PEDESTRIAN & BICYCLE PLAN

April 2023

FINAL PLAN

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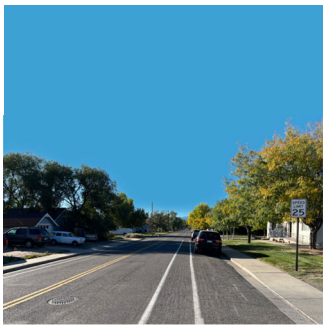
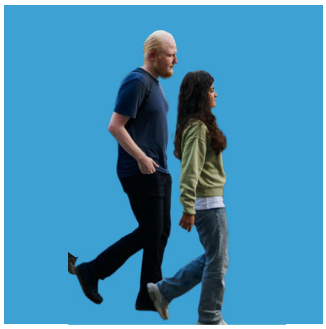
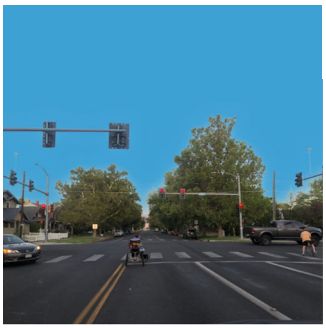






CHAPTER 1.

INTRODUCTION

The Grand Junction Pedestrian & Bicycle Plan (PBP) is the city's first ever pedestrian and bicycle plan and provides a long-term vision for the future pedestrian and bicycle networks in Grand Junction. The vision, goals, and key elements of the PBP are based on best practice, national research, analysis, and input received through an extensive community engagement process that included over 2,000 touch points with community members. Ultimately, this PBP identifies strategies and prioritized investments that the city will gradually implement over time to make Grand Junction a more comfortable and welcoming place for people walking, rolling, and biking.

Why Develop a Pedestrian and Bicycle Plan?

In 2021, the city of Grand Junction adopted the *One Grand Junction Comprehensive Plan*, as an update to the 2010 Comprehensive Plan. Community outreach conducted for the Comprehensive Plan revealed a strong desire to improve walking and biking in Grand Junction. A key directive of the *One Grand Junction Comprehensive Plan* was to develop a citywide Pedestrian and Bicycle Plan.

Prior to this PBP, the city developed an Active Transportation Corridor map as part of the 2018 *Grand Junction Circulation Plan* and adopted a complete streets policy in 2018. Both efforts set Grand Junction on a path to improve the pedestrian and bicycle network. The continued growth of e-products (LEVs) is an important consideration of this plan. In addition, the city has been gradually making infrastructure improvements over the past two decades, such as adding new sidewalks, widening sidewalks, improving pedestrian crossings, and adding bike lanes, guided in part by the Urban Trails Committee (UTC). However, many of these improvements are often done piecemeal without a cohesive larger vision. This PBP fills this gap, building off the Active Transportation Corridors and complete streets policy, and providing a vision and clear guidance based on community priorities.

Benefits of Investing in the Pedestrian and Bicycle Environment

The benefits to the community of improving the pedestrian and bicycle network in Grand Junction are far-reaching, including to public health, equity, economic access, private investment, and quality of life:

- **Public Health:** Improved physical and mental health outcomes for community members as well as reduced instances of fatal and injury crashes for people walking and biking.
- **Equity:** Increased equity by providing more transportation choices that are accessible and affordable, particularly to the most vulnerable populations, including youth, seniors, people with disabilities, and low-income households that often rely on walking and bicycling as primary modes of transportation.
- **Access to Transit:** Safe and comfortable routes to transit facilities for those who cannot drive or choose not to drive.
- **Quality of Life**: More opportunities for community members to interact and connect, building social capital in the city, while providing opportunities to be outside experiencing Grand Junction's abundant sunshine.
- **Environmental:** Strengthened environmental sustainability through improved air quality by providing better options for people to travel without a motorized vehicle.
- **Economic:** Improved access to jobs and services, benefiting both employees and employers, increasing economic productivity, as well as increasing the attractiveness of Grand Junction for economic investment.

Coordination with the Transportation Design and Engineering Standards (TEDS) Manual Update

The PBP was developed in coordination with the first update to Grand Junction's Transportation Design and Engineering Standards (TEDS) Manual in nearly 20 years. The TEDS Manual provides regulatory guidance on street design and other transportation related standards in the city. The TEDS Manual is used by city engineers and private developers whenever a new street is constructed or an existing street is reconstructed. The TEDS Manual dictates key active transportation infrastructure design elements, such as the width and placement of sidewalks and bike lanes within different street contexts. Coordinating development of the PBP with the update to the TEDS Manual ensures that the vision for the future pedestrian and bicycle environment and amenities is reflected in the city's transportation design standards. The updated TEDS Manual will be a key component of implementing the PBP.

Implementing Complete Streets in the City of Grand Junction

The Complete Streets Vision is to develop a safe, efficient, and reliable travel network of streets, sidewalks, and urban trails throughout the city of Grand Junction to equitably serve all users and all modes of transportation. Complete Streets will provide residents improved access, safety, health and environment.

The purpose of the policy is to commit to improvements that are planned, designed, constructed, operated, and maintained to support safe, efficient, and convenient mobility for all roadway users—pedestrians,

bicyclists, people who use mobility devices, transit riders, freight traffic, emergency response vehicles, and motorists—regardless of age or ability.

Complete streets are necessary to expand everyone's mobility choices for safe and convenient travel by different modes between destinations throughout Grand Junction and are designed, appropriate to the context, to balance safety and convenience for everyone using the road.

What's Included in this Plan?

This PBP includes the following key elements that will be used by the city to guide implementation:

- **Existing Conditions & Community Engagement Key Findings** – Based on the findings of the *Existing Conditions and Needs Assessment* report which is provided in **Appendix A**.
- **Vision, Goals, and Objectives** – Based on priorities identified by the community.
- **Bicycle Network Plan** – Includes a map illustrating the long-term vision for the future bicycle network, planned bicycle facility types, and infrastructure design guidance.
- **Pedestrian Network Plan** – Includes sidewalk and pedestrian crossing policy and design guidance to build out the pedestrian network.
- **Program & Policy Recommendations** – To support active transportation use and infrastructure implementation.
- **Implementation & Prioritization** – To guide systematic implementation of the long-term vision.

Inclusive Community Engagement

The approach to community engagement in developing the PBP recognizes that Grand Junction does not have one voice or one perspective, but is a conglomeration of individuals and families that represent a diverse set of backgrounds, perspectives, and experiences. As such, engagement was conducted in a manner to be inclusive and representative of these diverse perspectives. This was achieved through three distinct strategies:

- Providing a variety of methods for the public to participate including through an online survey, an in-person public open house, via the project website, and interacting with the public at over a dozen in-person community events.
- Conducting nine focus groups with representatives of groups that are directly impacted by the walking and biking environment and can sometimes be difficult to reach through traditional engagement means, such as students (college and K-12), people experiencing homelessness, disabled persons, seniors, and the Spanish speaking community among others.

KEY THEMES

of Plan Development

Two themes are important to acknowledge as they served as overarching principles in developing the PBP.
These include:

1

An inclusive approach to community engagement.

2

A conscientious effort to address the needs for both people walking and people biking.

- Lastly, the PBP was guided by a 17-member Steering Committee selected from a pool of over 70 interested citizens that applied for that role. Selection of the Steering Committee was based on criteria to ensure representation was geographically diverse, inclusive of different age groups and professions, and representative of vulnerable or underrepresented users, such as individuals with disabilities, youth, low-income populations, and service industry workers.

Altogether, the vision, goals, and recommendations included in the PBP reflect the input received through this broad and inclusive public engagement process.

Both a Pedestrian AND a Bicycle Plan

People walking, rolling, and biking are human-scale, have negligible emissions, and primarily bear the cost burden of travel. Unfortunately, they are also more vulnerable users that are more susceptible to severe injury in a crash and often do not have the option to drive. For these reasons, the PBP was developed to address the needs of all of these users. However, the needs of pedestrians, people with mobility challenges, and bicyclists are also often inherently different and the PBP provides guidance that addresses the unique needs of all active transportation user groups. Please also refer to the definitions section of the plan that defines the various froms of transportation.

Best Practices in Pedestrian & Bicycle Design

The design recommendations included in this plan are based on best practices from local and national resources. A leading resource in urban bicycle design is the National Association of Transportation Officials (NACTO). Other resources for pedestrian and bicycle design include the American Association of State Highway Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), and the Colorado Department of Transportation (CDOT).

The following publications were used to inform design guidance in the PBP and will be useful resources for city planners and engineers to consult during implementation:

- NACTO *Urban Bikeway Design Guide*
- NACTO *Don't Give Up at the Intersection: Design All Ages and Abilities Bicycle Crossings*
- AASHTO *Guide for Development of Bicycle Facilities*
- FHWA *Guide for Improving Pedestrian Safety at Uncontrolled Intersections*
- CDOT *Roadway Design Guide: Chapter 14 Bicycle and Pedestrian Facilities*
- CDOT *Pedestrian Crossing Installation Guide*

Context Sensitive Design

Context Sensitive Design establishes design elements based on the context and character of the street. The City of Grand Junction has a wide variety of settings, unique landscapes, and environmental conditions. Any facility identified in this plan will need to take into consideration existing conditions and characteristics of the surrounding area to ensure that design is context sensitive.

This principle provides and promotes sufficient flexibility to allow application of appropriate roadway elements and dimensions to different situations within the city. Different standards for street cross-sections may be appropriate for a bike or pedestrian facility as it travels through urban, suburban and rural transects, reflecting the different roles of roadway infrastructure among these different transects. Additionally, Context Sensitive Design takes into account existing building encroachments and constraints in right-of-way widths to adjust the facility type where needed.

CHAPTER 2.

EXISTING CONDITIONS & OUTREACH SUMMARY

This section provides a brief summary of analysis performed and key findings of the public outreach and existing conditions assessment of the pedestrian and bicycle environment in Grand Junction. Please refer to the Existing Conditions & Needs Assessment Report in Appendix A for a complete summary.

Key Outcomes of the Existing Conditions Analysis

The *Existing Conditions & Needs Assessment Report* included a review of existing relevant plans, mapping of the existing pedestrian and bicycle network, a level of traffic stress analysis for people walking and biking for every street in Grand Junction, development of an Active Transportation High Injury Network based on existing crash data, and summary of existing pedestrian and bicycle use in Grand Junction based on available data. Key outcomes of these analyses are provided below. Please consult **Appendix A** for more detail on these findings.

Relevant Plans

Key relevant plans and documents to the PBP include the *One Grand Junction Comprehensive Plan*, The *Grand Junction Circulation Plan*, The Mesa County *Regional Transportation Plan*, Grand Junction's Complete Streets Policy, the Fire Code, and the Zoning and Development Code. The Active Transportation Corridors that were developed as part of the *Grand Junction Circulation Plan* were reevaluated and updated as part of the PBP. These corridors serve as the backbone for the vision of the future bike network and key pedestrian corridors in Grand Junction.

Existing Pedestrian Network

Mapping walkways in Grand Junction revealed that the condition of the existing pedestrian network varies considerably by location in the city. **Figure 1** shows the three existing sidewalk types. Many of the major streets in Grand Junction currently have a sidewalk, but there are notable gaps as well with missing or narrow sidewalks, including (but not limited to).

- North Avenue
- Patterson Road
- 24 Road (over US 50/US 6)
- 28 Road
- 9th Street (south of downtown)
- Several key connections in the Orchard Mesa Neighborhood, such as US 50, B ½ Road, 27 Road, and 28 ½ Road.

Of particular importance are streets with missing or inadequate sidewalks along the Active Transportation Corridors, collector and arterial streets, and at major crossings of the Colorado River, railroad tracks, and highways. Analysis revealed there are limited existing options that connect across the river and railroad tracks which separate key destinations in the city.

FIGURE 1: EXISTING SIDEWALK TYPES MAPPED IN GRAND JUNCTION

Existing Bicycle Network

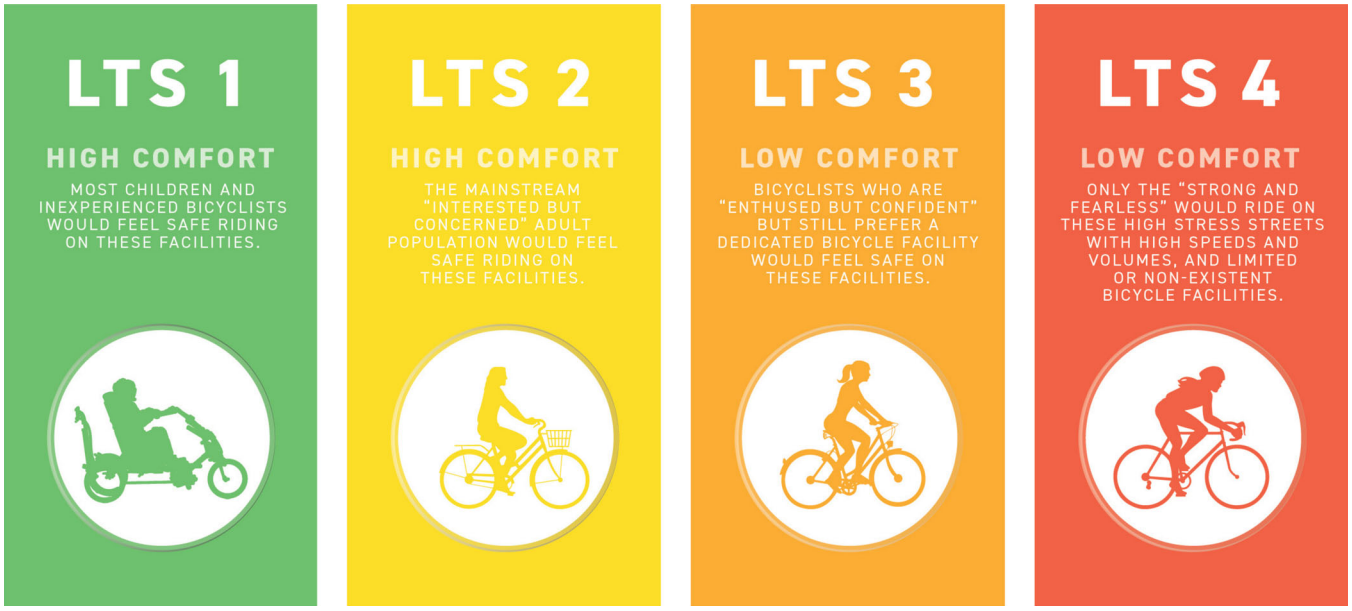
Grand Junction currently has four general types of bicycle facilities as shown in **Figure 2**, including separated multi-use trails, on-street bike lanes, on-street buffered bike lanes, and signed bike routes. One of the city's most used facilities and a key asset for bicycle mobility across the city is the Riverfront Trail that parallels the Colorado River, generally running east–west. Most of the existing bike facilities overlap with the city's designated Active Transportation Corridors. However, the existing bike network is disconnected in many places. Most of the Active Transportation Corridors currently lack bike facilities, and in many parts of the city multi-use trails, bike lanes and bike routes on low volume streets end abruptly. Key gaps in the bike network include, but are not limited to, sections of: 7th Street and 12th Street, North Avenue, Patterson Road, 24 Road, and Orchard Avenue. Similar to the pedestrian network, there are a limited number of crossings of the Colorado River, railroad tracks, and highways (notably US 50 and I-70B) that divide the city and serve as barriers for people walking and biking.

FIGURE 2: EXISTING BICYCLE FACILITY TYPES IN GRAND JUNCTION

Level of Traffic Stress Maps

A methodology and maps of the Level of Traffic Stress (LTS) on a scale of 1 to 4 for people walking, rolling, and biking on all streets in Grand Junction were developed (see **Appendix A**). Streets with LTS 1 and 2 are considered low stress, while streets with LTS 3 or 4 are considered higher stress for people walking, rolling, and biking, see **Figure 3**. The LTS maps show critical gaps in the pedestrian and bicycle network where the existing facilities do not provide a sufficient level of comfort for people walking, rolling, and biking given key characteristics of the streets, including the volume and speed of traffic, and the number of travel lanes. In general, streets with more traffic, higher speeds, and/or more travel lanes require a higher degree of separation for people walking and bicycling to feel safe and comfortable. The LTS maps were a critical component is developing recommendations for the active transportation network and street design.

FIGURE 3: BICYCLE LEVEL OF TRAFFIC STRESS (LTS) MEASURES



Active Transportation High Injury Network

An Active Transportation High Injury Network (HIN) Map was developed representing the streets with the highest concentration of pedestrian and bicycle involved crashes in the city (see map in **Appendix A**). The HIN map shows that over 80% of pedestrian and bicycle crashes occur on just 5% of city streets. Focusing resources and investment on upgrading active transportation facilities and making safety improvements on these streets will have the greatest impact on improving bicycle and pedestrian safety in Grand Junction. The HIN is an important evaluation tool for project prioritization.

About 84% of all pedestrian and cyclist-involved crashes occurred on just 5% of city streets, which are identified as part of the Active Transportation High Injury Network.

FIGURE 4: PEDESTRIAN & CYCLIST SAFETY FINDINGS

Pedestrian and Bicycle Demand

In addition to community input which helped reveal important corridors for people walking, rolling, and biking, Strava Metro Data was used to identify important corridors in the city for people walking and biking. This showed key corridors through downtown as well as popular routes used to cross the Colorado River and railroad tracks.

Community Engagement

Community input was an important driver in identifying the vision and goals for the PBP, including understanding existing concerns from the community, informing recommendations, and prioritizing improvements. With a goal of being inclusive and representative of these diverse perspectives across the city, including reaching those most impacted by pedestrian and bicycle infrastructure, the engagement process was multifaceted and comprehensive.

Engagement included an online survey with an interactive webmap, an in-person community open house, nine focus group meetings, a dozen intercept events across the city, and formation of a 17-person resident Steering Committee that guided plan development. In all, over 2,000 touch points were made with the community through this process including over 660 survey responses, and over 1,000 comments on the interactive webmap as shown in **Figure 6**.

Over 75% of survey respondents reported driving as their primary mode of transportation. Thus, community input reflects the input of both regular bicyclists and non-bicyclists.

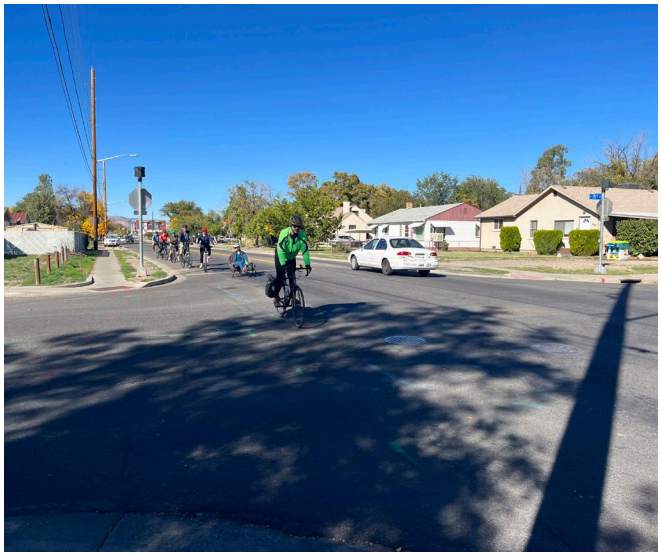


FIGURE 5: OUTREACH EVENTS

PEDESTRIAN & BICYCLE PLAN

COMMUNITY PARTICIPATION

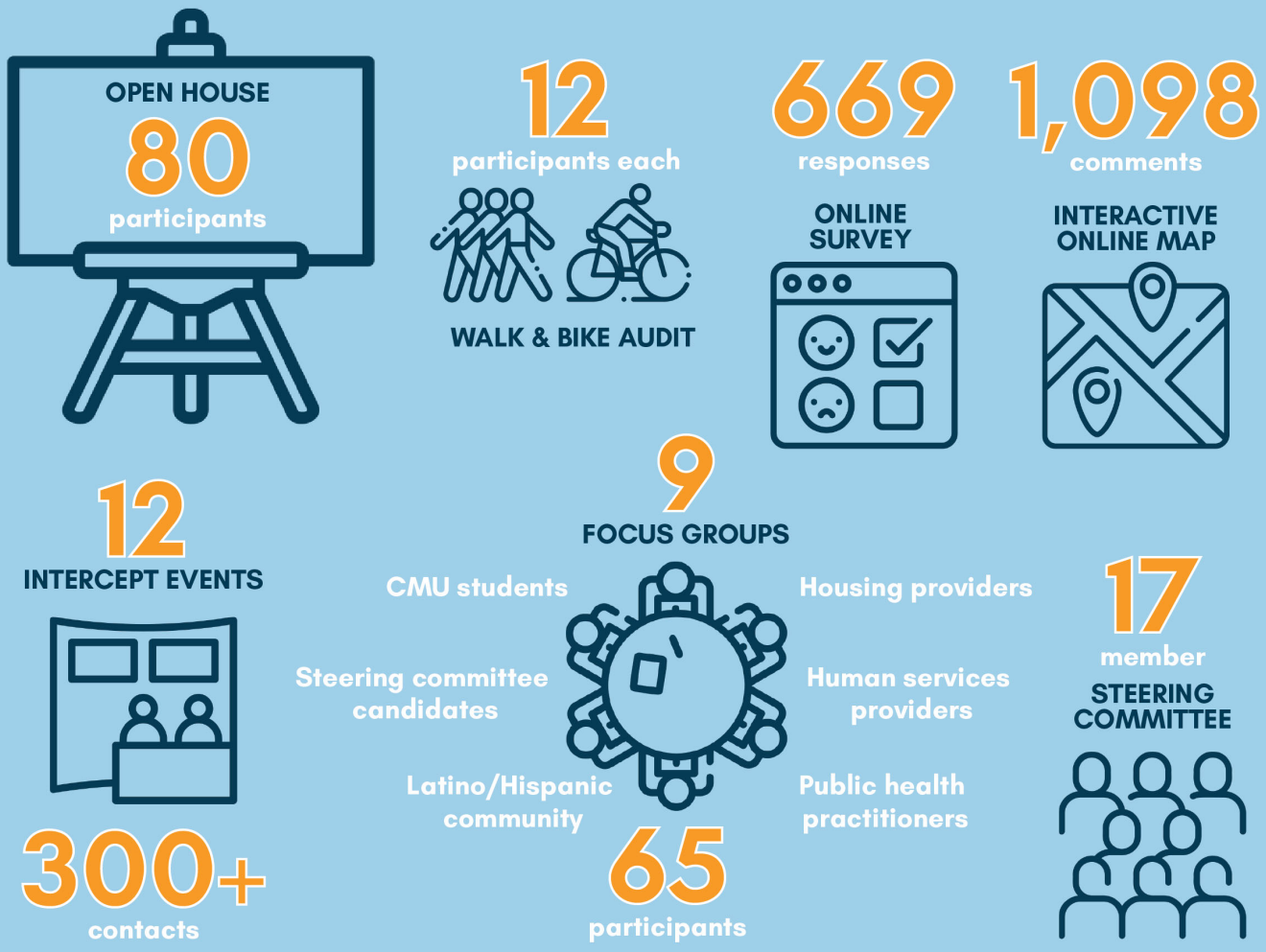


FIGURE 6: SUMMARY OF COMMUNITY PARTICIPATION

Key Outcomes of Community Engagement

Appendix A provides a detailed summary of outcomes of community engagement. Key highlights include:

- **Improve Traffic Safety** – Safety emerged from the visioning process at the open house and online survey as a top theme. It was also a high priority identified in the focus groups and from the Steering Committee. A lot of people would like to walk and bike more and would like kids to be able to walk and bike more in Grand Junction, but don't feel safe doing so in many areas of the city.
- **Improve Active Transportation Infrastructure** – The community consistently reiterated their desire for more sidewalks, wider sidewalks, more bike trails, more bike lanes, wider bike lanes, and more facilities separated from traffic on busy, higher-speed streets.
- **Missing Connections** – The public acknowledged many great existing walk and bike facilities in Grand Junction, including the Riverfront Trail, but because there are missing connections in the network, and due to difficulty crossing major streets, many people are not able to or do not feel comfortable walking, rolling, and biking places.
- **Key Destinations** – Several important destinations were reiterated by the community, including downtown, the Riverfront Trail, CMU, Mesa Mall, K-12 schools, and medical clinics and businesses, particularly along North Avenue and Patterson Road.
- **Key Connections Across Barriers** – A common theme emerged in discussion and feedback received by the community is that there are a limited number of ways to cross the Colorado River, railroad tracks, and highways (including US 50 and I-70B) and many of the existing corridors across these barriers do not adequately support people walking/rolling and biking. These connections are critical for people to connect from downtown, CMU, and the Mesa Mall on the north side of the city to the Riverfront Trail, the Redlands, and Orchard Mesa on the south side of the city.
- **Riverfront Trail** – The Riverfront Trail is a key east-west connection for both recreational and utilitarian active transportation in Grand Junction and connecting to/from the Riverfront Trail should be an important aspect of the future pedestrian and bicycle network.
- **Unmet Demand** – The community would like to be able to walk and bike more frequently and to more places in Grand Junction, but are not comfortable doing so due to inadequate infrastructure and key missing connections in the pedestrian and bicycle network.

95% of survey respondents said they would like to be able to walk and bike more in Grand Junction.

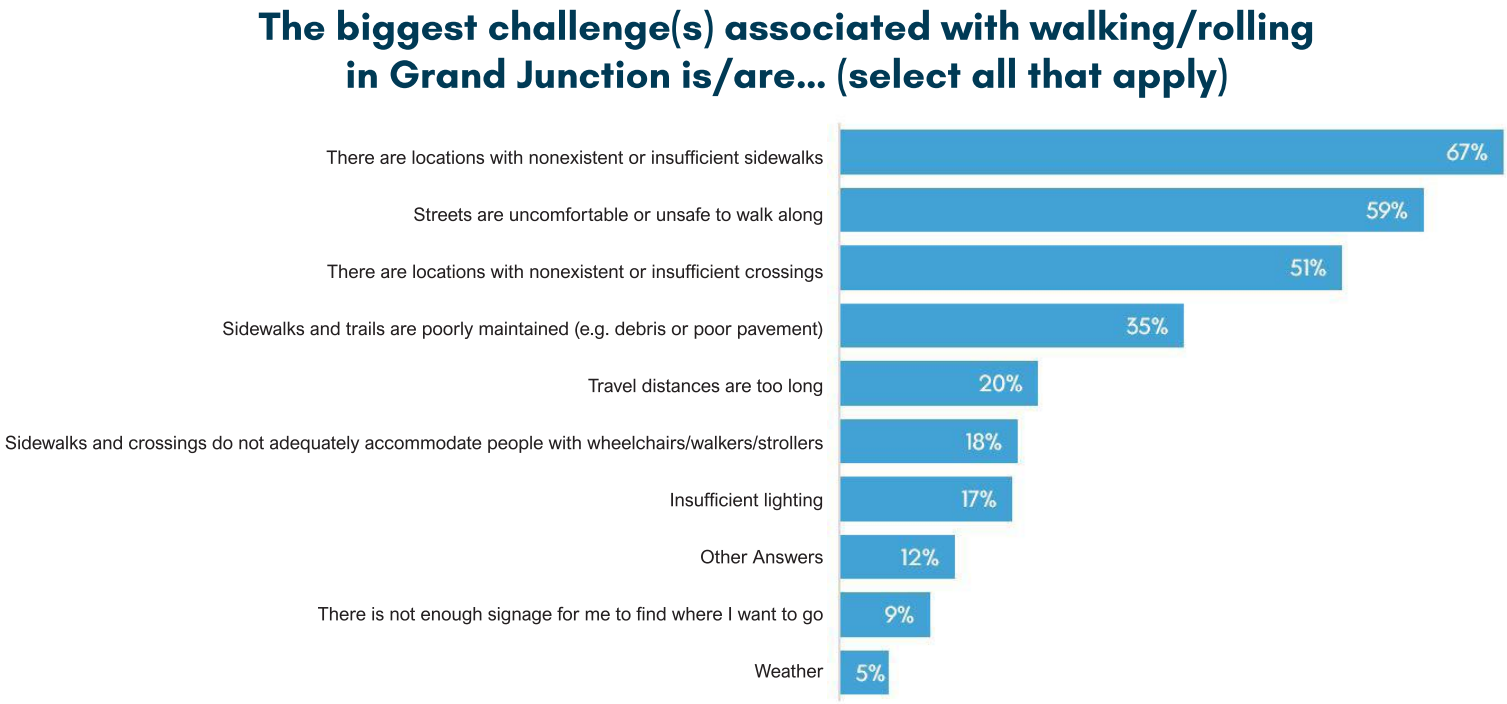


FIGURE 7: SURVEY RESPONSES ON CHALLENGES WALKING AND ROLLING

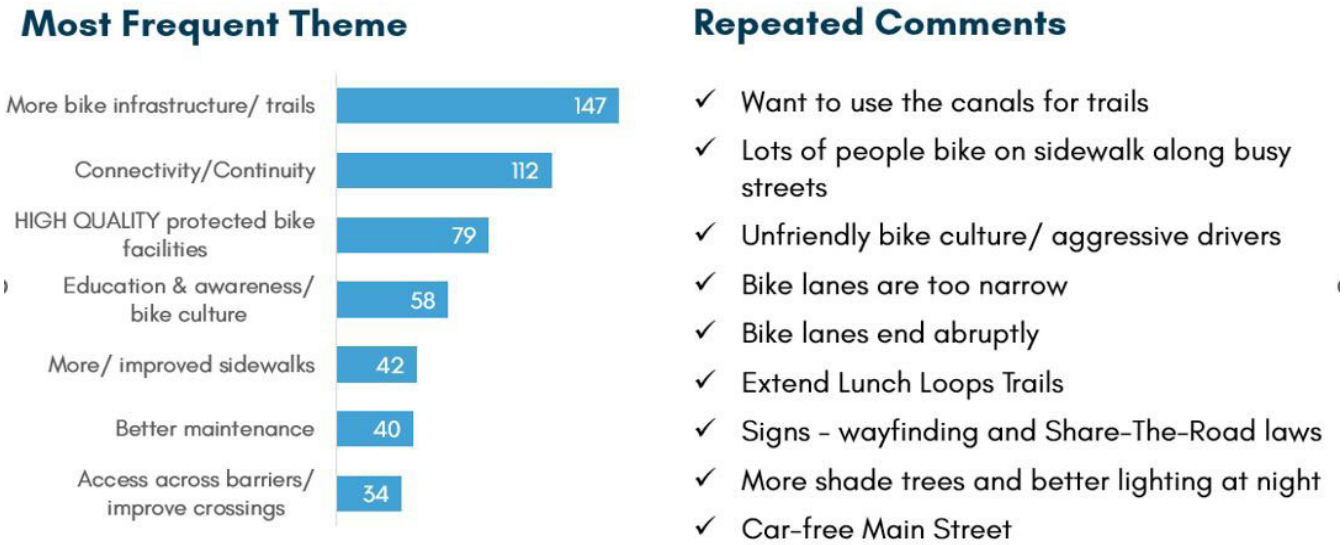


FIGURE 8: COMMON THEMES OF 593 GENERAL COMMENTS RECEIVED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MKX
ASV-L33

CHAPTER 3.

VISION & GOALS

The following general definitions provide the basis for how the vision, goals, and objectives were developed for the PBP:

Vision: Thinking about the future with wisdom and/or imagination. Something to be pursued. The end result.

Goals: The desired end result of any number of efforts. A goal defines the direction and destination, changes the direction of the city toward the end result.

Objectives: All about the tactics. Objectives are action items to get from where we are to where we want to be. A goal defines the direction and destination, but the road to get there is accomplished by a series of objectives.

The vision and goals were developed based on input received from the community engagement process, including the Steering Committee, public open house, and focus groups as well as the outcomes of the 669 visioning survey responses received from the online survey as shown in **Figure 9**.

FIGURE 9: COMMUNITY VISION FOR WALKING AND BIKING IN GRAND JUNCTION FROM 669 SURVEY RESPONSES

VISION

Grand Junction is a city where people of all ages and abilities can safely and conveniently walk, roll, and bike on a connected network of well-maintained facilities for transportation or recreation.

GOALS

The five goals identified to move the city towards its vision are: equitable, safe, connected, multimodal community, and quality. Each goal is further defined in this section.

Equitable

Design and operate the communities' streets and right-of-way to reasonably enable convenient access and travel for people walking and biking of all ages, abilities, and income levels and prioritize improvements that benefit vulnerable users and underserved areas.

Safe

Improve perceived and real safety by reducing the level of traffic stress (LTS) and reducing bicycle and pedestrian involved crashes. Invest and implement countermeasures at and along segments of the Active Transportation High Injury Network where there are known safety challenges.

Connected

Provide convenient access to Community Attractions and reduce the need for out of direction travel. Increase the number of direct and low-stress connections to key destinations within the city.

Multimodal Community

Facilitate a pleasant experience that creates a sense of place, that increases separation of pedestrians/rollers/bicyclists from vehicular travel lanes and makes travel without a vehicle a viable option for more people.

Quality

Invest in high-quality facilities that minimize the level of traffic stress experienced by travelers using the corridor and are well-maintained.

Equitable

OBJECTIVES

E1: Design crossings with ADA accessible pedestrian ramps, detectable surfaces, and other universal design features.

E2: Prioritize locations for sidewalk gap completion or rehabilitation according to the strategy outlined in the Prioritized Pedestrian Network section.

E3: Prioritize bike project locations according to the tiers established in the Prioritized Bicycle Network Map.

Safe

OBJECTIVES

S1: Conduct a signalization feasibility study as a first step to determine what improvements are needed at signalized crossings.

S2: When upgrading bike facilities on a corridor, incorporate suggested intersection treatments to reduce stress of bicycle crossings, and ensure continuity of high-comfort facilities.

S3: When upgrading pedestrian facilities on a corridor, incorporate suggested intersection treatments to reduce stress of crossings, and ensure continuity of high-comfort facilities.

S4: Conduct a lighting needs assessment for each active transportation corridor as a first step in identifying lighting needs for safety improvements.

S5: Bolster the existing Safe Routes to School program by incorporating new elements of the six Es.

S6: Work with local driving schools to expand the curriculum on laws governing interactions with people walking, rolling, and biking.

S7: Partner with law enforcement to increase enforcement of speeding and reckless driving in areas with high pedestrian volumes and/or safety issues and consider automated enforcement. Consider expanding the police bike patrol unit.

S8: Improve the North Avenue access management policy in alignment with national best practices and consider expanding to all the Active Transportation “High Injury Network” Corridors.

S9: Join the statewide program – Moving Towards Zero Deaths – as a first step in solidifying a citywide commitment to supporting multimodal travel through ensuring all trips in the community are as safe as possible.

Connected

OBJECTIVES

C1: Complete bike facilities on the Active Transportation Corridors as shown in the Future Bicycle Network Map.

C2: Strengthen enforcement and compliance of the existing construction zones policy that requires developers/construction companies to provide pedestrian pathways and bicycle facilities during construction.

C3: Require new developments to provide or set aside space for pedestrian and bicycle connections within the local street network of new developments and to adjacent streets in situations where there is a lack of connectivity in the roadway network.

C4: Develop an ordinance mandating a minimum level of street connectivity. A more densely connected or gridded network makes for a more walkable and bikeable area by increasing route options and reducing out of direction travel. Connectivity can be defined by a "connectivity index," the ratio of pedestrian and bicycle connections to blocks (or intersections). Consider reducing the maximum distance between pedestrian and bicycle connections to be less than the existing maximum block length for vehicular access of 1200 linear feet.

Multimodal Community

OBJECTIVES

M1: Prioritize installation of bike and micromobility parking and secure storage in key destinations downtown, outside of city properties, and near major transit hubs, parks, schools, employment centers, and shopping areas.

M2: Encourage new and existing developments to provide secure bike parking and amenities through requirements and incentives.

M3: When upgrading bicycle and/or pedestrian facilities on a corridor, design high-quality landscaped or hardscaped buffers with street furniture and pedestrian amenities.

M4: Grand Junction's streets shall be designed as public amenities and include aesthetic elements such as street trees, landscaping, pedestrian lighting, street furniture, and wayfinding signage wherever possible.

M5: When upgrading bicycle and/or pedestrian facilities on a corridor, concurrently plan for the upgrade of lighting in the project area.

M6: Initiate a comprehensive wayfinding and signage study to create a consistent strategy for connecting people walking, biking, and driving to downtown and other key destinations.

M7: As the city continues to build out bike facilities and new trails over time, incorporate additional signs with the same wayfinding standards at decision points.

M8: Improve signage on the Riverfront Trail.

M9: Close the gaps on first-and-last mile connections through the deployment of shared micromobility devices (e-scooters, e-bikes, etc.) and utilize geofencing and parking corrals to accommodate device parking in high-traffic areas.

Multimodal Community

OBJECTIVES CONTINUED

M10: Develop a community-wide incentive program and work with large employers to implement a Guaranteed Ride Home program to encourage and support bike commuters. Incentives can include e-bike rebates, bike-themed events such as bike rodeos and Bike to Work Day, shwag such as bike lights and helmets, and gift certificates for those who bike to City events. Guaranteed Ride Home provides commuters who did not drive to work with alternative means home in case of an emergency.

M11: Establish a more positive culture around walking and biking in Grand Junction by creating staff position(s) to assist in public education, promoting the Bicycle Friendly Business program, and/or hosting an LCI seminar.

M12: Explore incentives-based Transportation Demand Management (TDM) measures, into which major developments could opt, to provide support for walking and biking. These could include constructing Active Transportation Corridors, bike facilities, showers, car share, or other support for bike commuters.

M13: Revise the parking minimum standards for different land uses to better align with the community's goals; reducing development costs associated with excessive parking to allow for innovations, flexibility, and greater affordability.

Quality

OBJECTIVES

Q1: Install high-comfort bike facilities on the Active Transportation Corridors as recommended in the Future Bicycle Network Map and according to the design guidance in the Bicycle Facility Types section.

Q2: Install high-comfort sidewalks and trails according to the design guidance in the Pedestrian Facility Types section.

Q3: Develop a set of maintenance standards and a maintenance plan to prioritize upkeep of the active transportation network.

Q4: Utilize existing and pursue new funding sources support construction and maintenance of the expanded system.

Q5: Consider expanding the SRTS program by diversifying funding sources to include CDOT funding in addition to dedicated CDBG funding.

Q6: Continue the current policy where planned Active Transportation Corridors that run through or adjacent to a site be constructed as part of the development.

Q7: Explore and pursue funding opportunities to support continual capital construction and maintenance of the projects listed in this plan.

Q8: To the greatest extent practicable given budget constraints include pedestrian and bicycle facilities in all street projects and phases, including new construction, reconstruction, resurfacing, and maintenance.

Q9: Approach every transportation project and program as an opportunity to improve streets and the transportation network for all users, and work in coordination with other departments, agencies and jurisdictions.

Q10: Implement bicycle and pedestrian improvement projects by integrating with other city standard procedures.

CHAPTER 4.

BICYCLE NETWORK PLAN

The bicycle network plan in this section includes the following:

- **Active Transportation Corridors map update.** Includes updates since the original map developed in the 2018 Grand Junction Circulation Plan. This map represents the vision for the ultimate backbone network once completely built out.
- **Bicycle facility design.** Includes a description of the preferred design user that bike facilities will be designed to support.
- **Bicycle facilities by type.** Includes a description of each type of bicycle facility and provides general design guidelines for each.
- **Bicycle network map.** As supported by the Plan's vision, the future bicycle network map shows the alignment and recommended facility types of future bike corridors across the city.
- **Street/intersection crossings.** Includes bicycle crossing guidance to improve comfort and convenience for bicyclists at intersections.

Updated Active Transportation Corridors

The 2018 *Grand Junction Circulation Plan* identified a network of Active Transportation Corridors across the city. The corridors were identified as those that provide continuous and convenient connections for bicyclists and pedestrians and may be on the road network or separate trail. The Active Transportation Corridors are the vision for the backbone of the future bicycle network in Grand Junction and also represent key pedestrian corridors in the city.

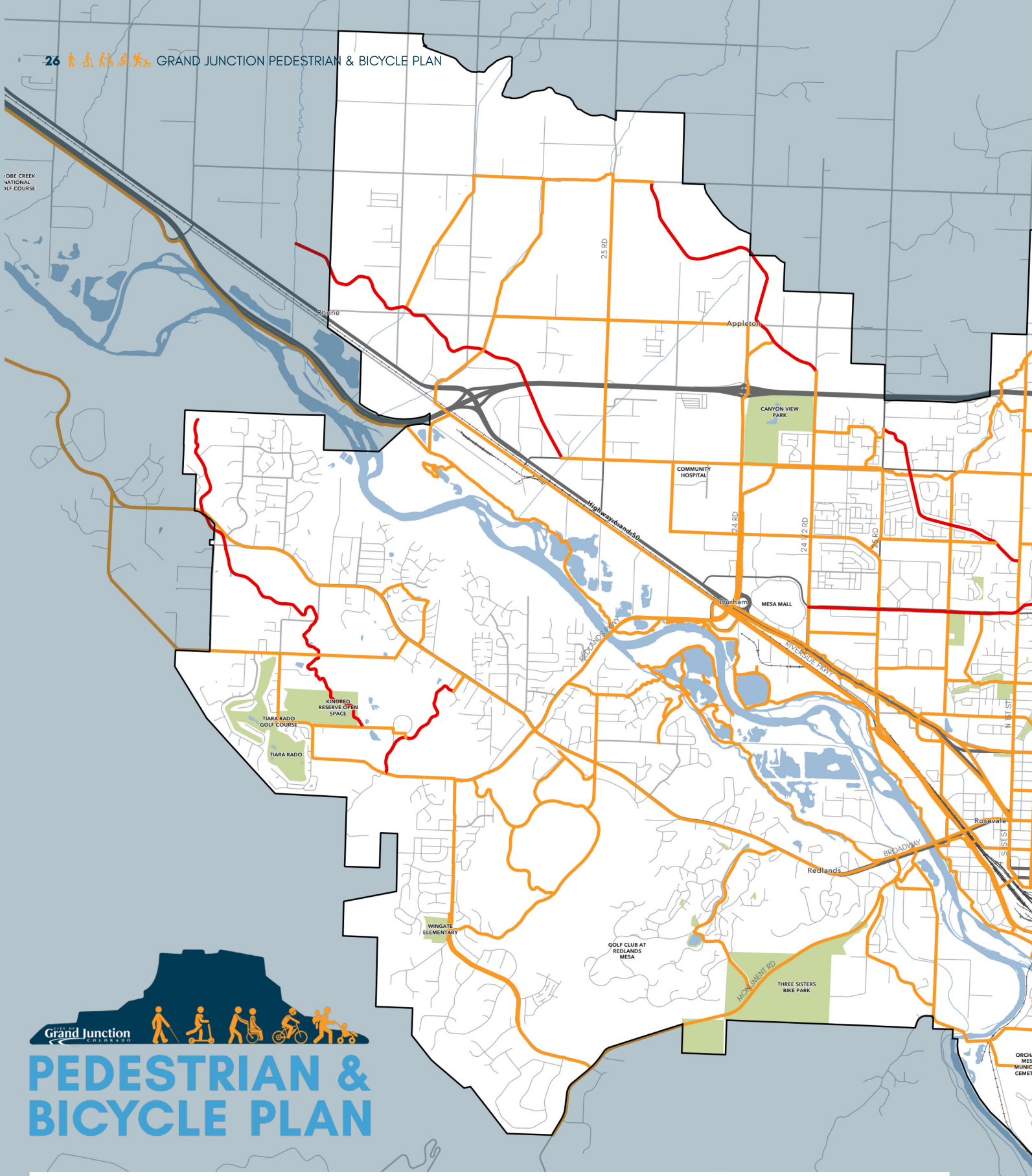
As part of the planning process for the PBP, the Active Transportation Corridors developed as part of the 2018 *Grand Junction Circulation Plan* were reevaluated and numerous additions and modifications were made based on input from the community (particularly from the 1,098 comments received from the online interactive map), the Steering Committee, and city staff.

This process resulted in approximately 32 additions to the Active Transportation Corridors from the previous plan, listed in **Table 1**. The additions reflect planned developments, provide additional redundancy in the system (particularly in the core of the city), and provide more direct east-west and north-south connections for people walking and biking. These modifications also improve the feasibility, comfort, convenience, connectivity, and access to key destinations of the bike network. Note: **Table 1** includes a list of additions to the planned Active Transportation Corridors. For a list of planned bicycle projects see the tables by neighborhood starting on page 34 or **Appendix B**.

Many of the new connections added are on local streets that will be designated as bike boulevards (see description of bike boulevards below). These connections will provide additional low-stress options for people biking and fill in key gaps in the network.

TABLE 1: ACTIVE TRANSPORTATION CORRIDOR ADDITIONS

Segment	Miles
5th Street (Orchard to Downtown) & 4th Street (North to Downtown) with Belford Avenue connection	2.0
7th Street (missing segment)	0.4
9th Street (Main to Riverside Parkway)	0.8
Cannell Avenue / 9th Street / Little Bookcliff Drive	1.1
12th Street south of Main (new crossing of railroad)	0.8
28 Road (Riverside Parkway to Riverfront Trail)	0.6
Ridge Road (28 1/4 Rd to 27 1/2 Rd) / 28 1/4 Road	1.0
F 1/2 Road (29 Rd to 30 1/2 Rd)	1.5
Patterson Road (7th St to Independence Ranchman's Ditch)	0.3
Elm Street (3rd Street to 12th Street)	0.9
Gunnison Ave (24th St to 29 Rd)	1.2
Grand Ave (1st Street to 12th Street)	1.0
Main Street (missing segment)	0.5
West Main / Crosby / Base Rock Street	1.1
D Road (9th to Riverside & 29 Rd to 30 Rd)	1.5
Dos Rios Bridge (2nd Street to Riverfront Trail)	0.2
Redlands 360	4.7
C 1/2 Road (27 1/2 Rd to 29 Rd)	1.5
Cheyenne Drive / Hopi Avenue (Unaweep to Eagle Rim Park)	0.7
Indian Wash Trail (Matchett Park to 29 Road / I-70 Commercial Area)	1.3
D Road (Monument Road to Rosedale Road)	0.3
S Redlands Road (Monument Road to Rosedale Road)	1.1
30 Road (B Road to US-50 and C Road to B 1/2 Road)	1.2
I-70 Business Loop south side (12th Street to Warrior Way)	4.5
C Road (30 Road to 31 Road)	1.0
Chestnut Drive / G 1/2 Road (26 Road to 27 Road)	1.1
Hill Court / Gunnison Avenue / Ol' Sun Drive (30 Road to E Road)	1.1
30 1/2 Road / Wedgewood Avenue (D1/2 Road to D Road)	0.5
15th Street (Elm Avenue to Gunnison Avenue)	0.5
Pear Park Corridor (Trail / Sandpiper Avenue / Colorado Avenue from 30 Road to 31 Road)	1.2
B 3/4 Road (Durant Street to 30 Road)	0.6
29 3/4 Road (B 3/4 Road to B 1/2 Road)	0.2



City of Grand Junction Colorado

PEDESTRIAN & BICYCLE PLAN

- Planned Active Transportation Corridor
- Planned Active Transportation Corridor (Canal - See Note)
- Railroads
- Parks
- Urban Development Boundary

Street Classification

- Local
- Collector
- Arterial
- Highway

"Active transportation" is self-propelled, human-powered transportation modes like walking or biking.

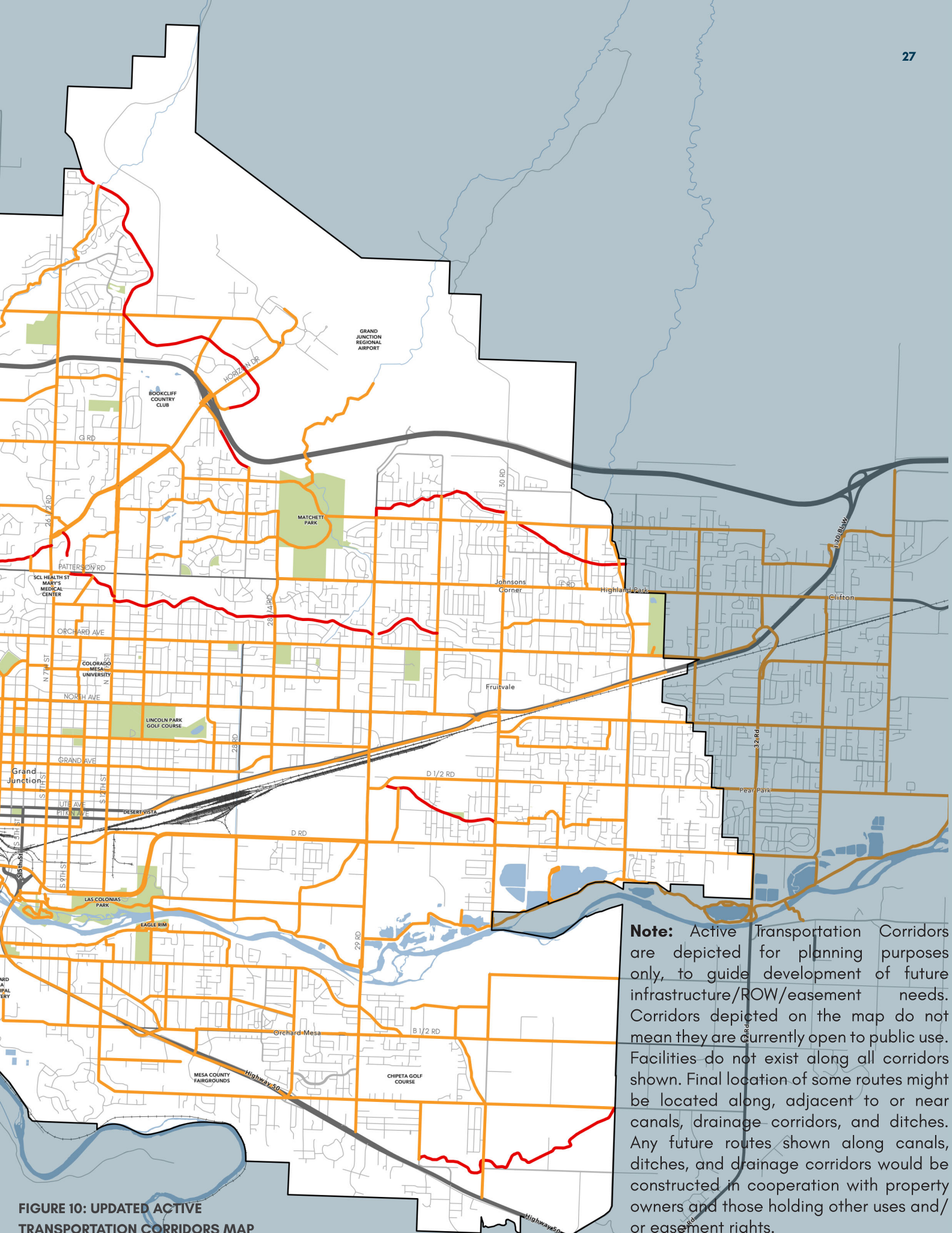


FIGURE 10: UPDATED ACTIVE TRANSPORTATION CORRIDORS MAP

Note: Active Transportation Corridors are depicted for planning purposes only, to guide development of future infrastructure/ROW/easement needs. Corridors depicted on the map do not mean they are currently open to public use. Facilities do not exist along all corridors shown. Final location of some routes might be located along, adjacent to or near canals, drainage corridors, and ditches. Any future routes shown along canals, ditches, and drainage corridors would be constructed in cooperation with property owners and those holding other uses and/or easement rights.

Preferred Design User

Based on input from the community, Steering Committee, and city staff, this plan sets forth a goal to have low-stress, high-comfort bike facilities on all Active Transportation Corridors shown in **Figure 10**. Low-stress facilities are defined as those that score an LTS 1 or LTS 2 on the LTS 1-4 rating system as shown in **Figure 11**, meaning they cater to all ages and abilities. Future bicycle facilities in Grand Junction will cater to the most cautious design user, ranging from children, older adults, and people with mobility challenges to the most "strong and fearless" bicyclist. Designing bike facilities to support the "interested but concerned" riders, which represent roughly 60% of the population, will ensure all residents and visitors of Grand Junction can feel comfortable choosing to bike.[1]

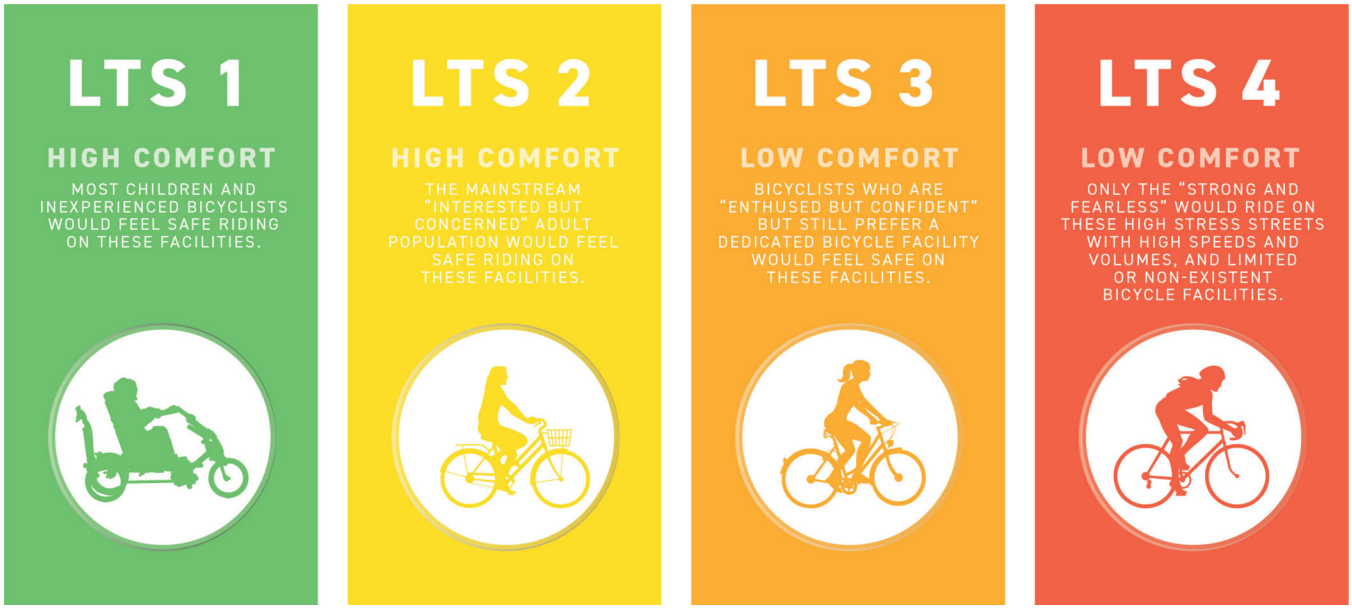
[1] Geller R. (2006). Four Types of Cyclists. Portland Bureau of Transportation. Retrieved from http://www.portlandoregon.gov/transportation/article/264746.

Bicycle Facility Types

Bicycle facility types recommended in the Future Bicycle Network map in **Figure 19** are those needed to achieve an LTS 1 or 2 on Active Transportation Corridors based on the roadway speed, number of lanes, and traffic volumes. This section describes the toolbox of bicycle facility types (summarized in **Figure 12**) and basic design guidance for each type, with more specific guidance found in the updated TEDS Manual. Design guidance is based primarily on NACTO recommendations.

All bicycle facilities will accommodate both directions of travel. Most on-street facilities will be designed as one-way on each side of the street. Multiuse trails will also be on both sides of the street in most contexts to serve land uses on both sides of the street. Protected bike lanes and raised cycle tracks will also typically be designed as one-way on both sides of the street, but can be also be designed as two-way facilities. In these situations special design considerations will be needed at intersections and driveways, especially at signalized intersections. The NACTO Urban Bikeway Design Guide provides guidance on two-way cycle track design.

FIGURE 11: BICYCLE LEVEL OF TRAFFIC STRESS (LTS) MEASURES



PEDESTRIAN & BICYCLE PLAN

BICYCLE FACILITY GUIDE

NOTE: Recommendations shown are the minimum facilities needed to create a high-comfort environment for biking, given street characteristics. Facilities with greater separation and protection than the minimum option are desirable and sometimes warranted.

BIKE BOULEVARD

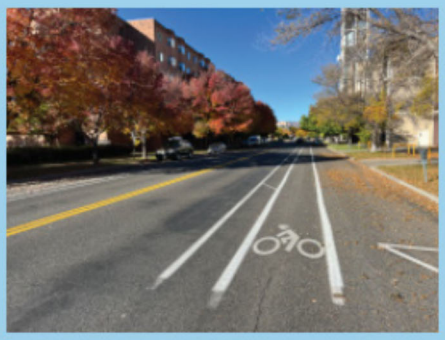
May include sharrow markings & bike route signage, traffic calming elements like curb extensions, mini roundabouts, traffic diverters

Recommended on streets with:
Low speeds (25 mph or lower), low traffic volumes (1,000 cars per day or fewer), few travel lanes (up to two), parallel routes to major arterials

BIKE LANE

Painted stripe, usually 6' or wider

Recommended on streets with:
Few travel lanes and/or low speeds (two lanes up to 35 mph or three to four lanes up to 25 mph)



BUFFERED BIKE LANE

Painted stripe, usually 5' or wider with 1.5' or wider buffer

Recommended on streets with:
Three to four travel lanes and speeds of 30 or 35 mph

PROTECTED BIKE LANE

Bike lane 5' or wider, protected by 3' or wider buffer such as flex posts, planters, rigid bollards, parking strip, or concrete barriers

Recommended on streets with:
High speeds (40 mph or greater), many travel lanes (more than four)

RAISED CYCLE TRACK

Bike lane 6.5' or wider, elevated from street level to curb height or mid-curb height, separated from sidewalk and roadway

Recommended on streets with:
High speeds (40 mph or greater), many travel lanes (more than four)

TRAIL

Multi-use path 10' feet or wider, separated from the roadway by a high-quality buffer

Recommended on streets with:
High speeds (40 mph or greater), many travel lanes (more than four)

FIGURE 12: BICYCLE FACILITY GUIDE

Table 2 summarizes the minimum bike facility to achieve an LTS 2 or better given the street characteristics of speed, number of travel lanes, and volume. In some cases, a higher comfort facility is recommended than what is shown in Table 2 given other context-sensitive characteristics, such as volume of motor vehicles, volume of bicyclists, frequency of large trucks. The city may also elect to provide a higher comfort facility than what is listed on Table 2 to achieve an LTS 1. Notably, if the city chooses to reduce the speed and/or number of lanes on a street as part of a corridor project, the recommended minimum bike facility may change. It is recommended that changes to posted speed are accompanied by geometric design changes and traffic calming interventions to be effective. While using the posted speed is acceptable when identifying the best bicycle facility for a given street it is preferred to use the 85th percentile operating speed when possible.

TABLE 2: MINIMUM BIKE FACILITY RECOMMENDED TO ACHIEVE LTS 2 OR BETTER GIVEN STREET CHARACTERISTICS

			Lanes		
			1-2	3-4	5+
Speed	<25 mph	≤ 1,000 ADT	Bike Boulevard	Bike Lane	Trail, Cycletrack, or Protected Bike Lane
		> 1,000 ADT	Bike Lane		
	25-30 mph		Bike Lane	Bike Lane	Trail, Cycletrack, or Protected Bike Lane
	30-35 mph		Bike Lane	Buffered Bike Lane	Trail, Cycletrack, or Protected Bike Lane
	40+		Trail, Cycletrack, or Protected Bike Lane	Trail, Cycletrack, or Protected Bike Lane	Trail, Cycletrack, or Protected Bike Lane

Recommendations shown are the minimum facilities needed to create a high-comfort environment for biking, given street characteristics. Facilities with greater separation and protection than the minimum option are desirable and sometimes warranted.

Streets with more than four through lanes, and streets with speeds greater than or equal to 40 mph will require a trail, cycletrack, or protected bike lane.

Trail

Trails will be designed to serve both pedestrians and bicyclists, including people on electric and non-electric mobility devices and electric bikes that meet city standards and obey the city speed limits.

To achieve at least an LTS 2, trails should be at least 10 feet wide and preferably 12 feet, with a 5-foot buffer on local streets, 8-foot buffer on collector streets, and 12-foot buffer on arterials. Striping on major trails can help separate opposing traffic where needed, especially in areas where visibility is limited due to trail curvature. In locations with high concentrations of both pedestrians and bicyclists that may increase frequency of conflict the city may consider widening the trail to 12 feet or 14 feet, or providing separate facilities for pedestrians and bicyclists, such as a 6-foot sidewalk and a raised cycle track (see Raised Cycle Track description).

In a constrained environment with limited right-of-way behind the curb, trails should be as wide as possible, with an absolute minimum width of 8 feet and a minimum buffer width of 2 feet.

Raised Cycle Track

To achieve an LTS 1, raised cycle tracks must be 6.5 feet or wider, with 8 feet or 10 feet suggested for streets with higher volumes of bicyclists. They should be raised from street level between 2 and 6 inches and have horizontal and/or vertical separation from the sidewalk. Buffers should be at least a one-foot mountable curb when adjacent to travel lanes, or 3-foot raised curb buffers when adjacent to parking lanes. Refer to the Raised Cycle Track section of the NACTO *Urban Bikeway Design Guide* for additional design guidance for raised cycle tracks.

Streets with three to four lanes and speeds of 30 or 35 mph will require a buffered bike lane.

Buffered Bike Lane

Buffered bike lanes (with horizontal buffer) must be 5 feet or wider, and 7 feet is recommended along streets with high volumes of bicyclists or uphill sections to allow passing or side-by-side riding. Buffers should be at least 1.5 feet, and buffers 3 feet or wider should include diagonal hatching. Separation may also be provided between bike lane striping and the parking lane to reduce door conflicts. Refer to the Buffered Bike Lanes section of the NACTO *Urban Bikeway Design Guide* for additional design guidance.

FIGURE 13: TRAIL ELEMENTS

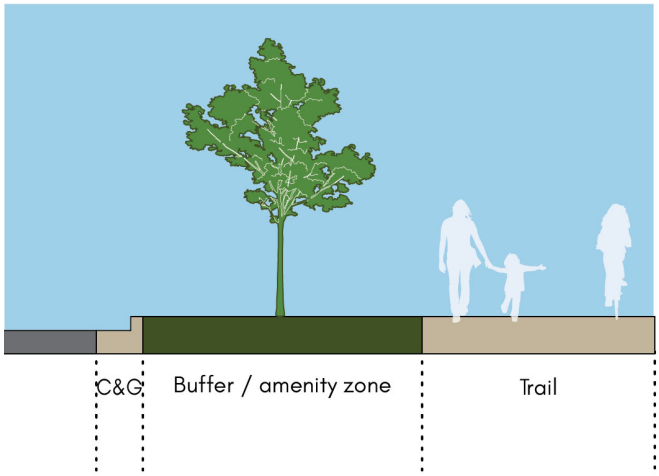


FIGURE 14: RAISED CYCLE TRACK ELEMENTS

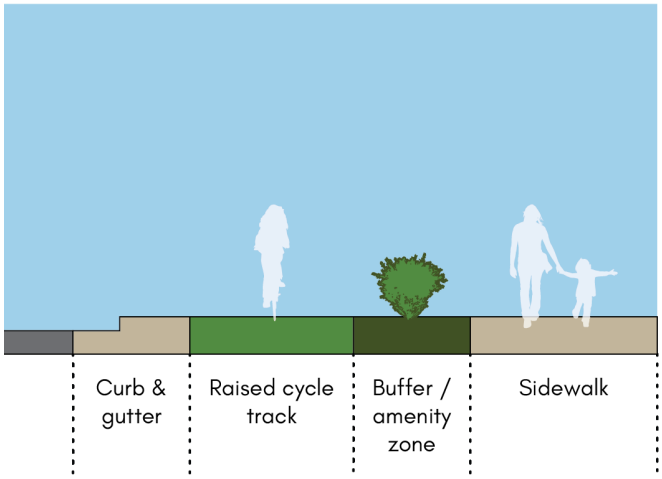
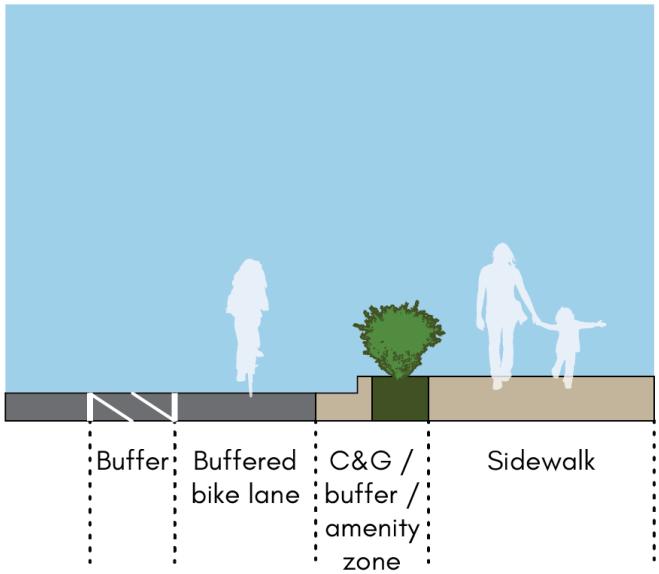


FIGURE 15: BUFFERED BIKE LANE ELEMENTS

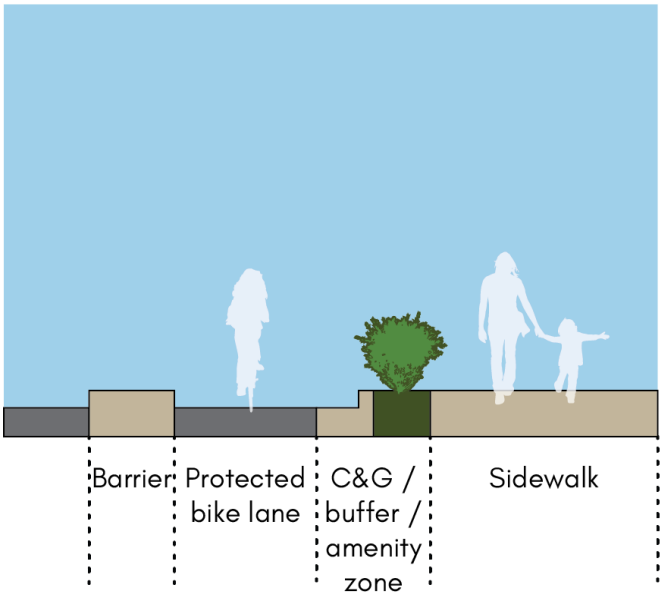


Protected Bike Lane

To achieve an LTS 1, protected bike lanes (with vertical buffers) must be 5 feet or wider, with 7 feet or wider suggested for streets with higher volumes of bicyclists or uphill sections to allow passing. They should have buffers of 3 feet or wider, even when parking protected. Possible barriers include flex posts, planters, rigid bollards, parking strips, and/or concrete barriers. Refer to the One-Way Protected Cycle Track section or Two-Way Cycle Track section of the NACTO *Urban Bikeway Design Guide* for additional design guidance for protected bike lanes.

Streets with three to four lanes and speeds less than 30 mph and streets with two or fewer lanes will require a striped bike lane.

FIGURE 16: PROTECTED BIKE LANE ELEMENTS

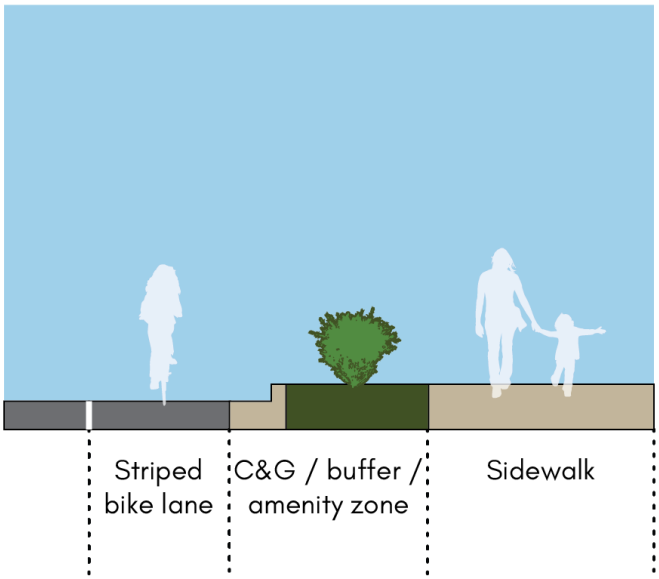


Striped Bike Lane

Striped bike lanes adjacent to a curb face should be 6 feet, with 4 feet of width from the longitudinal joint (such as a gutter pan) preferred and an absolute minimum of 3 feet of width from the gutter pan. When placed adjacent to a parking lane, bike lanes without a buffer must be 5 feet or wider, and the width from the curb face to the edge of the bike lane should be at least 14 feet and in constrained environments the width should be not less than 12 feet from the curb when adjacent to parking. Refer to the Conventional Bike Lanes section of the NACTO *Urban Bikeway Design Guide* for additional design guidance.

Major arterials on the active transportation network are all eligible for bicycle boulevards on adjacent local streets, if there is a parallel and relatively direct connection. This treatment is also appropriate on low speed (25 mph or less), low volume (1,000 ADT or less), and narrow streets (1 or 2 lanes).

FIGURE 17: STRIPED BIKE LANE ELEMENTS



Bike Boulevards

Bike boulevards are more than just a "shared street" with cars and bicycle traffic sharing the same space. These boulevards often incorporate traffic diversion and/or traffic calming to limit vehicle traffic to local residents on the street and to reduce speeds to no more than 15 to 20 mph to create a more comfortable environment for people biking. Of particular importance along bike boulevards are providing treatments at major street crossings to allow for a comfortable means for bicyclists to cross (see the Bicycle Crossing Guidance section). According to the NACTO *Urban Bikeway Design Guide*, bicycle boulevards incorporate some or all of the following elements, with examples shown in **Figure 18**:

1. **Route Planning:** Direct access to destinations
2. **Signs and Pavement Markings:** Easy to find and to follow
3. **Speed Management:** Slow motor vehicle speeds
4. **Volume Management:** Low or reduced motor vehicle volumes
5. **Minor Street Crossings:** Minimal bicyclist delay
6. **Major Street Crossings:** Safe and convenient crossings
7. **Offset Crossings:** Clear and safe navigation
8. **Green Infrastructure:** Enhancing environments

FIGURE 18: EXAMPLE CHARACTERISTICS OF BICYCLE BOULEVARDS

Future Bicycle Network Map

Figure 19 shows the existing bike facilities and recommended future bike facility types in Grand Junction. This map illustrates the long-term vision for the bicycle network in Grand Junction. These recommendations are the minimum type of bike facility needed to achieve an LTS 1 or 2 (or provide a high-comfort facility that caters to all ages and abilities) on each Active Transportation Corridor, based on posted speed limits, existing traffic volume, and existing number of lanes on the roadway.

Facilities will generally follow the routes on the Future Bicycle Map, but can also be located along a parallel street (generally within one block) if found to be more feasible during implementation.

Neighborhood Maps

Maps and tables of projects by priority for each neighborhood are also provided. Refer to the Implementation & Prioritization chapter for how projects were prioritized.

Abbreviations for Minimum Recommended Facility Type

- BB – Bike Boulevard
- BL – Bike Lane
- BBL – Buffered Bike Lane
- T or CT or PBL – Multiuse Trail or Cycle Track or Protected Bike Lane

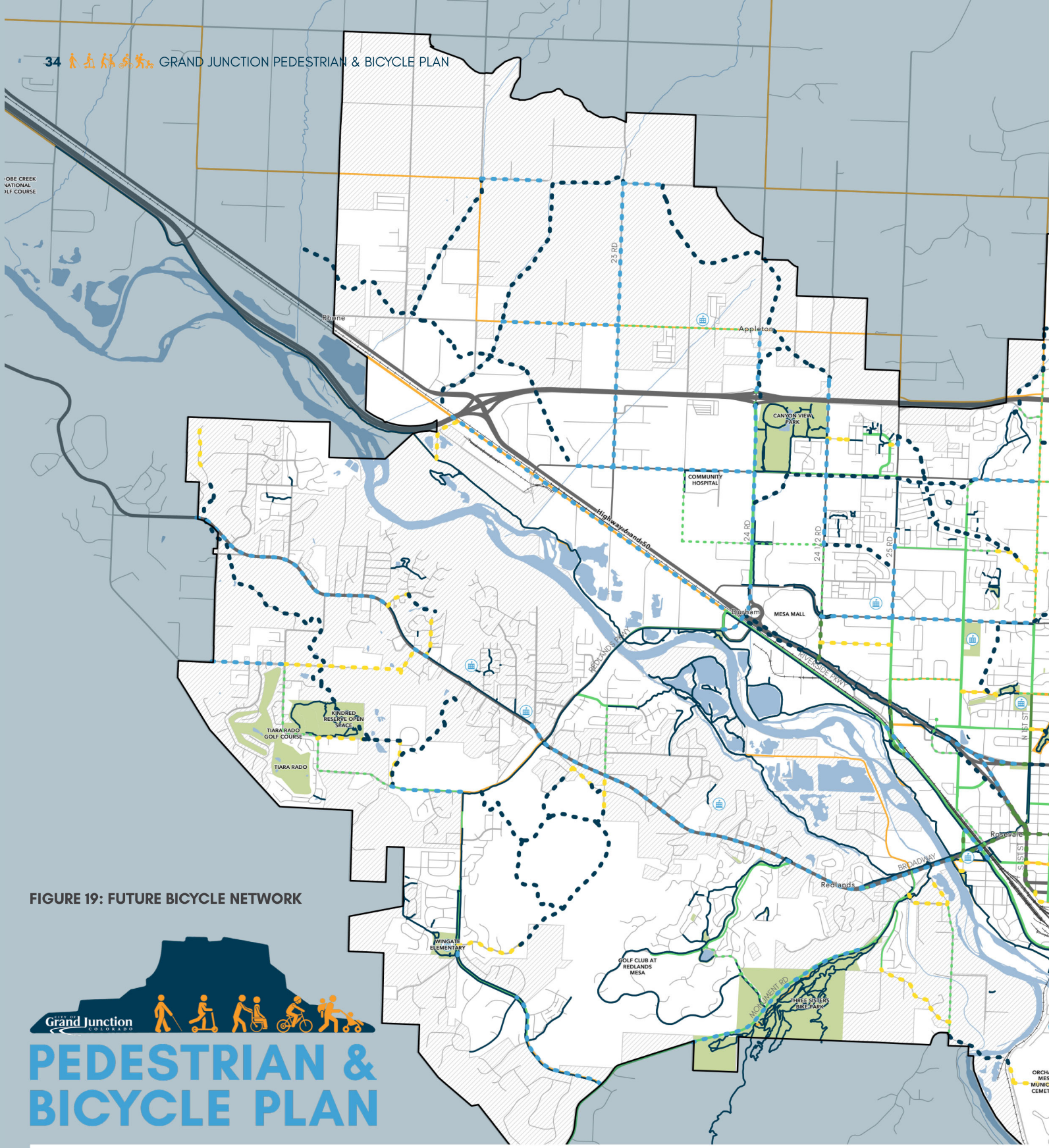


FIGURE 19: FUTURE BICYCLE NETWORK

PEDESTRIAN & BICYCLE PLAN

LEGEND

- Unincorporated Mesa County
- Urban Development Boundary
- Parks
- Railroads
- Schools

Street Classification

- Local
- Collector
- Arterial
- Highway

Existing Bicycle Facilities

- Signed Bike Route
- Striped Bike Lane
- Buffered Bike Lane
- Trail

Bicycle Facility Recommendation

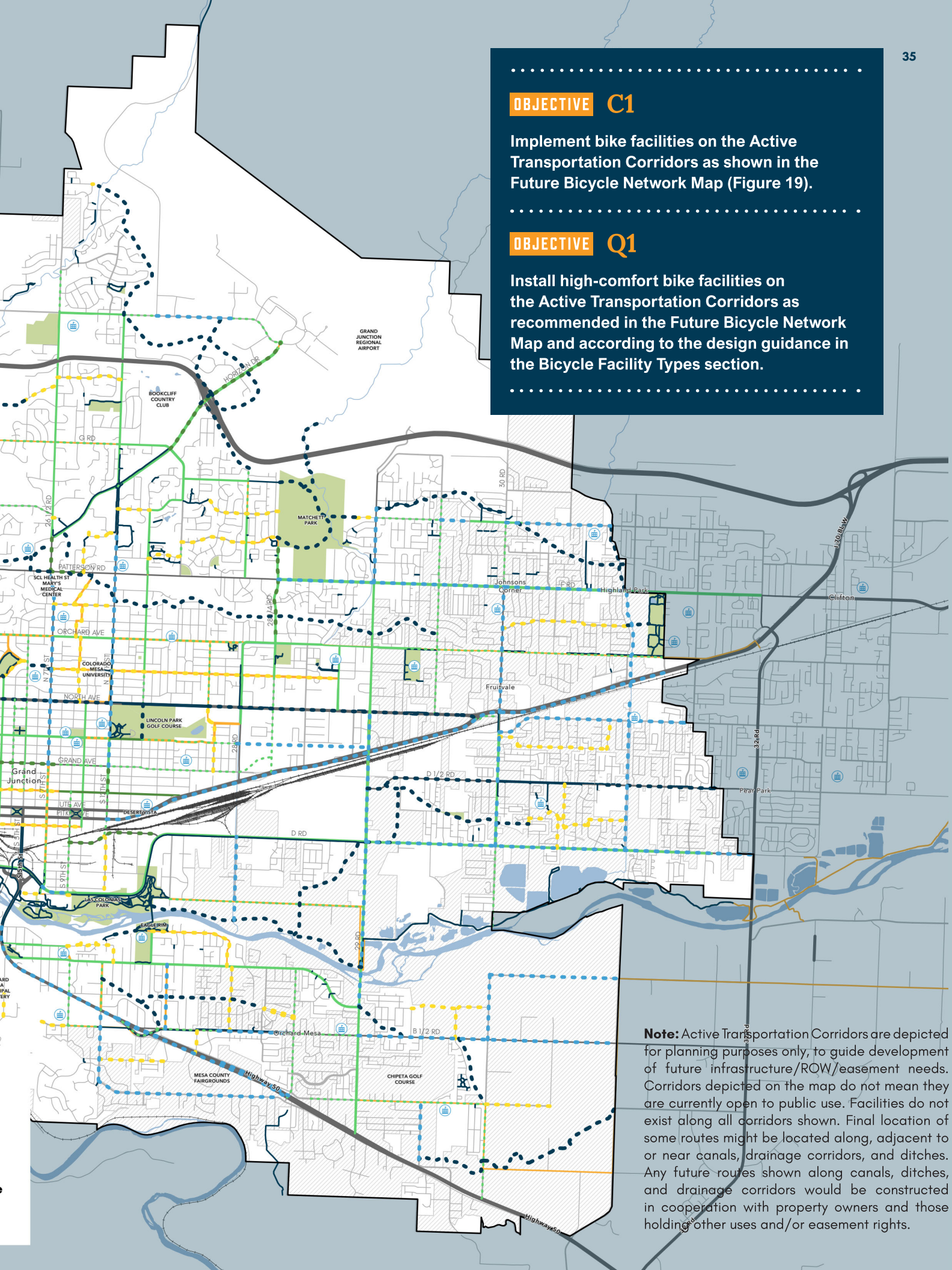
- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Trail, Cycletrack, or Protected Bike Lane
- Trail

OBJECTIVE C1

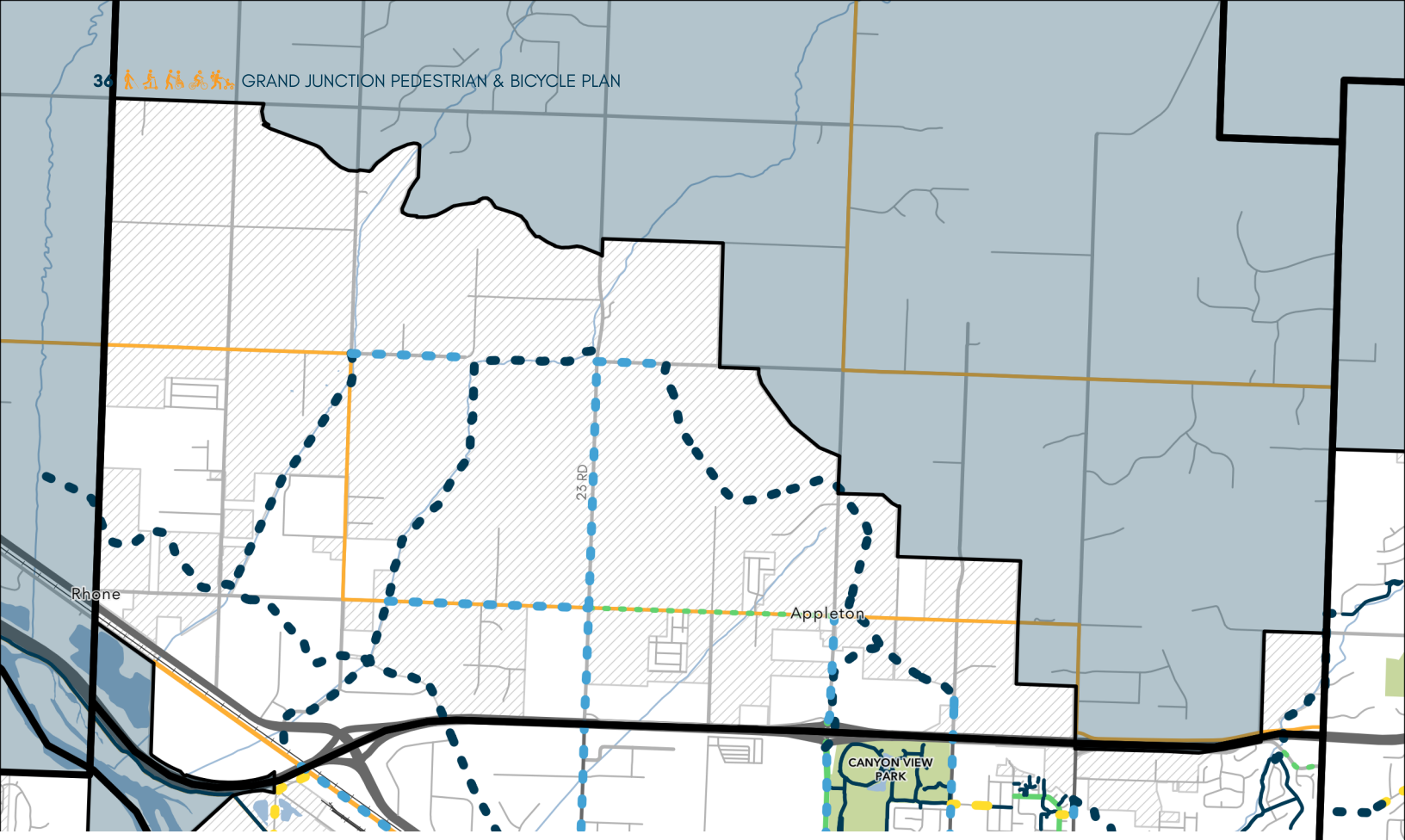
Implement bike facilities on the Active Transportation Corridors as shown in the Future Bicycle Network Map (Figure 19).

OBJECTIVE Q1

Install high-comfort bike facilities on the Active Transportation Corridors as recommended in the Future Bicycle Network Map and according to the design guidance in the Bicycle Facility Types section.



Note: Active Transportation Corridors are depicted for planning purposes only, to guide development of future infrastructure/ROW/easement needs. Corridors depicted on the map do not mean they are currently open to public use. Facilities do not exist along all corridors shown. Final location of some routes might be located along, adjacent to or near canals, drainage corridors, and ditches. Any future routes shown along canals, ditches, and drainage corridors would be constructed in cooperation with property owners and those holding other uses and/or easement rights.



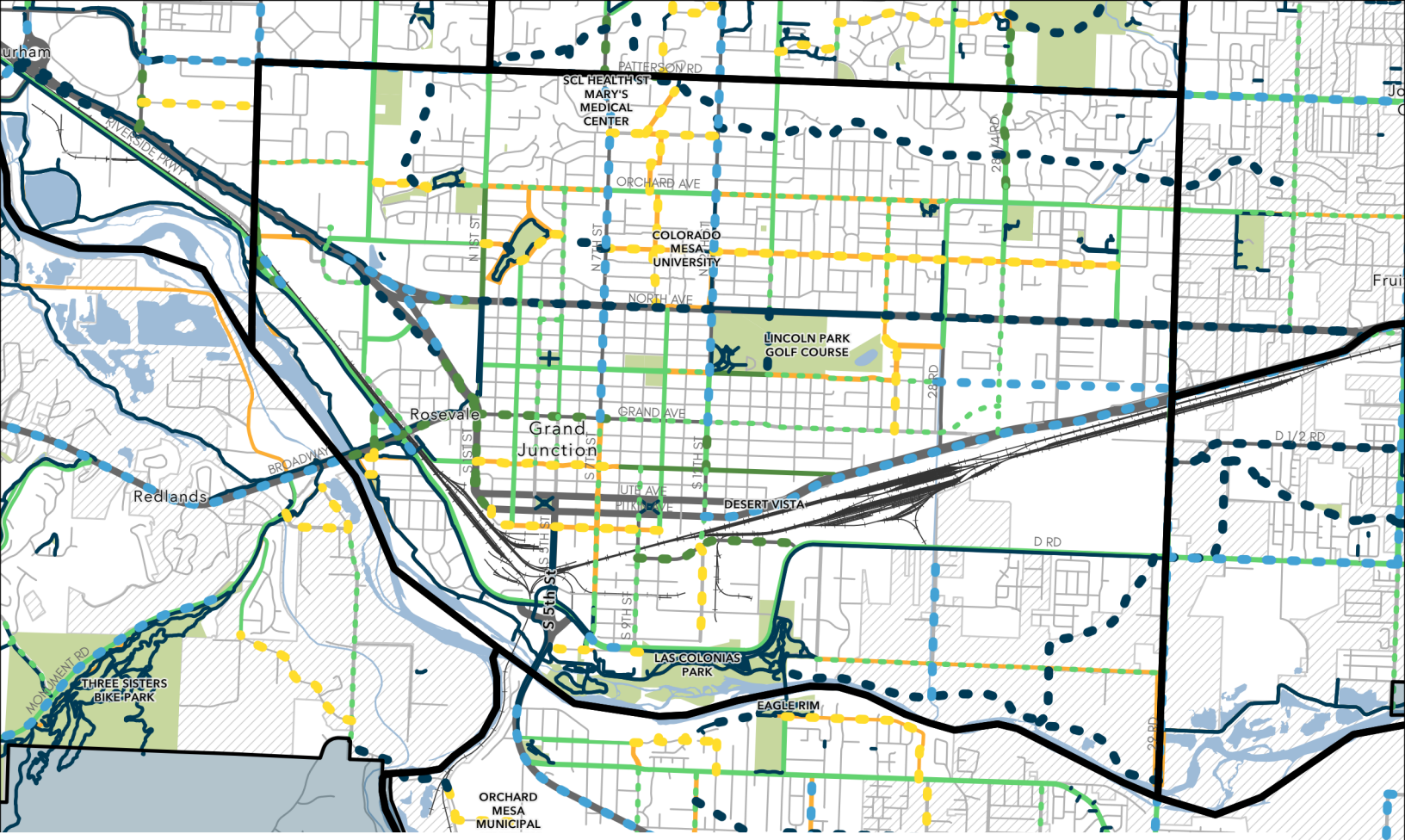
Appleton

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
23 RD	I RD	G RD	2.00	T or CT or PBL
24 1/2 RD	S OF KELLEY DR	S OF AJAY AVE	1.19	T or CT or PBL
FUTURE ATC TRAIL	HUNTER WASH N OF HWY 6 AND 50	G RD W OF ARROWEST RD	2.80	T
FUTURE ATC TRAIL	W OF 24 1/2 RD S OF H RD	24 RD S OF I70 FRONTAGE ROAD	0.55	T

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
24 RD	H RD	I70 FRONTAGE RD	0.42	T or CT or PBL
26 RD	FREEDOM DR	KELLY DR	0.29	T
FREEDOM DR	26 RD	FREEDOM WAY	0.06	T
FUTURE ATC TRAIL	I RD	HWY 6 AND 50	2.41	T
FUTURE ATC TRAIL	KELLEY DR / 26 RD	BEAVER LDG N OF EGRET CIR	0.40	T
FUTURE ATC TRAIL	I RD E OF 23 RD	24 1/2 RD S OF KELLEY DR	2.19	T
FUTURE ATC TRAIL	23 RD / I RD	NE OF 21 1/2 RD / H RD	1.09	T
H RD	23 RD	24 RD	1.00	BL
H RD	NEW TRAIL E OF 22 RD	23 RD	0.82	T or CT or PBL
I RD	22 RD	22 1/2 RD	0.46	T or CT or PBL
I RD	23 RD	NEW TRAIL E OF 23 RD	0.29	T or CT or PBL
RIVER RD	I70 FRONTAGE RD	PARKWAY RAMP	2.37	T or CT or PBL



LEGEND

Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification
- Local
- Collector
- Arterial
- Highway

Existing Bicycle Facilities
- Signed Bike Route
- Striped Bike Lane
- Buffered Bike Lane
- Trail

Bicycle Facility Recommendation
- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Trail, Cycletrack, or Protected Bike Lane
- Trail

City Center

High Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
26 1/2 RD	HORIZON DR	PATTERSON RD	0.26	BBL
26 RD	KELLY DR	PATTERSON RD	1.78	BL
28 1/4 RD	ELM AVE	I70 BUSINESS LOOP	0.74	BL
29 RD	E NORTH AVE	RIVER BEND LN	2.16	T or CT or PBL
BELFORD AVE	N 4TH ST	N 5TH ST	0.09	BL
BROADWAY	RIVERSIDE TRAIL	SPRUCE ST	0.51	BBL
BROADWAY	22 1/2 RD	RIVERSIDE TRAIL	3.39	T or CT or PBL
CANNELL AVE	ELM AVE	E NORTH AVE	0.26	BB
CANNELL AVE	ORCHARD AVE	TEXAS AVE	0.18	BB
D RD	S 9TH ST	RIVERSIDE PKWY	0.72	BBL
ELM AVE	N 7TH ST	COLLEGE PL	0.33	BB

ELM AVE	N 12TH ST	28 3/4 RD	1.75	BB
FUTURE ATC TRAIL	N 5TH ST N OF ELM CT	ELM AVE / N 7TH ST	0.21	T
FUTURE ATC TRAIL	PATTERSON RD W OF W PARK DR	W ORCHARD AVE / LAKESHORE DR	0.53	T
FUTURE ATC TRAIL	N 12TH ST N OF BOOKCLIFF AVE	29 RD N OF PINYON AVE	2.10	T
FUTURE ATC TRAIL	PATTERSON RD W OF VIEWPOINT DR	N 12TH ST S OF WELLINGTON AVE	0.43	T
FUTURE ATC TRAIL	W OF WILLOWBROOK RD AND E OF HORIZON PL	PATTERSON RD / N 7TH ST	0.26	T
FUTURE ATC TRAIL	N 27TH ST / GUNNISON AVE	29 RD N OF I70 BL	1.02	T or CT or PBL
GRAND AVE	N 1ST AVE	N 8TH ST	0.62	BBL
GRAND AVE	N 8TH ST	28 1/4 RD	1.67	BL
GUNNISON AVE	N 10TH ST	N 12TH ST	0.19	BL
GUNNISON AVE	N 15TH ST	N 27TH ST	0.73	BL
HWY 6	I70 FRONTAGE RD	N 1ST ST	0.20	BBL
HWY 6	NORTH AVE W OF MOTOR ST	NORTH AVE E OF N 1ST ST	0.34	T or CT or PBL
HWY 6 AND 50	W GUNNISON AVE	GRAND AVE	0.53	BBL
HWY 6 AND 50	NORTH AVE	SE OF MULBERRY ST	0.64	T or CT or PBL
I70B	DESERT VISTA / PITKIN AVE	WARRIOR WAY	4.10	T or CT or PBL
INDEPENDENT AVE	INDEPENDENT AVE	HWY 6 AND 50	0.03	BL
INDUSTRIAL BLVD	24 1/2 RD	25 RD	0.50	BB
LINCOLN PARK TRAIL/15TH ST	NORTH AVE	GUNNISON AVE	0.27	T
LITTLE BOOKCLIFF DR	BOOKCLIFF AVE	DEAD END	0.23	BB
MAIN ST	S 1ST ST	S 8TH ST	0.62	BB
N 12TH ST	LAKESIDE DR	GRAND AVE	1.80	T or CT or PBL
N 15TH ST	ELM AVE	E NORTH AVE	0.25	BL
N 23RD ST	ORCHARD AVE	E NORTH AVE	0.50	BL
N 4TH AVE	NORTH AVE	MAIN ST	0.69	BL
N 5TH ST	GRAND AVE	MAIN ST	0.21	BL
N 5TH ST	ORCHARD AVE	BELFORD AVE	0.57	BL
N 7TH ST	GRAND AVE	MAIN ST	0.21	BL
N 7TH ST	PATTERSON RD	GRAND AVE	1.49	T or CT or PBL
N 9TH ST	BOOKCLIFF AVE	ORCHARD AVE	0.29	BB
NORTH AVE	N 1ST AVE	N 12TH ST	1.00	T
NORTH AVE	N 23RD ST	I70 BL	2.14	T
ORCHARD AVE	WEST MIDDLE SCHOOL	N 7TH ST	0.61	BL
ORCHARD AVE	N 12TH ST	CINDY ANN RD	1.06	BL
PATTERSON RD	26 1/2 RD	26 3/4 RD	0.25	BBL
PATTERSON RD	24 1/2 RD	26 RD	1.50	T or CT or PBL
PATTERSON RD	28 1/4 RD	E OF 31 RD	2.68	T or CT or PBL
S 12TH ST	MAIN ST	D RD	0.34	BL
S 1ST ST	W GRAND AVE	PITKIN AVE	0.50	BBL
S 7TH ST	MAIN ST	STRUTHERS AVE	0.80	BL
S 9TH ST	MAIN ST	STRUTHERS AVE	0.80	BL
W ORCHARD AVE	25 1/2 RD	POPLAR DR	0.26	BB
W PINYON AVE	25 RD	25 1/2 RD	0.50	BL

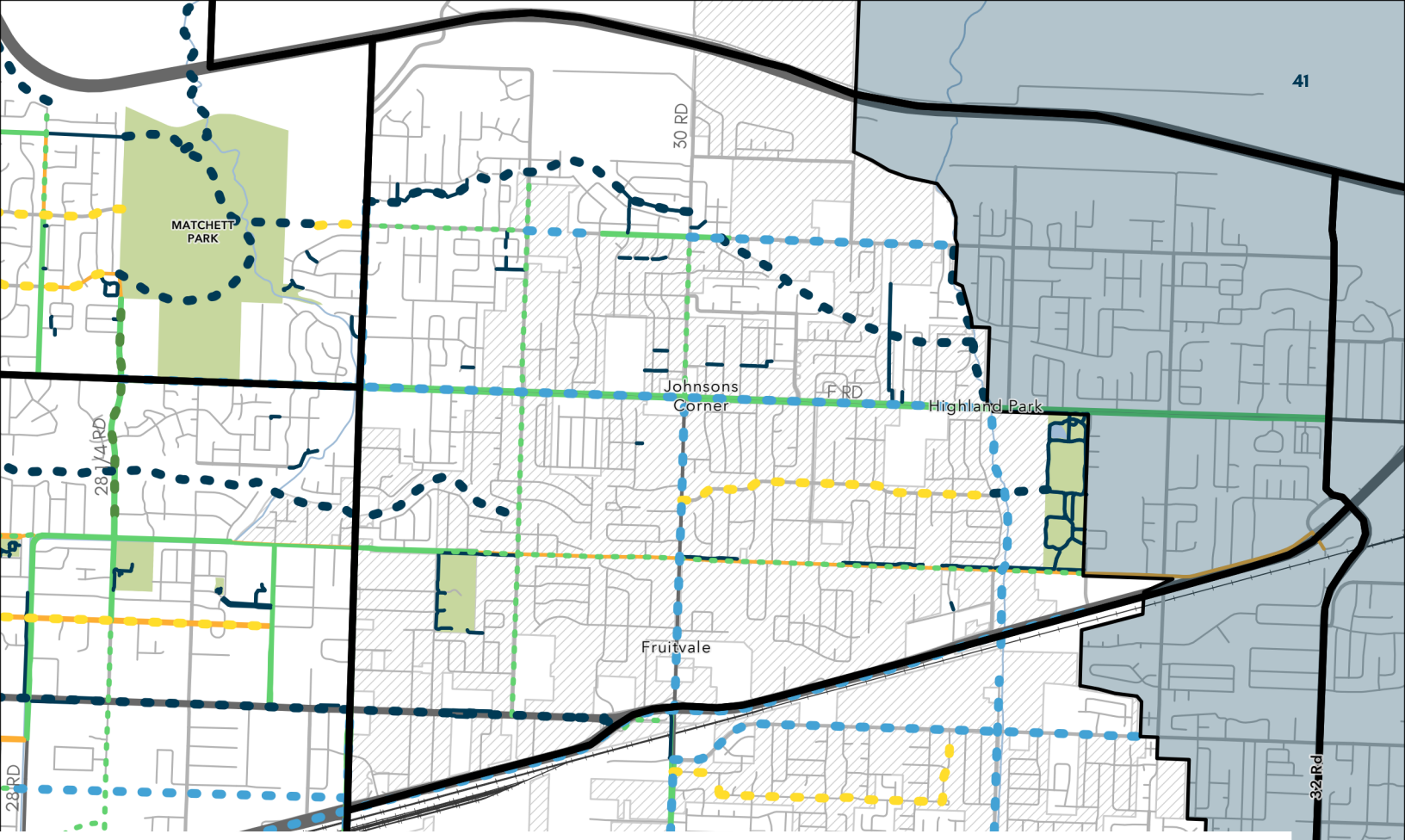
City Center

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
25 RD	BLICHMANN AVE	PATTERSON RD	0.34	T or CT or PBL
26 3/4 RD	CAPRA WAY	PATTERSON RD	0.19	BB
28 1/4 RD	VILLAGE PARK DR	BRITTANY DR	0.67	BBL
28 1/4 RD	BRITTANY DR	ORCHARD AVE	0.07	BL
BELFORD AVE	DIRT ROAD	N 24TH ST	0.04	BB
BOOKCLIFF AVE	N 7TH ST	N 12TH ST	0.47	BB
C 1/2 RD	27 1/2 RD	29 RD	1.50	BL
CROSBY AVE	BASE ROCK ST	W GRAND AVE	0.32	BL
D 1/2 RD	29 RD	30 RD	1.03	T
E SHERWOOD DR	N 3RD ST	N SHERWOOD DR	0.19	BB
ELM AVE	N 1ST ST	W SHERWOOD DR	0.10	BB
FUTURE ATC TRAIL	LAS COLONIAS TRAIL	29 RD N OF COLORADO RIVER	1.78	T
FUTURE ATC TRAIL	ELM AVE / W SHERWOOD DR	E SHERWOOD DR / N 3RD ST	0.09	T
N 12TH ST	GRAND AVE	MAIN ST	0.21	BBL
N 23RD ST	E NORTH AVE	BELFORD AVE	0.12	BB
N 24TH ST	BELFORD AVE	GRAND AVE	0.37	BB
N SHERWOOD DR	E SHERWOOD DR	N 5TH ST	0.04	BB
PITKIN AVE	S 12TH ST	DESERT VISTA E OF S 15TH ST	0.39	T or CT or PBL
S 12TH ST	D RD	KIMBALL AVE	0.41	BB
SOUTH AVE/S 2ND ST	PITKIN AVE	S 10TH ST	0.78	BB
W GRAND AVE	SPRUCE ST	N 1ST ST	0.07	BBL

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
25 RD	TROLLEY ST	INDEPENDENT AVE	0.17	BBL
28 RD	RIVERSIDE PKWY	NEW TRAIL S OF C 1/2 ROAD	0.64	T or CT or PBL
FUTURE ATC TRAIL	RIVERSIDE PKWY W OF 29 RD	N OF COLORADO RIVER	0.99	T
FUTURE ATC TRAIL	N OF BASE ROCK ST S OF HWY 6 AND 50	NW OF MULBERRY ST S OF HWY 6 AND 50	0.44	T
RIMROCK AVE	HWY 6 AND 50	BASE ROCK ST	0.32	BL
RIVERSIDE PKWY	INDEPENDENT AVE	RIVERSIDE PKWY	0.31	BBL
RIVERSIDE PKWY	S 7TH ST	S 9TH ST	0.21	T or CT or PBL
RIVERSIDE PKWY	WEST AVE	N OF LAWRENCE AVE	0.32	T or CT or PBL
RIVERSIDE PKWY	RIVER RD	25 RD	0.29	T or CT or PBL
STRUTHERS AVE	DEAD END	S 7TH ST	0.12	BB
STRUTHERS AVE	S 9TH ST	DEAD END	0.03	BB
W COLORADO AVE	RIVERSIDE PARK DR	WEST AVE	0.02	BB
W MAIN ST	DEAD END	WEST AVE	0.05	BB
WEST AVE	RIVERSIDE PKWY	W GRAND AVE	0.16	BBL
WEST AVE	W GRAND AVE	W MAIN ST	0.05	BB



LEGEND

Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification
- Local
- Collector
- Arterial
- Highway

Existing Bicycle Facilities
- Signed Bike Route
- Striped Bike Lane
- Buffered Bike Lane
- Trail

Bicycle Facility Recommendation
- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Trail, Cycletrack, or Protected Bike Lane
- Trail

Fruitvale

High Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
29 1/2 RD	BRET DR	E NORTH AVE	1.67	BL
29 RD	E NORTH AVE	RIVER BEND LN	2.16	T or CT or PBL
30 RD	F RD	I70 BL	0.97	T or CT or PBL
BOOKCLIFF AVE	30 RD	31 RD	0.99	BB
FUTURE ATC TRAIL	GRAND VALLEY CANAL N OF PINYON AVE	29 1/2 RD S OF SUNSET DR	0.52	T
FUTURE ATC TRAIL	F RD E OF 31 RD	RAIL ROAD S OF I70 FRONTAGE RD	0.75	T or CT or PBL
I70B	DESERT VISTA / PITKIN AVE	WARRIOR WAY	4.10	T or CT or PBL
NORTH AVE	N 23RD ST	I70 BL	2.14	T
ORCHARD AVE	29 1/4 RD	30 RD	0.75	BL
PATTERSON RD	28 1/4 RD	E OF 31 RD	2.68	T or CT or PBL

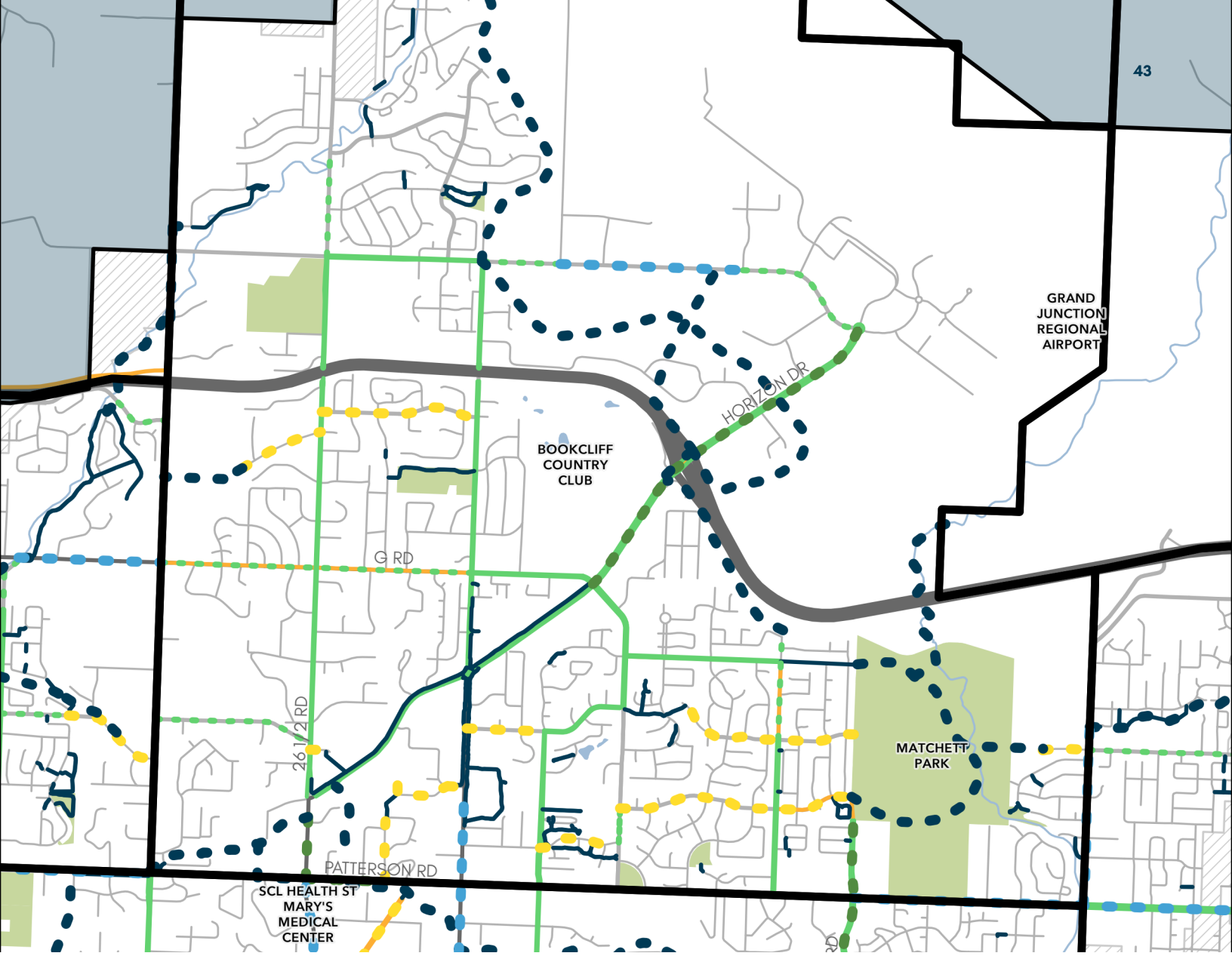
Fruitvale

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
E 1/2 RD	30 RD	WARRIOR WAY	1.24	BL
FUTURE ATC TRAIL	F 1/2 RD / CITY BOUNDARY	F RD / CITY BOUNDARY	0.50	T
FUTURE ATC TRAIL	F 1/2 RD E OF STARLIGHT DR	CITY BOUNDARY S OF PRICE DITCH CT	0.91	T
NORTH AVE	I70 BL W	JERRY'S OUTDOOR SPORTS	0.19	BL
TRAIL CONNECTION	31 RD / BOOKCLIFF AVE	LONG FAMILY MEMORIAL PARK	0.17	T

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
29 RD	F 1/2 RD	PATTERSON RD	0.50	T or CT or PBL
30 RD	F 1/2 RD	F RD	0.50	BL
BRODICK WAY/ HERON DRIVE	29 RD	30 RD	1.09	T
F 1/2 RD	29 RD	29 1/2 RD	0.50	BL
F 1/2 RD	29 1/2 RD	OX-BOW RD	0.22	T or CT or PBL
F 1/2 RD	30 RD	E OF THUNDER RIDGE DR	0.82	T or CT or PBL



Horizon

High Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
26 1/2 RD	HORIZON DR	PATTERSON RD	0.26	BBL
26 1/2 RD	N OF I70 BRIDGE	S OF I70 BRIDGE	0.05	BL
26 RD	KELLY DR	PATTERSON RD	1.78	BL
27 RD	N OF I70 BRIDGE	S OF I70 BRIDGE	0.05	BL
FUTURE ATC TRAIL	W OF WILLOWBROOK RD AND E OF HORIZON PL	PATTERSON RD / N 7TH ST	0.26	T
N 12TH ST	LAKESIDE DR	GRAND AVE	1.80	T or CT or PBL
PATTERSON RD	28 1/4 RD	E OF 31 RD	2.68	T or CT or PBL

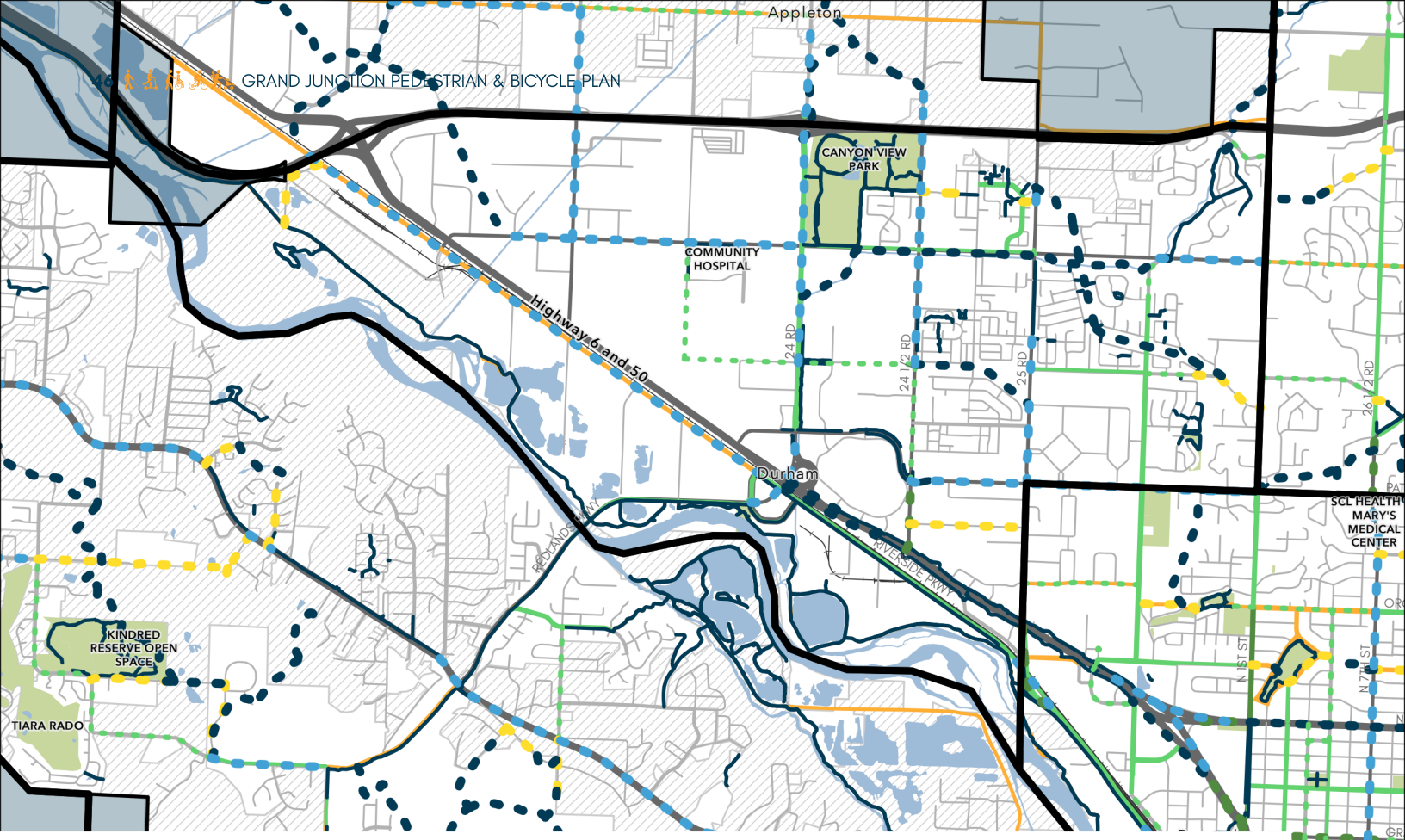
Horizon

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
26 3/4 RD	CAPRA WAY	PATTERSON RD	0.19	BB
28 1/4 RD	VILLAGE PARK DR	BRITTANY DR	0.67	BBL
FUTURE ATC TRAIL	26 RD / F RD	26 1/2 RD / GLEN CT	0.56	T
FUTURE ATC TRAIL	HORIZON DR E OF 26 1/2 RD	NE OF 8TH CT / NW OF VIEWPOINT DR	0.19	T
FUTURE ATC TRAIL	HORIZON DR E OF HORIZON 70 CT	HORIZON DR NE OF I70	0.12	T
FUTURE ATC TRAIL	E OF I RD / OVERVIEW RD	HORIZON DR NE OF I70	3.11	T
HAWTHORNE AVE	27 1/2 RD	DEAD END	0.76	BB
HORIZON DR	G RD	H RD	1.20	BBL
INDIAN WASH TRAIL FROM MATCHETT PARK	STREAM S OF AIRPORT	E OF CORTLAND AVE / TAMARRON DR	0.68	T
MATCHETT PARK ATC	E OF CORTLAND AVE / TAMARRON DR TO F 1/2 RD	TAMARRON DR / HAWTHORNE AVE	1.37	T

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
26 1/2 RD	CATALINA DR	H RD	0.33	BL
26 RD	FREEDOM DR	KELLY DR	0.29	T
27 1/2 RD	HAWTHORNE AVE	HERMOSA AVE	0.22	BL
28 RD	APPLEWOOD PL	RIDGE DR	0.33	BL
29 RD	F 1/2 RD	PATTERSON RD	0.50	T or CT or PBL
BRODICK WAY/ HERON DRIVE	29 RD	30 RD	1.09	T
CHESTNUT DR	DEAD END	26 1/2 RD	0.28	BB
F 1/2 RD	26 RD	26 1/2 RD	0.51	BL
F 1/2 RD	29 RD	29 1/2 RD	0.50	BL
F 1/2 RD	TRAILS END CT	26 RD	0.33	BB
F 1/2 RD	DEAD END	29 RD	0.15	BB
FREEDOM DR	26 RD	FREEDOM WAY	0.06	T
FUTURE ATC TRAIL	HORIZON DR / VISITORS WAY	N OF 28 RD / APPLEWOOD PL	0.64	T
FUTURE ATC TRAIL	H RD W OF N CREST DR	HORIZON DR NE OF I70	0.67	T
FUTURE ATC TRAIL	KELLEY DR / 26 RD	BEAVER LDG N OF EGRET CIR	0.40	T
G 1/2 RD	BEAVER LDG	26 RD	0.18	BL
G 1/2 RD	26 1/2 RD	27 RD	0.51	BB
G RD	26 RD	N 12TH ST	1.00	BL
H RD	27 RD	27 1/4 RD	0.25	BL
H RD	N CREST DR	WALKER FIELD DR	0.45	BL
H RD	27 1/4 RD	N CREST DR	0.59	T or CT or PBL
HERMOSA AVE	N 15TH ST	27 1/2 RD	0.26	BB
I RD	OVERVIEW RD	DEAD END	0.01	BB
LAKESIDE CT	DEAD END	LAKESIDE DR	0.20	BB
LAKESIDE DR	LAKESIDE CT	N 12TH ST	0.05	BB
LEVI CT	26 1/2 RD	DEAD END	0.06	BB
NEIGHBORHOOD CONNECTION TO 26 RD	E OF 26 RD N OF G RD	CHESTNUT DR	0.07	T
RIDGE DR	N 12TH ST	N 15TH ST	0.25	BB
RIDGE DR	CUL DE SAC	MATCHETT	0.60	BB
TRAIL CONNECTION	26 RD S OF G 1/2 RD	SW OF ASH DR / CHESTNUT DR	0.19	T



LEGEND

- Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification

- Local
- Collector
- Arterial
- Highway

Existing Bicycle Facilities

- Signed Bike Route
- Striped Bike Lane
- Buffered Bike Lane
- Trail

Bicycle Facility Recommendation

- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Trail, Cycletrack, or Protected Bike Lane
- Trail

North West

High Priority

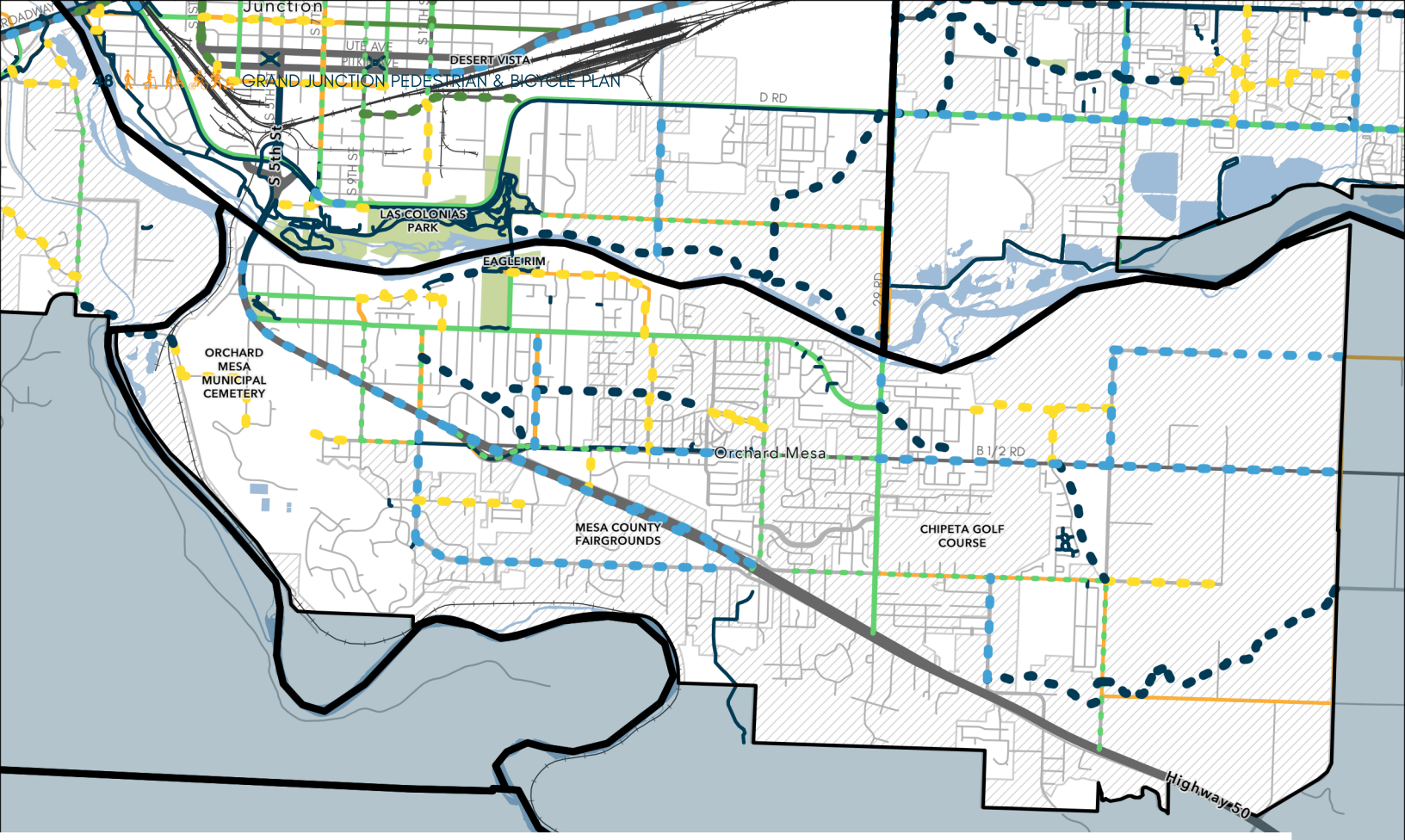
Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
24 RD/REDLANDS PKWY	PATTERSON RD	PARKWAY RAMP	0.41	T OR CT OR PBL
26 RD	KELLY DR	PATTERSON RD	1.78	BL
INDUSTRIAL BLVD	24 1/2 RD	25 RD	0.50	BB
PATTERSON RD	24 1/2 RD	26 RD	1.50	T or CT or PBL
W PINYON AVE	25 RD	25 1/2 RD	0.50	BL

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
23 RD	I RD	G RD	2.00	T or CT or PBL
24 1/2 RD	S OF KELLEY DR	S OF AJAY AVE	1.19	T or CT or PBL
25 RD	BLICHMANN AVE	PATTERSON RD	0.34	T or CT or PBL
FUTURE ATC TRAIL	REDLANDS PKWY S OF I70 BL	I70 BL E / HWY 6 AND 50	0.47	T
FUTURE ATC TRAIL	26 RD / F RD	26 1/2 RD / GLEN CT	0.56	T
FUTURE ATC TRAIL	24 RD S OF G RD	G RD E OF 25 1/2 RD	1.75	T
FUTURE ATC TRAIL	HUNTER WASH N OF HWY 6 AND 50	G RD W OF ARROWEST RD	2.80	T
FUTURE ATC TRAIL	W OF 24 1/2 RD S OF H RD	24 RD S OF I70 FRONTAGE ROAD	0.55	T
HANNAH LN	24 1/2 RD S OF HANNAH LN	25 RD / BLICHMANN AVE	0.55	T

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
23 1/2 RD	G RD	E 1/2 RD	0.50	BL
24 1/2 RD	PATTERSON RD	HWY 6 AND 50	0.30	BBL
24 1/2 RD	HANNAH LN	PATTERSON RD	0.50	BL
24 RD	I70 FRONTAGE RD	F 1/2 RD	0.99	T OR CT OR PBL
25 1/2 RD	G RD	MOONRIDGE DR	0.20	BL
25 RD	TROLLEY ST	INDEPENDENT AVE	0.17	BBL
25 RD	WAITE AVE	F 1/2 RD	0.14	T OR CT OR PBL
25 RD	NEW TRAIL S OF G 3/8 RD	FOUNTAIN GREENS PL	0.05	T OR CT OR PBL
F 1/2 RD	23 3/4 RD	24 1/2 RD	1.00	BL
F 1/2 RD	25 1/2 RD	TRAILS END CT	0.22	BL
F 1/2 RD	TRAILS END CT	26 RD	0.33	BB
FOUNTAIN GREENS PL	FOUNTAINHEAD BLVD	25 RD	0.06	BB
FUTURE ATC TRAIL	REDLANDS PKWY N OF I70 BL	1ST MESA MALL E OF 24 RD	0.25	T
FUTURE ATC TRAIL	25 1/2 RD N OF FOUNTAIN GREENS PL	F 1/2 RD E OF YOUNG ST	1.37	T
FUTURE ATC TRAIL	KELLEY DR / 26 RD	BEAVER LDG N OF EGRET CIR	0.40	T
G 1/2 RD	BEAVER LDG	26 RD	0.18	BL
G 1/4 RD	DEAD END	MOUNTAIN VIEW DR	0.02	BB
G RD	26 RD	N 12TH ST	1.00	BL
G RD	ARROWEST RD	25 RD	2.25	T OR CT OR PBL
G RD	25 1/2 RD	26 RD	0.46	T OR CT OR PBL
GARDEN RD	24 1/2 RD	DEAD END	0.12	BB
RAILHEAD CIR	MONUMENT VIEW TRAIL	RIVER RD	0.35	BB
RIVER RD	I70 FRONTAGE RD	PARKWAY RAMP	2.37	T OR CT OR PBL
RIVERSIDE PKWY	RIVER RD	25 RD	0.29	T OR CT OR PBL
TRAIL CONNECTION	26 RD S OF G 1/2 RD	SW OF ASH DR / CHESTNUT DR	0.19	T



Orchard Mesa

High Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
27 1/2 RD	C RD	B 1/2 RD	0.50	T OR CT OR PBL
27 RD	C RD	HWY 50	0.37	BL
27 RD	HWY 50	B RD	0.54	T OR CT OR PBL
28 1/2 RD	C RD	HWY 50	1.01	BL
28 RD	C RD	B 1/2 RD	0.50	BB
29 RD	E NORTH AVE	RIVER BEND LN	2.16	T OR CT OR PBL
B 1/2 RD	GLOUCESTER AVE	W OF 28 1/2 RD	0.49	T OR CT OR PBL
B 1/4 RD	27 RD	27 1/2 RD	0.50	BB
FUTURE ATC TRAIL	27 RD N OF B 3/4 RD	B 1/2 RD E OF 27 1/2 RD	0.61	T
FUTURE ATC TRAIL	NE OF SHERMAN DR	NW OF ARLINGTON DR	0.95	T
FUTURE ATC TRAIL	N OF CHRISTOPHER WAY	N OF OM MIDDLE SCHOOL	0.17	T

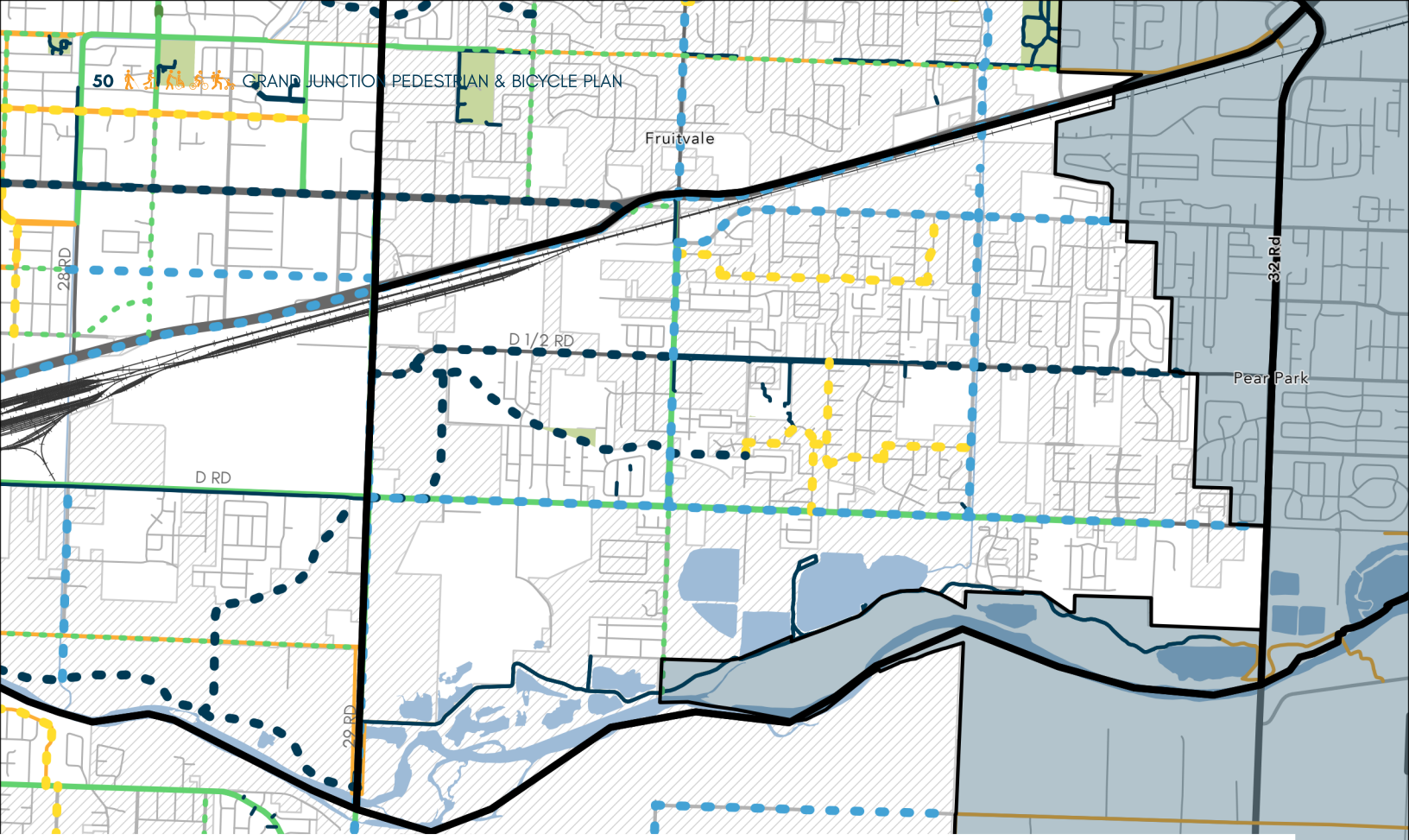
HWY 50	GRAND MESA AVE	28 1/2 RD	3.50	T or CT or PBL
HWY 50 RAMP	HWY 50	B 1/2 RD	0.35	BL
LINDEN AVE	C RD	B 1/2 RD	0.50	BL
OXFORD AVE	ARLINGTON DR	28 1/2 RD	0.49	BB
PINON ST	SANTA CLARA AVE	C RD	0.13	BB
S REDLANDS RD/26 3/8 RD	LITTLE PARK RD	26 3/8 RD	0.52	T

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
26 1/4 RD	LEGACY WAY	GETTYSBURG ST	0.21	BB
26 3/8 RD	RAILROAD	LEGACY WAY	0.14	BB
27 3/4 RD	B 1/2 RD	HWY 50	0.18	BB
29 1/2 RD	B RD	NEW TRAIL N OF A 1/2 RD	0.44	T or CT or PBL
29 RD	COLORADO RIVER	HWY 50	1.09	BL
B 1/2 RD	LINDEN AVE	27 RD	0.25	BL
B 1/2 RD	W PARKVIEW DR	GLOUCESTER AVE	0.48	BL
B 1/2 RD	LIVING HOPE CHURCH	29 RD	0.59	BL
B 1/2 RD	DEAD END	LINDEN AVE	0.21	BB
B 1/2 RD	29 RD	W OF 31 RD	1.98	T or CT or PBL
B RD	TENNESSEE ST	30 RD	1.35	BL
B RD	27 RD	GLORY VIEW DR	1.39	T or CT or PBL
CHEYENNE DR	27 3/8 RD	HOPI DR	0.62	BB
FUTURE ATC TRAIL	29 RD / UNWEEP AVE	B 1/2 RD W OF DURANT ST	0.42	T
LEGACY WAY	26 3/8 RD	26 1/4 RD	0.29	BB
OLSON AVE	DEAD END	SANTA CLARA AVE	0.01	BB
RIVER CIR	DEAD END	SANTA CLARA AVE	0.01	BB
SANTA CLARA AVE	ROUBIDEAU ST	DEAD END	0.25	BB
SANTA CLARA AVE	CHRISTOPHER CT	PINON ST	0.06	BB

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
29 3/4 RD	B 3/4 RD	B 1/2 RD	0.23	BB
30 RD	B RD	HWY 50	0.73	BL
30 RD	C RD	B 1/2 RD	0.50	T or CT or PBL
ATHENA ST	DURANT ST	B 3/4 RD	0.37	BB
B 3/4 RD	29 3/4 RD	30 RD	0.24	BB
B RD	30 RD	30 1/2 RD	0.50	BB
C RD	30 RD	W OF 31 RD	0.99	T or CT or PBL
FUTURE ATC TRAIL	29 1/2 RD N OF HWY 50	CITY BOUNDARY / B RD	1.95	T
FUTURE ATC TRAIL	B 1/2 RD E OF FRONTIER ST	B RD / 30 RD	0.55	T
HOPI DR	CHEYENNE DR	C RD	0.20	BB



LEGEND

- Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification

- Local
- Collector
- Arterial
- Highway

Existing Bicycle Facilities

- Signed Bike Route
- Striped Bike Lane
- Buffered Bike Lane
- Trail

Bicycle Facility Recommendation

- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Trail, Cycletrack, or Protected Bike Lane
- Trail

Pear Park

High Priority

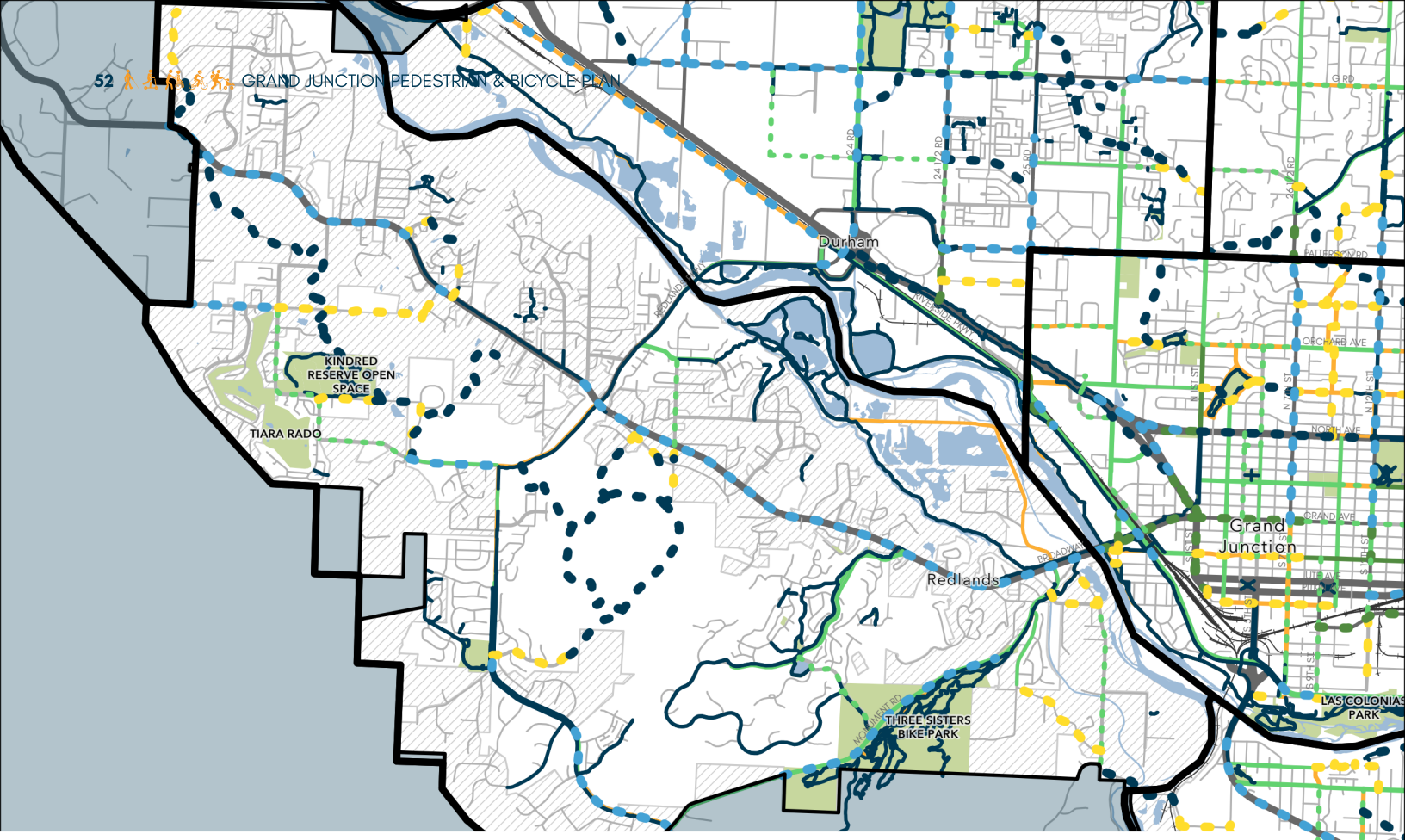
Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
29 RD	E NORTH AVE	RIVER BEND LN	2.16	T or CT or PBL
30 RD	F RD	I70 BL	0.97	T or CT or PBL
FUTURE ATC TRAIL	F RD E OF 31 RD	RAIL ROAD S OF I70 FRONTAGE RD	0.75	T or CT or PBL
I70B	DESERT VISTA / PITKIN AVE	WARRIOR WAY	4.10	T or CT or PBL

Medium Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
30 1/2 RD	D 1/2 RD	SANDPIPER AVE	0.34	BB
30 1/4 RD	COLORADO AVE	RED PEAR DR	0.04	BB
30 RD	E RD	D 1/2 RD	0.38	T or CT or PBL
31 RD	S OF I70 BL E	D RD	1.16	T or CT or PBL
C 1/2 RD	27 1/2 RD	29 RD	1.50	BL
CHATFIELD DR	CITY BOUNDARY	D 1/2 RD	0.01	T
COLORADO AVE	30 1/4 RD	WEDGEWOOD AVE	0.13	BB
COLORADO AVE	MEADOWVALE WAY	31 RD	0.28	BB
COLOROW DR	HILL CT	GUNNISON AVE	0.07	BB
D 1/2 RD	29 RD	30 RD	1.03	T
D 1/2 RD	W OF BISMARCK ST	FOX MEADOWS ST	0.87	T
D RD	29 RD	W OF 32 RD	2.98	T or CT or PBL
E RD	30 RD	W OF 31 1/2 RD	1.47	T or CT or PBL
FUTURE ATC TRAIL	LAS COLONIAS TRAIL	29 RD N OF COLORADO RIVER	1.78	T
FUTURE ATC TRAIL	D 1/2 RD S OF D 1/2 CT	30 1/4 RD / RED PEAR DR	1.19	T
GUNNISON AVE	COLOROW DR	OL SUN DR	0.69	BB
HILL CT	30 RD	COLOROW DR	0.14	BB
NORTH AVE	I70 BL W	JERRY'S OUTDOOR SPORTS	0.19	BL
SANDPIPER AVE	30 1/2 RD	MEADOWVALE WAY	0.19	BB

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
30 RD	D RD	COLORADO RIVER	0.62	BL
30 RD	ROOD AVE	D RD	0.38	T or CT or PBL
COLORADO AVE	WEDGEWOOD AVE	30 1/2 RD	0.04	BB
FUTURE ATC TRAIL	S OF D 1/2 RD AND W OF 29 1/4 RD	29 RD / D RD	0.61	T
MEADOWVALE WAY	COLORADO AVE	SANDPIPER AVE	0.05	BB
OL SUN DR	E RD	GUNNISON AVE	0.23	BB
WEDGEWOOD AVE	COLORADO AVE	D RD	0.39	BB



Redlands

High Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
24 RD/REDLANDS PKWY	PATTERSON RD	PARKWAY RAMP	0.41	T OR CT OR PBL
BROADWAY	22 1/2 RD	RIVERSIDE TRAIL	3.39	T or CT or PBL
S REDLANDS RD/26 3/8 RD	LITTLE PARK RD	26 3/8 RD	0.52	T

Low Priority

Corridor Name	Extent (From)	Extent (To)	Length (Miles)	Recommended Facility Type
23 RD	S RIM DR	BROADWAY	0.49	BL
23 RD	BROADWAY	DEAD END	0.22	BB
BROADWAY	W GREENWOOD DR	GREENWOOD DR	0.11	T or CT or PBL
BROADWAY	W OF CANYON CREEK DR	COLONIAL DR	1.57	T or CT or PBL
CANYON CREEK DR	DEAD END	BASELINE DR	0.30	BB
CANYON RIM DR	S CAMP RD	DEAD END	0.49	BB
COLONIAL DR	BROADWAY	CARLSBAD DR	0.18	BB
D RD	S BROADWAY	ROSEVALE RD	0.30	BB
DESERT HILLS RD	S BROADWAY	DEAD END	0.33	BB
DESERT HILLS RD	DEAD END	ESCONDIDO CIR	0.26	T
E 1/2 RD	20 1/2 RD	W GREENWOD CT	0.82	BB
E MAYFIELD DR	BROADWAY WB	BROADWAY EB	0.04	BL
EASTER HILL DR	N EASTER HILL DR	S BROADWAY	0.05	BB
ESCONDIDO CIR	DESERT HILLS RD	S BROADWAY	0.34	BB
FUTURE ATC TRAIL	MOCKINGBIRD LN S OF BROADWAY	ESCONDIDO CIR / S BROADWAY	0.95	T
FUTURE ATC TRAIL	2292 S BROADWAY TO S OF S BROADWAY	23 RD N OF S BROADWAY	0.14	T
FUTURE ATC TRAIL	E OF CANYON CREEK DR NE OF BROADVIEW CT	DESERT HILLS RD E OF KINDERED RESERVE	2.83	T
FUTURE ATC TRAIL	COLONIAL DR / CARLSBARD DR	NE OF VILLAGE VIEW CT / RIO HONDO RD	0.24	T
MARIPOSA DR	W RIDGES BLVD	MONUMENT RD	0.66	BL
MONUMENT RD	CITY BOUNDARY / LUTCH LOOPS CONNECTOR TRAIL	GLADE PARK RD	1.42	T or CT or PBL
MONUMENT VILLAGE DR	DEAD END	BROADWAY	0.28	BB
REDLANDS 360 TRAIL	S OF REDLAND PKWY AND BROADWAY	CANYON RIM DR	3.61	T
RIDGES BLVD	TURNING LANE	BROADWAY	0.02	BL
ROSEVALE RD	D RD	LITTLE PARK RD	0.91	BL
ROSEVALE RD	DEAD END	D RD	0.22	BB
S BROADWAY	E HALF RD	ESCONDIDO CIR	1.50	BL
S BROADWAY	EASTER HILL DR	2292 S BROADWAY	0.18	BB
S BROADWAY	ESCONDIDO CIR	S CAMP RD	0.51	T or CT or PBL
S BROADWAY	W OF 20 RD	20 1/2 RD	0.51	T or CT or PBL
S CAMP RD	E DAKOTA DR	MONUMENT RD	0.96	T or CT or PBL
S CAMP RD	CANYON RIM RD	BUFFALO DR	0.07	T or CT or PBL
S REDLANDS RD	MIRA MONTE RD	ROSEVALE RD	0.65	BB
S RIM DR	GREEBBELT CT	23 RD	0.04	BL
W GREENWOOD CT	W GREENWOOD DR	DEAD END	0.06	BB
W GREENWOOD DR	BROADWAY	W GREENWOOD CT	0.13	BB
W RIDGES BLVD	TURNING LANE	MARIPOSA DR	0.02	BL

Bicycle Crossing Guidance

When creating a low-stress bike network, it is paramount to consider where bicycle facilities cross at intersections or at midblock designated crossings. The weakest link approach acknowledges that a low-stress bicycle facility is only as comfortable as the lowest comfort component; this component is often the intersection.

The NACTO *Urban Bikeway Design Guide* provides guidance on best practices for intersection design treatments for urban bikeway crossings. Additionally, NACTO also published a supplemental design guide for effectively designing low-stress bikeways through intersections for all ages and abilities titled *Don't Give Up at the Intersection*. Refer to these publications for supplemental design guidance on bicycle crossing treatments at intersections. Low-stress bicycle facility crossing applies design strategies and tools at the intersection to reduce the conflict between vehicles and people on bikes by targeting three key elements:

1. Reduce vehicle turning speeds
2. Increase the visibility of bicyclists
3. Give priority to bicyclists

The characteristics of the roadway being crossed and the bicycle facility type influence what crossing treatment is necessary. NACTO defines three main types of low-stress bicycle crossing types. These three, plus a fourth - roundabouts (which are present in Grand Junction), are applied to any permutation of bike facility type and street classification:

1. Protected intersections
2. Dedicated intersections
3. Minor street crossings
4. Roundabouts

Table 3 shows what category of crossing treatment is most appropriate for each facility type and street type.

Intersection Types

A brief summary of contextual applications and design considerations of each bicycle crossing intersection type is provided below. Refer to NACTO's *Don't Give Up at the Intersection* for guidance on the specific intersection treatments and considerations for designing protected intersections, dedicated intersections, and minor street crossings. Refer to Chapter 14 of CDOT's *Roadway Design Guide* for design guidance for carrying bikeways through roundabouts.

Protected Intersections

Protected intersections are recommended where protected bike lanes meet collectors and arterials, as shown in **Figure 20**.

According to NACTO: "Protected intersections can be applied on any street where enhanced bike comfort is desirable. They are most commonly found on streets with parking-protected bike lanes or buffered bike lanes. Protected intersections can also be implemented using interim materials. Where no parking lane exists, a setback can be created by shifting the bikeway or motor vehicle lanes away from one another as they approach the intersection."

TABLE 3: BICYCLE CROSSING INTERSECTION TYPE IDENTIFICATION

BICYCLE FACILITY TYPE	LOCAL	COLLECTOR	ARTERIAL	DRIVEWAY	ROUNDABOUT
Bike Boulevard	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	Merge with traffic
Bike Lane	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	Merge with traffic and/or provide ramps to multiuse trail
Protected Bike Lane/Cycle Track	Dedicated Intersection	Protected Intersection	Protected Intersection	Minor Street Crossing	Provide ramps to multiuse trail
Multiuse Trail	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	

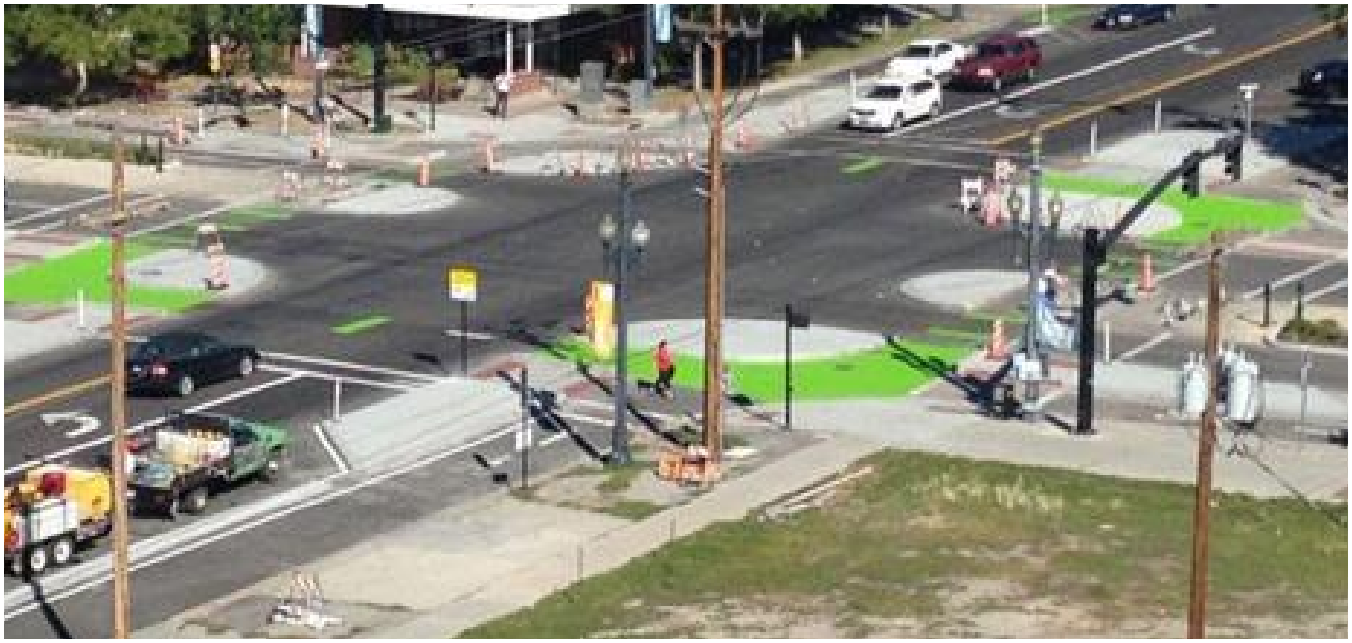


FIGURE 20: PROTECTED INTERSECTION SOURCE: NHRP

Dedicated Intersections

Dedicated intersections are recommended when bike boulevards, bike lanes, and trails meet collectors and arterials and where protected bike lanes meet local streets. An example of a dedicated intersection is shown in **Figure 21**.

According to NACTO: “Dedicated intersection geometry should be considered where there is not enough space to set back the bikeway from mixed traffic at the intersection. This condition often arises when a protected bike lane runs close to mixed traffic lanes without a parking or loading lane between them.”

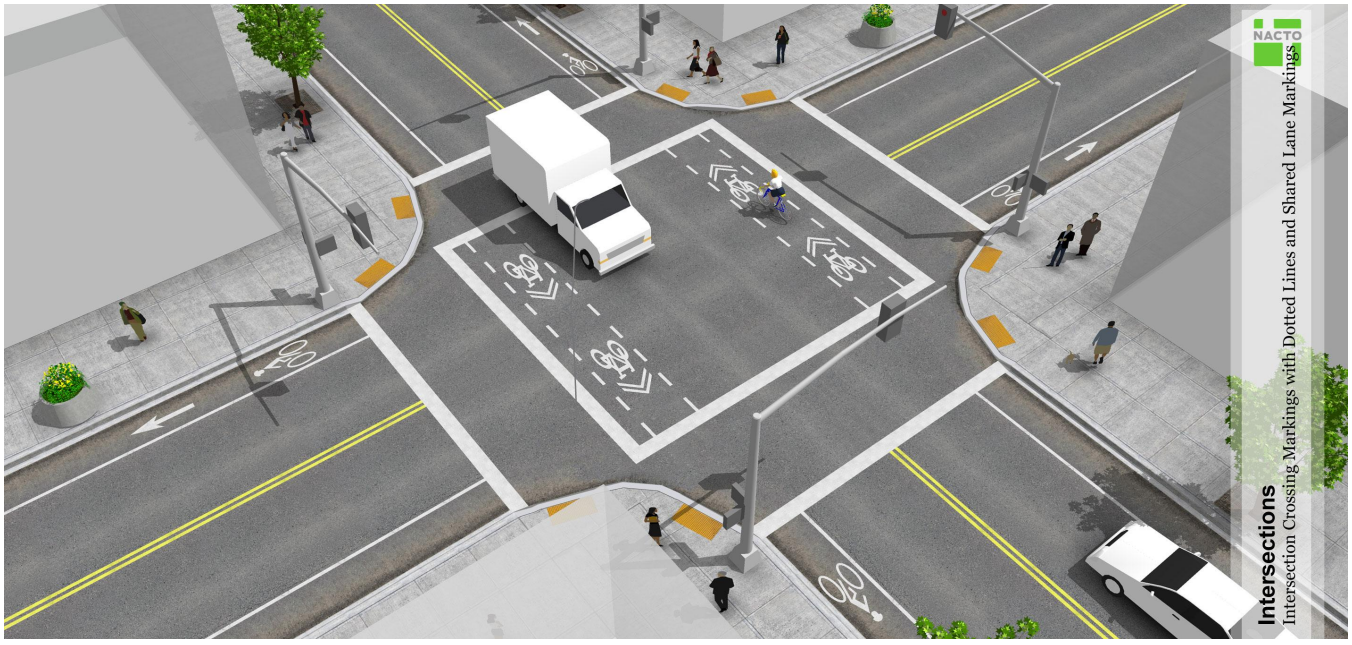


FIGURE 21: DEDICATED INTERSECTION SOURCE: NACTO

Minor Street Crossings

Minor street crossings are recommended when bike boulevards, bike lanes, or trails cross local roads or driveways (with the exception of protected intersection treatments for some protected bike lanes). An example of a minor street crossing is shown in **Figure 22**.

According to NACTO: "Minor street crossings use compact corners and raised elements to keep turn speeds low. The raised crosswalk and bikeway indicate to drivers that they are entering a low-speed environment, and must prepare to yield to other users. Traffic control devices, such as signals, are uncommon. Ensuring a clear approach sightline is essential to encourage drivers to yield to people in the bikeway or the crosswalk. Raised bikeway crossings should be considered where bikeways cross minor streets, neighborhood streets, driveways, and other small streets. Where the bikeway is not signalized, such as at uncontrolled or stop controlled on-minor intersections, the raised crossing provides unambiguous priority to bikes in the intersection."

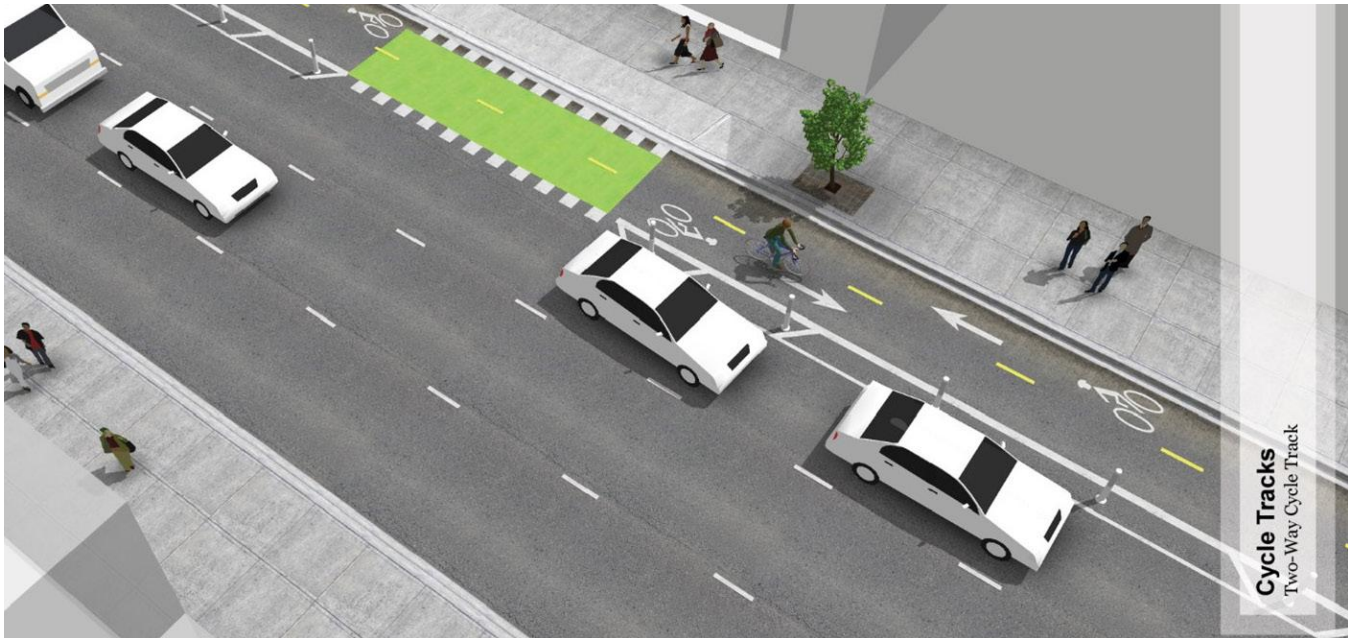


FIGURE 22: MINOR BICYCLE CROSSING SOURCE: NACTO

Roundabouts

When bike facilities meet a single lane roundabout with a designated speed of <15 mph bike boulevards and bike lanes can merge with traffic. Additional signage should also be provided, as well as on-street painted arrows.

When a protected bike lane or trail meets a roundabout, or when any bicycle facility meets a two-lane roundabout, separated facilities for bicyclists (perhaps shared with pedestrian infrastructure and with pedestrian crossings) should be clearly marked. Separated facilities can also be included when a standard bike lane meets a one-lane roundabout. This infrastructure should have ramps and clear crossing markings for where bikes are to cross the legs of the roundabout. An example is shown in **Figure 23** and at the existing roundabout at 12th Street and Horizon Drive in **Figure 24**.

Intersection Treatments at Bicycle Crossings

Refer to NACTO's *Urban Bikeway Design Guide* for treatment strategies for different bicycle crossing contexts, including specific design guidance. Several bicycle crossing treatment options, including specific recommendations most relevant to Grand Junction are provided below.

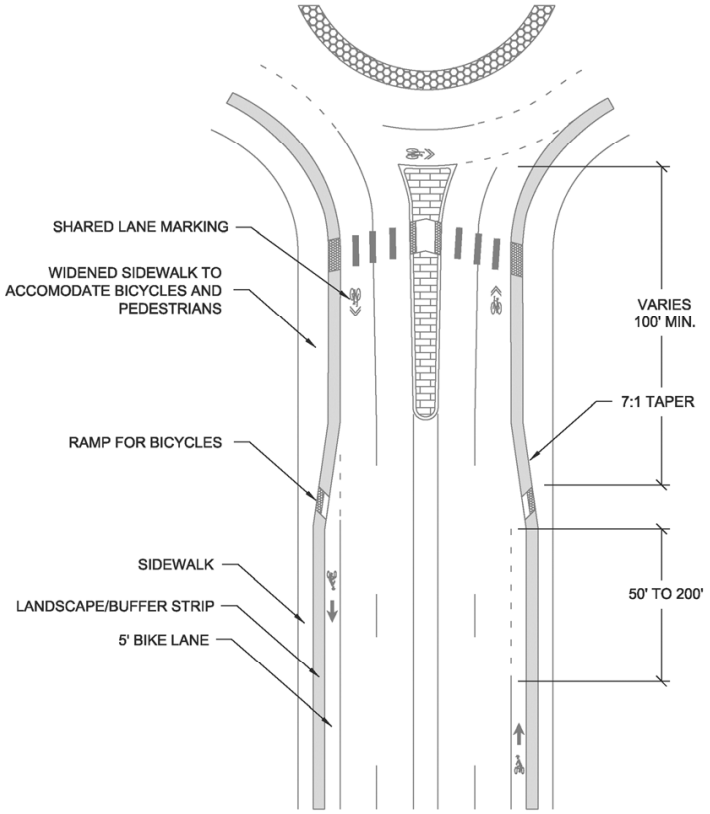


Figure 14-28 Multi-lane Roundabout

14-45

FIGURE 23: BIKE CROSSING AT ROUNDABOUT

SOURCE: CDOT

FIGURE 24: BIKE LANE RAMPS AT 12TH STREET AND HORIZON DRIVE ROUNDABOUT

Bike Boulevard Crossings

Since bike boulevards will most commonly occur on local streets, special consideration should be given to intersection treatments along these streets. NACTO provides treatment guidance for two basic types of intersections: minor street crossings and major street crossings.

Minor Street Crossings - At minor street crossings on bike boulevards, the primary consideration is mitigating frequent stops, which can be a significant inconvenience for bicycle mobility. Frequent placement of stop signs along low-volume, low-speed streets is a common strategy to mitigate speeding and cut-through vehicle traffic, especially in residential areas where most bike boulevards will occur. NACTO recommends that "bicycle boulevards should have right-of-way priority and reduce or minimize delay by limiting the number of stop signs along the route." Therefore, it is recommended to consider flipping the stop sign to be directed to the non-bike priority street, creating a two-way stop-controlled intersection, which could be paired with a neighborhood traffic circle to limit vehicle speeds . Other speed and volume control treatments should be used on the bike boulevard in lieu of frequent stop signs, such as speed humps, chicanes, bulb-outs, neighborhood traffic circles, and diverters (see **Figure 18**).

Major Street Crossings – Because bike boulevards are typically along local streets that have two-way stop control at major cross streets, the primary consideration at these locations is providing a safe and convenient way for bicyclists to cross. Effective treatments at major crossings will be essential to implementing effective bike boulevards in Grand Junction. In fact, many of the streets designated as future bike boulevards on the Future Bicycle Network Map (see **Figure 19**) are already low-volume and low-speed and the primary treatment that will be needed along these corridors will be crossing improvements particularly at major crossing. NACTO provides guidance on potential treatments where bike boulevards cross major streets, including curb extensions, flashing beacons, median refuge islands, and signals (see **Figure 18**).

Through Bike Lanes

Carrying bike lanes through the intersection approach is important so bicyclists have the opportunity to correctly position themselves to avoid conflicting with turning traffic. This typically includes positioning bike lanes to the left of right turn lanes and providing a dotted transition lane for bikes of the appropriate width and distance in advance of the intersection (see **Figure 25**). Green skip paint can be used for intersections with high right turn volumes.

FIGURE 25: THROUGH BIKE LANE

FIGURE 26: COMBINED BIKE LANE/TURN LANE SOURCE: NACTO

In addition, ending the bike lane prior to the intersection should be avoided as much as possible. This was a common barrier to bicycling identified by the community during the public engagement process. In constrained environments where there may not be enough space to accommodate a bike lane through the intersection under the existing lane configuration, the city should evaluate removing a turn lane, providing a combined bike/turn lane (see example in **Figure 26**), widening the intersection, or providing a ramp to/from a shared multiuse trail similar to a roundabout configuration (see **Figure 23**).

Signal Phasing

At signalized intersections, there are several strategies related to signal phasing to enhance bicycle safety, visibility, and prioritization. They are:

Protected Left Turn Phasing: Vehicles making a left turn on streets with a bikeway may not be looking for crossing bicyclists. Permitted-protected and protected-only signal phasing are proven safety countermeasures that can mitigate crashes with left turning vehicles.

Lagging Left Turn: A lagging left turn provides the vehicle with a left turn green arrow after the through movement, to allow bicyclists to pass through the intersection first.

Bike Signal: A bike signal provides the bicyclist with a separate phasing from vehicles which can be useful at intersections with high volumes of right turning vehicles and where the bikeway is to the right of the turn lane. Phasing may be in the form of protected or protected-permissive right turns.

Leading Bike Interval (LBI): An LBI is where the bicyclist receives a green bike signal a few seconds in advance of vehicles, allowing the bikes to get a head start into the intersection to become visible, especially if there is not a dedicated right turn lane. This phasing requires a separate bike signal head.

Signal Progression: Setting signal progressions to bike-friendly speeds (around 12 mph) on streets prioritized for bike movements can reduce bicycle delay and improve bicycle compliance, while supporting bus transit reliability and disincentivizing vehicular speeding.

Prohibit Right-turn-on-Red: Beyond situations outlined in Section 2B.54 of the Manual for Uniform Traffic Control Devices (MUTCD) to consider a No Turn on Red sign, this prohibition should also be considered at intersections with streets where a multiuse trail is present to mitigate conflicts caused by drivers looking left for gap in traffic and failing to see a bicyclist on a multiuse trail approaching from the right.

According to NACTO: "A LBI can be provided if a shared through/turn lane is next to the bikeway. If a dedicated right or left turn lane is next to the bikeway, protected-permissive bike signal phasing should be considered. Protected signal phases should be considered if turn volumes from the adjacent lane exceed 120 to 150 vehicles per hour (vph). Protected signal phases should also be considered if conflicting left turn volumes (on two-way streets) across the bikeway exceed 60 to 90 vph, or if these turns cross multiple traffic lanes."

Signal Detection & Actuation

At all signalized intersections in Grand Junction where an existing or planned bikeway crosses the intersection the following should be considered in the signal design so a bicyclist can reliably actuate a green signal. There are several options to achieve this:

Automatic Bike Detection: The most effective bike detection use video or radar to detect the presence of a bicyclist and actuate the signal. This should be paired with pavement markings and/or signage directing bicyclists where to position to actuate the signal (see **Figure 27**).

OBJECTIVE S1

Conduct a signalization feasibility study as a first step to determine what improvements are needed at signalized crossings.

FIGURE 27: BIKE DETECTION AT SIGNAL

Push-Button: A user activated button (similar to a pedestrian push button) mounted on a pole adjacent to the bikeway and at a level that a bicyclist can activate without dismounting or leaving the bikeway.

Automatic Recall: The simplest way to ensure bicyclists can call a green signal is to set the signal phasing to automatic recall so that a green phase is actuated every signal cycle.

Providing a reliable and convenient way for bicyclists to actuate a signal is important to bicycle comfort, convenience, and safety when crossing busy streets, and will deter red light running.

Recessed Stop Bar or Bike Box

Installing recessed stop bars for vehicles at intersections increases the visibility of bicyclists and can be applied across all controlled intersection treatment strategies. **Figure 28** shows a recessed

FIGURE 28: RECESSED STOP BAR

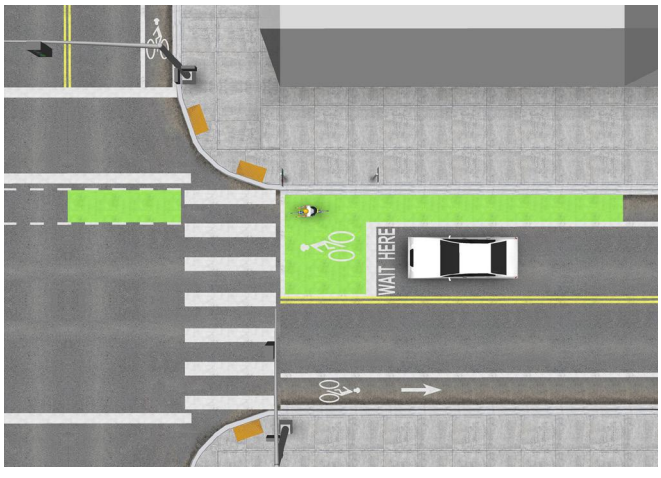


FIGURE 29: BIKE BOX AT INTERSECTION

vehicle stop bar. This can also take the form of a bicycle box, which is a designated area in front of the travel lane at a signalized intersection that is safe and visible for bicyclists to wait. This allows cyclists to get ahead of queueing traffic during the red signal phase which helps to mitigate conflicts with right turning vehicles. It is recommended that this be paired with prohibiting right turns on red. An example of a bike box is shown in **Figure 29**.

FIGURE 30: CROSSBIKE

Intersection Crossing Markings

NACTO recommends the implementation of crossbike across the intersection; a crossbike is similar to a crosswalk but for bikes—intersection crossing markings for bikes. This can consist of bike lane line extensions with broken white lines and/or dashed green bars. An example of a crossbike is shown in **Figure 30.**

Bridges and Underpasses

Grand Junction is bisected by the Colorado River, Union Pacific railroad, and several major urban highways, including US-50 and I-70B, all of which were identified by the community as significant barriers for bicycle and pedestrian movement between important destinations in the city. To mitigate the impact of these barriers additional pedestrian and bicycle crossings are recommended in the updated Active Transportation Corridor map. All future bridge and underpass crossings along Active Transportation Corridors should be designed to accommodate pedestrians and bicyclists via a low-stress facility generally following the pedestrian and bicycle facility design guidance in the PBP.

Design Considerations

Given the unique nature of bridge and underpass crossings, possibly including narrower cross-sections, higher vehicle speeds, and walls or railings, special consideration should be given to pedestrian and bicycle accommodations in these contexts. Traffic volume, speed, number of travel lanes, and length of the bridge will determine the facility most appropriate for bicycles. The AASHTO *Guide for Development of Bicycle Facilities* provides recommendations for special considerations of bicycle facilities on bridges including the height and spacing of railings, and additional clear zone spacing. AASHTO also recommends on longer bridges (a half mile or more) with a design speed of over 45 mph that bicyclist be provided a separate shared-use path with a concrete barrier. In these instance merge ramps may be needed to allow bicyclist to transition from on-street to off-street facilities on either end of the bridge similar to roundabouts. AASHTO also recommends in these cases that multiuse trails be implemented on both sides to support bicycle mobility and prevent wrong-way riders. Connections to adjacent bicycle and pedestrian corridors on either side of the bridge or underpass should also be made to ensure adequate access and connectivity to the bridge or underpass. Lastly, bridges and underpasses should also be well-lit.

Bridge and Tunnel Retrofits

Bridges and tunnels are expensive to replace and are often designed to last 50 years or more. Thus, in cases where there is an existing bridge or tunnel not slated for replacement in the near future, the city may need to retrofit the crossing to adequately accommodate pedestrian and bicycle movement. Refer to AASHTO on guidance for best practices in bridge and tunnel retrofits. Potential strategies in situations where there is not enough width to accommodate bicycle facilities may include widening the sidewalk, by narrowing or reducing travel lanes, or adding a cantilever structure.

OBJECTIVE S2

When upgrading bike facilities on a corridor, incorporate suggested intersection treatments to reduce stress of bicycle crossings, and ensure continuity of high-comfort facilities.

CHAPTER 5.

PEDESTRIAN NETWORK PLAN

The pedestrian network plan in this section includes the following:

- A description of the preferred design user that pedestrian facilities will be designed to support.
- A description of pedestrian facility types and their design guidelines.
- Pedestrian crossing guidance on how to improve safety for pedestrians at street crossings.

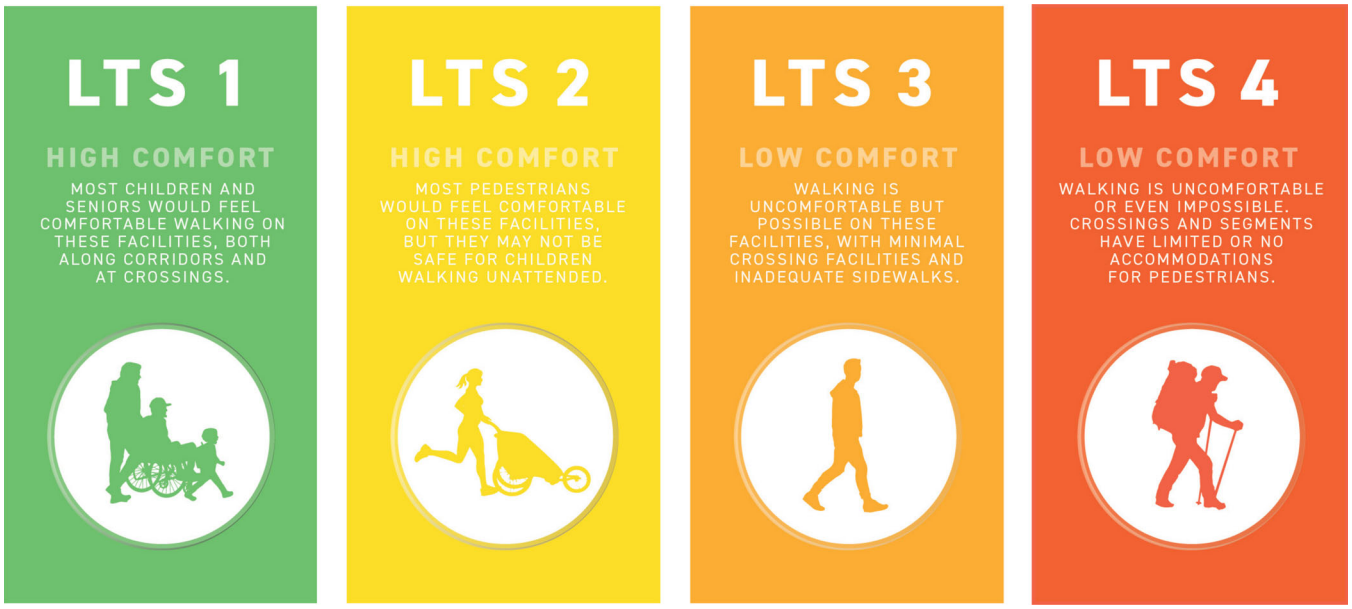
This plan sets the goal for all streets in Grand Junction to provide high comfort locations for people to walk. Given there are hundreds of miles of streets in Grand Junction, the initial focus should be on completing sidewalks and trails on the Active Transportation Corridors, many of which are arterial streets with high traffic speeds and volumes.

The prioritization strategy described in the Implementation section of this plan identifies the most critical pedestrian infrastructure using criteria sourced from the community, prioritizing the locations with both the greatest need and that will have the greatest impact to pedestrian circulation.

Preferred Design User

Based on input from the community, Steering Committee, and city staff, this plan sets forth a goal to have low-stress, high-comfort places to walk or roll on all streets in Grand Junction. Low-stress facilities are defined as those that score an LTS 1 or LTS 2 on the LTS 1-4 rating system as shown in **Figure 31**, meaning they cater to all ages and abilities. Future sidewalks and trails in Grand Junction will cater to the most cautious design user, including children, older adults, and people with mobility challenges, to the most confident pedestrian. Designing sidewalks to this standard will ensure all residents, employees, and visitors of Grand Junction can feel comfortable choosing to walk or roll.

FIGURE 31: PEDESTRIAN LEVEL OF TRAFFIC STRESS



Pedestrian Facility Types

Pedestrian facility types recommended in this plan, consisting of sidewalks and crossings, are those needed to achieve an LTS 1 or 2 on streets based on the roadway speed, number of lanes, and traffic volumes. Unlike the bicycle network plan, where specific streets will have bicycle facilities (primarily on the Active Transportation Corridors), it is assumed that the majority of, if not all, streets in the city will be a part of the future pedestrian network.[1]

However, this plan prioritizes where upgrades in the pedestrian network should be made first. The Prioritized Pedestrian Network map in **Figure 44** shows all sidewalks in the city prioritized in order of importance to complete or upgrade based on the prioritization criteria. This section describes design guidance for sidewalks and trails, with additional design specifications found in the updated TEDS Manual. Guidance is based on best practices from NACTO, FHWA, and from best practices established in other municipalities.

1 Note: While certain streets are planned as part of the bike network that will have specific design treatments to provide high comfort for bicyclists, it is expected that bicyclist will also use all streets in Grand Junction.

Sidewalks

To achieve at least an LTS 2, streets with three travel lanes or fewer and speeds of 30 mph or less (generally local and collector streets) require a 6-foot sidewalk with an 8-foot buffer. Streets with four travel lanes or more and/or speeds of 35 mph or more require an 8-foot sidewalk with 12-foot buffer. These recommendations follow a "weakest link approach," meaning that a street with two travel lanes but a posted speed limit of 35 mph will require an 8-foot sidewalk with 12-foot buffer. Notably, if the city chooses to reduce the speed and/or number of lanes on a street as part of a corridor project, the recommended width of sidewalk and buffer may be reduced. It is recommended that changes to posted speed are accompanied by geometric design changes and traffic calming interventions to be effective.

FIGURE 32: SIDEWALK ELEMENTS

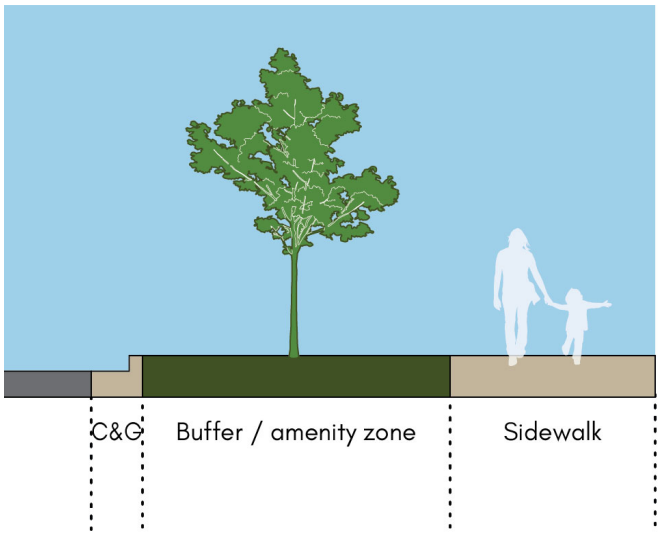


TABLE 4: SIDEWALK FACILITY RECOMMENDATIONS TO ACHIEVE LTS 2 OR BETTER GIVEN STREET CHARACTERISTICS

		LANES	
		3 or fewer	4 or more
Speed	30 mph or less	6 ft sidewalk, 8 ft buffer	8 ft sidewalk, 12 ft buffer
	35 mph or more	8 ft sidewalk, 12 ft buffer	8 ft sidewalk, 12 ft buffer

In constrained environments with limited right of way behind the curb, the sidewalk should be as wide as possible, with a minimum width of 5 feet and a minimum buffer width of 2 feet. Note: bike lanes and on-street parking can count as part of the buffer width as explained in the Buffer/Amenity Zone section.

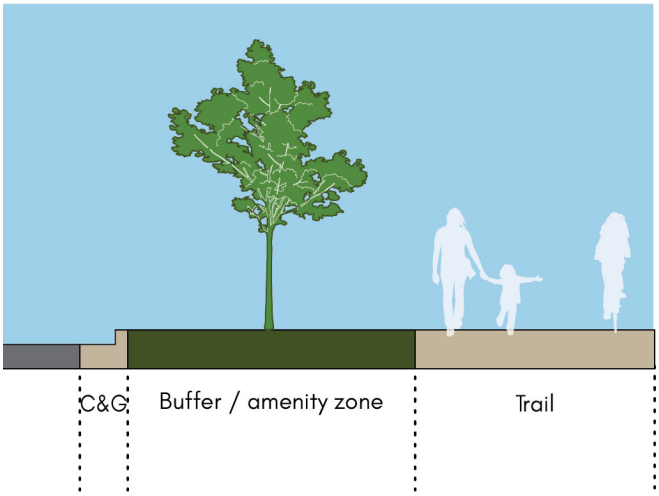
On local streets in existing residential neighborhoods where there is no sidewalk, an LTS 2 has been assigned when speed limits are 25 mph or less and volumes average less than 1,000 vehicles per day. These streets are the lowest priority to improve with sidewalk facilities unless they are part of a Safe Routes to School corridor. Neighborhood residents typically utilize the street surface to walk and roll with the motorized traffic. Generally, this sharing of the roadway has been found to be an acceptable level of comfort on these low-volume, low-speed streets.

Trails

To achieve at least an LTS 2, trails should be 10 feet or wider (with 12-foot as the desired width) with a 5-foot buffer on local streets, 8-foot buffer on collector streets, and 12-foot buffer on arterials. Striping on major trails can help separate bi-directional traffic for people walking/rolling and people biking where needed, especially in areas where visibility is limited due to trail curvature or topography.

In constrained environments with limited right-of-way behind the curb, trails should be as wide as possible, with a minimum width of 8 feet, and minimum buffer width of 2 feet.

FIGURE 33: TRAIL ELEMENTS



Buffer/Amenity Zone

The buffer/amenity zone is an area that separates trails and sidewalks from travel lanes. The highest-quality buffers include both horizontal and vertical separation, for additional protection for those walking, rolling, and biking. Wider buffers better accommodate shared dockless micromobility (such as scooter- and bike-share), by allowing users of bike- and scooter-share to park devices safely outside of the sidewalk, and in the amenity zone. This maintains a clear path of travel for people using wheelchairs and other mobility devices, while also reducing visual clutter.

While **Figure 32** and **Figure 33** show tree lawns in the zone, this is for illustrative purposes. This zone should provide a high-quality buffer with landscaping and street trees or a hardscaped surface with street furniture including streetlamps, benches, planters, and bike racks. Pedestrian lighting within the buffer zone improves safety for pedestrians, rollers and bicyclists using active transportation corridors and encourages the use of these facilities after dark. Parked cars, bike lanes, or painted shoulders (such as painted edge lines) can also be included in the overall buffer width.

OBJECTIVE Q2

Install high-comfort sidewalks and trails according to the design guidance in the Pedestrian Facility Types section.

Pedestrian Crossing Guidance

There are two main types of marked roadway crossings for pedestrians: controlled crossings and uncontrolled crossings.

- A **controlled crosswalk** is a legal crossing across a roadway approach controlled by a stop sign or traffic signal.
- An **uncontrolled crosswalk** is a legal crosswalk across a roadway approach without any control, such as a stop sign or traffic signal. Note: while a pedestrian can legally cross at uncontrolled crossings, the Colorado Revised Statutes Section 42-4-803 states: (1)....*Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway*.

Crosswalks may also be marked or unmarked:

- A **marked crosswalk** is a legal crosswalk that features traffic control markings.
- An **unmarked crosswalk** is a legal crosswalk that does not feature any traffic control markings.

An example of different crosswalk types in Grand Junction is shown in **Figure 34**.

FIGURE 34: PEDESTRIAN CROSSING EXAMPLES IN GRAND JUNCTION

The specific treatment (marked crosswalk, signage, beacon, etc.) for a specific crossing can be determined using the *Grand Junction Pedestrian Crossing Installation Guidelines* (2016), including when and where to place different types of crossings. Additional guidance on uncontrolled pedestrian crossings can be found in the FHWA *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*, and the CDOT *Pedestrian Crossing Installation Guide.*

OBJECTIVE S3

When upgrading pedestrian facilities on a corridor, incorporate suggested intersection treatments to reduce stress of crossings, and ensure continuity of high-comfort facilities.

The city should pay special attention to the universal accessibility of crossings for all ages and abilities, including for people with mobility challenges or with visual impairments. Crossings should be designed with ADA accessible pedestrian ramps, detectable surfaces, and other universal design features.

OBJECTIVE E1

Design crossings with ADA accessible pedestrian ramps, detectable surfaces, and other universal design features.

The TEDS Manual provides design standards for each of the treatments identified. Existing crossings should be evaluated regularly to help ensure the current standards are being met. In addition to these local standards, the city can reference Federal guidance.

CHAPTER 6.

PROGRAM & POLICY RECOMMENDATIONS

Programs

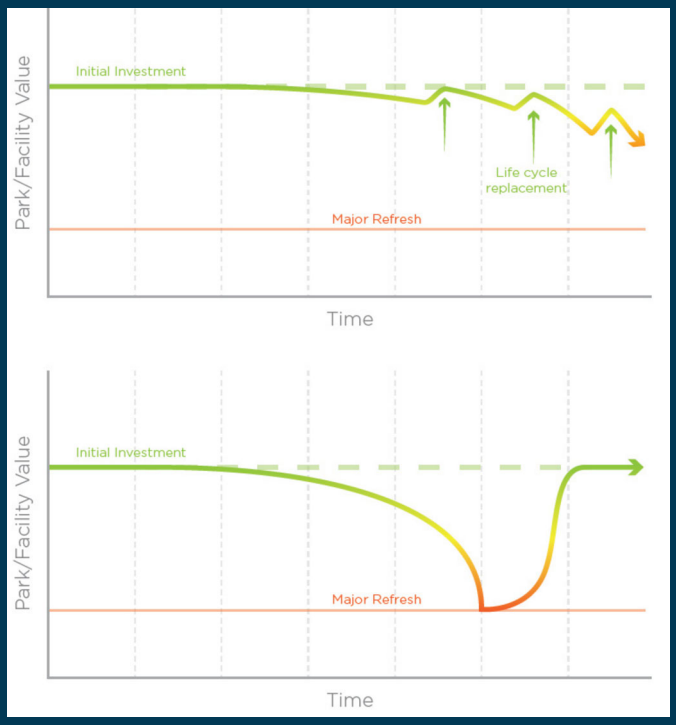
Programs will work in tandem with the build-out of the pedestrian and bicycle networks in Grand Junction to further support people walking, rolling, and biking. Programs to maintain new facilities, provide pedestrian and bicycle amenities, create Safe Routes to School, reduce commute trips, and improve education and awareness will each establish a culture friendly to walking and biking. Based on the existing conditions analysis, feedback from the community and in collaboration with the project Steering Committee, the following set of programs are recommended to support buildout and use of the future bicycle and pedestrian network.

Maintenance

As the city of Grand Junction bike, sidewalk, and trail networks expand during implementation of the PBP, a set of maintenance standards and a maintenance plan can help city staff assess and prioritize maintenance needs to keep infrastructure in a state of good repair. This will ensure the bike and pedestrian network is a reliable and comfortable transportation resource for all community members.

Planning and budgeting for maintenance needs can be overlooked during planning, design, and construction of new facilities. 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. Deferring routine upkeep can result in facilities degrading faster and requiring more expensive maintenance interventions later. Early, frequent maintenance can reduce overall costs over time, as seen in **Figure 35**.

FIGURE 35: EXTENDED LIFE SPAN OF FACILITIES WITH CONSISTENT REINVESTMENT VERSUS LIFE SPAN OF FACILITIES WITHOUT MAINTENANCE (SOURCE: FORT COLLINS 2021 PARKS & RECREATION MASTER PLAN)



RESPONSIBLE PARTIES

The Parks Operations Division of the Parks and Recreation Department is responsible for maintaining 21 miles of the urban trail system and over 500 acres of open space. The Street Systems Division of the Public Works Department is responsible for maintenance of all on-street bikeways, as well as street sweeping, drainage maintenance, leaf removal, pavement maintenance, and sidewalk maintenance. As the system expands, maintenance work completed by volunteers can supplement work performed by local 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 5**.

TABLE 5: 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.	
Perform surface cleaning of restrooms.	Remove waste from portable toilets or restrooms.	Hire a paid contractor.
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.	Perform structural inspection and maintenance of bridges and tunnels.	Hire a professional engineer and paid contractor.

RECOMMENDED MAINTENANCE ACTIVITIES

This section identifies recommended maintenance activities including trash removal, surface cleaning, vegetation maintenance, snow removal and drainage, pavement maintenance, amenity maintenance, physical infrastructure maintenance, and trailhead maintenance.

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. 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.

Vegetation Management: Vegetation management is another maintenance activity that is necessary to remove obstacles that could cause injury or impede universal access. 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.

Snow Removal and Drainage: The goal of snow removal and drainage is to avoid weather-related blockages to trail access. In general, snow removal should occur as soon as possible after a snowfall on hard surface trails. 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.

Pavement Maintenance: Asphalt pavement generally requires more maintenance than concrete and has fallen out of favor in many Colorado communities. Asphalt trails more frequently crack due to intruding vegetation, and a smooth trail surface is needed to better serve users of all abilities. Well-maintained concrete trails can last 25 years. However, concrete surfaces can still be damaged by water and erosion, tree roots, and frost and freeze cycles. 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: 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. Striping on major trails can help separate opposing traffic where needed, especially in areas where visibility is limited due to trail curvature. Striping and markings should be replaced where needed citywide on an annual 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: 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: 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. As these facilities are planned, the city should consider material types, durability, and placement with regard to the ease of maintenance and repair.

OBJECTIVE Q3

Develop a set of maintenance standards and a maintenance plan to prioritize upkeep of the active transportation network.

SOURCING FUNDS

Total annual maintenance cost estimates per mile vary greatly across communities, based on the type of facility (e.g., width, surface, structural design), as well as context-sensitive characteristics, such as the types of vegetation, amenities included, and number of annual users. The City of Grand Junction should continue to plan for increases in the budget of the Parks and Recreation Department and Public Works Department commensurate with additional assets and capital facilities that the Parks Operations Division and Street Systems Division must operate and maintain.

In communities nationwide, usually more funding exists for capital construction than for maintenance. 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%).

Many funding sources could be used for construction and maintenance. The city can explore these and more:

- Department of Local Affairs/Great Outdoors Colorado/Conservation Trust Fund(Colorado Lottery)
- Land and Water Conservation Fund
- Colorado Parks and Wildlife
- Conservation, trail advocacy groups, local organizations, non-profits
- Federal Highway Administration RAISE Grants, Recreational Trails Program Funding, Transportation Alternatives Program (TAP)
- Federal Safe Streets for All (SS4A) grants
- Highway Safety Improvement Program, National Highway Performance Program, FASTER Safety Grants
- City Capital Improvement fund (sales tax)
- City General Fund (sales tax)

OBJECTIVE Q4

Utilize existing and pursue new funding sources support construction and maintenance of the expanded system.

Pedestrian & Bicycle Amenities

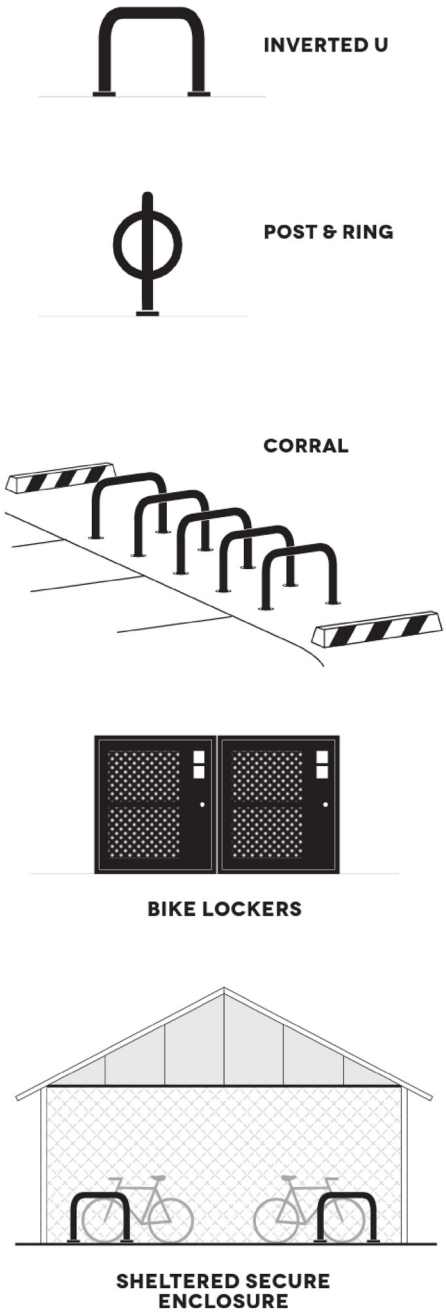
The following section outlines guidance for pedestrian and bicycle amenities for the city to incorporate alongside installation of new sidewalks, trails, and bikeways. With any corridor upgrade, the city should consider how to improve the overall streetscape to create a more pleasant environment for those walking and biking.

BICYCLE STORAGE & PARKING

Alongside bike lanes and trails, a key component of the bicycle network is secure bicycle storage and parking. Without ample and safe bike parking, people may be more reluctant to choose to bike. Installing and maintaining end-of-trip facilities such as bike racks/parking, bike lockers/secure bike storage, showers, and personal locker encourages commuting by bicycle by making it more convenient.

The city should refer to the Association of Professional Bicycle Professionals (APBP) resource, Essentials of Bike Parking, which outlines design and installation guidelines for short-term and long-term bike parking **(Figure 36)**. Placement and selection of these facilities should consider not just traditional bikes but cargo, e-bikes and adaptive devices. Grided bike racks, loop bike racks, and other similar bike racks that do not allow the user to easily lock the frame and wheel of the bike to a post should be avoided. These racks are typically inefficiently used, harder to secure one's bike, and less compatible with larger e-bikes and cargo bikes. The inverted U or other similar bike racks as shown in **Figure 37** are preferred.

FIGURE 36: TYPES OF APBP-COMPLIANT PARKING



The city should prioritize installation of bike parking and secure bike storage in key destinations such as downtown, outside of city properties, and near major transit hubs, parks, schools, employment centers, and shopping areas. Secure bicycle parking incorporates a “post” or “rack” where the front tire and the frame of the bicycle can be easily locked. The city should also accommodate alternative micromobility devices such as e-bikes and scooters by constructing dedicated micromobility parking in high-demand areas. Bike parking could take the form of bike racks, micromobility corrals, bike lockers, bike shelters, and repurposed parking spaces.

FIGURE 37: BIKE PARKING IN GRAND JUNCTION

Regardless of the type of bike parking used, it is important that it holds the number of bikes as they are designed to hold and it stores them securely. For example, on many traditional "bike racks" a bicycle can only be secured on each end of the rack where one can lock both the front wheel and the frame of the bicycle to the rack. The spots between are difficult to use with limited distance between bike slots to lock up to and not as secure due to only a single tire being secured to the rack. This results in the total number of bicycle parking spaces the rack was designed for not being met and those bikes locked up not as secure. These concerns are magnified for e-bike users due to the larger size of the bike.

The city should also encourage new and existing developments to provide secure bike parking and amenities. The Development Code should require bike parking with new construction and a requirement or create an incentive such as vehicular parking amenity credit for covered, secure, easily accessible bike rooms in multifamily developments and office buildings. Additionally, the city should explore options for incentivizing existing developments to add secure bike parking, such as a grant program. The city could work with existing businesses to provide bike parking by sharing the cost and promoting the League of American Cyclists Bicycle Friendly Business program.

OBJECTIVE M1

Prioritize installation of bike and micromobility parking and secure storage in key destinations downtown, outside of city properties, and near major transit hubs, parks, schools, employment centers, and shopping areas.

OBJECTIVE M2

Encourage new and existing developments to provide secure bike parking and amenities through requirements and incentives.

FIGURE 38: BICYCLE PARKING OUTSIDE OF SCHOOLS CAN BE ESPECIALLY IMPORTANT

STREET FURNITURE

The buffer/amenity zone described alongside the Bicycle and Pedestrian Facility Types is an area that separates trails and sidewalks from travel lanes. These buffers should include both horizontal and vertical separation. Wider buffers provide distance from moving traffic, but also create a valuable space to park micromobility devices like scooters and bikes, to rest, to wait for the bus, and more.

Some buffer/amenity zones may be landscaped with native grasses, shrubs, and trees. Hardscaped buffers however, offer the opportunity to install street furniture like benches, streetlamps, bus stops, bike parking, waste receptacles, fountains, public art, and more. Each of these present amenities to people walking, of all ages and abilities. Benches cater to people waiting for the bus, as well as older adults and small children, who may need to take more breaks. Pedestrian lighting, discussed below, create a sense of safety on a street at night. Each amenity listed creates a more pleasant and comfortable environment, making it more attractive to walk.

Along trails, amenities like shade, water fountains, seating, and ADA accessible restrooms support recreation and active transportation.

OBJECTIVE M3

When upgrading bicycle and/or pedestrian facilities on a corridor, design high-quality landscaped or hardscaped buffers with street furniture and pedestrian amenities.

OBJECTIVE M4

Grand Junction's streets shall be designed as public amenities and include aesthetic elements such as street trees, landscaping, pedestrian lighting, street furniture, and wayfinding signage wherever possible.

FIGURE 39: BENCHES, BIKE RACKS, WASTE RECEPTACLES, AND SIGNAGE CREATE A PLEASANT SPOT

PEDESTRIAN-SCALE LIGHTING

Comments received from the public engagement process included the need to provide safety for nighttime users. Lighting plays an important role in establishing a safe and inviting environment for people to walk and bike. Many are likely familiar with Main Street environments that create an appealing place to walk at all times of day, with lampposts and cheerful string lights that continue to draw visitors to shops and restaurants throughout the evening. The opposite is also true. Dark, unlit corridors, regardless of whether they are a local street or a major arterial, feel uninviting and unsafe to the average person.

For those already unsure about walking or biking, especially vulnerable users like mothers with children or older adults, knowing that they will have to return home at night in the dark is likely to discourage choosing to walk or bike. Installing lighting of the appropriate scale and spacing can improve ambiance dramatically and increase one's sense of safety and "being seen" at night.

When updating pedestrian and bike facilities on a corridor, the city should concurrently plan for the upgrade of lighting in the project area. Lighting considerations include:

Scale and Aesthetics: The dimensions of streetlights should be scaled to the width and characteristics of the street. Smaller lampposts between 25 and 30 feet should be chosen for local and collector roads to support street character and walkability of

FIGURE 40: EXAMPLES OF PEDESTRIAN LIGHTING IN GRAND JUNCTION

neighborhoods and local commercial districts. Taller poles of 30 feet or more are appropriate for wider arterial streets and highways. Other attractive types of lighting beyond lampposts can support illumination of the public realm, such as string lights, storefront lighting, lit signs, etc.

Spacing: Spacing between streetlights should be roughly 2.5 to 3 times the height of the pole. Density along a corridor and traffic speeds also affect ideal spacing. Lighting will be less frequent in rural areas, but alongside new development, lighting frequency should increase. Light cones are roughly the same diameter as the height of the fixture, which will influence the maximum distance between streetlights to avoid dark areas.

Light Pollution and Energy Efficiency: "Dark sky friendly" lighting fixtures focus lighting directly downward onto the street to minimize flare and light pollution, while maximizing useful light. Shielded and cut-off fixtures with energy-efficient LED light bulbs are more cost-effective and reduce light pollution by directing light toward the ground. Solar powered fixtures should be installed when possible to take advantage of Grand Junction's climate.

For more information, the city can refer to lighting design guidance in the Global Designing Cities Initiative's *Global Street Design Guide*.

OBJECTIVE S4

Conduct a lighting needs assessment for each active transportation corridor - as a first step in identifying lighting needs for safety improvements.

OBJECTIVE M5

When upgrading bicycle and/or pedestrian facilities on a corridor, concurrently plan for the upgrade of lighting in the project area.

WAYFINDING & SIGNAGE

Signage is a practical component of a community's transportation system, directing users to key destinations. However, it also offers an opportunity for the city to create a sense of place and cohesive, artistic system for orienting visitors and bringing people into the downtown core and commercial districts to explore shops and restaurants. In this way, wayfinding can simultaneously act as an economic development driver and unite transportation and land use.

Signage should indicate where to find key destinations, such as shopping and dining, the town hall and post office, trailheads, the nearest bus stop, and more. Thoughtful design and placement of this signage can help visitors and residents orient themselves downtown and easily locate key destinations. **Figure 41** shows how simple this kind of signage can be, while remaining aesthetically pleasing. The pedestrian scale of this signage caters to people walking downtown and in commercial districts, but it can also be read by those on a bike or in a car. Signage at range of scales, including gateways, directional signs, street banners, pavement markings, map kiosks, and bikeway signage can assist all types of travelers with navigation.

FIGURE 41: EXAMPLE OF WAYFINDING SIGNAGE

Wayfinding systems should also include estimated walking time to each destination listed to further highlight ease of pedestrian access.

As recommended in the *Vibrant Together* downtown plan, Grand Junction should initiate a comprehensive wayfinding and signage study to create a consistent strategy for connecting people walking, biking, and driving to downtown and other key destinations.

OBJECTIVE M6

Initiate a comprehensive wayfinding and signage study to create a consistent strategy for connecting people walking, biking, and driving to downtown and other key destinations.

Bikeway and trail signage is especially important to help people walking, rolling and biking reach major destinations and landmarks. In partnership with the Urban Trails Committee, in 2020 the city installed 300 wayfinding signs to guide cyclists throughout the community. As the city continues to build out bike facilities and new trails over time, they should incorporate additional signs with the same wayfinding standards at decision points – typically at the intersection of two or more bicycle facilities and at other key locations along bicycle routes.

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. Signs may be directional and related to routing users to key destinations, mile markers to help users self-locate, or pertaining to trail etiquette.

OBJECTIVE M7

As the city continues to build out bike facilities and new trails over time, incorporate additional signs with the same wayfinding standards at decision points.

The Steering Committee was particularly concerned with signage on the Riverfront Trail and suggested two major changes in that specific area – first, striping a centerline on the trail starting on the east end of Las Colonias Park and continuing to the west through the high use area of the trail; and second, installing signage on trail etiquette along the Riverfront Trail. The centerline is recommended to highlight two-way traffic on the trail, maintain space for passing, and reduce safety conflicts. Trail etiquette signage is intended to communicate responsibilities of trail users to keep to the right, leash dogs, respect proper cycling speeds, pay attention at high traffic intersections, etc.

OBJECTIVE M8

Improve signage on the Riverfront Trail.

SHARED MICROMOBILITY

In 2022, the City released a Referral for Proposals to solicit shared micromobility (e.g., bike and scooter share) to evaluate the effectiveness of this mode of transportation on first- and last-mile connections and modal shifts. The 18-month pilot study is slated to start 2023.

Scooters and bike share have been successfully deployed in several Front Range communities including Fort Collins, Boulder, Colorado Springs, Denver, and Longmont. Sharing services are most successful and financially sustainable where there is a higher density of land uses, since people can travel shorter distances to reach destinations, the ideal trip type for micromobility to support.

Shared micromobility has numerous benefits, including flexible travel options, better first- and last-mile connections to transit, and replacement of vehicle trips.

The city will use geofencing and micromobility corrals and will eventually explore a docked system to keep walkways clear for pedestrians and people using wheelchairs and other mobility devices, while also reducing visual clutter along the sidewalk.

The city will build and encourage development to provide additional bike parking. Should the micromobility pilot be successful, property owners may choose to provide device parking, in coordination with micromobility vendors.

The street standards could be updated to include a buffer/amenity zone in new sidewalks in core areas of the city which could be used for micromobility parking safely outside of the sidewalk.

OBJECTIVE M9

Close the gaps on first-and-last mile connections through the deployment of shared micromobility devices (e-scooters, e-bikes, etc.) and utilize geofencing and parking corrals to accommodate device parking in high-traffic areas.

Safe Routes to School (SRTS)

Safe Routes to School (SRTS) programs are designed to make it safer for students to walk and bike to school, and thus encourage more walking and biking. Beyond supporting safety, SRTS programs can reduce traffic congestion, provide environmental benefits, and improve health outcomes by promoting habits of walking and biking that may influence travel decisions later in life.

The city of Grand Junction dedicates a portion of the federal Community Development Block Grant (CDBG) distribution it receives each year to the city's Safe Routes to School Program. Since 2016, the city has invested more than $700,000 in walking and biking infrastructure improvements around schools, including new sidewalks, crosswalks, traffic calming, and accessibility projects. The Mesa County Regional Transportation Planning Office (RTPO) has a separate program that conducted STRS assessments of 12 elementary schools and 8 middle schools in School District 51.

OBJECTIVE S5

Bolster the existing Safe Routes to School program by incorporating new elements of the six Es.

The city of Grand Junction can bolster their Safe Routes to School program by incorporating all elements of a successful SRTS program: the "six Es." The six Es represent an integrated and comprehensive approach to making streets healthier and safer for everyone, regardless of their destination or travel mode. The following section describes each of the six Es and related initiatives.

Education – Providing students and the community with the skills to walk and bicycle safely, educating them about benefits of walking and bicycling, and teaching them about the broad range of transportation choices.

- Schools can launch advertising campaigns to promote travel to school by means other than driving.
- Public education can include information distributed to students about travel options, including safe walking and biking routes, transit services, and carpools.

Encouragement – Generating enthusiasm and increased walking and bicycling for students through events, activities, and programs.

- Walk Pools/Walking School Bus: Organized walking groups for children, chaperoned by an adult, that encourage students to walk together to school.
- Bike Bus: Organized bike rides to school chaperoned by an adult(s), that provide a fun morning experience and safety in numbers.
- Walk, Roll, and Bike to School Day: Event that encourages participation and educates students on the benefits and ways to walk and bike to school comfortably and safely.
- Partner with local organizations to lead/help with SRTS programs.
- Engage parents as volunteer crossing guards and walk/bike bus leaders.
- Create a yard sign program.

Engineering – Creating physical improvements to streets and neighborhoods that make walking and bicycling safer, more comfortable, and more convenient.

- High quality sidewalks and crosswalks near schools: Refer to the recommended facility types and alignments in this plan – proximity to schools and crash history were both factors used in project identification and prioritization, with projects close to schools and near crash hot spots considered higher priority.
- High visibility signage and markings in school zones.
- Designated curb space outside schools for pick-up and drop-off zones.

Traffic calming in neighborhoods around schools like curb extensions, pedestrian refuge islands, etc. **(Figure 42).**

Enforcement – Deterring unsafe traffic behaviors and encouraging safe habits by people walking, bicycling and driving in school neighborhoods and along school routes.

- The city can work with schools to identify if there are particular behaviors that cause safety issues that could be alleviated through a form of enforcement of better practices, and how to generally enhance awareness of school zones where children may be present.
- Crossing guards/police enforcement during peak travel times.
- Reduce school zone speed limits.

Evaluation – Assessing which approaches are more or less successful, ensuring that programs and initiatives are supporting equitable outcomes, and identifying unintended consequences or opportunities to improve the effectiveness of each approach.

- Maintain an open forum to collect parent, teacher, staff, and student concerns.
- Conduct surveys on travel behavior to and from school and barriers to walking and biking.
- Evaluate barriers in the built environment to walking and biking near school properties.
- Conduct safety audits at pick-up and drop-off times to identify safety issues.
- Expand successful programs.

Equity – Ensuring that Safe Routes to School initiatives are benefiting all demographic groups, with particular attention to ensuring safe, healthy, and fair outcomes for low-income students, students of color, students of all genders, students with disabilities, and others.

- Ensure ADA access to school properties.
- Focus attention on schools in low-income neighborhoods/with many students of color.

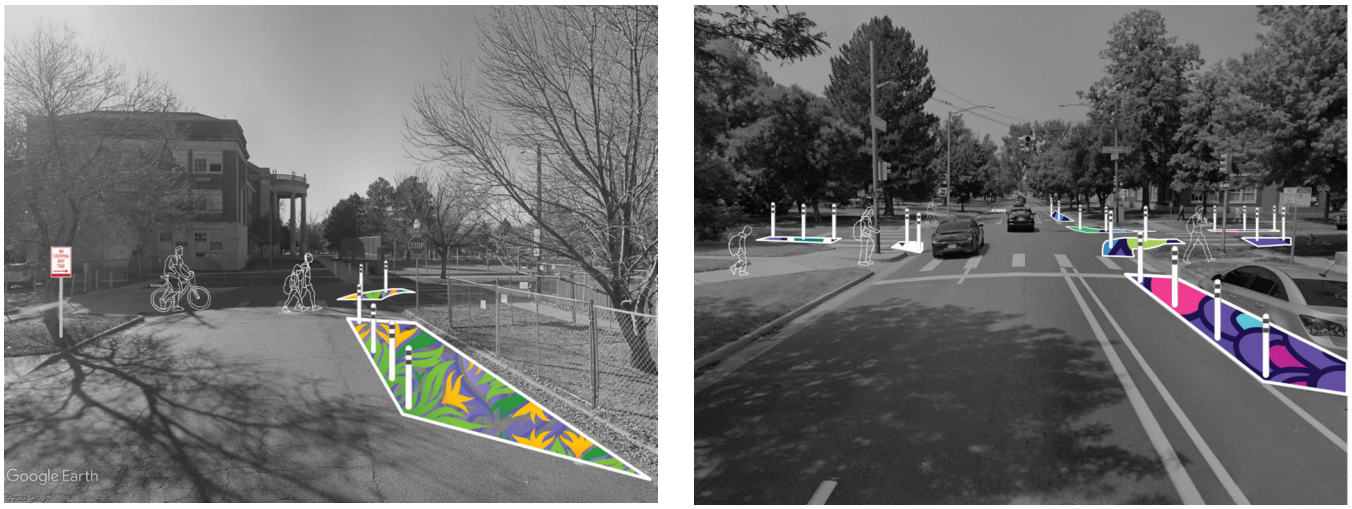


FIGURE 42: EXAMPLE OF TRAFFIC CALMING NEAR SCHOOLS

Grand Junction uses CDBG funding for its SRTS program, but has not pursued SRTS funding through CDOT's Transportation Block Grant due to "administrative challenges associated with the state program." Almost all funding for SRTS is federal but distributed at the state level. There are a range of project types eligible for SRTS funding, including campaigns, educational initiatives, sidewalk and crossing repairs, and equipment pilot programs. It is recommended that the city consider expanding its SRTS program by diversifying funding sources to include CDOT funding in addition to dedicated CDBG funding.

OBJECTIVE Q5

Consider expanding the SRTS program by diversifying funding sources to include CDOT funding in addition to dedicated CDBG funding.

The city is most likely to be successful for grants to implement infrastructure that improves bicycle and pedestrian safety by formalizing the SRTS program, including ongoing action items to collect data on travel behavior to and from schools. A well-organized and complete SRTS program will benefit transportation in Grand Junction by providing users with a range of transportation options and enhance the real and perceived safety of those options.

When the focus of transportation planning and design is on the most vulnerable users, children walking and biking, the safety benefits reach everyone. Increased walking and biking provide environmental and health benefits to students, but also provides the transportation benefits of reduced traffic congestion and lower transportation costs for school districts and families. Safer streets, reduced congestion, and a greater share of trips occurring through walking and biking all support the vision of the plan.

More information and resources on Safe Routes to School can be found through the Safe Routes to School National Partnership: https://www.saferoutespartnership.org/.

Community-wide Incentive Program

Through their Bicycle Friendly Community Designation, the League of American Cyclists encourages municipalities to develop a community-wide commute trip reduction (CTR) ordinance, incentive program, and/or a Guaranteed Ride Home program to encourage and support bike commuters.

Through this program, the city would work with large employers to implement a voluntary incentive program to support walking and biking to work. Incentives can include e-bike rebates, bike-themed events such as bike rodeos and Bike to Work Day, shwag such as bike lights and helmets, and gift certificates for those who bike to City events. Guaranteed Ride Home provides commuters who did not drive to work with alternative means home in case of an emergency.

OBJECTIVE M10

Develop a community-wide incentive program and work with large employers to implement a Guaranteed Ride Home program to encourage and support bike commuters. Incentives can include e-bike rebates, bike-themed events such as bike rodeos and Bike to Work Day, shwag such as bike lights and helmets, and gift certificates for those who bike to City events. Guaranteed Ride Home provides commuters who did not drive to work with alternative means home in case of an emergency.

Education & Awareness

Numerous comments received during the public engagement process referred to the need for education and awareness to establish a more positive culture around walking and biking in Grand Junction. Residents noted that drivers are often unaware of cyclists in the roadway and don't expect them. Many residents also have had negative experiences with drivers, ranging from distracted and dangerous driving to verbal and physical harassment, hostility, and aggression.

OBJECTIVE S6

Work with local driving schools to expand the curriculum on laws governing interactions with people walking, rolling, and biking.

Better driver education is needed to establish respect for people walking and biking and create a more "peaceful coexistence," as one commenter wrote. City law enforcement should work with local driving schools to expand the curriculum on laws governing interactions with people walking, rolling, and biking, such as three-foot passing distance, permission for cyclists to occupy a full travel lane, requirements to stop for people in the crosswalk, window tinting laws; as well as the danger of running red lights and turning right on red during a walk cycle.

In a similar vein, several comments highlighted negative cyclist interactions with law enforcement in Grand Junction and the need to improve relations with people walking and biking. City staff should partner with law enforcement to increase enforcement of speeding and reckless driving in areas with high pedestrian volumes and/or safety issues and consider automated enforcement. The police department may also consider expanding their bike patrol unit to improve bicyclist/officer relations, and ensure that all law enforcement officers have basic training or experience with bicycling.

OBJECTIVE S7

Partner with law enforcement to increase enforcement of speeding and reckless driving in areas with high pedestrian volumes and/or safety issues and consider automated enforcement. Consider expanding the police bike patrol unit.

OBJECTIVE M11

Establish a more positive culture around walking and biking in Grand Junction by creating staff position(s) to assist in public education, promoting the Bicycle Friendly Business program, and/or hosting an LCI seminar.

Beyond these measures, the city should pursue the following recommendations highlighted in the Bicycle Friendly Community Designation and the Walk Friendly Community Report Card:

- Educate staff on walking, walkability, and pedestrian safety.
- Encourage more local businesses, agencies, and organizations to promote cycling to their employees and customers and to seek recognition as a Bicycle Friendly Business.
- Host a League Cycling Instructor (LCI) seminar to increase the number of local LCIs.
- Expand the audience for educational programs to include high school students, college students, and new drivers.
- City staff can take the lead on these actions, along with many of the other programs and policies in this plan.

Policies

One of the most tangible and cost-effective ways to improve the bicycle and pedestrian environment in Grand Junction will be to implement effective policies. Policies can be used by city departments as they perform street construction projects and routine maintenance. The policies can also be used to guide the private sector in new development or redevelopment projects. Adopting policy(ies) may assist in ensuring projects incorporate the city's goals for the bicycle and pedestrian environment and create a consistent experience for users.

Based on the existing conditions analysis and in collaboration with the Steering Committee, the following set of actionable policies are recommended to support buildout and use of the future bicycle and pedestrian network.

Access Management

Access management is an important strategy to mitigate curb cut frequency and conflicts between pedestrians, bicyclists, and turning vehicles. The TEDS Manual states that access should be provided on the lower street classification when a property is adjacent to multiple streets. Additionally, the North Avenue Zoning Overlay provides access management guidance to limit curb cuts specifically along North Avenue.

The city should consider expanding this type of policy to Active Transportation Corridors and corridors identified on the Active Transportation High Injury Network (**Figure 14, Appendix A**) to mitigate conflict points between vehicles and pedestrians and bicyclists. Potential access management strategies typically include redirecting access to side-streets and alleys, consolidating driveways among single and adjacent property owners, and adding medians.

OBJECTIVE S8

Improve the North Avenue access management policy in alignment with national best practices and consider expanding to all the Active Transportation "High Injury Network" Corridors.

Vision Zero

Through their Bicycle Friendly Community designation, the League of American Bicyclists encourages municipalities to adopt a comprehensive road safety plan or a Vision Zero policy. It is increasingly common for municipalities around the country to adopt Vision Zero policies and programs.

These Vision Zero policies and programs consist of communities committing to eliminating traffic crashes that result in fatalities or serious injuries by providing safety training, implementing engineering solutions that are proven to slow vehicle speeds while reducing conflicts with other roadway users, and forming multidisciplinary initiatives for implementing safety programming.

Grand Junction can join Colorado's statewide program – Moving Towards Zero Deaths – as a first step in solidifying a citywide commitment to supporting multimodal travel through ensuring all trips in the community are as safe as possible.

OBJECTIVE S9

Join the statewide program – Moving Towards Zero Deaths – as a first step in solidifying a citywide commitment to supporting multimodal travel through ensuring all trips in the community are as safe as possible.

Construction Zones

Pedestrian and bicycle accommodation in work zones is already a federal standard defined in the Manual on Uniform Traffic Control Devices, and the city currently has a work zone policy consistent with federal standards.

The city should strengthen compliance with the work zone policy that requires developers and construction companies to reroute sidewalks and bicycle facilities that are impacted by construction, similar to the way that they must currently continue to facilitate roadway access for people driving.

This means accommodating people walking and biking with a temporary walkway and bikeway adjacent to the work zone (**Figure 43**), or at minimum signing alternate detour routes on either end of the construction zone. The city could consider more active enforcement of current work zone policy along the Active Transportation Corridors.

OBJECTIVE C2

Strengthen enforcement and compliance of the existing construction zones policy that requires developers/construction companies to provide sidewalks and bicycle facilities during construction.

FIGURE 43: EXAMPLE OF COVERED WALKWAY AT CONSTRUCTION SITE

Constructing Active Transportation Facilities

Consistent with current Municipal Code, when an Active Transportation Corridor (ATC) is shown as part of a Collector or Arterial street, the city should continue to plan for and construct the facility. If an ATC is along a local street within a development, a developer should continue to construct deficient or missing facilities, unless other funding sources are secured. The city should continue its current policy for new development to construct an ATC within or adjacent to the site, unless other funding sources are secured. Additionally, bicycle parking should be provided at commercial and multifamily residential locations.

OBJECTIVE Q6

Continue the current policy where planned Active Transportation Corridors that run through or adjacent to a site be constructed as part of the development.

OBJECTIVE C3

Require new developments to provide or set aside space for pedestrian and bicycle connections within the local street network of new developments and to adjacent streets in situations where there is a lack of connectivity in the roadway network.

Building a Connected Network

Public input and an analysis of the existing transportation network highlighted the lack of connectivity between many neighborhoods in Grand Junction due to the curvilinear street network, especially for people walking or bicycling.

The city's existing Subdivision Standards already require connectivity to "Promote pedestrian uses, bicycling, and transportation modes other than private automobile." This connectivity standard should remain, as creating a connection between two otherwise unconnected streets/neighborhoods can greatly decrease the trip lengths for people walking, rolling, and bicycling, as conveyed in **Figure 44**.

In established neighborhoods, these connections can be created by finding existing easements or right-of-way or by acquiring new right-of-way or easements if none currently exists.

The City's current maximum block length of 1200 linear feet is established in the Transportation Engineering Design Standards (TEDS) for vehicular access. The City should consider pedestrian and bicycle connections at an interval closer to 600 feet, which is the distance data indicates is a more comfortable block length for pedestrians to navigate. A "Connectivity Index" could also be used.

OBJECTIVE C4

Develop an ordinance mandating a minimum level of street connectivity. A more densely connected or gridded network makes for a more walkable and bikeable area by increasing route options and reducing out of direction travel. Connectivity can be defined by a "connectivity index," the ratio of pedestrian and bicycle connections to blocks (or intersections). Consider reducing the maximum distance between pedestrian and bicycle connections to be less than the existing maximum block length for vehicular access of 1200 linear feet.

Applying Transportation Demand Management

Transportation Demand Management (TDM) measures are strategies typically designed to facilitate the use of alternate transportation modes to decrease demand on the roadway system by single occupant vehicles. The city should explore incentives-based measures, such as updating its Transportation Impact Study guidelines (Chapter 29.08.200 of the Municipal Code) to encourage TDM strategies, into which major developments could opt, specifically to support walking and biking. These could include constructing Active Transportation Corridors, bike facilities, showers, car share, or other support for bike commuters. Incentive-based measures may weigh some TDM measures over others.

OBJECTIVE M12

Explore incentives-based Transportation Demand Management (TDM) measures, into which major developments could opt, to provide support for walking and biking. These could include constructing Active Transportation Corridors, bike facilities, showers, car share, or other support for bike commuters.

Parking Policy

Encouraging developments to right-size off-street parking increases the walkability of an area by increasing density, activating the pedestrian experience, prioritizing pedestrian infrastructure, and reallocating space for people instead of vehicles. The city's Municipal Code (21.06.050) currently identifies parking minimums for different land uses. Reducing or, in some cases, relieving all parking requirements is a strategy which may better align with the community's goals of mobility and affordability, as well as reduce one of the highest costs associated with new development. Other parking strategies that warrant further study include:

- **Fee-in-lieu**: Fee-in-lieu allows a developer the choice to pay a fee into a municipal fund instead of providing on-site parking spaces required per Municipal Code. This policy is especially effective for small parcels where redevelopment may be less viable due to parking requirements. This fee can assist in financing public parking spaces or/and fund other transportation demand management and multimodal investments that will help to reduce single occupancy vehicle use.
- **Paid and time restricted parking**: Paid and time restricted parking is a management approach to shift behaviors and encourages more walking and biking.

OBJECTIVE M13

Revise the parking minimum standards for different land uses to better align with the community's goals; reducing development costs associated with excessive parking to allow for innovations, flexibility, and greater affordability.

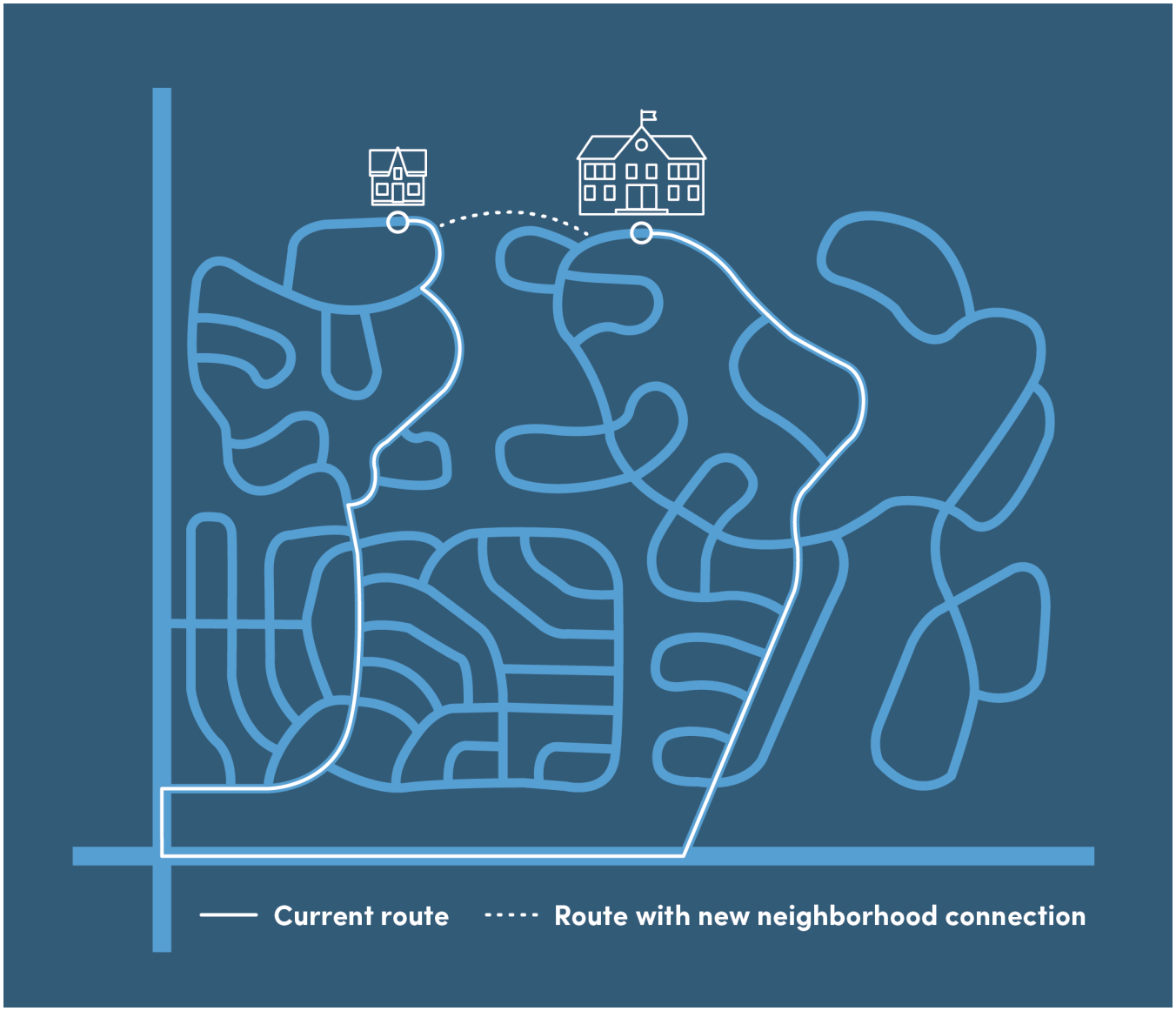


FIGURE 44: CONCEPTUAL DISPLAY OF INCREASE IN CONNECTIVITY WITH BICYCLE/PEDESTRIAN CUT-THRU

CHAPTER 7.

IMPLEMENTATION & PRIORITIZATION

This section will guide the city's buildout of the future pedestrian and bicycle network through the following five elements:

1. Implement the City's Complete Streets Policy to improvements that are planned, designed, constructed, operated, and maintained to support safe, efficient and convenient mobility to all road users.
2. Performance measures to allow the community to track the plan's progress toward achieving the vision and goals set out in this plan.
3. Project prioritization to define the highest priority bicycle and pedestrian projects.
4. Incorporating implementation into routine city procedures for data maintenance and implementation of projects.
5. Federal, state, regional, and local funding opportunities.

PERFORMANCE MEASURES

This section outlines specific performance measures to track progress over time toward and provide a quantitative way to ensure that the city moves towards its defined goals.

Tracking performance measures will provide accountability and transparency to the community and provide valuable information to the city as to whether the implementation strategy should be adjusted over time. It is recommended that city staff collect data annually and publish findings through a report, dashboard, and/or via the city website. The performance measures are organized by each goal.

Equitable

Design and operate the communities' streets and right-of-way to reasonably enable convenient access and travel for people walking and biking of all ages, abilities, and income levels and prioritize improvements that benefit vulnerable users and underserved areas.

- **Metric:** Miles of bike lanes and sidewalks installed or upgraded in low-income areas (those below the median household income in Grand Junction).
- **Metric:** Number of crossings implemented or upgraded to achieve ADA compliance.

Safe

Improve perceived and real safety by reducing the level of traffic stress (LTS) and reducing bicycle and pedestrian involved crashes. Invest and implement countermeasures at and along segments of the Active Transportation High Injury Network where there are known safety challenges.

- **Metric:** Number of miles of Active Transportation Corridors that score an LTS 1 or 2.
- **Metric:** Total bicycle and pedestrian crashes.

Connected

Provide convenient access to Community Attractions and reduce the need for out of direction travel. Increase the number of direct and low-stress connections to key destinations within the city.

- **Metric:** Number of key destinations (schools, childcare facilities, healthcare facilities, grocery stores, shopping centers, parks & recreation centers, libraries & public buildings, trailheads, and bus stops) within a quarter mile of a low-stress bike facility.
- **Metric:** Miles of missing sidewalks within a half mile of key destinations (schools, childcare facilities, healthcare facilities, grocery stores, shopping centers, parks & recreation centers, libraries & public buildings, trailheads, and bus stops).

Multimodal Community

Implement infrastructure and programs that make walking and biking accessible to people of all ages and abilities throughout the city, with a focus in areas of highest need, such as serving low-income areas.

- **Metric:** Miles of bike lanes and sidewalks installed or upgraded in low-income areas (those below the median household income in Grand Junction).
- **Metric:** Number of crossings implemented or upgraded to achieve ADA compliance.

Quality

Invest in high-quality facilities that minimize the level of traffic stress experienced by travelers using the corridor and are well-maintained.

- **Metric:** Amount of funding dedicated annually for active transportation improvements that supports facility maintenance and the installation of new capital projects each year.

Project Prioritization

Prioritization Factors

The prioritization factors in **Table 6** were developed based on input from the public, Steering Committee, and city staff reflecting the community's priorities. These inputs were used to prioritize proposed bicycle and sidewalk projects into three tiers: low, medium, and high priority. For more information on the project prioritization methodology, refer to **Appendix B**.

Priorities may be amended in the future as land uses change and new growth occurs that may increase (or decrease) the priority for new connections.

TABLE 6: PRIORITIZATION FACTORS AND RELATED GOALS

Factor	Equitable	Safe	Connected	Multimodal Community	Quality
Located in low-income neighborhoods	✓				
Provides access for low-income residents	✓				
Provides access across barriers	✓		✓		
Access to bus stops	✓		✓	✓	
Frequent & severe crash locations		✓			
Has low lighting		✓			
Active Transportation Corridors			✓	✓	✓
Access to parks & recreation centers			✓		
Access to libraries & public buildings			✓		
Access to social services	✓		✓		
Access to schools			✓		
Access to childcare facilities			✓		
Access to healthcare facilities			✓		
Access to grocery stores & shopping centers			✓		
Access to trailheads			✓		

Prioritized Pedestrian Corridors

A pedestrian prioritization analysis was conducted for all roadways, regardless of whether sidewalks already exist, based on the criteria in **Table 6** and according to the methodology in **Appendix B**.

This prioritization resulted in two maps – first, of the highest priority missing sidewalks to complete (**Figure 46**), and second, of the highest priority existing sidewalks to upgrade or rehabilitate to meet ADA requirements and standards defined in this plan (**Figure 47**).

FIGURE 45: ORDER IN WHICH TO PRIORITIZE SIDEWALK PROJECTS

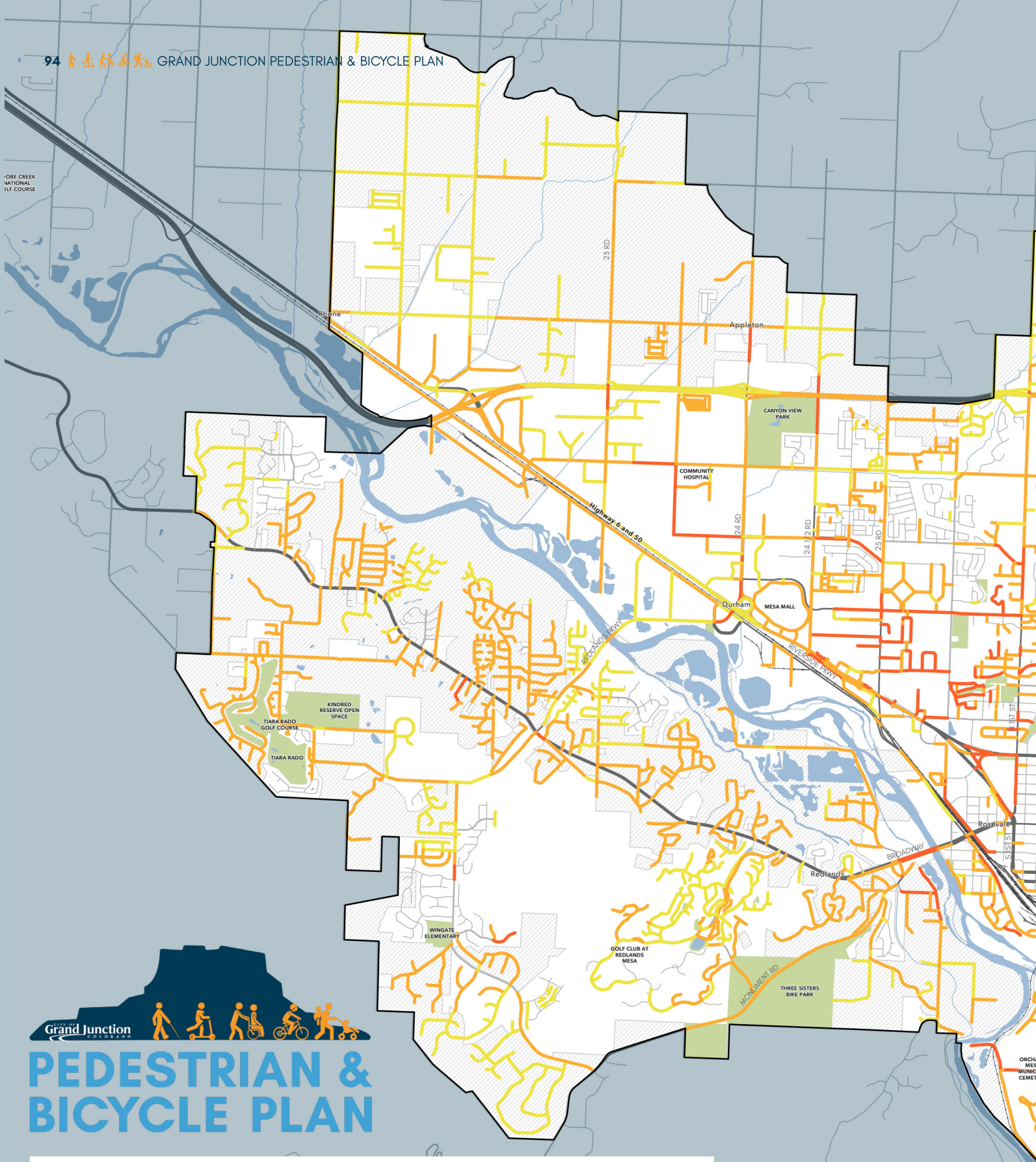
As shown in **Figure 45**, the City should first complete missing sidewalks shown in **Figure 46**, then perform priority sidewalk retrofits shown in **Figure 47** as needed. It should be noted that due to data availability, **Figure 47** shows all existing sidewalks, irrespective of sidewalk quality and buffer width. Following completion of sidewalk gaps, the city will need to determine which existing sidewalks are deficient. Within each of the six categories in **Figure 45**, the city should review and prioritize specific locations for gap completion or rehabilitation annually and on a case-by-case basis. It is also acknowledged that streets with higher speeds and volumes are in greater need of sidewalks to separate pedestrians from traffic. Thus, for each priority tier (high, medium, low), the city should additionally prioritize projects based on street classification starting with arterial streets, followed by collector streets, followed by local streets before moving on to streets in the next priority tier. Using this strategy, the city would first complete the sidewalk network on all arterial streets with missing sidewalks that are shown as high priority in **Figure 46** followed by all collector streets with missing sidewalks that are high priority, and so on. In addition to the designated tier, decision makers should also consider the following factors that may shift when a sidewalk is completed, regardless of its tier:

- Is it part of a city street reconstruction project and designed under the City's Complete Streets Policy?
- Is there new development and/or a property owner willing to fund sidewalk enhancements adjacent to the sidewalk location?
- How/when does this location tie into the street paving/rehabilitation schedule?
- Is the existing condition of the sidewalk posing a safety risk?
- Is there a funding source available such as a Safe Routes to School grant?
- Could partnerships be formed with local entities to perform upgrades?

OBJECTIVE E2

Prioritize locations for sidewalk gap completion or rehabilitation according to the strategy outlined in the Prioritized Pedestrian Network section.


Gunnison Av
STOP
UNIVERSITY



PEDESTRIAN & BICYCLE PLAN

LEGEND

- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

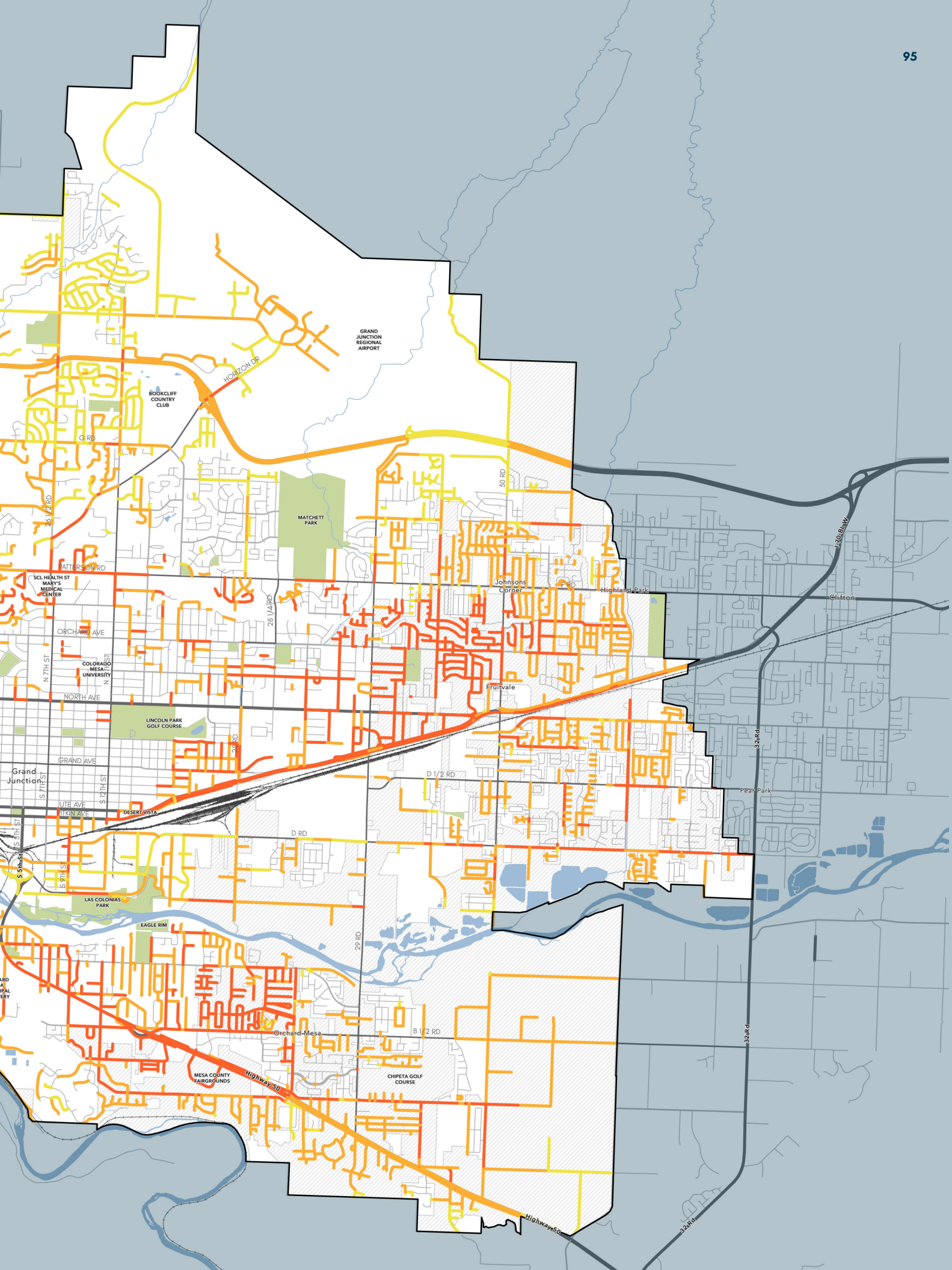
Street Classification

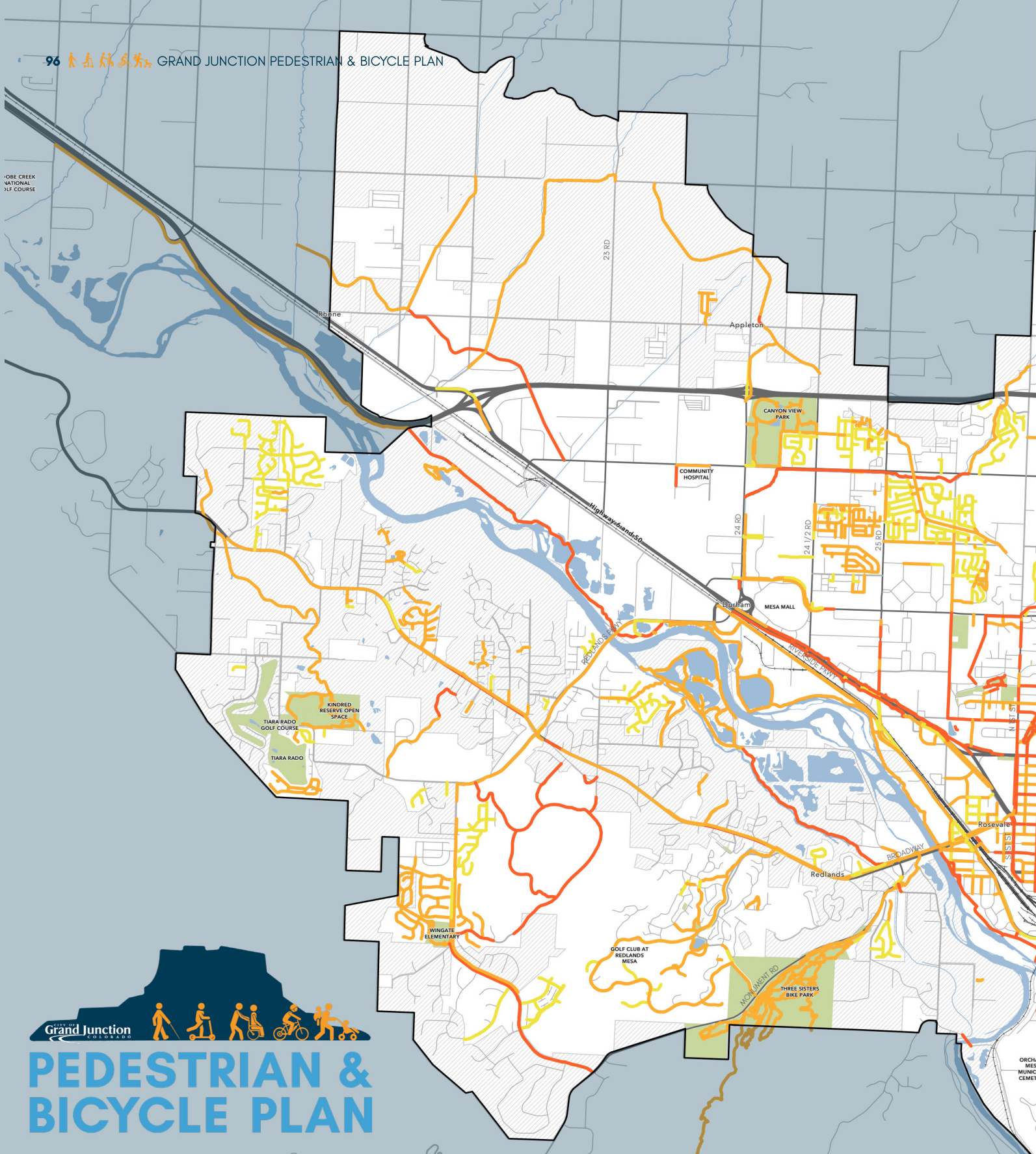
- Local
- Collector
- Arterial
- Highway

Missing Sidewalk Priority

- Low
- Medium
- High

FIGURE 46: MISSING SIDEWALK PROJECT PRIORITIZATION


GRAND JUNCTION REGIONAL AIRPORT
HORIZON DR
BOOKCLIFF COUNTRY CLUB
G RD
26 1/2 RD
MATCHETT PARK
30 RD
I-70 Bus W
PATTERSON RD
SCL HEALTH ST MARY'S MEDICAL CENTER
Johnsons Corner
F RD
Highland Park
Clifton
28 1/4 RD
ORCHARD AVE
N 7TH ST
COLORADO MESA UNIVERSITY
Fruitvale
NORTH AVE
LINCOLN PARK GOLF COURSE
28 RD
32 Rd
GRAND AVE
Grand Junction
S 7TH ST
S 12TH ST
D 1/2 RD
Pear Park
UTE AVE
ATKIN AVE
DESERT VISTA
S 3rd ST
D RD
S 5th St
S 9th St
LAS COLONIAS PARK
EAGLE RIM
29 RD
Orchard Mesa
B 1/2 RD
MESA COUNTY FAIRGROUNDS
Highway 50
CHIPETA GOLF COURSE
Highway 50
32 Rd
32 Rd



City of Grand Junction Colorado

PEDESTRIAN & BICYCLE PLAN

LEGEND

- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification

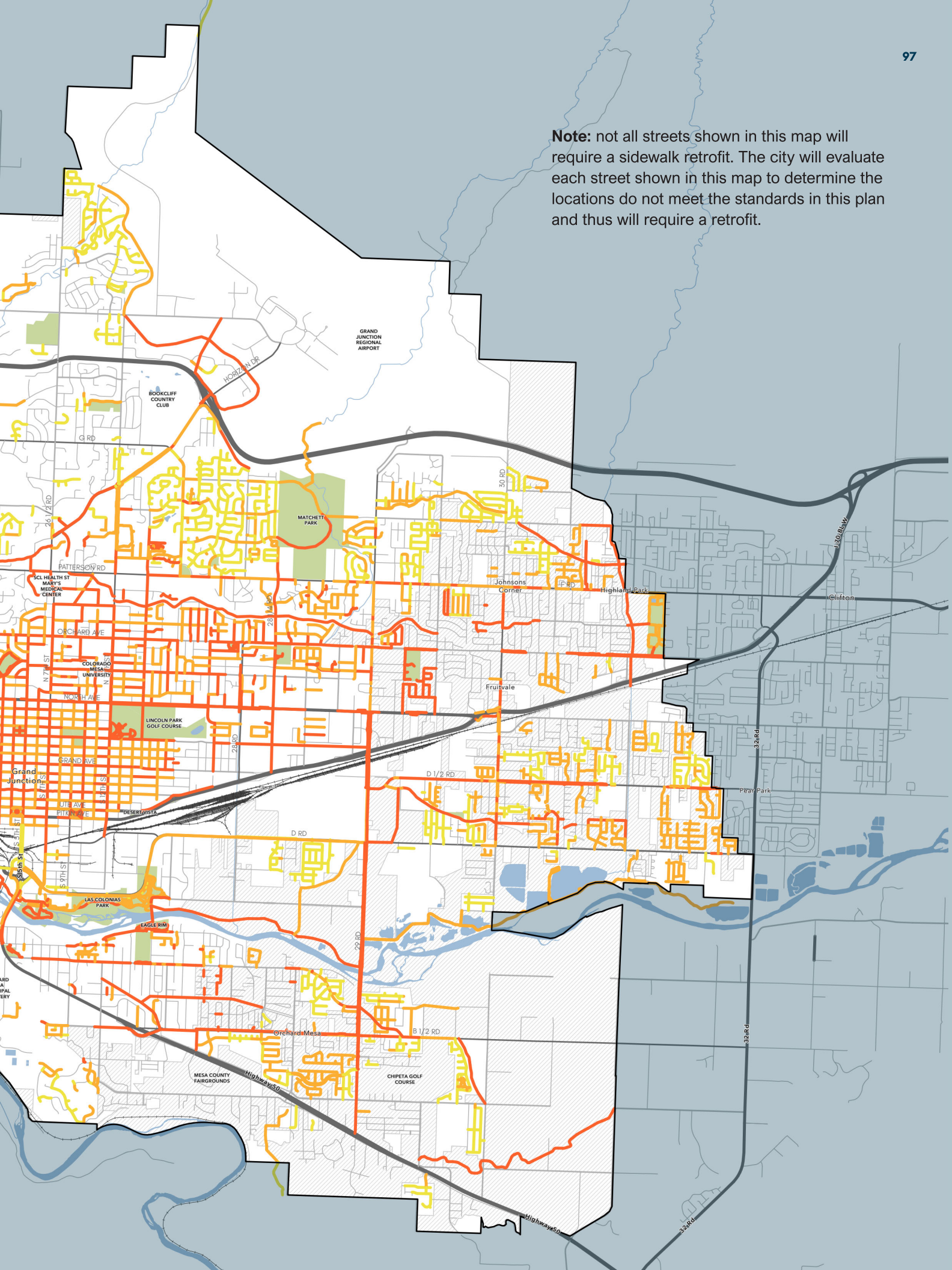
- Local
- Collector
- Arterial
- Highway

Sidewalk Retrofit Priority

- Low
- Medium
- High

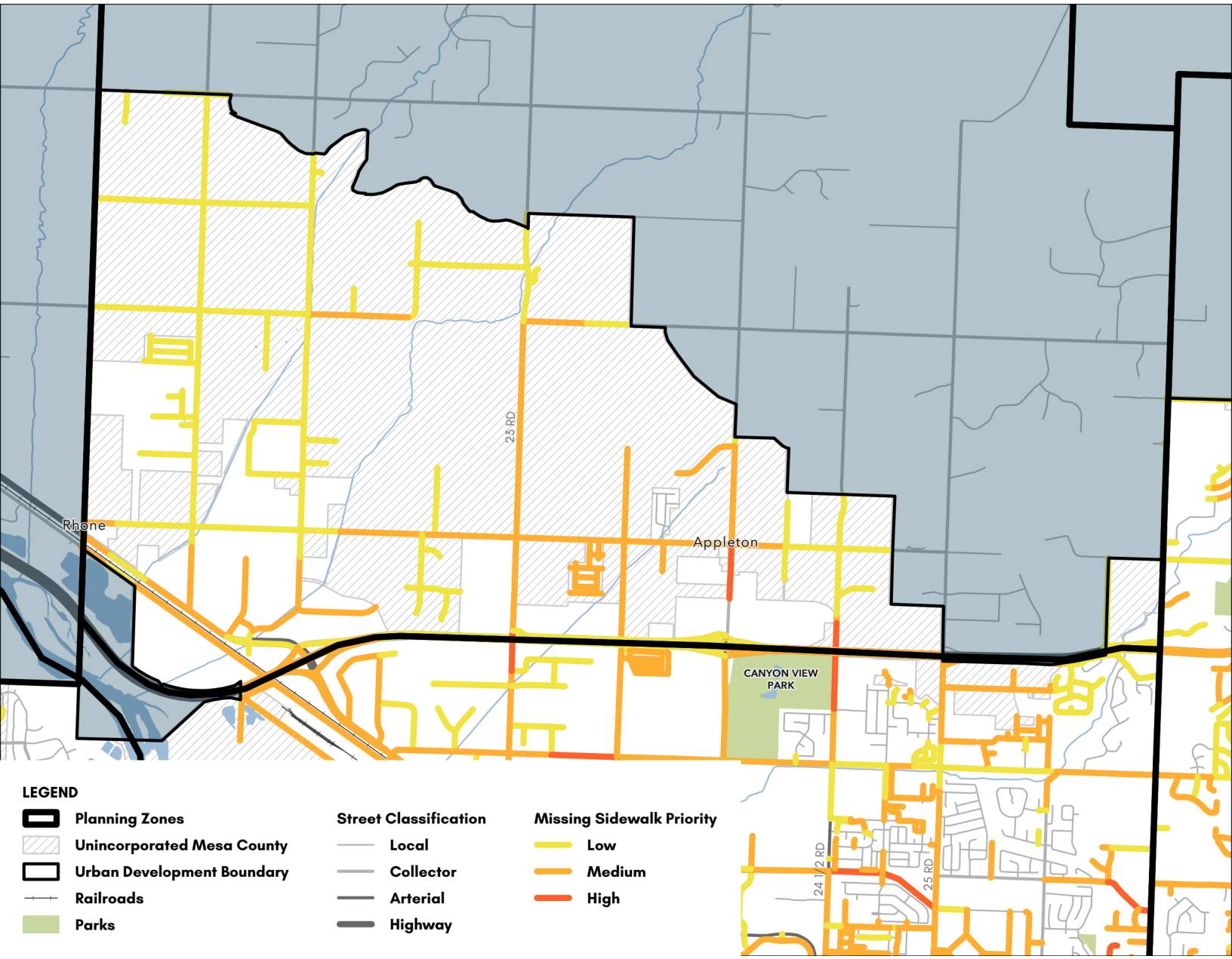
FIGURE 47: SIDEWALK RETROFIT PROJECT PRIORITIZATION

Note: not all streets shown in this map will require a sidewalk retrofit. The city will evaluate each street shown in this map to determine the locations do not meet the standards in this plan and thus will require a retrofit.



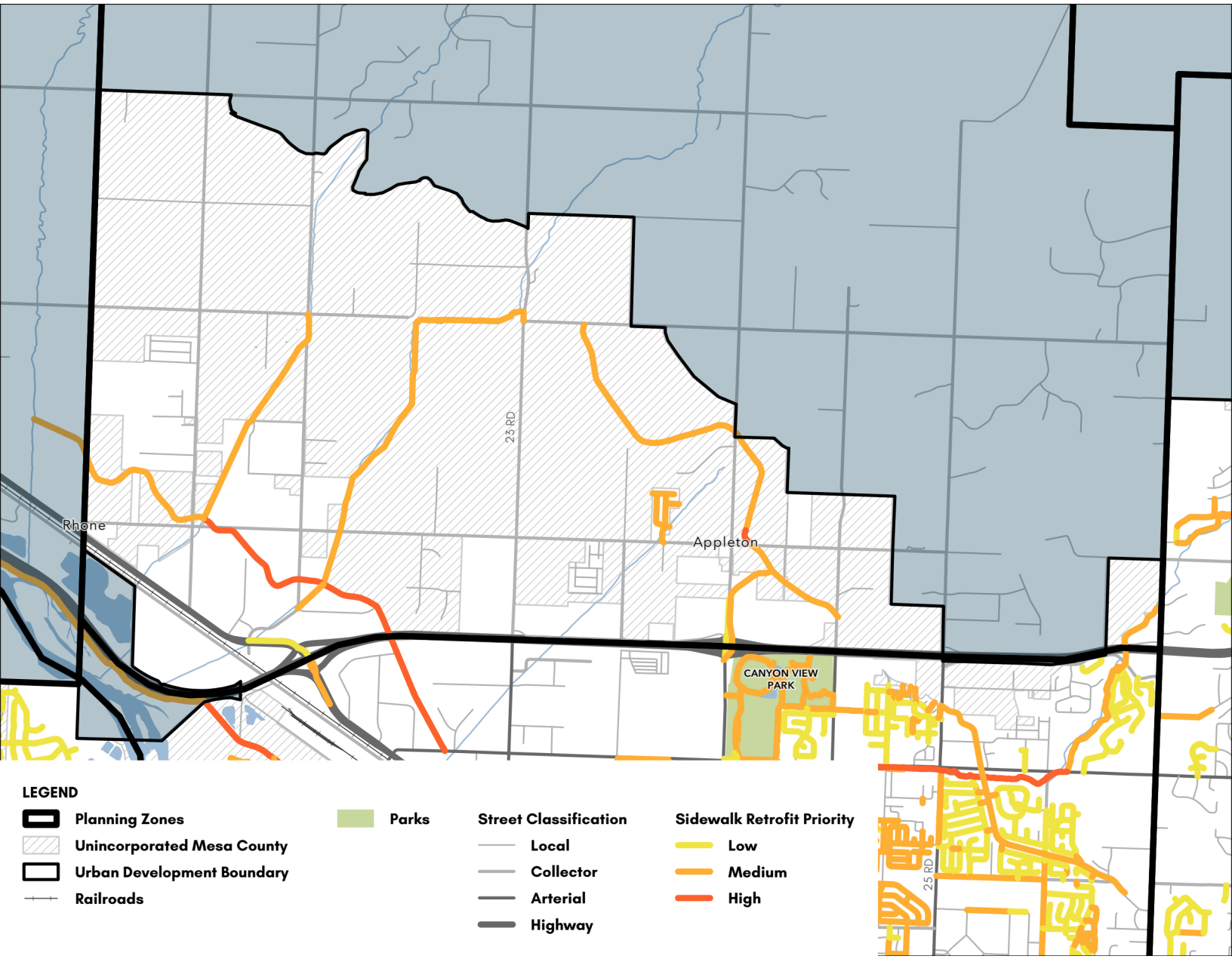
Appleton

Missing Sidewalk Prioritization



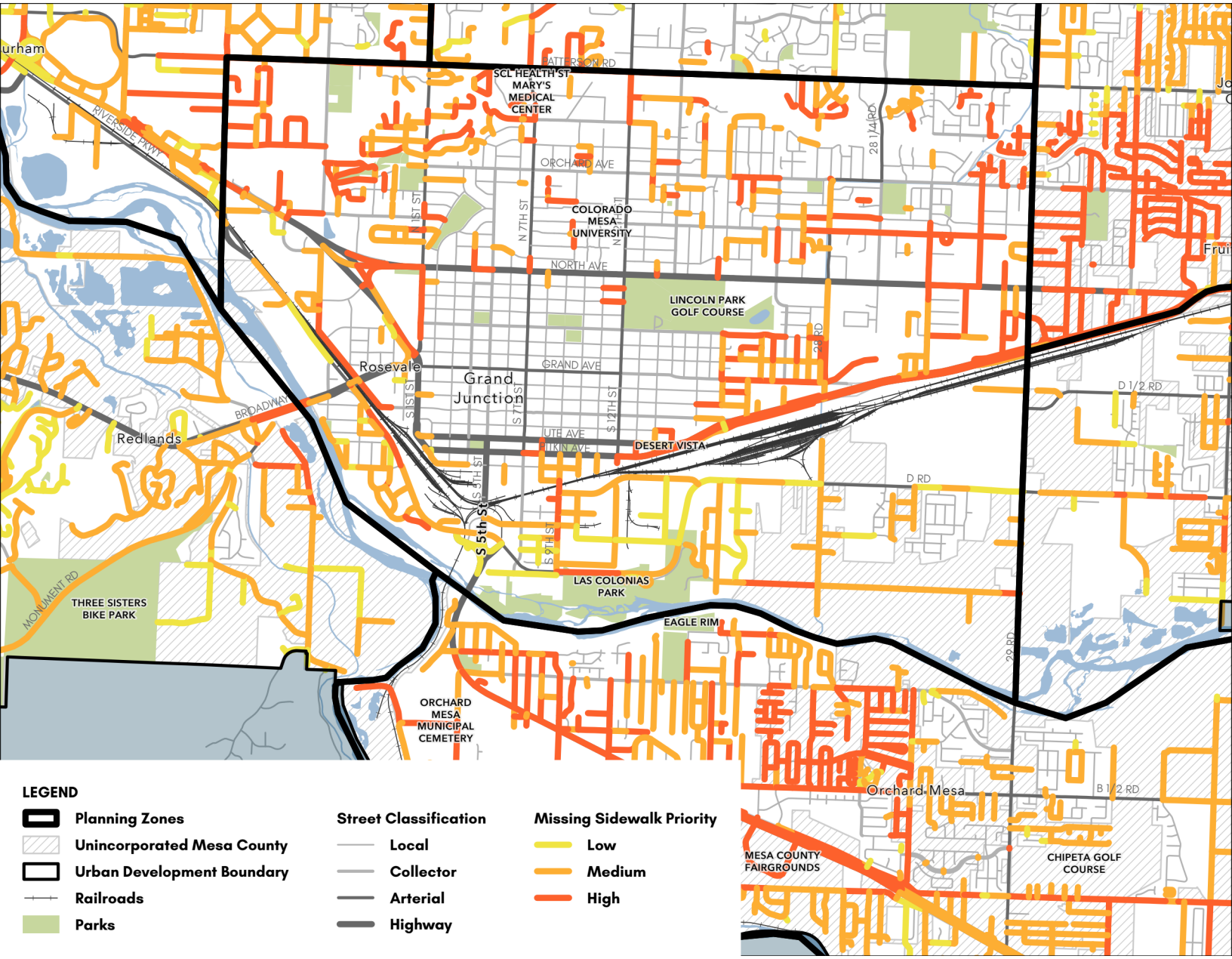
Appleton

Sidewalk Retrofit Prioritization



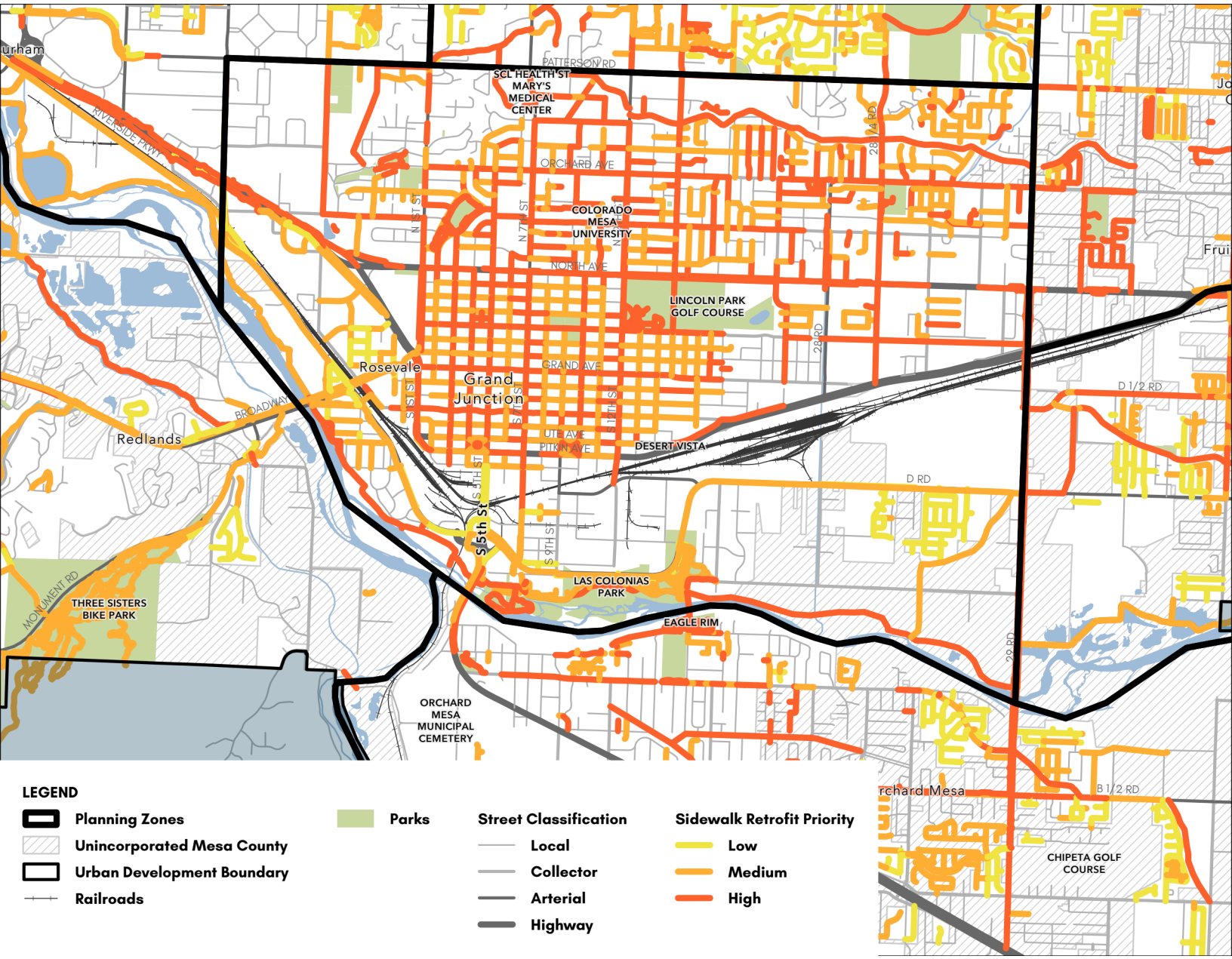
City Center

Missing Sidewalk Prioritization



City Center

Sidewalk Retrofit Prioritization



LEGEND

- **Planning Zones**
- **Unincorporated Mesa County**
- **Urban Development Boundary**
- **Railroads**
- **Parks**

Street Classification

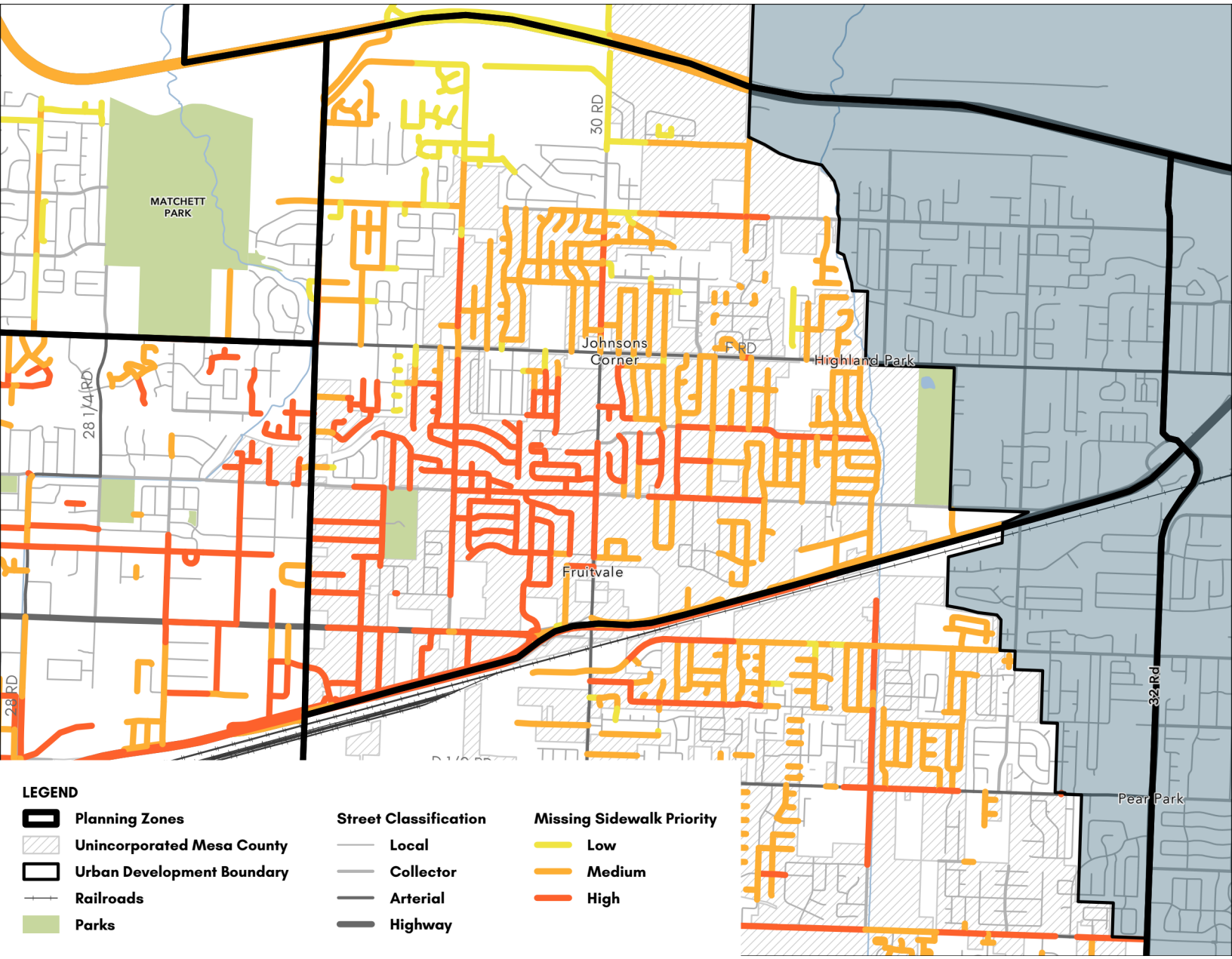
- **Local**
- **Collector**
- **Arterial**
- **Highway**

Sidewalk Retrofit Priority

- **Low**
- **Medium**
- **High**

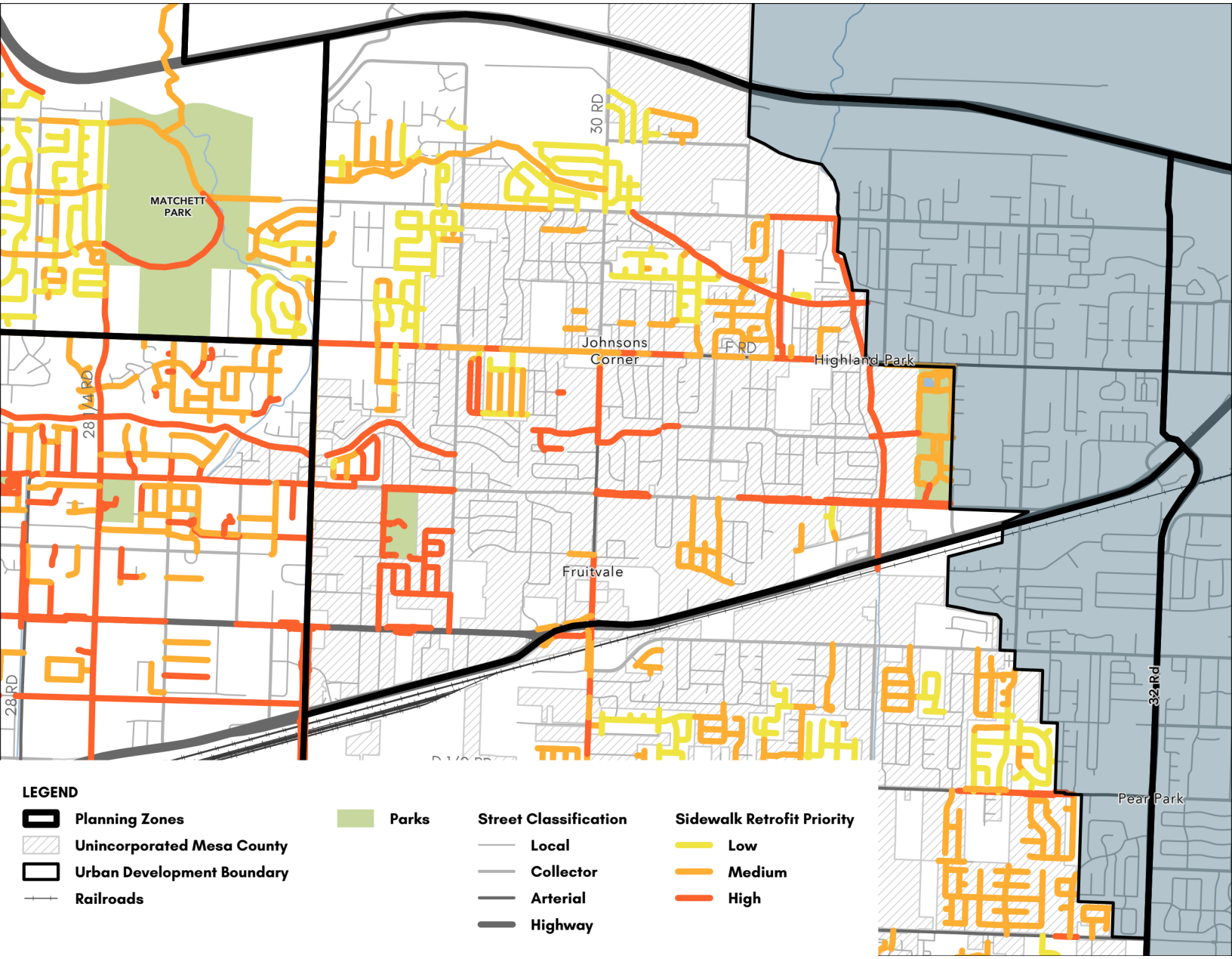
Fruitvale

Missing Sidewalk Prioritization



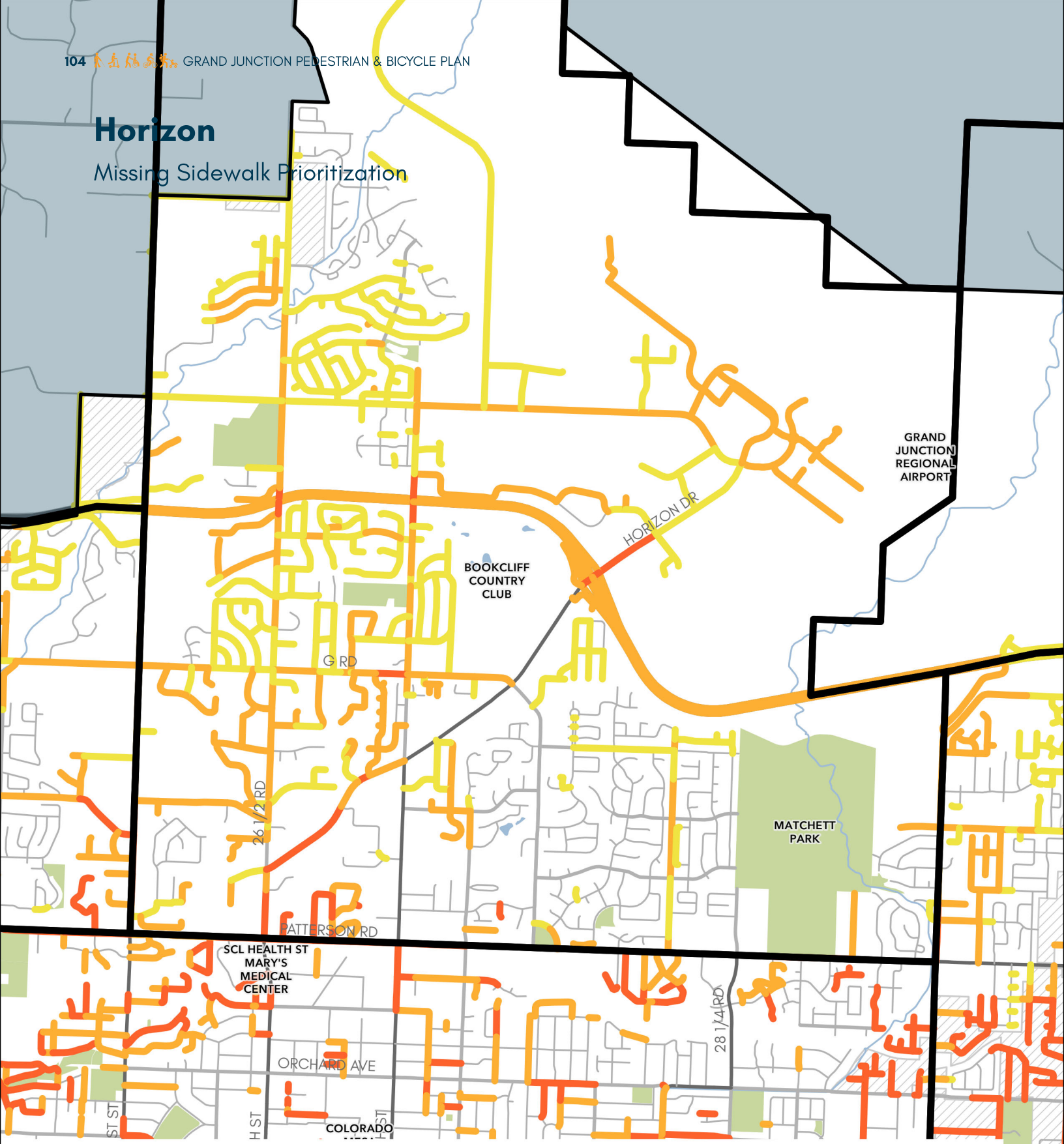
Fruitvale

Sidewalk Retrofit Prioritization



Horizon

Missing Sidewalk Prioritization



LEGEND

- Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification

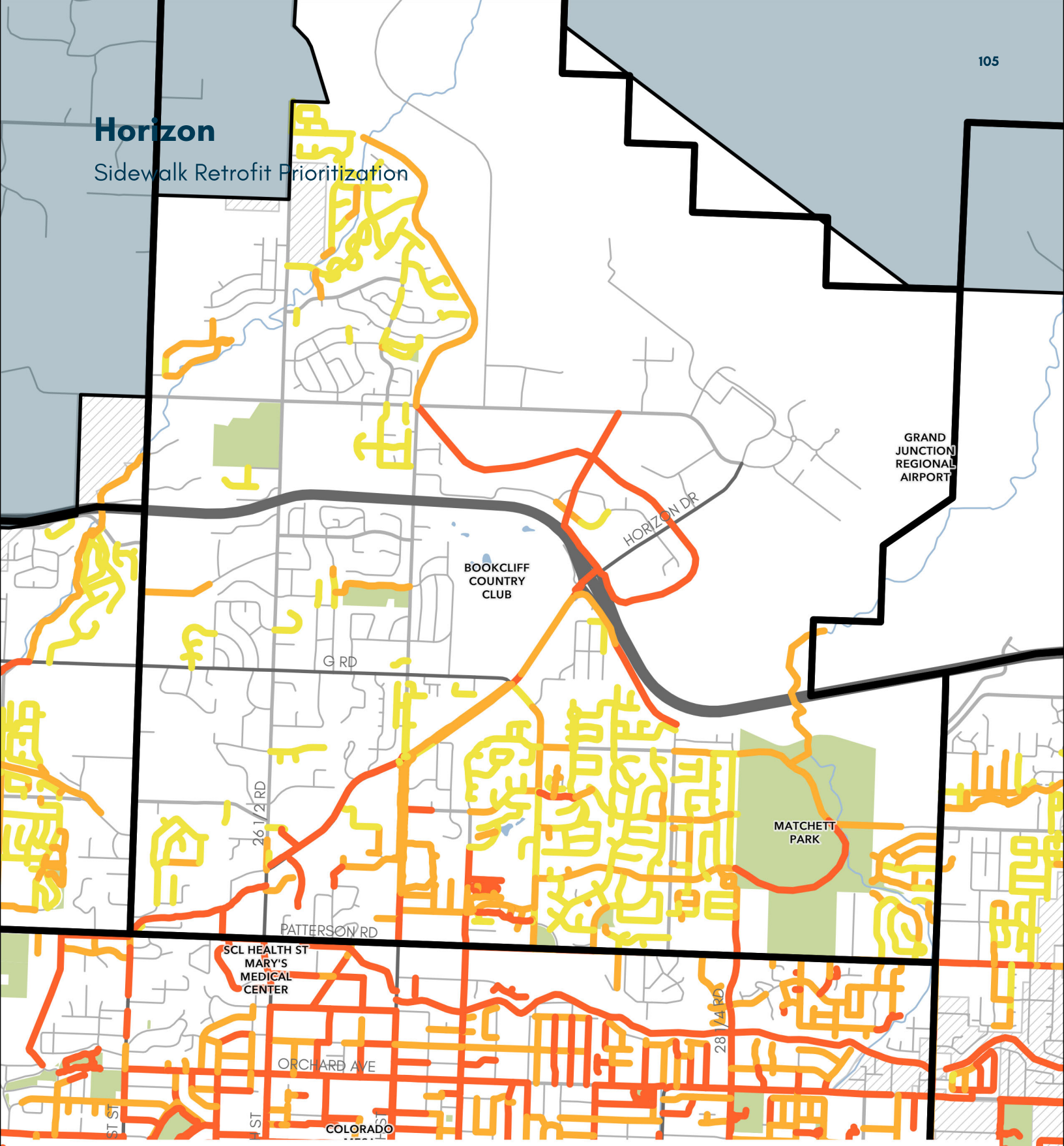
- Local
- Collector
- Arterial
- Highway

Missing Sidewalk Priority

- Low
- Medium
- High

Horizon

Sidewalk Retrofit Prioritization



LEGEND

- **Planning Zones**
- **Unincorporated Mesa County**
- **Urban Development Boundary**
- **Railroads**
- **Parks**

Street Classification

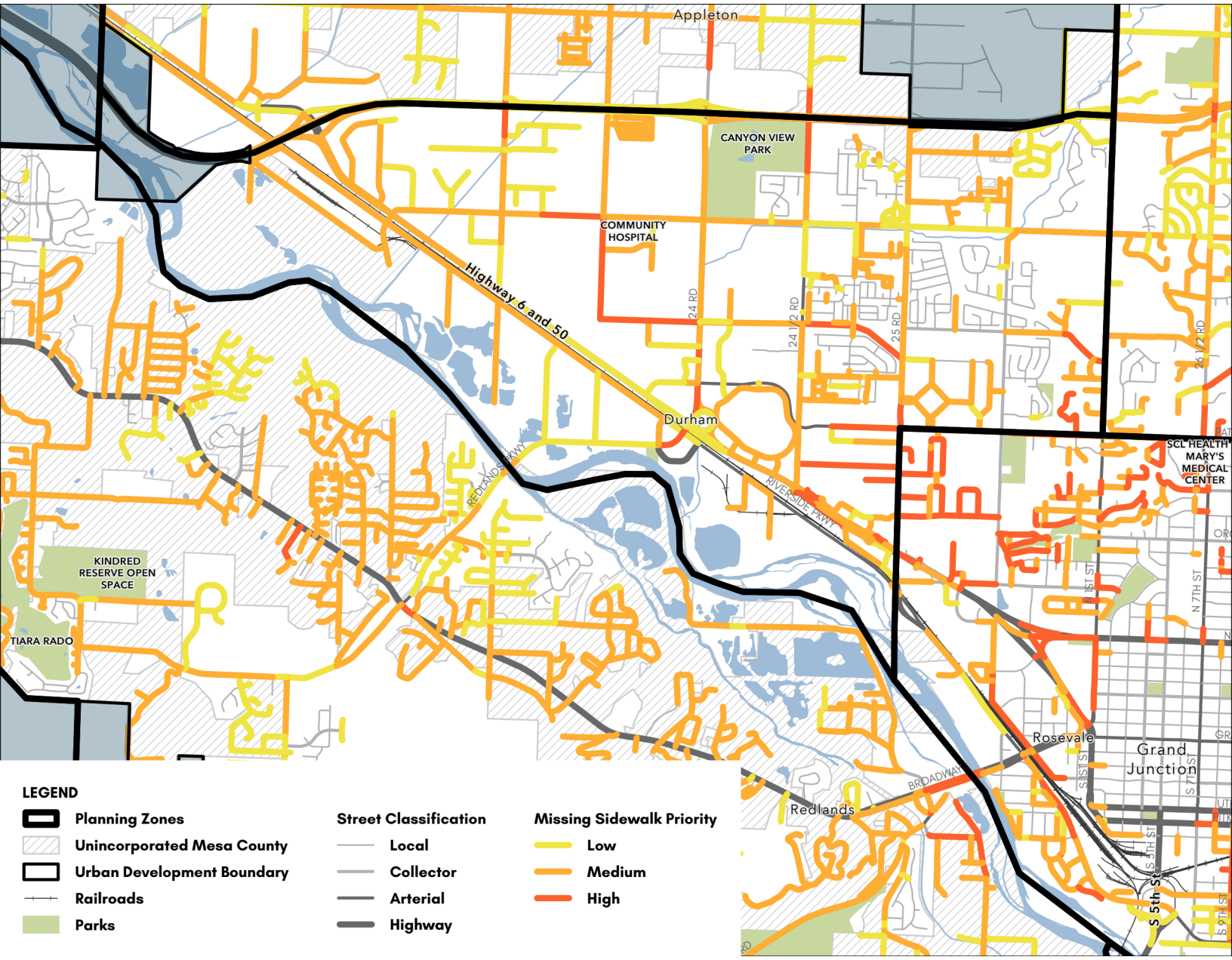
- **Local**
- **Collector**
- **Arterial**
- **Highway**

Sidewalk Retrofit Priority

- **Low**
- **Medium**
- **High**

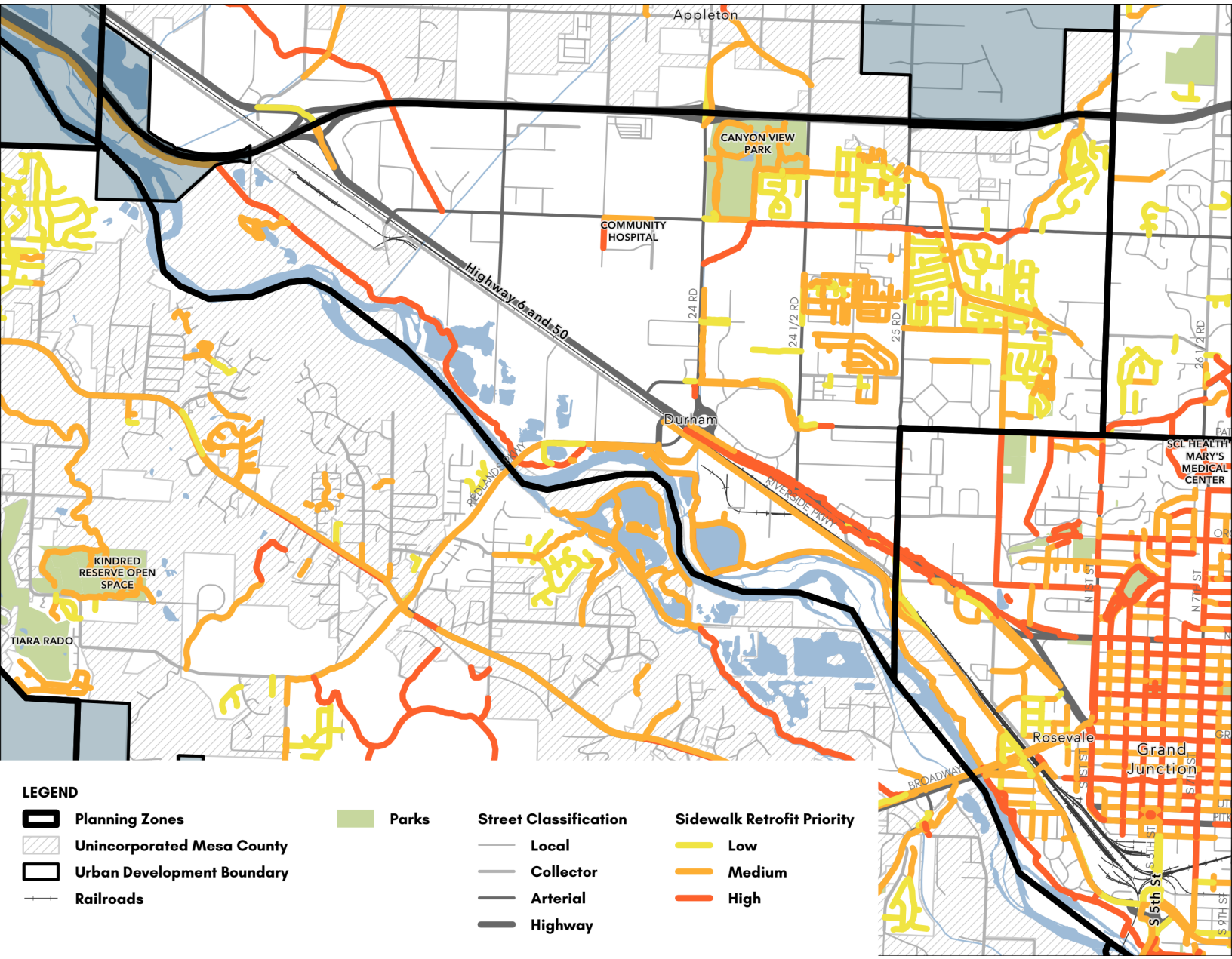
North West

Missing Sidewalk Prioritization



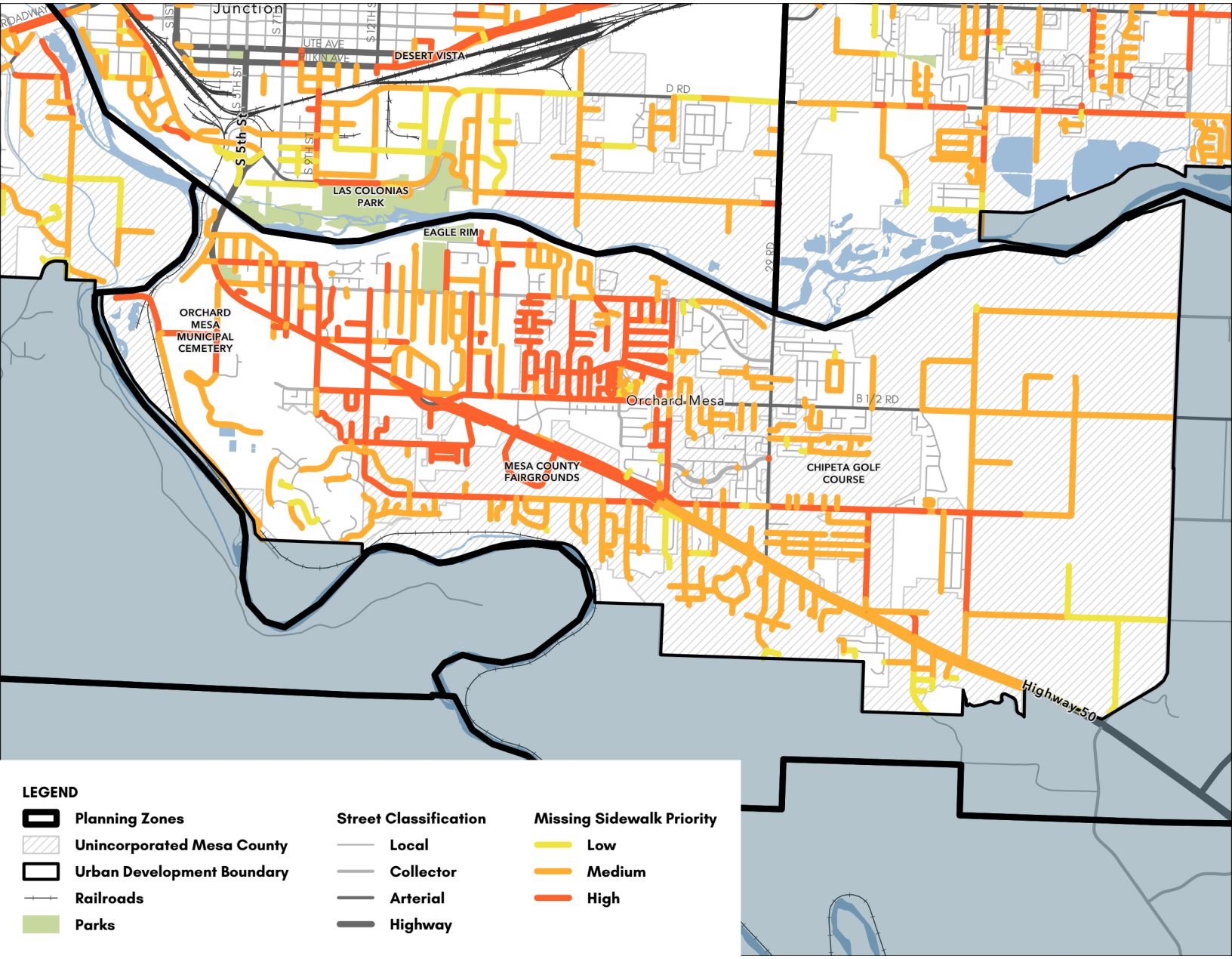
North West

Sidewalk Retrofit Prioritization



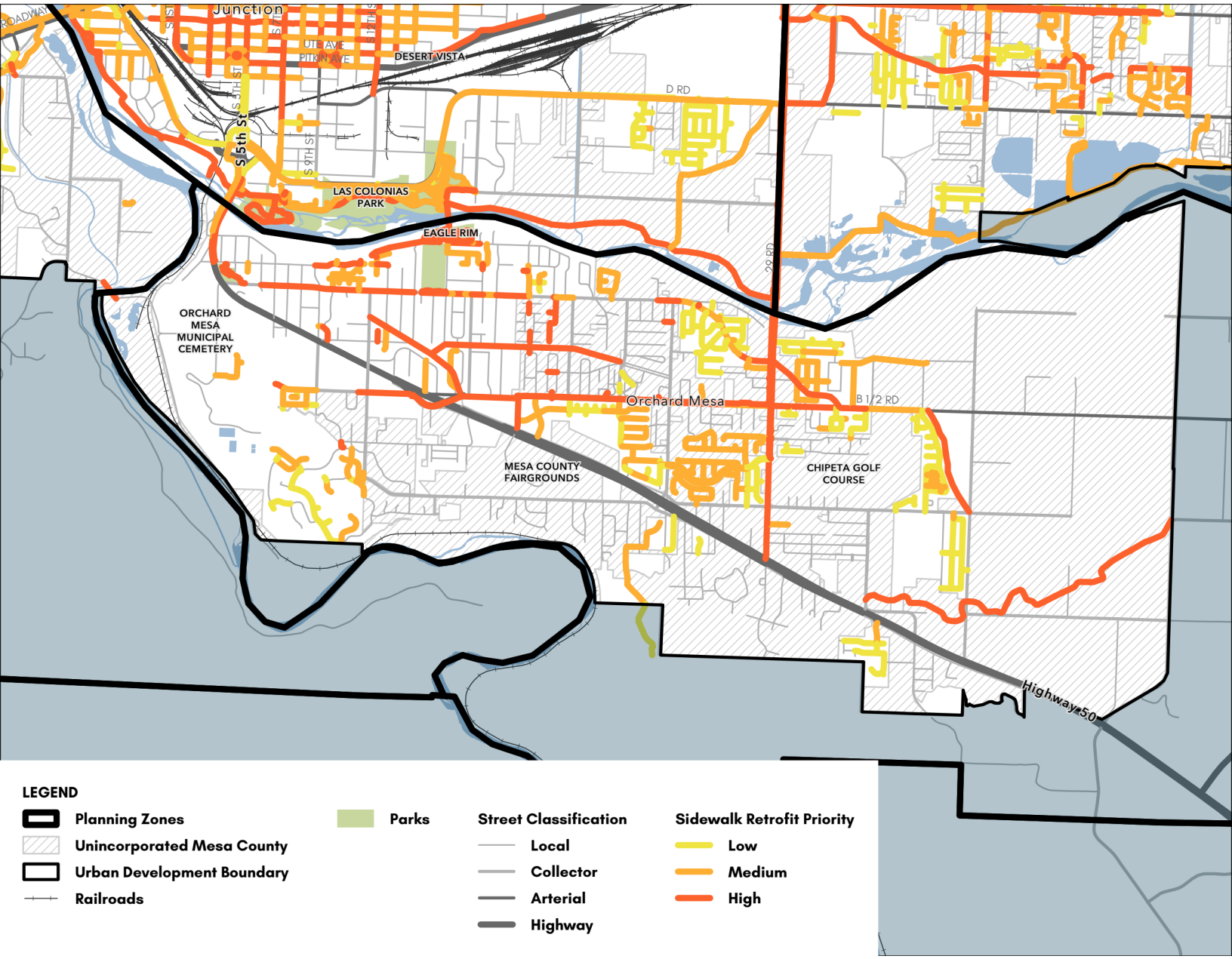
Orchard Mesa

Missing Sidewalk Prioritization



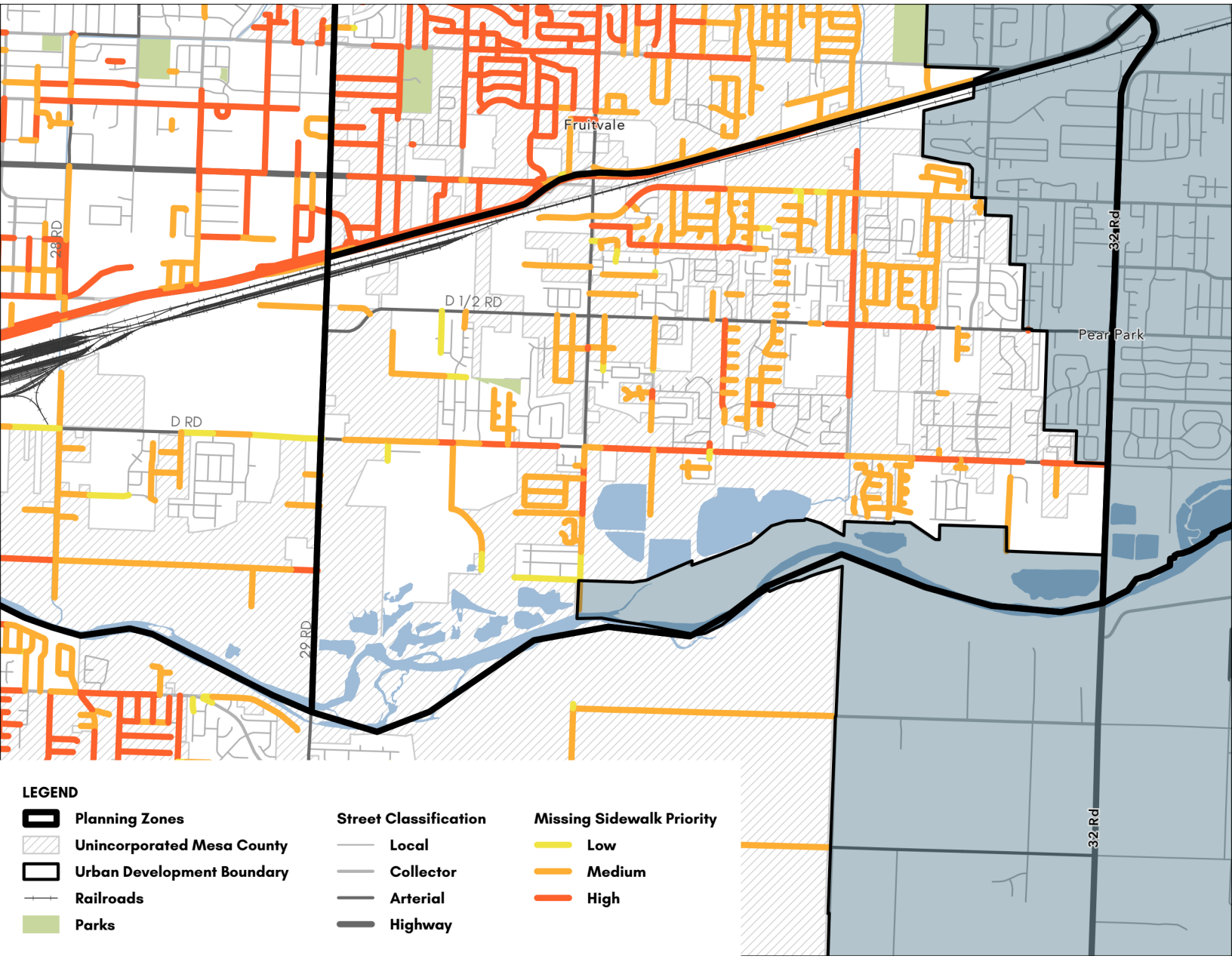
Orchard Mesa

Sidewalk Retrofit Prioritization



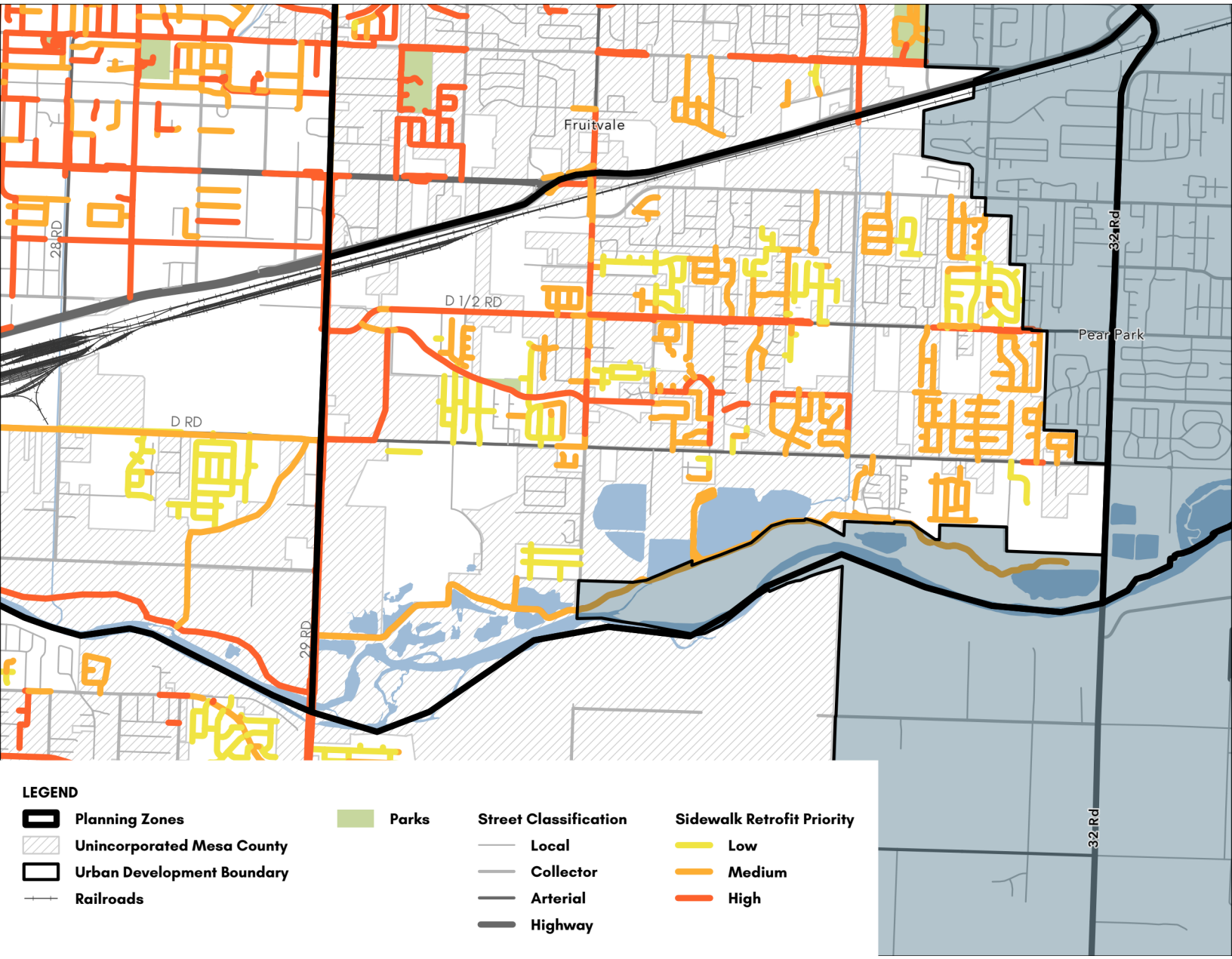
Pear Park

Missing Sidewalk Prioritization



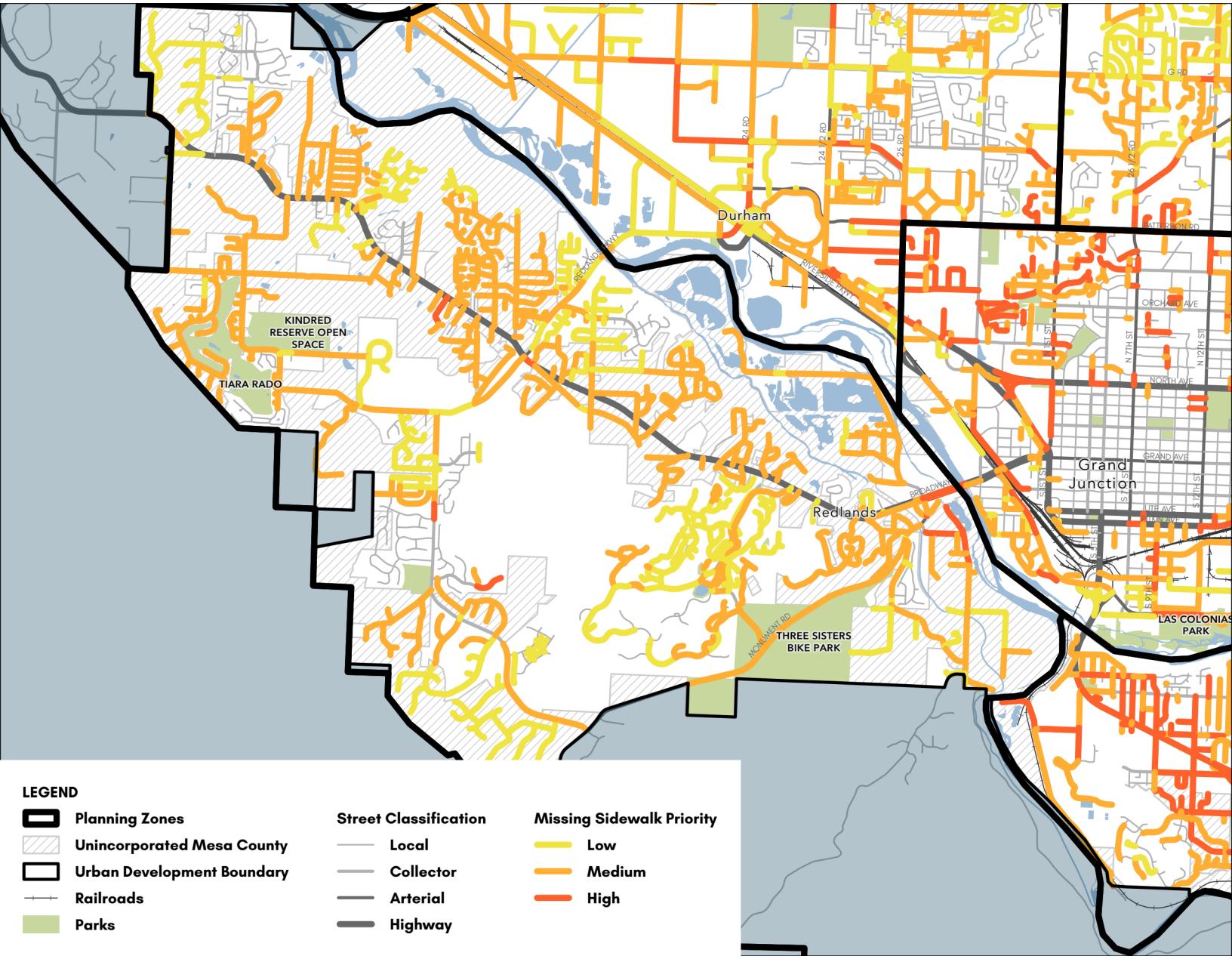
Pear Park

Sidewalk Retrofit Prioritization



Redlands

Missing Sidewalk Prioritization



LEGEND

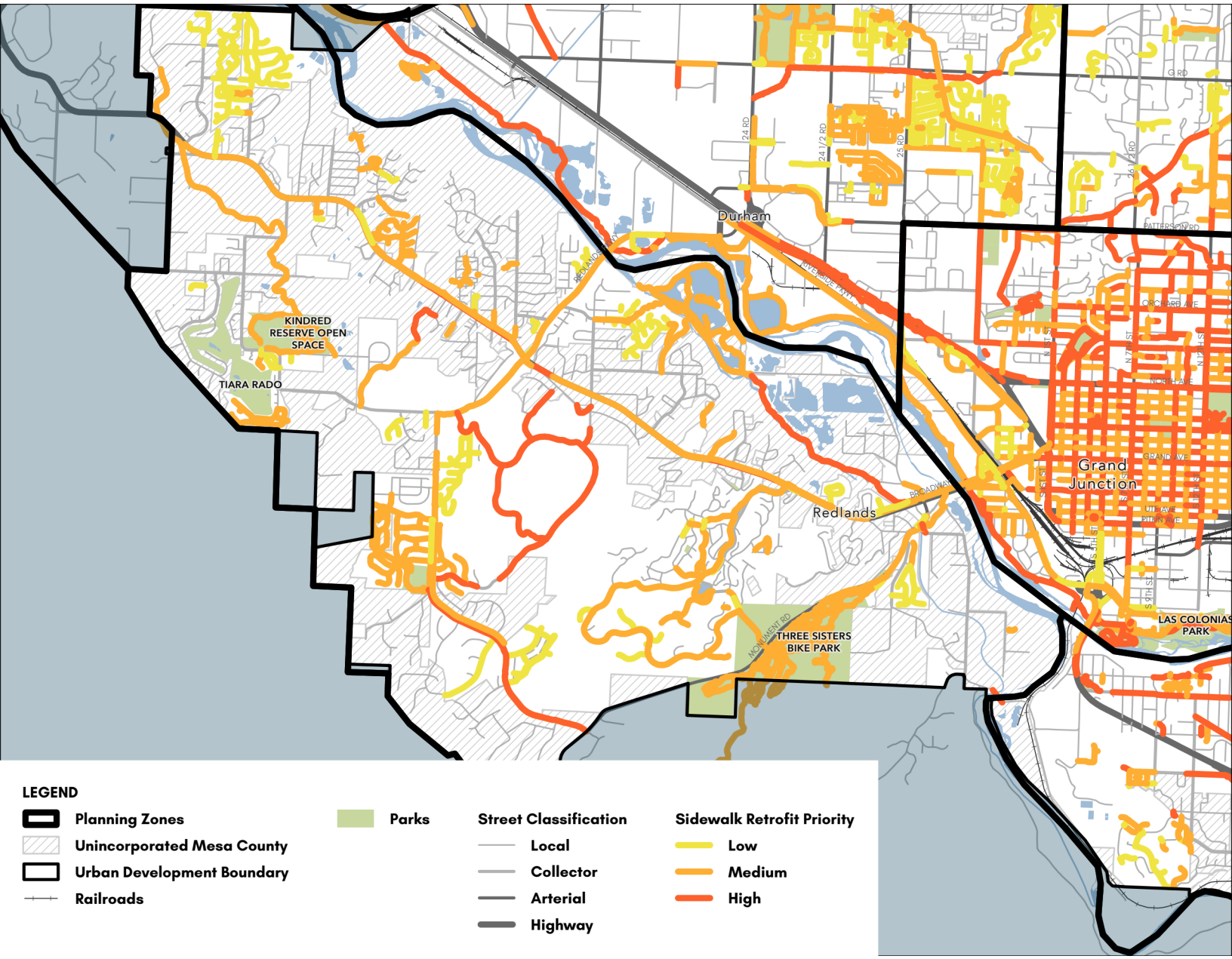
Planning Zones
- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

Street Classification
- Local
- Collector
- Arterial
- Highway

Missing Sidewalk Priority
- Low
- Medium
- High

Redlands

Sidewalk Retrofit Prioritization



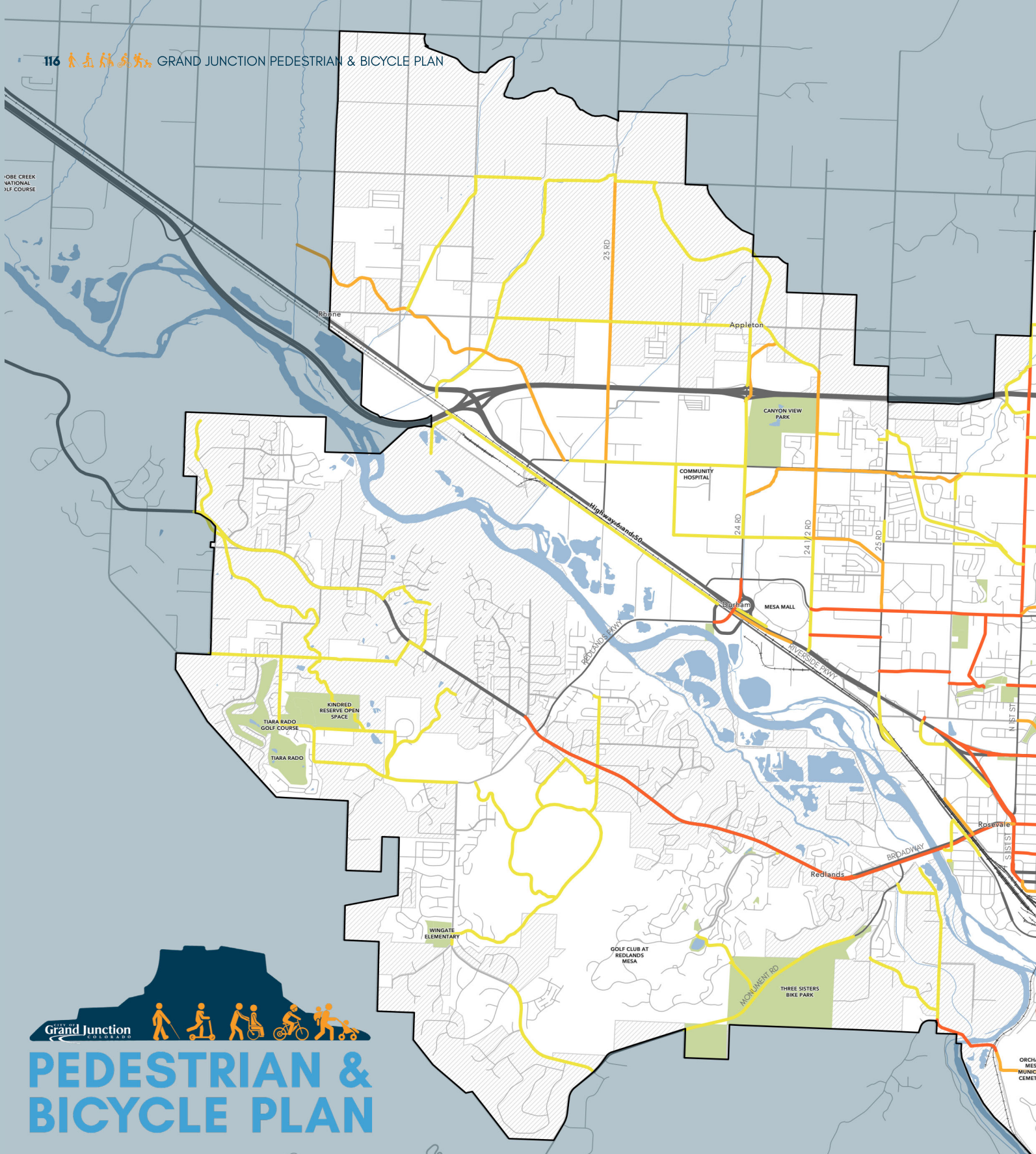
Prioritized Bicycle Network Corridors

Figure 48 illustrates the prioritization of the planned bicycle corridors in Grand Junction based on the criteria in **Table 6** and methodology in **Appendix B**.

The maps and tables by neighborhood in the Bicycle Network Plan chapter detail High, Medium, and Low Priority bike projects shown in **Figure 19** and **Figure 48**. The city will prioritize implementing the highest priority bicycle corridors first. While the city will use this prioritization to allocate fundings specifically for bicycle improvements, it is possible that opportunities will arise to implement low priority and medium priority projects sooner as part of new street construction or reconstructions projects or other opportunities. In these situations, bicycle facilities should be implemented on these corridors as defined in the Bike Network Plan.

OBJECTIVE E3

Prioritize bike project locations according to the tiers established in the Prioritized Bicycle Network Map.



PEDESTRIAN & BICYCLE PLAN

LEGEND

- Unincorporated Mesa County
- Urban Development Boundary
- Railroads
- Parks

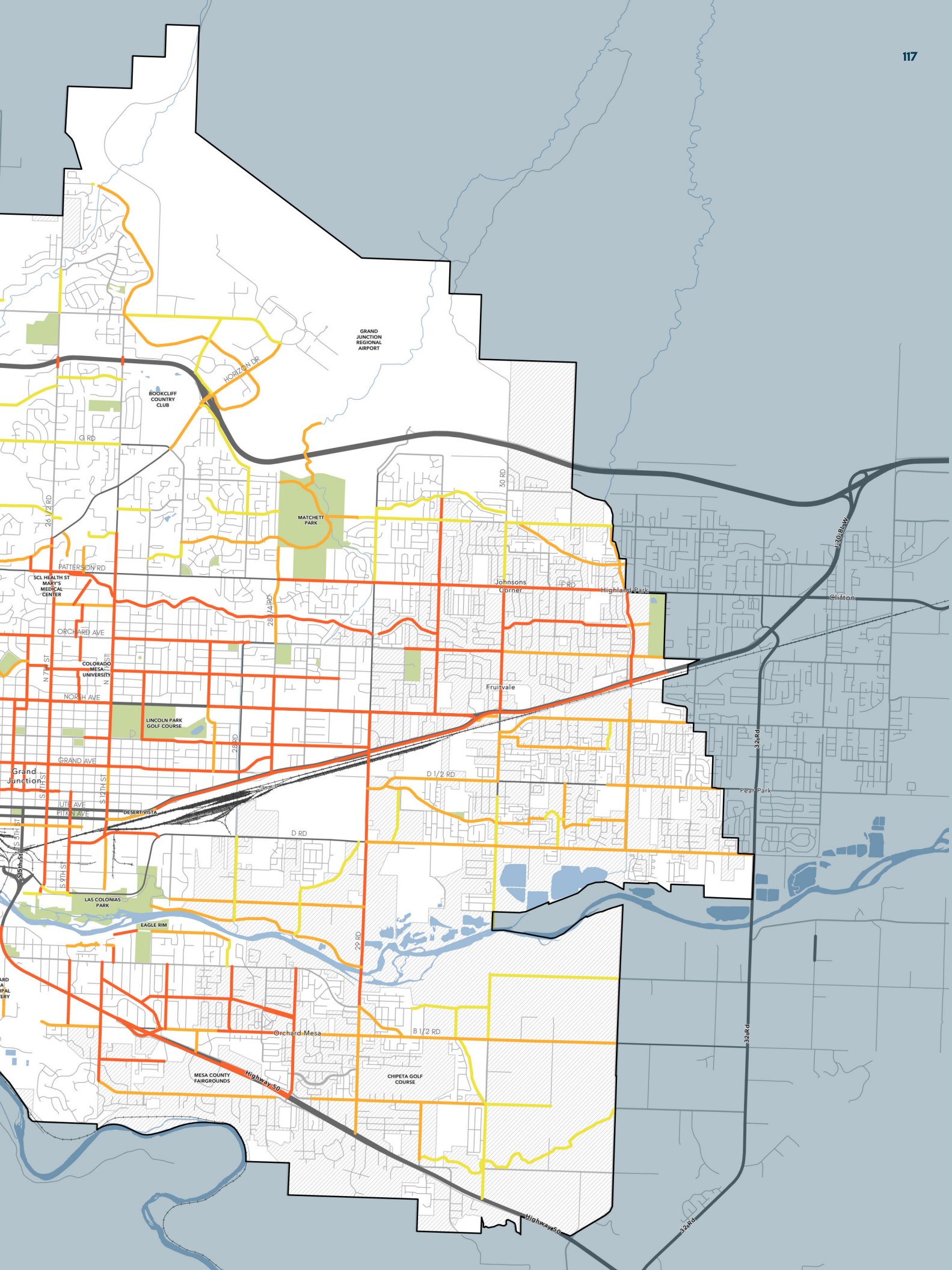
Street Classification

- Local
- Collector
- Arterial
- Highway

Bike Project Priority

- Low
- Medium
- High

FIGURE 48: BIKE PROJECT PRIORITIZATION


GRAND JUNCTION REGIONAL AIRPORT
HORIZON DR
BOOKCLIFF COUNTRY CLUB
G RD
26 1/2 RD
MATCHETT PARK
30 RD
I-70 Bus W
PATTERSON RD
SCL HEALTH ST MARY'S MEDICAL CENTER
Johnsons Corner
F RD
Highland Park
Clifton
28 3/4 RD
ORCHARD AVE
N 7TH ST
COLORADO MESA UNIVERSITY
Fruitvale
NORTH AVE
LINCOLN PARK GOLF COURSE
28 RD
32 Rd
GRAND AVE
Grand Junction
S 7TH ST
S 12TH ST
D 1/2 RD
Pear Park
UTE AVE
PITKIN AVE
DESERT VISTA
D RD
S 5TH ST
S 9TH ST
LAS COLONIAS PARK
EAGLE RIM
29 RD
Orchard Mesa
B 1/2 RD
MESA COUNTY FAIRGROUNDS
Highway 50
CHIPETA GOLF COURSE
Highway 50
32 Rd

Funding Opportunities

As additional funding becomes available, the city can allocate new funding resources towards implementing currently unfunded projects. The funding landscape is competitive and often requires city departments to enter the planning phase thinking about grant requirements that will set the city up for success in being awarded grants. A critical step in obtaining external grants is having the project priorities identified in the adopted Pedestrian & Bicycle Plan.

Many of the projects in this plan could be funded by grants. It will be critical to have the projects planned, designed and "shovel ready" so that the funding can be used for implementation. In most cases, the list of external funding sources requires local matching funds. Many grants will also require the city to report on safety, equity, and sustainability performance measures—another reason to implement the data collection effort described in the prioritization section. Funding sources will continue to change between 2023 and 2050, but this section identifies grant and funding streams available as of January 2023.

This section identifies potential funding sources that supplement existing funding streams in Grand Junction. The descriptions provided for grant opportunities come from federal, state, and regional sources.

OBJECTIVE Q7

Explore and pursue funding opportunities to support continual capital construction and maintenance of the projects listed in this plan.

Federal

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.

FTA (Federal Transit Administration) §5307 Urbanized Area Formula Program: This program makes federal resources available to urbanized areas for transit capital and operating assistance. Urbanized areas are those areas with a population of 50,000 or more as designated by the U.S. Census Bureau.

Infrastructure for Rebuilding America (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 address growing demand for freight.

State

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 bicycle facilities. Projects are advanced by local governments and selected based on priority and data within each CDOT Region.

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, and 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.

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 VMT.

Highway Users Tax Fund (HUTF): Revenues generated from the Road Safety Surcharge, Oversize Overweight Surcharge, Rental Car Surcharges, and late vehicle registration fees are credited to the Highway Users Tax Fund (HUTF) and distributed per statute to the Colorado Department of Transportation, counties, and municipalities.

Revitalizing Main Streets: Revitalizing Main Streets grant program, run by CDOT as a part of Colorado's COVID-19 Recovery Plan, enhances active transportation safety and strengthens the connection of people to main streets and central economic hubs. The program encourages physical activity and enhances local economic vitality in towns and cities across Colorado through funding infrastructure improvements to make walking and biking easy, yielding long-term benefits that bolster community connections.

Regional

Metropolitan Planning: Federal funds are allocated to the GVMPO to provide for a continuing, comprehensive, and cooperative (3C) transportation planning process in the region. In addition, CDOT estimates that the Grand Valley Metropolitan Planning Organization (GVMPO) should expect to receive approximately $168.7 million dollars in transportation funding between now and 2029 if CDOT continues to receive an additional $500 million per year statewide for six years ($3 billion total) above the base program amounts. These projects are identified in the Transportation Improvement Program (TIP).

Multimodal Options Fund (MMOF): The legislation states that the Multimodal Options Fund should promote a "complete and integrated multimodal system" through objectives such as benefiting 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.

Local

Community input received during this planning process indicated interest in a dedicated local funding source. Continued community involvement in the budgeting process can support establishment of this source.

Dedicated Sales Tax: Grand Junction currently has a $.75 sales tax that funds transportation projects.

Grand Junction's Downtown Partnership (DP): The DP consists of two special districts, the Downtown Development Authority (DDA) and the Business Improvement District (BID). These two groups have the ability to fund bicycle and pedestrian amenities and facilities.

The Horizon Drive District (HDD): The HDD — Gateway to Grand Junction® — is just off I-70 at Exit 31 and adjacent to the Grand Junction Regional Airport. This beautiful and convenient entrance to the core businesses, services, and tourism resources of Grand Junction, Colorado, exemplifies the mission of the business improvement district — to build community, enhance beauty, and advocate the economic vitality of the Horizon Drive District (HDD).

Other funding options that could be considered with further analysis include public-private partnerships and private foundations. Public-private partnerships could be agreements with large employers, businesses, or services that can fund transportation projects.

Integrating Implementation with City Process

In addition to identifying a stable and reliable funding source to actively implement bicycle and pedestrian improvement processes the city can also integrate implementation with other standard procedures. This includes planning for pedestrian and bicycle facilities in all street projects and phases, including new construction, reconstruction, resurfacing, and maintenance. This means that the City approaches every transportation project and program as an opportunity to improve streets and the transportation network for all users, and work in coordination with other departments, agencies and jurisdictions.

A few recommended strategies for integrating implementation with other city procedures include:

Integrate Bicycle and Pedestrian Design in the TEDS Manual: The TEDS Manual provides standards for street design and was updated to reflect the bicycle and pedestrian design standards in this PBP. The TEDS Manual will be a key tool to implement pedestrian and bicycle improvements as part of future street construction projects.

Add Bike Detection During Signal Upgrades: The city periodically upgrades and replaces outdated traffic signals that have exceeded their useful life. When new actuated signals are installed (or upgraded) at locations where an existing or planned bicycle facility crosses the intersection bicycle detection should be added as standard practice.

Incorporate Active Transportation Improvements on Street Projects: Whenever a new street is constructed or an existing street is reconstructed sidewalk and bicycle facilities should be included as guided by this plan and in accordance with the standards in the TEDS Manual and supported by the City's Complete Streets Policy.

Maintain a Geodatabase of Active Transportation Infrastructure: Its recommended that the city maintain a geodatabase with all bicycle facilities and sidewalk locations, including widths, buffer widths, and hardscape versus softscape buffer that will be updated as improvements are made. This will make it easier for the city to track progress, evaluate conditions and network gaps, and identify and prioritize future projects.

OBJECTIVE Q8

To the greatest extent practicable given budget constraints include pedestrian and bicycle facilities in all street projects and phases, including new construction, reconstruction, resurfacing, and maintenance.

OBJECTIVE Q9

Approach every transportation project and program as an opportunity to improve streets and the transportation network for all users, and work in coordination with other departments, agencies and jurisdictions.

OBJECTIVE Q10

Implement bicycle and pedestrian improvement projects by integrating with other city standard procedures.

Glossary

Accessibility: The ability of a facility, product, or service to be used by people with disabilities

Active transportation: Self-propelled, human-powered transportation modes like walking or biking. The depiction of any corridor(s) or segment(s) on the ATC map along a canal(s) does not denote that the corridor(s) or segment(s) is(are) open and/or available for active transportation uses.

Arterial: A higher capacity roadway that delivers traffic from collectors to freeways and through urban settings

Bicycle facilities: Amenities created to accommodate people bicycling; these include bicycle routes, bicycle lanes, and shared use paths

Bicycle routes: Streets with low motorized traffic volumes and speeds that use signs and pavement markings to create comfortable streets for bicyclists to share the road with people driving

Collector: A lower to moderate capacity roadway that serves to connect local street traffic with arterial roadways

Comfortable: Accommodating of and safe for users of all abilities

Complete streets: Streets that are designed to allow for convenient and comfortable travel by users of all transportation modes

Connectivity: The density of the path or road network and the directness of those links to provide travel access with minimal out of direction travel

First-last mile: The challenge of connecting passengers between their origin and a transit stop and between a transit stop and their destination

Grade separation: Separation of facilities by elevation, such as a cycletrack a few inches above the roadway, or a pedestrian overpass or underpass

High Injury Network (HIN): The set of roadway segments that have the highest number of fatal and severe crashes

Infrastructure: Improvements that take up many forms providing amenities to the public

Level of Traffic Stress (LTS): An approach that quantifies the level of comfort felt by people walking or biking based on factors such as the speed and volumes of adjacent vehicular traffic and presence of bicycle or pedestrian facilities

Micromobility: Bikes, scooters, skateboards, and other lightweight transportation options; both electric and non-electric

Mode share: Share of people that travel by vehicle, transit, biking, walking, etc.

Multimodal: A transportation system that provides safe and convenient options for getting around by all transportation options, including walking, biking, transit, and driving

Pedestrian network: All of the components that comprise the facilities used by pedestrians, including sidewalks, mid-block and signalized crossings, and curb ramps

Performance measures: Data metrics that help track progress toward specific goals

Protected bike lanes: On-street bike lanes that have a vertical buffer (such as a curb or plastic bollard) between the bike lane and travel lane

Rapid flashing beacon: A type of pedestrian infrastructure that includes yellow diamond-shaped signage, LED flashing lights and a clearly demarcated crosswalk to allow people walking and rolling to cross safely at key points

Road diet: Lane reduction or right-sizing (reduction of the number of general travel lanes) to add improvements for other modes

Safe Systems: An evidenced-based approach defined by FHWA to reduce fatal and severe traffic crashes

Shared mobility: Shared use of a vehicle, bicycle, or other transportation mode that allows users to access transportation services on an as-needed basis; made more common with emerging app-based on demand transportation technologies

Trail: A multiuse path that may be separated from the roadway by a wide vegetated buffer

Roller: Someone who uses a wheelchair or other assisted mobility device

Single occupancy vehicle (SOV) trips: Car trips made by a solo driver

Transit-Oriented Development (TOD): The practice of designing and planning areas where residential and commercial spaces are more conveniently connected with various forms of transportation to make communities more livable, vibrant, and accessible

Vehicle Miles Traveled (VMT): The sum of all the miles driven by motor vehicles in a specific area (ex: City of Thornton) over a specific period of time (often daily)

Wayfinding: The information system, usually comprised of signs, that helps users navigate an area

APPENDIX

Appendix A:
Existing Conditions
& Needs Assessment

Appendix B:
Project Prioritization Methodology