for a variety of users, and will proactively incorporate emerging mobility solutions into the planning and design process.

LOOKING AHEAD

As Evans implements the MMTMP, the community will continue to grow and change. Throughout the life of this plan, Evans will regularly reexamine its mobility needs through conversations with City leadership, community members, and regional partners. These conversations will inform the order of MMTMP implementation and will also be an opportunity to assess whether additional mobility needs exist. Otherwise, this plan addresses the existing and future mobility needs of Evans as identified during the planning process. By pursuing implementation of the MMTMP, Evans is committing to having a fully connected, multi-modal transportation network that provides community members with full access to local and regional destinations, builds opportunities for Evans to enhance its local economy, and promotes the City's identity as a welcoming and inclusive community where rivers and opportunities meet.

APPENDIX TRAIL MAINTENANCE PLAN



Trail Maintenance Plan

Prepared for:
City of Evans

December 2021

DN20-0670



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Introduction

As the City of Evans trail network expands during implementation of the Multi-Modal Transportation Master Plan, a set of trails maintenance standards and a trails maintenance plan can help city staff assess and prioritize maintenance needs to keep the City's network in a state of good repair. These draft standards will guide the trail maintenance program and ensure the local trail network is a reliable and comfortable transportation resource for all community members. Beyond suggested timing and standards for activities, this document also includes information on potential partners for maintenance activities along with anticipated costs and funding sources. The plan can act as a resource for City staff to assess needs and priorities and also provide guidance for how the Operations & Parks Department can update its maintenance strategies as the trail network grows.

Why Focus on Maintenance?

Planning for maintenance needs can go overlooked during planning, design, and construction of new trails. Funding for capital construction tends to be more readily available than funding for routine upkeep. While initial construction costs far outsize those of maintenance and improvement of existing facilities, funding for routine upkeep is more difficult to secure (Ohio River Greenway, 2014). Deferring routine upkeep can result in facilities degrading faster and requiring more expensive maintenance interventions later on. Early, frequent maintenance can reduce overall costs over time, as seen in **Figure 1**.

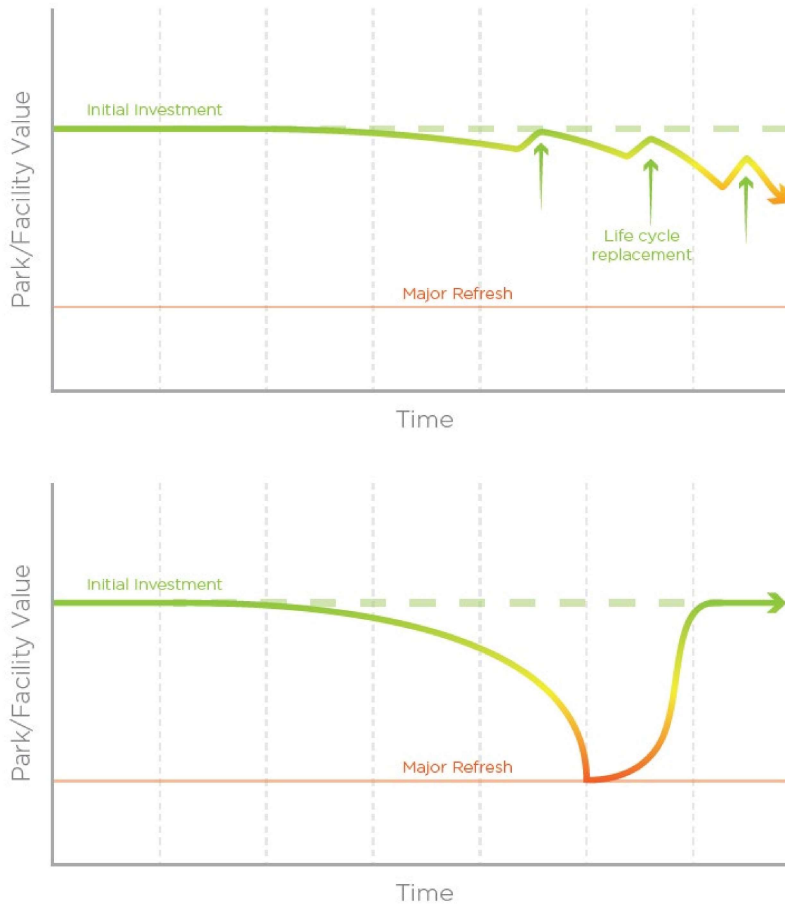


Figure 1: Extended Life Span of Facilities with Consistent Reinvestment versus Life Span of Facilities without Maintenance (Source: Fort Collins 2021 Parks & Recreation Master Plan)

While maintenance planning is critical to the success of trail systems, a 2015 Rails-to-Trails Conservancy study found that approximately 60% of trail system managers do not have a written plan for maintenance. To proactively address this need in advance of the trails system growing further, the City of Evans undertook a planning effort to better understand trails maintenance needs and best practices. This document synthesizes current best practices in Evans, other local municipalities, and nationally to create a plan for the City of Evans.



Literature Review

In order to develop key tasks that should be included in this maintenance plan, a review was conducted of best practices locally and nationally. Peer plans and trail maintenance literature provided insight into individual maintenance tasks, costs, labor requirements, and timing. The local peer plans reviewed include:

- [ReCreate: Parks & Recreation Master Plan](#) (Fort Collins / 2021): The City's latest parks plan explains the various management responsibilities of which departments construct and maintain trails, information on cost and funding sources, and overarching goals for trail maintenance.
- [Paved Recreational Trail Master Plan](#) (Fort Collins / 2013): The City's master plan related to paved trails provides specific information on funding and design, construction, and maintenance standards.
- [Get Outdoors Greeley](#) (2021): The City's latest strategic plan for natural areas, open lands, and trails explains the various management responsibilities of which departments construct and maintain trails, information on cost and funding sources, and overarching goals for trail maintenance.
- [Parks, Trails, and Open Lands Master Plan](#) (Greeley / 2016): The City's previous plan detailed future design, construction, and maintenance standards.

Reviewed plans featuring best practices nationally include:

- [How Communities are Paying to Maintain Trails, Bike Lanes, and Sidewalks](#) (Alliance for Biking & Walking / The League of American Bicyclists / 2014): This document features information on funding streams for trail maintenance.
- [Best Practices in Trail Maintenance: A Manual by the Ohio River Greenway](#) (2014): This manual includes maintenance cost estimates, cost effectiveness of various surface treatments, and maintenance standards.
- [Rail-Trail Maintenance & Operation](#) (Rails to Trails Conservancy / 2004): The study explored maintenance costs and schedules collected from 100 different trail systems nationwide. The report includes information on practices broadly.
- [Maintenance Practices and Costs of Rail-Trails](#) (Rails to Trails Conservancy / 2015): This study examined maintenance cost estimates and practices collected from 200 trail system managers nationwide.
- [Fremont Trails Strategy Plan](#) (2021) including [Appendix G: Operation and Maintenance Detail](#) and [Appendix F: Cost Estimate Details and Funding Source Information](#): This plan covers maintenance responsibilities by entity, information on timing and detailed standards of specific trail maintenance tasks, and funding sources.
- [City of Madison Public Works Bikeway Maintenance](#) (2009): This document has specific information on pavement and vegetation maintenance tasks.



- [Trail Asset Management Plan](#) (Billings / 2011): This plan contains specific information on standards for maintenance tasks and associated costs.

Key takeaways from each of these plans and studies are incorporated throughout the rest of the document.



Peer Community Interviews

Fehr & Peers, the City of Evans Multi-Modal Transportation Master Plan consultant, conducted interviews with City of Evans staff and representatives from the City of Greeley, Town of Windsor, and City of Fort Collins to inform the Trail Maintenance Plan. The conversation with the City of Evans Operations & Parks manager and Parks & Grounds foreman helped to establish a baseline understanding of the existing tasks and practices performed by the City, as well as maintenance needs, available levels of funding, and priorities. Interviews with Greeley, Windsor, and Fort Collins staff informed a wider understanding of local maintenance activities, partnerships, challenges, and costs.

Responsible Parties

The Evans Operations & Parks Department consists of eight staff, including the department manager, the Parks & Grounds Foreman, and maintenance technicians that share the responsibility for trails in the city. Other entities that assist with trail maintenance include the Weld County Youth Conservation Corps, the Engineering Division, and the Stormwater Division. The Weld County Youth Conservation Corps engages children and young adults in community service projects in the County. In coordination with the City's code enforcement program (part of the Neighborhood Services Division and Community Development Department), the Corps members volunteer their time to assist with tree trimming and removal, mowing, and trash pick-up. The Engineering Division conducts an annual concrete replacement program to replace failing concrete and sidewalks citywide and an annual striping program to replace striping and markings on pavement citywide. The Stormwater Division helps maintain drainage systems around trails. **Figure 2** summarizes the roles of each entity currently maintaining trails in Evans.

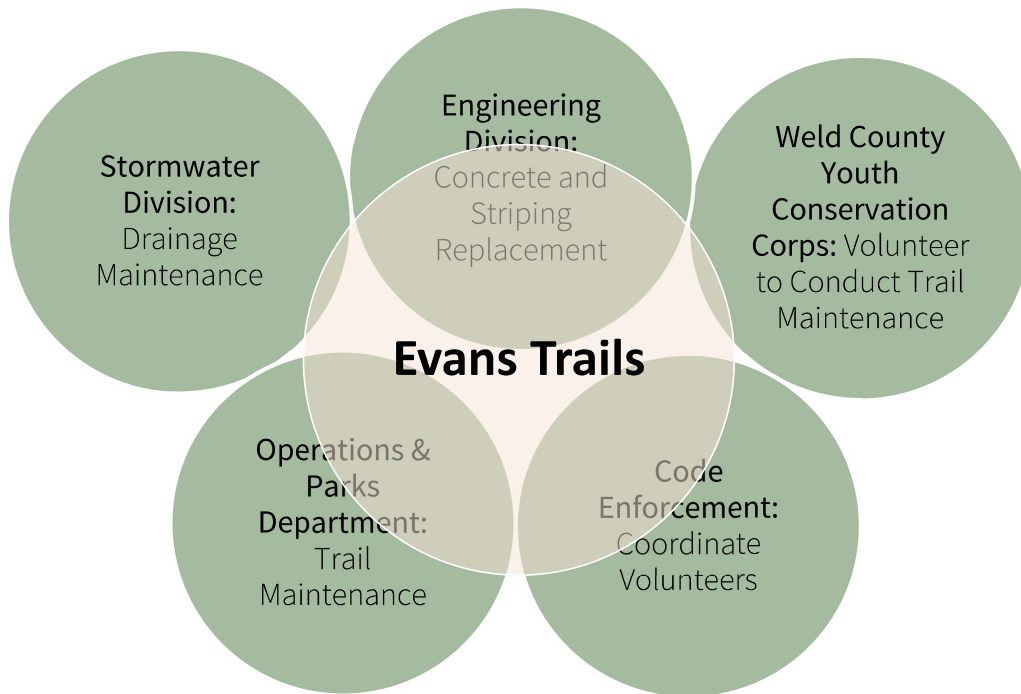


Figure 2: Entities Currently Responsible for Trail Maintenance in Evans

Locally, departments responsible for maintenance and teaming partners vary by size and community. The Windsor Open Space and Trails Division within the Parks, Recreation & Culture Department consists of two staff – a manager and a maintenance technician. Other entities that assist with trail maintenance include the Engineering Department, Stormwater Maintenance Division, and the Poudre River Trail Corridor, Inc. The stormwater team is responsible for drainage maintenance and the Engineering Department handles bridge inspections citywide every one or two years, including pedestrian bridges. The Poudre River Trail is managed by a non-profit organization and board that organizes bimonthly volunteer projects, including trash pick-up, fence repair, and weeding.

The Greeley Natural Areas & Trails Division within the Culture, Parks and Recreation Department consists of the Division Superintendent and six full time employees (FTE). Other entities that assist with trail maintenance include the Poudre River Trail manager, who is housed within the Natural Areas & Trails Division, and Volunteers for Outdoor Colorado (VOC), whose manager is also housed in the Division. In this way, the Division's partnership with these organizations extends beyond the volunteer trail projects they organize.

The Fort Collins Parks Department encompasses the Parks, Cemeteries, Forestry, and Golf Division. While the Department as a whole has 100 FTE, the Facilities & Trails Crew has five FTE, with one dedicated solely to trails. It should be noted that the Parks Department staff size changes periodically. Other entities that assist with trail maintenance include the Streets Department, Adopt-a-Trail program, and volunteer groups such as faith groups and Boy Scouts organized by the City's volunteer coordinator. The Streets Department is responsible for the Mason Street Trail and sections of sidewalk along stormwater detention ponds. The



Adopt-a-Trail program brings in 1,400 additional volunteer hours by assigning quarter mile to half mile sections of trails to individuals and organizations in exchange for recognition on a trail sign.

As demonstrated by Windsor, Greeley, and Fort Collins, trail maintenance work completed by volunteers can supplement work performed by local trail maintenance entities. Volunteers can assist with routine upkeep responsibilities and can reduce overall maintenance costs. Volunteers can perform a variety of tasks, including trash removal, vegetation management, and physical infrastructure maintenance, as shown in **Table 1**.

Table 1: Common Maintenance Tasks for Volunteers

Volunteers can most likely:	Volunteers may not be able to:	To get help with this task:
Keep the trail clear of trash and debris.	Haul material to a disposal facility.	Contact your local government or waste hauler.
Clear brush and trees.	Dispose of the material.	Borrow or rent a chipper.
Plant and maintain trees, shrubs, and flowers and do most gardening and landscaping tasks.	Provide the items to be planted.	Get donated or discounted plant materials from a local nursery or home center. Establish an inventory of donated hand tools.
Operate mowers, trimmers, and chain saws.	Supply their own tools.	Establish an inventory of donated power tools.
Operate a tractor, loader, or bobcat.	Operate specialized heavy equipment like a dozer, grader, or roller.	Ask your local road crew or hire a paid contractor.
Make minor repairs to non-asphalt trails.	Lay asphalt or operate a paving machine.	
Keep drainage structures clear.	Dig a trench and install pipes or culverts.	Hire a paid contractor.
Perform surface cleaning of restrooms.	Remove waste from portable toilets or restrooms.	
Install signs, gates, bollards, and fences.	Manufacture same.	Purchase using donated funds, or get donated or discounted materials from a lumber yard or home center.
Build and install picnic tables, benches, kiosks, and other wood structures.	Provide materials.	
Bridge decking and minor bridge and tunnel maintenance.	Structural inspection and maintenance of bridges and tunnels.	Hire a professional engineer and paid contractor.

Source: Rails-to-Trails Conservancy, 2004.

Like Greeley, the City of Evans may be able to partner with Volunteers for Outdoor Colorado and establish an Adopt-a-Trail program. As discussed in the Billings, Montana Trail Asset Management Plan, jurisdictions including the state of West Virginia and Cheyenne, Wyoming have adopted programs modeled after the Adopt-a-Highway program in which users adopt a trail segment and are responsible for removing litter,



mowing, and trimming. The jurisdictions also provide safety and instructional meetings to ensure standards are met.

These programs can also be called Trail Ambassador programs, as discussed in the Fremont Trails Strategy Plan. Ambassadors not only perform routine maintenance tasks, but also monitor trail systems and report conditions, potential hazards, and repairs needed. They regularly walk the trail, wear an identifiable uniform, meet and greet other trail users, and report to a coordinator or Trail Steward. This arrangement has the benefit of engaging the community in trail maintenance and public asset management.

Other potential partners are listed in **Table 2**. In their 2004 and 2015 surveys, the Rails-to-Trails Conservancy explored the various entities responsible for trails maintenance across communities nationwide. They found that while many activities were performed by trail managers and staff and volunteers, others were performed by outside contractors. Activities frequently contracted out include tree removal, restroom maintenance, herbicide application, bridge inspections, clearing of drainage culverts, and mowing (Rails to Trails, 2015). This is consistent with interview responses from Evans, Fort Collins, Greeley, and Windsor staff, who state their municipalities hire a contractor annually to perform repairs on concrete trails (Greeley hired a contractor to mow outlying areas).

Table 2: Entities Responsible for Maintenance in Communities

Entity	Performs maintenance	Pays for maintenance
Federal government	0	2
State government	28	27
County government	20	23
Municipal government	32	26
Nonprofit entity	See below	34
Nonprofit paid staff	5	n/a
Trail group (volunteer)	46	n/a
Scouts	8	n/a
Other community groups	16	n/a
Persons with mandatory community service	13	n/a
Contractor	13	n/a
Other	5	6

Source: Rails-to-Trails Conservancy, 2004.

The City of Evans should continue their cross-departmental partnerships with the Engineering and Stormwater Division and continue fostering interdepartmental cooperation to ensure that the standards outlined in this plan are applied uniformly. The Operations & Parks Department should also identify further



opportunities to share maintenance responsibilities with partner organizations and programs such as VOC and an Adopt-a-Trail or Ambassador Program.



Existing Maintenance Activities

The City of Evans trail system consists primarily of concrete trails, with a select few soft surface trails. Trails that were formerly asphalt were replaced with concrete following Colorado's 2013 floods along the Front Range and in Boulder County for greater longevity and easier snow removal.

The Operations & Parks department generally performs trash removal on a weekly basis, including emptying trash cans at trailheads and along trails, and removing litter. The department conducts surface cleaning tasks such as leaf blowing and sweeping the trail with a skid steer (as seen in **Figure 3**) with rotary broom attachment as needed. Sweeping is generally not included in trail cleaning unless a tree falls and debris must be removed.



Figure 3: Bobcat Skid Steer Loader (Source: Wikimedia Commons)

Vegetation management is a critical component of ongoing trail maintenance work. The most regular tasks are landscaping and irrigation inspection, mowing and trimming, and weed abatement, which each occur on a weekly basis. Trails in established parks are mowed more frequently than those in outlying parks, which tend to be mowed monthly. Staff use stepped mowing, where the five to six feet directly adjacent to the trail are cut more closely. Herbicide is applied daily across all City properties to prevent weed growth, though herbicide treatment is not specific to trails. Other tasks such as clearing and tree removal, tree pruning, invasive species removal, and planting vegetation occur as needed.



In terms of snow removal and drainage, the Operations & Parks Department is responsible for snow removal, while the Stormwater Division is mainly responsible for drainage maintenance activities such as clearing channels and culverts. Following a snowfall, the goal is to remove snow within three to four days, with major public facilities receiving priority. Trails wider than eight feet make it easier and faster to remove snow, since the width can accommodate a pickup with a plow attachment. Narrower trails require two people to operate smaller equipment, which requires more time to go back and forth along the trail and therefore more fuel.

Pavement maintenance, including inspection and patching, occurs on a yearly and as-needed basis. Workers log issues as they are discovered. As mentioned, the City's annual concrete replacement program replaces failing pavement, including trails. City staff also fill corners and occasionally hire a vendor to address heaving by grounding down between concrete slabs (as shown in **Figure 4**).



Figure 4: Heaving Concrete (Source: Foundation Supportworks)

Amenity maintenance, physical infrastructure maintenance, trailhead specific maintenance, and soft trail maintenance occurs on an as-needed basis, with inspection of the infrastructure occurring routinely. The City has three bridges – one wood, two steel framed with plastic composite decking – which are in good condition and receive infrequent use, so intensive maintenance has not been necessary.



Recommended Maintenance Activities

This section groups trail maintenance activities and provides a schedule for individual tasks. The suggested schedule and standards are based on Evans's existing maintenance alongside activities performed by local peers and communities nationally.

These task standards and schedules can be updated as needed, pending trail network expansion or additional funding availability. As an overall best practice, the City should create and implement an asset management system that accounts for all trails in the network and inventories, tracks, budgets, and replaces facilities when they reach the end of their useful life (the City of Greeley uses a software called CityWorks to track the lifecycle of assets and facilities). New facilities should be included in this system from the moment of approval. In this way, the City can keep track of trails with the most pressing maintenance needs and prioritize those projects when funding becomes available.

Generally, some maintenance activities, such as trash removal and vegetation management occur on a regular weekly or monthly basis. Other as-needed maintenance tasks in each group occur following any inspection that identifies a needed treatment or repair. As seen in **Table 3**, these inspections can happen weekly, noted on the job concurrently with regular maintenance activities. However, the City of Evans should consider conducting a more holistic needs assessment every five years, as recommended by the City of Fort Collins (2021). This can help ensure the asset management system remains updated and current.

Another consideration, as recommended by the City of Greeley, is to ensure maintenance and replacement occurs equitably across the entire system, especially in historically underserved areas of the community (2021). An attribute or attributes of whether a trail is located in an underserved area can be built into the asset management system. These attributes could include the surrounding area's share of households below the Evans median household income (\$59,527 in 2019, according to the American Community Survey), share of zero vehicle households, and/or if the area is more than half a mile from the nearest park.

Beyond this, regularly engaging the public via social media and the City website can begin a meaningful dialogue on trail development and the success of trails and recreation facilities. These tools may be used to solicit feedback from residents and make the community aware of pressing trail maintenance needs.

Table 3 outlines a recommended schedule for the performance of maintenance tasks, grouped by activity type. This schedule is based on the City's existing activities and best practices nationally and locally.



Table 3: Trail Maintenance Task Schedule

Maintenance activity	Week	Month	Quarter	Year	As needed	Notes
Trash removal						
Keep trailside clear of litter	x	x				Multiple times per week
Empty trash cans at trailheads	x				x	Multiple times per week
Empty trash cans along trail	x				x	Multiple times per week
Surface cleaning (litter, debris, leaves)						
Leaf blowing and raking	x	x			x	
Sweeping with motorized device		x			x	
Graffiti and vandalism removal					x	
Vegetation management						
Landscaping and irrigation inspection	x		x	x		
Mowing and trimming	x	x			x	
Clearing and tree removal			x		x	
Tree pruning				x	x	
Weed abatement/application of herbicides or pesticides	x	x		x	x	
Invasive species removal/reintroduction of native species					x	
Planting new vegetation					x	
Snow removal and drainage						
Snow removal from concrete trail					x	
Drainage maintenance (clearing channels, culverts, ditches, gullies)				x	x	
Pavement maintenance						
Pavement inspection	x		x	x		
Patching of concrete trail				x	x	
Regrading of concrete trail				x	x	
Replacement of concrete trail					x	
Amenity maintenance						
Inspection of amenities (lighting, seating, trailside elements)	x			x		
Maintenance of amenities (lighting, seating, trailside elements)		x			x	
Refreshing of pavement markings and striping				x	x	
Repair, maintenance, and installation of signs					x	
Major repairs or replacement of trailside elements					x	
Installation and maintenance of gates, bollards, and fencing					x	
Physical infrastructure maintenance						
Bridge, tunnel, underpass, and crossing inspection	x				x	2-4 years
General bridge maintenance					x	



Maintenance activity	Week	Month	Quarter	Year	As needed	Notes
Paint/stain/treat bridge deck or structure					x	6-12 years
Bridge redecking					x	
Retaining wall, steps, and ramps inspection and repair					x	
Road grade crossing maintenance					x	
Trailhead specific maintenance						
Maintenance of toilets at trailheads	x					3x per week
General maintenance of trailheads	x				x	
Landscaping/gardening at trailheads	x				x	
Maintenance of information kiosks and information updates		x			x	
Surface maintenance of parking areas					x	
Soft surface trail specific maintenance						
Surface cleaning of soft surface trail					x	
Pothole repair and other patches of soft surface trail					x	
Grade soft surface trail					x	
Resurface soft surface trail					x	10 years

Source: Fremont Trails Strategy Plan, Rails-to-Trails Conservancy, Interviews with City of Evans, City of Windsor, and City of Fort Collins staff.

The following sections outline specific standards for each set of activities. City of Evans staff reported that the City currently has the equipment needed to complete the tasks listed in **Table 3**. As the trail network grows, it is possible additional equipment will be required to accommodate maintenance needs; the City of Evans can undertake an asset inventory during the upcoming construction of the Evans Ditch Trail and Ashcroft Draw Trails an assess whether additional maintenance equipment will be needed as the new trail facilities begin to come under the ongoing maintenance schedule.

Trash Removal

Trash removal is important not only for upholding the aesthetic character of trails, but also for protecting public health and safety and respecting natural habitat, wildlife, air, water, and soil quality.

Use maintenance vehicles to conduct "trash runs" at least two times per week. This involves driving all trails, emptying trash and recycling containers, and picking up debris and litter (particularly broken glass). Frequency of trash removal can vary based on trail use and location. For more remote or less trafficked trails, the City could reduce maintenance costs related to trash removal by placing bins at select locations and requesting that the public hold on to trash generated along the trail. Locations at trail entry points, in parking areas, and near street crossings are more easily accessed and serviced by maintenance staff.

Additionally, on trails where dogs are permitted, there should be signage and stations with disposable bags placed next to trash containers. These stations make it convenient for pet owners to pick up pet waste and can reduce the frequency of users dropping bags along the trail.



Surface Cleaning

Surface cleaning of trails is necessary for removing obstacles that could cause injury or impede universal access. Staff may blow or sweep the surface clear of leaves and other debris. During the fall months when fallen leaves are present on trails, blowing with a hand-held power blower should occur weekly, while sweeping with a small truck or tractor-based sweeper should occur monthly.

During other times, trail sweeping should occur on an as-needed basis, such as after the removal of a fallen tree, at street crossings, following a storm with debris, or around construction sites. Trails that require sweeping of the entire segment can be swept more efficiently with a skid steer and broom, but spot sweeping with a blower is adequate otherwise. Following mowing, a blower or broom should be used to remove cut grass from the surface of concrete trails.

Locally, most trail management departments use a Bobcat Toolcat or "skid steer" – small utility vehicles that can be outfitted with a power rotary broom, mower deck, pallet fork, material bucket, snow plow, and other attachments. According to Rails to Trails, all trail managers surveyed use blowers, while a third use tools like a street sweeper or rotary brush.

With respect to vandalism, any graffiti noted during weekly inspections should be removed within 48 hours. When possible, soy-based graffiti removal products should be used to reduce environmental impacts. Power washing is an effective graffiti removal method, but staff should make effort to avoid runoff into nearby water bodies. Graffiti may also be painted over with a color closely matched to the rest of the surface.

Vegetation Management

Vegetation management is another maintenance activity that is necessary to remove obstacles that could cause injury or impede universal access. Landscaping and irrigation inspection should occur during regular weekly activities.

During the active growing season (June through September), mow trails in established parks weekly and those in outlying parks at least monthly. Mowing prevents shrubs, grasses, and weeds from encroaching on the trail, which prevents tripping hazards, maintains sightlines along the trail, and mitigates fire risk.

A skid steer with a mower deck attachment or a flail mower with articulating blade (see **Figure 5**) should be used to mow alongside trails. Stepped mowing, with a closer cut of the five to six feet directly adjacent to the trail, is recommended. According to the City of Billings, mowing height should be set to 3.5 inches to conserve soil moisture and enhance turf health. However, mowing height and frequency can be amended based on the biological and cultural needs of various grass species. Staff should also weed whip as needed around benches, posts, fences, and street signs.



Figure 5: Flail Mower with Articulating Blade (Source: GreenTec)

Best practices for trail clearance generally state that the edges of paved trails should have 2-3 feet of horizontal clearance from vertical obstructions, and trails should have a minimum vertical clearance of 8-12 feet. Clearing includes the removal of downed or leaning trees, protruding roots, loose limbs, or large pieces of bark from the trail and buffer zone.

Staff should regularly note areas in need of tree trimming and pruning. Respond to specific reports of low-hanging branches and downed trees within 48 hours. Prune overhanging tree branches for adequate clearance of trail users, to prevent sight line or sign obstructions, and anywhere they pose a safety hazard. Brush and branches may be left, but staff should discard the material far enough from the trail to avoid interference with maintenance operations or trail use. Staff should also ensure that cuttings do not enter drainage areas or pose a fire hazard.

In Evans, an Operations & Parks employee applies herbicides to prevent weeds across all city properties daily, but not trails specifically. Herbicide should be applied at least once in the spring specifically along trails. Volunteers can also assist with weed removal.

Evans should also consider the possibility of restoring native vegetation along riparian corridors in partnership with the Stormwater Division. If funding is available, Operations & Parks may also plant new shade trees along streams and in highly exposed areas of trails.

Snow Removal and Drainage

The goal of snow removal and drainage is to avoid weather-related blockages to trail access. The Operations & Parks Department is responsible for snow removal in Evans. Staff currently aim to remove



snow within three to four days and prioritize major public facilities. The Department uses a pickup truck mounted snow plow to clear trails wider than eight feet, and smaller mechanized equipment for narrower trails.

In general, snow removal should occur as soon as possible after a snowfall on hard surface trails. The Town of Windsor and City of Fort Collins both aim to remove snow within 24-72 hours. Equipment like a Toolcat and hydraulic broom (see **Figure 6**) may be used for narrower trails. Staff should use caution when plowing over wooden bridges to avoid damage to the decking, and plowing should occur outward from underpasses. Ice melt can be used in areas with a significant safety concern.



Figure 6: Toolcat with Hydraulic Broom (Source: Bobcat)

The Stormwater Division in Evans is mainly responsible for maintenance of drainage facilities that control or direct the flow of water under or around trails. However, the Operations & Parks Department should work with the Stormwater Division to ensure the following standards around trails are upheld. Drainage maintenance is important for preventing damage to trails from storms and water erosion and for keeping trails open for use.

Common drainage activities include clearing ditches and culverts. Ditches must be deep and wide enough to carry water volumes during heavy storms. Vegetation or trash that may block water flow must be removed from ditches, and slumping banks should be rectified. Drainage culverts should also be checked and cleared prior to major storms to ensure functionality during and after a weather event. This activity is most often completed manually using rakes or shovels, but may also be accomplished with power



equipment, self-cleaning designs, squeegees, pressure washers, and hydraulic brooms. The Stormwater Division may be able to partner with landowners and utility companies to clear ditches and culverts.

When unsafe or impassable conditions are found on or around trails, the trail must be closed with signage and if necessary, barricaded with A-frame or type-3 barricades. Operations & Parks should notify the public of trail closures by updating their website and social media, and detour signs should be placed to assist trail users with wayfinding. Trail and underpass cleaning should take place after flooding has receded and before the trail is reopened.

Pavement Maintenance

In interviews with peer municipalities, most staff noted that the vast majority of their paved trails were concrete, rather than asphalt. According to the City of Fort Collins Paved Recreational Trail Master Plan, using asphalt for trails fell out of favor in Front Range communities in the 1990s due to the high level of maintenance needed for asphalt pavement. Asphalt trails more frequently crack due to intruding vegetation, and a smooth trail surface is needed to better serve users of all abilities. Front Range communities began converting asphalt trails to concrete over time, and that process is nearly complete in communities interviewed.

Well-maintained concrete trails can last 25 years (City of Fremont, 2021). However, concrete surfaces can still be damaged by water and erosion, tree roots, and frost and freeze cycles (Rails to Trails, 2015). Inspection of cracking or heaving concrete should occur on the job alongside regular inspection of overall trail conditions, but with a focus on pavement at least monthly. Patching and regrading should occur yearly, and may be performed through an outside contract. Replacement should also continue to occur yearly through the City's annual concrete replacement program.

Other trail design characteristics with an impact on maintenance should be considered when constructing new facilities. New trails should be 10-12 feet to have adequate passing width and space for users to pause to the side, but also to allow access by maintenance and emergency vehicles. Trails should also be wider at intersections with other trails, at smaller radius curves, and at underpasses to allow for safe travel by users and to facilitate maintenance activities.

Amenity Maintenance

Inspection of amenities including lighting, seating, and trailside elements should occur weekly alongside regular maintenance activities. Trail lighting can be made more efficient by using solar powered fixtures and/or "dark sky friendly" lighting that minimizes glare and reduces nighttime light pollution. Additionally, the City may post signs on fixtures that indicate how trail users can report lighting outages.

Striping on major trails can help separate opposing traffic where needed, especially in areas where visibility is limited due to trail curvature. The Engineering Division conducts an annual striping program to replace striping and markings on pavement citywide.



Signage and wayfinding helps users navigate the trail system to reach major destinations and landmarks. Signage should be regularly refreshed or replaced as it becomes damaged, faded, or out of date. Over time, outdated signage should also be replaced with new, updated information. A signage program like the one Fort Collins undertook in 2012 that outlines consistent regional trail wayfinding standards can identify the most important places to update signs and familiarize trail users with the system (City of Fort Collins, 2013). Signs may be directional and related to routing users to key destinations, mile markers to help users self-locate, or pertaining to trail etiquette. Signs related to safety are most important to repair or replace when they become unreadable.

Trailside elements such as benches, picnic tables and shelters, drinking fountains, bicycle parking, bicycle repair stations, fencing, gates, bollards, and workout equipment may experience damage and require maintenance. This should occur on a weekly and as-needed basis. Maintenance activities include cleaning, painting, repair, and replacement. During the construction of new trails, consideration should be given to whether these amenities should be installed (contingent on whether sufficient resources for maintenance are available), and if so, consideration should also be given to material types, durability, and placement for ease of maintenance and repair.

Physical Infrastructure Maintenance

Bridge, tunnel, underpass, and crossing conditions should be noted weekly alongside regular maintenance activities. A more thorough inspection of these facilities by certified inspectors or professional engineers should occur every two to four years.

While Evans only has three pedestrian bridges, which are all currently in good condition, the City should maintain a bridge inventory noting conditions from inspections over time. One of the bridges is wood, while two are steel framed with plastic composite decking. Preventative maintenance can ensure pedestrian bridges remain in a state of good repair.

Wooden bridges require checking for damage or deterioration of wooden decking. General bridge maintenance includes replacing boards or screws, bridge washing, debris clearing, deck sealing, steel bearings lubrication, and painting load-carrying steel members. More intensive maintenance includes replacement of bridge elements such as joints, bearings, pedestals, bridge seat/pier cap, or columns/stems. The City may also apply products that enhance bridge grip and reduce slipperiness to improve safety for users in all weather conditions.

Trailhead Specific Maintenance

Evans currently only has one "trailhead" at Riverside Park, which offers restrooms and signage. City staff empty toilets three times per week and perform landscaping and other general maintenance tasks once a week. Information kiosks are updated monthly and as needed.

As the trail system expands, new trailheads and amenities may be installed. According to Rails-to-Trails, the most common trailhead elements are information kiosks, parking lots, tables and benches, trash



receptacles, and toilets (2015). As these facilities are planned, the City should consider material types, durability, and placement with regard to the ease of maintenance and repair.

Soft Surface Trail Specific Maintenance

The City of Evans and local peer communities have very few soft surface trails, mainly due to the labor intensive nature of maintaining these facilities. These trails require manual litter removal but no snow removal. Vegetation management is more intense with respect to weeding due to growth in the middle of soft surface trails. These trails must be mowed at least twice per year and require a narrower mowing width of two to three feet rather than the five to six feet around concrete. Surface repairs are needed over time due to erosion. These can be manual repairs using rakes and shovels, regrading every few years using light power equipment like a Toolcat or grader, and the occasional addition of material to soft surface trails as needed.



Anticipated Costs

Total annual maintenance cost estimates per mile vary greatly across the literature reviewed. Soft surface trails cost between \$1,000 and \$2,600 per mile and paved trails cost anywhere from \$2,000-\$12,000 per mile, according to Rails-to-Trails, the Ohio River Greenway, and the City of Billings. Locally, the City of Windsor estimates trail maintenance costs \$5,000-\$6,000 per mile annually. The City of Fort Collins estimated a cost of \$9,144 per mile annually, but stated that the best practice would be to spend \$12,000 (2021).

Part of the variability is related to different trail characteristics such as the types of vegetation, amenities included, and the number of annual users. Part is related to the choice of what activities to include in the total cost estimate. For example, the City of Greeley tracked the Poudre River Trail for the first six months of management and found that maintaining 10 miles cost \$25,000, or \$5,000 per mile. However, there were several confounding variables included in the figure, including the fact that Greeley Natural Areas & Trails shares costs with the Poudre River Trail Board, that the Parks Division covers the cost of weed management, and the City paid for an external contractor to mow outlying areas.

The City of Evans should also plan for increases in the budget of Operations & Parks commensurate with additional assets and capital facilities that to the Department must operate and maintain, as suggested by the City of Fort Collins in their 2021 Parks and Recreation Master Plan and the City of Greeley in their 2016 Parks, Trails, and Open Lands Master Plan. Estimating planning-level costs for individual maintenance activities and tasks is even more difficult.

Fort Collins staff shared they City's Facilities & Trails program expenditures from 2016-2019 over 44.38 miles. The Parks Department identified a four year average cost per mile for the activities identified in **Table 4** of approximately \$7,300.

Table 4: Trail Maintenance Activities by Annual Per Mile Cost (4 Year Average, 2016-2019)

Activity	Annual Per Mile Cost
Turf care	\$563
Trash and recycling	\$1,783
Trail repairs	\$546
Snow and ice removal	\$1,784
Infrastructure repair	\$1,552
Vandalism	\$170
All other	\$885
Maintenance cost per mile	\$7,283

Source: City of Fort Collins staff.



Fort Collins trails staff provided some additional cost and labor estimates for vegetation management, pavement maintenance, and physical infrastructure maintenance. Vegetation management tasks required one FTE plus an hourly employee during the growing season (June to September) and that the two staff spent an average of 48 hours a month total on vegetation management maintenance. The City hires an outside contractor to regrade heaving sections of pavement and replace broken pavement, which costs about \$10,000 annually (though outstanding pavement resurfacing needs exceed this amount). The Department spends about \$2,500 annually on bridge maintenance and another \$80,000 per year on pedestrian bridge replacement (two bridges were replaced in 2020 and one in 2019, out of a total of 67 bridges).

Town of Windsor staff shared labor hours per year for the tasks in **Table 5** for 2018 and 2019.

Table 5: Trail Maintenance Activities by Annual Hours Spent (2 Year Average, 2018-2019)

Activity	Annual Hours Spent
Blowing/sweeping	16
Inspection	18
Mowing/trimming	416
Trash/debris pickup	144

Source: Town of Windsor staff.

The Rails-to-Trails Conservancy has attempted to collect labor hour estimates and cost estimates for numerous trails around the country. On average, respondents said they spent 13.5 hours per mile on vegetation management and 3.5 hours per mile on surface clearing (Rails-to-Trails, 2015). Costs for individual maintenance activities as a share of managers' overall budget can be found in **Table 6**.

Table 6: Typical Maintenance Activity Share of Budget

Maintenance Activity	Percent of Budget
Surface clearing of trail	10.8%
Mowing	12.0%
Vegetation management	11.2%
Keeping trail-side clear of trash and debris	11.5%
Whole tree removal	5.4%
Application of herbicides or pesticides	2.3%
Clearing of drainage channels and culverts	5.4%
Surface maintenance of parking areas	2.7%
Litter clean up and emptying trash cans	2.7%
Maintenance of toilets at trailheads	13.0%



Maintenance of toilets along the trail	1.2%
Trailhead parking snow removal	1.1%
Repair and maintenance of signs	6.3%
Recovery from illegal acts of vandalism/dumping	5.3%
Other trail maintenance activities	9.1%

Source: Rails-to-Trails Conservancy, 2015.

Additional labor hour estimates and cost estimates can be found in Appendix 3 of the Rails-to-Trails Conservancy report, Rail-Trail Maintenance & Operation, and the City of Billings Trail Asset Management Plan. However, these estimates are highly variable by year and context.

Evans Operations & Parks staff highlighted the potential benefit of hiring another maintenance technician focused solely on trails. According to the 2021 City of Evans Pay Plan, an additional parks maintenance technician would require between \$34,000 and \$48,400 per year, with the salary midpoint being \$41,500. This figure does not include the cost of any fringe benefits the City may choose to offer the new technician. The labor rate for that technician would be \$16.63 per hour to \$23.27 per hour. In the Rails-to-Trails Conservancy's 2015 report, 59% of respondents reported labor rates, which varied between \$10 to \$75 per hour, with the average falling at \$22.25 per hour.

Funding Sources

The City of Evans does not have a funding stream dedicated solely to trails. Parks & Operations has a roughly \$100,000 budget for Supplies and Services and receives some Great Outdoors Colorado (GOCO) funding for capital improvements.

The Conservation Trust Fund, which was created with revenue from the Colorado Lottery and distributed by the Colorado Department of Local Affairs (DOLA), supports trail design, construction, and maintenance in Evans. The City anticipates receiving approximately \$234,000 annually in Conservation Trust Fund revenues. The fund will support implementation of the Evans Ditch Trail and other trails projects listed in the MMTMP.

The City also charges development impact fees on new construction that fund the Park Impact Fund. For example, buyers of lots in the new Grapevine Hollow neighborhood paid a Parks and Open Space impact fee that funded the construction of the Grapevine Hollow Trail. With anticipated average revenues expected to be approximately \$976,000 annually, the Fund primarily supports land acquisition, park design, and construction. While this Fund is a significant source of funding for capital construction of new trails, only 20-25% of expenditures are allocated for trails.

The City faces challenges when it comes to maintaining new trails. Like many communities nationwide, more funding exists for capital construction than for maintenance. Due to current staff capacity, it is easier for the Parks & Operations Department to maintain extensions or connections to existing trails than to



maintain a new trail in a completely different location. This is due to the ease of moving equipment already on an existing trail to service the extension instead of needing to relocate the equipment to a new trail segment in a different part of the city.

The City of Greeley funds a portion of capital construction of new trails through a Trail Development Fee charged on new home construction. However, this fee only covers about 30-40% of the full construction cost of a typical 10-foot wide paved trail (which averages \$1 million per mile) – about enough for design and to acquire right-of-way (City of Greeley, 2021). This fee does not cover any of the maintenance of new and existing trails. Most funding for trail maintenance comes from General Fund allocations to the Department and Weld County funding.

However, damage from flooding and an aging trail system with many segments more than 25 years old are threatening the Division's ability to keep pace with maintenance requirements. According to the 2021 Get Outdoors Greeley Plan, between \$4.4 million and \$11.6 million would be required to repair the portion of the Poudre River Trail currently at risk of future damage. City staff mentioned a figure closer to \$25 million would be needed to replace all trails and pedestrian bridges reaching the end of their useful life. An estimated \$3-5 million would be required to perform extremely urgent updates, such as in areas where trails destabilized due to erosion.

Given the Natural Areas & Trails Division's pressing need to adequately fund long-term maintenance, restoration, and capital replacement, there is local momentum for a November 2022 ballot initiative that would add a quarter cent to sales tax to fund open space initiatives, which would raise \$4-5 million per year for acquisition and maintenance. An open space sales tax is a funding mechanism the City of Evans may also consider.

The 2021 Get Outdoors Greeley Plan also highlighted other potential funding sources for trails including Federal Highway Administration Grants, Northern Front Range MPO funding, and funding from conservation organizations (see **Figure 7**).



FUNDING SOURCES

Land acquisition and management revenues across Colorado are commonly derived from three primary sources: the municipality's General Fund, locally approved sales tax or bond revenues, and the State's Colorado Lottery Conservation Trust Fund and GOCO grants. The General Fund and sales tax or bond revenues serve to leverage grants which often require matching funds. Existing local, regional, state, and federal funding sources are shown below.

Summary of External Funding Sources for Natural Areas & Trails

GRANT SOURCES	LAND CONSERVATION	OFF-STREET TRAILS	RESTORATION	WATER CONSERVATION	OUTDOOR/NATURE EDUCATION
Great Outdoors Colorado/Conservation Trust Funds (Lottery Funds)	X	X	X	X	
Land and Water Conservation Fund	X	X	X	X	
Colorado Parks and Wildlife (multiple)	X	X		X	X
Poudre Heritage Alliance	X	X			X
Conservation/Trail Advocacy Groups	X	X	X	X	X
National Wildlife Federation	X		X	X	
Colorado Water Conservancy			X	X	
Department of Local Affairs	X	X			
Federal Highway Administration BUILD Grants		X			
Federal Highway Administration Recreational Trails Program		X			
Highway Safety Improvement Program/ National Highway Performance Program/ FASTER Safety Grants		X			
North Front Range MPO		X			
Rails to Trails		X			

¹ See the 2015 City of Greeley Bicycle Master Plan for additional trail funding sources.

Additional types of partnerships and grants that Greeley might be eligible for as plan implementation is pursued include:

- Healthy places/healthy communities
- Healthy Eating / Active Living (HEAL)
- Wellness for minority or low-income groups
- Active seniors
- Tourism enhancement
- Hazard planning and flood damage repair (i.e., FEMA and HUD disaster recovery grants)
- Avian/waterfowl habitat enhancement (i.e., Ducks Unlimited)
- Safe Routes to School
- Weld County Area Agency on Aging
- AARP

APPENDIX 2

FEBRUARY 2021

Figure 7: Funding Sources Explored for Greeley Natural Areas & Trails (Source: City of Greeley, 2021)

In Fort Collins, funding for operations and maintenance of the trail system is also mainly from the City's General Fund. The Parks Department's budget for park maintenance overall is \$12.3 million, 96% of which comes from the City's General Fund and the Keep Fort Collins Great sales tax (City of Fort Collins, 2021). The Keep Fort Collins Great sales tax is a .85% sales tax that Fort Collins voters passed in 2010 to help fund various City operations. For trail specific maintenance, the Capital Projects Asset Management fund provides about \$600,000 annually. The Conservation Trust Fund, created using lottery revenues, is primarily used for acquisitions but has also been used for parks and trail maintenance.

Like the City of Greeley, the City of Fort Collins finds infrastructure maintenance and funding to be a continual challenge as sections of trail require replacement. Much of the City's trail system was constructed during the 1970s and 1980s; these 40 to 50 year old segments are reaching the end of their useful life. Momentum is building citywide for a dedicated funding source for trail maintenance as local residents and the City Council have noted infrastructure falling into disrepair and the need for new investment. The Fort Collins City Council has identified 31 priorities for 2021-2023 to influence the City's policymaking and budget – one of which is to "access funding for parks maintenance and operations, new parks and existing parks refresh." With policymakers prioritizing asset management, the Department may receive additional funding in the form of a new sales tax, bond, or other initiative.



According to Rails-to-Trails, trail system managers nationally report receiving funding primarily from municipal budget allocations (49%), then from local fundraising activities (39%), in-kind donations (29%), the state budget (24%), community fees or taxes (9%), and federal funding (7%). Other possible funding sources and opportunities for the City of Evans to explore include North Front Range Metropolitan Planning Organization (NFRMPO) funding, Colorado Parks and Wildlife funding, Transportation Alternatives Program (TAP) funding, property taxes, funding from local organizations and non-profits, and public utility bill donations.



Next Steps

The City of Evans Operations & Parks Department is already cooperating across departments and divisions, making efficient use of available resources, and accomplishing many of the tasks described here. However, opportunities exist to improve operations and maintenance by incorporating best practices around the country. Next steps for the Department to consider implementing:

- Grow cross-departmental partnerships with the Engineering and Stormwater Division and continue fostering interdepartmental cooperation to ensure that the standards outlined in this plan are applied uniformly.
- Identify further opportunities to share maintenance responsibilities with partner organizations and volunteer programs such as VOC and an Adopt-a-Trail or Ambassador Program.
- Create and implement an asset management system that accounts for all trails in the network and update this system from the moment new facilities are approved. This will ensure that the City can keep track of trails with the most pressing maintenance needs and prioritize those projects when funding becomes available.
- Systematize maintenance activity schedules to ensure every task listed in **Table 3** is executed on schedule.
- Identify opportunities to update existing maintenance standards as described.
- Regularly engage local residents via social media and the City website to collect input on the condition of trails and recreation facilities and to learn about pressing trail maintenance needs.
- Report on trail maintenance activities and provide a state of the trails system report to City Council at regular intervals.
- Explore dedicated maintenance funding through an open space and parks sales tax or other stream. Revenue could be allocated towards hiring an additional maintenance technician.



References

Alliance for Biking & Walking and The League of American Bicyclists. (2014). *How Communities are Paying to Maintain Trails, Bike Lanes, and Sidewalks*. Advocacy Advance. Retrieved from https://bikeleague.org/sites/default/files/AA_MaintenanceReport.pdf

City of Evans. (2021). *City of Evans Pay Plan*. City of Evans. Retrieved from https://www.evanscolorado.gov/sites/default/files/fileattachments/human_resources/page/6264/2021_city_pay_plan.pdf

City of Fort Collins. (2011). *Best Management Practices – Trail Maintenance*. City of Fort Collins.

City of Fort Collins. (2013). *Paved Recreational Trail Master Plan*. City of Fort Collins. Retrieved from <https://www.fcgov.com/parkplanning/pdf/2013-paved-recreational-trail-master-plan-3-3-14.pdf>

City of Fort Collins. (2021). *ReCreate: Parks and Recreation Master Plan*. City of Fort Collins Parks & Recreation. Retrieved from <https://www.fcgov.com/parksandrecplan/files/fort-collins-parks-and-recreation-master-plan-spreads-web.pdf?1627053367>

City of Fremont. (2021). *Fremont trails strategy plan*. City of Fremont. Retrieved from <https://www.fremont.gov/DocumentCenter/View/49428/Fremont-Trails-Strategy-Plan---Final-2021---Copy-RD>

City of Greeley. (2016). *Parks, Trails, and Open Lands Master Plan*. City of Greeley. Retrieved from <https://playgreeley.com/wp-content/uploads/2016/08/final-ptol-master-plan.pdf>

City of Greeley. (2021). *Get Outdoors Greeley*. City of Greeley. Retrieved from <https://greeleygov.com/docs/default-source/natural-areas/get-outdoors-greeley-strategic-plan---02-02-21.pdf>

City of Madison. (2009). *Public Works Bikeway Maintenance*. City of Madison. Retrieved from <http://legistar.cityofmadison.com/attachments/e440e3df-1b4d-49fa-bbfc-5e94495a7e63.pdf>

Ohio River Greenway and Indiana LTAP. (2014). *Best Practices in Trail Maintenance*. Indiana Local Technical Assistance Program Publications. Retrieved from <https://www.greenwaysfoundation.org/resources/BestPractices-TrailMaintenance.pdf>

Rails-to-Trails Conservancy. (2004). *Rail-Trail Maintenance & Operation*. Rails-to-Trails Conservancy Northeast Regional Office. Retrieved from https://www.railstotrails.org/resourcehandler.ashx?name=rail-trail-maintenance--operation-ensuring-the-future-of-your-trail-a-survey-of-100-rail-trails&id=3493&fileName=maintenance_operations_report.pdf



Rails-to-Trails Conservancy. (2015). *Maintenance Practices and Costs of Rail-Trails*. Rails-to-Trails Conservancy. Retrieved from <https://www.americantrails.org/resources/maintenance-practices-and-costs-of-rail-trails>

The City of Billings. (2011). *Trail Asset Management Plan*. The City of Billings. Retrieved from <https://www.americantrails.org/resources/billings-montana-trail-asset-management-plan>

CITY OF EVANS, COLORADO

RESOLUTION NO. 13-2022

A RESOLUTION ADOPTING AN UPDATE TO THE 2004 TRANSPORTATION MASTER PLAN AND THE TRAILS PORTION OF THE 2004 OPEN SPACE AND TRAILS MASTER PLAN THROUGH ADOPTION OF THE 2021 MULTI-MODAL TRANSPORTATION PLAN FOR THE CITY OF EVANS, COLORADO

WHEREAS, the City Council of the City of Evans, Colorado, pursuant to Colorado statute and the Evans City Charter, is vested with the authority of administering the affairs of the City of Evans, Colorado; and

WHEREAS, State law empowers communities to adopt master plans; and

WHEREAS, the existing Transportation Master Plan was last updated in 2004 and the Trails Master Plan was last updated in 2004; and

WHEREAS, City Council voted to update both the 2004 Transportation Master Plan and the 2004 Trails Master Plan in 2020; and

WHEREAS, significant public engagement and outreach has occurred throughout the process of developing the 2021 Multi-Modal Master Plan update; and

WHEREAS, the Planning Commission, Master Plan Steering Committee and City Council have heard updates to the Multi-Modal Master Plan throughout the update process and finds the conclusions to be correct for the future growth of the City of Evans; and

WHEREAS, City Council has reviewed the 2021 Multi-Modal Master Plan update and has recommended that it be adopted; and

WHEREAS, City Council has held a public meeting and reviewed the 2021 Multi-Modal Master Plan update and finds it to be in the interest of the City of Evans to adopt the updated plan; and

WHEREAS, the Master Plan is an advisory document to guide land development decisions and no part of the Master Plan is legally binding or to be included in Title 18 of the Evans Municipal Code or any other binding part of the Evans Municipal Code.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EVANS, COLORADO AS FOLLOWS:

Section 1: The Multi-Modal Master Plan is hereby updated and adopted.

Section 2: This Resolution, after passage shall be numbered, recorded, published and posted as required by the City Charter and the adoption, posting and publication shall be

authenticated by the signature of the Mayor and City Clerk, and by the Certification of Publication. This Resolution shall become effective upon passage.

INTRODUCED AND PASSED AT A REGULAR MEETING OF THE CITY COUNCIL OF THE CITY OF EVANS ON THIS 4th DAY OF APRIL, 2022.

ATTEST:


Julie Kamka, City Clerk



CITY OF EVANS, COLORADO

By: 
Brian Rudy, Mayor