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PLANNING COMMISSION WORKSHOP AGENDA
PLANNING CONFERENCE ROOM, CITY HALL, 250 N 5TH STREET
Virtual Meeting link: https://bit.ly/GJPCW
THURSDAY, JANUARY 5, 2023 - 12:00 PM

Call to Order - 12:00 PM

Other Business

1. Update and discussion on the Pedestrian and Bicycle Plan, the planning process including the Existing Needs and Assessment report.

Adjournment

Grand Junction Planning Commission

Workshop Session

Item #1.

Meeting Date:	January 5, 2023
Presented By:	David Thornton, Principal Planner, Daniella Acosta, Senior Planner, Patrick Picard
Department:	Community Development
Submitted By:	David Thornton, Principal Planner

Information

SUBJECT:

Update and discussion on the Pedestrian and Bicycle Plan, the planning process including the Existing Needs and Assessment report.

RECOMMENDATION:

EXECUTIVE SUMMARY:

Fehr and Peers, a transportation engineering consulting firm has been contracted by the City to develop a Pedestrian and Bicycle Plan and update the City's Transportation and Engineering Design Standards (TEDS) manual. They will brief Planning Commission on the planning process, including presenting a summary of the Existing Conditions and Needs Assessment Report they have drafted from their analysis of existing conditions and the extensive public input received over the past few months as part of the planning process.

BACKGROUND OR DETAILED INFORMATION:

The City's consultants, Fehr and Peers, a transportation engineering firm, will brief Planning Commission on the work they have been doing to synthesize hundreds of public comments and input received over the past few months, looking at existing pedestrian and bicycle conditions and assessing the infrastructure needs of Grand Junction. Discussion will include presenting a summary of the Existing Conditions and Needs Assessment Report they've drafted from this analysis .

SUGGESTED MOTION:

Presentation and discussion only.

Attachments

1. GJ Bicycle Pedestrian Plan_Existing Conditions Needs Assessment_Dec2022

PEDESTRIAN & BICYCLE PLAN

EXISTING CONDITIONS & NEEDS ASSESSMENT

Prepared for:
City of Grand Junction

December 2022

DN22-0742

FEHR PEERS

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Introduction

This report provides a summary of the existing conditions and needs assessment of the bicycle and pedestrian network in Grand Junction, including a summary of the community outreach findings conducted as part of the *Grand Junction Pedestrian & Bicycle Plan*. The existing conditions needs assessment includes the following major components:

- Summary of Existing Relevant Plans
- Existing Pedestrian Network
- Existing Bicycle Network
- Level of Traffic Stress Analysis for Pedestrians and Bicyclists
- Active Transportation High Injury Network Analysis
- Existing Pedestrian and Bicycle Demand
- Input Received from the Community

The findings of the analysis and data summarized in this report informed strategies and recommendations in the *Pedestrian & Bicycle Plan*.

Summary of Relevant Plans

The section provides a summary of existing local and regional plans, documents, and existing technical design standards relevant to the Grand Junction Pedestrian & Bicycle Plan. These documents provide a foundation for developing the vision for active transportation in Grand Junction.

Previous Plans

ONE Grand Junction Comprehensive Plan (2020)

The city adopted the *One Grand Junction Comprehensive Plan* in 2021, as an update to the *2010 Comprehensive Plan*, addressing changes that occurred over the intermediate decade and setting strategies to guide decision-making for the next 10 to 20 years. Community input helped drive the development of the plan principles that will guide the vision for Grand Junction until 2040. *One Grand Junction* is comprised of eleven plan principles that examine current conditions and goals for the future. The Plan Principles are:

- Plan Principle 1: Collective Identity
- Plan Principle 2: Resilient and Diverse Economy
- Plan Principle 3: Responsible and Managed Growth
- Plan Principle 4: Downtown and University Districts
- Plan Principle 5: Strong Neighborhoods and Housing Choices
- Plan Principle 6: Efficient and Connected Transportation
- Plan Principle 7: Great Places and Recreation
- Plan Principle 8: Resource Stewardship
- Plan Principle 9: Quality Education and Facilities
- Plan Principle 10: Safe, Healthy, and Inclusive Community
- Plan Principle 11: Effective and Transparent Government

Plan Principle 6 outlines strategies to create an efficient, connected transportation network where Grand Junction residents have multiple convenient travel options. This principle includes numerous recommendations that will be incorporated within the *Pedestrian & Bicycle Plan:*

- Balance all modes in decision-making by the city
- Continue implementation of the Complete Streets Policy, with priority given to projects near schools, employment corridors, bus stops, Active Transportation Corridors and other key destinations; and specific infrastructure such as sidewalks, bike lanes, protected intersections, pedestrian bridges and underpasses, and median islands
- Reduce severe crashes by providing safe, healthy, and equitable mobility for all users and modes
- Improve first and last mile connections to transit
- Encourage bicycle commuting by requiring bike parking, lockers, and/or shower facilities with development

- Implement better wayfinding

Finally, the development of this *Pedestrian & Bicycle Plan* fulfills the recommendation to establish such a plan to prioritize pedestrian and bicycle projects in Grand Junction.

Grand Junction Circulation Plan (2018)

The Grand Junction Circulation Plan was developed in coordination with the city's comprehensive planning process and updated in 2018. The plan sets forth transportation principles, strategies, and vision that will improve access to jobs, healthcare, goods, services, recreation, and other community amenities. The plan includes numerous maps to guide future planning efforts.

The Network Map is a conceptual view of the community from an overall "30,000 foot" vantage point that identifies important corridors and linkages connecting centers, neighborhoods, and community attractions. It is implemented through capital construction of streets, sidewalks and trail infrastructure.

As a part of the *Circulation Plan*, the city also identified Active Transportation Corridors important for non-motorized travel (shown in Figure 1). The Active Transportation Corridors Map replaces the *Urban Trails Master Plan*, adopted by the city in 2001.

These corridors will create Grand Junction's backbone active transportation network, improving comfort for people walking, rolling, and biking as the city upgrades or completes pedestrian and bicycle facilities. The intent of this map is to establish a complete, connected network of sidewalks, bike lanes, and trails that connects communities across Grand Junction via existing and planned infrastructure.

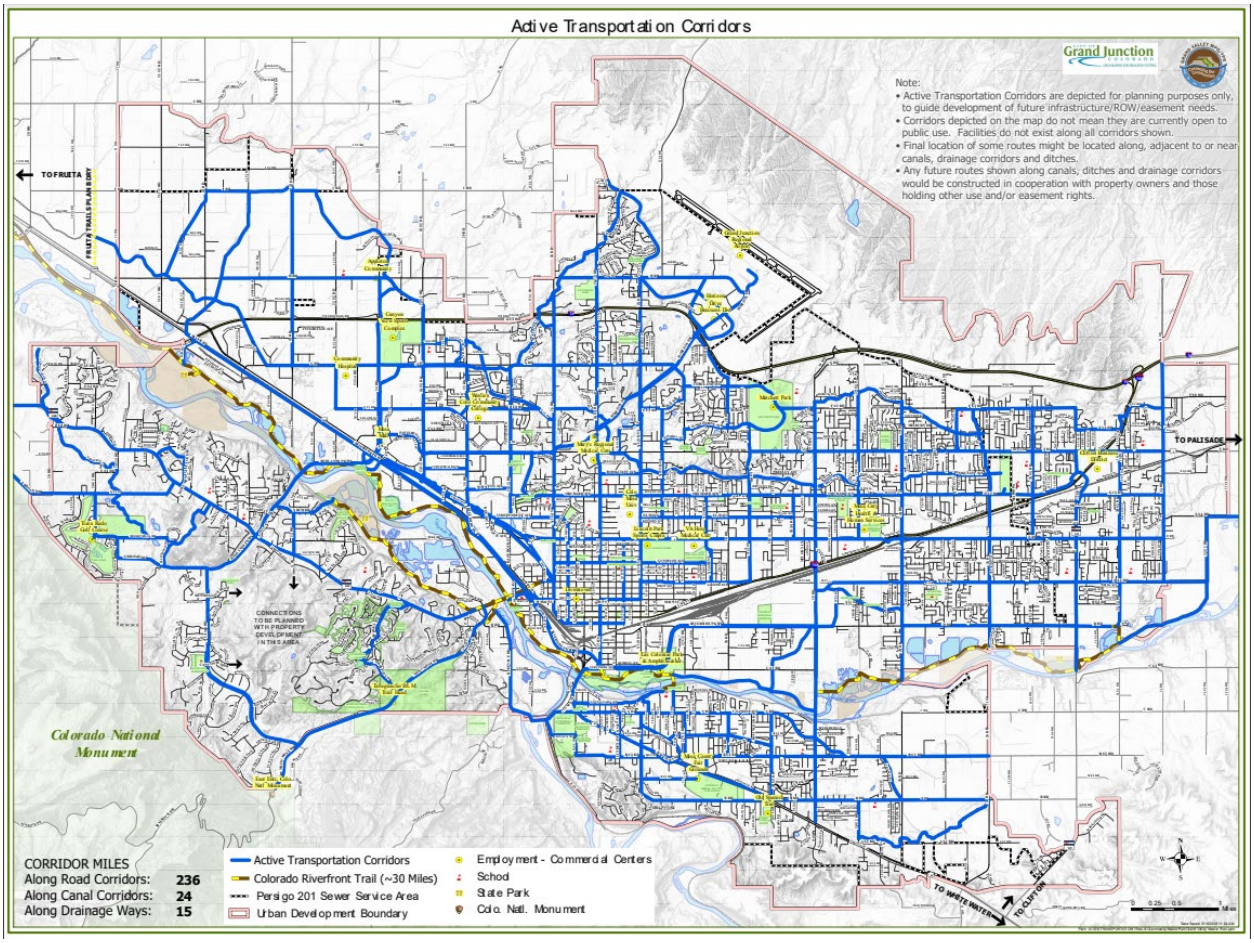


FIGURE 1: PLANNED ACTIVE TRANSPORTATION CORRIDORS MAP FROM THE 2018 GRAND JUNCTION CIRCULATION PLAN

Active transportation corridors total 275 miles, with 236 miles along the road, 24 miles along canal corridors, and 15 miles along drainage ways. The Active Transportation Corridors can accommodate users on the road network or separate trail. The city will need to construct any future routes along canals, ditches, and drainage corridors in cooperation with property owners and those holding other use and/or easement rights.

The Pedestrian & Bicycle Plan will refine this network to ensure it reflects the community's current network vision and improves access to key destinations. The updated Active Transportation Corridors will be the vision for the future bike network and key pedestrian corridors in Grand Junction.

Grand Valley Regional Transportation Plan (2020)

The *Grand Valley 2045 Regional Transportation Plan (RTP)* was adopted to maintain the region's transportation system, ensure the efficient movement of people and goods, and support future growth and development. The RTP is anchored by goal statements for active transportation, transit, regional roadways, safety, freight, funding, and maintenance. The active transportation goal is to "foster active transportation by providing a regionally connected network of low-stress facilities that are safe for people walking and biking."

To support this goal, the plan outlines strategies to guide practitioners on how to prioritize active transportation projects:

- Prioritize on-street projects that connect to the Grand Valley's existing and planned off-street multi-use path network.
- Identify new opportunities for regional travel on foot or bicycle that supplement the *Circulation Plan* by identifying gaps in the off-street multi-use path network that connect major population centers, major employment centers, parks, and public lands across the Grand Valley.
- Improve the pedestrian and bicycle experience by prioritizing sidewalks, bike facilities, and crossings that connect to bus stops, parks, schools, grocery stores, and public lands.
- Prioritize implementation of active transportation facilities on corridors that provide comfortable and low-stress connections for the first-last mile gaps between transit stops and key destinations, including parks and public land trailheads.

Relevant Documents

Complete Streets Policy (2018)

The city adopted a Complete Streets Policy in 2018 to encourage street design that enables safe use and mobility for people of all ages and abilities, whether they are traveling as pedestrians, bicyclists, transit riders, or drivers. It also sets context-sensitive design standards and approaches for all construction and reconstruction of the city's transportation system. These standards will be consulted during the development of the *Pedestrian & Bicycle Plan* and *Transportation Engineering Design Standards (TEDS) Manual Update* that will guide recommendations on how to improve implementation of the policy.

The vision of the Complete Streets Policy is to develop a safe, efficient, and reliable travel network of streets, sidewalks, and urban trails throughout Grand Junction. The transportation strategies identified in the comprehensive plan and *Circulation Plan* will help the community achieve its complete streets vision. The purpose of the Complete Streets Policy is to expand everyone's travel choices, particularly safe and convenient mode options. Safety, including a reduction in hazards for pedestrians and bicyclists is a main driver of the Policy. To meet the vision of the Complete Streets Policy, the city established a series of complete street principles and context sensitive design standards to determine priority investments to guide implementation.

The policy is applicable to all development and redevelopment in the public realm within the City of Grand Junction. It applies to the work of all city departments and other entities working within the public right-of-way. In addition, it is intended to guide all private development that affects streets, the transportation system, and the public realm. The city outlined performance measures in the areas of safety, access, and health and environment to track the success of the policy. The city can collect and analyze data such as crashes, the number of Americans with Disabilities Act (ADA) compliant curb ramps, and the percentage of students who walk or bike to school to measure policy success. To ensure implementation of the policy, Grand Junction aims to integrate it with other existing and new policies, transportation projects, and consistently throughout departments.

Transportation and Engineering Design Standards (TEDS) Manual

The *TEDS Manual* provides the teeth for implementation of bicycle and pedestrian infrastructure around the city. It guides developers and city engineers on how to design new and reconstructed streets, the impacts of which will be felt for many generations. Fehr & Peers is concurrently helping the city update the pedestrian and bicycle components of the *TEDS Manual* in tandem with the development of the new *Pedestrian & Bicycle Plan*, to ensure cohesive guidance in both documents.

Updates may include better transit stop design guidance, pedestrian and bicycle crossing guidelines, street cross sections, and more. This will support implementation of the *Pedestrian & Bicycle Plan*, while considering the context of Grand Junction's existing street network and environment.

Grand Junction Fire Code

Ordinance Number 4830 prescribes regulations governing conditions hazardous to life and property from fire, explosion, and chemical release. Grand Junction's *TEDS Manual* is responsible for the design standards of dead-end fire apparatus road turnarounds. Additionally, all residential and commercial/industrial cul-de-sac designs shall adhere to *TEDS Manual*. Design standard requirements will be reviewed and updated in accordance with the latest guidance.

Zoning and Development Code

Grand Junction is in the process of updating their zoning code to better reflect the goals and policies described in the *ONE Grand Junction Comprehensive Plan*, especially those key principles related to responsible and managed growth and strong neighborhoods and housing choices. The following sections have existing design practices, mostly along North Avenue that will be reflected in the *TEDS Manual* update.

- Section 32.48.030 Designing Street Intersections - Design of intersections should follow AASHTO's guide for the Planning, Design and Operation of Pedestrian Facilities. Community input identified that safety is needed for cyclists and pedestrians without impeding traffic.
- Section 32.48.0070 Curb Cut Consolidation - To reduce curb cuts along North Avenue, at the time of redevelopment curb cuts will be consolidated.
- Section 32.48.100 Transit - All transit stops on North Avenue should be off-street pull-outs. Bus shelters should be incorporated at higher use transit stop locations.

Vibrant Together: A Downtown Initiative

The Downtown Development Authority launched this effort to build upon the successes of the *1981 Plan of Development* and identify a new vision for downtown Grand Junction that aligns with the needs of the community. *Vibrant Together* sets five main goals for identity, downtown development, vibrancy, connectivity, and safety and comfort. To bring more people downtown and better link it with the river, the plan identifies three main strategies to improve connectivity, placemaking, and infill development. Strategies around connectivity will be relevant to this planning effort and they include:

- Convert 4th and 5th to two-way streets
- Prioritize pedestrian and bike improvements to improve mobility throughout downtown and to the river

- Create a 2nd Street Promenade connecting the Train Depot to Two Rivers Plaza
- Initiate a gateway and wayfinding study to improve ease of navigation for people walking, biking, and driving downtown

Horizon Drive Business Improvement District Trails Master Plan

The Horizon Drive District is a business improvement district that uses a fee on its member businesses along Horizon Drive, a major gateway to the city, to make capital investments in the corridor. They stimulate business in this area through beautification projects, transportation improvements, and promotion of tourism.

The trails plan recommends aligning the existing trail network with businesses along Horizon Drive to increase connectivity for pedestrians. Proposed future trail additions to the BID network use the canal trail and are contingent upon the canal trail loop completion, construction of which would occur in phases beginning with the South West Loop. Art installations, workout stations, rest areas, and other amenities would anchor each loop. The plan documents drainageway conditions and constraints as well as graphic examples of alignments. New recommendations for trails in this area will consider the suggestions already made in this plan.

Bicycle Friendly Community Designation

The League of American Bicyclists recognized Grand Junction as a bronze-level Bicycle Friendly Community in 2018. A bronze designation recognizes the great trails and bikeways that have been established over the years and gives the city some additional goals to work toward. Grand Junction performs well in many performance criteria but has room for improvement in the categories of engineering, education, encouragement, enforcement, and evaluation and planning. Recommended steps for Grand Junction to achieve a higher designation include:

- Prioritize planned projects and a reporting mechanism for the community to follow progress on infrastructure improvements.
- Increase the amount of high quality, Association of Professional Bicycle Professionals (APBP)-compliant bicycle parking.
- Launch a public bike share system.
- Expand the audience for educational programs to include high school students, college students, and new drivers.
- Host a League Cycling Instructor (LCI) seminar to increase the number of local LCIs.
- Develop a community-wide trip reduction ordinance/program, incentive program, and/or a Guaranteed Ride Home program to encourage and support bike commuters.
- Encourage more local businesses, agencies, and organizations to promote biking to their employees and customers and to seek recognition as a Bicycle Friendly Business.
- Develop a bike patrol unit to improve bicyclist/officer relations, and ensure that all law enforcement officers have basic training or experience with biking.
- Adopt a comprehensive road safety plan or a Vision Zero policy.
- Formalize a Bicycle & Pedestrian Coordinator position.

Walk Friendly Community Report Card

Grand Junction applied for and failed to receive a Walk Friendly Communities designation from Walk Friendly Communities. The *Walk Friendly Community Report Card* identified the Urban Trails Committee, ADA transition plan, and collection of pedestrian and bicycle counts as positive progress in the community. Grand Junction is on the right track in planning and engineering efforts, but areas that need attention are education/encouragement, enforcement, and evaluation of metrics. Grand Junction has the potential to become a Walk Friendly Community through the following steps:

- Formalize a Bicycle & Pedestrian Coordinator position.
- Establish a pedestrian safety action plan with performance targets and metrics.
- Set mode share and safety goals.
- Reform parking policy via parking maximums or absence of minimums.
- Continue implementing Complete Streets Policy.
- Expand Safe Routes to School Program.
- Educate staff on walking, walkability, and pedestrian safety.
- Improve bicycle and pedestrian wayfinding.
- Maintain and complete the sidewalk network.
- Establish concrete design guidelines.
- Enforce in areas with high pedestrian volumes/safety issues and consider automated enforcement.
- Increase share of enforcement that occurs on foot or bike.
- Establish permanent bicycle and pedestrian count locations.
- Perform regular safety evaluation of completed projects.

Existing Pedestrian Network

The existing pedestrian network map in Figure 3 shows which streets in the Grand Junction planning area currently have an attached sidewalk, detached sidewalk, or no sidewalk on either side of the street. Examples of each of these walkway conditions are shown in Figure 2.

FIGURE 2: SIDEWALK CONDITION EXAMPLES

Conditions supportive of pedestrians include wide and smooth sidewalks, a buffer zone between the sidewalk and roadway (particularly vertical buffers like landscaping and street furniture, which also provide shade and places to sit), accessible curb ramps at corners, a gridded street network, and shorter block lengths. While the first few factors are more straightforward, shorter blocks and gridded streets (or at least streets with numerous connections north-south and east-west) provide more route options and allow people walking and rolling to choose more direct paths between destinations.

The condition of the existing pedestrian network in Grand Junction varies considerably by location in the city. Many of the major streets in Grand Junction currently have a sidewalk, but there are notable gaps as well across the city. The pedestrian environment in the core of the city around downtown is dominated by relatively short blocks, a grided street network, and importantly, detached sidewalks that make the area generally more comfortable to pedestrians than other parts of the city. Other high-comfort facilities for pedestrians include the relatively robust trail network through Grand Junction, currently confined mostly to the Colorado River corridor.

Many parts of the city outside the historic core lack direct connections through neighborhoods and these areas more commonly feature attached sidewalks or no sidewalks.

Street characteristics like roadway width, speed, and volume, affect the comfort of someone walking or rolling on an attached sidewalk. Missing sidewalks in neighborhoods and commercial areas can pose a significant barrier to choosing to walk for even short trips. These areas of missing sidewalks, along with major arterials with uncomfortable and inaccessible sidewalks and roadway crossings, create broad gaps in the pedestrian network and prevent residents from choosing to walk downtown or elsewhere.

As shown in **Figure 3**, notable major streets with sections of narrow or missing sidewalks include, but are 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.

Many comments received from the public reflect a desire to improve pedestrian and bicycle crossings of the Colorado River, US 50, and the railroad tracks. These features represent significant barriers for people walking and biking between neighborhoods on either side, especially for people connecting from the Redlands, Orchard Mesa, and the Riverfront Trail to Downtown, Colorado Mesa University (CMU), and Mesa Mall. As shown in **Figure 3**, this is amplified by the fact that there are only a few streets or paths that connect across the river and railroad, including:

- Redlands Parkway/24 Road
- Broadway
- 5th Street (US 50)
- 7th Street/9th Street/the multi-use trail bridge at Eagle Rim Park
- 29 Road

Of these crossings, 24 Road and 9th Street lack sidewalks and bicycle facilities. Numerous commenters suggested the opportunity and value of installing new connections that would provide greater redundancy in the active transportation network and improve access across these barriers. These include 12th Street, 28 Road, and 2nd Street from downtown to Dos Rios.

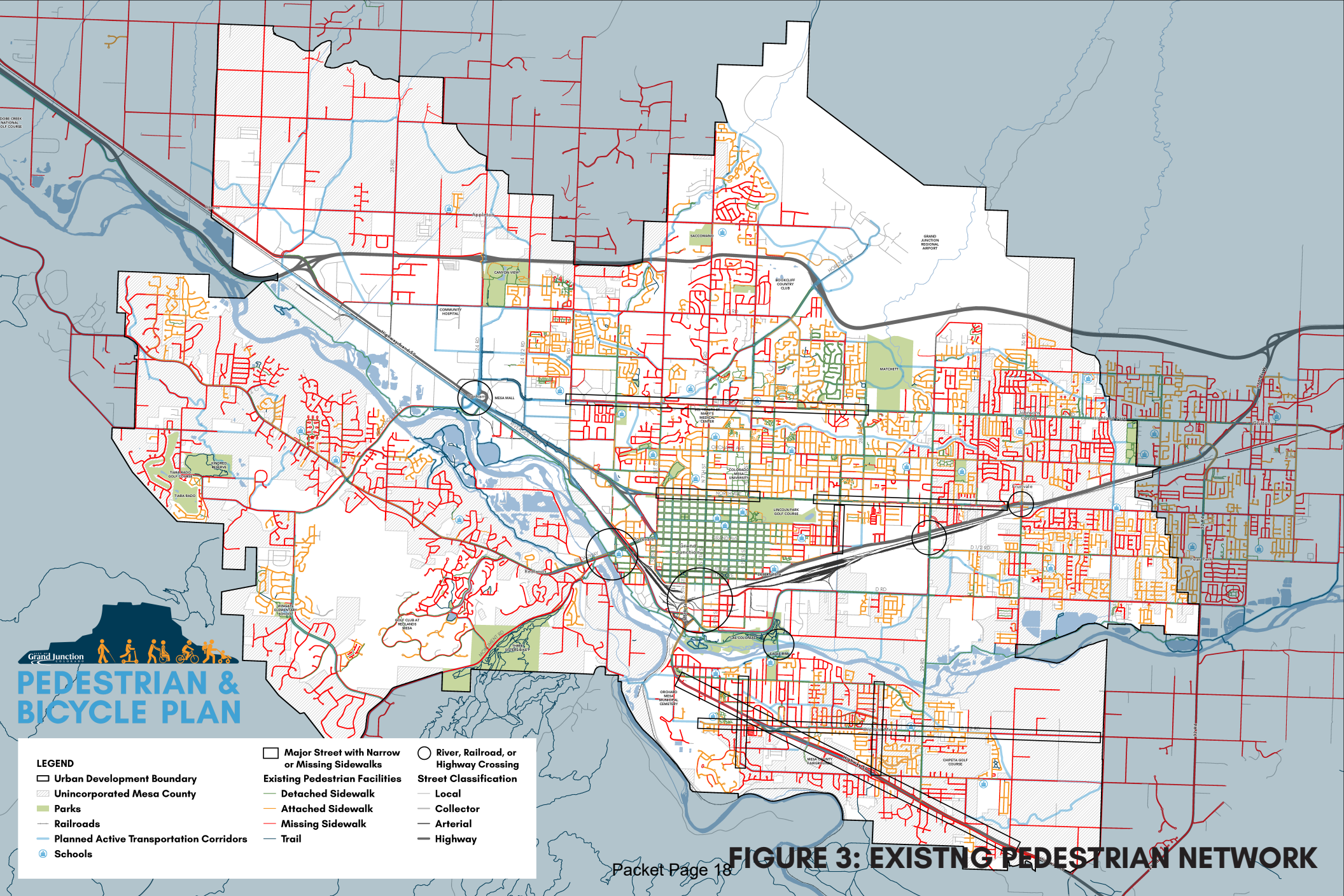


FIGURE 3: EXISTNG PEDESTRIAN NETWORK

Existing Bicycle Network

The current bicycle network in Grand Junction consists of shared streets that are signed bike routes, striped bike lanes (including two streets with buffered bike lanes – 1st Street and East Main Street), and trails. Figure 4 shows examples in Grand Junction of each of these facility types and a map of the existing bike network is provided in Figure 5.

FIGURE 4: EXISTING BICYCLE FACILITY TYPES IN GRAND JUNCTION

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.

Additionally, some locations with existing bike facilities are not sufficient to provide a comfortable experience for cyclists given the characteristics of the street. Generally, the highest-comfort facilities for people biking are detached trails and buffered or protected bike lanes. Like attached sidewalks, the comfort of striped bike lanes depends on street characteristics including roadway width, speed, and volume. Since they provide minimal space between someone biking and vehicle traffic, this type of facility can be adequate on a low-volume neighborhood street, but is less comfortable on a major arterial. Many of the streets in Grand Junction with existing bike lanes are not wide enough or do not provide enough separation from traffic to provide a comfortable experience for bicyclists given the volume and speed of traffic. Notable examples include Patterson Road, 12th Street, 28 ¼ Road, and parts of 29 Road a D Road. Signed bike routes are useful

wayfinding for people biking and signal the presence of cyclists to people driving, but depending on the volume and speed of traffic and treatments at major crossing, signed facilities alone may not provide a comfortable facility for bicyclists.

Like the pedestrian network, many comments from the public reflect a desire to improve major crossings of the Colorado River, US 50, and the railroad tracks. Access to the Riverfront Trail emerged as an important value to the community for bicyclists and can be difficult to get to by bike from the north, including from downtown/CMU, and the Mesa Mall due to the limited number of crossings. Of the five crossings identified in the Pedestrian Section, 24 Road, 5th Street[1], and 9th Street lack bicycle facilities, and 29 Road crossings does not provide a high comfort facility.

[1] Along the 5th Street crossing, the sidewalk narrows to 6' places, and because a sidewalk must be at least 8' wide (and ideally 10' to 12') to be considered a multiuse trail, the 5th Street overpass is not considered an existing bicycle facility.

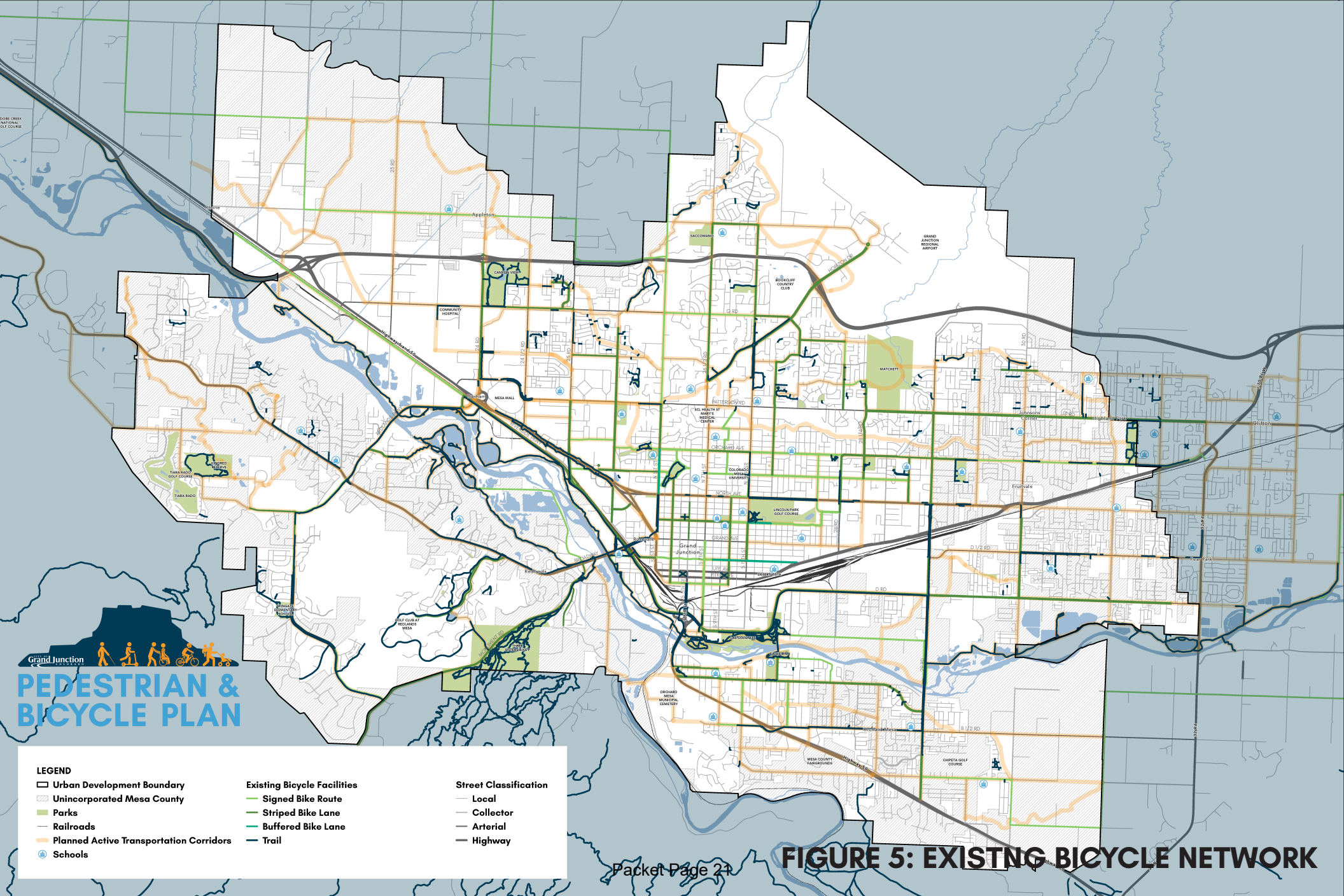


FIGURE 5: EXISTNG BICYCLE NETWORK

Level of Traffic Stress

What is Level of Traffic Stress (LTS)?

Walking and biking comfort along roadways in the City of Grand Junction was measured using a modified version of the Level of Traffic Stress (LTS) criteria and scoring system developed by Mekuria, Furth, and Nixon (2012) in *Low Stress Bicycling and Network Connectivity*.[2]

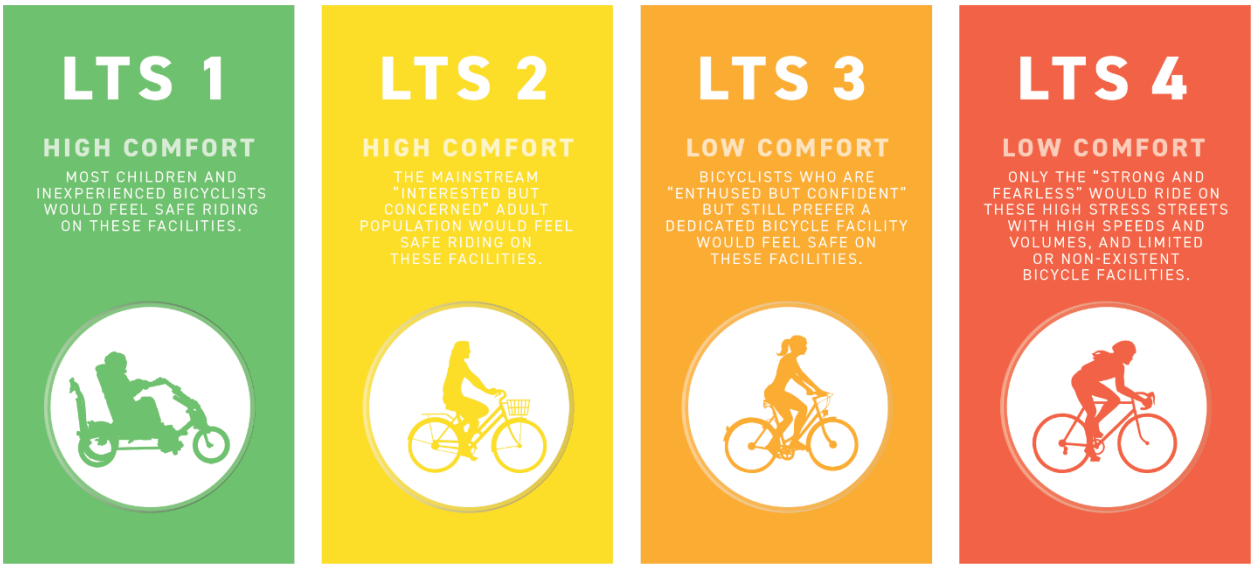


FIGURE 6: BICYCLE LTS

The LTS system assigns a street a score from 1 to 4 based on a combination of factors. An LTS of 1 indicates the most comfortable, least stressful facility that accommodates people of all ages and abilities – one which a child could comfortably walk or bike, for example (Figure 6). An LTS of 4 indicates the least comfortable, most stressful facility that most people would avoid using – one in which only a very "strong and fearless" cyclist would ride (less than 1% of the population). An LTS 2 facility is also relatively low stress and accommodating, while a facility with an LTS of 3 would be an environment that those familiar with biking and willing to accept a slightly more stressful environment might choose. LTS 3 facilities cater to "enthused and confident" cyclists, roughly 7% of the population, while LTS 2 facilities cater to "interested but concerned" riders, roughly 60% of the population.[3]

[2] Mekuria, M., Furth, P., & Nixon, H. (2012). Low Stress Bicycling and Network Connectivity. *Mineta Transportation Institute*. Retrieved from https://peterfurth.sites.northeastern.edu/2014/05/21/criteria-for-level-of-traffic-stress/.

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

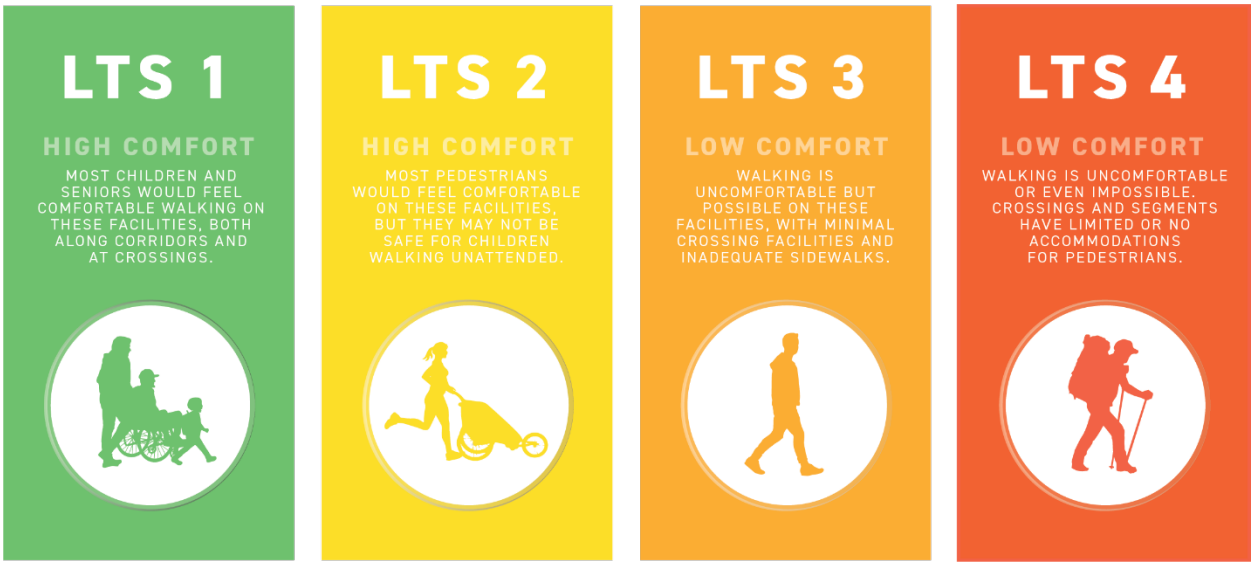


FIGURE 7: PEDESTRIAN LTS

Similar to the Bicycle LTS, the Pedestrian LTS system also ranks pedestrian facilities on a scale from 1 to 4, with LTS 1 representing the most comfortable, least stressful facility that accommodates children, older adults, people with mobility challenges, parents with strollers, and everyone between; while LTS 4 facilities may only be used by the most fearless walkers (Figure 7).

Methodology

Bicycle LTS

The LTS methodology considers the type of bicycle facility, presence of a parking lane, travel lane width, traffic speed, number of lanes, and traffic volumes on a roadway segment to score bike paths, bike lanes with and without buffers, and bike routes. Intersection crossings are not factored into the analysis due to data availability. The criteria shown in Table 1 through Table 3 simplifies the latest 2022 LTS tables to account for available data in Grand Junction (data on presence of a parking lane and travel lane widths are unavailable). Data for each of these attributes was collected and coded for each roadway segment in the city, then the LTS was calculated in GIS.

Using the LTS methodology, multi-use paths and trails, raised cycle tracks, and protected bike lanes are automatically given a score of 1.

For bike lanes and other types of facilities, scores depend on the number of lanes, posted speed limits, and average daily traffic (ADT), as shown in Table 1 through Table 3.

TABLE 1: BUFFERED BIKE LANES

	25	30	35	40	45	50
5-6 lanes	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
3-4 lanes	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
1-2 lanes	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 3

TABLE 2: STRIPED BIKE LANES

		25	30	35	40	45	50
5-6 lanes		LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
3-4 lanes		LTS 2	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
1-2 lanes	**ADT >1000**	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
	ADT ≤1000	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4

TABLE 3: SIGNED BIKE ROUTES/NO FACILITY/MIXED TRAFFIC

	ADT	20	25	30	35	40	45
5-6 lanes	**Any**	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
3-4 lanes	**>8000**	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
	≤8000	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
1-2 lanes	**>3000**	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1001-3000	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
	≤1000	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3

A few streets in the network were also manually rescored based on local understanding of roadway conditions, such as frequent curb cuts and driveways, or other uncomfortable features, as shown in Figure 8. These manual reclassifications include Pitkin Avenue (LTS 4), Ute Avenue (LTS 4), and parts of North Avenue (LTS 4).

FIGURE 8: CURB CUTS AND SIDEWALK CONDITIONS ON NORTH AVENUE

Pedestrian LTS

The Pedestrian LTS methodology used in Grand Junction is a modified version of the criteria used in StreetScore+, a tool developed by Fehr & Peers to assess people's comfort walking and biking along a street. StreetScore+ is a streamlined method for assessing Level of Traffic Stress for people walking and biking and includes more factors than a traditional LTS analysis (such as sidewalk width, sidewalk quality, buffer width, and other factors). Unfortunately, the city's sidewalk data was limited, but the Grand Junction Safe Routes to School program already developed a sidewalk layer that considers whether sidewalks are detached, attached, or missing.

The pedestrian LTS methodology shown in Table 4 and

Table 5 considers sidewalk type, number of lanes, and posted speed limits. Data for each of these attributes was collected and coded for each roadway segment in the city, then the LTS was calculated in GIS.

Using the LTS methodology, multi-use paths and trails are automatically given a score of 1.

TABLE 4: DETACHED SIDEWALKS

	LTS 1	LTS 2	LTS 3	LTS 4
Lanes	2-3		4-5	6
Speed limit	25	30	35	40+

TABLE 5: ATTACHED SIDEWALKS

	LTS 1	LTS 2	LTS 3	LTS 4
Lanes	2-3		4-5	6
Speed limit	20	25	30	35+

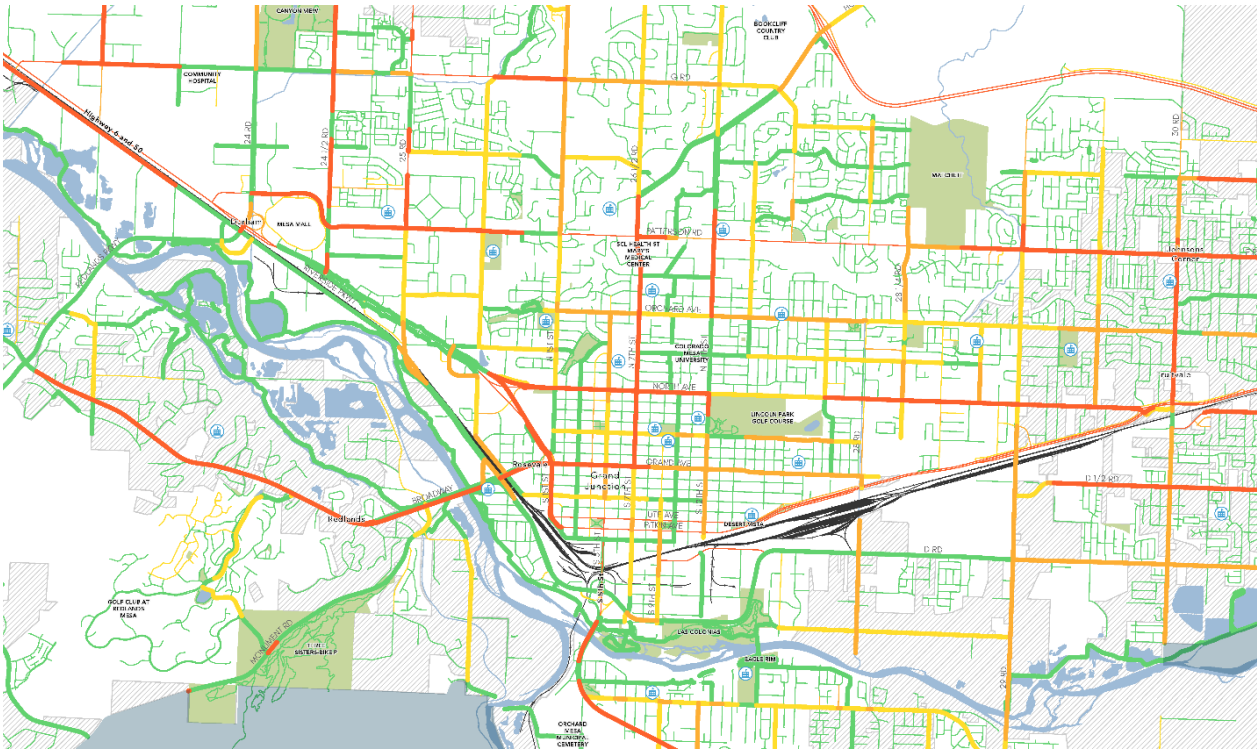
When applying the standard LTS methodology, streets with missing sidewalks would typically be classified as LTS 4. The methodology was modified for Grand Junction based on input from city staff and members of the Steering Committee, to reflect that narrow, low speed, low traffic volume neighborhood streets are viewed as relatively comfortable spaces to walk, even in the street. Furthermore, in many of these locations there is not a desire by the residents of the community to add sidewalks to preserve the narrow, rural nature of the street.

Using the LTS methodology, streets with missing sidewalks are automatically given a score of 4 UNLESS 1-2 lanes, ADT ≤1000 and speed ≤25 mph – then scored LTS 2.

Bicycle LTS

Figure 9 and Figure 10 show the Grand Junction street network and trails classified by bicycle LTS. Active Transportation Corridors are shown with thicker lines on the map. Most local neighborhood streets are classified as LTS 1 facilities due to having fewer lanes and slower speeds. However, the Active Transportation Corridors, often score more poorly (LTS 3 or 4) where they lack adequate bicycle facilities. This is because

many of these corridors are higher speed, higher volume streets where bicyclists need more separation from traffic to have a low-stress experience.



LEGEND

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

Bicycle Level of Traffic Stress Active Transportation Corridors

- LTS 1
- LTS 2
- LTS 3
- LTS 4

Bicycle Level of Traffic Stress Street Network

- LTS 1
- LTS 2
- LTS 3
- LTS 4

FIGURE 9: BICYCLE LEVEL OF TRAFFIC STRESS DOWNTOWN

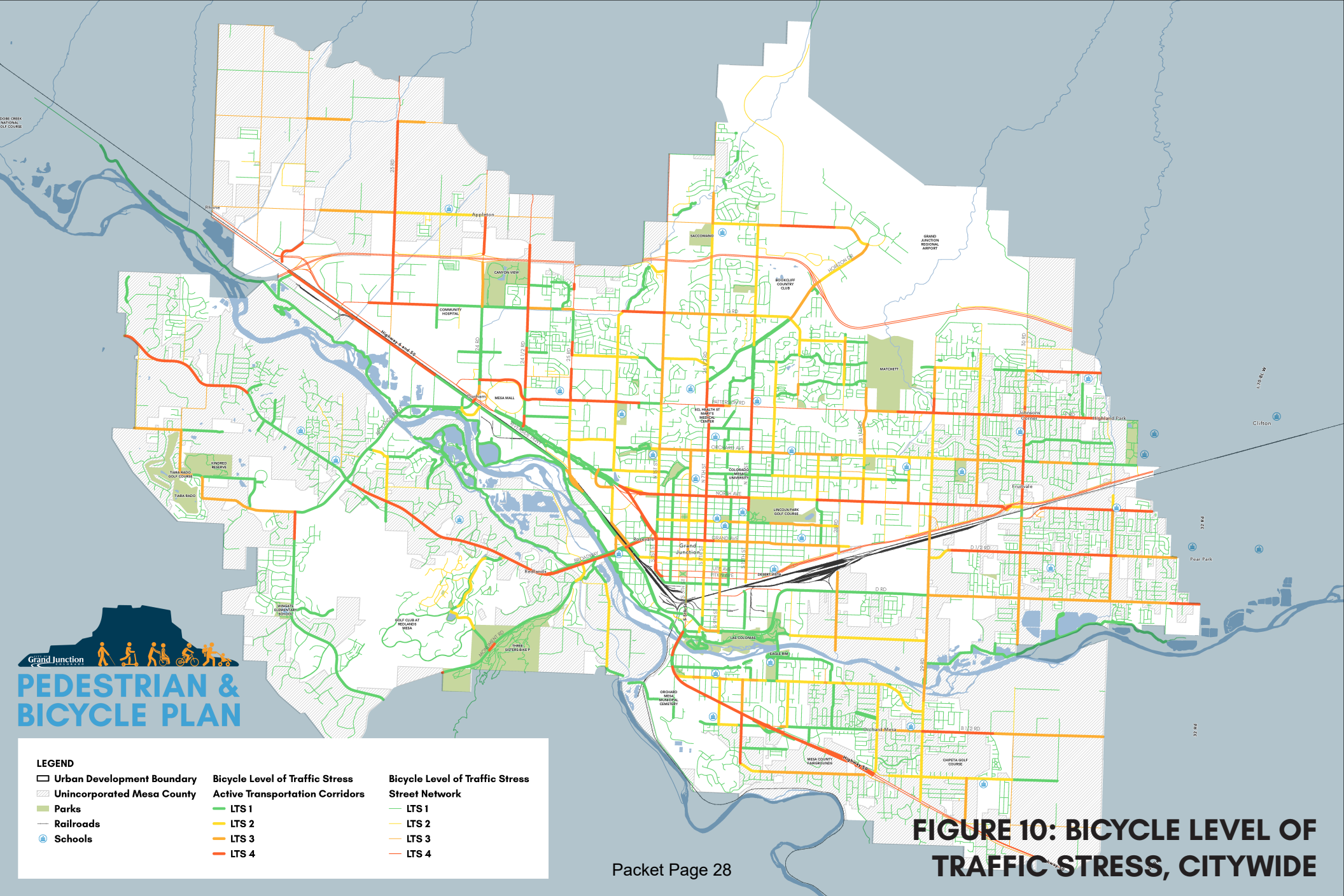


FIGURE 10: BICYCLE LEVEL OF TRAFFIC STRESS, CITYWIDE

Pedestrian LTS

Figure 11 and Figure 12 show the Grand Junction street network and trails classified by Pedestrian LTS. Many local neighborhood streets lack sidewalks but are classified as LTS 2 facilities because they are low volume, low speed, narrow neighborhood streets. However, Active Transportation Corridors, many of which are higher speed, higher volume, wider arterials, score more poorly where they lack adequate pedestrian facilities, such as a sufficiently wide sidewalk with a buffer.

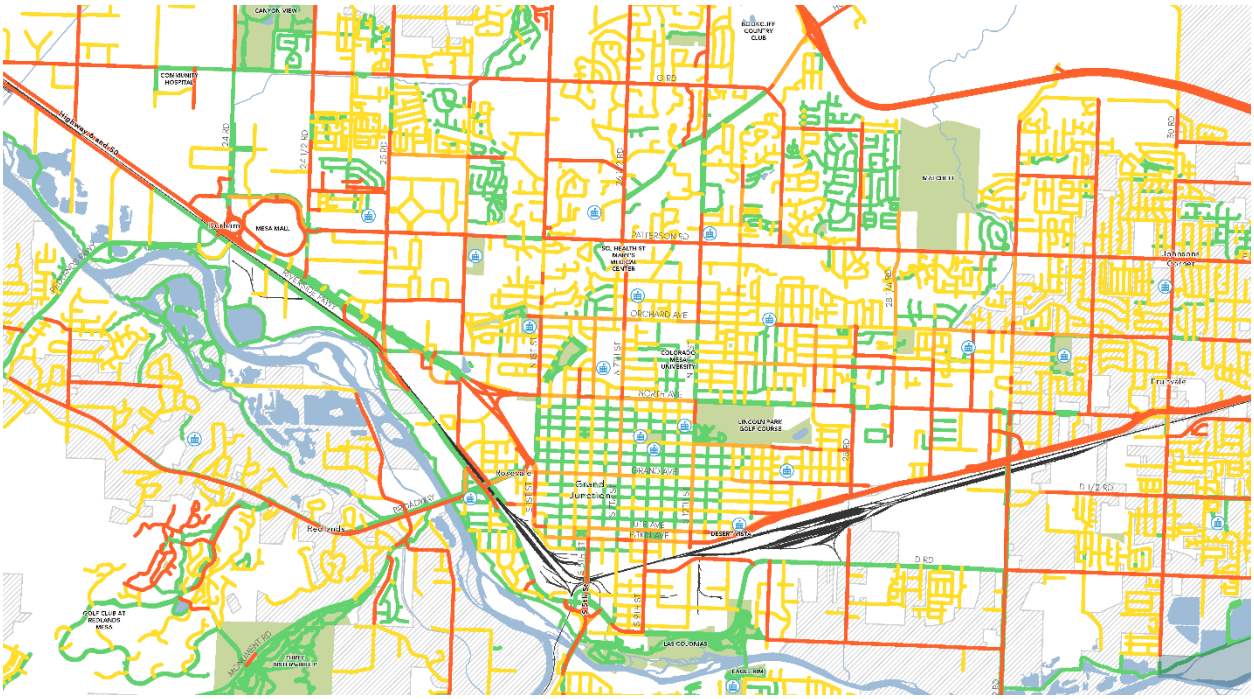


FIGURE 11: PEDESTRIAN LEVEL OF TRAFFIC STRESS, DOWNTOWN

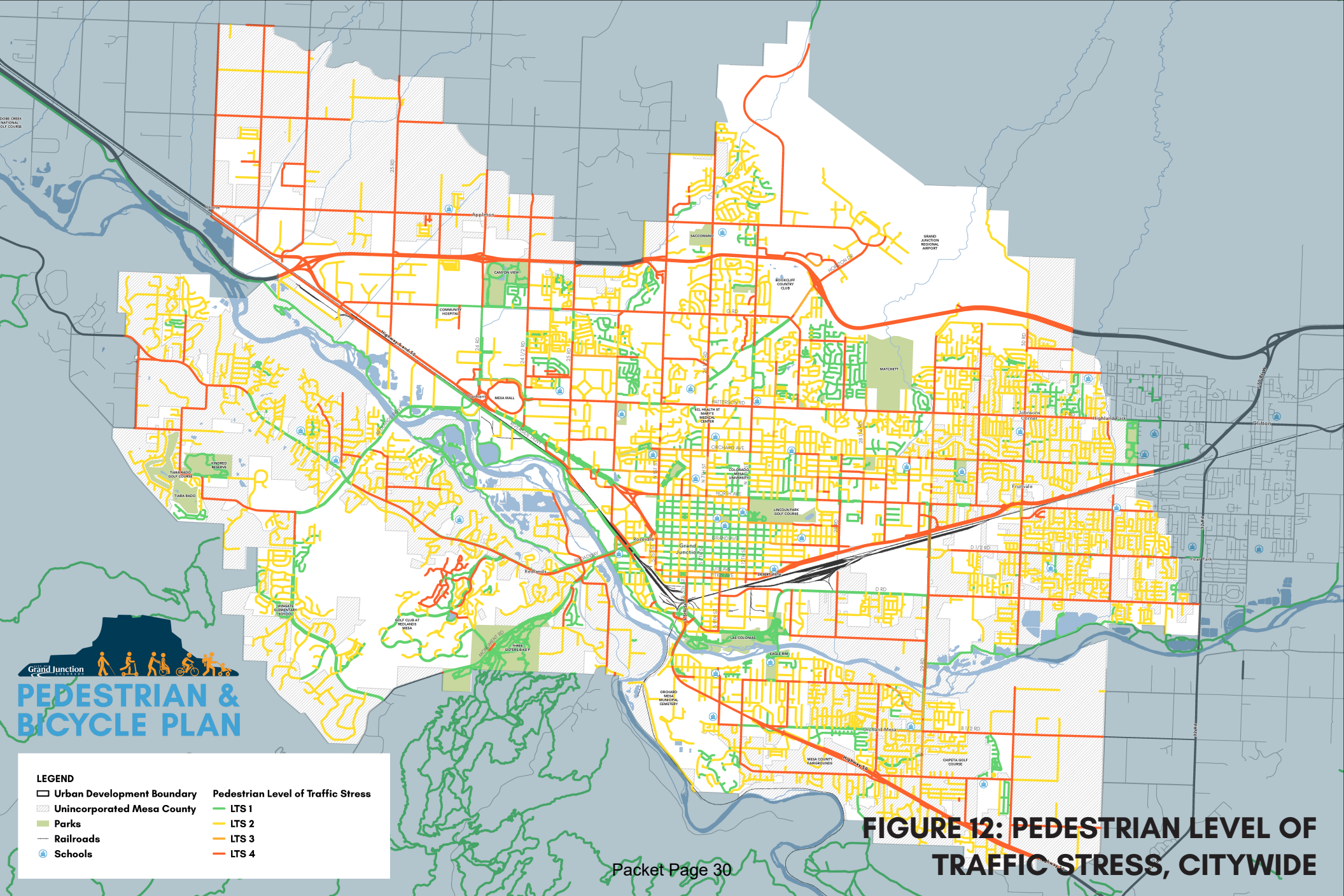


FIGURE 12: PEDESTRIAN LEVEL OF TRAFFIC STRESS, CITYWIDE

Active Transportation High Injury Network

What is a High Injury Network (HIN)?

A high injury network (HIN) is a network of streets in a community where the highest concentrations of fatal and severe injury traffic crashes have occurred. A HIN is created through the mapping of crash data to visually recognize spatial patterns. It is an important tool used in many Vision Zero plans to assist communities in prioritizing street safety projects that will have the greatest impact in improving traffic safety. Traditionally, HINs represent all crashes, and have been utilized in dozens of communities across the country and around the world to prioritize traffic safety improvements.

This effort developed an Active Transportation HIN map for Grand Junction to illustrate the streets where a disproportionally high number of citywide crashes involving people walking or biking have occurred. The Active Transportation HIN in Grand Junction will be used as one means to prioritize safety projects and buildout of the pedestrian and bike network.

Methodology

The Active Transportation HIN in the Grand was created using crash data from 2016 to 2020. During this time there were 347 reported crashes within Grand Junction involving a pedestrian or cyclist (Figure 13). The HIN was developed using an iterative process that started with developing a series of maps based on the crash data:

- A crash mode map, which distinguished the crashes between those involving a pedestrian and those involving a cyclist. In total, there were 125 crashes involving a pedestrian and 222 crashes involving a cyclist during the study period (Figure 13). Overall, this map visualizes the spatial distribution of each type of crash to ensure that the HIN represented both pedestrian and cyclist-involved crashes.
- A heat map that showed the concentration of individual crash points across Grand Junction. This map highlights specific nodes of crashes, such as the intersections near North Avenue with 12th Street and near Main Street with 5th Street.
- A heat map by road segment, which paired individual crashes with the existing road network to visualize a raw, data-driven high injury network. The result of pairing the crashes to the small road segments (about one block length) was a preliminary HIN.

Each map illustrated crash trends through a slightly different analytical perspective, which helped inform the HIN. The Active Transportation HIN was drawn based on this initial set of maps to represent the corridors with the highest concentration of pedestrian and cyclist-involved crashes.

Findings

Between 2016 and 2020 there were 347 crashes in Grand Junction involving a person walking or biking, an average of one every 5 – 6 days, including 222 cyclist-involved crashes and 125 pedestrian-involved crashes. Forty-two of these crashes (about 13%) resulted in severe bodily injury or death (Figure 13).

FIGURE 13: PEDESTRIAN AND CYCLIST SAFETY FINDINGS

The Active Transportation HIN map is shown in Figure 14, and represents streets where a disproportionally high number of citywide crashes involving people walking or biking have occurred.

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.

In addition to the Active Transportation HIN, this map also illustrates the location where all 347 pedestrian and cyclist-involved crashes occurred in the city between 2016 and 2020.

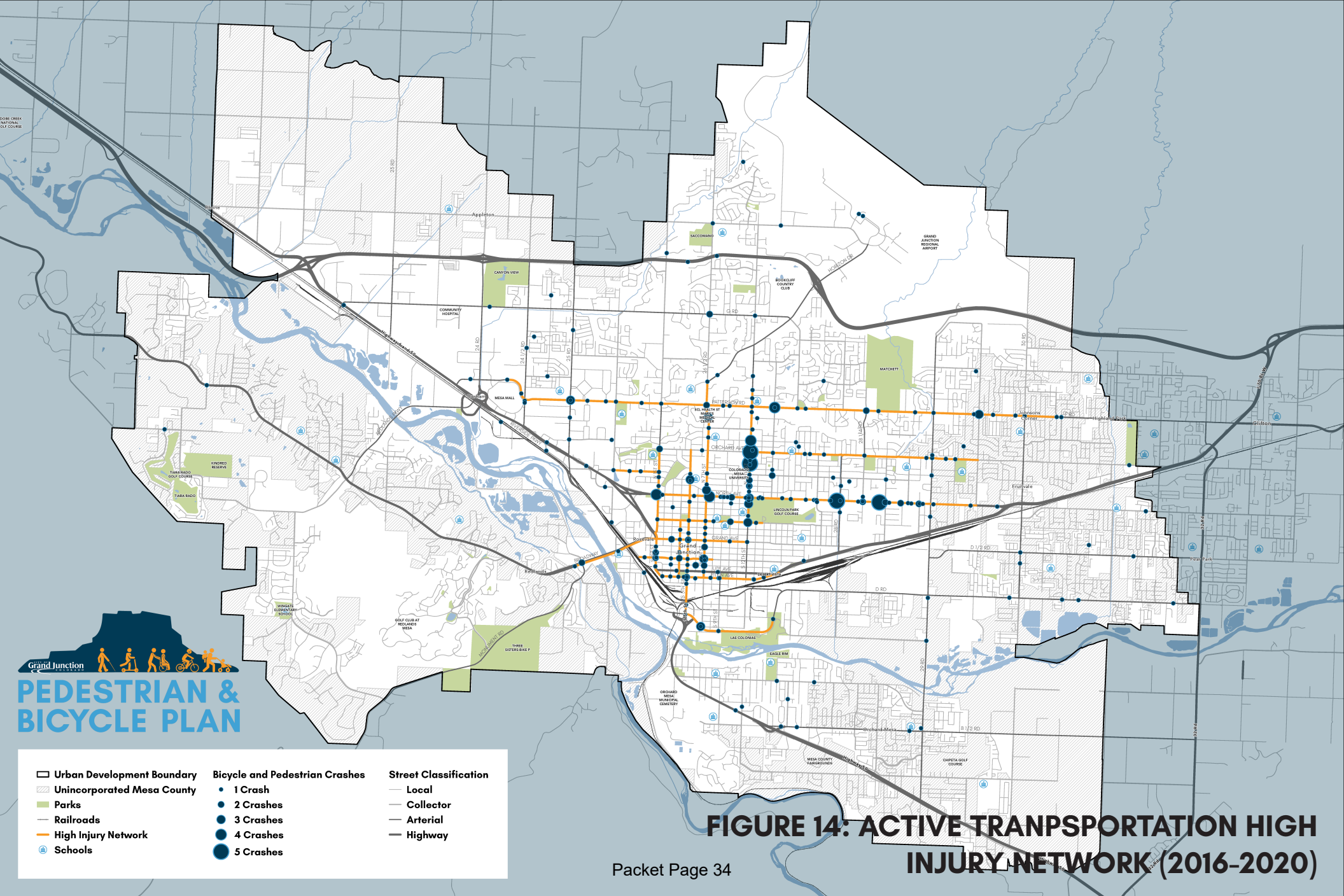


FIGURE 14: ACTIVE TRANPSPORTATION HIGH INJURY NETWORK (2016-2020)

Pedestrian & Bicycle Demand

This section summarizes analysis of existing pedestrian and bicycle activity and demand in Grand Junction. Existing demand was estimated using two sources of data:

- Input from the community through the online interactive map (which included over 1,000 comments) and the community open house (which drew about 80 attendees).
- From Big Data sources through Strava, which is a mobile app used by people walking, running, and biking.

Community Input

For a summary of community input on areas of significant pedestrian and bicycle demand, refer to Community Engagement Findings: Geographic Input.

Strava Heatmap

Strava is a mobile app that enables users to track physical exercise including biking, running, hiking, and walking using GPS. The platform records these trips and allows users to share their activities. Users of the platform track recreational activities, but a growing share of users are tagging their activity as commutes. In many cities commutes are the primary activity recorded on Strava.

Through all of these public recordings, Strava collects data on origin-destination patterns and popular routes and corridors, aggregating and deidentifying unique users. They publish a publicly-available Global Heatmap similar to the images shown in Figure 15 through Figure 18, and share some additional data with transportation planning firms by request through an application for Strava Metro access. The data in the maps in Figure 15 through Figure 18 cannot be downloaded, but readers interested in exploring the data in greater detail can do so at https://Strava.com/heatmap.

Transportation planners recognize the value of this anonymized data to better understand pedestrian and bicycle demand in a transportation network. It should be acknowledged that there is an inherent bias in the data as it represents primarily recreational trips and all trips represented were made by users of the app, which is a small percentage of all walk and bike trips. However, the data is still useful as it can offer a proxy for larger active transportation patterns. For example, people walking and biking for recreation often choose routes along streets that feel more comfortable and safe, in a way similar to people walking and biking for utilitarian reasons.

The data shows that bicycle demand by Strava users is concentrated along key regional and recreational connections including Monument Road, the Riverfront Trail, C1/2 Road, K Road, I Road, and H Road (Figure 15).

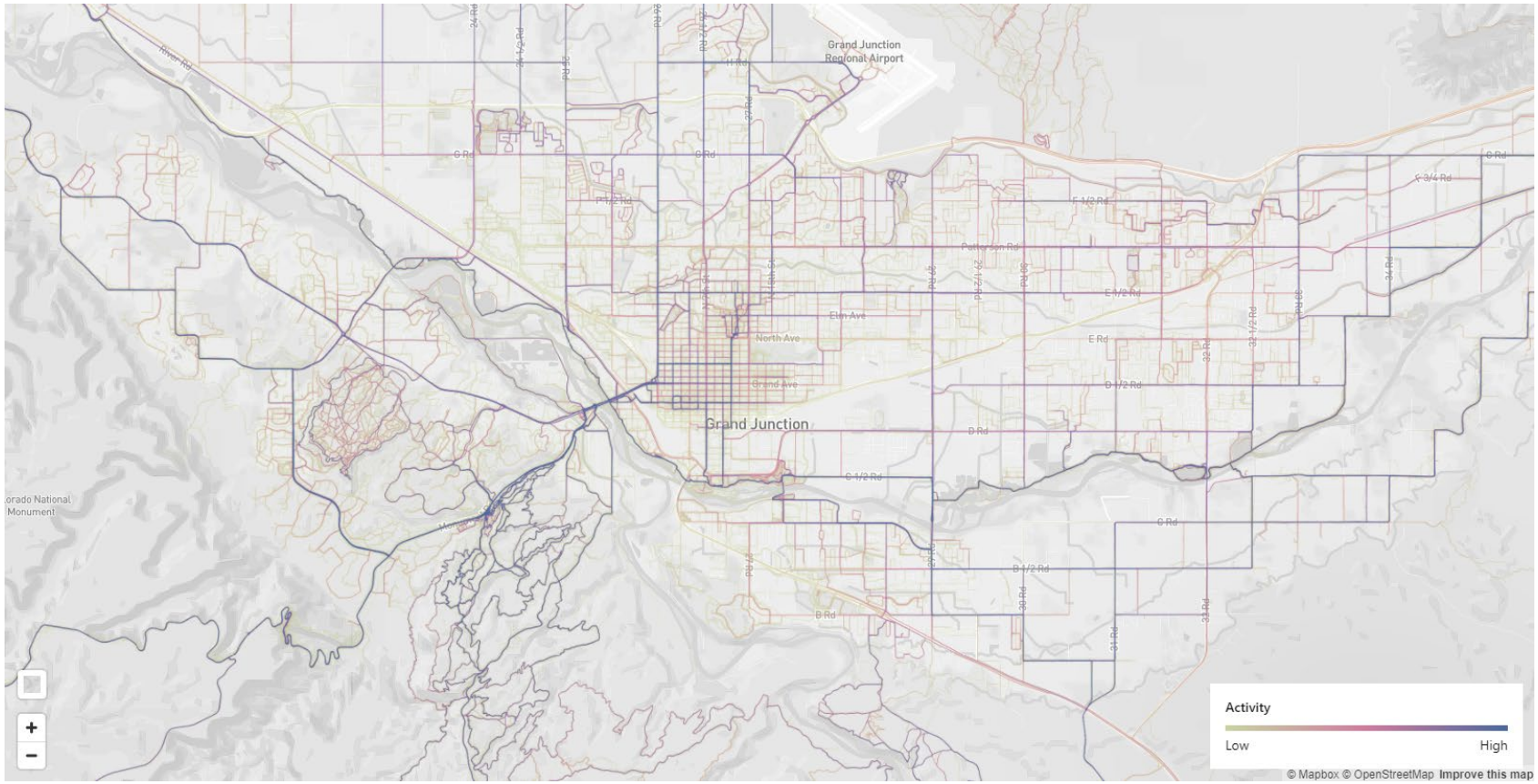


FIGURE 15: STRAVA HEATMAP OF BICYCLE DEMAND, CITYWIDE (DEC 2021-NOV 2022)

In the core of the city the data shows that bicycle demand by Strava users is noticeable at key river and railroad crossings like Broadway/CO-340, 25 Road, 29 Road, 7th Street, and 9th Street. These crossings are key connections to access the Riverfront Trail and the downtown core. This data shows that people biking choose to avoid the 5th Street crossing, instead opting for Broadway, the multi-use trail bridge at West Main Street, 7th Street, and 9th Street to cross the railroad tracks, and Broadway and the multi-use trail bridge at Eagle Rim Park to cross the Colorado River.

Popular north-south corridors include 25 Road, 25 ½ Road, 1st Street, 7th Street, 10th Street, 15th Street (north of Patterson Road), and 29 Road (Figure 16). Frequent east-west corridors include Orchard Avenue, Elm Avenue, Gunnison Avenue, Grand Avenue, Main Street, Riverside Parkway, and C ½ Road. Bicycle activity by Strava users is conspicuously absent from the heatmap on Patterson Road and North Avenue. This may be due to the high bicycle Level of Traffic Stress on these roads, influenced by the number of lanes, higher speeds, and higher volumes on these roads, with relatively narrow sidewalks, directly attached in many places to the roadway.

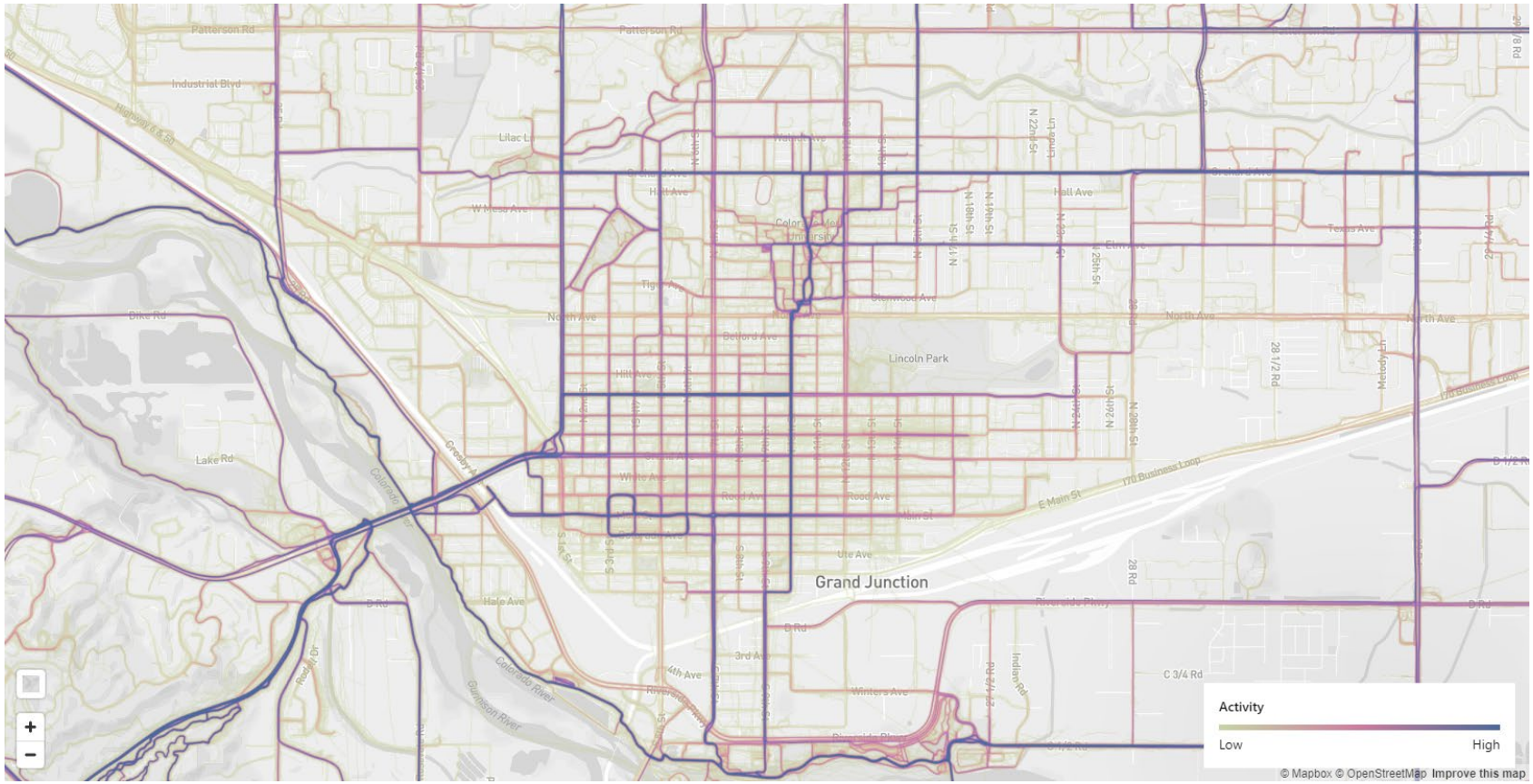


FIGURE 16: STRAVA HEATMAP OF BICYCLE DEMAND, CITY CORE (DEC 2021-NOV 2022)

Citywide pedestrian demand by Strava users is concentrated along key regional and recreational connections including Monument Road, the Riverfront Trail, C1/2 Road, K Road, I Road, and H Road (Figure 17).

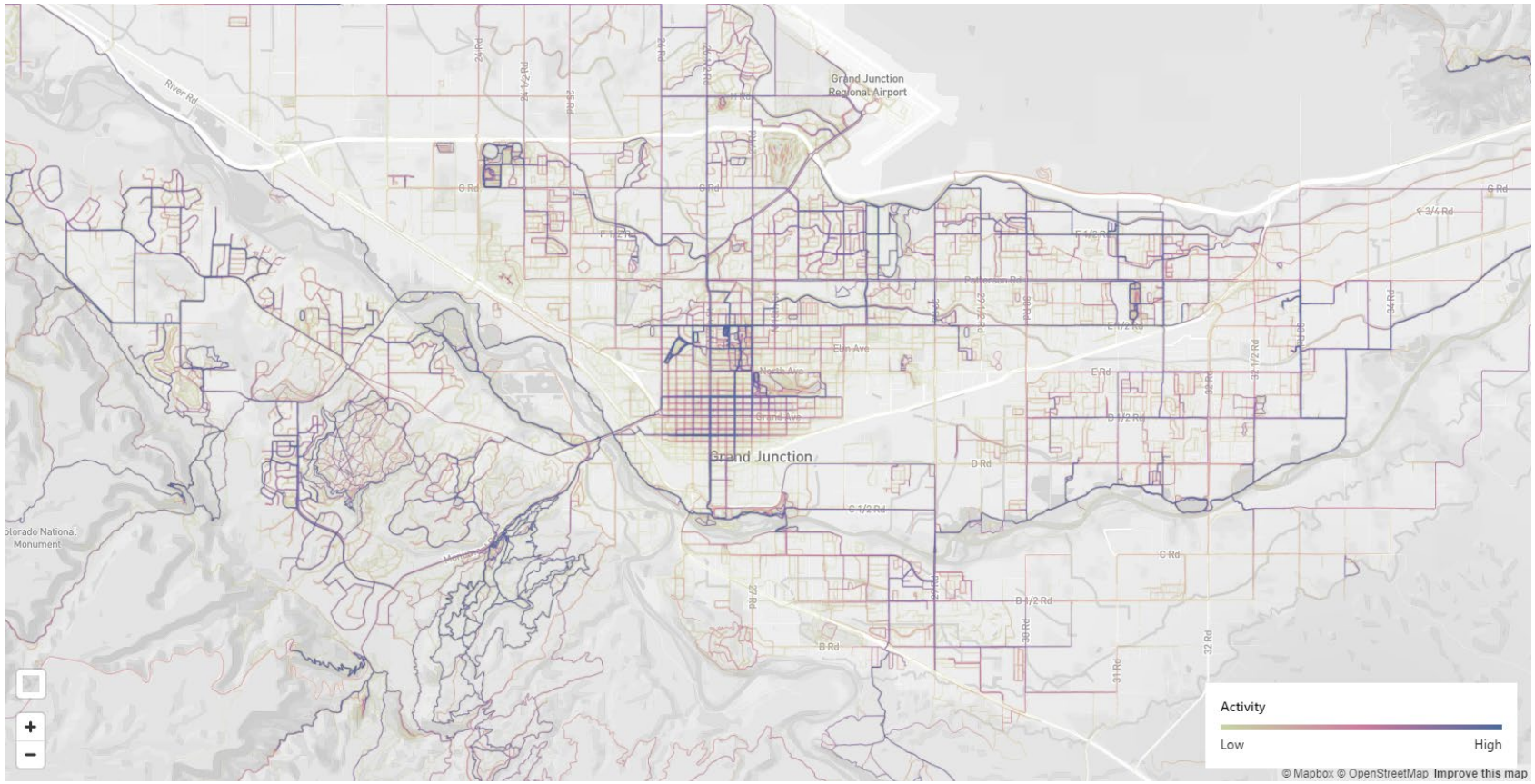


FIGURE 17: STRAVA HEATMAP OF PEDESTRIAN DEMAND, CITYWIDE (DEC 2021-NOV 2022)

In the core of the city, pedestrian demand by Strava users is concentrated at key river and railroad crossings like Broadway, 25 Road, 7th Street, and 9th Street (Figure 18). These crossings are key connections to access the Riverfront Trail and the downtown core. This data shows that people walking choose to avoid the 5th Street and 29 Road crossing as compared to the other crossings, particularly 7th Street, the most popular route across the railroad tracks for pedestrians.

Popular north-south corridors include 7th Street, 10th Street, and 12th Street. Common east-west corridors for pedestrians include Orchard Avenue, Elm Avenue, Gunnison Avenue, Main Street, Riverside Parkway, and C ½ Road.

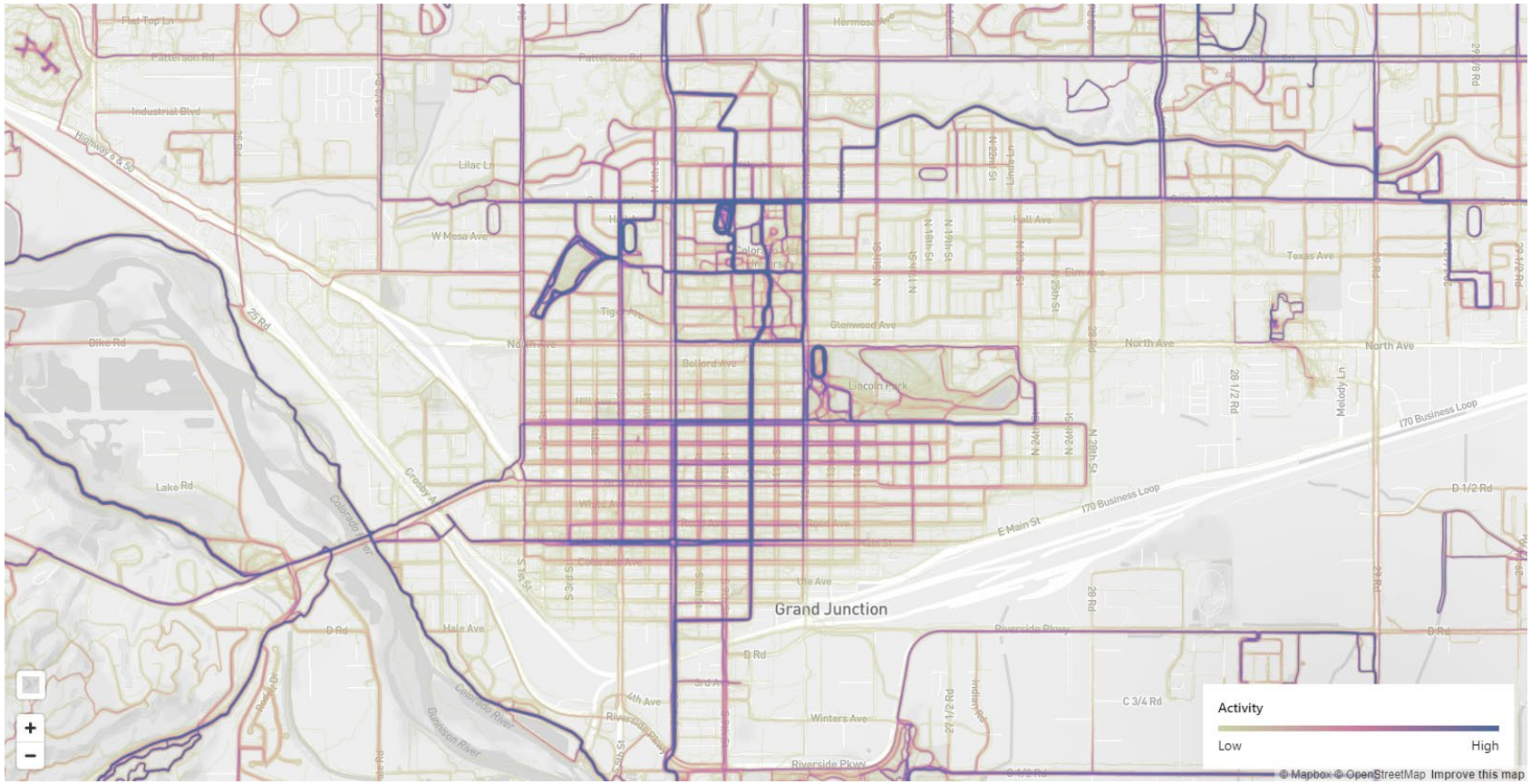


FIGURE 18: STRAVA HEATMAP OF PEDESTRIAN DEMAND, CITY CORE (OCT 2021-SEPT 2022)

Community Engagement Findings

Introduction

The following sections summarize input gathered through the project's first round of community engagement. The public submitted input during the first round over a two-month period in September and October 2022 through an online survey and interactive map, an in-person open house, a 17-member project Steering Committee of Grand Junction residents, through nine different focus groups, at several intercept events throughout the community, and from comments received on the project website. All input tied to specific locations is summarized in the Geographic Input section. Figure 20 provides a summary of all community engagement and participation, which resulted in over 2,000 touch points with the community combined.

FIGURE 19: EXAMPLES OF COMMUNITY ENGAGEMENT FOR THE PEDESTRIAN & BICYCLE PLAN

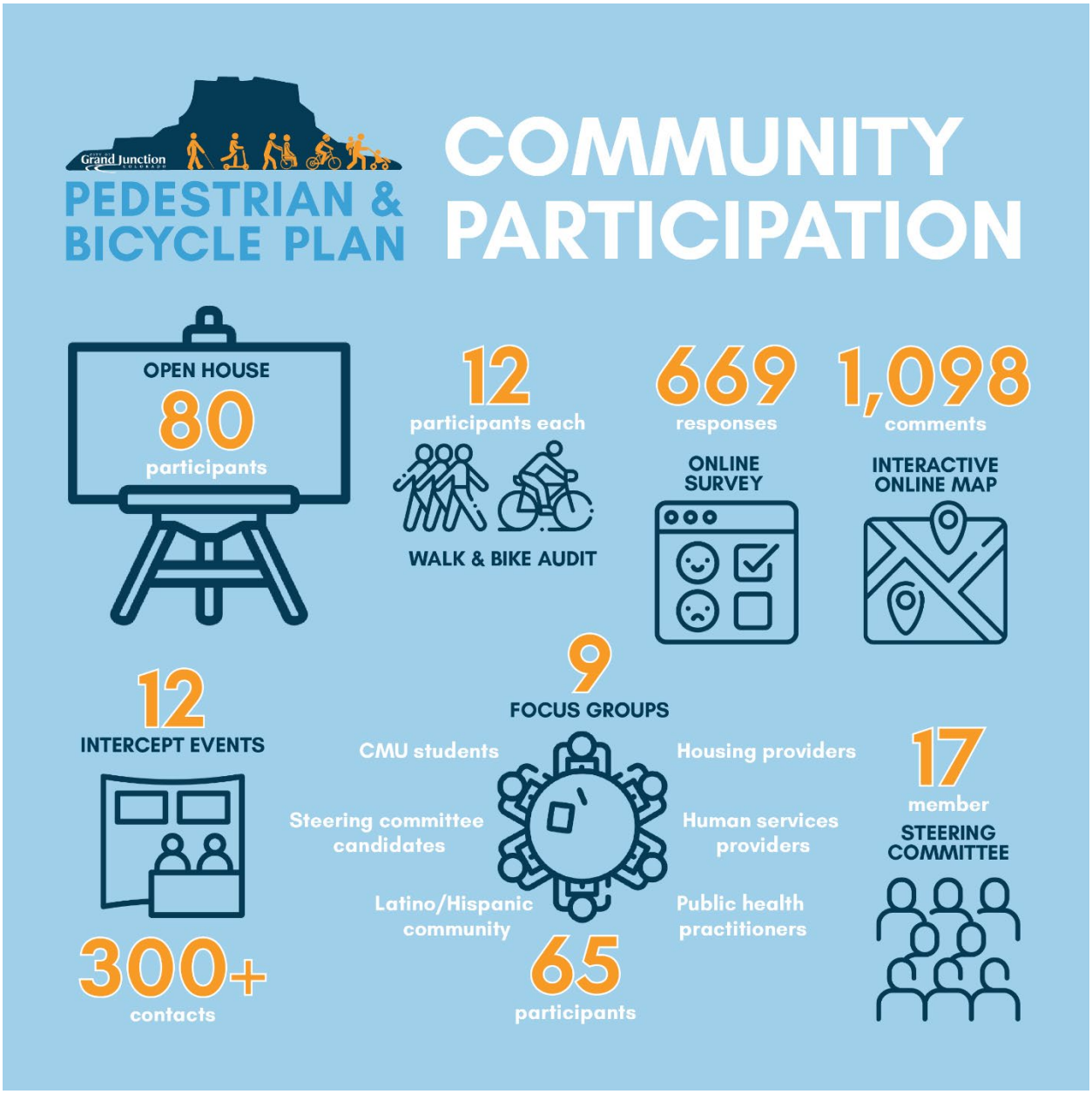


FIGURE 20: SUMMARY OF COMMUNITY PARTICIPATION

Survey Results

The city opened the online survey for two months, from the end of August to end of October, and advertised it to the entire community. It offered an option for respondents to take the survey in Spanish. A total of 669 members of the community participated in the survey, including four in Spanish. The survey results are summarized below.

Demographic Characteristics

Survey respondents skewed toward the older side of the spectrum, with 38% identifying as 55 years or older and 9% as 25 or younger (Figure 21). The majority of respondents (53%) fell somewhere between 26 and 54. The age breakdown of survey respondents generally reflected the population of Grand Junction, with a slight bias toward people aged 36-55 and slight underrepresentation of people under 26 (acknowledging that young children are not going to be represented by themselves in this survey).

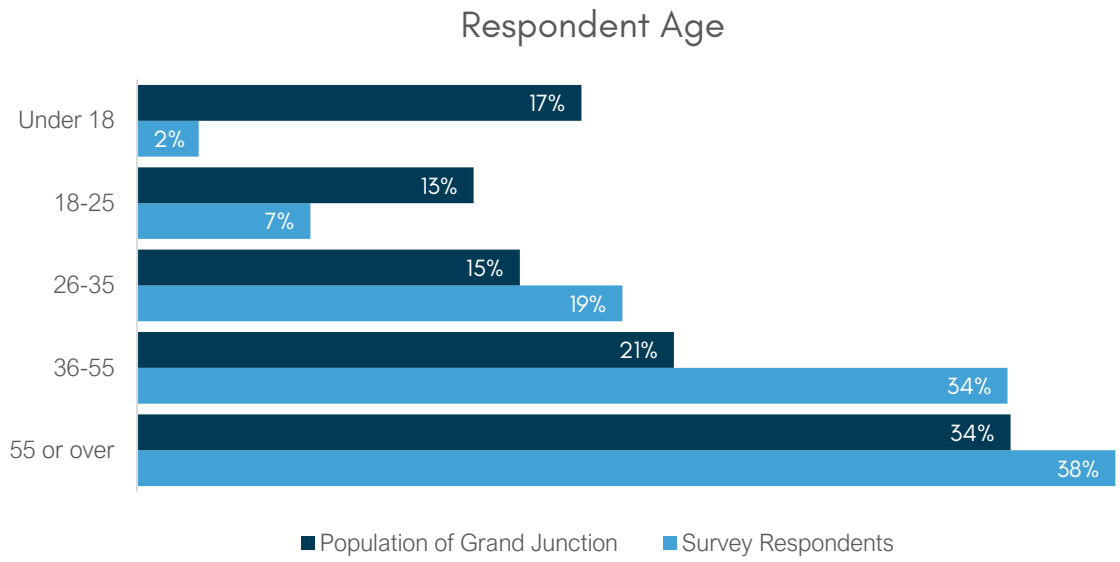


FIGURE 21: RESPONDENT AGE

Figure 22 shows that respondents were almost evenly divided between male (47%) and female (53%).

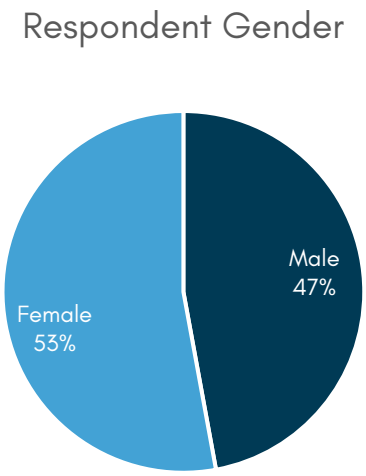


FIGURE 22: RESPONDENT GENDER

Almost all respondents live in Grand Junction (92%), with 44% also going to work or school in the city, and 19% visiting the city for shopping, services, or recreation (Figure 23). Notably, local business owners are well-represented, with almost one-tenth of all respondents owning a business in Grand Junction (9%).

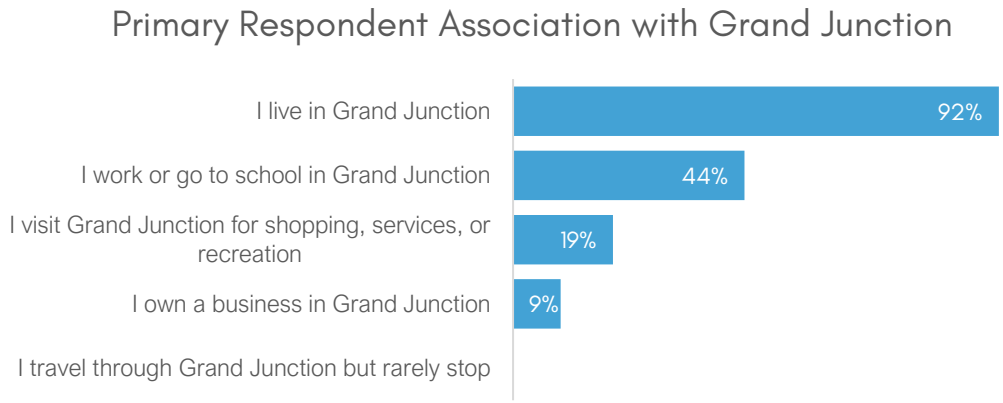


FIGURE 23: PRIMARY RESPONDENT ASSOCIATION WITH GRAND JUNCTION

Overall Findings

When asked about their primary mode of transportation, almost three-quarters of respondents drive (72%), and almost one-quarter of respondents bike or e-bike (23%). It should be noted that this question allowed survey respondents to select just one mode of transportation, so Figure 24 does not reflect secondary and tertiary mode choices.

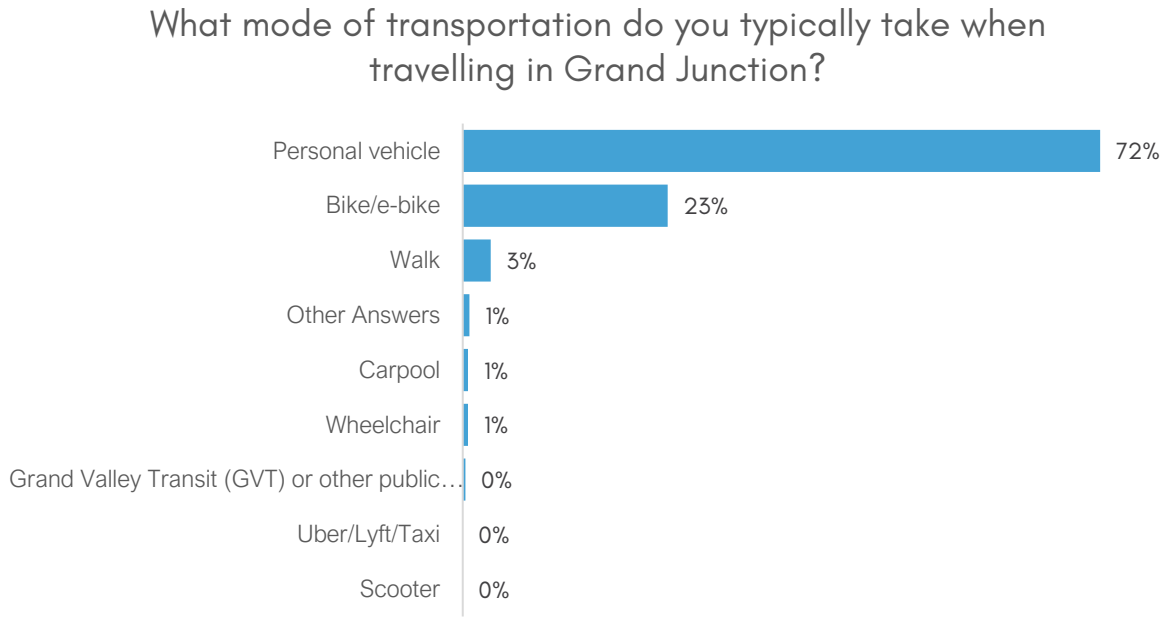


FIGURE 24: TYPICAL MODE OF TRANSPORTATION

One survey question asked about the types of trips that respondents currently complete by walking/rolling or biking and whether they would like to be able to complete these trips if they do not currently.

Currently, the top three trip types in Grand Junction completed by active transportation are trips for recreation and leisure, to the park or recreation destinations, and to restaurants and/or bars (Figure 25). People generally choose active transportation for recreational trips, and less commonly choose to walk or bike to work and school.

Respondents are most interested in choosing to walk/roll or bike to restaurants and/or bars, and for trips to the grocery store, shopping, and other errands. Desired walk and bike trip types exceed current trips in all cases other than trips for recreation/leisure, likely because most people already choose active transportation in those instances. This shows an unmet demand in the community to be able to walk/roll and bike to more places, particularly utilitarian trips like shopping, to work/school, out to eat, and other errands.

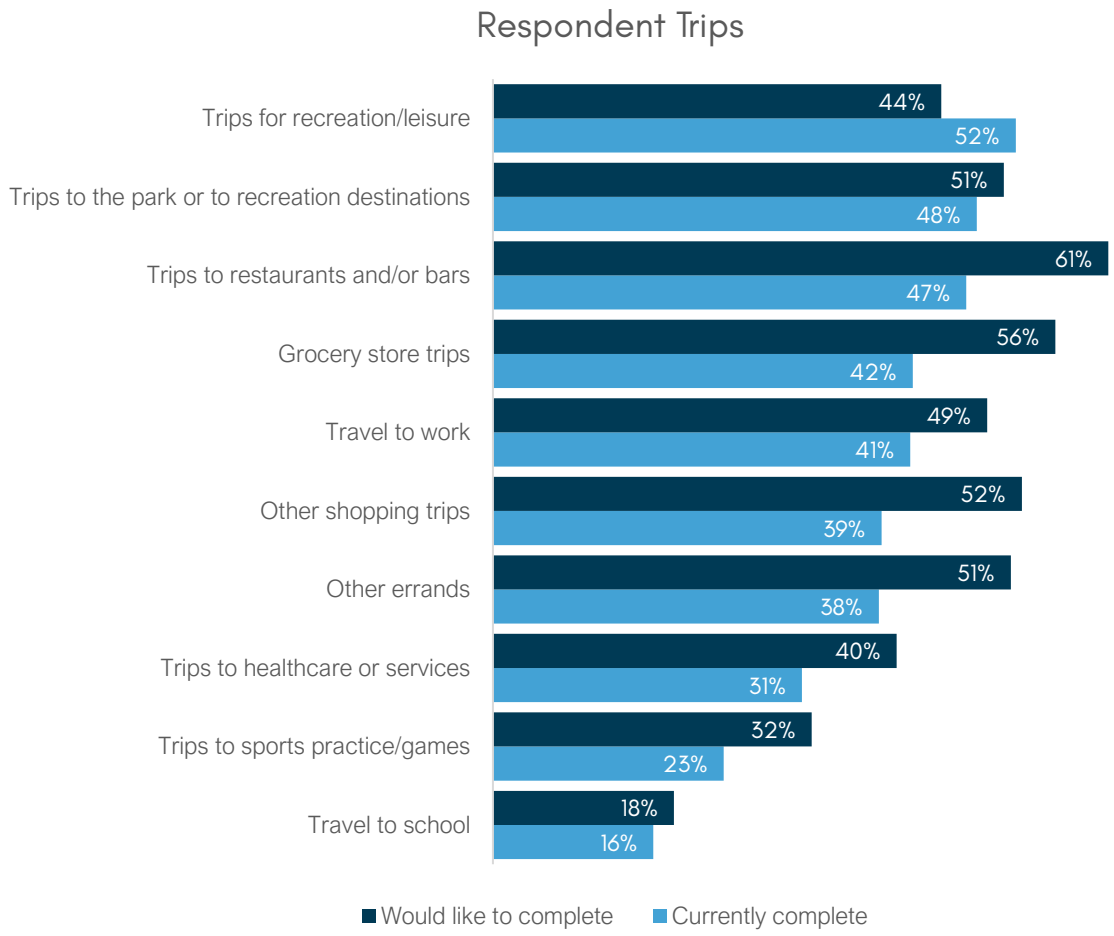


FIGURE 25: CURRENT AND DESIRED WALK AND BIKE TRIP TYPES

Reinforcing the findings of the previous question, 95% of respondents would like to be able to walk/roll and bike more often or for more types of trips than they do currently (Figure 26). The following questions explore some of the barriers to respondents choosing active transportation.

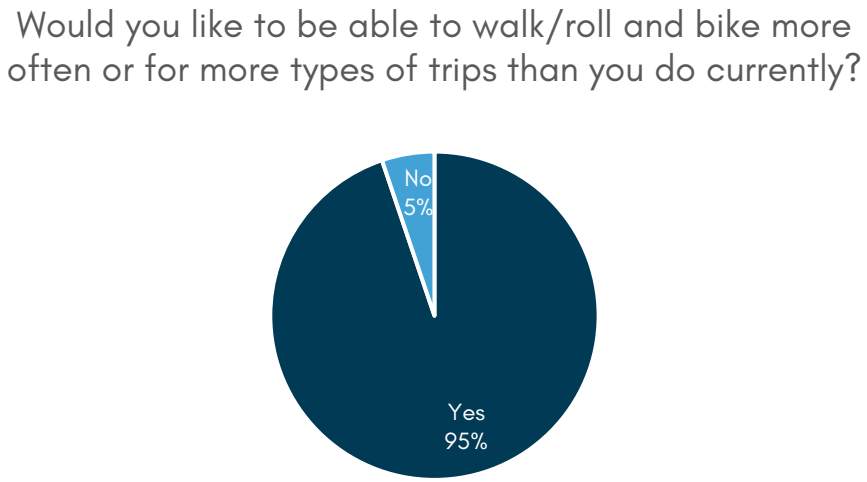


FIGURE 26: DESIRE TO WALK AND BIKE

The survey asked respondents to identify the biggest challenges to walking/rolling in one question, and to biking in another. Respondents were able to select an unlimited number of options.

The top barriers respondents identified to walking/rolling were nonexistent or insufficient sidewalks (67%), uncomfortable or unsafe streets (59%), and nonexistent or insufficient crossings (51%), as shown in Figure 27.

FIGURE 27: CHALLENGES WALKING AND ROLLING

The top barriers respondents identified to biking were uncomfortable or unsafe streets (77%), lack of paths or trails (63%), and feeling unsafe crossing major streets (57%), as shown in Figure 28.

The similarity in factors between these two questions indicate the greatest barriers to address are:

- Missing active transportation infrastructure, including gaps in the pedestrian and bicycle network
- Perceived uncomfortable or unsafe streets
- Perceived unsafe crossings at major streets

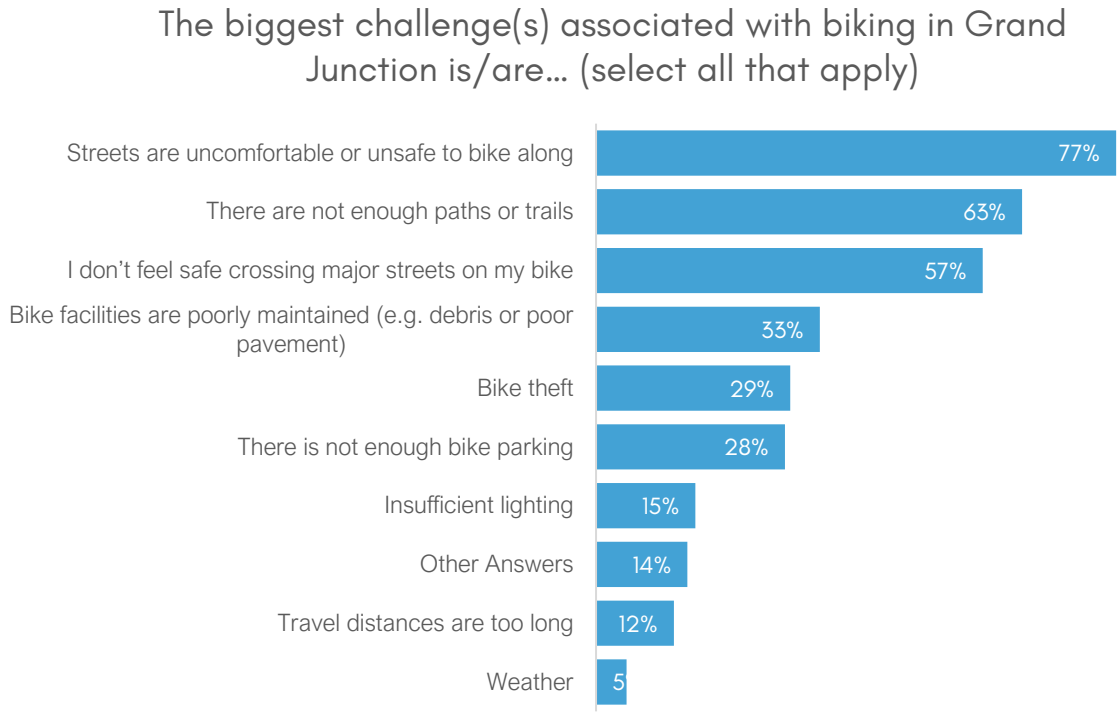


FIGURE 28: CHALLENGES BIKING

Figure 29 shows a word cloud of the most common answers when asked to describe the vision for the future of walking and biking in Grand Junction using three words. Safety was the most common response, followed by access, biking, and connected. Other common themes, such as sidewalks, comfortable, convenient, and maintenance also emerged as important components of the community's vision for walking and biking in Grand Junction.

FIGURE 29: VISION FOR WALKING AND BIKING IN GRAND JUNCTION (SURVEY)

A similar set of themes emerged from a similar question asked as part of the open house. Responses are shown in Figure 30.

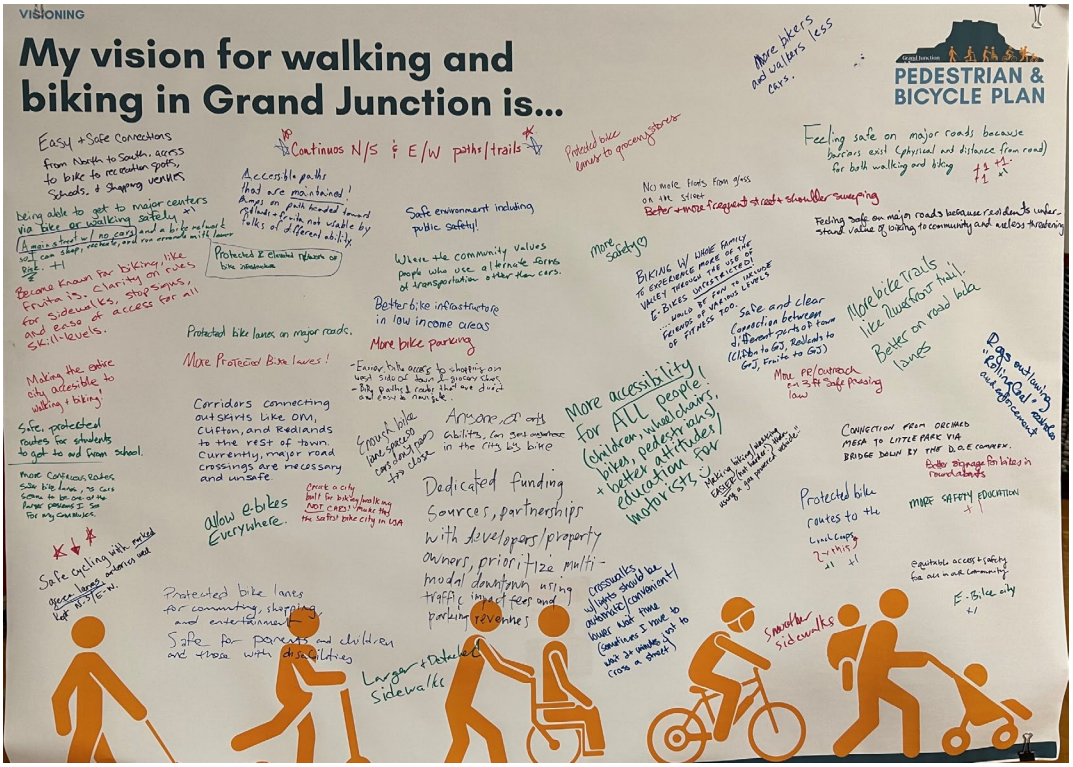


FIGURE 30: VISION FOR WALKING AND BIKING IN GRAND JUNCTION (OPEN HOUSE)

The survey asked additional questions of respondents who answered that they are currently a student or have a student in their household (30% of respondents). Of these individuals, 51% travel to school by personal vehicle, 25% by bike or e-bike, 12% by foot, and 9% by school bus **(Figure 31)**.

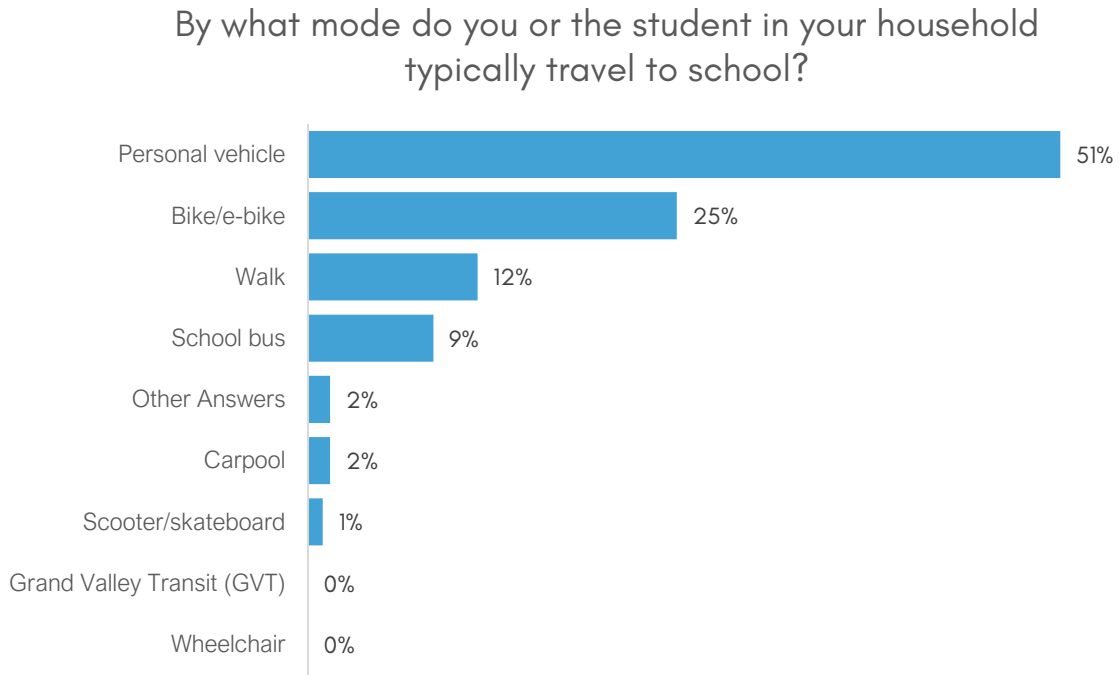


FIGURE 31: STUDENT TRANSPORTATION CHOICES

Of those who walk or bike, 45% travel on a street with no bike lane, 33% travel on a sidewalk or bicycle-pedestrian path, and 15% travel using an on-street bike lane **(Figure 32)**. Answers to this question demonstrate there may be critical corridors on school routes missing pedestrian and bicycle infrastructure.

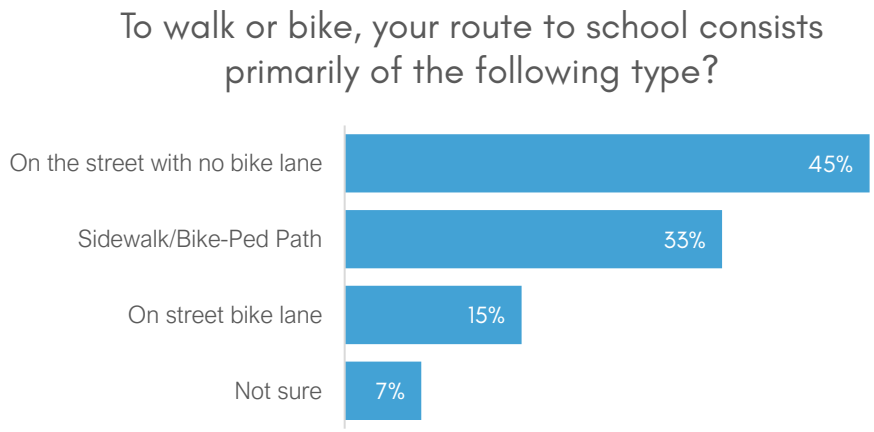


FIGURE 32: INFRASTRUCTURE ON ROUTE TO SCHOOL

The following question asked respondents to rank the considerations that most affect their decision to walk or bike to school. By final weighted score, the top issues are safety of intersections and crossings, amount of traffic along route, and speed of traffic along route. Notably, as compared to the other options, these are all elements this plan can address.

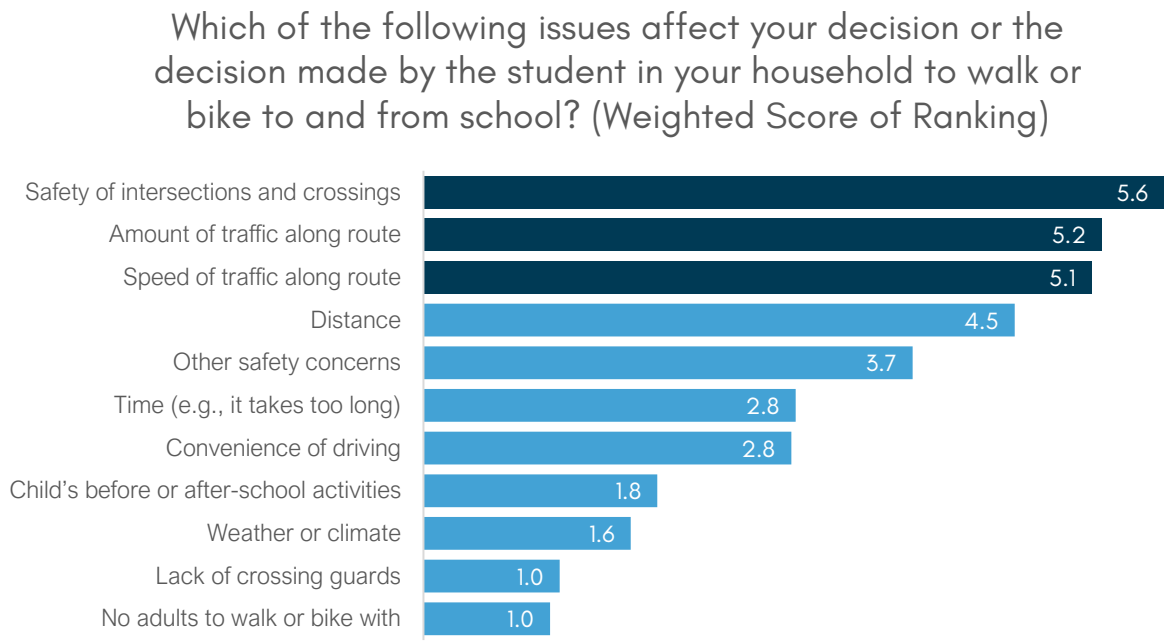


FIGURE 33: TOP CONSIDERATIONS IN STUDENT MODE CHOICE

Key Themes of General Comments

A total of 593 general comments were received from the public through the online survey, at the open house, and through the city's website. The comments were organized by theme, and the frequency of each theme is summarized in Figure 34 (note some comments covered more than one theme). The full list of comments is provided in the Appendix. The most common comment, representing 147 of the general comments, wished for more bike and trail infrastructure, followed by a desire for more connectivity in the pedestrian and bike network (112 comments), and then higher quality protected bike facilities (i.e., bikeways separated from traffic by a barrier or curb). Other common themes included wanting more education and awareness of people walking and biking (particularly among drivers), more/improved sidewalks, better maintenance of sidewalks and bikeways, and improvement of crossings across major streets, rivers, highways, and the railroad tracks.

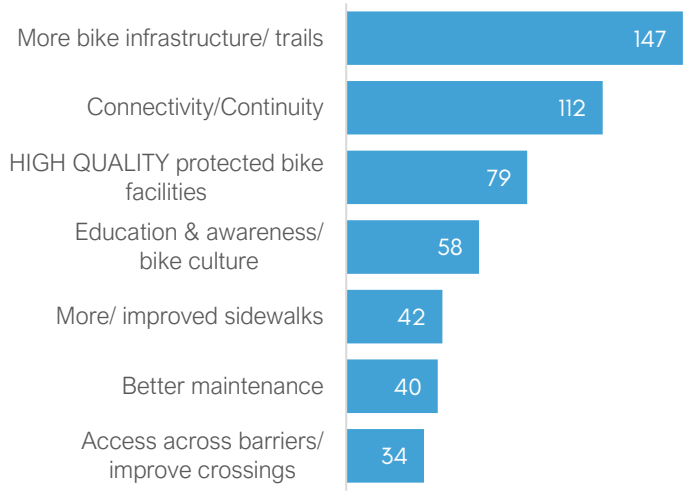


FIGURE 34: MOST FREQUENT THEME OF GENERAL COMMENTS

Several specific comments that were repeated by the public most frequently are summarized below:

- Would like to use the canals for trails
- Lots of people bike on sidewalk along busy streets
- There is an unfriendly bike culture/aggressive drivers, including window tinting making it difficult to see drivers
- Bike lanes are too narrow
- Bike lanes end abruptly
- Would like to extend Lunch Loops Trails
- More signs for wayfinding and regarding share-the-road laws
- More shade trees and better lighting at night for pedestrians
- Desire for a car-free Main Street

Steering Committee

The city formed a project Steering Committee of residents to provide input and guidance on recommendations throughout the process. Members of the Steering Committee play a critical role supporting the completion of the plan, serving as a critical sounding board, discussing overall plan direction, reviewing project deliverables, vet ideas, and promoting greater community involvement. Most importantly, the Steering Committee will help ensure the final plan is inclusive, focuses on equitable distribution of resources, and reflects a diverse set of perspectives.

The city put out a call for applications to the broader community to solicit candidates interested in serving on the Steering Committee at the beginning of the project, and received a total of 72 applications. City staff whittled these applicants down to 17 members through a vetting process that evaluated them based on criteria to reflect the everyday user of the city's active transportation system, with members demonstrating a broad community interest in safe and accessible multimodal transportation. Other criteria used to select

members from the pool of applicants included ensuring that the committee was geographically diverse, and inclusive of different age groups and professions, who were part of a target demographic or who may through their employment represent vulnerable or underrepresented users, such as individuals with disabilities, youth, low-income populations, and service industry workers.

The City Council approved members chosen to participate on the Steering Committee, who were comprised of people that geographically represent all "Planning Areas" within the city and who utilize walking or biking as their preferred mode of transportation. The committee is nearly equally split between male and female, with nine men and seven women. The group has representation from every major age group, including students, young professionals, and seniors. Member also represents a variety of interests and life experiences that can provide relevant and diverse perspectives throughout the process. Additionally, the Steering Committee includes representatives from major institutions in Grand Junction who were identified as critical influences of land use and transportation patterns, including CMU and the Veteran's Administration Hospital.

The Steering Committee will meet six times over the course of the project at key milestones in the project. The first meeting occurred on September 12th to orient the group to the project and collect input on issues, concerns, and a vision for improving walking and biking in Grand Junction. Key outcomes of that first meeting are summarized below.

Key Themes

The first Steering Committee meeting included an overview of the project and solicited input on the major barriers to walking and biking in Grand Junction as well as identifying important connections for active transportation users. A summary of the key themes that emerged from that first meeting are summarized below:

- Safety – A desire to make the city safer for people walking/rolling and biking ranked as the most important issue among the Steering Committee members.
- Connections – Several key connections were identified by the group, with the following notable corridors: C ½ Road/D Road, Broadway, crossings of the railroad tracks, Orchard Avenue, and crossing North Avenue.
- Important Destinations – The Steering Committee identified the following key destinations for active transportation users in the Grand Junction: Main Street, Riverfront Trail, Las Colonias Park, CMU, Mesa Mall, and Human Service Providers (particularly on North Ave and around downtown).
- Signage – There was a consistent theme of needing better signage to direct people walking and biking.
- More Facilities – Overall, there was a theme of needing more sidewalks and bike lanes to fill missing gaps in the network and to allow people to get around by walking/rolling and biking.
- Education – The Steering Committee recognized that there should be more education for cyclists and drivers on sharing the road, how to ride safely, and how to drive safely when pedestrians and bicyclists are present.

Focus Groups

The project team facilitated nine focus groups in September and October 2022 to solicit community input from targeted group to guide recommendations in the *Pedestrian & Bicycle Plan*. The focus groups provided an opportunity for more in-depth conversations between community members and the project team and were important to gathering diverse perspectives on the issues, opportunities, and vision of the city's existing and future pedestrian and bike network. The focus groups were selected in order to attain a broader cross-section of the population with a focus on groups or individuals that may be hard to reach by other means and for whom walking/rolling and biking are of particular importance.

The focus groups interviewed as part of this plan included:

1. CMU students
2. K – 12 students
3. Steering Committee candidates (those who applied for the Steering Committee, but were not selected)
4. Representatives of Latinx organizations in Grand Junction
5. Housing providers
6. The Urban Trails Committee and the Parks and Recreation Advisory Board
7. Human services and homeless providers
8. Public health/senior agencies
9. Representative from Colorado Discover Ability

Key Themes

The outcomes of the focus groups are summarized into the following key themes that were repeated among the various groups. Meeting notes from each focus group are provided in the Appendix.

- Safety – Participants of nearly every focus group expressed that they and others in the community would like to walk and bike more but don't always feel safe because of traffic speed, volume, and lack of separated facilities on many streets in Grand Junction.
- Plan for All Ages – Multiple focus groups repeated a desire for it to be easier/safer for kids to walk and bike to school. This was stressed as a high priority.
- Missing Connections – Missing connections in the pedestrian and bicycle network was repeated as a key concern. Several important missing or poor connections were repeated among the focus groups, in particular: to downtown, CMU, the Riverfront Trail, and connections across the railroad tracks, highways (US 50 and I-70B), and Colorado River.
- Barriers – The theme of major barriers in the city that are difficult to cross by foot or bike also emerged as a common theme. US 50 was repeatedly identified as a major barrier in Orchard Mesa neighborhood. Patterson Road and North Ave were also repeatedly identified as both an important destination/corridor for people walking and biking and as a barrier for people walking and biking due to the speed and volume of traffic and lack of adequate facilities for active transportation users, including safe crossings.

Intercept Events

City staff attended 12 community events across the city in September and October (see Table 6) to distribute information about the project, solicit input, and direct people to the website and online survey. During these events the city engaged with over 300 people from the community.

TABLE 6: INTERCEPT EVENTS

Date	Event	Location
3-Sep-22	Carmillia Fest	Lincoln Park
7-Sep-22	CMU Mesa Fest	CMU Campus
8-Sep-22	Market on Main	Main and 6th
22-Sep-22	Coffee with the City Manager	
24-Sep-22	Walk to End Alzheimer's	Lincoln Park
25-Sep-22	Mayor's Engagement Event	Long's Park
6-Oct-22	Downtown Library 11:00 am - 1:00 pm	5th and Grand
11-Oct-22	CMU Hispanic Engineers Club - 7:00 pm	CMU Campus
19-Oct-22	Young Professional Network Lunch and Learn - 12:00 Noon	City Hall Auditorium
20-Oct-22	Downtown Library 11:00 am - 1:00 pm	5th and Grand
26-Oct-22	CMU Real Estate Class	Dominguez Hall Rm 315
27-Oct-22	Get to Know Your City - 5:30 pm	Lincoln Park Stadium Hospitality Suite

FIGURE 35: INTERCEPT EVENT AT CMU MESA FEST

Key Themes

Participants at the intercept events were directed to provide input via the project website and online survey. City staff solicited direct feedback at the events. Key themes from those events are summarized below:

- Safety Concerns – Many participants noted a need for improved safety for people walking and biking, specifically noting drivers turning not yielding to pedestrians at busy intersections, and for kids to be able to walk and bike more around town.
- Missing Connections – The community repeatedly highlighted important connections for walking and biking that they would like to see improved, including:
    - F ½ Road
    - 7th Street
    - 9th Street through downtown
    - Crossing 12th Street near CMU
    - To/from Las Colonias Park
    - Patterson Road
    - North Avenue intersections

Walk and Bike Audits

The project team hosted a walk audit and bike audit with city staff, stakeholders, and members of the Steering Committee. The purpose of the walk and bike audit was to get a better understanding of the experience of someone walking/rolling or biking on various streets in Grand Junction as well as provide an opportunity for participants to share with the project team pedestrian and bicycle design features they like and don't like. The audits were also used to calibrate and verify the LTS methodology that will be used to inform recommendations in the plan.

FIGURE 36: BIKE AUDIT AND WALK AUDIT

The walk audit followed 7th Street from Grand Avenue to Wellington Avenue, which provided a variety of design contexts through a key pedestrian corridor in Grand Junction. The bike audit followed a loop starting at 5th Street and White Avenue and traveling along Grand Avenue, 10th Street, through CMU Campus, Orchard Avenue, 28 ¼ Road, Hawthorne Ave, 28 Road, Ridge Drive, 27 ½ Road/15th Street, Elm Street, 12th Street, North Avenue, 10th Street, and Main Street. The route provided a variety of streets of different volumes and lanes and bike facilities ranging from shared streets, bike lanes, trails, and a raised cycle track covering streets with all four bicycle LTS levels.

Key Outcomes

Some conclusions drawn from the walk audit included:

- Desire for more separation (buffer) from traffic
- Need for wider sidewalks
- Accessibility concerns (such as length of crossing time, ability to reach the push button, and audible crossing)
- Slowing turning vehicle traffic to make it more comfortable at intersections
- Shade trees

Some conclusions drawn from the bike audit included:

- Bike lanes were nice and participants would like them wider on busier streets or where there are parked vehicles
- Trails are the most comfortable as are low volume, low speed streets
- The cycle track on 12th Street is nice, but obstacles and driveways add stress
- Crossing of busier streets can be stressful, especially when the bike lane ends before the intersection
- At some busy street crossings cyclists have to ride on the sidewalk to the pedestrian push button in order to get a green signal

Geographic Input

Geolocated input received during the public engagement process includes comments received on the interactive online map and in person at the open house, Steering Committee meetings, and intercept events. People submitted comments at these in person events by drawing and placing sticky notes and dots on printed maps.

This section summarizes both forms of geographic input.

Interactive Online Map

The survey was paired with an interactive online map that allowed users to place markers on a map of Grand Junction. 734 unique stakeholders visited the survey and/or the interactive online map. The map received 1,098 individual comments.

Map markers also allowed users to enter a more detailed comment and were as follows:

- I walk/roll and/or bike here
- I'd like to walk/roll and/or bike here
- I don't feel safe walking/rolling here
- I don't feel safe biking here
- Other comment

This section summarizes the overarching concerns by marker type.

I walk/roll and/or bike here

Respondents most commonly walk and/or bike in the downtown core of Grand Junction, as shown in **Figure 37**. Specifically, current active transportation hotspots are in the neighborhood southeast of Lincoln Park, along Main Street, and where Broadway crosses the railroad **(Figure 38)**.

The top 10 locations cited by respondents include, in no particular order:

- **Main Street:** People love walking here and say it feels safe for people biking. Several comments in this marker type and others expressed an interest in closing the street to vehicle traffic.
- **Sherwood Park:** People opt to go around the park even though it may be less direct because it's so pleasant, but say it would benefit from traffic calming nearby.
- **1st Street:** Several respondents noted their appreciation of the buffered bike lanes on this corridor next to Sherwood Park.
- **Orchard Avenue:** Many people walk and bike along the corridor, but say it needs better signage and maintenance.
- **C ½ Road:** Numerous respondents bike along this corridor, but say it would benefit from better signage, bike lanes, and traffic calming.
- **Elm Avenue:** People walk and bike here due to the lower traffic volumes.
- **Neighborhood around Chipeta Elementary School:** Many people walk and bike here, especially as a school route.
- **North Avenue & 10th Street:** Many people walking and biking use this intersection to safely cross North Avenue.
- **River Crossing between Eagle Rim Park and Las Colonias Park:** Several people noted their appreciation of this crossing and use it as connection from Orchard Mesa to downtown.
- **Broadway/Pedestrian Bike Bridge Crossing of Railroad:** Numerous respondents rely on this area to cross the railroad from the Redlands to downtown.

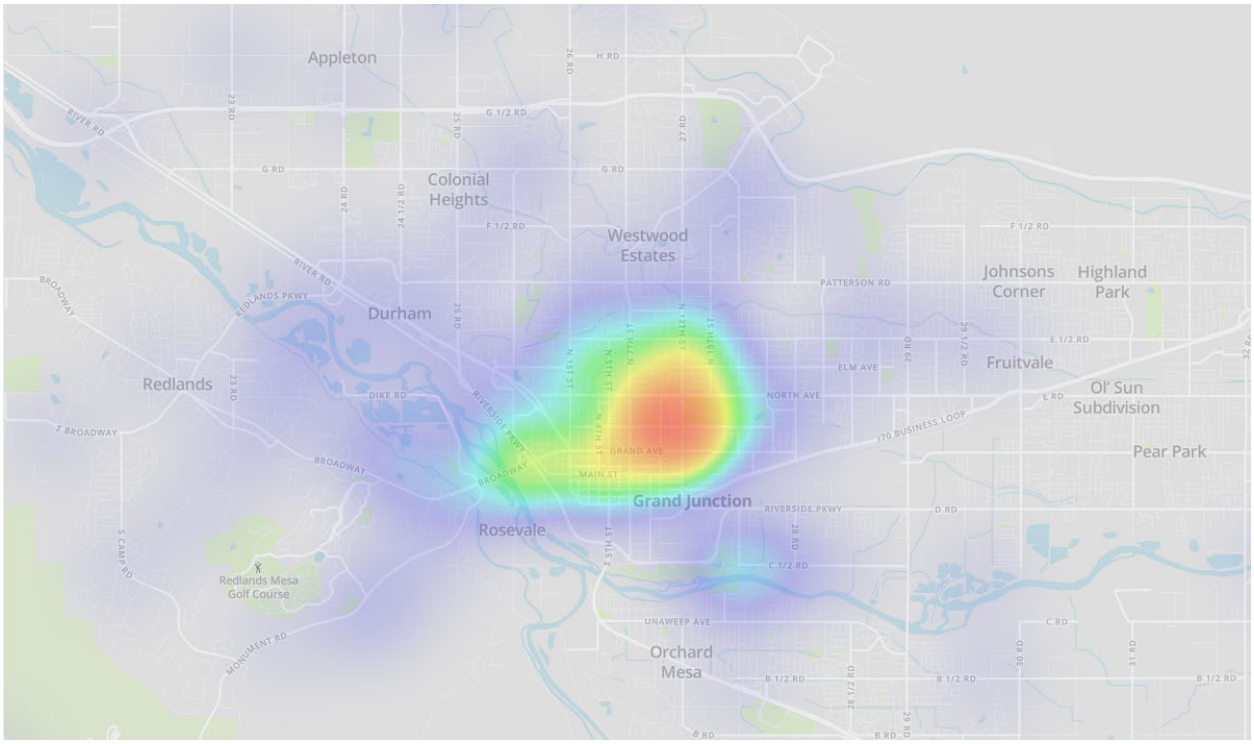


FIGURE 37: HEATMAP OF CURRENT WALKING AND BIKING LOCATIONS, CITYWIDE

FIGURE 38: HEATMAP OF CURRENT WALKING AND BIKING LOCATIONS, DOWNTOWN

I'd like to walk/roll and/or bike here

This marker allowed respondents to specify locations they wish to walk and bike. Respondents most commonly noted locations in the downtown core of Grand Junction and along Patterson Road and North Avenue, as shown in **Figure 39** and **Figure 40**.

The top 10 locations cited by respondents include, in no particular order:

- **Patterson Road:** At several locations along Patterson Road, people commented that they would like to use active transportation to access the mall, hospital, and other major destinations, but that better bike infrastructure, maintenance, and traffic calming would be needed for them to feel comfortable. One respondent also noted that it provides a key connection from Clifton to Grand Junction.
- **North Avenue:** Several commenters noted that for them to feel comfortable using North Avenue, the corridor needs safer crossings, a complete sidewalk and bike network, traffic calming, and a lower speed limit.
- **12th Street:** A few commenters would like to walk and bike along 12th Street, but that it needs more frequent and comfortable crossings. They also pointed out that active transportation facilities would improve food access by connecting users to shopping, and that they would like a new crossing to connect to Riverside Parkway across the railroad tracks.
- **5th Street:** Comments indicated support of wider bike lanes and better bikeway maintenance, as well as improved crossings at Colorado Avenue and Grand Avenue.
- **Mesa Mall:** Respondents stated that the area around the Mesa Mall feels inaccessible by bike. They would like to see traffic calming and an improved crossing(s) of Patterson Road so people don't have to drive across to visit the shopping center on the north side of the roadway.
- **Riverside Parkway/D Road:** Users would feel more comfortable using this corridor with more comfortable and complete sidewalks and bike lanes, better maintenance, better lighting, and traffic calming. They also support better connections across the railroad to connect to the Riverfront Trail.
- **29 ½ Road:** This roadway currently feels unsafe for people walking and biking. Respondents requested better, more accessible sidewalks.
- **Canals:** Numerous comments requested that the city complete the trail network along the canals and create a new bicycle/pedestrian connection where it intersects 28 ½ Road.
- **9th Street:** Commenters would like to use 9th Street more often and requested a better crossing and bike lane connection from the Riverfront Trail through Las Colonias Park to downtown.
- **Redlands Parkway/24 Road:** Multiple comments in this marker type and others pointed out the dangerous crossing of US-50 along this roadway due to high speeds, poor roadway maintenance, the blind hill/hill grade, and lack of bike lane. It is also a key connection to the Mesa Mall from the south and the only crossing of US-50 in the area.

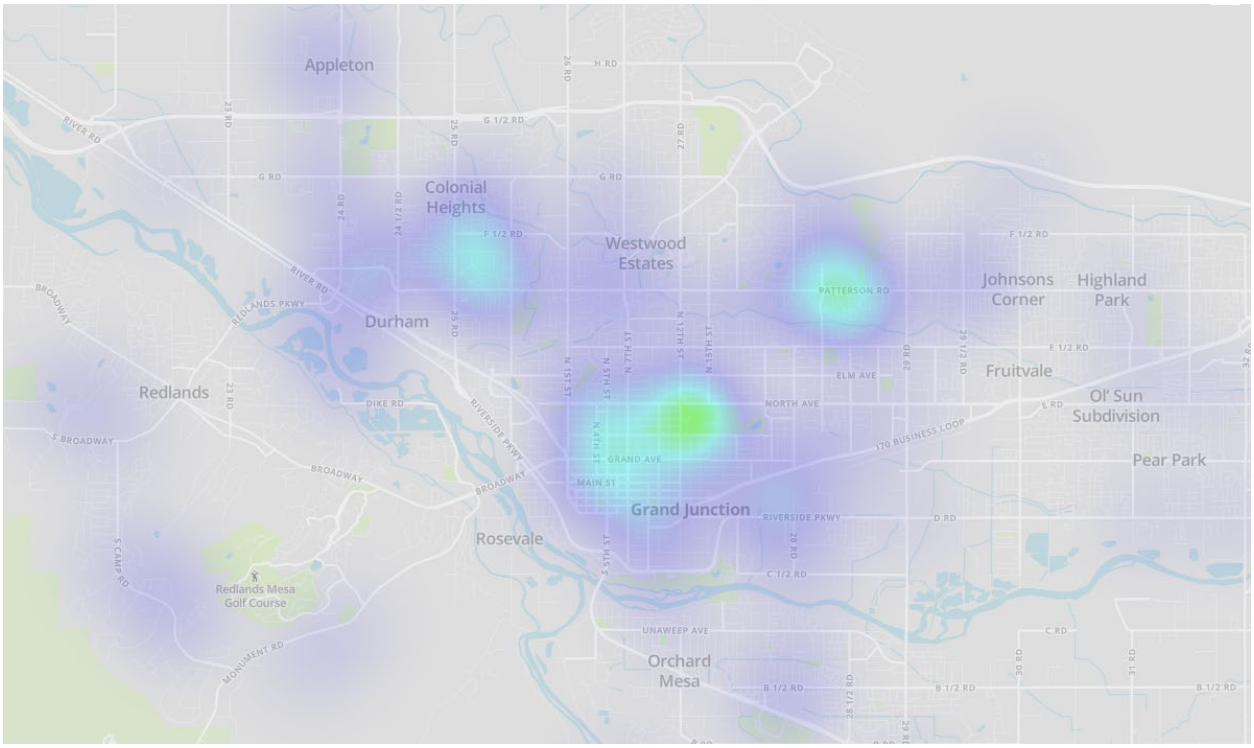


FIGURE 39: HEATMAP OF DESIRED WALKING AND BIKING LOCATIONS, CITYWIDE

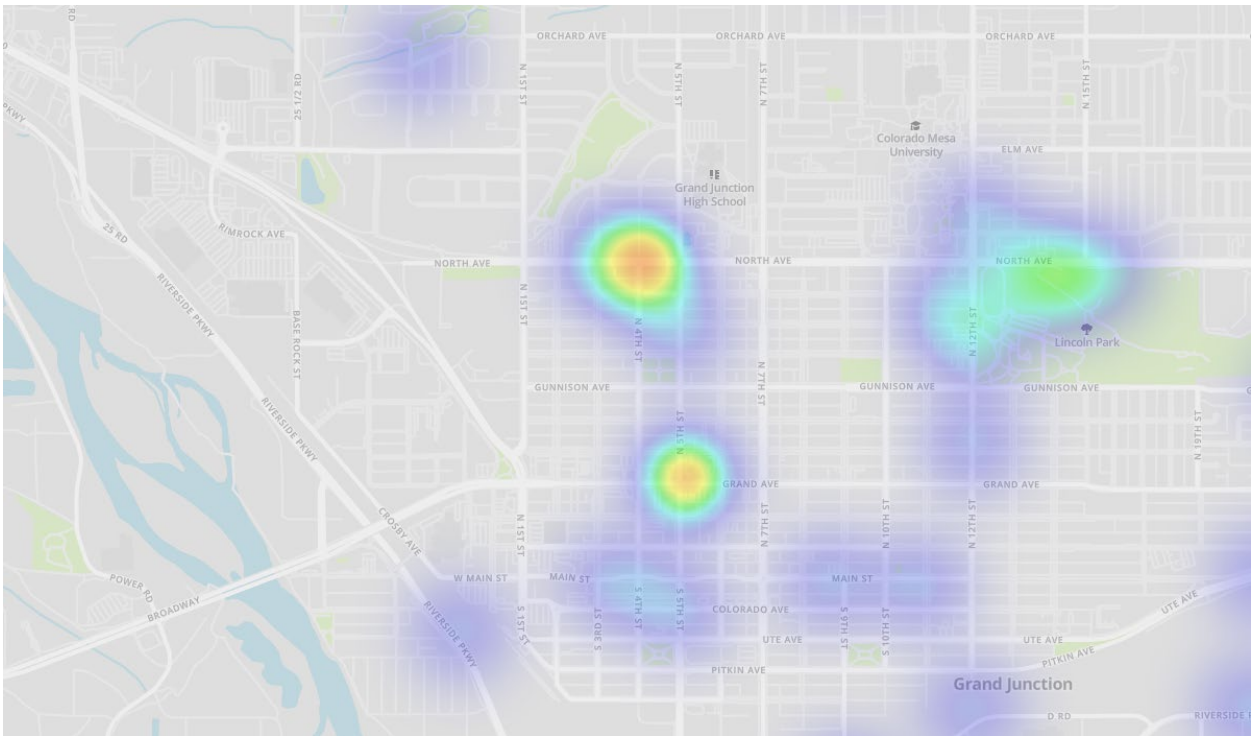


FIGURE 40: HEATMAP OF DESIRED WALKING AND BIKING LOCATIONS, DOWNTOWN

I don't feel safe walking/rolling here

Respondents feel most unsafe walking and rolling in the downtown core of Grand Junction, as shown in Figure 41 and Figure 42. Specifically, the top 10 most commonly cited unsafe locations by respondents include, in no particular order:

- **Broadway:** Commenters noted the sidewalk on Broadway is too narrow in many locations and that the corridor needs better signage alerting drivers to the presence of active transportation users. They also pointed out the need for a separate protected bike lane to create unique spaces for people walking/rolling and for people biking.
- **Monument Road:** Multiple respondents noted the challenges of walking and rolling on this roadway, due to missing sidewalks, speeding drivers, and lack of crosswalks to access trailheads and climbing areas along the corridor. At the north end, people noted concerns about the poor crossing of Broadway to access Safeway. Separately, people also commented on the chip seal roadway surface making it difficult to bike.
- **Main Street West of 1st Street:** Several comments pointed out challenges walking on Main Street west of 1st Street due to the poor roadway surface condition, inconsistently marked bike and roadway lanes, and uncomfortable crossings. One stated the interchange at Main Street and 1st Street needed design improvements, particularly to lengthen crossing times. Another pointed out issues with pedestrian-vehicle conflicts at the crossing at Spruce Street and Main Street.
- **1st Street & Grand Avenue:** Commenters remarked that this is a dangerous intersection, especially due to the lack of pedestrian refuge islands.
- **12th Street:** Numerous respondents felt unsafe walking along this corridor due to narrow sidewalks and poor crossings (especially of North Avenue). They also noted aggressive, speeding drivers who did not adhere to RRFBs installed in the area. They thought better signage and additional traffic calming could make the corridor safer, especially around the nearby elementary school.
- **Patterson Road & 28 1/4 Road:** Multiple comments indicated concerns about drivers running this light and turning against walk signals without checking for or noticing pedestrians.
- **7th Street:** Concerns noted along 7th Street include those about speeding drivers, lack of crossings apart from that at Gunnison Avenue, and poor intersection visibility due to parked vehicles and foliage.
- **G Road:** Comments noted that G Road feels unsafe to walk or bike due to the lack of bike infrastructure and poor crossings.
- **24 ½ Road:** Respondents feel unsafe walking on 24 ½ Road due to missing sidewalks and the need for additional pedestrian crossings between business areas and new neighborhoods.
- **Las Colonias Park:** People expressed concerns about late-night activity in the park and the need for better lighting and police enforcement. The pedestrian and bicycle traffic flow on the Riverfront Trail is a concern, with people not staying to one side, no enforcement of the dog leash law, and users frequently blocking the entire trail, especially in the Las Colonias Park area.

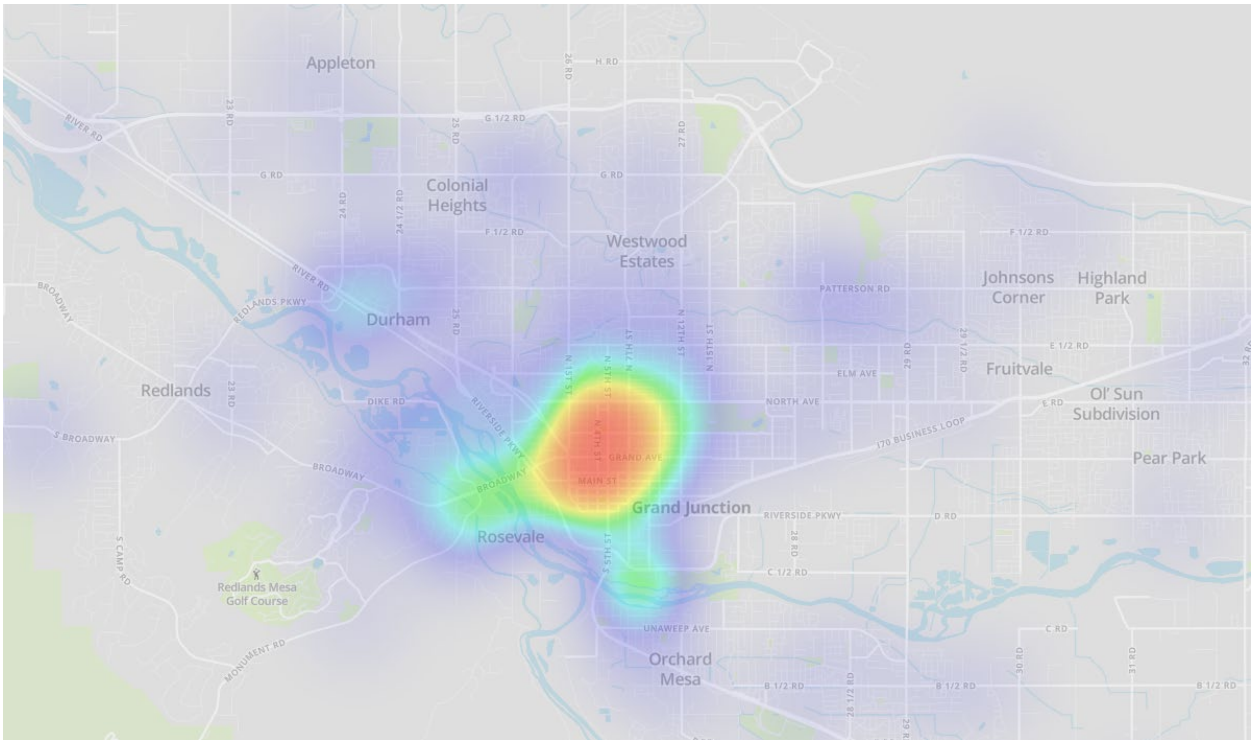


FIGURE 41: HEATMAP OF LOCATIONS RESPONDENTS FEEL UNSAFE WALKING/ROLLING, CITYWIDE

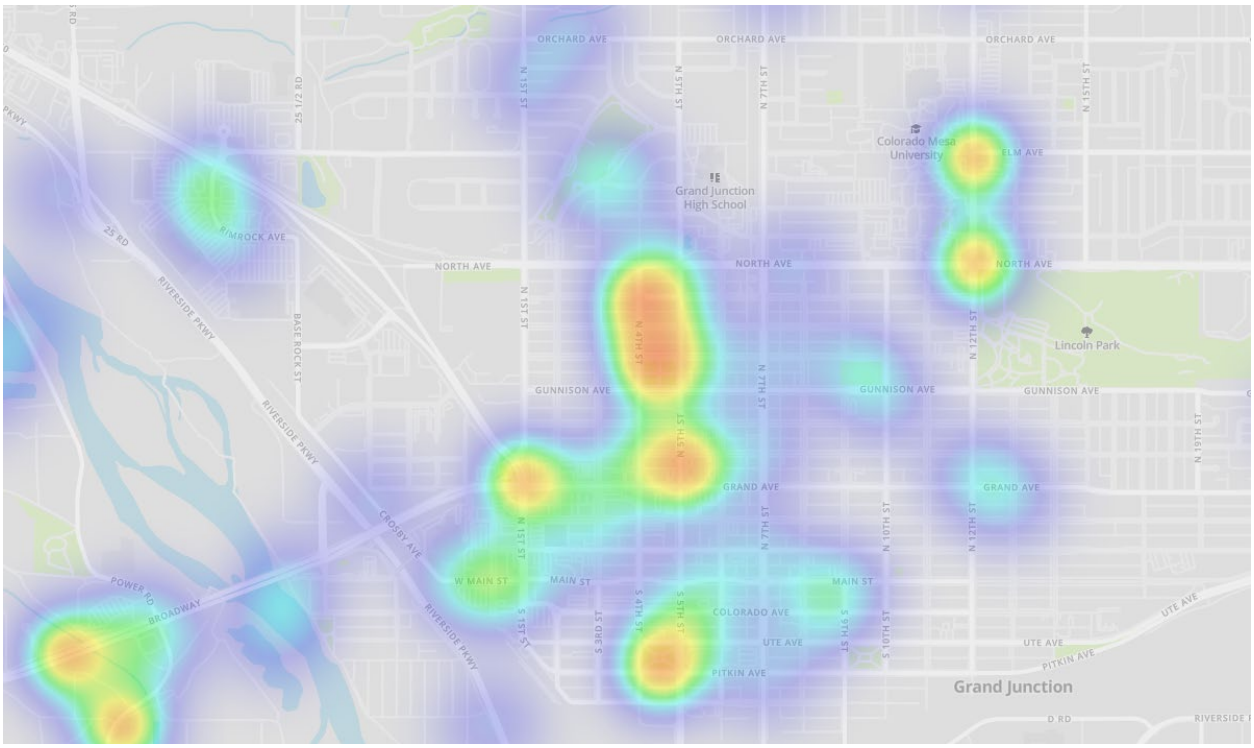


FIGURE 42: HEATMAP OF LOCATIONS RESPONDENTS FEEL UNSAFE WALKING/ROLLING, DOWNTOWN

I don't feel safe biking here

Respondents feel most unsafe biking in the Grand Junction downtown core and northwest area of the city, as shown in **Figure 43** and **Figure 44**. Specifically, the top 10 most commonly cited unsafe locations by respondents include, in no particular order:

- **Redlands Parkway & Broadway:** Commenters indicated that this intersection is uncomfortable if walking or biking due to speeding drivers, inadequate crossing times, and issues with glare. Comments nearby on Broadway noted missing sidewalks and bike infrastructure, and the lack of bike infrastructure on Redlands Parkway.
- **Redlands Parkway/24 Road:** Multiple comments in this marker type and others pointed out the dangerous crossing of US-50 along this roadway due to high speeds, poor roadway maintenance, the blind hill/hill grade, and lack of bike lane. It is also a key connection to the Mesa Mall from the south and the only crossing of US-50 in the area.
- **Riverside Parkway/25 Road:** Numerous comments in this area south of US-50 remarked on safety issues, including poor bikeway maintenance, dangerous right-turning traffic and red light running, the bike lane crossing high speed/high volume traffic, poor lighting and signage, inadequate pedestrian crossing times, and poor visibility. This is a key connection to the Riverfront Trail.
- **25 Road:** North of the US-50 crossing, respondents had concerns about the 25 Road corridor lacking sidewalks and bike infrastructure, on a roadway with high traffic volumes and speeds.
- **Main Street:** driver-bike conflicts at 7th & Main roundabout, bike lane inconsistent, drivers do not see or yield to bike traffic, desire to close street to vehicle traffic
- **Riverside Parkway & 9th Street:** Comments expressed concerns about this being an unsafe crossing.
- **12th Street:** People noted concerns about this corridor, which has no bike lanes, but high traffic volumes and speeds, limited visibility, and uncomfortable crossings, particularly at Patterson Road and North Avenue. Commenters have seen people running lights on the corridor.
- **29 Road:** Respondents indicated concerns about high traffic speeds and unsafe crossings on this roadway, particularly at the 29 Road and C ½ intersection that people use to access the Riverfront Trail. They note the bridge crossing over I-70 business loop feeling dangerous, and poor bikeway maintenance (where they exist). One commenter was hit by a driver while biking on this roadway.
- **Orchard Avenue:** Many comments expressed issues with this corridor, including inconsistent bike facilities (especially near schools), aggressive drivers, illegal parking in the bike lane, people riding on the sidewalk, and frequent curb cuts/driveways. People feel unsafe at many crossings, especially at 28 Road, 15th Street, and 7th Street.
- **7th Street:** Respondents noted poor maintenance, missing bike lanes, aggressive drivers, and infrequent and poor crossings (especially at Main Street, North Avenue, Orchard Avenue, Horizon Drive, Patterson Road, and between CMU and GJHS).

FIGURE 43: HEATMAP OF LOCATIONS RESPONDENTS FEEL UNSAFE BIKING, CITYWIDE

FIGURE 44: HEATMAP OF LOCATIONS RESPONDENTS FEEL UNSAFE BIKING, DOWNTOWN

Open House Geographic Comments

The community open house on September 14th also provided an opportunity through a floor map exercise for the community to identify locations throughout Grand Junction where they currently walk and bike, where they would like to walk and bike and where they don't feel comfortable walking and biking due to the infrastructure (see Figure 45).

FIGURE 45: FLOOR MAP EXCERCISE AT THE COMMUNITY OPEN HOUSE

Comments received in person at the community open house flagged many of the same challenges as those received on the online interactive map (Figure 46). A large share of concerns concentrated on safety issues at major crossings of the railroad and highway, again highlighting the areas around Redlands Parkway/24 Road, Broadway, and Riverside Parkway. 7th Street, 12th Street, Orchard Avenue, North Avenue, and 7th/Main Street in the core of the city were also highlighted as important corridors for walking and biking and/or places people currently don't feel comfortable walking and biking.

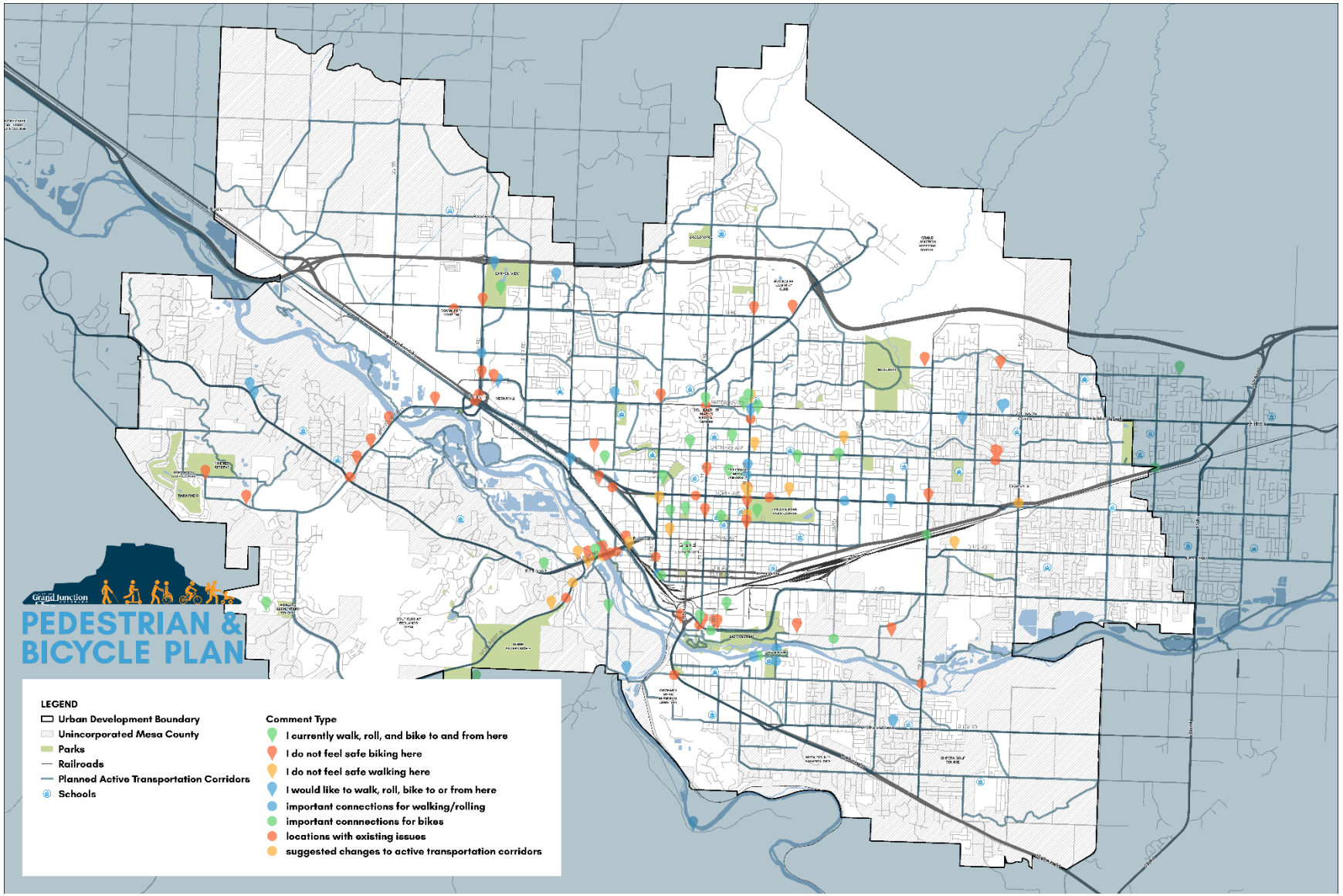


FIGURE 46: IN PERSON COMMENT MAP

Summary

This report provided an assessment of the existing conditions and needs of the pedestrian and bicycle network in Grand Junction and key findings of the first round of community engagement for the *Pedestrian & Bicycle Plan* that occurred in September and October of 2022. Key findings from these two major analytical elements of the active transportation system in Grand Junction are summarized below and will be used to inform recommendations in the city's *Pedestrian & Bicycle Plan*.

Existing Conditions Assessment

- Relevant Plans – The document provides a summary of key outcomes of existing relevant plans and documents, including the *One Grand Junction Comprehensive Plan*, the *Grand Junction Circulation Plan*, the *Grand Valley Regional Transportation Plan*, Grand Junction's *Complete Streets Policy*, the Fire Code, and the Zoning and Development Code. The Active Transportation Corridors will be updated as part of the *Pedestrian & Bicycle Plan* and will become the vision for the future bike network and key pedestrian corridors in Grand Junction.
- Existing Pedestrian Network – Maps illustrate the existing pedestrian network in Grand Junction, including which streets have attached sidewalks, detached sidewalks, or no sidewalks. The map identifies key missing gaps in the pedestrian network in the city. 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.
- Existing Bicycle Network – Maps illustrate the existing bicycle network in Grand Junction, including where there are existing multi-use trails, streets with bike lanes, and signed bike routes. Of particular importance are streets with missing or inadequate bike facilities along the Active Transportation Corridors, at major crossings of the Colorado River, railroad tracks, and highways, and where there are missing links in the network.
- Level of Traffic Stress Maps – The report develops a methodology and maps showing the Level of Traffic Stress (LTS) on a scale of 1 to 4 for both pedestrians and bicyclists on all streets in Grand Junction. Streets with LTS 1 and 2 are considered low stress, while streets with LTS 3 or 4 are considered higher stress for people walking and biking. The LTS maps will be a critical component is developing recommendations for the active transportation network and street design as part of the *Pedestrian & Bicycle Plan*.
- 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. 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.
- Pedestrian and Bicycle Demand – In addition to community input which helped reveal important corridors for people walking and biking (discussed in the Community Engagement Findings section), Strava (a Big Data provider) highlighted 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 that should be considered as part of planning the future pedestrian and bicycle network.

Community Engagement Findings

The city conducted comprehensive community engagement as part of the planning process to solicit input to inform recommendations in the *Pedestrian & Bicycle Plan*. 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 will guide the direction of the project. 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.

This report provides a summary of the feedback received from the community through this engagement process. A brief summary of key highlights is provided below:

- Improve Traffic Safety – Safety emerged from the visioning process at the open house and online survey as a top theme, as well as the focus groups and initial meeting with 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 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.