



Grand Valley

2045 REGIONAL
TRANSPORTATION
PLAN UPDATE

GRAND VALLEY 2045 REGIONAL TRANSPORTATION PLAN UPDATE

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Chapter 1 - Executive Summary

The Grand Valley is a vibrant destination and major regional hub on Colorado’s Western Slope. Mesa County is the fourth largest and eleventh most populous county in the state. The region is situated at the confluence of two major rivers and sits at the crossroads of major person and freight travel routes. Each of the communities in the Grand Valley has a unique character, with downtown centers, global travel destinations, and significant agricultural, recreational and natural resources. The regional transportation system connects businesses to markets, improves quality of life for residents, and provides visitors access to local communities, businesses, recreation, destinations, and public lands. The population of the county is growing. Growth rates are nearly as high as pre-recession growth patterns, as shown in **Figure 1.1**. An expanding population underscores the need for a regionally connected transportation system that also grows to ensure the diversity of residential, employment, and recreational centers in the Grand Valley are accessible to all residents and visitors. The Grand Valley also serves as an important gateway to public lands, including the Colorado National Monument, Bureau of Land Management, Forest Service, and state lands, totally nearly 1.6 million acres.

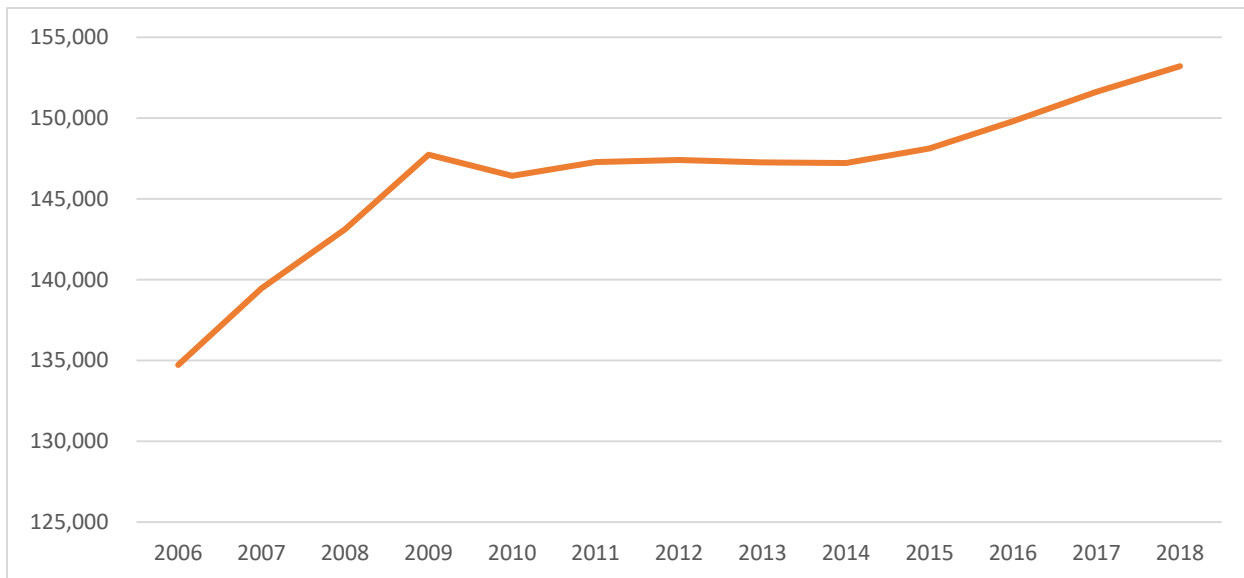


Figure 1.1: Mesa County population (US Census)

2045 Regional Transportation Plan

To maintain the region’s transportation system, ensure the efficient movement of people and goods, and support future growth and development, transportation services and infrastructure are planned and coordinated through a regional transportation planning process carried out by the Grand Valley Metropolitan Planning Organization (GVMPO).

The GVMPO is the federally-designated transportation planning organization for the Grand Junction urbanized area and all of Mesa County. The GVMPO is led by the Grand Valley Regional Transportation Committee (GVRTC) and supported by a Technical Advisory Committee (TAC) and Regional Transportation Plan Steering Committee.



The Regional Transportation Plan is required under federal regulations and is critical for the region to assess, prioritize, and fund future transportation improvements. This Plan is required to be updated every five years, in order to capture demographic, land use, technology and economic changes in the region and broader transportation industry. This planning process examines current transportation issues and needs for travelers, workers, visitors, and residents of the region. The regional plan covers all of the Grand Valley, including the communities of Clifton, Collbran, DeBeque, Fruita, Gateway, Glade Park, Grand Junction, Loma, Mesa, Mack, Palisade, Whitewater and the rest of Mesa County.

The Grand Valley 2045 Regional Transportation Plan (RTP), an update to the 2040 RTP, is the most recent update to the region's overall vision for future transportation infrastructure and investment. The 2045 RTP looks out 25 years into the future and identifies the types of investments and strategies needed to address transportation needs in the region. The RTP includes a list of critical regional priority projects anticipated to be implemented between now and 2045. Important but unfunded transportation needs are also described and may be implemented should additional funding become available. The long-term guidance developed in the Regional Transportation Plan (RTP) informs a short-term capital improvement plan, or the Transportation Improvement Program (TIP). The GVMPO works with the GVRTC and TAC to maintain the TIP which is used to designate funds for projects selected by local governments and the Colorado Department of Transportation. This Plan will guide future investments in the region's transportation system to reduce congestion, improve safety, promote alternatives to the private automobile, enhance connectivity and comfort for those biking and walking, increase reliability and frequency of the transit system and maintain an efficient and effective transportation system that supports the regional economy. The 2045 RTP applies a performance-based approach to planning in order to quantify the prioritization of projects based on federally-determined and locally-informed performance measures. Regional investments are tied to newly established national and state goals for performance, condition, safety and mobility of the transportation system. This plan also provides GVMPO with the resources necessary to continue to measure the success of regional investments in delivering results and will communicate progress to the public and elected officials.

Regional Planning Process

The 2045 RTP was updated in accordance with federal regulations and emphasized public involvement. An extensive public outreach process took place throughout the planning process, but with a focus over the summer 2019 and late fall 2019. Through an online survey with an interactive webmap, a website, intercept events, focus groups and open houses a significant number and diverse cross-section of Grand Valley residents, employees and visitors had the opportunity to share their ideas and insights on transportation challenges and opportunities in the region. It is estimated that input was received from over 450 respondents through an online survey, focus groups and workshops and the project team spoke with over 288 people in intercept events. Social Media was also largely used to inform the community of the plan and how they could be involved. Nearly 10,000 points of engagement were received throughout the planning process (**Figure 1.2**).



Figure 1.2: Infographic of points of engagement through the planning process

The GVMPO and 2045 RTP Steering Committee would like to thank all those who took the time to comment and to become involved in planning the region’s transportation future. This extensive set of comments on behalf of residents, employees and visitors was pivotal in shaping the RTP.

The 2045 RTP planning process sought to define a vision statement, and refresh the regional goals, strategies and priorities established in the previous 2040 RTP. The 2045 process was a streamlined update and relied substantially on the public involvement, analysis, and current call for priority projects, utilizing vision corridors compiled during completion of the prior plan. The 2045 RTP planning process reexamined regional goals, considered a broader set of regional trends and conditions, identified additional opportunities, as identified through public input, and prioritized investments through a performance-based planning approach to decision-making. **Figure 1.3** shows the iterative planning process applied to the RTP. The 2045 RTP provides GVMPO and implementing jurisdictions with a toolkit to begin implementing projects and to continually monitoring regional transportation system condition and performance impacts.

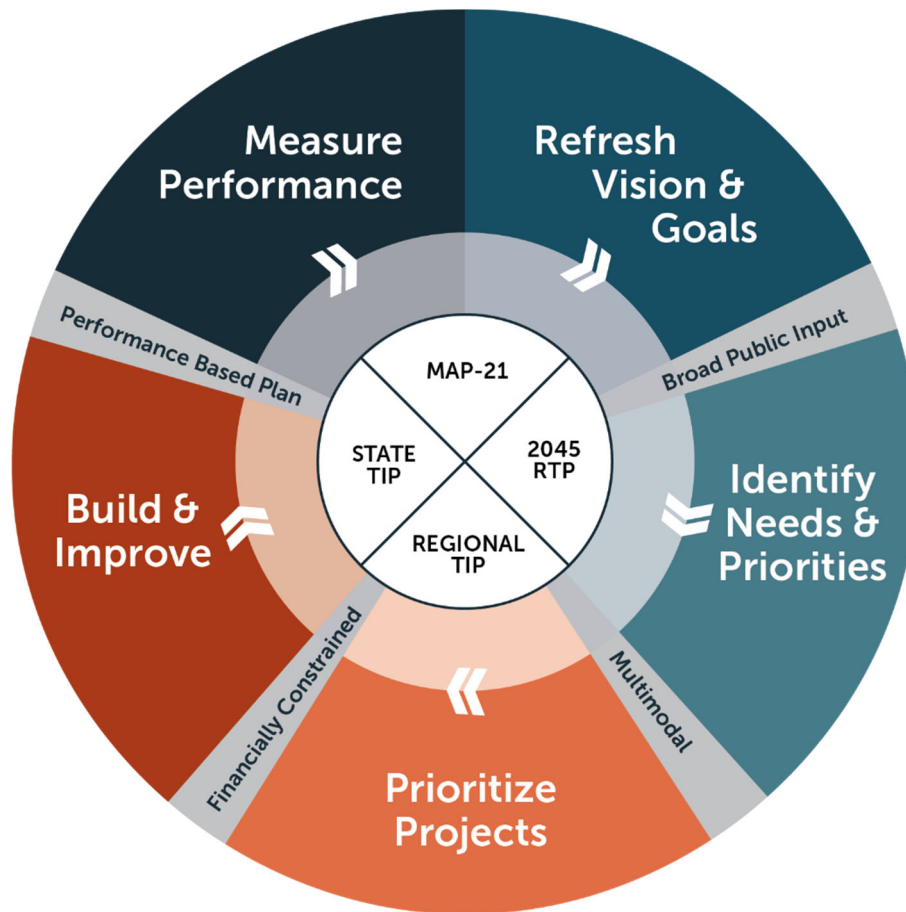


Figure 1.3: RTP Planning Process

Key Regional Issues

The following key messages emerged as a part of the analysis, stakeholder engagement, and public input components of the 2045 planning process.

Provide viable alternative transportation options to the private automobile. The Grand Valley has the foundations for a strong network of bicycle and pedestrian facilities, with an extensive trail network, 11 Grand Valley Transit routes and pedestrian amenities. However, there are important gaps in the multimodal network that currently prevent walking and biking from being a comfortable and seamless experience for users of all ages and abilities. Residents and stakeholders supported additional investment in transit to make service more frequent and reliable.

Consider the fiscal responsibility of investments. Residents and stakeholders did not broadly support significant new investments without first preserving existing roads, signs, bridges, trails and sidewalks. Adequate funding is not available to fulfill all regional needs and the first priority for investment should be maintenance. Additional transportation dollars can then be directed toward increasing capacity and expanding roadway facilities.

Support quality community growth. There is widespread agreement that transportation substantially improves the livability of communities and the economic development prospects of the region. However, the priorities as identified by stakeholders and residents varied. Some residents believe that multimodal connections are an essential component of supporting quality communities and economic diversification. Other residents view basic improvements to roads and reducing congestion as key to advancing quality development in the region. What is clear is that balanced transportation improvements that enable people and goods to move safely and efficiently throughout the region will support future growth.



Vision and Goals

The common themes and trends in public outreach results were synthesized in order to craft the region’s initial vision statement for the future of transportation. **Figure 1.4** shows the most common themes that emerged from a vision exercise that received over one hundred responses. The final vision statement for travel in the Grand Valley in 2045 is:

Travel in the Grand Valley will be on well-maintained roadways that are safe and accessible for people walking, biking, driving and taking transit, and will leverage partnerships and reliable funding sources for enhancing multimodal travel for users of all ages and abilities.

Figure 1.4: Visioning exercise results

In support of this vision, regional goals for 2045 were established that serve as a guide to achieving this vision. The following goal statements provided guidance for evaluating projects and were considered in the decision-making process as the region makes progress towards its transportation vision for the future.

- **Active Transportation:** Foster active transportation by providing a regionally connected network of low-stress facilities that are safe for people walking and people biking.
- **Transit:** Make transit a reliable, viable, and efficient transportation option for local and regional travel throughout the Grand Valley.
- **Regional Roadways:** Ensure driving in the Grand Valley is efficient, safe, and comfortable.
- **Safety:** Make the multimodal regional transportation system safe for all users by using proven methods for lowering crash rates, ensuring roadways are in good repair, increasing personal safety, and providing low-stress facilities for people walking, biking, driving or taking transit.
- **Freight:** Provide a transportation system, operating parameters, and policy-framework that support the safe, efficient, and reliable movement of goods within, to and from the Grand Valley; and, identify programs and strategies to support the economic viability of freight-dependent industries in the region.
- **Funding:** Leverage all available resources and prioritize projects to fulfill the transportation vision for the Grand Valley.
- **Maintenance:** Bring roadways, sidewalks, and multiuse paths to a state of good repair.



Health: Support the physical, social and mental health of those traveling in the Grand Valley by investing in a connected, safe and accessible multimodal transportation network.

Plan Summary

The 2045 RTP identifies the challenges and opportunities the Grand Valley is facing now and in the future. The following chapters of this regional plan provide a detailed look at trends and conditions, summary of public input, and guidance and strategies to help the region invest in the future.

- **Chapter 1 – Executive Summary:** Overview of the 2045 planning process, key public issues, regional goals, plan content and significant updates to this 2045 Regional Transportation Plan.
- **Chapter 2 – Vision, Goals, Policies, and Strategies:** Vision statement and goals with respective policies and strategies to guide future decisions about priorities, investments, tradeoffs, and phasing.
- **Chapter 3 – Public Engagement:** Top issues, key considerations, tradeoffs, and investment preferences from extensive public input are summarized. This chapter synthesizes what was heard and how residents were reached for comment.
- **Chapter 4 – Growth and Trends:** Future growth in the region is examined through demographic and economic trends. This chapter details future projections for population and economic growth and travel trends through 2045.
- **Chapter 5 – Scenario and Resiliency Planning:** Evaluation of potential future scenarios and outcomes to consider and implications of regional and national changes that will impact transportation.
- **Chapter 6 – Active Transportation:** Key public concerns, and changes in use, safety, and growing impact of regional bike and pedestrian trail networks and investments are considered.
- **Chapter 7 – Regional Transit:** Service providers, public opinions, changes in service and ridership growth, and regional demand for connected transit services are summarized. This chapter highlights finance and operating costs and key transit recommendations.
- **Chapter 8 – Regional Roadways:** Trends in congestion, system performance, and roadway safety are detailed.
- **Chapter 9 – Regional Freight and Intermodal Transportation:** The role of freight transportation in economic development and industry diversification is discussed. This chapter compiles data on regional freight movements, international exports, and trade imbalances.
- **Chapter 10 – Performance-based Planning:** Review of national performance-based planning process and standards. This chapter highlights identified performance measures and targets, how Grand Valley should monitor the transportation system over time, and next steps for growing this approach to planning.
- **Chapter 11 – Finance and Funding:** The complexities of funding and important regional transportation investments are described. This chapter estimates future surface transportation



and public transit revenues available to help improve and maintain the regional transportation system.

- **Chapter 12 – Recommendations, Prioritization and Implementation:** Performance of the region’s transportation system and status of regional progress toward national goals and state targets is examined. This chapter explains the methodology used to prioritize projects and the resulting project prioritization. It addresses considerations when implementing projects. In addition this chapter highlights the highest priority projects for implementation.

2045 Regional Transportation Plan Updates

The 2045 regional planning process builds on the previous regional transportation plan but includes significant regional accomplishments and notable changes from prior plans.

Emerging Mobility and Innovation. Transportation is quickly evolving in both the Grand Valley and around the world. As technology shifts, new modes become available, there are additional ways to communicate between infrastructure and vehicles, and there is more information through which users have to make decisions about how they travel. This plan makes recommendations that considers these expanding possibilities; the decision-making process encapsulates these potential shifts and trends in transportation.

Scenario and Resiliency Planning. The 2045 RTP incorporates a Scenario and Resiliency Plan, which was not included in the 2040 RTP. The Scenario and Resiliency Plan is described in Chapter 5. Scenario planning is an approach to strategic planning that uses alternate narratives of plausible futures (or future states) to play out decisions in an effort to make more informed choices and create plans for the future. This component of the planning process considered various drivers of change in travel behavior and the transportation network in the region. The project team and Steering Committee developed three scenarios that were analyzed with the Mesa County Regional Travel Model. The outputs of the model were interpreted in order to inform decision-making and future thinking for the region.

Regional progress. Major trail, road construction and transit planning initiatives have been completed since the last plan update. Notable projects included completion of improvements at D Road and 32 Road, I-70B phase III connections from Independent to Grand Avenue, multimodal improvements on US 50, bike lanes and detached sidewalks on 1st Street, the Kokopelli connection to the Riverfront bike path, SH 340 and Redlands Parkway Intersection improvements and completion of the Grand Valley Transit Strategic Plan. These example regional projects all further progress toward the region’s vision and transportation blueprint for the future. As part of the 2045 RTP process, a review of existing planning efforts was undertaken and is available in **Appendix D**.

Updated information. Past regional transportation plans delved deeply into public engagement and modelling the impacts of road capacity projects. The 2045 RTP was informed by an updated regional travel model, future growth estimates, and data on safety and freight conditions. Revised population and economic forecasts indicate that the existing regional transportation network will move people and goods efficiently well into the future, without the need for significant new investments in capacity. This plan focuses more on promoting projects that bring safety improvements, improve roadway conditions



to bring the system into a state of good repair and ensure equitable access to the regional transportation network. Newly available roadway safety data provides a closer look at regional crash issues and an expanded view of freight movement and economic vitality more closely links transportation and the economy.

Performance-Based Planning. With the signing of the FAST Act in December 2015, new federal legislation since the 2040 RTP, a performance-based approach to transportation planning was further emphasized. The 2040 RTP introduced performance management into the regional planning process; the 2045 RTP incorporated this process fully through both qualitative and quantitative processes. Regional projects were scored and prioritized based on the expectation of how they will address national, state and local goals and targets. Federal performance targets for safety, infrastructure condition and system reliability were scored for each project. These performance measures were combined with two top themes identified through the planning process—mobility for all travelers and economic development. This process leads to more transparent decision-making, more efficient and impactful investments, and will help move toward the region’s vision for the future.

Enhanced Quality of Life and Economic Vitality Through Improved Federal Lands Access. One of the new aspects of the 2045 planning process is an increased focus on the importance of the vast wildness surrounding the population centers in Mesa County. Enhanced access to nature has a beneficial impact both to the long-term quality of life enjoyed by all our community members and the economic vitality of all the businesses who support our strong and growing tourism and resource extraction sectors. In support of enhancing access to federal land areas, the Federal Lands Transportation Program (FLTP) and Federal Lands Access Program (FLAP) were created by congress to dedicate funding towards improving and maintaining access to national parks, forests, wildlife refuges, national historic sites, and many other recreation and resource extraction site types. Like the bigger pots of federal transportation funding that are the main focus of this plan, the needs associated with these programs far exceed the amount of money available. By building public awareness and interagency coordination in this plan, the hope is that the limited funding dedicated to the FLTP and FLAP can be better aligned with the rest of the federal funds managed by the GVMPO and CDOT.

Chapter 2 - Vision, Goals, Policies, and Strategies

Vision, Goals, Policies, and Strategies were developed for transportation in the Grand Valley to serve as a guide for future decisions about priorities, investments, tradeoffs, and phasing. In order to develop and finalize these statements, the project team built off the common themes heard from the public, stakeholders, and member jurisdictions during the first phase of outreach in the Summer 2019. These concepts, in combination with priorities identified in previous planning efforts, were developed into a set of goals with corresponding policies and strategies.



Vision Statement

The **vision** statement results from thinking about the future of transportation with wisdom and/or imagination. The RTP vision represents something to be pursued, the end result.

The vision statement for the future of transportation in the Grand Valley is:

Travel in the Grand Valley will be on well-maintained corridors that are safe and accessible for people walking, biking, driving and taking transit, and will leverage partnerships and reliable funding sources for enhancing multimodal travel for users of all ages and abilities.

Goals, Policies and Strategies

While the vision statement reflects the desired end result for the community, a **goal** defines the direction and destination, and alters the direction of transportation in the Grand Valley region toward the plan vision. Goals are divided into topic areas, as shown below, and reflect themes that consistently arose throughout the community outreach process. The identified goals are an important guide in the RTP as they were used to inform the prioritization process. In addition to the Federally-required performance measures, the community-based goals are also reflected in additional performance measures. These are described in greater detail in **Chapter 10**.

Goal topic areas are:

1. Active Transportation
2. Transit
3. Regional Roadways
4. Safety
5. Freight
6. Funding
7. Maintenance
8. Health



Each goal has a corresponding set of policies and strategies. **Policies** serve as the guiding principles that will help inform decisions made by the Grand Valley and member jurisdictions. **Strategies** are listed for each goal and contain the action items for completing the goal. Implementation of the policies and strategies will be discussed with partners and integrated into the GVMPO Unified Planning Work Program (UPWP), that, unlike the RTP, is updated annually. The UPWP will be used to track and present progress.

1. Active Transportation

Goal: Foster active transportation by providing a regionally connected network of low-stress facilities that are safe for people walking and people biking.

Active Transportation Policies

1.1 When adding new bicycle infrastructure, prioritize opportunities to complete projects identified in the Grand Junction Circulation Plan and active transportation projects identified by the City of Fruita, Town of Palisade, Mesa County, and the Towns of Collbran and De Beque.

Strategies:

- 1.1.1 Compile existing projects into a single resource and make the list easily accessible to implementing agencies in each jurisdiction.
- 1.1.2 Evaluate the project list developed in 1.1.1 to determine whether regional coordination between two or more entities is feasible for implementing projects.
- 1.1.3 Update the project list developed in 1.1.1 as projects are completed, recommended projects change, or funding becomes available to reprioritize or pair projects for implementation.

1.2 Prioritize on-street projects that connect to the Grand Valley's existing and planned off-street multiuse path network.

Strategies:

- 1.2.1 Develop a map of proposed projects showing where opportunities for connecting population centers to the multiuse path network are greatest.
- 1.2.2 Support communities and neighborhoods in forming connections to the multiuse path network by promoting awareness of future network expansions.
- 1.2.3 Consider mode choice opportunities to improve mobility and access to, through and within public lands.

1.3 Identify new opportunities for regional travel on foot or bicycle that supplement the Circulation Plan by identifying gaps in the off-street multiuse path network that connect major population centers, major employment centers, parks, and public lands across the Grand Valley.

Strategies:

- 1.3.1 In coordination with local agencies, maintain an annual report on where population and employment are concentrated in Fruita, Grand Junction, Palisade and the unincorporated County communities.

- 1.3.2 Identify strategies for obtaining the right of way needed to fill gaps in the multiuse path network.
- 1.3.3 Promote understanding of multiuse path benefits in communities and neighborhoods currently without access.
- 1.3.4 Evaluate potential alignments for path extensions based on community support.
- 1.3.5 Seek funding opportunities for implementation of active transportation projects in the Grand Valley including Palisade and the unincorporated communities of Mesa County.

1.4 Develop a five-year sidewalk and crossing improvement plan that identifies funding sources and a prioritization model to fill in critical pedestrian infrastructure gaps through the region.

Strategies:

- 1.4.1 Building on the 2016 Mesa County Safe Routes to School Audit, keep an up-to-date inventory of pedestrian infrastructure gaps throughout the County.
- 1.4.2 Develop a report on best practices from peer communities that have similar population sizes and densities on prioritizing sidewalk projects.
- 1.4.3 Using crash data from the previous five years, develop an index of intersections that have high rates of crashes resulting in serious injuries and fatalities and lack safe crossing facilities.
- 1.4.4 Develop an index of criteria that identifies high priority pedestrian infrastructure including crashes, access to transit, community support, access to a multiuse path, and access to schools.

1.5 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.

Strategies:

- 1.5.1 Develop an inventory of major destinations without access to safe active transportation facilities.
- 1.5.2 Survey community members to determine popular origins and destinations for active travelers.
- 1.5.3 Develop an inventory of amenities that support bicycling like bicycle racks, repair stations, rest rooms, and water fountains.
- 1.5.4 Working with Federal Land Management Agencies (FLMAs), identify problems with modal connections across agency boundaries.

1.6 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.

Strategies:

- 1.6.1 Inventory key destinations within a one-mile buffer of Grand Valley Transit (GVT) stops.
- 1.6.2 Identify bus stop areas that lack connectivity to key destinations.



- 1.6.3 Implement Transportation Demand Management programs that help raise public awareness of opportunities to travel by non-driving modes.
- 1.6.4 Compare the repaving schedule to active transportation project recommendations in order to identify opportunities for “quick win” restriping as a part of repaving projects.
- 1.6.5 Identify scope and additional opportunities in active transportation corridor projects by coordinating with local jurisdictions and/or CDOT, to include design elements in each transportation project before funding has been secured and again before the project is constructed.

1.7 Expand City of Grand Junction wayfinding signage program to all population centers in the Grand Valley.

Strategies:

- 1.7.1 Create a list of destinations requiring signage and prospective locations for the signage. Collaborate with Chambers of Commerce and other groups that can inform sign locations.
- 1.7.2 Determine distances between destinations to inform wayfinding signage.
- 1.7.3 Determine a branding that creates consistent and recognizable signage.

2. Transit

Goal: Make transit a reliable, viable, and efficient transportation option for local and regional travel throughout the Grand Valley.

Transit Policies

2.1 Expand Grand Valley Transit (GVT) service by implementing recommendations from the Grand Valley Transit Strategic Plan and the Operational, Route, and Schedule Analysis.

Strategies:

- 2.1.1 Identify planned improvements to GVT services that have not been implemented.
- 2.1.2 Develop a prioritized list of outstanding improvements.
- 2.1.3 Continue to update the implementation plan from the GVT Strategic Plan as projects are completed, recommended projects change, or funding becomes available to reprioritize or pair projects for implementation.

2.2 Enhance the transit rider experience by adding stop amenities such as shelters, signage and benches to high-frequency stops.

Strategies:

- 2.2.1 Identify highest ridership stops without amenities.
- 2.2.2 Assess feasibility of adding amenities at these stops.
- 2.2.3 Generate a prioritized list of stop improvements.
- 2.2.4 Identify a funding source for implementing bus stop improvements.

2.3 Expand transit service by studying the feasibility of adding service on Sundays and evenings.

Strategies:

- 2.3.1 Using on-board surveys, assess the extent that existing riders would utilize added service.
- 2.3.2 Survey prospective transit riders to determine whether more regular service would incentivize additional people to ride GVT.
- 2.3.3 Assess cost of added service and potential funding sources.

2.4 Assess feasibility of implementing transit signal priority.

Strategies:

- 2.4.1 Develop case studies of peer communities that have implemented transit signal priority.
- 2.4.2 Determine corridor-level travel time savings per bus.
- 2.4.3 Obtain planning-level cost estimates for implementing transit signal priority.

2.5 Prioritize service enhancements for areas with transit supportive land uses and densities.

Strategies:

- 2.5.1 Assess existing land uses and determine whether existing transit routing aligns with areas of highest population and employment density.
- 2.5.2 Prioritize dense areas with little or no transit service for service enhancements.

2.6 Encourage transit-oriented development through participation in local government land use development review and long-range planning efforts.

Strategies:

- 2.6.1 Ensure GVT is included as a stakeholder during local land use planning updates.
- 2.6.2 Create inventory of undeveloped or underdeveloped parcels adjacent to GVT stops.
- 2.6.3 Identify underdeveloped GVT properties that could be used for mixed-use development.
- 2.6.4 Share inventory with local agencies that have jurisdiction over land use.

2.7 Pilot an on-demand, first-last mile program that increases the connectivity of Grand Valley residents to transit service and fills in gaps where there currently is not transit service.

Strategies:

- 2.7.1 Conduct an on-demand feasibility study that identifies areas with high population density but without access to transit service. Use this study to determine cost-effectiveness and define an Operations Model.



- 2.7.2 Solicit input from private providers on feasibility of contracting with GVT to provide on-demand service in areas identified in 2.3.1.
- 2.7.3 Contract with a private provider and develop a reservations system for new on-demand service.

3. Regional Roadways

Goal: Ensure driving in the Grand Valley is efficient, safe, and comfortable.

Roadways Policies

3.1 Monitor travel time reliability along I-70, I-70B, US-6, and US-50 and report travel time data yearly.

Strategies:

- 3.1.1 Identify which local, County, state, and federal agencies currently track travel time.
- 3.1.2 Compile and evaluate best practices for collecting and tracking travel time data including the floating car method and big data such as INRIX, and StreetLight Data, Inc.
- 3.1.3 Develop knowledge sharing resources to help agencies managing Grand Valley roadways to begin collecting and recording travel time data, in a consistent and dynamic way.

3.2 Identify Intelligent Transportation System (ITS) technologies that are cost-effective in improving roadway operations and can be implemented region wide.

Strategies:

- 3.2.1 Compile report on existing ITS technologies and best practices from around the country.
- 3.2.2 Develop a program for piloting new technologies on a heavily traveled corridor and evaluate outcomes through before and after studies.
- 3.2.3 Implement successfully piloted technologies region-wide.

3.3 Establish an inter-community working group to develop regional policies that address potential impacts of automated vehicles.

Strategies:

- 3.3.1 Consult existing research on automated vehicles to determine likely impacts on Grand Valley roadways.
- 3.3.2 Identify stakeholders that would potentially be involved in addressing automated vehicle-related concerns that are of particular concern to the Grand Valley region.
- 3.3.3 Review existing infrastructure to determine whether any modifications are needed for accommodating autonomous vehicles.

3.4 Set a maximum target for annual per capita vehicle miles traveled (VMT) in Grand Valley and adopt a VMT reduction program to implement when VMT exceeds the maximum.

Strategies:

- 3.4.1 Research peer communities to determine reasonable and scalable VMT targets.
- 3.4.2 Inventory existing and potential Transportation Demand Management (TDM) strategies that could be employed for VMT reduction. Work with jurisdictions, the school district and large employers to implement mandatory TDM programs.

3.5 Implement a regional access management program for maintaining dependable vehicle travel on major corridors.

Strategies:

- 3.5.1 Identify and compile existing access management plans.
- 3.5.2 Apply the FHWA Access Management Program Plan to guide setting of intersection and interchange spacing, driveway spacing, traffic signal spacing and median openings.
- 3.5.3 Identify and prioritize corridors that have many driveways and poor access management. Use crash data to inform prioritization.
- 3.5.4 Assess agency responsible for improving access management and share recommendations.

3.6 Close gaps on transportation corridors to help multimodal travelers overcome barriers like waterways, railroads, and I-70.

Strategies:

- 3.6.1 Inventory all barriers to travel by active transportation users by looking at lengths between safe crossing opportunities.
- 3.6.2 Prioritize barrier projects based on presence of existing bicycle and pedestrian facilities frequency of use.
- 3.6.3 Determine best crossing solutions at barriers and agencies responsible for implementation.

4 Safety

Goal: Make the multimodal regional transportation system safe for all users by using proven methods for lowering crash rates, ensuring roadways are in good repair, increasing personal safety, and providing low-stress facilities for people walking, biking, driving or taking transit.

Safety Policies

4.1 Identify locations that pose the highest crash risk for people walking, people biking, and people driving and prioritize multimodal countermeasure treatments at these locations.

Strategies:

- 4.1.1 Compile and geocode crash data from State, County, and local agencies including attributes such as cause of crash, and mode of parties involved.



- 4.1.2 Map all crash locations by mode and identify a high injury network—the network of segments and corridors with a high concentration of crashes resulting in fatalities and severe injuries.
- 4.1.3 Using national best practices, identify safety countermeasures (both engineering and programmatic) that could improve safety outcomes at high crash locations.

4.2 Implement a regional roadway safety program that uses engineering, educational, and enforcement countermeasures to improve safety outcomes in high-crash rate locations.

Strategies:

- 4.2.1 Identify regional safety stakeholders from State, County, and local agencies to form a working group on improving safety outcomes.
- 4.2.2 Designate partners from stakeholder group to implement appropriate countermeasures in high-crash locations.
- 4.2.3 Use stakeholder group as a vehicle for submitting grant applications.

4.3 Conduct a regional Level of Traffic Stress assessment for active transportation facilities to determine specific locations for improving bicycle and pedestrian safety.

Strategies:

- 4.3.1 Compile geospatial data associated with the street centerline file including street classification, width, number of travel lanes, and speed limits to form a regional GIS datafile for Mesa County roadways.
- 4.3.2 Inventory all existing active transportation facilities for Mesa County, to include widths of sidewalks and bicycle lanes, type of facility (attached vs. detached sidewalks, striped vs. protected bicycle lanes), and quality of crossing facilities and create GIS datafile.
- 4.3.3 Analyze datafiles comparatively and apply the Level of Traffic Stress methodology (Mekuria, Furth, Nixon, 2012) to identify where existing active transportation facilities are considered high stress due to high posted speed limits, pedestrian facilities immediately adjacent to traffic, bicycle facilities present, etc.

4.4 Adopt a regional Vision Zero program, by working with peer programs such as the DRCOG vision zero effort.

Strategies:

- 4.4.1 Establish contact with a representative from the DRCOG Vision Zero program and hold a teleconference to gain high-level insight into the process of starting a regional safety program.
- 4.4.2 Invite members of stakeholder committee formed through Safety Policy 4.2 to participate in regional Vision Zero effort.
- 4.4.3 Select a target date for beginning Vision Zero program.

- 4.4.4 Draft a Vision Zero policy and bring policy forward to the elected boards and councils of member municipalities and Mesa County for adoption.

4.5 Encourage active modes of transportation by using national best practices and safety standards for bicycle and pedestrian infrastructure improvements.

Strategies:

- 4.5.1 Invite a national expert on Complete Streets to meet with regional safety stakeholder group (established through Safety Policy 4.2).
- 4.5.2 Develop regional design guidelines for active transportation infrastructure that are context-sensitive to the unique nature of Grand Valley and in-line with Level of Traffic Stress methodologies to ensure facilities are low-stress.
- 4.5.3 Recruit a regional champion for active transportation facility design who evaluates new bicycle and pedestrian infrastructure projects to ensure the designs incorporate best practices.
- 4.5.4 Develop a public awareness program on areas of the Grand Valley that currently support safe travel on active modes through quality infrastructure.

5 Freight

Goal: Provide a transportation system, operating parameters, and policy-framework that support the safe, efficient, and reliable movement of goods within, to and from Grand Valley; and, identify programs and strategies to support the economic viability of freight-dependent industries in the region.

Freight Policies

- 5.1 Safety: Identify safety “hot spots” and other areas of concern along truck routes and truck-serving corridors and develop solutions to address them.*

Strategies:

- 5.1.1 *Review existing crash data and coordinate with communities to identify areas of concern. Identify projects (physical and/or operational improvements) to address concerns.*
- 5.1.2 *Coordinate with local agencies and/or CDOT to prioritize, program and implement improvements.*
- 5.1.3 *Ensure that truck routing is considered when new land development projects are being planned.*
- 5.1.4 *Develop complete street standards for truck routes and carefully consider design elements that safeguard against conflicts between trucks and non-motorized traffic.*
- 5.1.5 *Coordinate with local agencies to ensure major at-grade crossings are adequately protected to prevent vehicular and non-motorized collisions; consider signal coordination options to mitigate at-grade crossing delays to local traffic.*



5.2 Reliability: *Create a freight network that supports the timely delivery of goods.*

Strategies:

- 5.2.1 *Identify high-frequency crash locations that often result in delays due to non-recurrent congestion.*
- 5.2.2 *Review process for closing roads and identify opportunities to reduce truck queues and alleviate other concerns (this could be converted to a policy, such as creating downstream closures based on a set number of trucks that can queue upstream; downstream closure when upstream hits a certain number of queued trucks.).*
- 5.2.3 Coordinate with local agencies or other responsible entities to coordinate traffic signals and gate down times at at-grade crossings to reduce delays to trucks and other local traffic.
- 5.2.4 Consider current or future resource extraction activities occurring on federal lands and ensure that the federal, state, and local routes used are made eligible to compete for freight dedicated funding.

5.3 Accessibility: *Identify opportunities for improving connections to the rail yards, major urban centers (Denver and Salt Lake City), other states, and seaports to ensure the timely and efficient movement of inputs to production, exports, and imported consumer goods.*

Strategies:

- 5.3.1 Maintain a truck routing plan with designated truck routes to provide commercial access and minimize truck travel through residential neighborhoods.
- 5.3.2 Strengthen wayfinding for truck operators on freight corridors by improving signage, applying real time information, and addressing other navigational challenges.
- 5.3.3 Study the effects on local roads and neighborhoods from home deliveries by major shippers of consumer goods.

5.4 Economic Viability/Competitiveness: *Identify programs, incentives, and opportunities to support existing freight-dependent/freight-related industries and encourage the development of new target industries to the region.*

Strategies:

- 5.4.1 *Improve equipment access; investigate the potential for an inland cargo depot.*
- 5.4.2 Investigate options that improve access to trucking and rail, such as coordination with the Utah Inland Port (easier to find truck drivers willing to haul to/from Salt Lake than from Denver due to navigability of highways).
- 5.4.3 *Identify opportunities to expand workforce development for the regional freight industry by working with the local chambers of commerce; identify barriers to implementation and strategies to remove barriers.*
- 5.4.4 *Investigate growth in air cargo at the Grand Junction Regional Airport and identify future access improvement needs.*

6 Funding

Goal: Leverage all available resources and prioritize projects to fulfill the transportation vision for the Grand Valley.

Funding Policies

6.1 Continue with implementation of a regional Transportation Impact Fee (TIF) to be applied to new development across the Grand Valley and used to fund transportation infrastructure.

Strategies:

- 6.1.1 Periodically update the TIF study to determine appropriate regional impact fee amount.*
- 6.1.2 Assess projected revenue from proposed regional impact fee.*
- 6.1.3 Assess types of infrastructure that would be made possible through impact fee revenue.*
- 6.1.4 Present fee proposals and anticipated benefits to elected boards and councils of member jurisdictions.*

6.2 Strengthen inter-community and stakeholder partnerships to pursue grant and other non-traditional funding sources that would benefit regional mobility.

Strategies:

- 6.2.1 Identify representatives from local agencies to form regional funding committee.*
- 6.2.2 Work with FLMAs to identify and pursue funds leveraging opportunities with the FLTP and FLAP.*
- 6.2.3 Form list of projects from 2045 RTP that would require additional funding beyond what is programmed in a CIP.*
- 6.2.4 Develop inventory of potential funding sources that includes grant applications, due dates, required information, etc.*
- 6.2.5 Solicit assurance for letters of recommendation from regional partners.*
- 6.2.6 If needed, pool resources to contract with a grant writer for assistance with funding pursuits.*

6.3 Where possible, identify opportunities to re-program and leverage capital funding for roadway expansion and repaving to implement active transportation infrastructure.

Strategies:

- 6.3.1 Review all relevant CIPs and compare project lists with current and projected vehicle/capacity ratios.*
- 6.3.2 Identify areas with roadway expansions planned but with sufficient capacity for projected vehicle demand.*
- 6.3.3 Cross reference roadway expansion projects with proposed active transportation projects to determine where conflicts exist.*
- 6.3.4 Compare the repaving schedule to active transportation project recommendations in order to identify opportunities for “quick win” restriping as a part of repaving projects.*



6.4 Balance construction of new infrastructure with maintaining existing roadways and investing in operational improvements in order to minimize need for replacement and rehabilitation.

Strategies:

- 6.4.1 Identify areas where the existing roadway network is underperforming through evaluation of access points, traffic signals, areas of increased congestion, etc.
- 6.4.2 Determine whether the benefits of planned roadway widening projects can be realized through alternative measures (e.g. traffic signal re-timing, access control along the corridor).

6.5 Develop an online dashboard that tracks spending and funding sources for implementation of the 2045 RTP to help promote transparency.

Strategies:

- 6.5.1 Develop a single database that tracks funding and spending on 2045 RTP projects.
- 6.5.2 In collaboration with the Mesa County Information Technology office, develop a web-based dashboard that automatically populates with cost-tracking database on a monthly basis.
- 6.5.3 Host the dashboard on the Mesa County website.
- 6.5.4 Promote the dashboard as a transparency resource by advertising web address on County social media platforms.

6.6 Consider a range of different funding sources and leveraging opportunities including proactively pursuing grants and state and federal funding available through the GVMPO, Colorado Department of Transportation (CDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), and by exploring collaborations like Public-Private Partnerships.

Strategies:

- 6.6.1 Identify private partners in Grand Valley that have an interest in promoting better transportation infrastructure.
- 6.6.2 Invite private partners to join a regional funding committee (formed through Funding Policy 6.2).
- 6.6.3 Research funding opportunities that peer jurisdictions have previously leveraged or pursued.

7 Maintenance

Goal: Bring roadways, sidewalks, and multiuse paths to a state of good repair.

Maintenance Policies

7.1 Develop a regional roadway maintenance tracking process that tracks data from each agency responsible for roadway maintenance within the Grand Valley.

Strategies:

- 7.1.1 Invite all regional roadway maintenance stakeholders to submit information on planned roadway maintenance projects and progress.
- 7.1.2 In collaboration with the Mesa County Information Technology office, develop a tracking tool that compiles all submitted maintenance projects.
- 7.1.3 Develop a yearly report showing progress on completing maintenance projects.
- 7.1.4 If needed, develop a collaborative cost-sharing program for fixing roadway repairs across jurisdictions.

7.2 Develop a sidewalk maintenance inventory that catalogs all sidewalks with major cracks or other impediments.

Strategies:

- 7.2.1 Building on the 2016 Mesa County Safe Routes to School Audit, identify a working group to conduct an updated audit of sidewalk presence and quality throughout the Grand Valley.
- 7.2.2 Determine whether existing sidewalk cracks are identified to be repaired.
- 7.2.3 Form a high priority list of sidewalk cracks that are not currently scheduled to be repaired.

7.3 Maintain striping for bicycle lanes and crosswalks at a high level of visibility.

Strategies:

- 7.3.1 In collaboration with the Mesa County Bicycling Alliance, and other groups involved in active transportation, conduct an audit of existing bicycle and pedestrian facilities to determine where re-striping is needed.
- 7.3.2 Develop a prioritized list of re-striping projects.
- 7.3.3 Work with appropriate agencies to carry out the identified projects.

8 Health

Goal: Support the physical, social and mental health of those traveling in the Grand Valley by investing in a connected, safe, equitable, and accessible multimodal transportation network.

Health Policies

8.1 Include access to healthcare providers as a prioritization criterion when determining areas for Grand Valley Transit (GVT) service enhancements.

Strategies:

- 8.1.1 Develop a map of all healthcare providers in Grand Valley.
- 8.1.2 Determine where healthcare facilities coincide with GVT service area.
- 8.1.3 Develop list of healthcare facilities that are not currently served by GVT but are within a mile of the current service area.



8.2 Develop a public outreach campaign that highlights the health benefits of active transportation.

Strategies:

- 8.2.1 Identify partners from local public health agencies and community health organizations that can collaborate to form the outreach campaign.
- 8.2.2 Develop outreach materials to include flyers, posters, and social media promotions, as well as a website.
- 8.2.3 Identify areas with both poor health outcomes and low rates of active transportation use.
- 8.2.4 Disseminate outreach materials throughout Grand Valley, with a particular focus on the high-priority communities.

8.3 Ensure communities with poor health indicators are prioritized for enhancements of the active transportation network.

Strategies:

- 8.3.1 Develop a list of health indicators to be used during project prioritization.
- 8.3.2 Collaborate with local implementing agencies to ensure standardized list of health indicators is used when determining project priorities.

8.4 Develop transportation demand management programs that promote healthy transportation options.

Strategies:

- 8.4.1 Identify major employers in the Grand Valley.
- 8.4.2 Collaborate with major employers to introduce programs for shifting driving commutes onto alternative modes.
- 8.4.3 Establish partnerships between major employers and GVT to provide transit passes.
- 8.4.4 Educate the public about online trip planning resources to help Grand Valley residents and visitors learn about opportunities to reach major destinations without a vehicle.
- 8.4.5 Educate employers about the benefits of providing adequate, safe, accessible bicycle parking.

Each annual update to the UPWP will include an implementation update to the policies and strategies to include which are currently being pursued along with key results.

Chapter 3 - Public Engagement

The Grand Valley Regional Transportation Plan (RTP) included an extensive outreach process that reached a large number of residents, employees, and visitors from a diverse cross section of the region. The input sought from the public was transparent, quantifiable, and meaningful. By meeting these characteristics, input could be incorporated into the plan that represented the priorities of community members and data was tracked in a transparent way. Outreach was done in two phases throughout the nearly year-long RTP process:

Phase I (Summer 2019)- The project team presented the existing conditions and asked the community about current challenges and opportunities for traveling within and through the Grand Valley.

Phase II (Fall 2019)- The project team presented draft recommendations for feedback and asked the community about priorities within and between roadway, biking, walking, transit and freight projects.

In order collect input from the most diverse set of stakeholders possible, the RTP project team conducted public outreach through several different methods. Input was received from over 450 respondents through an online survey, focus groups and workshops and the project team spoke with over 288 people in intercept events. Social Media was also largely used to inform the community of the plan and how they could be involved. Overall, this planning effort included almost 10,000 points of contact. **Figure 3.1** breaks down the number of people reached through each outreach method.



Figure 3.1: Breakdown of Public Outreach Mediums



The first phase of outreach for the Grand Valley Regional Transportation Plan consisted of gathering input from community members and stakeholders on a number of topics including:

- A vision for the future of Transportation in the Grand Valley
- Existing conditions
- Specific locations that are challenging for people walking, biking, driving, and taking transit
- Safety and maintenance concerns
- Preferred infrastructure and services to accommodate biking, walking, driving, and transit

The second phase of outreach consisted of the following components:

- A summary of the outreach results from Phase I
- Draft vision, goals, and strategies
- Drafts recommendations for transit service and freight, for feedback by attendees
- A map and list of the draft recommendations for roadways and active transportation, for feedback by attendees
- A list of the performance measures that were used to inform prioritization

Outreach Mediums

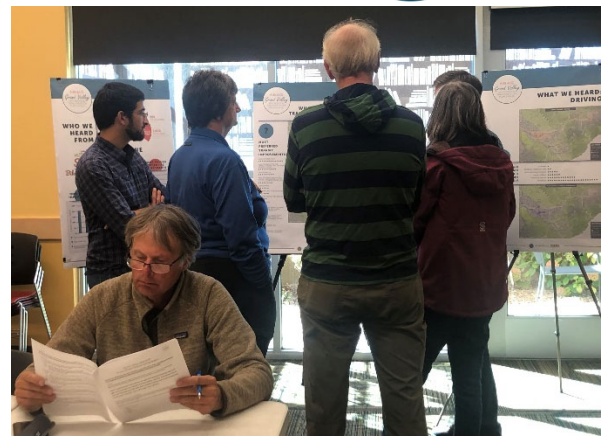
Public outreach efforts reached community members through a number of different mediums, described in this section:

- **Focused Workshops:** Three workshops were held in September and were open to the public. The workshops included interactive voting and mapping activities and participants were given the opportunity to provide more general feedback through comment cards.

Workshop dates and locations during Phase I were:

- Monday, 9/9: 5:30 – 7:00 pm at The Factory
- Tuesday, 9/10: 12:00 – 1:30 pm at the Mesa County Central Library
- Tuesday, 9/10: 4:30 – 6:00 pm at the Clifton Community Hall

For Phase II, an open house was held on the afternoon of October 28, 2019 at the Mesa County Central Library. This open house also included interactive voting and mark-ups to provide input.



- **Intercept Events:** In an effort to reach people where they already are, the project team set up interactive stations at four popular community events and four community gathering places, as follows. The project team gathered feedback from community members at these events, in a way that is parallel to the information gathered on the survey and focused workshops.
 - Palisade Peach Festival
 - Grand Junction Farmers Market
 - Fruita Farmers Market
 - Grand Junction Rockies Baseball Game
 - Collbran Town Hall
 - Harvest House Community Kitchen
 - Plateau Valley School
 - Child & Migrant Services- Palisade





- **Focus Group:** In order to specifically address the unique needs of freight in Grand Valley, a focus group was held with Grand Valley freight industry and agency representatives on September 26.
- **Online Survey:** A survey was made available online. The survey was available in both English and Spanish and included survey questions in addition to an interactive map for users to provide

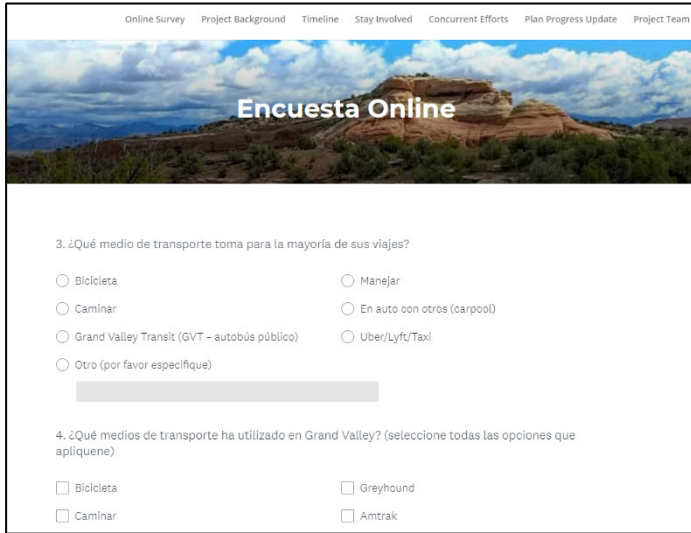


Figure 3.3: Snapshot of the online survey (Spanish version)

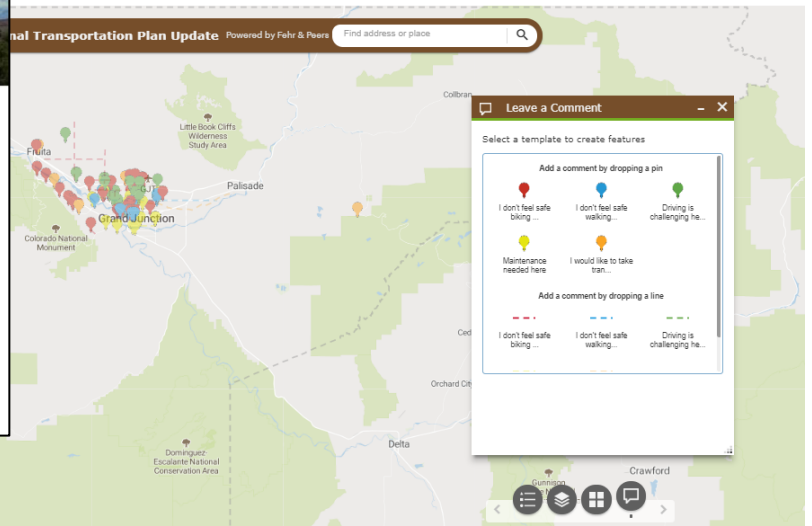


Figure 3.2: Snapshot of the online survey's interactive map

geospatial feedback. The survey was open from August 13 to September 23, receiving 359 responses, 11 of which were to the Spanish language version. It was advertised to community members through a number of mediums including social media, email listservs, community groups. The results from the survey are shown in **Appendix C**.

- **Social Media:** Outreach was conducted primarily through both Instagram and Facebook. This included posts informing the public about the Regional Transportation Plan process, advertising outreach events, and encouraging people to take the online survey.



Figure 3.4: A Mesa County News Facebook post

Summary of Public Responses

Once the information gathered through all of the various outreach efforts was combined, recurring themes emerged. A brief summary of these themes is provided in this section.

Regional Vision

Participants in the various outreach efforts were asked to write words describing their vision of transportation in the Grand Valley in 2045. These responses, along with the other public input, helped the project team develop the vision and goals described in Chapter 2 of the RTP. The most common responses from this exercise related to safety and multi-modal connectivity. **Figure 3.5** summarizes the input from this visioning exercise in a word cloud.



Figure 3.5: Regional Vision Word Cloud

Infrastructure and Funding Priorities

Respondents to the online survey were asked to prioritize the types of investments they would like to see to Grand Valley’s transportation system and their preference for how those projects get funded.

Figure 3.6 and **Figure 3.7** show that safety and maintenance investments were most valued by survey respondents and fees on new development was the most preferred funding source.

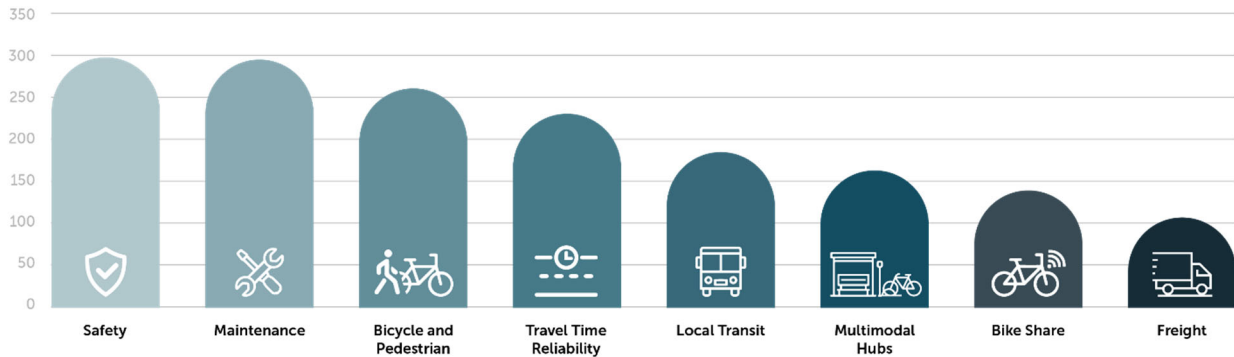


Figure 3.6: Online Survey Results: Highest Valued Goals for Potential Investments

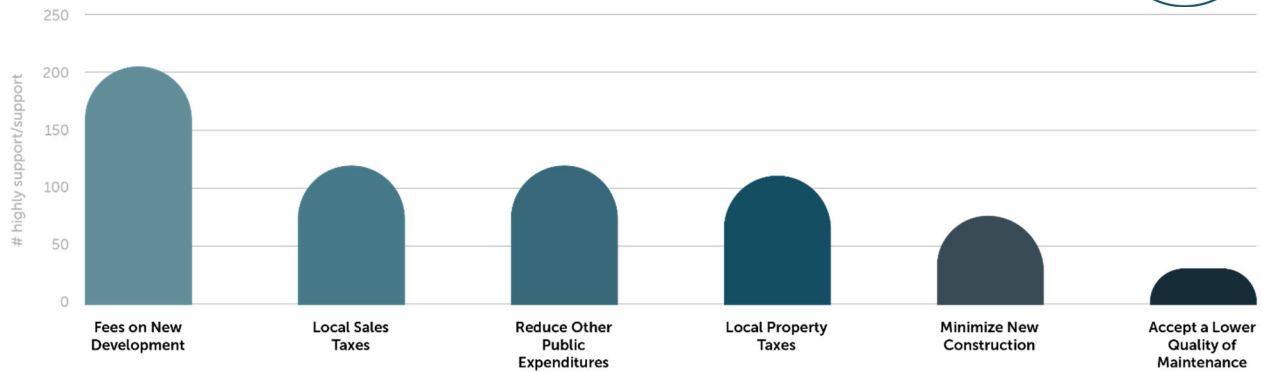


Figure 3.7: Online Survey Results: Preferences for Funding Sources

Public Input by Mode

Participants across the different outreach mediums were asked to identify challenges to transportation in the Grand Valley across different modes and to identify where these challenges occur on a map. The following subsections show where in Grand Valley challenges were identified and high-level takeaways from this input.

Active transportation

Figure 3.8 shows where outreach participants identified not feeling safe walking or biking in the Grand Valley. The greatest densities of challenges identified are within denser areas including the municipalities of Fruita, Grand Junction, Palisade, and Collbran.

From the online survey, 28% of respondents identified locations with nonexistent or insufficient sidewalks as major challenges to walking and 21% of respondents identified insufficient multi-use trails or protected bike lanes as major challenges to biking.

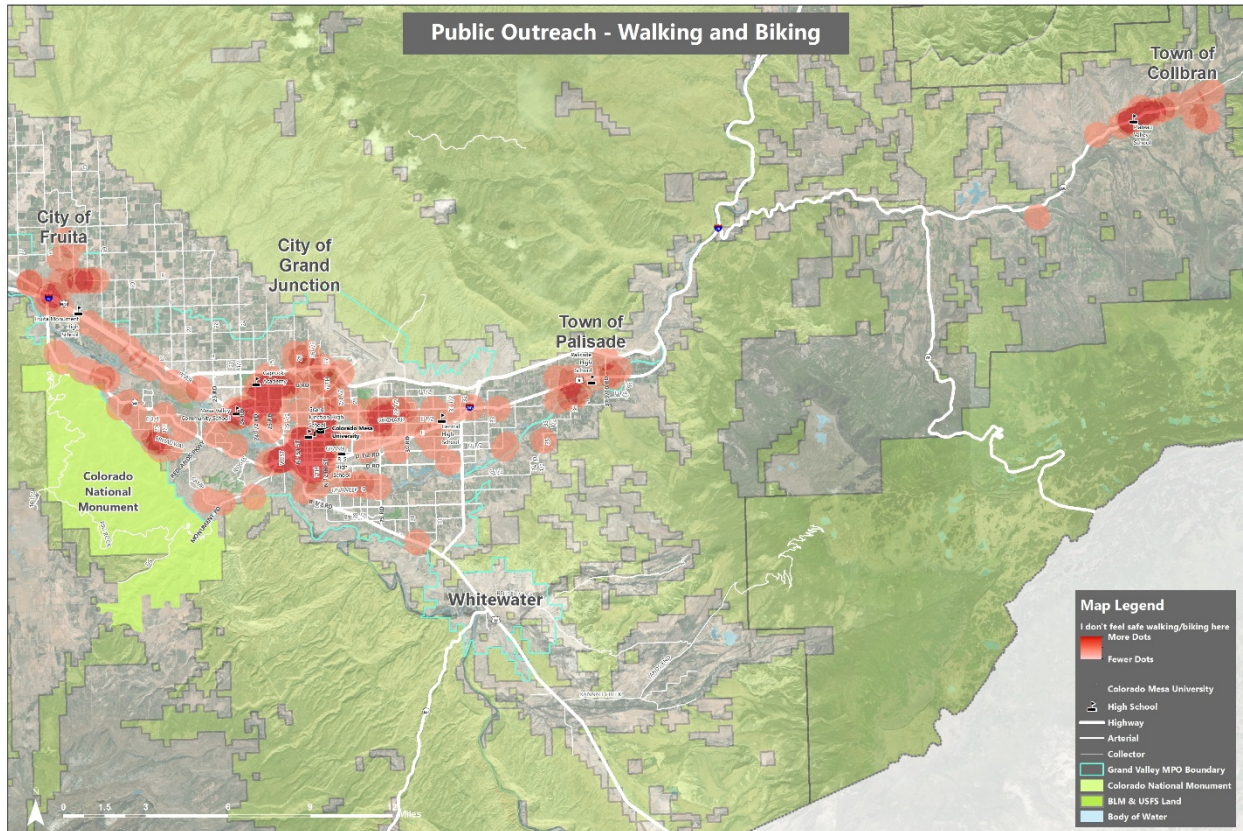


Figure 3.8: Map of Public Input - Challenges to Walking and Biking

Transit

Figure 3.9 shows participant responses to where they currently take transit (blue) and where they would like to take transit (pink). The map shows that respondents currently take transit around Grand Junction, but there is a desire for transit connectivity to more areas of Grand Junction, along Broadway (CO-340) and to/from Fruita. Frequency was cited often in public responses as a major challenge to taking transit. In the online survey 35% of respondents indicated that the bus does not come frequently enough.

Figure 3.10 shows the freight recommendations that were identified by attendees of the open house to be the highest priority. The most important strategy identified was to identify dedicated funding for transit in order to expand services and amenities. Implementing first-last mile infrastructure amenities as well as mobility hubs to connect all modes, were identified as other top recommendations.

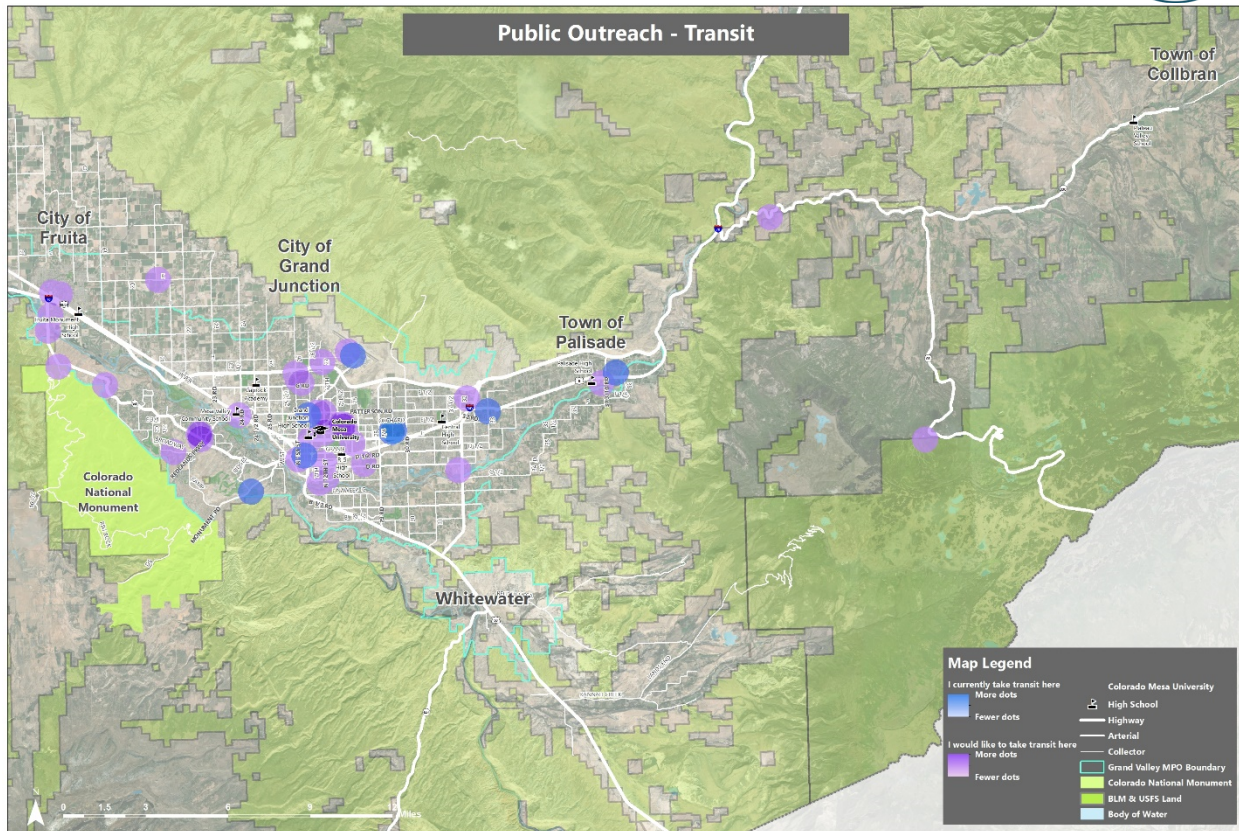


Figure 3.9: Map of Public Input - Current and Desired Transit Destinations

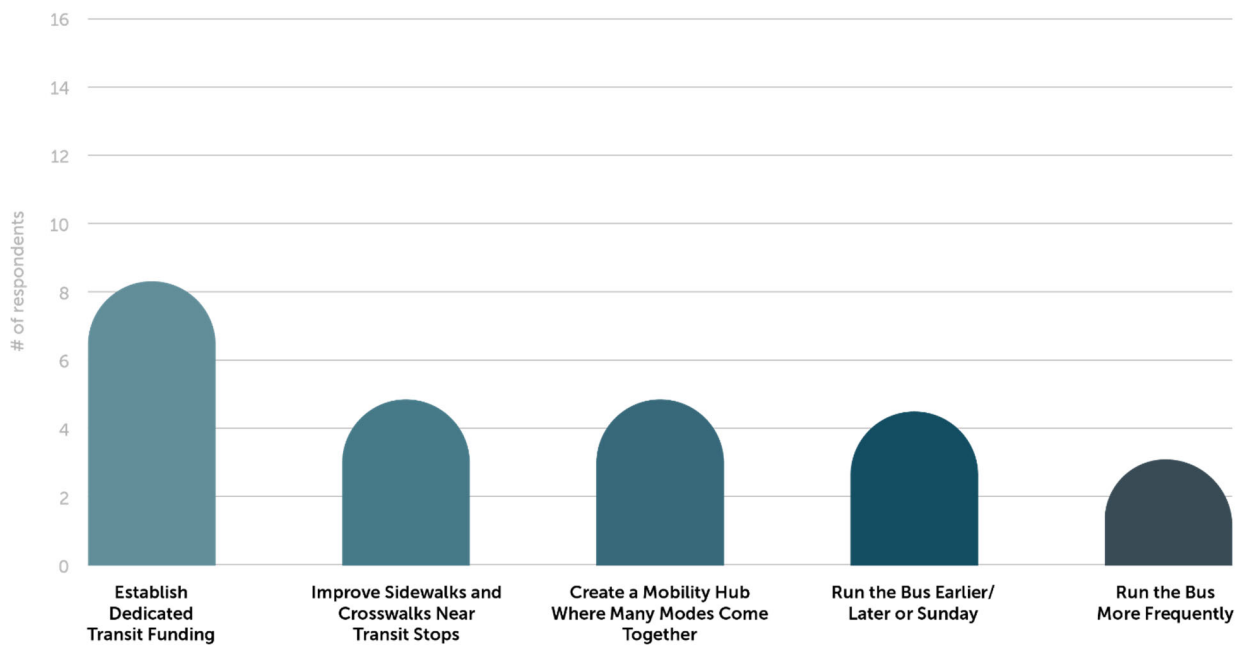


Figure 3.10: High priority transit recommendations, as identified by the community

Driving

Figure 3.11 displays where the public identified areas that are frequently congested or pose other challenges to driving. The I-70 corridor and CO-65/CO-330 between I-70 and Collbran stand out as the most frequently identified areas presenting challenges to driving.

When asked to identify the biggest challenges to driving in the Grand Valley, 30% of respondents chose traffic volumes and 15% of respondents chose speeding.

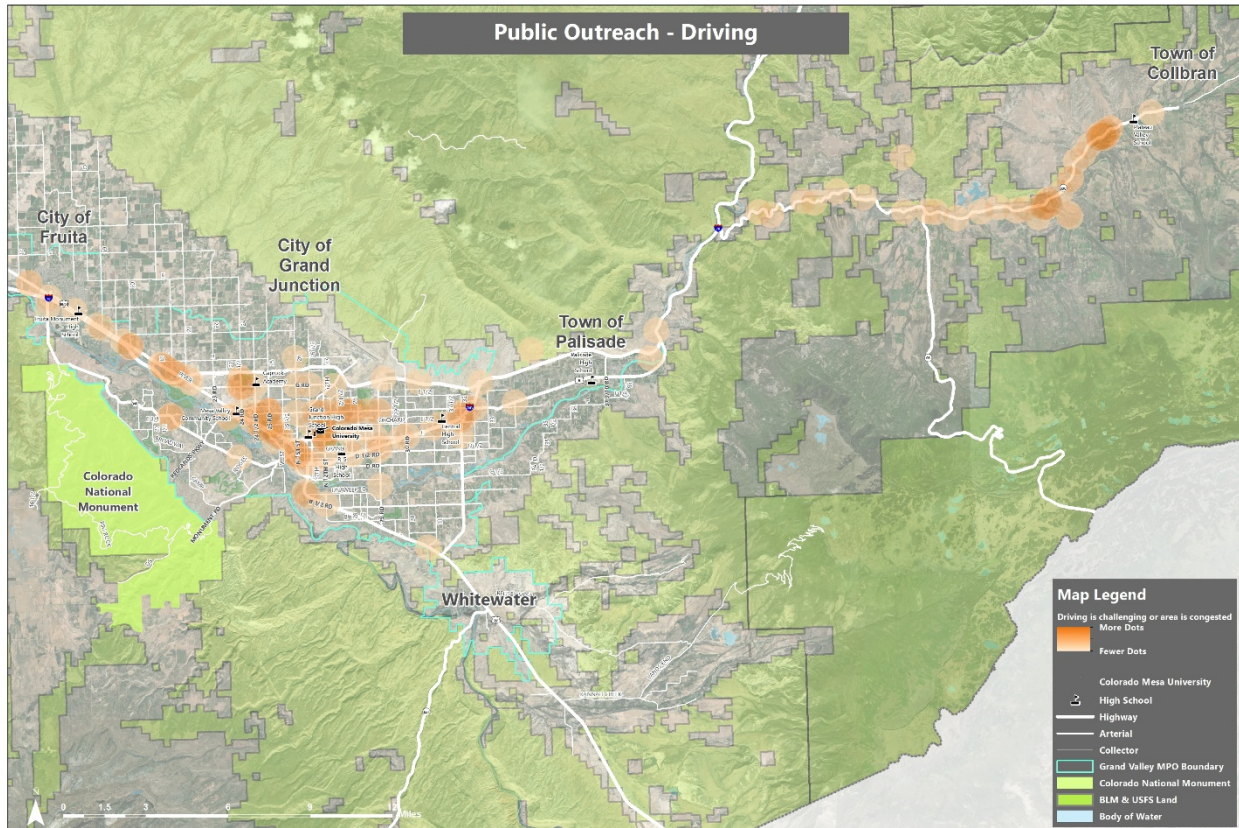


Figure 3.11: Map of Public Input - Challenges to Driving or Congested Areas

Safety & Maintenance

Figure 3.12 shows the locations where respondents identified having safety or maintenance challenges. Participants at the focused workshops were asked to select what they see as the most important maintenance challenge. The top two maintenance challenges were road maintenance and sidewalk cracks, with 23 people identifying road maintenance and 13 identifying sidewalk cracks.

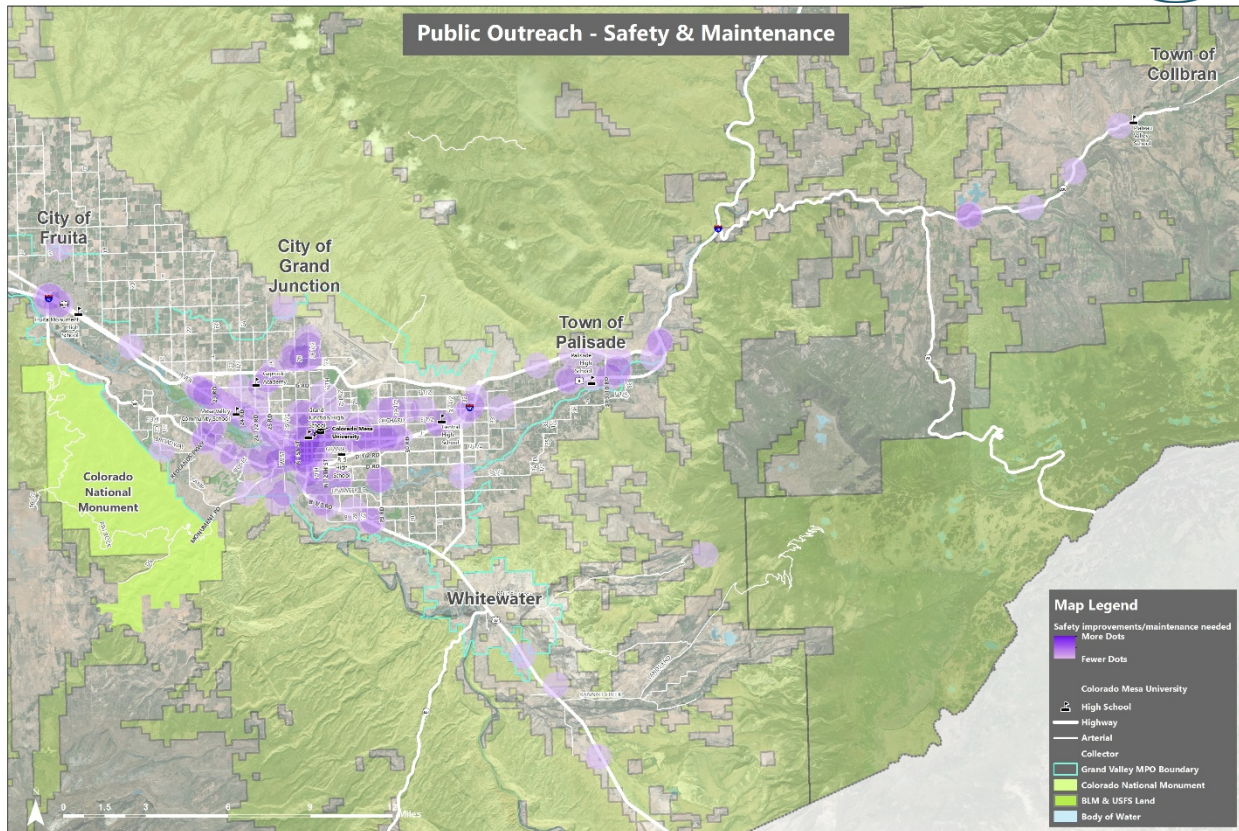


Figure 3.12: Map of Public Input - Safety and Maintenance Improvements Needed

Freight

Figure 3.13 shows the freight recommendations that were identified by attendees of the open house in October to be the highest priority. The most important strategy identified was to develop complete street standards for truck routes and carefully consider design elements that safeguard against conflicts between trucks and non-motorized traffic. Second was investigate the potential for an inland cargo depot to improve container access and intermodal transfers.

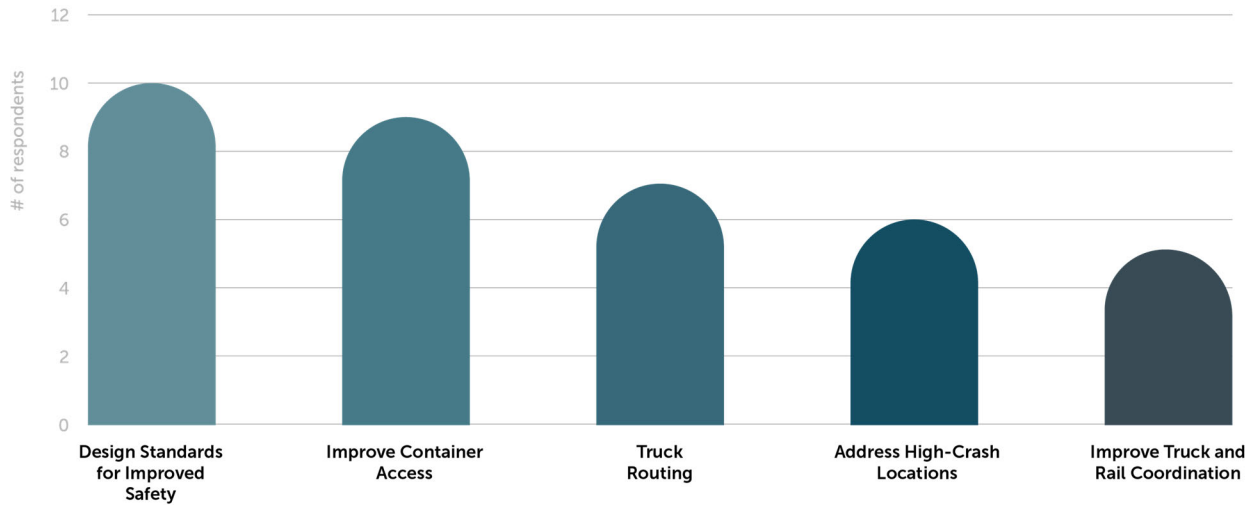


Figure 3.13: High priority freight recommendations, as identified by the community

Incorporation of Public Input

The data and preferences collected from the public was an important component in shaping and refining the set of recommendations for all modes—roadways, active transportation, transit and freight. The initial input from Phase I informed the draft project lists. The second set of input in Phase II honed the project lists to better reflect the needs in the community to improve connectivity, safety and mobility for all travelers.

Chapter 4 - Growth and Trends

Introduction

Changes in population, economic conditions, land uses and demographics are among the major drivers of transportation needs. More people and more jobs in the region may mean a greater need for commuter routes and transit options. Growth in the number of younger and older residents may mean a greater need for active transportation and transit choices. Faster growth in one area of the region may bring the need for upgrades to that community’s transportation network.

Mesa County has seen steady overall growth in population and employment for decades and these trends are expected to continue in the mid-term. This chapter also discusses the implications of this growth on the transportation network and describes new technologies that could help mitigate any negative consequences of growth on the transportation network.

Population Trends

Mesa County is Colorado’s 11th most populous county, with a 2017 population estimated at 151,900 (**Figure 4.1**). It is also one of the eleven Colorado Counties with a population exceeding 100,000 persons. The region is characterized by boom and bust cycles with periods of very fast population growth (1970-1980) but nearly flat growth in the past decade. Compared to the Colorado average, Mesa County grew much faster than the state between 2000 and 2010. From 2000, the region has welcomed over 35,000 new residents.

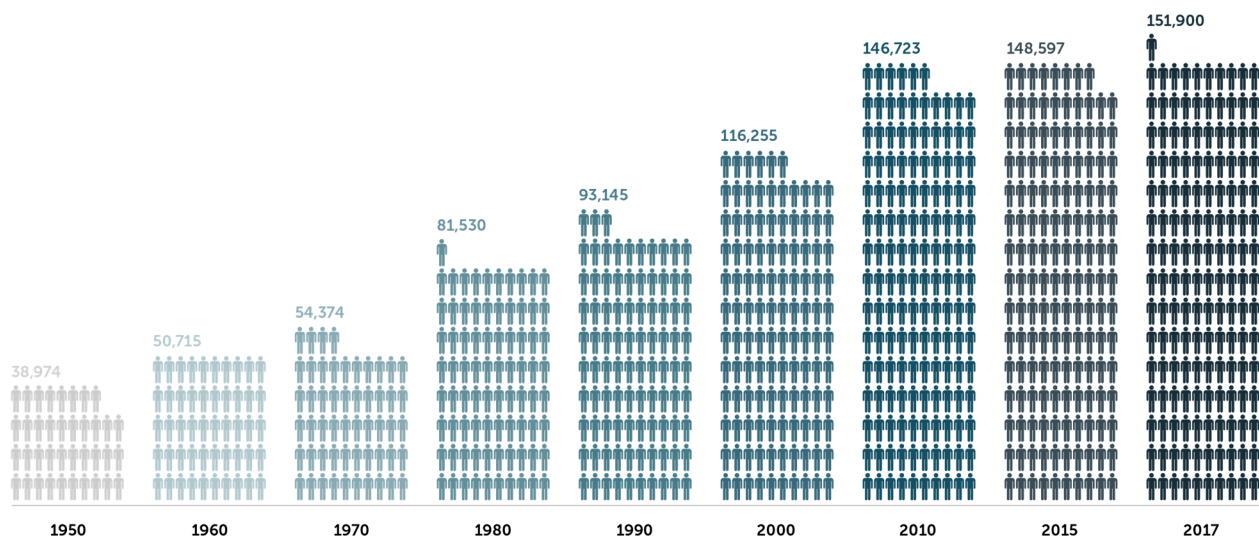


Figure 4.1: Mesa County Population Change, 1950-2017

The majority of that growth has been a result of net new migration from residents moving into the region. Between 2000 and 2010, Mesa County attracted over 2,000 more new residents per year moving in than it lost from residents moving out. New residents predominately relocated from counties in the Southwest and Mountain West U.S. and other parts of Colorado. Mesa County attracts new residents



from all over the nation reflecting the region’s quality of life, economic competitiveness and recreational opportunities. However, population change has slowed significantly from 20 years ago (**Figure 4.2**).

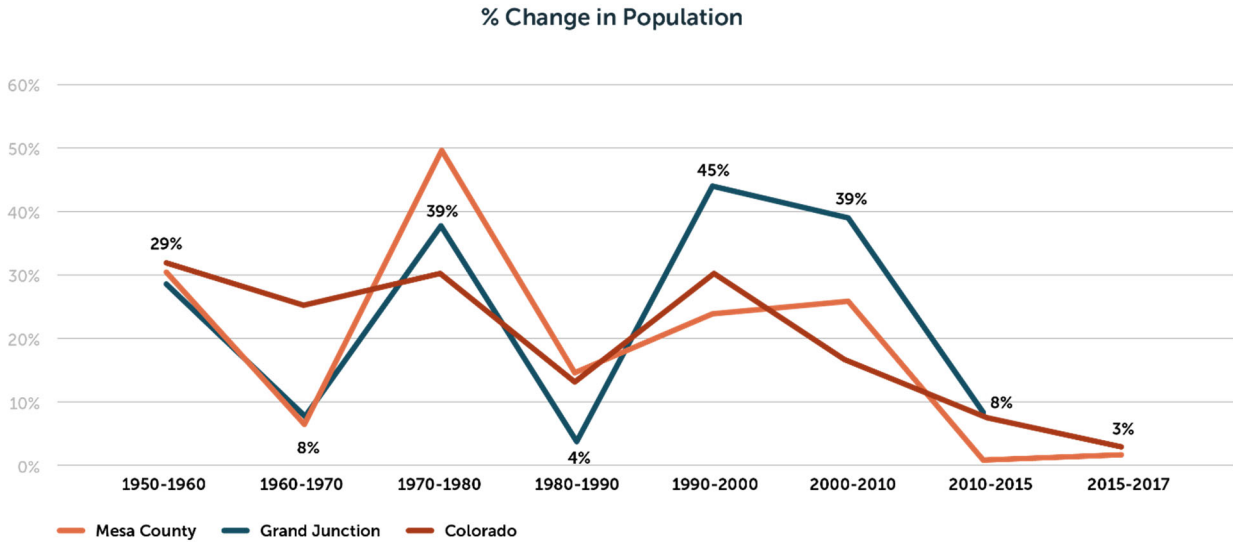


Figure 4.2: Rate of Population Change

New residents to the region were likely to settle in established cities and towns. Over the past decade, the cities of Fruita and Grand Junction have grown most rapidly. Mesa County’s unincorporated population remained the largest in the county with 71,100 residents as of 2012. With over 65,000 residents in 2017, Grand Junction represents over 40 percent of the region’s population. **Figure 4.3** highlights population trends from 1990 to 2017 within Mesa County’s major municipalities while **Figure 4.4** shows how residents of the unincorporated Mesa County communities continue to make up the largest share of the population.

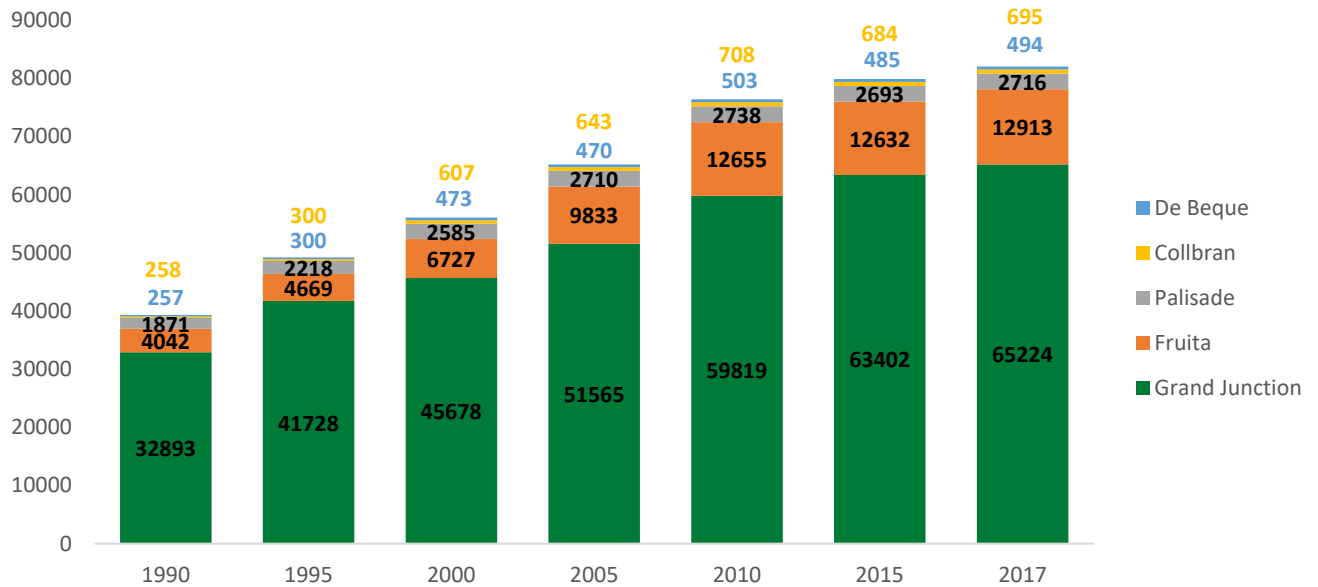


Figure 4.3: Population Change by Municipality, 1990-2017

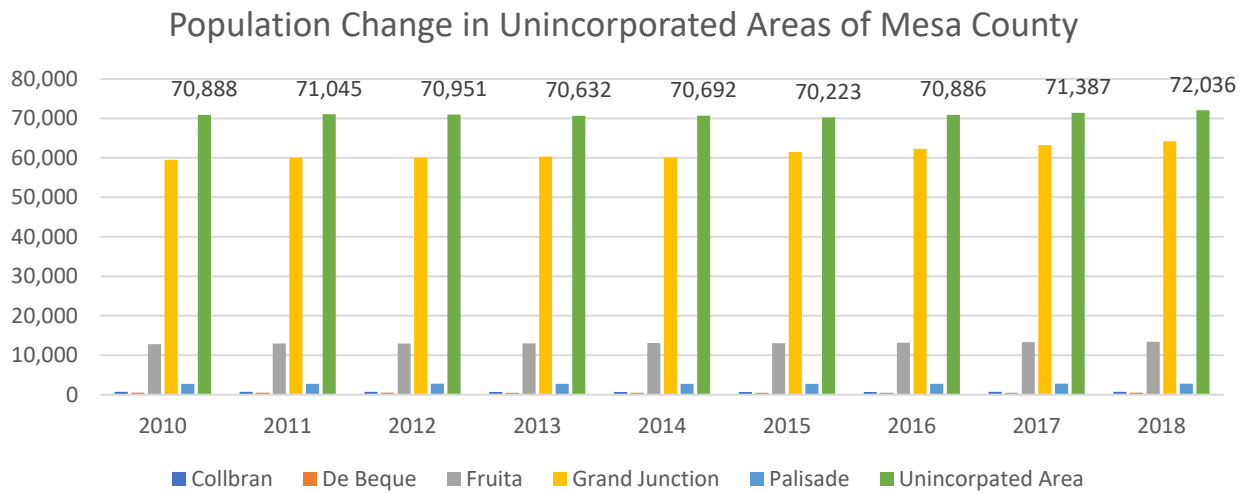


Figure 4.4: Population of Unincorporated Mesa County 2010 to 2018

Population Forecasts

The region’s population will climb from an estimated 154,615 in 2019, to 225,529 in 2045, and 234,747 by 2050. This equates to nearly 70,000 net new residents by 2045. Future growth is challenging to predict, particularly in the Grand Valley which is characterized by cycles of rapid growth followed by periods of slower growth. Mesa County’s population grew much faster than the state average between 2000 and 2010. However, beginning in 2010, the pace of regional population growth slowed substantially for several years. Growth is anticipated to resume at a higher rate after 2020 and the region is expected to again grow more quickly than the state average, but more slowly than the 2000-



2010 period. **Figure 4.5** displays projected population in Mesa County according to the Colorado State Demographer’s Office.

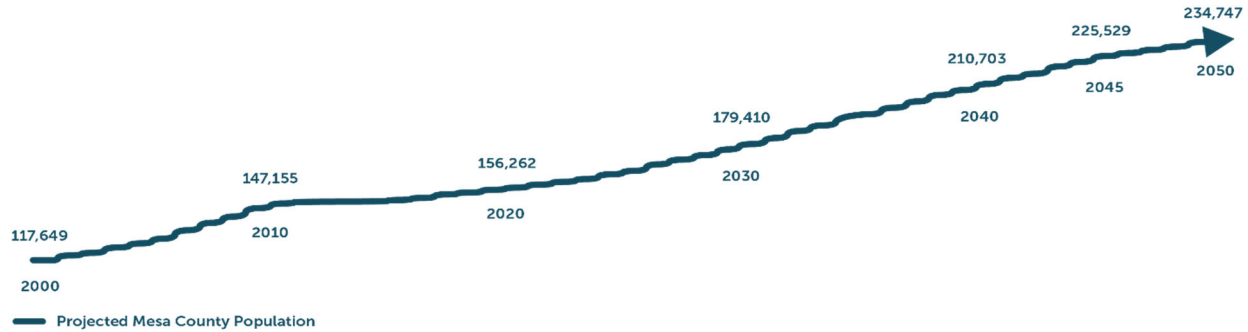


Figure 4.5: Forecast Population Growth, 2000-2050

Figure 4.5: Forecast Population Growth, 2000-2050

Population growth will impact future transportation needs. More residents will mean more daily commuters on the region’s roadways, buses and trails. More consumers will mean more truck traffic delivering goods and services. More traffic will increase the need for safety improvements at busy intersections and upgrades to major interchanges, as well as for shoulders, bike lanes and sidewalks along roadways and routes to school. More vehicle travel will also accelerate maintenance needs for the region’s roads and bridges, drainages and sidewalks. Another key determinant of future travel needs is also the age of residents. **Figure 4.6** shows the breakdown of Mesa County residents by age into 2050. The two age groups that will change the most are the 0-19 age group, which will become a lower share of the population, while the share of people 65 and over will grow to 25% of residents, up from 19% today.

Mesa County Population Share by Age

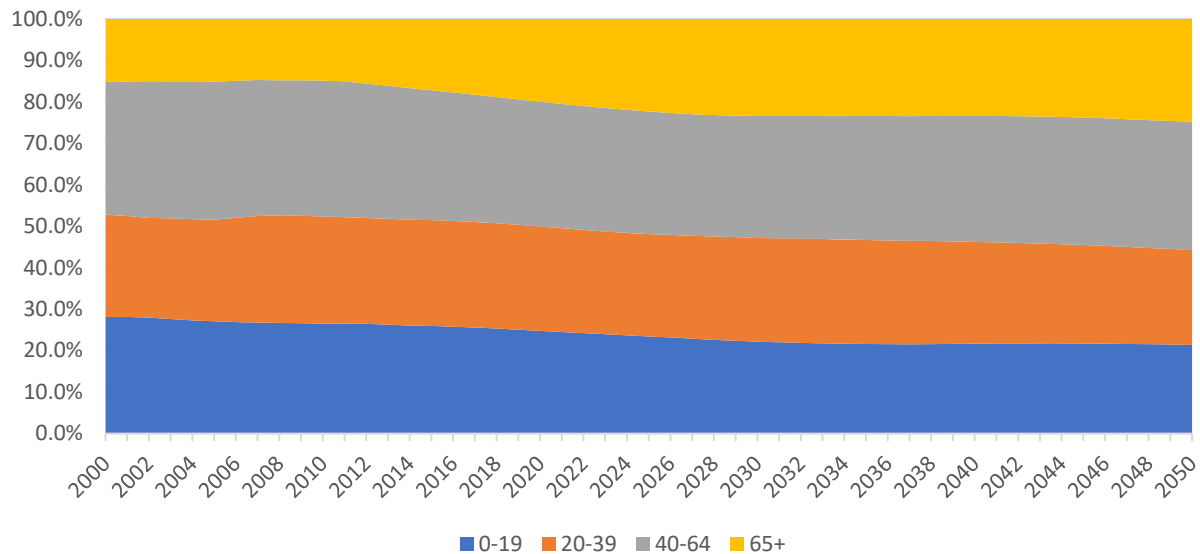


Figure 4.6: Share of Population by Age (2000 to 2050)

As the share of the traveling population ages, the region will see new demands on the transportation system – from larger signage, to more safety improvements, to additional transportation choices. Nearly 40 percent of total population change between now and 2050 is a result of residents 65 and older. As the region’s population continues to age, older adults will face increasing transportation challenges.

Population growth within the region may also be viewed in terms of the distribution of residents – or persons per square mile. All communities in Mesa County are expected to experience additional growth, development and build out to accommodate the anticipated 80,000 new residents by 2050. The majority of that growth is projected to occur in existing urban areas – particularly within Grand Junction, Fruita, Clifton and Palisade.

Unincorporated areas of the County, other municipalities such as DeBeque and Collbran and suburban areas such as the Redlands will continue to experience growth, but to a lesser extent and in less densely developed areas. Population growth in outlying areas will increase demand for the regional transportation system to connect communities and provide corridors for commuting and recreational travel. Growth in urban areas will increase demands for active transportation options, transit routes and road projects that improve safety and efficiency or reduce congestion.

Economic Trends

Mesa County’s economy is predominately based in service industries. Employment is concentrated in health care, retail, accommodation, education and public administration industries. This reflects the region’s status as the major health and educational center for Western Colorado and surrounding states, as a hub of shopping and services for the Western Slope and as Colorado’s western gateway and



destination for tourists and visitors. Natural resources, manufacturing, transportation and logistics and professional services are also important economic sectors in the region.

The Great Recession impacted the region particularly hard in 2009 and 2010. In 2010, the unemployment rate peaked at 10.2 percent and retail activity, home sales, construction permits and other indicators of regional economic activity all fell. The economic downturn significantly impacted county and local governments' ability to finance public services and invest in transportation and other public works projects. **Figure 4.7** shows the change in jobs from 1991 to present. While the recession caused a significant loss of jobs, the years since 2010 have seen job growth, with especially high rates of growth in 2017 and 2018.

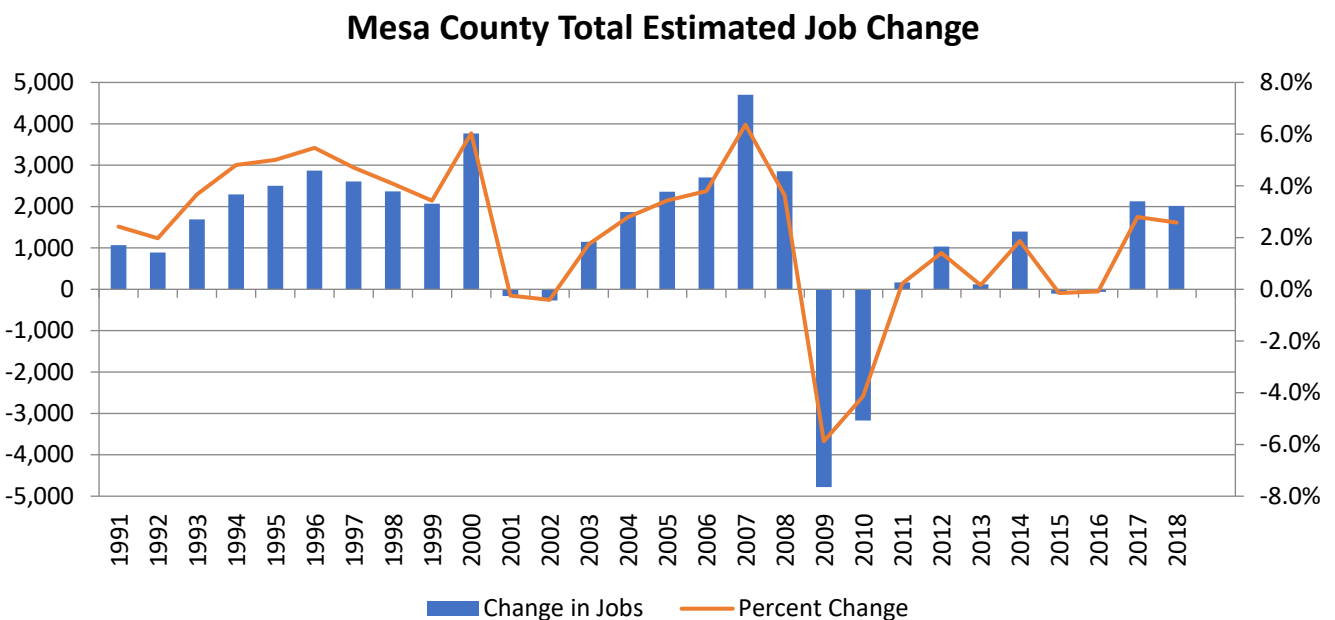


Figure 4.7: Change in Jobs, 1991 to 2018

Those industries leading the job recovery include healthcare, leisure and hospitality services, manufacturing and business services. Growth in accommodation, leisure and hospitality industry is driven by tourists and business visitors to the region and increased consumer spending. Manufacturing growth is strong on international sales and exports and the emergence of an outdoor products and services industry cluster in the region. Employment across all sectors has not quite returned to pre-recession levels but is trending towards a full recovery (**Figure 4.8**).

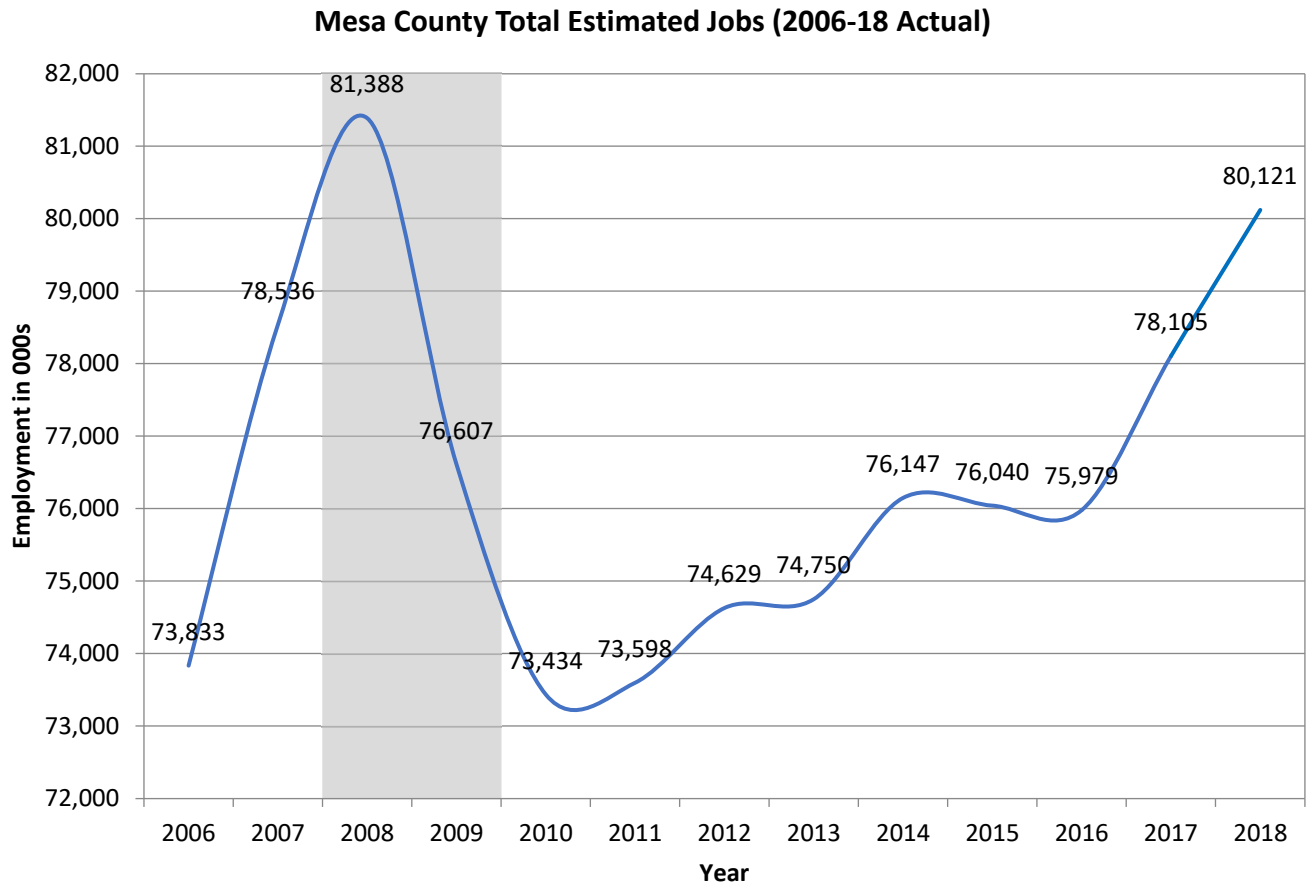


Figure 4.8: Total Mesa County Jobs, 2006 to 2018

The transportation demands of the region’s key industries vary. Industries with greater employment bases, such as healthcare, education and retail may demand more intensive commuting options (**Figure 4.9**). For example, Mesa County is home to a major university, hospitals and shopping centers that depend heavily on automobiles, transit and trails to get people to and from these employment centers. Industries that produce or move goods, such as logistics, natural resources, or manufacturing may have more intensive freight demands. **Figure 4.10** highlights the estimated relative transportation needs by mode of the region’s major industries.



Employment by Industry Group, 2018

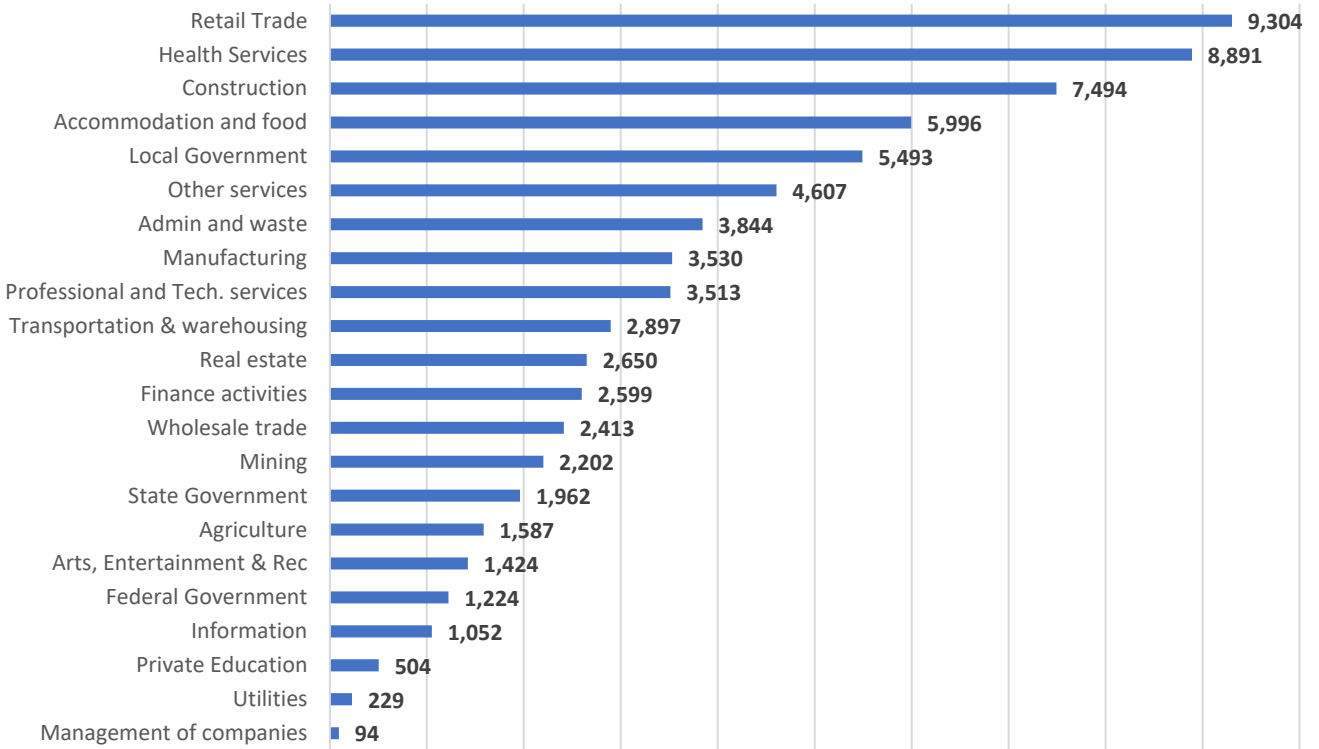


Figure 4.9: Mesa County Employment by Industry

Mesa County is home to several major manufacturers and energy producers and fruit growers that depend on air, rail and truck movements to ship components and final goods in and out. As a major employer, the tourism and hospitality industry is particularly dependent on an efficient regional transportation network. Tourism businesses depend on regional roadways and commute options to get workers to employment locations; rely on on-time truck and air cargo deliveries to stock consumer goods; count on passenger rail and air service to get visitors to the region; and, are increasingly dependent on regional recreational opportunities, cycling trails and cultural events to attract visitors. The regional economy is intertwined and interdependent with the regional transportation network and all modes of travel.

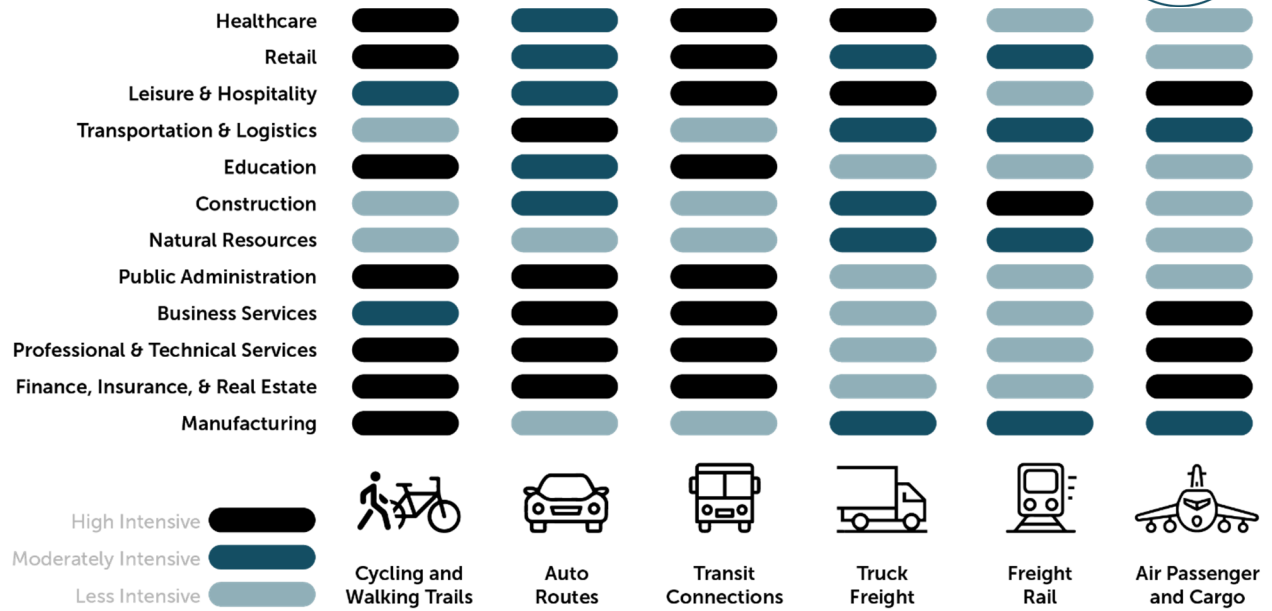


Figure 4.10: Transportation Demands by Industry

Figure 4.10: Transportation Demands by Industry

While employment is rising, wages are not witnessing the same increase. **Figure 4.11** shows the breakdown of wages by industry for Mesa County workers in 2018. Half of all County workers have low-wage jobs while 21% are in high-income roles. This has implications for travel patterns because higher income workers tend to make more discretionary trips and be less reliant on transit service.

Employment by Industry Group, 2018

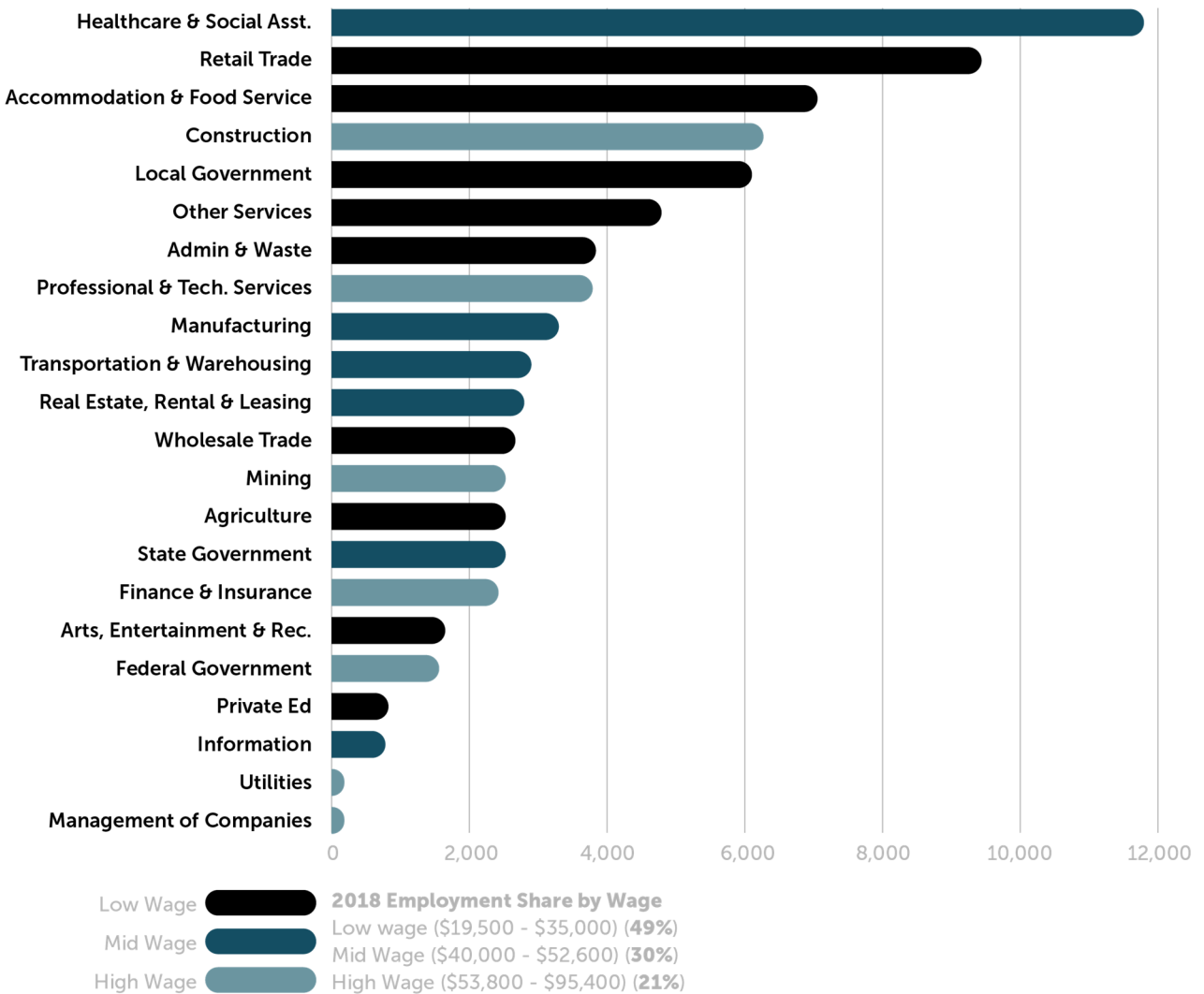


Figure 4.11: Mesa County Wages by Industry

Figure 4.11: Mesa County Wages by Industry

Economic Forecasts

The recent recession impacted the regional economy, yet historically the region has recovered from prior downturns and the boom and bust cycles of industry. **Figure 4.12** displays year over year percent change in the total number of jobs in the region. Average growth rates by decade reveal the pattern of fast growth followed periods of slower growth that tend to characterize the region. The economy in the Grand Valley is sensitive to national and state trends, natural resource prices, consumer spending and tourism and travel activity. If historical trends continue to hold true and the economy continues to rebound, the region could see improved rates of job creation and economic growth in the future.

Employment forecasts prepared by the Colorado State Demographer’s Office indicate that future job growth in Mesa County will largely be driven by expansion of the region’s current service industries, including healthcare, hospitality, education and retail. Growth in industrial and goods-producing jobs is also expected to remain strong and could rise significantly should manufacturing expand in the region. Jobs generated by older adults and retirees are also anticipated to see strong growth – almost doubling by 2040. These jobs are primarily related to increased demand for healthcare and professional services. Overall, the region could expect to see an additional 30,000 net new jobs in the region over the next 20 years.

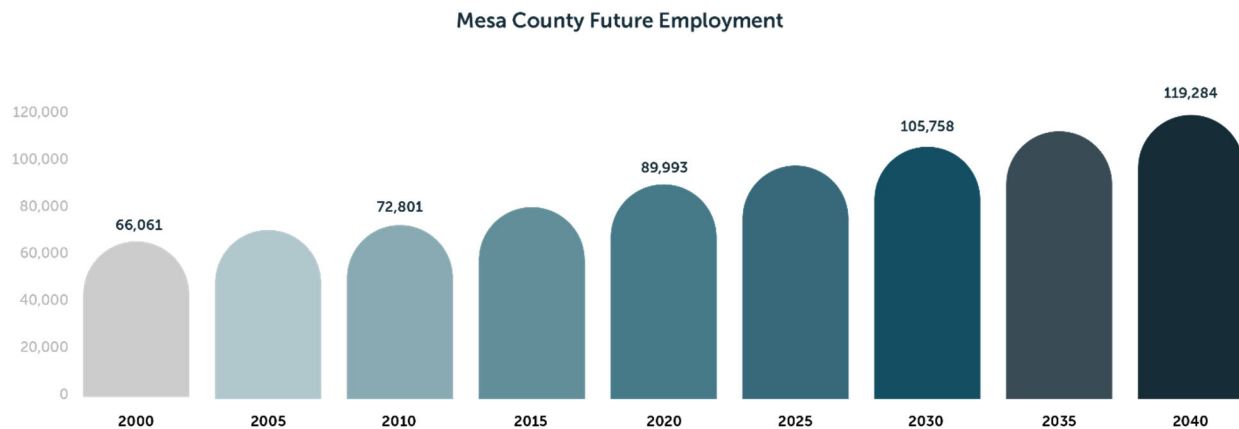


Figure 4.12: Future Employment Projections

Where those future jobs will be located in the region is a key determinant of future transportation needs. If the majority of future business and job growth occurs in existing downtown areas and around major regional employment centers, as current future land use plans for Mesa County’s communities show – then future transportation demands may be lessened. For example, the Grand Junction Comprehensive Plan identifies the need to channel growth inward, thereby preserving as much agricultural land as possible near the edge of the community and increasing density and intensity in core areas, such as the city’s central business district. These areas are well served by major roadways and freight connections, and to a lesser extent, transit routes and cycling and walking trails. These systems will have to be upgraded to maintain service levels, but the need for new infrastructure will be less than in undeveloped areas. Additional transit routes and improved non-motorized connections will still be needed. If new land is developed for industrial parks or commercial centers that are not currently well served by transportation connections then new infrastructure will be required. Areas with the most economic development potential in the region are already well-served with passenger and freight connections and employment centers are well-defined. Future job growth in the region is forecast to occur along existing commercial corridors.

Growth Implications for Transportation

Any planning document that looks out 20 years is visionary and uses the best available information and trends to predict future paths and trajectories for the region. The regional transportation plan is updated every five years to regularly present the most realistic vision of the future and to select the



most viable and cost effective transportation projects for completion. Determining priority projects is in part dependent on future growth projections and estimates of future demands on the transportation system – including congestion, safety and development patterns.

The 2035 Regional Transportation Plan was completed in 2011 at a time of great uncertainty. The full impacts of the Great Recession were not fully visible in the region and not reflected in best available data on population and economic growth rates. The population, economic and travel demand forecasts used at the time suggested that the region would continue to experience robust growth rates – leading to greater levels of future congestion, delay and travel volumes. However, the economic downturn significantly dampened current and future growth rates. **Figure 4.13** highlights the difference between population forecasts prepared by the Colorado State Demographer’s Office in 2009 compared to forecasts from 2014 as shown in the 2040 RTP.

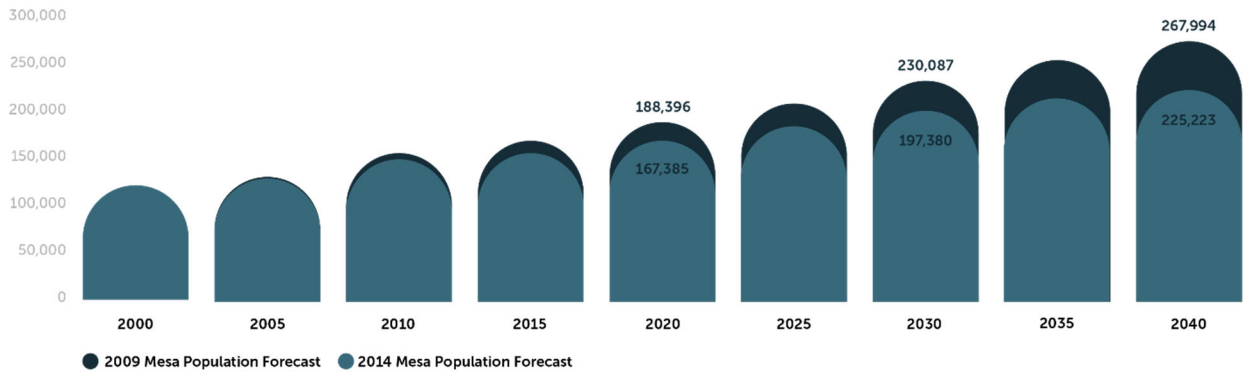


Figure 4.13: Change in Population Forecasts, 2009 vs. 2014

Population estimates made in 2009 suggested an additional 43,000 residents by 2040 versus the revised estimate for 2040 prepared in 2014. The latest forecasts from 2019, revised growth rates downward in the near and mid-term, so that the region is expected to grow more slowly. The current population forecast for 2045 is 225,529, as shown in **Figure 4.14** (which was also displayed earlier in the chapter), nearly the same as the previous forecast for the year 2040 of 225,223 as shown in **Figure 4.13**. The result is that the rate of increase in the number of vehicles and travelers on the region’s roadways is expected to be slower than with previous forecasts.

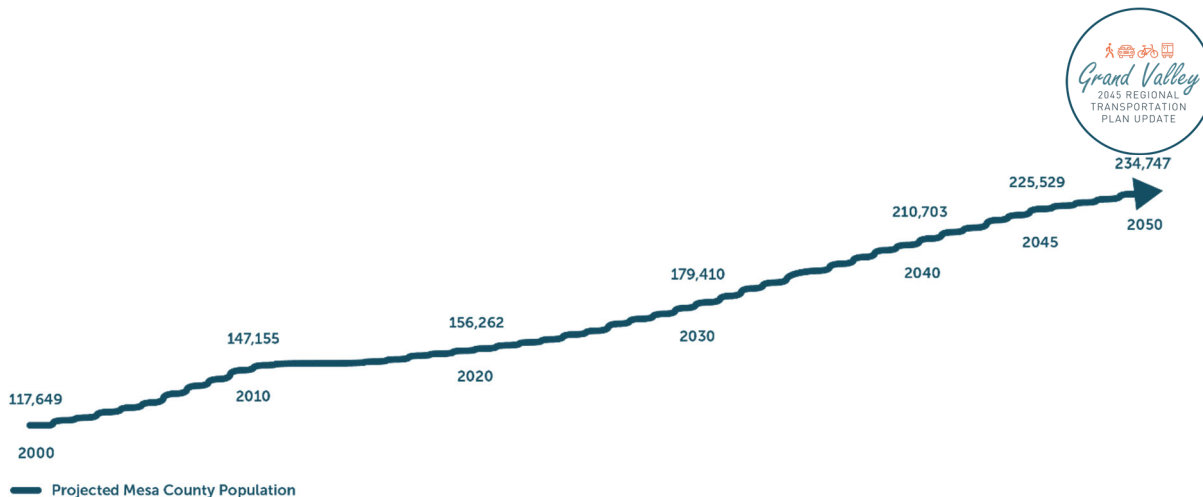


Figure 4.14: 2019 Mesa County Population Forecasts

The Mesa County Regional Transportation Planning Office estimates future transportation demand through a travel demand model, formally known as the Mesa County Regional Travel Model (MCRTM). The MCRTM is fully updated approximately every five years to coincide with each regional transportation plan update. The model takes into account future population, employment and economic forecasts as well as other variables, including land use, estimates of future activity from local governments, and travel demands from outside of Mesa County. The slightly lower rate of growth projected between now and 2045, as discussed earlier in this chapter, resulted in a population forecast of 225,529 for 2045. This compares closely with the forecast from the last planning cycle of 225,223 in 2040. Consequently, the MCRTM shows similar results for 2045 as it did in 2040, as seen in **Figure 4.15**. Black lines indicate the highest level of congestion on road segments. Red lines indicate congestion that is nearing capacity. While yellow and green indicate roads with less delay. As seen in both the 2040 and 2045 model output, a limited number roadway segments or areas are anticipated to experience significant congestion. Under current growth forecasts, the region does not face significant capacity constraints and many of the roadways that are problematic are already planned for reconstruction or improvement.

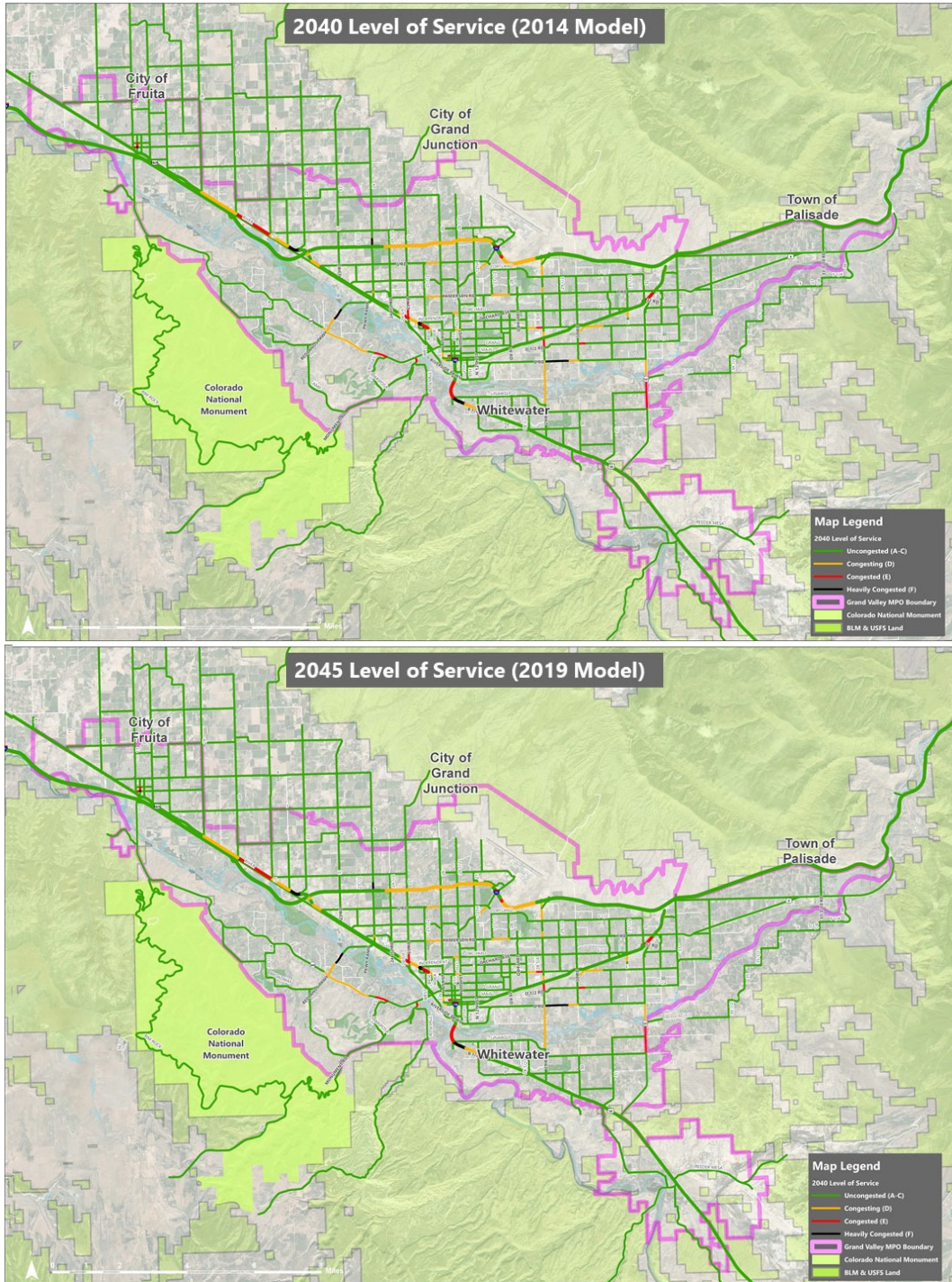


Figure 4.15: Comparison of Anticipated Congestion Levels, 2040 (2014 model) vs. 2045 Forecasts (2019 model)

Growth and changes in employment also bring safety implications. Chapters 6 and 8 discuss recent traffic safety data in detail.

Emerging Technologies

One of the largest shifts in the transportation landscape since the 2040 RTP has been the increased prevalence of new technologies facilitating mobility and fundamentally changing the ways people travel. This section profiles recent developments in shared mobility, vehicle technologies and Intelligent Transportation Systems (ITS).

Shared Mobility

Shared mobility is the shared use of a motor vehicle, bicycle or other low-speed travel mode (such as a scooter) that enables users to have short-term access to a mode of transportation on an as-needed basis. Shared mobility also provides a broader set of transportation options for users that help reduce reliance on private automobiles by providing meaningful alternative modes.

Bike/Scooter-Share

Bike share systems for both traditional and electric bicycles, and more recently electric-scooter share, have been a rapidly evolving trend over the last decade and have gained traction in communities both large and small worldwide, shifting the way communities plan for and provide transportation. This type of shared mobility is discussed extensively in Chapter 6. For bike share and scooter share systems to be successful, the Grand Valley needs to continue investment in infrastructure that facilitates multimodal travel.

Car-Share

Car-sharing is a model for car rental, similar to bike share or scooter share, which allows users to pay for access to vehicles for limited periods of time. Car-share systems tend to have vehicles dispersed throughout a service area and can be reserved through a few clicks on a web page or smartphone app. Grand Junction is on the Turo platform, which permits users to list their personal vehicles for rent. The car-share market can be volatile, with the provider Car2Go recently ceasing operations in North America.

Ride-hailing

Ride-hailing, which was nascent in 2013, provided primarily by Transportation Network Companies (TNC), like Uber and Lyft, has witnessed rapid growth since the 2040 RTP. exploded in popularity over the past few years. At its most basic level, ride-hailing is simply the modern version of a taxi using a web-based platform that matches passengers with drivers in a simpler and more intuitive way.

Nationally, TNCs/ride-hailing represent the fastest growing transportation mode. Overall, ride-hailing presents some mixed opportunities. Ride-hailing provides a niche in the travel market for many trips: evenings and weekends when transit does not operate and on-demand travel from origins to destinations. Ride-hailing also can help to reduce the risk of impaired driving by providing an easy way home for people who shouldn't be driving. On the other hand, excessive use of ride-hailing can lead to increased rates of driving due to TNC vehicles traveling to their customers. Ride-hailing is also not a viable transportation mode for some low-income households, outside of occasional/emergency use, so TNCs cannot be relied on for basic transportation services by all populations.



Electric Vehicles

Electric vehicle (EV) technology continues to advance at a rapid pace with increasing regulatory and financial incentives to encourage production and use at both the State and Federal level. The primary advantage of EVs is the reduction in vehicle emissions that areas with high rates of EV adoption witness. FTA grants for replacing transit bus fleets with electric buses are on the rise as transit agencies look to make their rolling stock more efficient and environmentally friendly.

Autonomous and Connected Vehicles

Autonomous and Connected Vehicles (AV/CV), are two vehicle technologies that are rapidly evolving with the potential to impact travel patterns and trip choices in the future. AVs are capable of sensing the environment and moving through the street network with little or no human input. CVs are vehicles that communicate with other vehicles on the road, as well as connected infrastructure like traffic signals, to improve roadway use and safety.

AVs may increase the demand for travel due to vehicle operators being able to use travel time for working or other tasks. In addition, research on travel behaviors suggests that AVs may decrease transit usage except for high-frequency transit services like trains or bus rapid transit that operate on a dedicated facility. Some travel related to AVs has potential positive outcomes by providing elderly and youth populations with more mobility options and expected improvements in traffic safety. This is especially significant in the Grand Valley given the growing share of the population that is over 65.

Mobility as a Service

Mobility as a Service (MaaS) describes the shift away from privately owned automobiles and toward transportation that is offered as a service. This includes both public and private providers that can work together to provide a holistic landscape of transportation options either as a subscription or pay-as-you-go service. MaaS reduces the costs of travel by decreasing the need to own and maintain a personal vehicle. MaaS also decreases congestion, reduces emissions, increases the use of public infrastructure and serves as a data source to help make transportation providers operate more cost effectively. MaaS can become increasingly appealing and viable through an integration of modes that includes payment integration, a trip-planning app and mobility hubs.

MaaS can be facilitated by implementing open data requirements, creating an integrated platform for trip planning that includes payment methods, and leveraging public/private partnerships that introduce an array of mobility options like using TNCs as a first/last mile solution for reaching transit service.

New Technologies for Improving Transportation Networks

Intelligent Transportation Systems (ITS) are new technologies that are reshaping traveler experience on roadways. The following are examples of ITS.

Adaptive Signal Control

Traffic signals that can automatically adjust traffic signal timing based on traffic conditions. These signals help reduce traffic congestion and pedestrian and bicycle crossing wait times.

Transit Signal Priority (TSP)

Adaptive signal technology that allows buses to communicate with a traffic light in order to extend green time. TSP helps transit vehicles run on schedule. Innovative new uses for traffic signal pre-emption are also emerging. For example, Los Angeles is testing traffic signal pre-emption to trigger red lights for speeding vehicles during off-peak hours of the day to improve traffic safety.

Mobility Hubs

Centers that integrate various modes to allow users to make seamless connections between their origins and destinations. Often centered around transit stations, mobility hubs enable quick transfers from a bus onto a scooter or shared bike, and can also share real-time information on connecting buses, availability of shared-use mobility devices and walking directions to nearby destinations.

Connected Vehicles and Infrastructure

Whereas roadways were previously envisioned as a tool for enabling individual vehicles to move, new technologies are increasingly connecting vehicles with one another and with the roadway. By “connecting” vehicles and roads through wireless communication technologies, mobility improvements can be made without rebuilding roads or pursuing other costly upgrades. Instead, vehicles can communicate with one another to avoid collisions, reduce following distance and monitor possible obstructions that may go unnoticed by drivers. Vehicles that communicate with roadway infrastructure can help planners and traffic engineers mitigate against congestion and reduce emissions. These new technologies are evolving and will become standard in private vehicles.

Implications for 2045

The analysis of population and employment trends in the Grand Valley found that while growth will continue, the rate will be lower than previously experienced in the region. The share of regional workers in low-wage jobs also signifies that some may face constrained mobility options. Given the lower rate of growth, economic vulnerability among many residents and the aging population, it is important to note that the regional transportation system may not need capacity enhancements as much as improvements that will facilitate equitable access to transportation. This can be achieved through policies at the local, County and State levels, as well as through the adoption of the emerging technologies that were profiled in this chapter.



Chapter 5 - Scenario and Resiliency Planning

What is Scenario and Resiliency Planning?

The 2045 RTP is the first RTP for the Grand Valley that includes Scenario and Resiliency Planning. As transportation evolves considerably both locally and globally, it is important for the Grand Valley to analyze potential implications of these shifts. By better understanding the impacts of technology, land use, disasters, and development to transportation, the Grand Valley can prepare to maintain efficiency and reliability in the transportation system.

Resiliency Overview

There are many changes that are currently (and will continue to) impacting the transportation industry. Resiliency to these elements will be important in maintaining a transportation network that can continue to meet the region's evolving needs. Some examples of changing elements include:

- **Technology-** Technological changes are directly impacting transportation in a number of ways. For example, retail is shifting to more internet shopping, which offers low-cost delivery options for a variety of household items. Although this removes the need for driving trips to the store, the increased rate of parcel delivery increases daily trips and Vehicle Miles Traveled (VMT) from the freight sector. Similarly, the future of vehicle technology, ownership, and use could significantly impact VMT. The way next-generation automated and autonomous vehicles are owned and operated will also impact how changing vehicle technologies affect VMT.
- **Innovation-** The application of evolving technology is changing the way people travel. One of the most obvious innovations in transportation is the smartphone, which has changed the way users consume transportation. This has led to Mobility as a Service, a shift from personally owned automobiles to combining transportation services from public and private providers through a unified booking mechanism.
- **Demographic shifts-** Changes in demographics that will impact travel behavior include labor force participation and number of licensed drivers. Increases in labor force participation result in an increase in VMT, as a greater proportion of the population have regular commute trips by vehicle. At the same time, policies that enable people to age in place will bring more alternatives to driving, which can reduce daily trips and lower VMT.
- **Climate change-** Impacts from climate change effect daily and seasonal operations of transportation systems. This can include severe precipitation, flooding, and damaged roads that will put pressures on freight and passenger transportation.
- **Disaster/Emergency (man-made)-** Natural disasters or human-caused emergencies put significant pressures on the transportation system. Corridors and intersections face significant pressures from road closures or surges of transportation demand, such as evacuations.
- **Economics/Funding-** Changes in the economy as well as funding for transportation impact both how users choose to travel and how the transportation system gets built. Increases in income reduce the cost burdens of travel, which can lead to increased daily trips and VMT. The amount and nature of funding from a local, state and federal level will have a direct effect on the extent and type of infrastructure investments.
- **Land use/Development patterns/Federal Lands-** Land use type, land use distribution, and population density have a significant impact on daily vehicle trips and VMT. If Grand Valley communities begin to promote higher levels of mixed-use development and increases in density, then more residents will live closer to frequently accessed destinations like stores,

schools, and recreation facilities. This proximity will allow residents to walk or bike to destinations that were previously primarily accessible by motor vehicle.

Scenario Planning Overview

Scenario planning is an approach to strategic planning that uses alternate narratives of plausible futures (or future states) to play out decisions in an effort to make more informed choices and create plans for the future. Scenario planning helps us to consider the "what-ifs" of tomorrow, whether those are desirable or undesirable states.

Multiple actionable scenarios were created as a part of the RTP. The Mesa County Regional Travel Model (MCRTM) was used to assess each scenario's impacts, influences, and effects on travel including traffic volumes expressed as Average Daily Traffic (ADT), volume to capacity ratio, Level of Service as a measure of congestion, and VMT.

How were the Scenarios Developed?

Three broad scenarios were developed based on research and best practices in the industry, collaboration with the Steering Committee, and professional judgment within the project team.

TrendLab+ Results

To understand how a future Grand Valley will travel, Fehr & Peers facilitated a TrendLab+ workshop with the Steering Committee to consider how changing trends may affect future travel patterns and needs. TrendLab+ was specifically designed to provide additional insight about future transportation trends that could be strongly influenced by demographic, social, and economic forces that are not typically included in a transportation analysis. TrendLab+ measures how each of these factors will impact the VMT per person.

The results of the TrendLab+ exercise are shown in **Figure 5.1**. The arrows below the chart show how the majority of attendees voted on various inputs. The magnitude and direction of these inputs that influence transportation trends show that VMT per capita would remain relatively constant over the next 25 years, based on these trend predictions. Given the uncertainty of these and other factors, the shaded areas show the range of how VMT may change. Although this tool shows VMT per person as anticipated to remain relatively constant (noting that this is limited to predictions for the specific inputs shown), VMT for the region will increase, as the Grand Valley continues to grow.

The results of the TrendLab+ exercise provided a sense of how stakeholders anticipate various factors to shift in the Grand Valley over time and what the most significant influences will be.

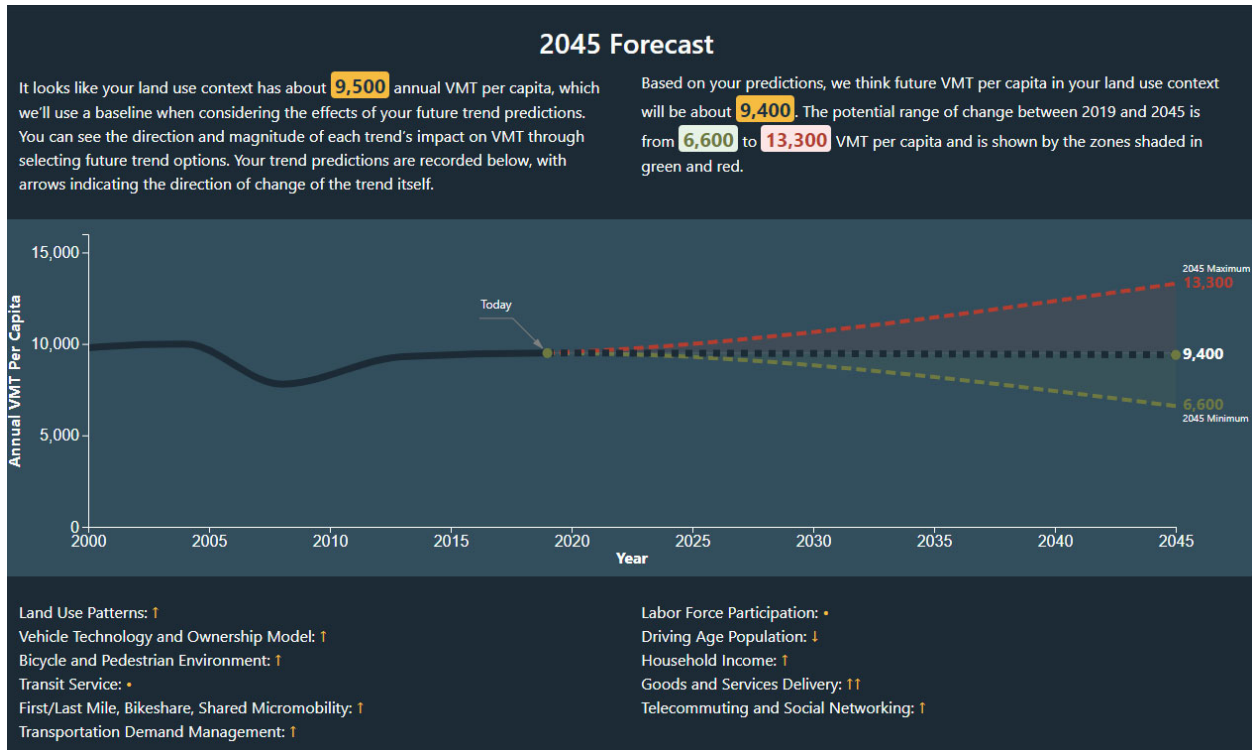


Figure 5.1: TrendLab+ results

Scenarios and Results

Three broad scenarios were developed as a part of the RTP. These scenarios are:

1. Resiliency
2. Increase in ADT and VMT based on changes in demand
3. Decrease in ADT and VMT based on changes in demand

Each of these scenarios is described in greater detail, including why and how the scenario was tested, results of the testing, and implications for decision-making and future thinking for the region.

Resiliency

This set of scenarios explored the resiliency of the Grand Valley's transportation system to natural disasters or human-caused events. For example, segments of I-70 have been closed due to rock fall events and there is potential for this to occur again in the future. Avalanches, mudslides, and fires similarly can cause hours of delay and create the need for alternative routes. These closures in the Grand Valley or in the surrounding region have significant implications on travel, both passenger and freight. Reliability in the network is important to continue to grow tourism and to create a system for commute and non-commute trips. Disruption in freight and commerce can have significant cost implications for couriers and negatively impact the Grand Valley's viability as an intermodal freight hub.

These potential situations were tested in the model by removing links within the network, to simulate the closing of those sections of roadway. Links that were closed in the modeling of these scenarios were:

- 1) I-70 mainline between SH 139 and SH 340,

- 2) I-70 mainline just east of SH 65,
- 3) US 50 Colorado River to/from the central business district (CBD) of Grand Junction,
- 4) SH 340 (Broadway) Colorado River Bridge to/from the CBD of Grand Junction,
- 5) SH 340 Colorado River Bridge to Fruita,
- 6) Redlands Parkway Colorado River Bridge,
- 7) 29 Road Colorado River Bridge,
- 8) SH 141 Colorado River Bridge, and
- 9) DS Road between Rim Rock Drive in Colorado National Monument and Glade Park.

From the above scenarios, scenarios 1 and 2 help to illustrate the impacts of a closure of the major interstate accesses to the Grand Valley. Scenarios 3 through 8 show the impacts to adjacent roadways and other river crossings, while scenario 9 projects the potential Glade Park access impacts from a closure of DS Road or Rim Rock Drive. Modeling results from the resiliency scenarios can inform local, state and federal jurisdictions as well as emergency service providers before a disaster or human-caused event impacts these important links in the region's transportation infrastructure. Likewise, while planning any construction-phase closures, the modeling results should be used to map out detour routing and to illustrate the need for travel demand management strategies.

The results of scenarios 1 through 4 are presented in this section. All of the scenarios will be reviewed with planning partners and emergency service providers as a part of RTP implementation.



Scenario 1 – closure of the I-70 mainline between SH 139 and SH 340

Interstate 70 is a 4-lane facility connecting the Grand Valley to Utah to the west and to northwestern Colorado via SH 139. **Figure 5.2** shows the impact resulting from closure of the segment of I-70 between SH 139 and SH 340 interchanges. The bridges over the Colorado River on this segment of I-70 have limited freeboard and could be subject to closure during a high runoff event. This segment of I-70 has been closed in the past due to wildfires. In the case of this closure, I-70 traffic must shift to an alternate route along US 6, resulting in greatly increased traffic volumes. The segment of US 6 just to the east of 16 Road is projected to go from approximately 13,000 to nearly 27,000 ADT, a volume to capacity (V/C) ratio of 1.1, and LOS F. Downtown Fruita would experience severe congestion and US 6 extending east to as far as 22 Road would be very congested. When this segment of I-70 is closed, travel advisories including the use of changeable message signs need to be implemented. Detours could include the use of L Road, Ottley Avenue (K Road), as well as I-70 to the east of the SH 340, Fruita interchange.

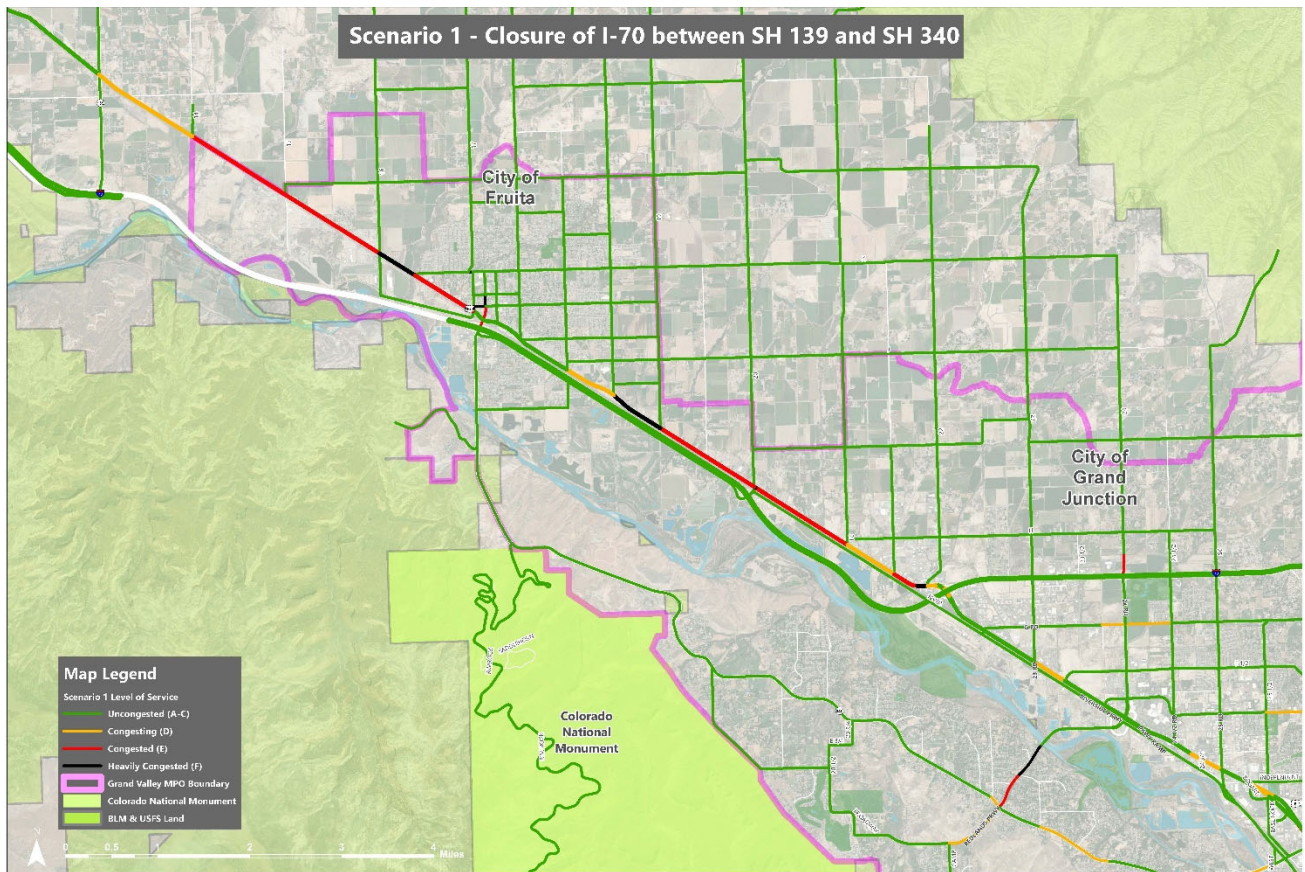


Figure 5.2: Scenario 1

Scenario 2 – I-70 mainline just east of SH 65

This segment of Interstate 70 is a 4-lane facility connecting the Grand Valley to Garfield County, immediately to the east, as well as Colorado's mountain and Front Range communities. **Figure 5.3** shows the impact resulting from closure of the segment of I-70 between the SH 65 interchange and the Town of DeBeque. Rockfall onto the interstate causes this segment to close from time to time and more commonly following heavy rainfall events. In the case of this closure, all of the I-70 traffic would shift to an alternate route along SH 65 and 45-1/2 Road, resulting in greatly increased traffic volumes. SH 65 is projected to go from approximately 5,000 to more than 25,000 ADT, a V/C ratio of 1.6, and LOS F, and 45-1/2 Road would jump from about 2,800 to nearly 25,000 ADT, a V/C ratio of 2.1, and LOS F. Neither roadway was designed for that much traffic and there are no other viable alternate routes, therefore, when this segment of I-70 is closed, travel advisories including the use of changeable message signs are implemented by CDOT.

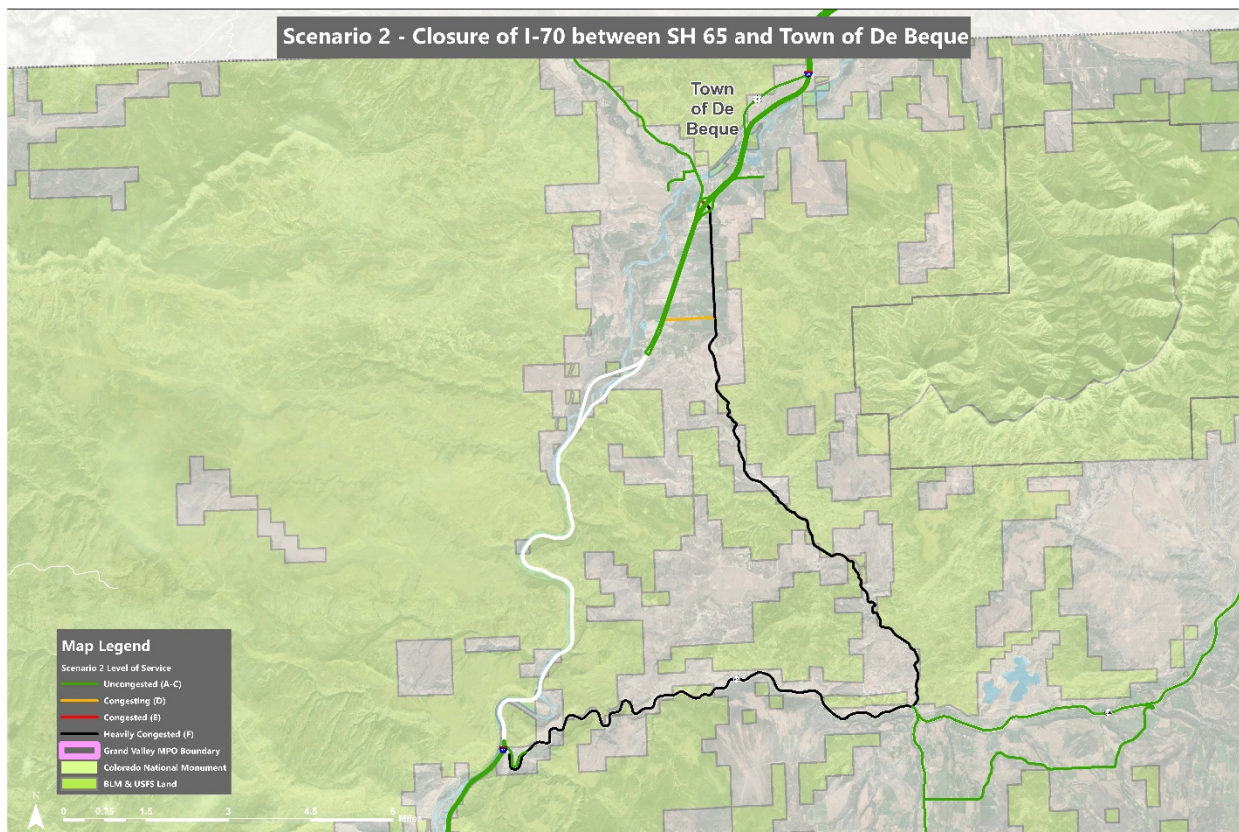


Figure 5.3: Scenario 2

Scenario 3 – closure of the US 50 Colorado River Bridge to/from the CBD of Grand Junction

The US 50 Bridge crossing the Colorado River is a 4-lane facility and the primary arterial connecting communities to the south of Grand Junction directly to the Grand Junction CBD. **Figure 5.4** shows that with the US 50 bridge out of service, ADT on the segment of 29 Road from the river north to D Road is projected to jump from 23,336 to nearly 39,000, resulting in a V/C ratio of 1.5 and LOS F. Likewise in this scenario, demand for the SH 141 (32 Road) Colorado River Bridge is projected to increase from 12,230 to approximately 20,000 ADT, a V/C ratio of 1.3, and LOS F.

In an emergency, detour routing could be deployed to provide better balance between 29 Road and SH 141 (32 Road), each being 2-lane bridges. Transportation demand management strategies could also be implemented. In the long run, for improved system redundancy, one or both river crossings could be upgraded to 4-lanes.

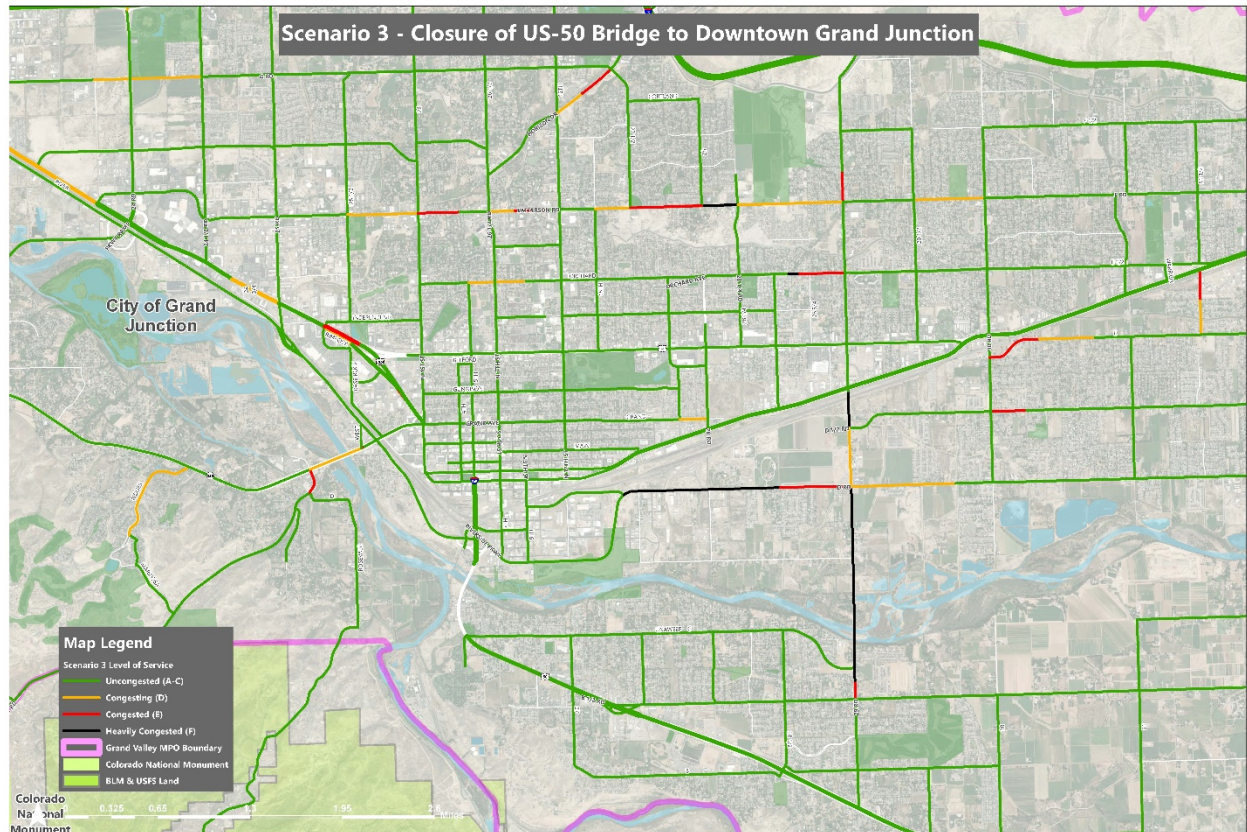


Figure 5.4: Scenario 3

Scenario 4 – closure of the SH 340 (Broadway) Colorado River Bridge to/from the CBD of Grand Junction

The SH 340 (Broadway) Bridge over the Colorado River is a 4-lane facility connecting the Redlands directly to the Grand Junction CBD. As shown in **Figure 5.5**, with the SH 340 Bridge taken out of service, ADT on the Redlands Parkway Bridge, a 2-lane facility, is projected to jump from 22,366 to nearly 36,000, resulting in a V/C ratio of 1.99 and LOS F. Likewise, demand for the SH 340 (Fruita) Colorado River Bridge is projected to increase from approximately 6,000 to nearly 18,000 ADT, a V/C ratio of 1.1, and LOS F.

In an emergency, detour routing could be deployed to provide better balance between the Redlands Parkway and SH 340 (Fruita) Bridges, each being 2-lane bridges. In the long run, for improved system redundancy, one or both river crossings could be upgraded to 4-lanes. Since travel demands for the Redlands Parkway Bridge are presently much greater than for the SH 340 (Fruita) Bridge, and are projected to remain higher, the Redlands Parkway Bridge would be the priority for expanding to 4-lanes.

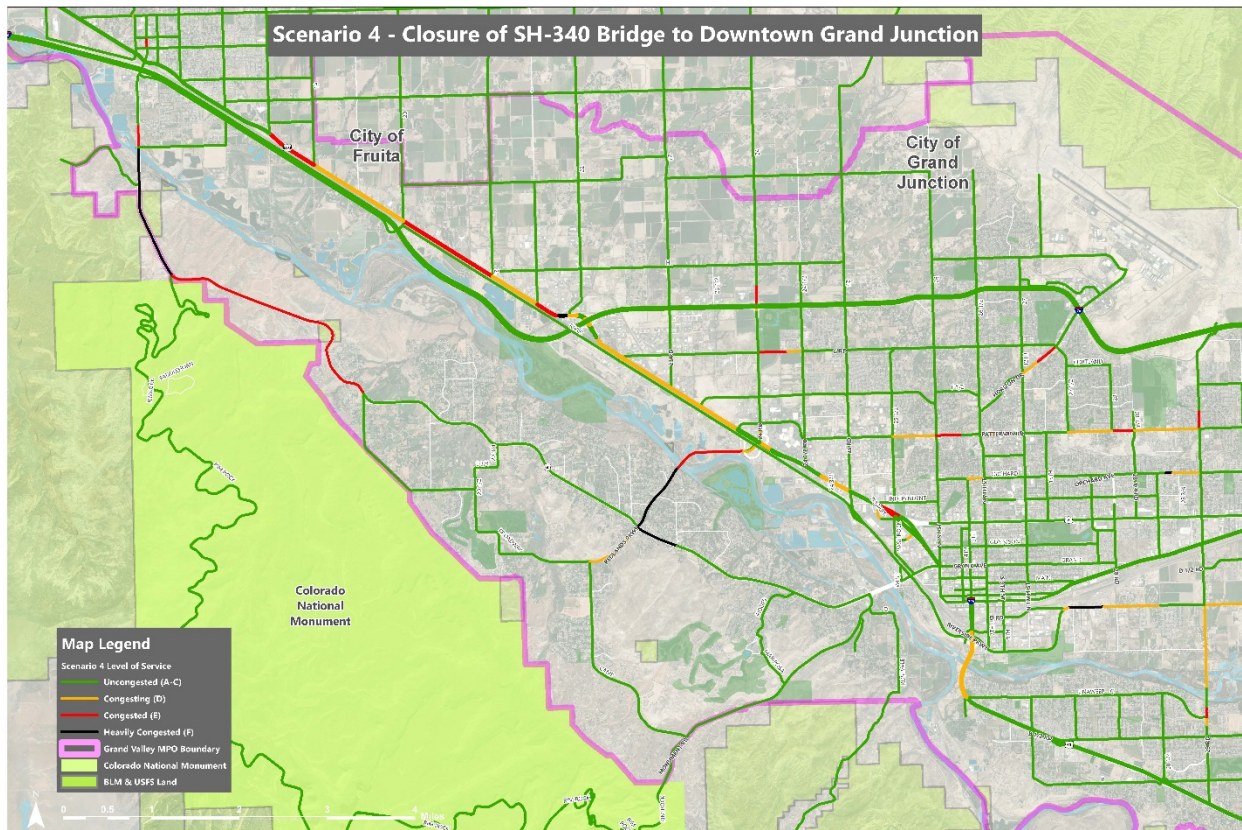


Figure 5.5: Scenario 4

Growth Scenarios

The Mesa County Regional Travel Model (MCRTM) uses a range of inputs including land use and socioeconomic data as well as roadway network attributes including facility type, capacity and speed limit. The Trip Generation step of the model estimates trip productions and attractions based on zonal attributes including households, household size, income, and employment. Employment is further



broken down into Retail, Service, Basic, and Medical employment. Employment data is used in the travel model primarily as generators of trip attractions.

For normal model outputs, control totals were established and used for population, households, household size, income, and employment, for 2018 (the base year), 2025, 2035, and 2045. For the following growth scenarios, 2045 was compared with 2018 to determine the growth (difference between 2045 and 2018) by zone for each factor. To estimate the high-growth and low-growth scenario totals, the growth from 2018 to 2045 was factored up/down to account for high/low growth projections provided by the Colorado State Demographer. This procedure reduced or eliminated the addition of growth in areas where little growth has occurred or is likely to occur, instead focusing additional growth increases (or potential decreases) where it is expected. Following the factoring procedure, the new totals matched the Demographer's high and low projections discussed below.

Increase in ADT and VMT based on changes in demand

As the TrendLab+ exercise revealed, there are a number of factors that can result in a change in travel behaviors that increase the number and length of vehicle trips in the region. The Colorado State Demographer used their socioeconomic model to project a high-growth value for this scenario. The high-growth projection was 5.5% above the control forecast.

The reasons the forecast would be higher than expected include the following:

- Higher than expected job growth occurs.
- Recent declines in the fertility rate reverse and increase to averages experienced in the 2000s.
- Life expectancy increases faster than expected.
- Labor force participation continues to decline, resulting in a need for additional workers.
- Strong job growth in neighboring counties where Mesa County remains an attractive place to reside and house many of the workers.

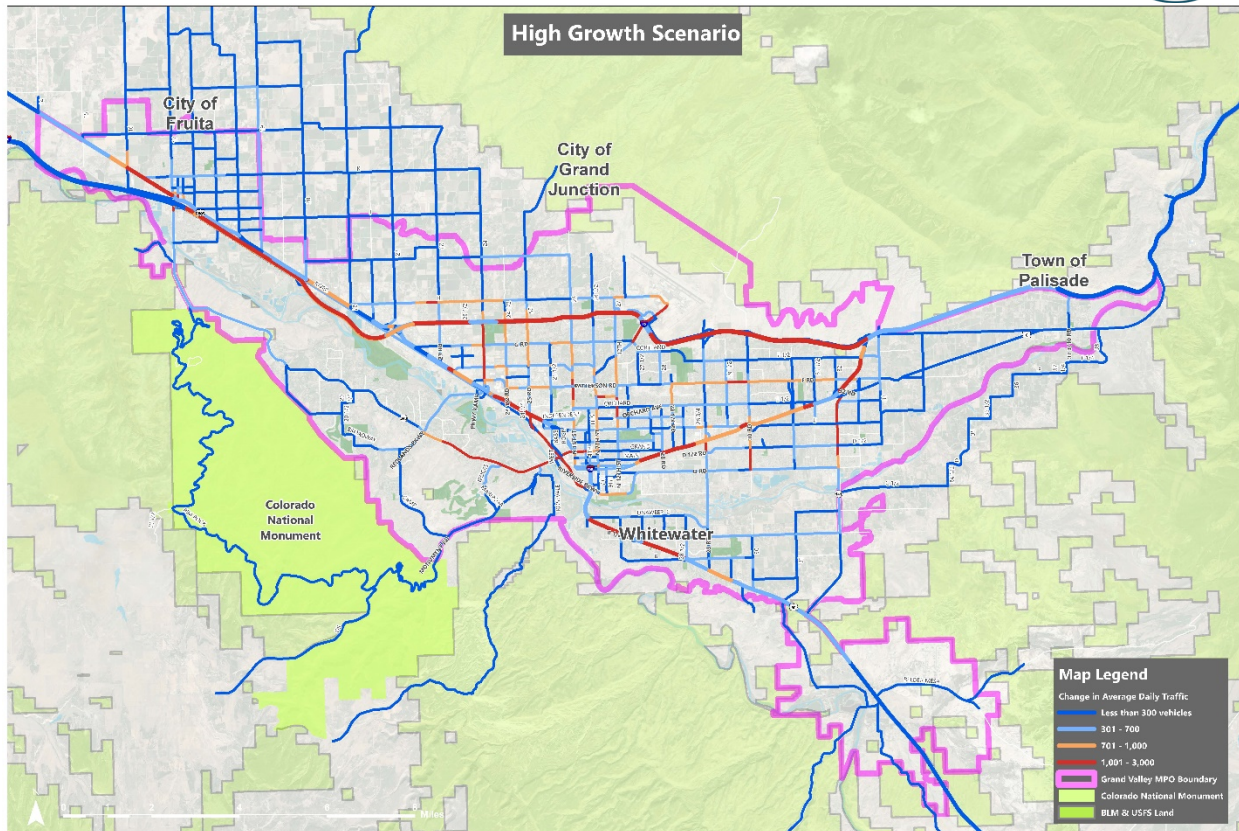


Figure 5.6: High Growth Scenario

Figure 5.6 compares the results of the high-growth scenario with anticipated 2045 growth. The bands show the magnitude of increases in travel expected with the high-growth scenario. Actual volume increases are also shown. Corridors where substantial additional volume is projected include I-70B, SH 340, 24 Road between I-70B and I-70, the Riverside Parkway, US 50, and SH 141.

Decrease in ADT and VMT based on changes in demand

Similarly, the VMT may decrease at a rate slower than what is anticipated due to a number of factors. The Colorado State Demographer used their socioeconomic model to project a low-growth value for this scenario. The low-growth projection was 4.6% below the control forecast.

The reasons the forecast would be lower than expected include the following:

- Lower than expected job growth occurs in Mesa County.
- Fewer workers needed per job due to automation.
- Not as many resident service jobs required relative to the total population.
- Labor force participation rates increase significantly, reducing the need for additional workers.
- The total fertility rate (currently at 1.8 where 2.1 is considered replacement), continues to decline.
- Increases in life expectancy occur more slowly than expected.

Figure 5.7 compares the results of the low-growth scenario with anticipated 2045 growth. The bands show the magnitude of decreases in travel expected with the low-growth scenario. Actual volume decreases are also shown. Corridors where substantial reductions in volume is projected include I-70B, SH 340, 24 Road between I-70B and I-70, the Riverside Parkway, US 50, and SH 141. This is generally the opposite of what is shown in **Figure 5.6** and is expected considering that each growth scenario focused the additional growth or reduction in the areas where growth is expected to occur between the base year and 2045.

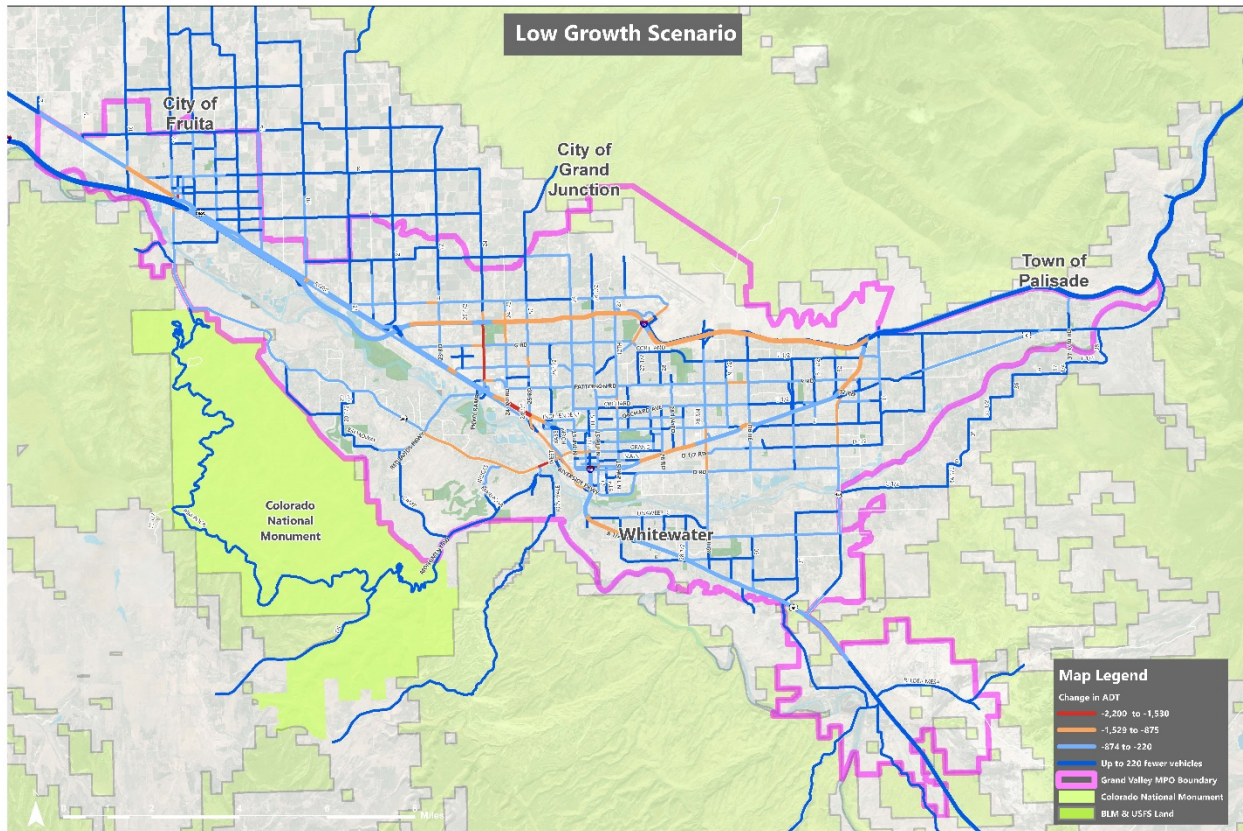


Figure 5.7: Low Growth Scenario

As the RTP is implemented, the results of the resiliency and growth scenarios will be reviewed with staff at CDOT, local jurisdictions, federal land management agencies, and emergency service providers to increase awareness of the potential impacts of each scenario and to begin disaster planning that may include public notification processes, detour routing, and other adjustments to traffic control. Additionally, GVMPO staff will use the updated model to work with planning partners to evaluate additional scenarios.

Chapter 6 - Active Transportation

Introduction

Active transportation, namely bicycling and walking, plays a unique role in the Grand Valley. This is due in large part to the high rate of recreational tourism in the area and access to opportunities for bicycling and hiking. The region has over 1,700 miles of on-street bike lanes; biking, walking, hiking, equestrian and off-road vehicle trails; as well as the considerable assets of the Colorado National Monument and other public lands. Local municipalities, Mesa County and agencies overseeing federal lands all play a role in developing and supporting a robust off-street shared-use path network that is used for both recreation and transportation. In addition, communities throughout the Grand Valley have on-street bicycling facilities and sidewalk networks that support local travel by active modes.

The 2045 Regional Transportation Plan (RTP) Update process revealed that local demand for active transportation facilities is a growing priority for residents, employees and visitors and that active transportation continues to be both an option for everyday trips as well as a draw for recreation. As the population of the region continues to grow and evolve, having alternate transportation options to the private automobile is of increasing importance. In order to achieve this, the Grand Valley should strive towards a comprehensive and connected low-stress bicycle and pedestrian network for all ages and abilities. This chapter of the RTP identifies projects and policies that will move the region towards accomplishing this goal.

Having a strong active transportation network is important to promoting healthy living and facilitating community development, while also building a competitive advantage that attracts businesses, visitors and residents to the region.

What We Heard

Active transportation routinely emerged as a priority for participants of the 2045 RTP public outreach process. Respondents to the outreach survey ranked investments in the bicycle and pedestrian network as their third most valued goals after safety and maintenance.

The public outreach process sought to identify not just whether interest in active transportation exists among Grand Valley residents, but to also identify barriers to walking and biking. From input collected through the survey, 28% of respondents identified locations with nonexistent or insufficient sidewalks as major challenges to walking and 21% of respondents identified insufficient multi-use trails or protected bike lanes as major challenges to biking.

Input on active transportation was geocoded and used to create a heatmap showing where the need for new or improved walking and biking facilities is greatest (**Figure 6.1**).

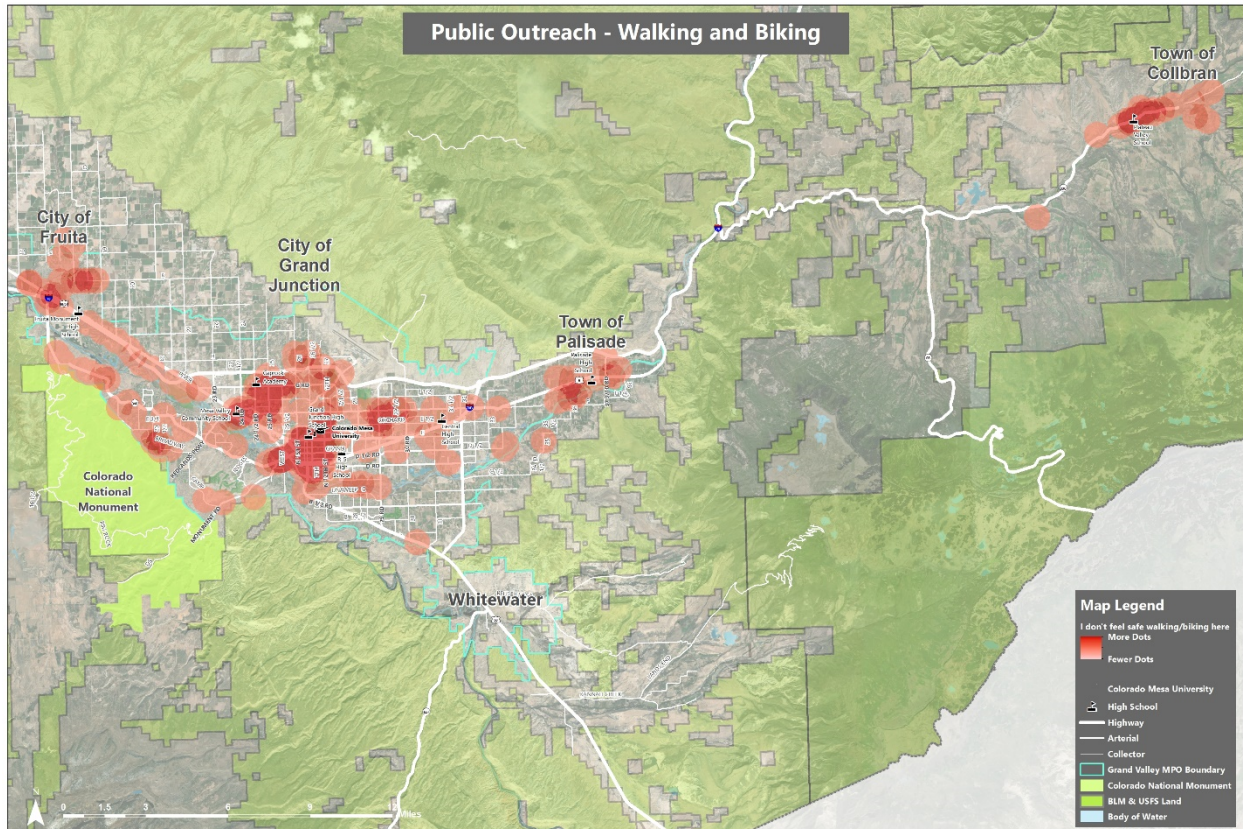


Figure 6.1: Public Outreach results for active transportation

Active transportation users in the Grand Valley desire increased access to facilities that safely accommodate walking and biking. A unique aspect of active transportation planning in the Grand Valley is the high rate of access to public lands and the trails systems available for both recreation and transportation purposes.

Survey respondents also provided the following insights on their experience of using active modes in the Grand Valley:

- Bike lanes are sometimes poorly maintained and covered in debris
- Palisade is lacking trail connections
- Cyclists and pedestrians feel unsafe
- High-comfort bicycle facilities are needed in more areas
- Some sidewalk connections are missing

In addition to the survey, specific input was also received from stakeholders representing the disabled community. Residents of the Grand Valley who are visually impaired or use mobility devices like wheelchairs have difficulty navigating the inconsistent sidewalk network. This can also impact their ability to use transit. Improvements to the network would greatly improve the mobility of this community.

These concerns informed the process of creating the recommendations for active transportation facilities that appear at the conclusion of this chapter.

Changes from the 2040 RTP

The mobility landscape has shifted since the 2040 RTP was developed, with a number of changes occurring specifically in the active transportation world both nationally and in the Grand Valley. The following section profiles trends that are impacting active transportation users, as well as local changes that have occurred through planning efforts.

Active Transportation Trends

The nature of active transportation in the Grand Valley has shifted since the 2040 RTP. There have been changes in how active transportation is utilized for commute trips, how active modes are being adopted for more general-purpose trips due to recent mobility technologies that enhance opportunities for active travel, and changes in safety outcomes for active transportation users.

Travel Trends

The 2040 RTP reported that 3.8% of the regional workforce commuted by active modes. Modeshare of active modes has increased in the Grand Valley since the previous plan. Based on 2017 Census data, 4% of workers commute by foot and 2% bike, for a total of 6% of commuters using active modes. In addition, the share of people working from home has increased to 6%.¹ While the Census Bureau reports commute data for those commuting for work, local data suggests that active modes are an important aspect of travel for users in the Grand Valley, including non-work trips as well. **Figure 6.2** shows an example of bicycle counts throughout the day on Patterson Road in Grand Junction. While there are spikes in the number of bicyclists during the morning and afternoon peak hours, there also tends to be a steady presence of bicyclists during daylight hours both on weekdays and on weekends. It should be noted that Patterson Road has a striped bike lane through the eastern portion of Grand Junction where the count equipment is located.

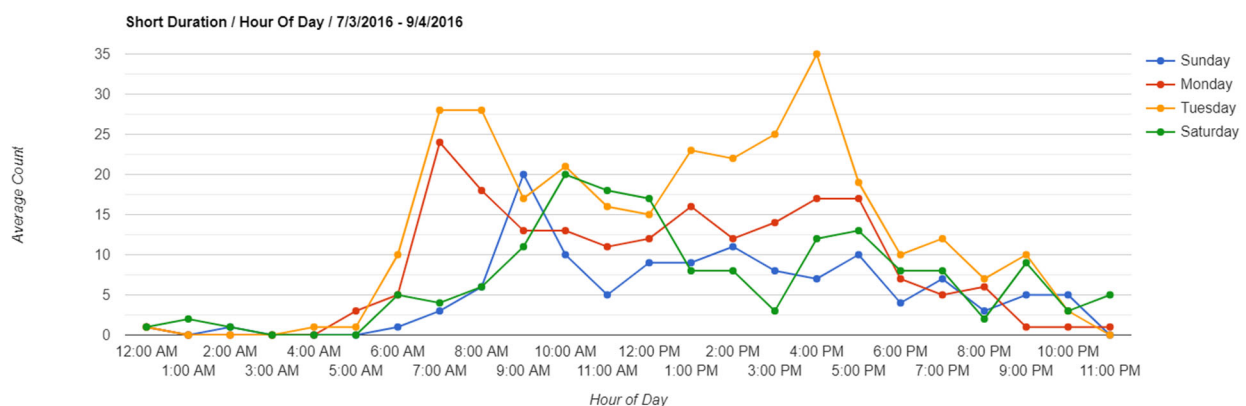


Figure 6.2: Bicycle Counts on Patterson Road, Grand Junction

¹ ACS 2017 5-year estimates

The growing rate of users walking and bicycling underscores the need to meet the current and latent demand for active transportation by providing safe and well-connected facilities. In addition to local trends, there has been growing interest in active transportation nationally. This increase is due in part to the growing presence of bicycle and scooter sharing, or micromobility, in different cities around the country. More explanation of the micromobility phenomenon is provided in the programmatic recommendations section later in this chapter.

Strava is a leading company of run and ride tracking software and has made available global maps of cycling and running activity. The map pictured in **Figure 6.3** highlights popular biking and running routes through the region. This data is based on a small sample size and is representative only of those using Strava software. However, within those limitations, the map serves to better illustrate well-traveled routes, both on and off street throughout the region.

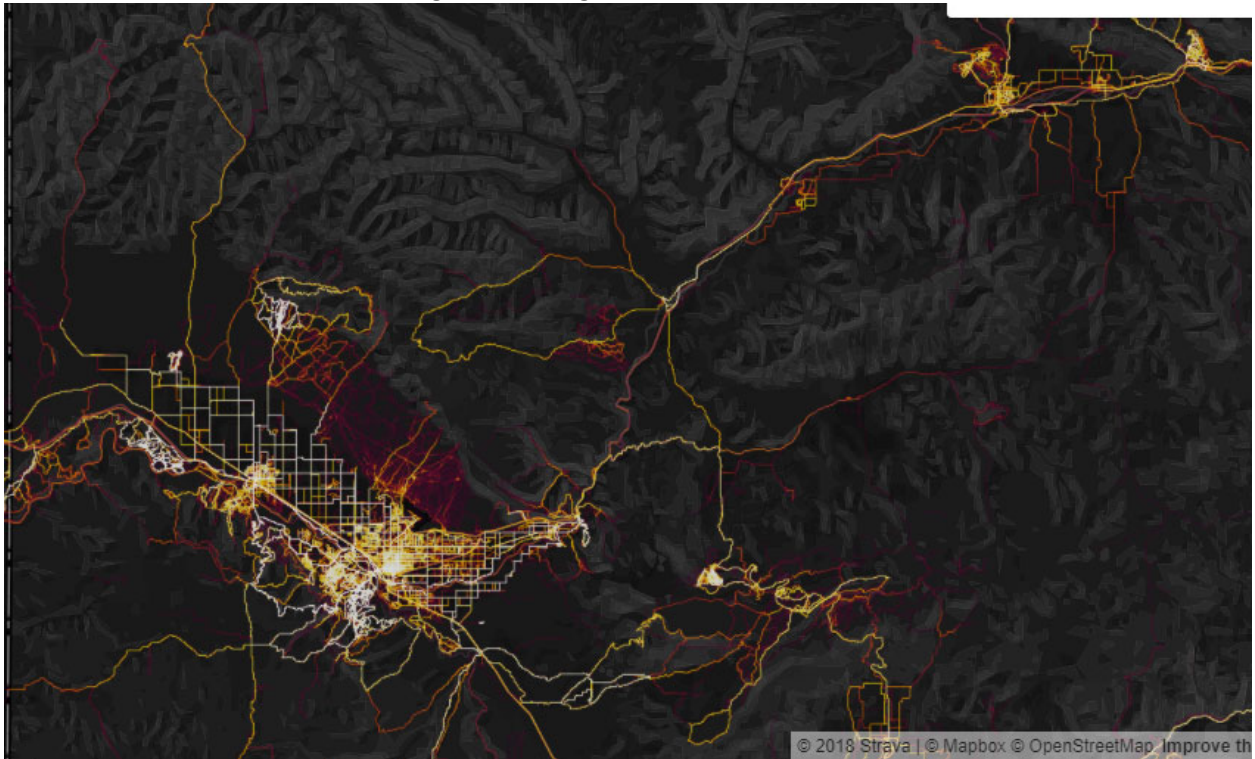


Figure 6.3: Strava Heatmap of Mesa County

Safety Trends

The 2040 RTP reported rates of serious injuries and fatalities among cyclists and pedestrians. The most recent traffic safety data available only designates crashes that result in injuries without noting the severity of the injury. As a result, the 2045 RTP does not include information on the rate of change in serious injuries among active transportation users. However, in the five years since the 2040 RTP, crashes resulting in bicycle fatalities rose 100% and crashes resulting in a pedestrian fatality rose 50% in the Grand Valley (**Figure 6.4**).

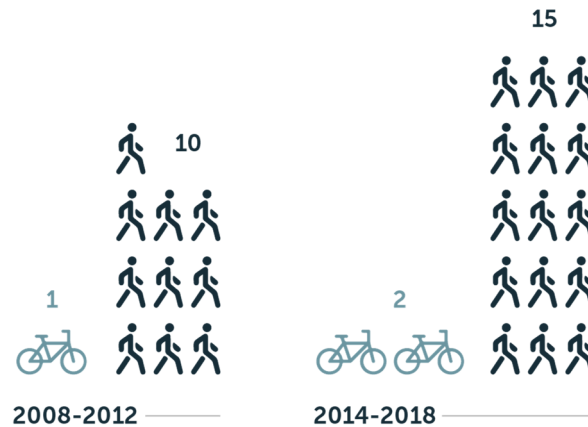


Figure 6.4: Bicycle and Pedestrian Fatalities in the Grand Valley

While there were more pedestrian fatalities than bicycle fatalities, the amount of crashes involving cyclists is higher than pedestrian-involved crashes (**Figure 6.5**). Unfortunately, pedestrian-involved crashes are on the rise, although bicycle crashes have been falling since 2014, with the notable exception of 2017 when the Grand Valley witnessed an 80% year over year rise in the amount of bicycle-involved crashes.

Crashes Involving Active Transportation Users

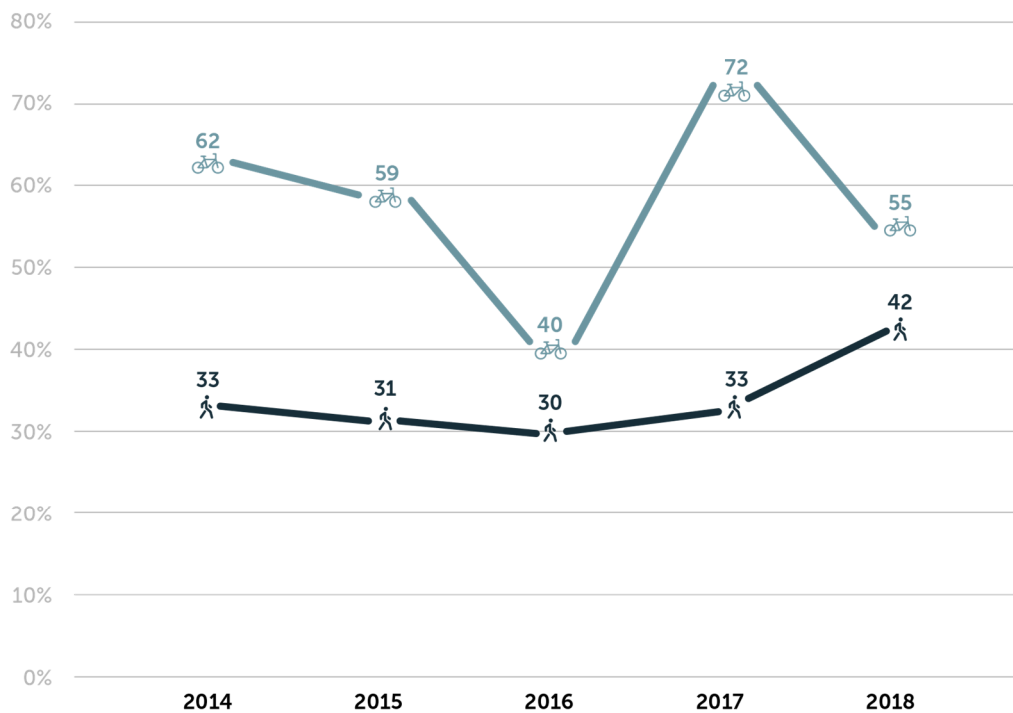


Figure 6.5: Crashes involving active transportation users (2014-2018)

Figure 6.5: Crashes involving active transportation users (2014-2018)



The percentage of crashes resulting in injury or fatalities among cyclists and pedestrians is generally declining (**Figure 6.6**). The recommendations made in this chapter are intended to promote facilities that will help ensure active transportation users in the Grand Valley can witness improved safety outcomes.

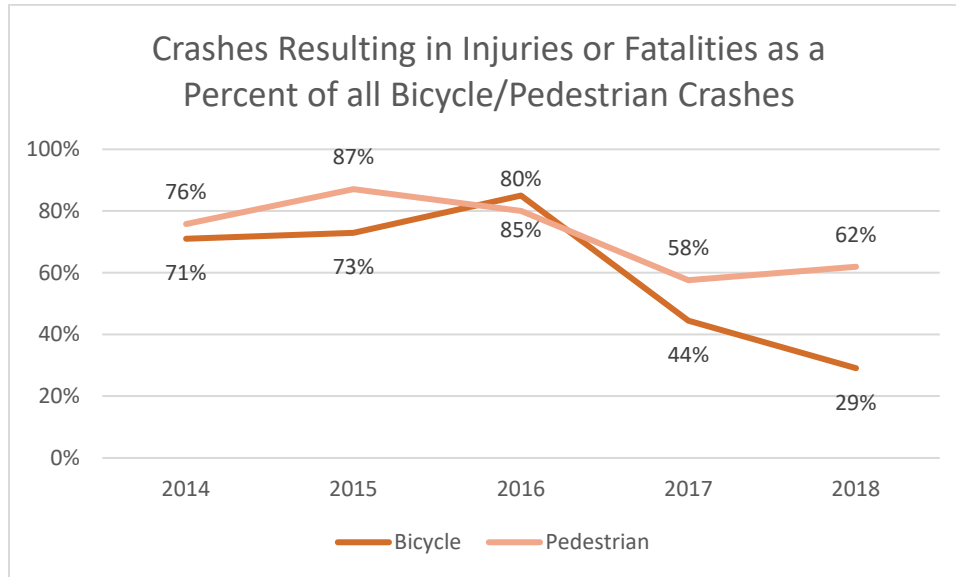


Figure 6.6: Percentage of active transportation user-involved crashes resulting in injury or fatality (2014-2018)

Additional Planning Efforts

A number of planning efforts have been undertaken since the 2040 RTP that influence the 2045 RTP update. At the local level, the City of Grand Junction developed a Circulation Plan in 2018 that will result in significant changes to active transportation locally. The plan recommends adoption of Complete Streets policies for both Grand Junction and the County, incorporating bicycle and pedestrian enhancements into the development code and improving the Urban Trails System along the Gunnison River Bluffs area.

In addition, the **2018 Grand Valley Strategic Trails Plan** and **Tour of the Moon Bicycle Safety Assessment** were both undertaken to determine how bicycle riders can be better accommodated in the Grand Valley. Mesa County, in partnership with various public and private organizations, developed the Old Spanish Trail Plan to recognize, promote and protect the Old Spanish Trail.

Progress on developing a regional trail network continues and several significant projects have been accomplished since the 2040 plan was adopted. Notable projects include a segment of the Little Salt Wash trail, the Kokopelli connection, a section of the Riverfront Trail and a trail along Riverside Park Drive and Monument Road.

Programmatic Recommendations

In addition to the infrastructure recommendations described in this chapter, there are also programmatic opportunities to increase the safety and lower barriers to active transportation in the Grand Valley. The following section provides an overview of the emerging micromobility trends and a high-level feasibility assessment of whether different micromobility models would be effective in the Grand Valley. Moving forward, a full feasibility study should be conducted to determine the best system and a detailed operational model for the region.

Shared Micromobility Program Feasibility

The 2040 RTP included a general assessment of the need for a bike share program in the Grand Valley. The assessment found that bike share would be consistent with plan goals and recommended conducting a feasibility study for a pilot program. Bike share has expanded nationally since the 2040 RTP; a full-scale feasibility study for the Grand Valley has not been conducted. Today, there is a larger array of “micromobility” services available, that goes beyond bike share. Micromobility refers to small personal mobility devices (<1,000 pounds) including bicycles and scooters. These micromobility devices are often administered as shared devices that are available for rent on-demand and are generally reserved through a smartphone app and are often administered by private companies. As part of the 2045 RTP Update, a review of recent developments in micromobility was conducted. The following bike and scooter share overview summarizes the different platforms that are available and discusses the potential opportunities for each one in the Grand Valley.

Docked Bike Share

The model of bike share that has been most prominent in the U.S. over the past decade is docked bike share. These services are typically sponsored through public agencies and administered by private providers. Bike share stations are positioned in areas most supportive of bicycling trips, like transit stations, employment centers, commercial districts and high-density residential areas. Access to bicycles is typically gained either through annual memberships or through an hourly charge.

While docked bike share systems experience high utilization in cities like Boston, New York City and Washington, D.C., they require significant public subsidies and require frequent system rebalancing due to stations either having no free docks to accept bicycles at the end of a trip or no bicycles available for users to take trips. The docked bike share model works well in areas of high residential and employment density where docks can be positioned relatively close to one another, and close to a high number of destinations, and allow for easy rebalancing. In the Grand Valley, the core of the City of Grand Junction would be a good candidate for docked bike share but other communities in the region would likely have more difficulty achieving sustainable ridership and cost-effective operation of a system.

Dockless and Electric Bike Share

An alternative, and as of recently popular, alternative to traditional docked bike share are dockless bikes that do not need to be parked in defined locations. Instead, dockless bike share systems provide a highly flexible alternative, allowing users to park bicycles at any public bike rack or on the sidewalk. Some



providers also offer electric-assist bicycles. Common features of this model are the ability to rent bicycles by increments of time and to locate and unlock bicycles using smartphone apps.

The dockless bike share model is fundamentally different than docked bike share in that it is owned, operated and financially sustained primarily by private companies. There are a number of limitations as well as benefits for these models. Most notably, dockless bike share decreases the financial burden for the jurisdiction where bike share is offered, but also decreases the control the local jurisdiction has on the characteristics and deployment of these systems such as price, equitable distribution of bikes and management of bike supply.

The following considerations are important for determining whether any micromobility service is feasible:

- **Land use** – Dockless systems work best in areas of high-density development. Low-density, suburban, or rural areas tend to lack a sufficient population base and proximity of key destinations that would make the system attractive to users and financially viable for providers. This model requires a high density of bikes or scooters to be successful, to ensure that a user is within walking distance of a bike or scooter at any time within the service area. This would require companies to frequently circulate bikes to more central locations or provide a high number of bikes, regardless of number of rides. Dockless systems could be popular in Grand Junction or other, higher density areas of the Grand Valley but less utilized in the low-density areas between population centers.
- **Climate** – Dockless mobility options perform well in areas with mild to warmer climates and limited precipitation. While winters in the Grand Valley may not be conducive to riding, the warm and dry climate throughout the spring, summer and fall months could make bike share a useful mobility option.
- **Bicycle/pedestrian infrastructure** – Bike share system success is often contingent upon the presence of a well-connected and comfortable active transportation network. Bike share users are often individuals who cycle for some but not all trips, and therefore may be more selective about when to ride. Facilities like the Riverfront Trail attract riders, but areas of roadway that are missing low-stress and connected bicycle facilities would create challenges for users on bike share.
- **Ridership base** – Micromobility providers tend to have more success in areas with shorter commute trips where workers can replace driving or transit trips with bike share. In addition, existing micromobility platforms are often popular among tourists. While the Grand Valley has a healthy tourism base due to the ample recreational opportunities in the region, additional study is needed to understand if that tourism is also present within the population centers where bike share would be used.
- **Volatile industry**- If the Grand Valley is looking for long-term sustainable solutions to providing active transportation through micromobility then dockless bike share may present challenges. These systems are still nascent, funded by investors and navigating new city regulations. Despite early successes, some providers have exited certain markets very quickly, and some early bike share companies, like Ofo, have ceased operations.

Scooter Share

Scooter sharing allows individuals to access scooters by downloading smartphone applications of companies that maintain a fleet of scooters at various locations. Scooter sharing models can include a variety of motorized and non-motorized scooter types (e.g. seated, motorized Vespa scooters vs. standing, electric kick scooters). The scooter service provider typically provides battery charging by freelance individuals who collect scooters using their personal vehicles, charge the batteries at their home, and receive compensation from the scooter companies in exchange for their service. Users typically pay a fee each time they use a scooter. Trips can be roundtrip or one way.

Considerations for Micromobility in the Grand Valley

While the providers may not be operating in the Grand Valley communities as of the publication of the 2045 RTP, there are certain considerations that transportation stakeholders in the region can make when assessing whether or not to embrace these new mobility options. The following is a list of generalized limitations and benefits of these platforms, along with a summary of regulatory mechanisms that can be implemented in advance of micromobility providers coming to the region.

Limitations

There are a number of general limitations to the micromobility model that transportation stakeholders in the Grand Valley should be cognizant of. These limitations include:

- Unpredictability in how long these services will be present given that they don't have a contractual agreement; makes it hard for users to change travel behavior and rely on them, or for local agencies to plan long-term investments and ensure a comprehensive landscape of transportation options
- Impacted public areas and ADA accessibility from scooters and bikes parked on sidewalks or other public spaces
- Concerns over safety due to sidewalk riding, insufficient bicycle facilities and inexperienced riders
- Concerns of equity since these services typically require smartphones and bank accounts to operate and are often deployed in higher-income neighborhoods
- Concerns over data management as not all companies have been transparent with user travel data
- Concerns over regulations by local governments as they are responsible for ensuring the health and safety of the public and have the authority to permit or restrict use of e-bikes and e-scooters within the public right-of-way

Benefits

Electric and dockless shared personal mobility devices have a number of benefits as well. These benefits are important to consider as regional decision makers in the Grand Valley track the progression of this model to determine if it is appropriate in the future. These most prominent benefits include:

- Extended bicycle trip lengths beyond what is considered the current optimal bicycle distance of one to three miles
- Reduced greenhouse gas emissions as some short distance auto trips may be replaced with e-bikes and e-scooters



- Improved first/last mile travel as users can conveniently park close to their destination or have more flexibility in parking location, therefore shortening the overall travel time
- Enhanced active transportation options that improve comfort levels of travelers by overcoming significant challenges such as high-speed differentials between bicyclists and drivers
- Reduced roadway congestion due to less VMT by single occupancy vehicles
- Increased number of people bicycling in areas that have seen very few bike trips, which means jurisdictions will need to be smarter about designing all streets for bike safety
- Lower financial risk for agencies like GVT, as these models are fully funded by the private operator

Considerations for Regulating Micromobility Vendors

Some early dockless e-bike and e-scooter providers launched their services without consulting local governments. At the time when these services were first launched, most cities did not have an official permit process established and there were no specific local guidelines. Several city agencies, such as San Francisco's Municipal Transportation Agency and Seattle's Department of Transportation have implemented short-term permits and pilot programs in response to these new mobility services.

Since dockless bike share companies are operated through private companies, jurisdictions should set regulations for these vendors in order to exhibit control over how these systems are operated. These regulations can ensure that privately owned bike share systems do not negatively impact other roadway users, are safe for its users, allow equitable access and share the data generated with the jurisdiction to better inform transportation investments. A sponsoring agency in the Grand Valley can also enact a permit system that requires all vendors to apply for a permit; this approach gives the agency more control over the number of vendors and nature of the system. The following list outlines categories of regulations that agencies could put in place if micromobility providers enter the region.

- Data-sharing requirements – such as origin, destination, trip length, trip route, etc.
- Equity issues – for example, a certain percentage of scooters must be in underserved communities, low-income discounts should be provided and scooters for people with disabilities should be provided
- Fees – per operator and per scooter to regulate the number of scooters and companies present
- Parking and rebalancing – bikes or scooters illegally parked need to be moved within a certain amount of time

Infrastructure Recommendations

This component of the 2045 Regional Transportation Plan (RTP) is consistent with and builds upon the local bicycle and pedestrian planning efforts of the Urban Trails Committee and other regional organizations as well as the bike and pedestrian plans of local municipalities. Following the public outreach process, key stakeholders in the region determined the status and progress of recommended projects from the 2040 RTP. By updating the previous RTP project list by removing completed projects and adding additional projects that close key gaps in the multimodal network, a set of active transportation infrastructure project recommendations was developed.

Determining Needs

Assembling an inventory of active transportation project needs was a multi-pronged effort. The 2040 RTP project list was first evaluated to determine which projects had been completed and which of the outstanding projects should be incorporated into the 2045 RTP.

Results from public outreach were geocoded and cataloged to identify areas of the Grand Valley where participants in the outreach process had indicated were challenging for bicycling and walking. The geocoded input was overlaid onto the 2040 RTP proposed projects map to identify areas of on-going concern, as well as areas where the 2040 RTP had not made any recommendations for improvements. Potential projects like bike lanes or shared use paths were identified for areas without recommendations in the 2040 RTP. Recommended facility types are detailed in the following section.

Project staff also worked closely with members of the TAC and Steering Committee to determine emerging active transportation needs and to craft project recommendations that would fill gaps in the low-stress bicycle and pedestrian network or provide access to key destinations such as trails, schools, parks, or commercial areas. After developing a preliminary list of projects, staff met with stakeholders from each jurisdiction, which included local municipalities, Mesa County, CDOT, and public land managers. This group reviewed the projects list and determined whether any additional opportunities for enhancing safety and multimodal connectivity could be incorporated into the plan. The draft list of active transportation projects was also available at a public open house workshop where community members provided feedback. This feedback was then incorporated into the projects list.



Project Types

The 2045 RTP Active Transportation projects include a range of different facility types. After determining where new active transportation facilities were needed, the appropriate facility type was determined based on the land use, street characteristics, and user type of the surrounding area. Facility types were selected to ensure that biking and walking is comfortable for those ages 8 to 80. For example, if a project was recommended adjacent to a high-volume and high-speed roadway, then a shared use path may be selected as the appropriate facility type. For additional references and information, please consult Chapter 14 of the CDOT Design Guide, the AASHTO Guide for the Development of Bicycle Facilities and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide. The facility types listed in the recommended projects list are:

- *Sidewalks*: That portion of a street between the curb line, or edge of pavement, and the adjacent property line. Generally hard surface and accessible to all users within a high-density urban area. Minimum width is 4-feet. If width is less than 5-feet, then additional sections of 10-foot width must be provided at reasonable intervals for wheelchairs to pass. The desirable width is 6-8 feet when a planting strip is provided between walk and curb. The desirable width is 8-10 feet when



a planting strip is not provided between walk and curb. Desirable width in downtown areas is 10-feet.

- *Sharrows*: Sharrow markings are used in locations where it is desirable to provide a higher level of guidance to bicyclists and motorists. If there is not any on-street parking, then a sharrow can be placed on the outside portion of the lane but the lane width must be at least 14-feet. If the width is less than 14 feet then the sharrow must be placed in the center of the lane to indicate that bicyclists should occupy the lane like a motor vehicle.
- *Bike Routes (Bicycle Boulevards or Shared Streets)*: A low-volume, low-speed street that allows shared use of the street for walking and driving.
- *Bicycle Lanes*: A portion of the roadway designated for preferential use by bicycles, by using a solid white line and bicycle symbols. They are one-way lanes in the same direction as adjacent motor vehicle traffic (unless multi-lane, one-way roadway). Motorist are prohibited from using bike lanes except for transitions and intersections. Minimum bike lane width is 5-feet with wider lanes provided for on-street parking, higher bicycle volumes, or high-speed roadways. Depending on conditions, motor vehicle lane widths could be reduced to 10-feet to retrofit bike lanes.
- *Bike/Pedestrian Improvements*: Paved shoulders are not considered a travel lane like bike lanes, but greatly improve bicyclist accommodations on roadways. Minimum width is 4-feet and wider sections are recommended for various site-specific conditions. Roadway shoulders are generally not considered pedestrian facilities but can accommodate occasional pedestrian usage if designed to be accessible.
- *Wayfinding*: Bike route signage provides clear user information and navigational instructions for preferred routes as determined by each community. They can be used as standalone signs, but it is preferred that they be used in conjunction with other formal bicycle facilities. Crosswalks, signals and other treatments of facilities for crossing streets.
- *Off-road Path*: A travel way within road right of way that is generally set back from the road and separated by a green area, ditch, swale, or trees. They are generally used in rural or low-density urban areas. They can be paved or unpaved and do not need to follow road alignment.
- *Shared use path*: Off-road path that is used by both pedestrian and bicycle traffic.

Prioritization

After vetting the proposed projects list, staff created a prioritization process to determine which projects were of greatest need, building off community input. Active transportation projects were scored based on the following performance measures:

- **Safety** – this performance measure was evaluated based on crash data. Crashes involving cyclists and pedestrians were less prevalent than crashes involving motor vehicles but tended to be more severe so any crashes involving cyclists or pedestrians received higher weighting during scoring.
- **Infrastructure Condition** – the public outreach process showed that pavement quality is of particular concern to cyclists and pedestrians because poor pavement condition results in

unsafe riding and walking conditions. Scoring was done based on the “driveability life” of pavement on roadways where proposed active transportation projects would be sited.

- Mobility for all Travelers – projects were screened based on proximity to key destinations like schools, parks, trail access points and transit. Projects with higher numbers of key destinations within ¼ mile of the proposed project alignment received greater scores because of the opportunity presented to enhance access for those biking and walking for transportation.
- Economic Development – active transportation projects enhance mobility opportunities for a variety of users and thus create new opportunities for economic development. Proposed active transportation projects were screened based on population density near the project and land use near the project.

The scores for each factor were averaged to create a final score for each project. Chapters 10 and 12 include greater detail on the prioritization process.

Active Transportation Projects

The complete list of 2045 RTP Active Transportation projects is available in **Appendix B**. Prioritized projects are listed by implementing jurisdiction in **Chapter 12**. Projects with multiple implementing jurisdictions appear in all relevant tables. The overall list is the result of extensive public outreach both to the general community and to stakeholders with specialized knowledge of active transportation issues. **Figure 6.7** displays the location of each project.

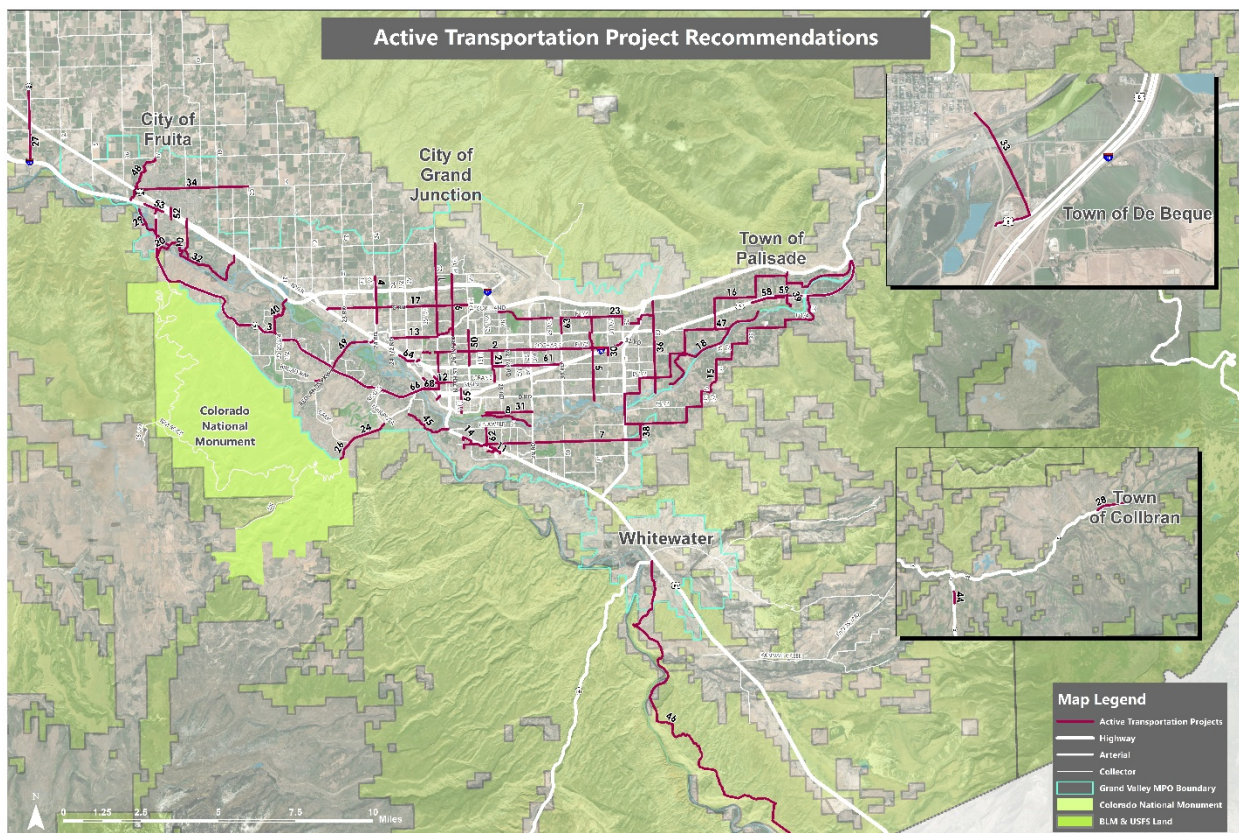


Figure 6.7: 2045 Active Transportation Project Recommendations



Chapter 7 - Regional Transit

Introduction

Public transit in the Grand Valley is a vital community service providing independence and access for those that live, work and recreate in the Grand Valley region. Grand Valley Transit (GVT) and several other service providers operate a network of fixed route and on-demand service throughout Mesa County's urbanized and rural areas as described below.

Grand Valley Transit (GVT) - GVT is managed by the Mesa County RTPO and serves the urbanized areas of Mesa County, which includes the Cities of Grand Junction and Fruita, the Town of Palisade, and the unincorporated communities of Clifton, Fruitvale, Redlands, and Orchard Mesa. GVT operates 11 fixed-routes and complementary paratransit, with all but one route operating at hourly frequencies between about 5 AM and 8 PM (with one route operating at 30-minute frequencies on certain days/ times). GVT operates three off-street transit centers to facilitate timed transfers between routes. These include: West Transfer Station (near Mesa Mall), Downtown Transfer Station (at 6th Street and South Ave), and the Clifton Transfer Center (at 32nd Road and I-70 Business Loop).

Town of De Beque – The Town of De Beque operates the De Beque Shuttle, which is an on-demand service providing weekly trips to Grand Junction with advanced reservations and for a fee of \$5.00.

Town of Collbran – The Town of Collbran operates The Town of Collbran Van, which is an on-demand service operating between Collbran, Mesa and Grand Junction. The van operates the first and third Thursday each month, leaving Collbran at 9 AM and returning at 5 PM.

Human Services Transportation – Numerous human service agencies provide transportation or transportation assistance for qualifying populations (i.e. people 65 and older, people with a disability, veterans, etc.) throughout Mesa County. More detail on human services transportation providers can be found in the Mesa County Coordinated Transit and Human Services Transportation Plan.

Intercity Transit – Four different providers provide intercity public transit between Grand Junction and other parts of Colorado as well as to neighboring states. These include:

Bustang – Operated by CDOT, the Bustang West Line operates one daily round trip express bus along I-70 from Grand Junction to Denver with several intermediate stops.

Bustang Outrider – Funded by CDOT and operated by the Southern Colorado Community Action Agency (SoCoCaa), one round trip bus operates between Grand Junction, Montrose, Telluride, Cortez, and Durango with several additional intermediate stops.

Amtrak – Amtrak operates one daily round trip passenger train (the California Zephyr) between Chicago, IL and Emeryville, CA with stops in Grand Junction, Denver and several other cities in Colorado.

Greyhound - Greyhound operates two buses per day in each direction on its cross-country route from New York, New York to Los Angeles, California, both with stops in Grand Junction, Denver and several other cities along I-70.

Role of Transit in Grand Valley

Transit plays a valuable role in the health, quality of life and economy of the Grand Valley and is particularly critical to the most disadvantaged populations, including low-income households, seniors, youth and people with disabilities. Investment in transit will provide numerous benefits to the community, including:

- **Equity** – Transit provides a more affordable transportation option, that is essential to many people who cannot drive or do not have access to a personal vehicle.
- **Economic** – Transit enhances the Grand Valley economy by providing affordable and viable transportation to access jobs, services, and shopping.
- **Health** – Transit provides a viable means for people to access healthcare and promotes an active lifestyle by complementing bicycle and pedestrian networks.
- **Environment** – Transit results in lower greenhouse gas emissions and air pollution rates per capita as compared to driving, leading to healthier air and reducing the risk of many heart and respiratory diseases.
- **Land Use** – Transit can support more compact, walkable development patterns.
- **Resiliency** – By providing another transportation option, transit increases the ability of Grand Valley residents to adapt to changing circumstances.

Mesa County Coordinated Transit and Human Services Transportation Plan

The Mesa County Coordinated Transit and Human Services (CTHS) Transportation Plan was updated in conjunction with this 2045 Regional Transportation Plan (RTP) update. The CTHS Plan provides a comprehensive overview of regional transit in Mesa County and coordination efforts and strategies among transit and human services providers. For more specific information on regional transit and human services coordination, please refer to the CTHS Plan. This Chapter will largely focus on strategies related to improving GVT.



What Did We Hear?

Chapter 3 of this plan provides a summary of the public engagement process and feedback received. Key feedback specifically related to transit is summarized in **Figure 7.1** and **Figure 7.2**.

Figure 7.1 illustrates how the community responded in the online survey when asked to identify the biggest barriers to using transit in Mesa County. Infrequent service was cited often in public responses as a major challenge to taking transit. In the online survey, 34% of 359 respondents surveyed indicated low frequency as a major barrier to using the bus. Routes not serving destinations, the bus stop location and bus stop environment were also frequently cited barriers to using transit.

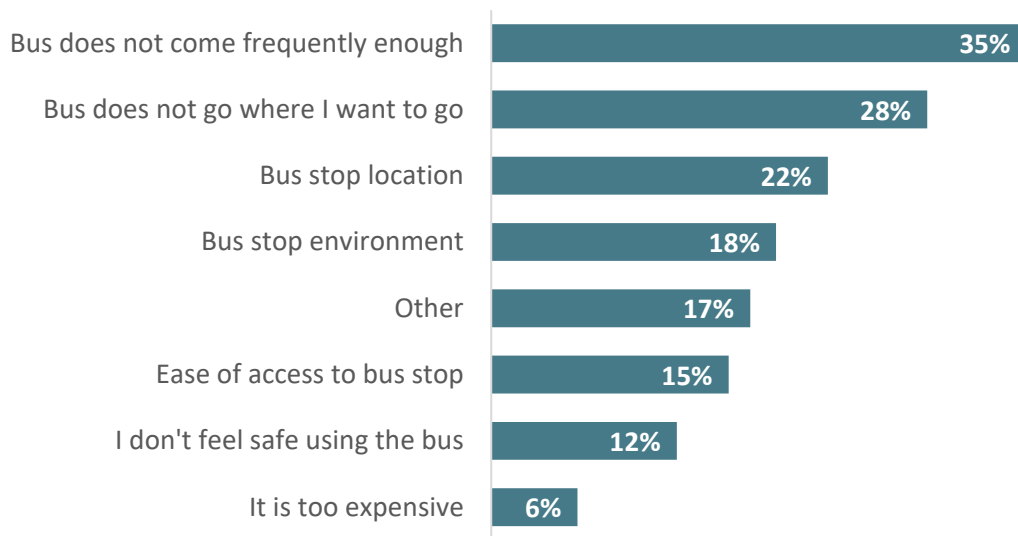


Figure 7.1 What is the biggest challenge to using transit in the Grand Valley? (online survey response)

Figure 7.2 shows how the community voted on transit recommendations presented as part of Phase II of the public process. Establishing a dedicated transit funding mechanism received the most support. Sidewalk and crossing improvements near bus stops, mobility hubs, increasing the span of transit service (to nights and Sundays) and increasing the frequency of transit service also received strong support. Interestingly, on-demand service did not receive any votes from those who participated in the in-person community events.

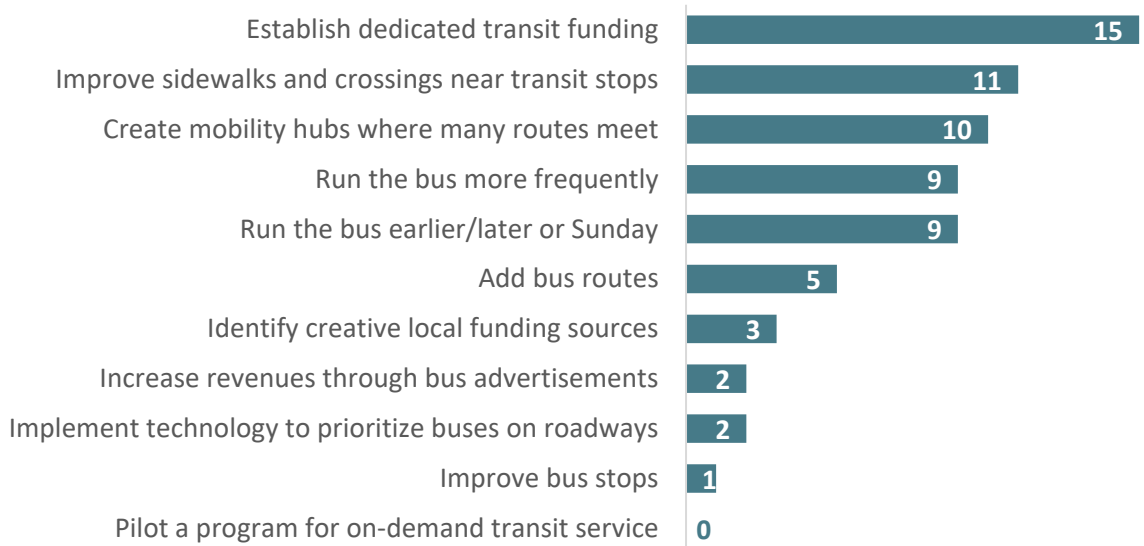


Figure 7.2 Public support of draft transit recommendations (votes at community meetings)

Changes since the 2040 RTP

This section summarizes changes to the transit landscape in the Grand Valley since the 2040 RTP was published in 2014. Discussion covers changes to transit service provided in the Grand Valley, national transit trends that may be impacting transit in the Grand Valley, and trends in GVT ridership and operating characteristics.

Transit Service Changes

Since the 2040 RTP was published in 2014 there have been two notable changes to transit service provided in the Grand Valley:

- Service Reduction** – Since 2014 GVT has made regular route changes in order to improve service and efficiency and use resources more efficiently. Most notably, in 2018 GVT eliminated one fixed route by combining Routes 7 and 12. This reduced the number of fixed routes provided from 12 to 11. Also, in 2019 GVT stopped accepting new Dial-A-Ride passengers but continues to provide service to those that joined the service prior to 2019. Dial-A-Ride ridership accounted for approximately 1% of total GVT ridership in 2019.
- The Dash Route** - Beginning in 2019, GVT added a second bus to Route 1 between 4 PM and Midnight, Thursday through Saturday. Route 1 operates between Downtown Grand Junction, Colorado Mesa University (CMU), and the Grand Junction Regional Airport. The new service is called the Dash and its addition effectively increases frequencies along Route 1 to 30 minutes between 4 PM and Midnight during the days it operates. Funding is provided through a collaborative agreement between Downtown Grand Junction, GVT, City of Grand Junction, CMU, Horizon Business Improvement District (BID) and Grand Junction Regional Airport. The Dash represents a unique strategy for expansion of service based on partnering with organizations



that directly benefit. This strategy adds more funding stakeholders to GVT and may serve as a model strategy for expansion of service elsewhere in the transit system.

- **Bustang** - Bustang is an express intercity bus service managed by CDOT that began operations in 2015. Service to Mesa County began in 2018 with the extension of the West Line to Grand Junction. Bustang now operates one round-trip daily from the Grand Junction Greyhound Station and Denver. The route from Grand Junction to Denver has intermediate stops in Parachute, Rifle, Glenwood Springs, Eagle, Vail, Frisco, Idaho Springs and Lakewood. In 2018, Bustang Outrider daily service began between Durango and Grand Junction (in place of previous service that operated Monday through Friday). CDOT provides the buses, funding and online interface, while the service continues to be operated by Road Runner Stage Lines under the Southern Colorado Community Action Agency. Service increases on the Outrider have been proposed that would increase frequency of service and potentially also extend the service area. The potential start date for additional service would be in 2021.

National Transit Trends

Figure 7.3 shows that national transit ridership peaked in 2014 and has been declining every year since - by about 8% from 2014 to 2018, and among nearly every transit agency nationwide. Preliminary data from 2019 shows that the recent decline in ridership across the country may be leveling out.² The exact cause of the ridership decline is not known and reasons for the decline vary from location to location. Evidence from several sources point to a multitude of factors that have contributed to the decline in transit ridership, including:

- The emergence of transportation network companies (TNCs) such as Uber and Lyft (this trend is most influential in the core urban areas of major metropolitan regions).
- Decline in gas prices since 2014.
- Population displacement, such as the migration of lower-income populations from urban centers to the suburbs (where there are few transit options).
- Decline/stagnation in transit service quality.
- Increased car ownership (most impactful to ridership in car-centric cities).
- Increased on-line activity/ telecommuting which has led to a decline in trip making (and is potentially the most influential factor).

² American Public Transportation Association, *Third Quarter 2019 Ridership*, <https://www.apta.com/research-technical-resources/transit-statistics/ridership-report/>.

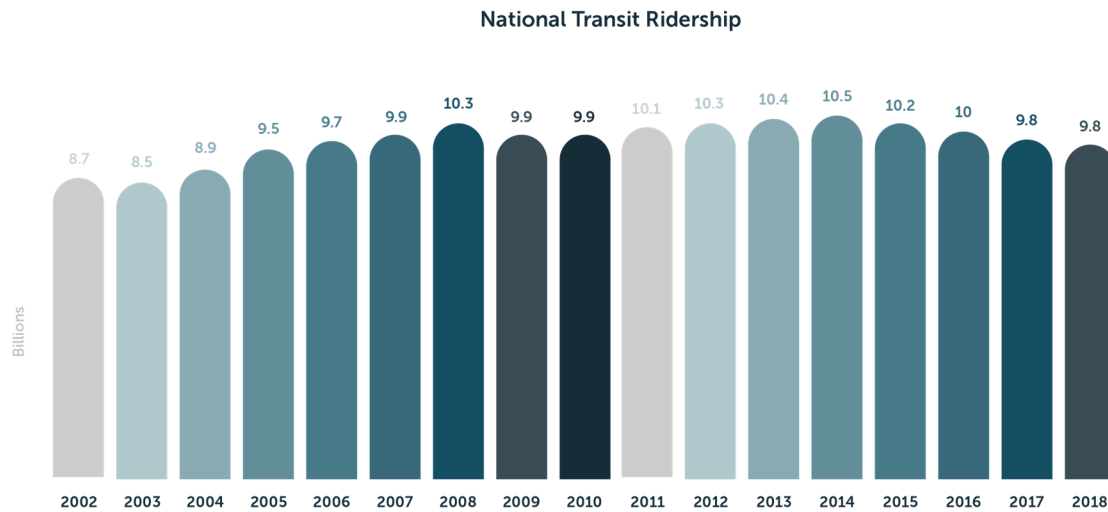


Figure 7.3 National transit ridership trends, 2002-2018.

Source: National Transit Database

Within the Grand Valley, the factors most likely contributing to recent transit ridership decline (see **Figure 7.4**) include increased car ownership,³ low gas prices,⁴ stagnant transit service levels (see **Figure 7.7**), and increased on-line activity (which has reduced the total number of trips people are making on weekdays).⁵ The rise and decline in ridership over the past decade, both locally and nationally, shows there are many external factors that affect transit ridership. Transit service provides residents with transportation options in the face of changing circumstances. There have also been significant internal factors that have affected transit, such as improved communication technologies that better connect riders with providers. Going forward, agencies will need to respond to changing transportation circumstances, be they caused by internal or external factors.

Several notable national trends in transit service have emerged over the last decade, many in response to declining ridership and changing travel behavior. Some of these are more applicable to GVT than others and may be potential strategies for GVT to consider in the near and distant future.

- **Bus Rapid Transit** – Bus Rapid Transit (BRT) is defined as bus service with rail-like qualities, including bus-only lanes, level boarding, off-board fare collection, frequent service throughout the day and limited stops. Since the National Transit Database (NTD) first defined BRT as a

³ Data from the American Community Survey 1-Year Estimates indicated that number of zero car households in the Grand Valley declined from 6.7% to 3.7% from 2012 to 2015. Additionally, since 2013, the average cars per household has increase every year.

⁴ The US Energy Information Administration (EIA) shows that the average statewide cost of gas declined almost 30% from 2012 to 2019.

⁵ National Household Travel Survey data shows a reduction in weekday trips per capita (when transit is typically most used) in Colorado from 4.35 to 3.84 between 2009 and 2017. The reduction of weekday trip making may be tied to increased online activity. Furthermore, data from American Community Survey 5-Year Estimates show the percent of the workforce working from home increased every year in Mesa County from 2012 to 2017.



mode in 2011, over a dozen new BRT lines have opened across the country resulting in a tenfold increase in BRT ridership nationally through 2018. Many more BRT lines are in the planning stages. Two BRT lines were established in Colorado, including in Fort Collins and between Aspen and Glenwood Springs (the first rural BRT in the country). Two of the main reasons for BRT's recent surge are the advantage it provides over an equivalent rail system in terms of cost-effectiveness as well as the flexibility provided in route structure.

- **Route Restructuring** – In response to changing travel behavior and the decline in transit ridership, a number of transit agencies have restructured their bus system over the last decade to concentrate service along more direct, high-frequency routes that generate higher ridership, while reducing service to lower demand areas. Some agencies have done this incrementally and/or marginally, while others, most notably in Houston, TX and Columbus, OH, overhauled their entire networks overnight. Transit ridership in those two cities in particular have grown since their systems were overhauled, bucking the national trend.
- **On-Demand Partnerships/Microtransit** – Another emerging trend among transit agencies are pilot partnerships with TNCs, such as Lyft, or other taxi providers. These programs are generally aimed at increasing first and last mile access to transit and/or at providing service to lower demand areas. Additionally, some agencies have begun to test microtransit, which is a concept similar to ride-hailing except that rides are provided in a shared vehicle, typically a van or small shuttle bus. Microtransit providers sometimes run on a schedule, but with a flexible route based on who is requesting the ride. Both service models have been met with various degrees of success, and several microtransit providers nationally have actually discontinued service recently. Agencies are using the information from these early pilot programs to better develop and refine these types of partnerships.
- **First/Last Mile Strategies** – Over the last decade the gap in service between one's origin/destination and the nearest transit stop (the first/last mile) has been identified as a major barrier to increasing transit ridership. As a result many transit agencies and cities have taken a stronger role in devoting resources on innovative ways to address the first/last mile challenge. Some strategies that have been implemented and tested, with various degrees of success, include: partnerships with ride-hailing companies, bicycle parking, bike-on-transit accommodation, bike/scooter share, car share, improvements to pedestrian and bicycle infrastructure, pedestrian wayfinding, park & rides, microtransit, incentive programs and transportation demand management.
- **Mobile Device Applications** – More and more agencies are developing mobile device applications (or providing open source data for third party application providers) to improve user experience and better facilitate transit use. Common features include real-time bus arrival information, trip planning tools, and the ability to prepay fares through a mobile device. Additionally, many applications have been developed that integrate these features across different transit agencies as well as with non-transit mobility providers (such as with TNCs and bike share providers). Of note, Grand Valley Transit has already implemented many of these technologies, currently offering a mobile app that shows real-time bus information and trip planning assistance. GVT was the first transit agency in Colorado to share its system information with Google Transit, officially going live on March 8, 2008.

- **Transit Oriented Development** – The character and quality of urban development is critical to the viability of transit service. In recent decades, as cities nationally and around the world have sought to decrease automobile dependency, many have implemented transit oriented development (TOD) strategies. TOD is urban development designed to be walkable, pedestrian-oriented, and mixed use, all centered on high-quality transit service. By placing more housing and destinations near transit, TOD can serve more transit riders while using fewer resources. TOD can be implemented not only in the core of large cities, but also in smaller cities, towns, villages, and neighborhoods. For example, the concept of a “transit village” applies TOD principles to residential neighborhood contexts.



GVT Transit Operating Trends

Since the 2040 RTP was published the trend in GVT ridership has changed significantly. At the time of the 2040 RTP, GVT ridership steadily increased from 2006 to 2011. The 2040 RTP reported ridership through 2013, and the two years following 2011 saw some ridership declines. Since the decline was just beginning at the time of the 2040 RTP, it was not possible to determine whether this would become a longer-term trend.

It is now known that, with the exception of a modest increase from 2016 to 2017, GVT ridership has continued the decline that started in 2011 (**Figure 7.4**). Since 2011, ridership on GVT has declined by 26% (through 2018). The rate of ridership loss, however, is beginning to show signs of change and as of the end of 2019 appears to be stabilizing. While ridership declined steeply from 2012 to 2015, it has slowed since then, with a 2% decline from 2017 to 2018 and a 2.1% decline from 2018 to 2019, versus a 10% decline from 2014 to 2015 (**Figure 7.5**). It should be noted that starting in 2018, GVT removed one fixed route, which resulted in 11 routes operating instead of 12. This service change was implemented in August, 2018. Until August, nearly 20,000 riders had utilized the route that was subsequently removed. When comparing 2018 to 2019 ridership but removing those approximately 20,000 passengers from the ridership data, it was found that ridership actually grew by nearly 0.5% in 2019.

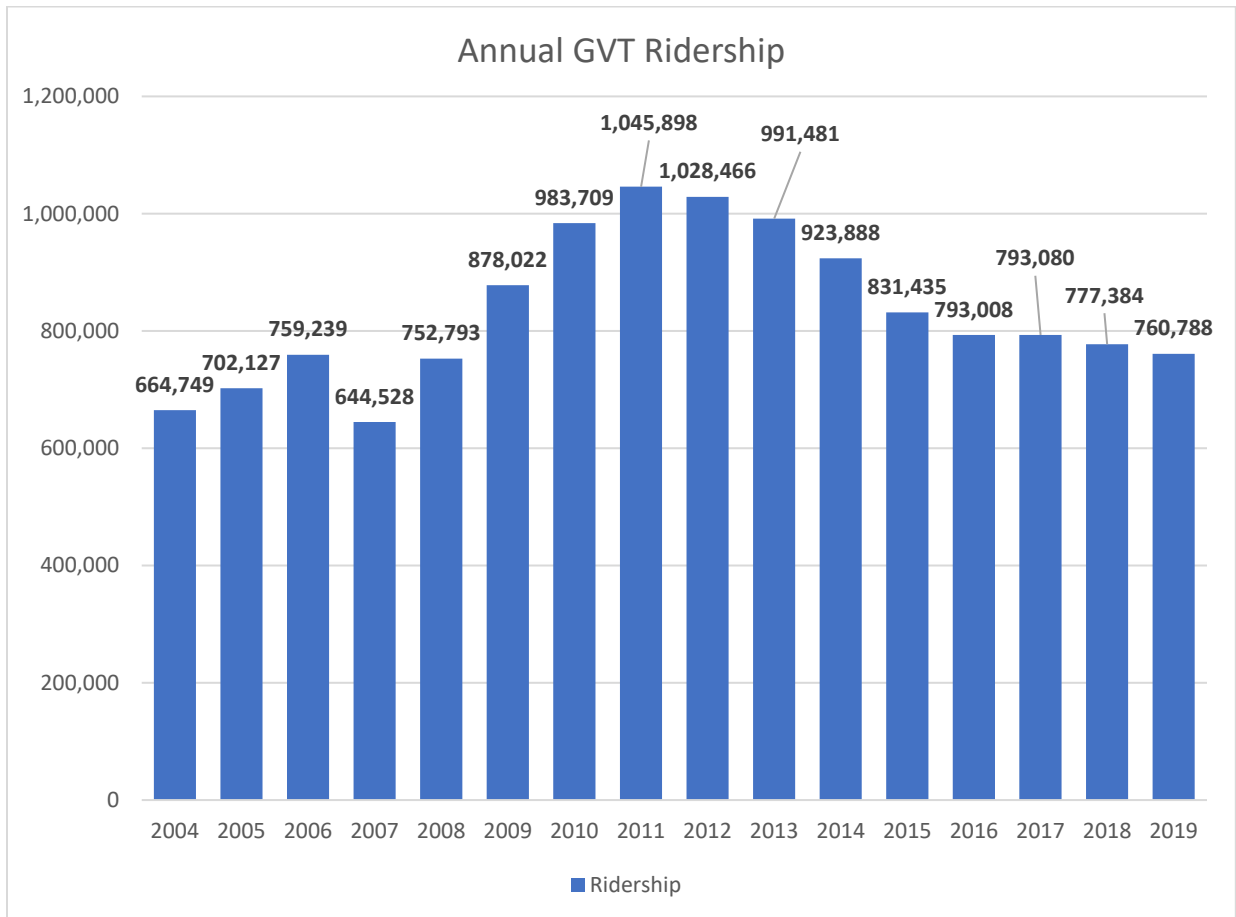


Figure 7.4: Annual GVT Ridership (2004-2019)

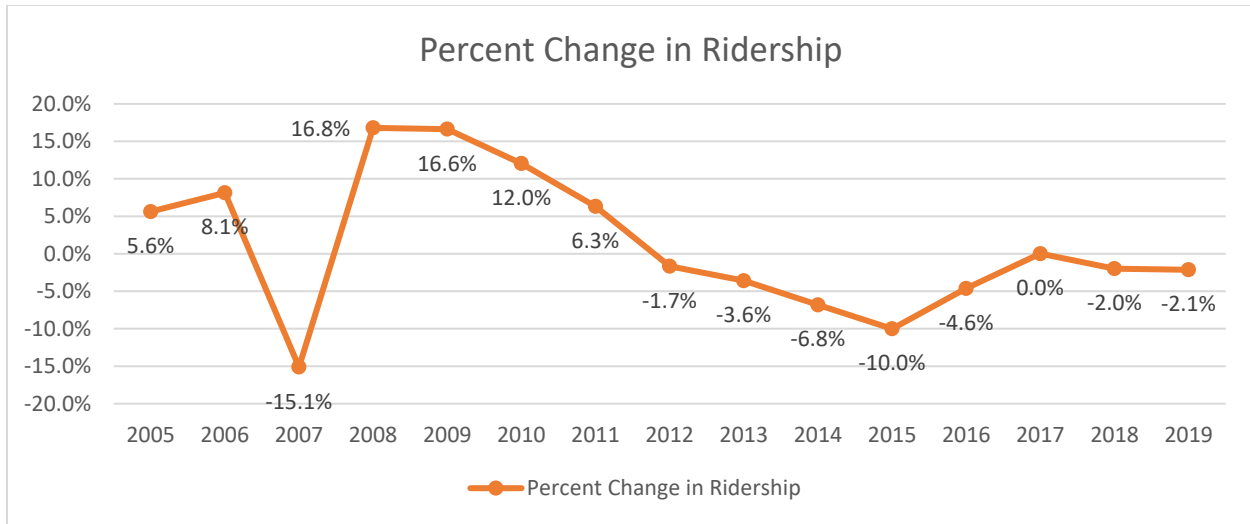


Figure 7.5: Annual Percent Change in GVT Ridership (2005-2019)

While overall GVT ridership has decreased over the last decade, the ADA complementary paratransit service, has witnessed substantial increases in ridership since 2010 (**Figure 7.6**). Ridership grew 17% from 2018 to 2019 and has grown 236% from 2010 to 2019.

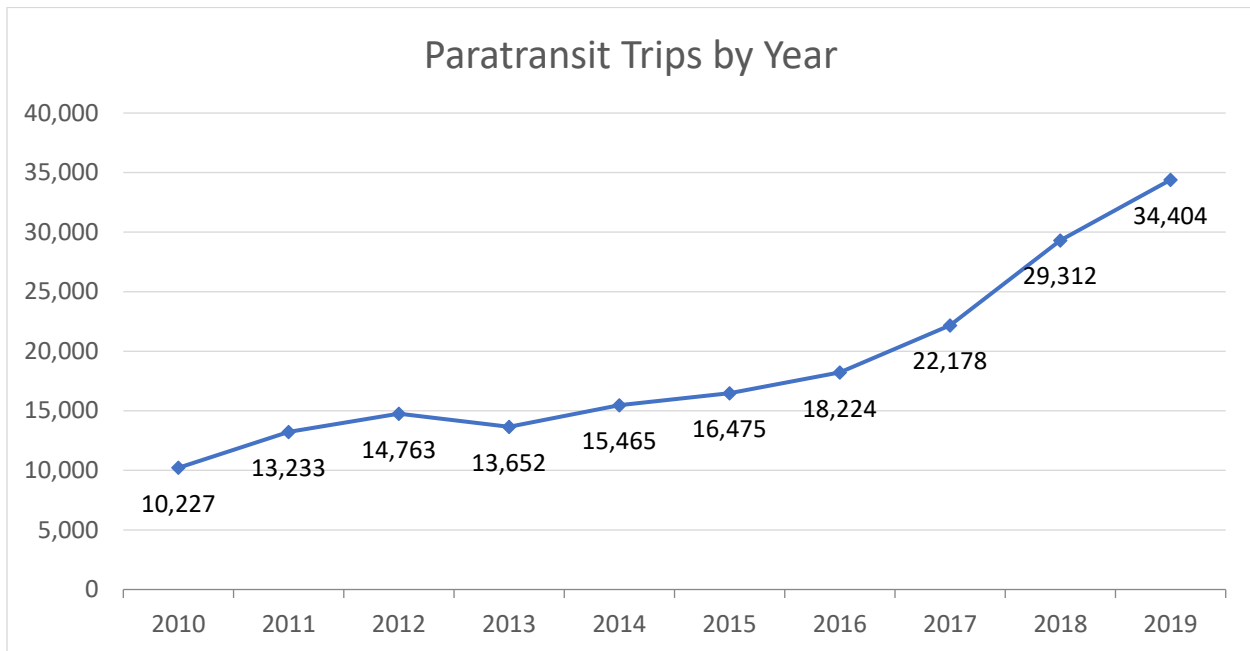


Figure 7.6: Annual Paratransit Ridership (2010-2019)

The increase in paratransit demand has required GVT to focus more of its resources away from fixed route service. This has created fleet challenges as more buses have been required for paratransit service. If there is no increase in GVT’s operational capacity, and if paratransit ridership continues to



rise, fixed route services may be compromised. The CTHS goes into more detail regarding the needs of paratransit riders and the transportation services that human services agencies in the region provide.

Transit Vehicle Miles Traveled

While ridership on the fixed-route system has declined by about 26% since 2012, vehicle miles traveled (VMT) by GVT fixed route buses has declined by a much smaller margin, about 7% since 2012 (**Figure 7.7**). Significant changes in annual fixed route bus VMT typically only occur on years when a route has been added or removed, or there have been significant changes in span, frequency, or route structure. In the last 15 years there were notable increases in fixed route bus VMT on the GVT system in 2007, 2008 and 2012; otherwise VMT levels have held fairly steady year to year.

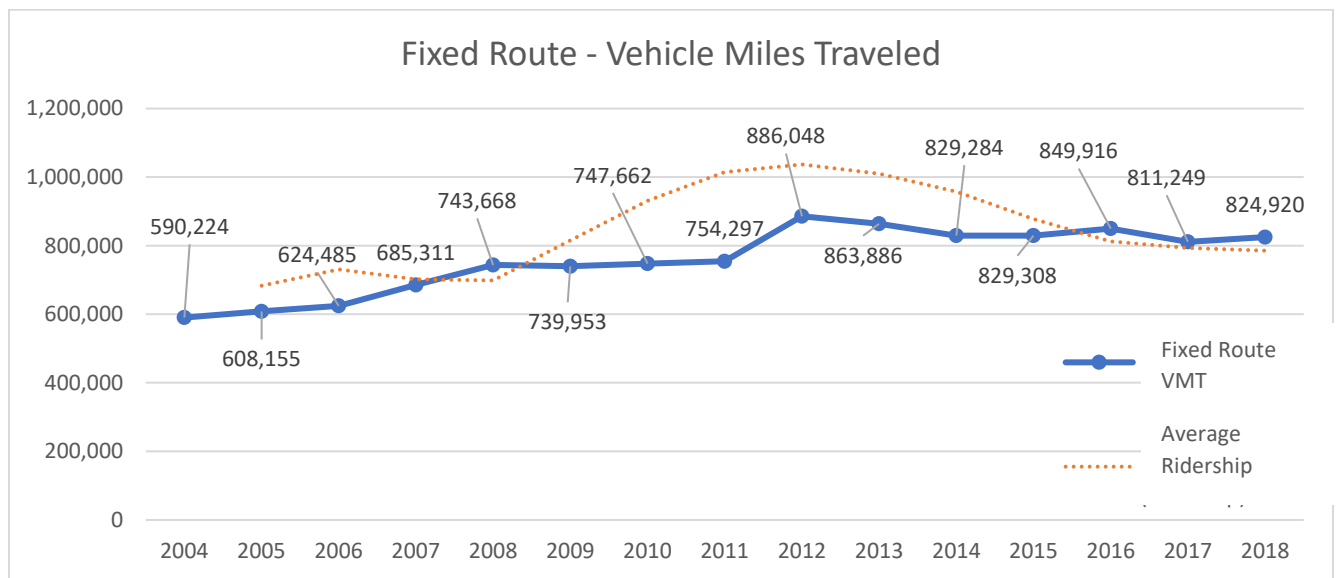


Figure 7.7: Vehicle Miles Traveled by GVT Fixed Route buses (2004-2018)

Unlike the fixed route system, VMT on the paratransit system has grown steadily with the increased utilization of the demand response system (**Figure 7.8**). Because demand response is an origin to destination curb to curb service, VMT generally tracks closely with ridership. Demand response VMT (which is mainly paratransit) was nearly 100% higher in 2018 than a decade previously and grew by about 36% just between 2016 and 2018.

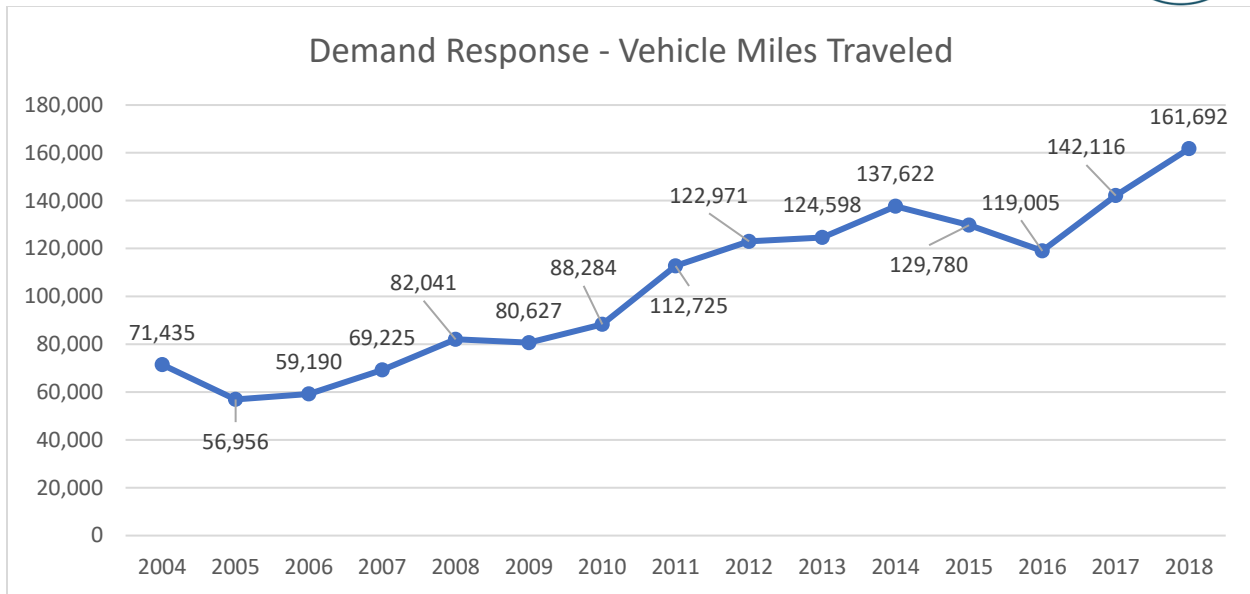


Figure 7.8: Vehicle Miles Traveled by GVT Paratransit System (2004- 2018)

GVT Bus Fleet

GVT maintains a fleet of 29 buses for use in active service. This includes eight cutaway buses and eight low-floor buses used for fixed-route service, plus ten paratransit buses and three contingency buses (used irregularly). GVT is in the process of gradually replacing many of the non-paratransit cutaway buses with low-floor transit buses for use in the fixed route system. Low floor buses are more expensive to purchase than cutaway buses but have a much longer lifespan. **Figure 7.9** illustrates the estimated ten-year replacement schedule to maintain the existing GVT fleet (while replacing half the cutaway buses with low-floor buses as they reach the end of their useful life). This figure does not include fleet expansion which may be required to meet paratransit demand or increases in fixed route service. **Figure 7.9** shows that over the next three years GVT may need to replace over half the revenue bus fleet, including the entire fleet of cutaway buses. In total, the estimated cost for bus replacement to maintain the existing fleet over the next five years, plus replace four cutaway buses with low-floor buses, is about \$5.5 million (including inflation). More detail on the cost and schedule of maintaining the bus fleet over the next 5 – 10 years can be found in the GVT Transit Asset Management Plan (2019).

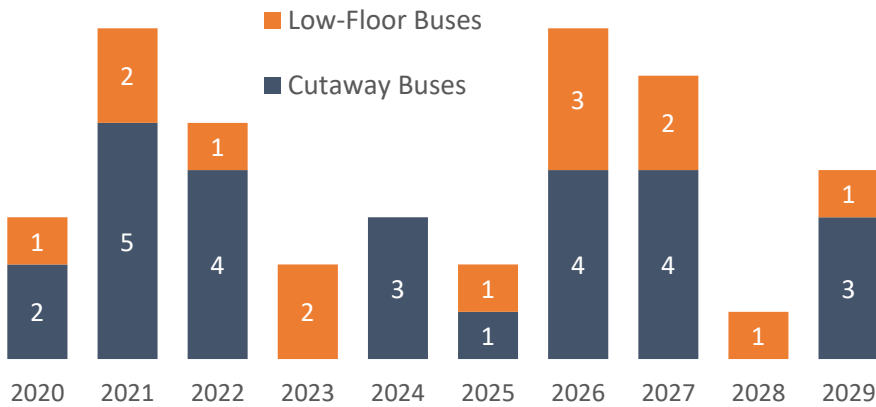


Figure 7.9: GVT Estimated Revenue Bus Fleet Replacement Schedule

Note: Assumes 50% of the non-paratransit fleet of cutaway buses would be replaced by low-floor buses as they reach their useful life benchmark

Transit Demand

Transit service planning requires a thorough consideration of how to deploy a transit system that is most likely to attract the highest possible levels of ridership. This chapter summarizes the transit needs assessment that was performed for the Mesa County Coordinated Transit and Human Services Transportation Plan. The needs assessment was conducted using existing methodologies for determining whether certain geographies are “transit supportive” based on population, employment and land use characteristics. Transit supportive areas are locations with a sufficient density of people, employment opportunities and destinations that are relatively proximate to one another such that transit is a viable travel option.

In order to conduct this assessment for the Grand Valley, a weighted population density was first determined for each census tract. This population density was weighted by the proportion of each areas’ population that is more likely to take transit.⁶ The following population groups are more likely to take transit at varying rates, thus each were assigned a unique weight:

- People without access to a personal vehicle
- People with ambulatory difficulty
- People in low-income households
- Women
- People of Hispanic or Latino origins
- People of color

The weighted population was then added to the number of jobs in each census tract. Jobs were assigned a weight of two times population based on the higher likelihood of workers to use transit as compared

⁶ Rosenbloom, S., & Fielding, G. J. (1998). TCRP Report 28: Transit Markets of the Future: The Challenge of Change. *Transit Cooperative Research Program, TRB, National Research Council, Washington, DC, 40.*

to residents.⁷ The job density was derived using the Census Bureau’s Longitudinal Employer-Household Dynamics (LEHD) On The Map data. The resulting weighted resident-plus-job-density serves as the transit propensity by census tract, which is mapped in **Figure 7.10** with the current GVT service overlaid.

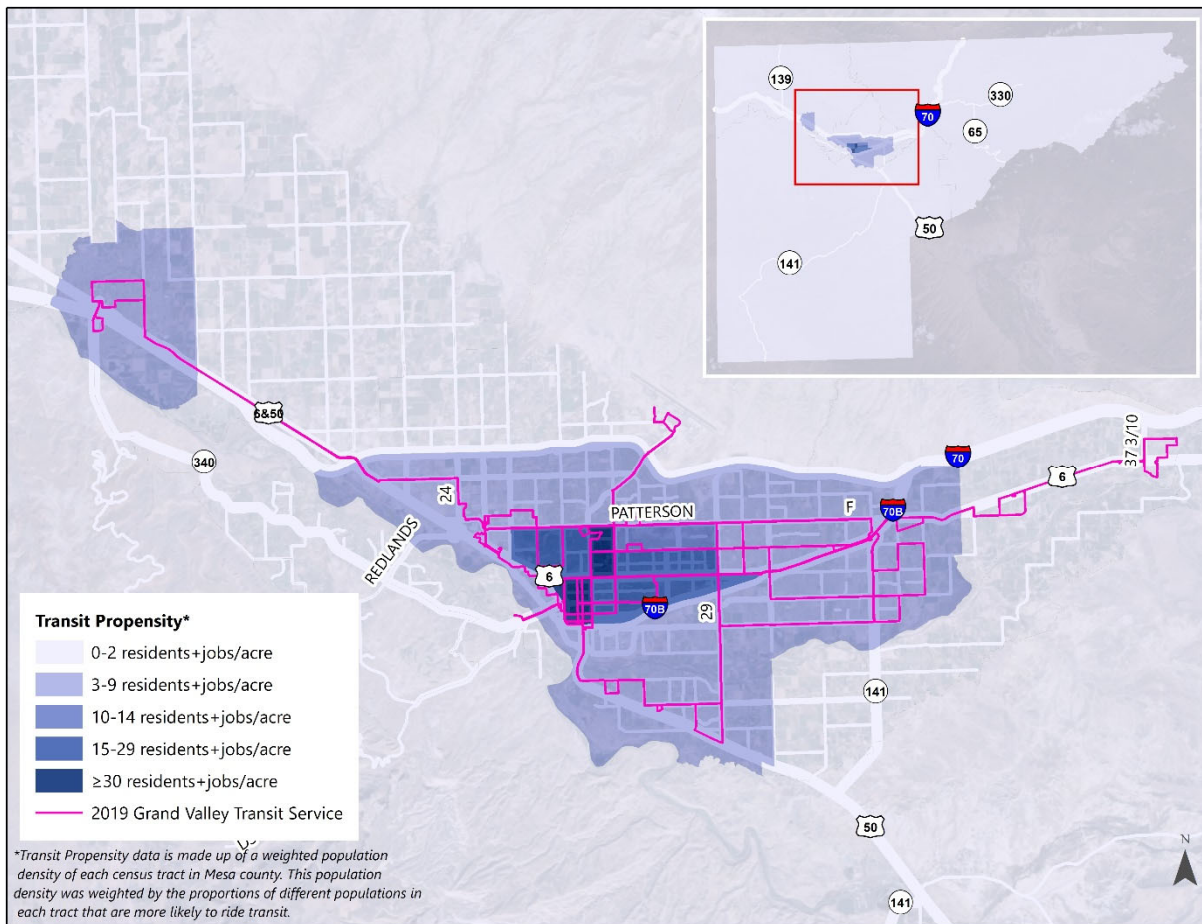


Figure 7.10: Transit Propensity in Mesa County

Table 7.1 shows the service type and frequency of transit that would be supported by different land use densities as measured by the number of residents plus jobs per acre. In general, locations with 10 or more residents-plus-jobs per acre are best suited for transit. **Figure 7.10** demonstrates that Grand Valley Transit’s 2019 service area covers the census tracts in the county with the greatest transit propensity. At this level of detail, this analysis shows that the rural areas of Mesa County outside the Grand Valley urbanized area (i.e., outside of the Fruita-to-Palisade region) have a weighted residents plus jobs per acre of less than two and are likely too low in land use density to support fixed-route transit. These areas would best be supported by a demand response type transit (where riders request door-to-door service), however providing service to these areas would be difficult with a high cost per rider. Additionally, the core neighborhoods of Grand Junction are the only areas in the county likely to be

⁷ Transit Master Plan - City of Fort Collins (2019)



supportive of 30-minute transit frequency, with the areas around downtown, the CMU campus and St. Mary’s Hospital potentially supporting high-frequency transit (15 minutes or less).

Table 7.1: Transit propensity for different service types and frequencies

Residents + Jobs/Acre	Corresponding Land Use	Types of Transit	Frequency of Service
≥ 30	Urban or mixed-use	BRT High frequency bus Local bus	10-15 minutes
15 - 29	Suburban or mixed use	Local bus	15-30 minutes
10 - 14	Suburban	Local Bus	30 minutes
2 - 9	Single family residential or rural	Local Bus Demand response	60 minutes or on demand
< 2	Rural	Demand response	On-demand

It should be noted that while GVT currently serves some areas with low transit propensity, the census tracts in the rural areas of the Grand Valley are quite large in area, and therefore do not have high aggregate density, but may have pockets of residential density that are transit supportive.

Enhanced Transit Corridors

The transit propensity analysis shows that some areas of the Grand Valley are better suited than others for high-frequency fixed route transit service, yet, with the exception of the Dash, nearly all service provided by GVT is equivalent across the valley with local bus service at one hour headways. This means that, though some areas may have transit service, they can still be considered underserved according to their potential ridership. As GVT looks to expand service, increasing frequency in transit supportive areas should be considered just as important as adding routes to serve areas where there is currently no transit service.

Enhanced Transit Corridors (ETC) provide an appropriate vision for GVT as increased transit service levels are pursued in key locations. ETCs provide higher frequency, higher capacity, and more reliable transit service than typical local bus service. ETCs also include improved transit infrastructure such as transit signal priority, queue jump lanes, enhanced stations, etc., and better incentivize transit oriented development.

The 2018 GVT Strategic Plan finds that Routes 1, 5, and 9 are the most appropriate for increased frequency of service. This finding is bolstered by the transit propensity analysis which shows areas served by these routes are the most deserving of higher frequency transit service. Currently Routes 5 and 9, which serve North Ave, have the highest ridership of all GVT routes. This makes the North Avenue corridor the best candidate for implementing ETC strategies in the Grand Valley. This will require, not only increase in transit service and transit improvements, but also coordination with land use planning efforts in the City of Grand Junction and Mesa County to foster transit supportive urban development along the corridor.

Finance and Operating Costs

The 2040 RTP reported that GVT was operating at a lower per-rider cost than peer agencies, other small urban transit systems in Colorado and small urban systems nationally. Peer agencies are located in places like Missoula, MT or Santa Fe, NM where population levels are similar to Mesa County and the outdoor recreation industry attracts both employment and tourism. Small urban transit is considered to be any agency providing between 500,000 and 1.5 million trips between the fixed route and demand response systems. The national small urban transit data reported in the following analysis represents the average operating costs of small urban agencies outside Colorado.

When considering the average total cost per passenger trip across the entire system, GVT operated at a 20% lower per-rider cost than other comparable small urban agencies in Colorado and at more than 50% lower cost than its peer agencies (**Figure 7.11**).

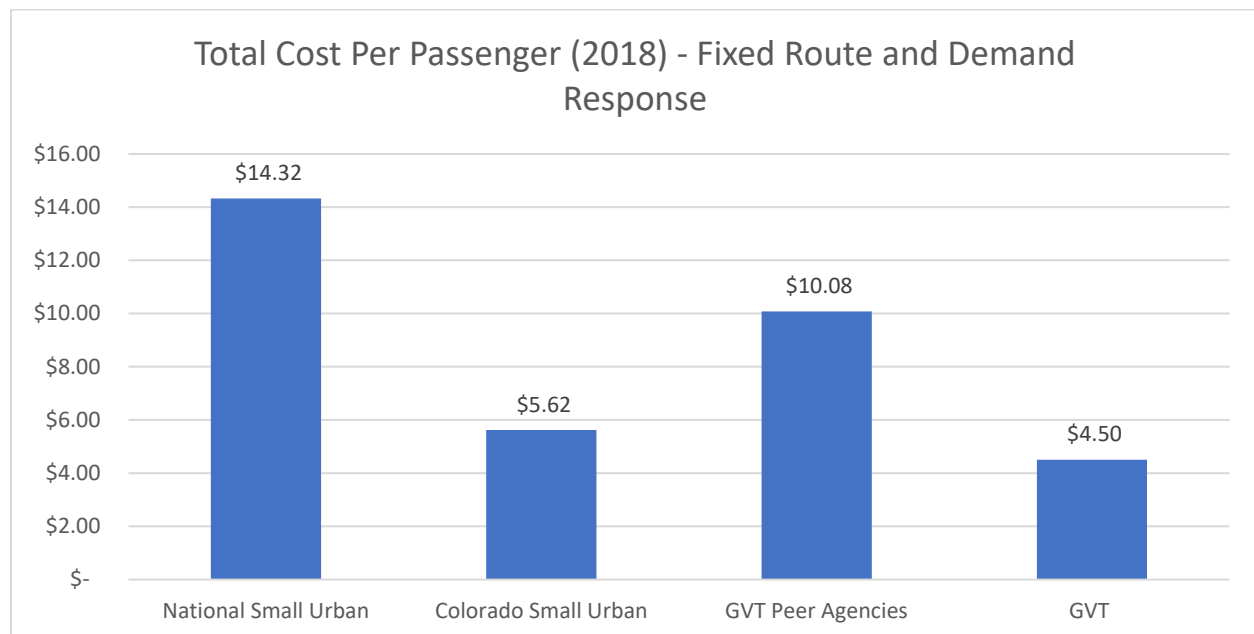


Figure 7.11: Total Operating Cost Per Passenger (2018)

Despite declining ridership and increased VMT on the fixed route system, GVT continues to operate at a significantly lower cost per-rider than peer agencies and at one-third the cost of small urban agencies nationally (**Figure 7.12**).

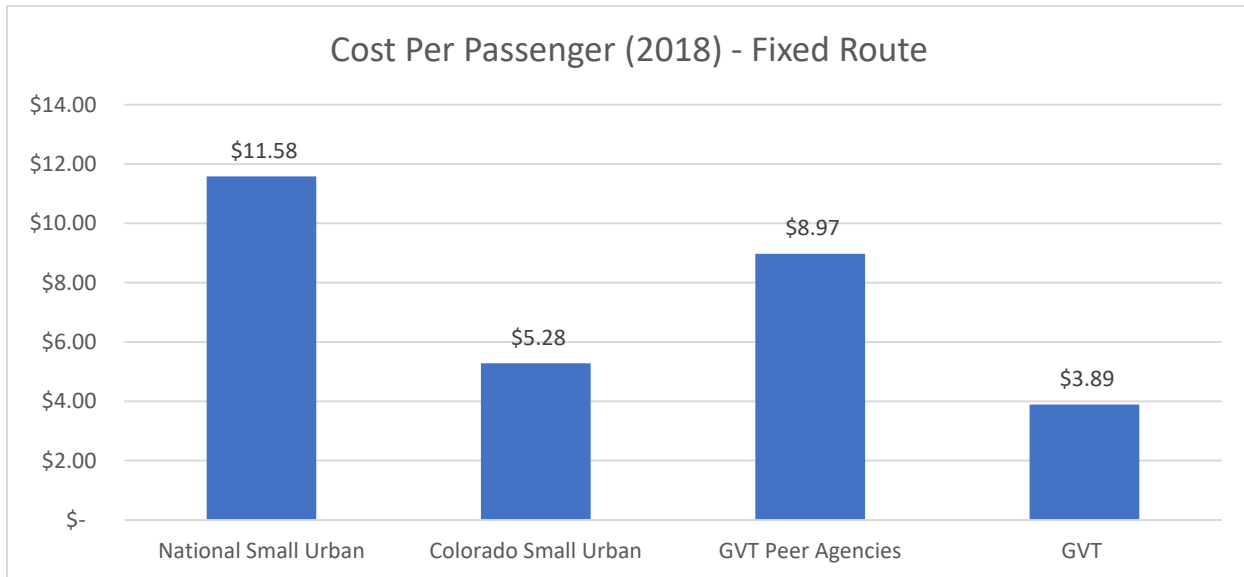


Figure 7.12: Fixed Route Operating Cost Per Passenger (2018)

While demand response paratransit service is traditionally costly to provide, GVT also operates at a much lower cost per-rider than peer agencies (**Figure 7.13**).

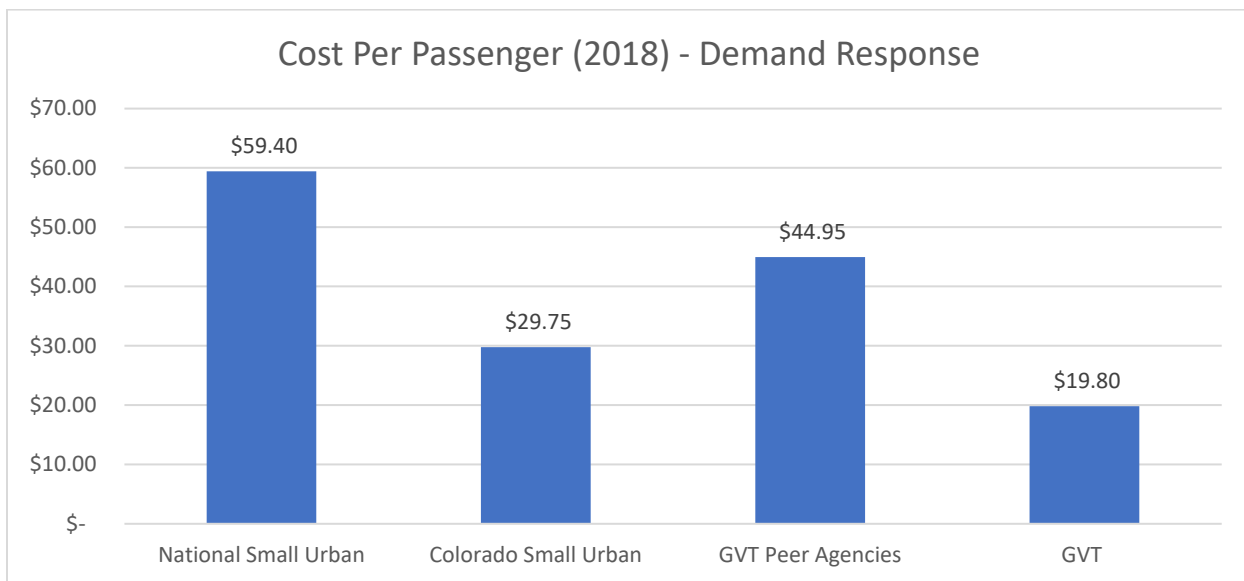


Figure 7.13: Demand Response Operating Cost Per Passenger (2018)

The cost per-rider analysis shows that GVT is providing service on both its fixed route and demand response systems at a lower cost per-rider than the average of other small urban agencies in Colorado, and at a significantly lower cost than the national average. GVT’s low cost per-rider stands out even more considering that GVT covers the 2nd largest service area with the 3rd lowest population density out of all the peer agencies studied, at 66 square miles and 1,543 persons per square mile, respectively. It is typically more expensive to serve areas with low population density.

Transit Recommendations

Chapter 2 lists goals, policies, and strategies for eight focus areas of the 2045 RTP, one of which is transit. The goal is to make transit a reliable, viable, and efficient transportation option for local and regional travel throughout the Grand Valley. The implementation plan, outlined below, provides a list of actions that GVT and the RTPO will take over the next 25 years to achieve the transit goal.

Implementation Plan

Table 7.2 shows the actions recommended in the Mesa County Coordinated Public Transit and -Human Services Transportation (CTHS) Plan. These are based largely on the transit goals and other feedback provided by the public, RTPO staff, and stakeholders, as well as the transit demand analysis and emerging trends and opportunities outlined in this chapter and in the Mesa County CTHS Plan.

The actions are divided into three different timeframes:

- Near-Term Actions will take place within the next 1-10 years
- Long-Term Actions would take place beyond 10 years
- Ongoing Actions are programs or strategies that will be implemented annually

Table 7.2: Prioritized Action Plan

Near-Term Actions	Long-Term Actions	Ongoing Actions
<ul style="list-style-type: none"> • Implement the GVT Strategic Plan • Increase the frequency of intercity bus service on I-70 and US 50 • Enhance multimodal connectivity • Improve GVT bus stops • Explore on-demand partnership opportunities • Implement pedestrian walkway & crossing improvements • Explore a taxi/transit voucher system • Explore a ride brokering program • Explore expanded service through partnerships • Implement near-term enhanced transit corridor improvements 	<ul style="list-style-type: none"> • Explore a regional mobility hub • Implement long-term enhanced transit corridor improvements 	<ul style="list-style-type: none"> • Pursue a dedicated transit funding stream • Explore additional local funding sources • Explore bus advertising • Facilitate the LCC • Coordinate joint grant applications • Maintain Mobility Manager position • Provide education, training and rider assistance • Support a central call center for transportation services (211 system) • Facilitate sharing of expertise • Organize a transit rider advisory group • Strengthen community partnerships • Support transit oriented development



Chapter 8 - Regional Roadways

Introduction

The Grand Valley roadway network is the primary means of connecting communities in Mesa County with jobs, education, healthcare, and other resources. With pockets of low population density and rural communities in between population centers, driving is one of the primary modes of travel. In addition, with the presence of Colorado’s major east-west interstate highway, I-70, a freight yard in Grand Junction, and a significant airport, Grand Valley roadways are relied upon to meet a variety of demands. The 2045 Regional Transportation Plan (RTP) update examines how best to utilize the existing roadway network for supporting a healthy regional economy while making strategic investments in expansion where needed. In addition, the roadways planning portion of the RTP process considered the Corridor Visions included in the 2040 RTP. The 2040 RTP identified a set of 37 corridors that serve regional travel activities and designated a vision, set of improvements, goals, and strategies for each one. The Corridor Visions identified for the previous plan have not changed in regional significance and the updated project list included in this chapter encompasses the strategic improvements that are planned for the corridors.

What Did We Hear?

When asked to identify their primary mode of travel, 83% of respondents to the 2045 RTP online survey indicated that they drive for the majority of trips. Throughout the outreach process, regional connectivity through driving was identified as an area of concern among participants. Outreach participants were asked to provide input both on where driving is challenging due to congestion or other related factors (**Figure 8.1**) and where driving feels unsafe due to traffic conditions or roadway maintenance issues (**Figure 8.2**). Both of these figures identify key hotspots including along Highway 330 outside of Collbran, along I-70 and I-70B, and at major intersections within the City of Grand Junction.

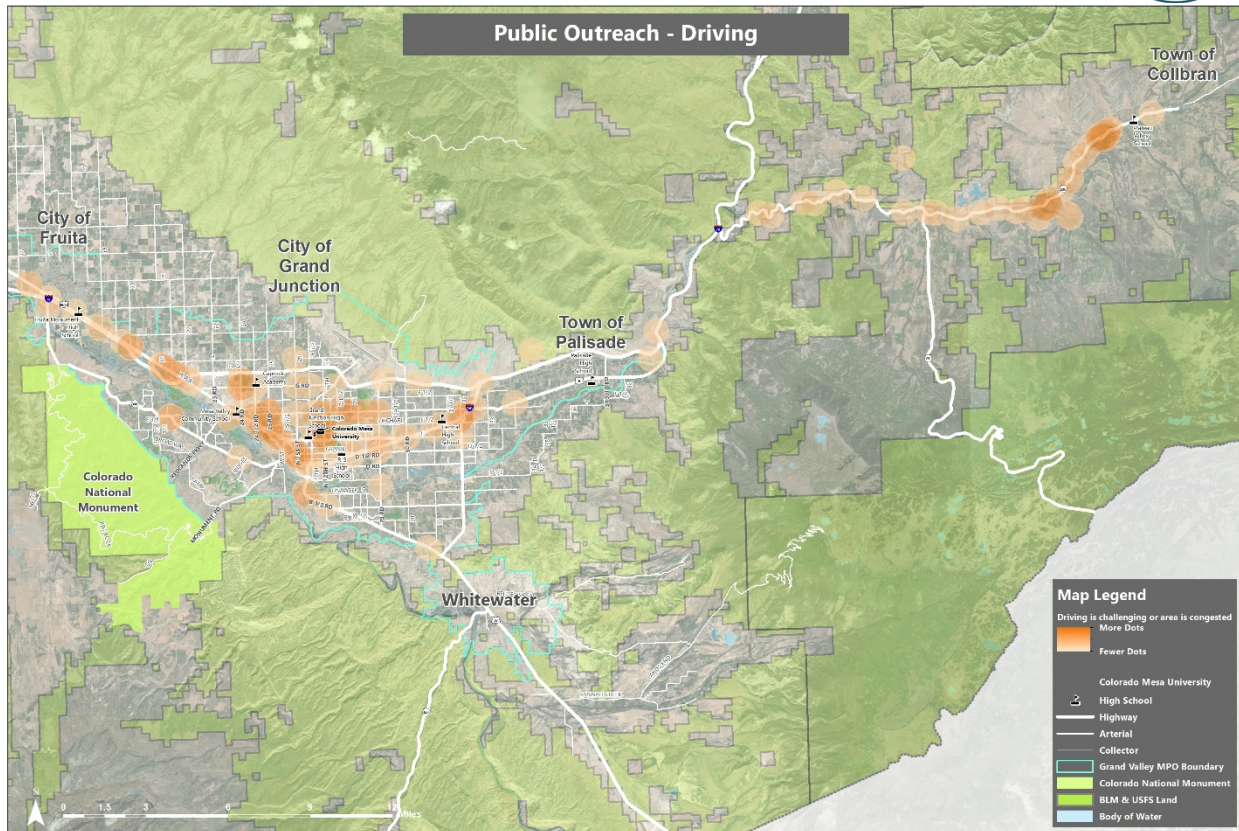


Figure 8.1: Results of public outreach showing where driving is challenging in the region

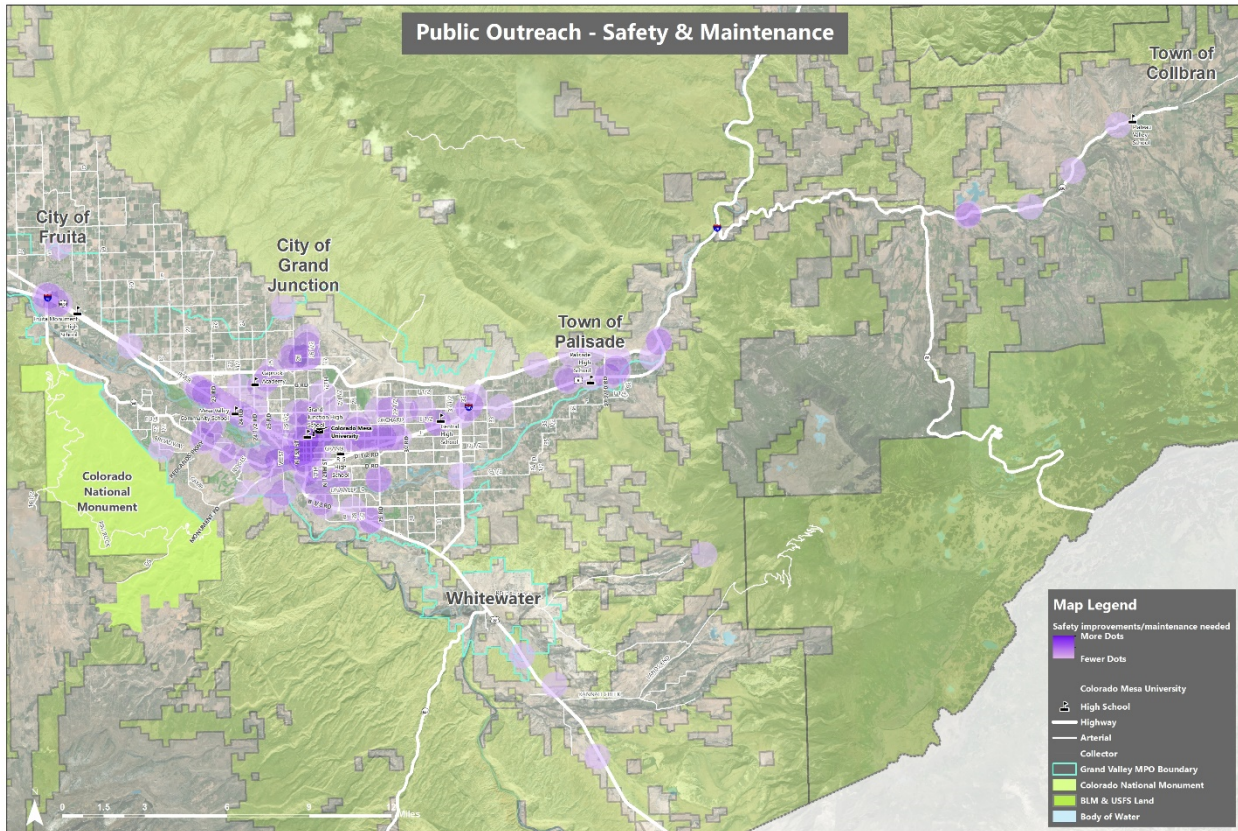


Figure 8.2: Results of public outreach showing where roadway users have safety and maintenance concerns

As a part of the online outreach survey, safety and roadway maintenance emerged as the top two most valued goals for potential investments. Moreover, the survey results revealed that driving is of critical need to Grand Valley residents; 40% of respondents have commutes that are six miles or longer.

Some specific themes that emerged from the public outreach regarding driving were:

- Poorly maintained roadways cause an impediment to driving
- High rates of speeding lead to safety concerns
- Roadway network could be enhanced to provide greater connectivity to I-70 and other corridors that provide regional connectivity

Existing Infrastructure

Roadways in the Grand Valley consist of on-system and off-system roads. The on-system network includes any road that is a numbered state highway, U.S. highway or federal interstate. This includes regional routes such as I-70, US-6, US-50, CO-141, CO-340, and other major roads. Maintenance and oversight of construction for on-system roads and many bridges is the responsibility of the Colorado Department of Transportation (CDOT). Projects on these roads must conform to state and federal standards. On-system roads accommodate the majority of traffic in the Grand Valley.

Nearly all other roads and streets in the region are considered off-system and owned by local governments or the county. The off-system network includes any paved or unpaved road without a U.S. or state highway designation, including alphanumeric roads such as K or 24 ½ Road and other routes such as Patterson/F Road, Elberta Avenue and many frontage roads. Maintenance and minor construction projects on these roads are the responsibility of local governments. CDOT and the Grand Valley Metropolitan Planning Organization (GVMPO) may partner with local governments to complete projects on local roads and many local routes are included in this 2045 RTP. Other roads, streets, and bridges in the region may be privately owned by property owners or associations and are not covered in this plan. The National Park Service, U.S. Forest Service, and Bureau of Land Management also have jurisdiction over some roads in the region.

The distinction between on and off system is important in terms of funding decisions and jurisdiction; however, the entire transportation network must work together to keep the region moving. Collectively, the region’s roadway transportation network includes approximately:

- 265 centerline miles of state highways and U.S. interstate. Approximately 73 percent of regional highways have a drivability life rating of high or moderate. This means that pavement conditions will be drivable for another three to 10 years or more.
- 342 major bridge structures. Half of the region’s bridges were built before 1970 but are still in good condition. Overall, 98 percent of on and off-system bridges are structurally sound.
- 1,407 centerline miles of county-owned roads and 456 centerline miles of city-owned roads. More than 60 percent of those roads are paved.
- 1,900 miles of trails throughout the region, including 4WD/ORV trails, hiking and biking trails, neighborhood paths, and bike paths. This includes an estimated 134 miles of signed and striped bike lanes along regional roadways.

The regional network of roads, bridges, and trails carry people and goods throughout the region and connect the Grand Valley to other regions. These roads must be safe, reliable, and efficient to accommodate commuters, commercial truck traffic, visitors, cyclists and pedestrians. According to the regional travel model, over 4.32 million vehicle miles are travelled every day using the region’s transportation system (the modeled roadway network which excludes residential streets and many minor collectors). This is largely unchanged from the previous RTP in 2014 when daily VMT was approximately 4.31 million.

Changes since the 2040 RTP

There has been great progress over the last five years, and a number of roadway projects recommended in the 2040 RTP have been completed since that plan was adopted. These projects include:

- I-70 B (Phase III) from Independent to Grand Ave, including Rimrock connection
- US 50 MP 32-36 Orchard Mesa
- Redlands Pkwy from the Riverside Parkway to CO-340 (partial improvements)
- CO-340 and Redlands Parkway intersection (complete reconstruction to a roundabout)
- D Road and 32 Road (CO-141) intersection
- Orchard Avenue from Normandy to 29 Road



- Orchard Ave (E 1/2 Rd) from 1st Street to I-70B (partially complete)
- 58.5 Road from Buckskin Hill to Bonham Road
- 330 E Road Buzzard Creek bridge replacement, realign curve

Trends

Mesa County’s on-system state roadways carried approximately 2.2 million vehicle miles traveled each day in 2018. Daily VMT represents all vehicles traveling on every highway segment, over an average day. These highway segments include Interstate 70, I-70B, US 6, US 50, CO 141, and CO 340. Travel on roads not on the state system, including all collectors and local roadways, is not included. Vehicle travel in the region declined following the economic recession. The national and the Grand Valley economy have both since recovered, reinforced by the fact that daily VMT in 2018 was similar to 2013.

The Mesa County regional travel model was updated at the time of the completion of the 2045 RTP. Going forward, the updated model will be used as a tool to help guide and refine priorities for capacity expansion projects and to further inform the performance management process.

Commuter Trends

As of 2017, the Grand Valley was home to approximately 60,000 workers (**Figure 8.3**). The share of commuters traveling to work by vehicle has not changed substantially since the 2040 RTP, though there has been a slight rise in the percentage of workers who access their jobs by foot or bicycle, or work from home.

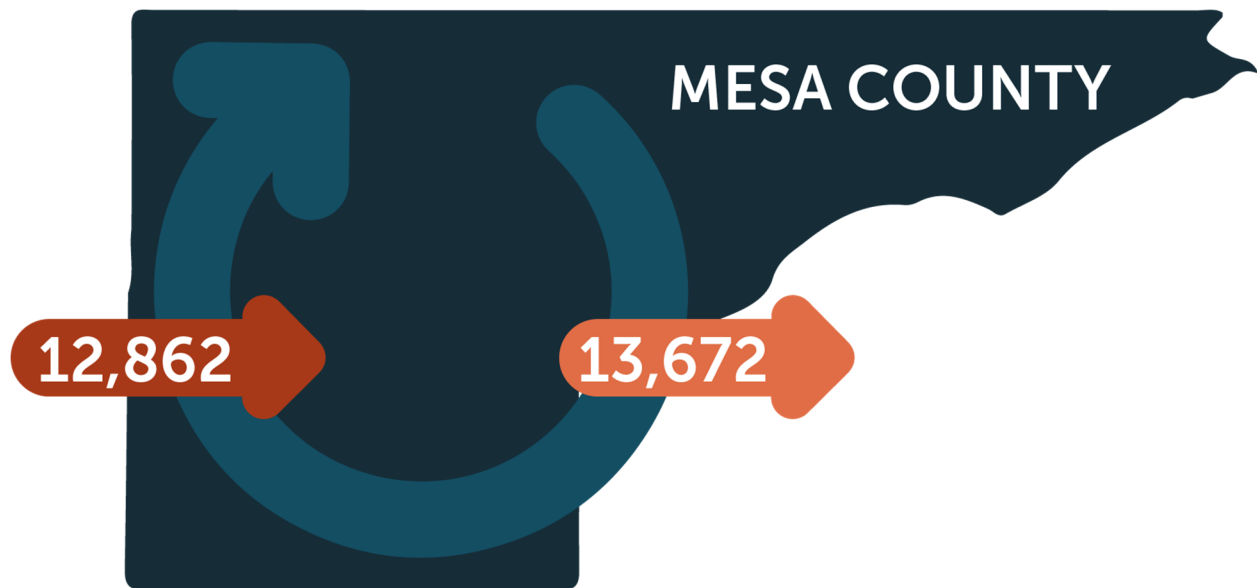


Figure 8.3: Commute patterns into and out of the Grand Valley (LEHD)

According to U.S. Census estimates, approximately 45% of Mesa County commuters have travel times to work of less than that are between 10 to 20 minutes long and nearly 20% have travel times that are under 10 minutes (**Figure 8.4**). This suggests that although rates of driving are higher, there are a

substantial subset of commuters who have short distance trips that could be taken by different modes if not for safety and connectivity barriers, as well as challenges that may be posed by inclement weather or topography.

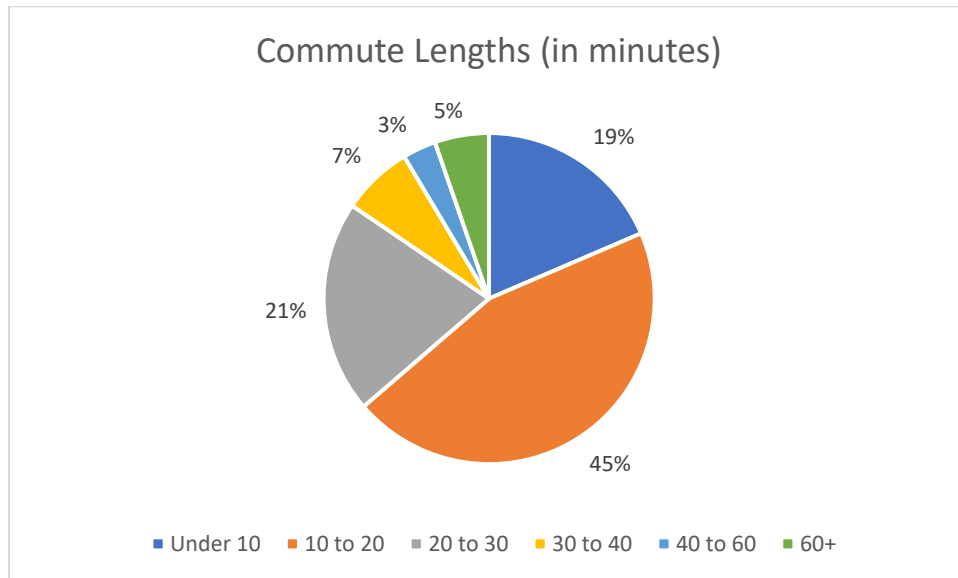


Figure 8.4: Mesa County Commute Trips by Length

An estimated 60,000 commuters travel within, into, and out of the region every day on their way to jobs. According to 2017 U.S. Census data, nearly 80 percent of workers in Mesa County also live in the county. Another 20 percent, or nearly 12,000 workers, live outside the county but commute into the county to work. Similarly, 20 percent of workers live in the county but travel to jobs outside the county.

According to the Colorado Department of Revenue, during FY 2019, there were a total of 193,322 registered vehicles in Mesa County. This includes all vehicle types, from passenger vehicles to tractors. Passenger vehicles and light trucks comprise 140,127 of the total vehicles. The overall amount of registered vehicles in Mesa County has increased by approximately 9% since the 2040 RTP.

Safety Trends

When comparing the previous five years of available crash data (2014-2018) with the time period studied for 2040 RTP (2003-2012), it was found that overall safety conditions have somewhat improved. The year with the highest number of crashes, 2018, had fewer crashes than eight of the ten years studied for the 2040 RTP (**Figure 8.5**). The crash data profiled in this section does not include bicycle and pedestrian crashes – this information can be found in **Chapter 6**.

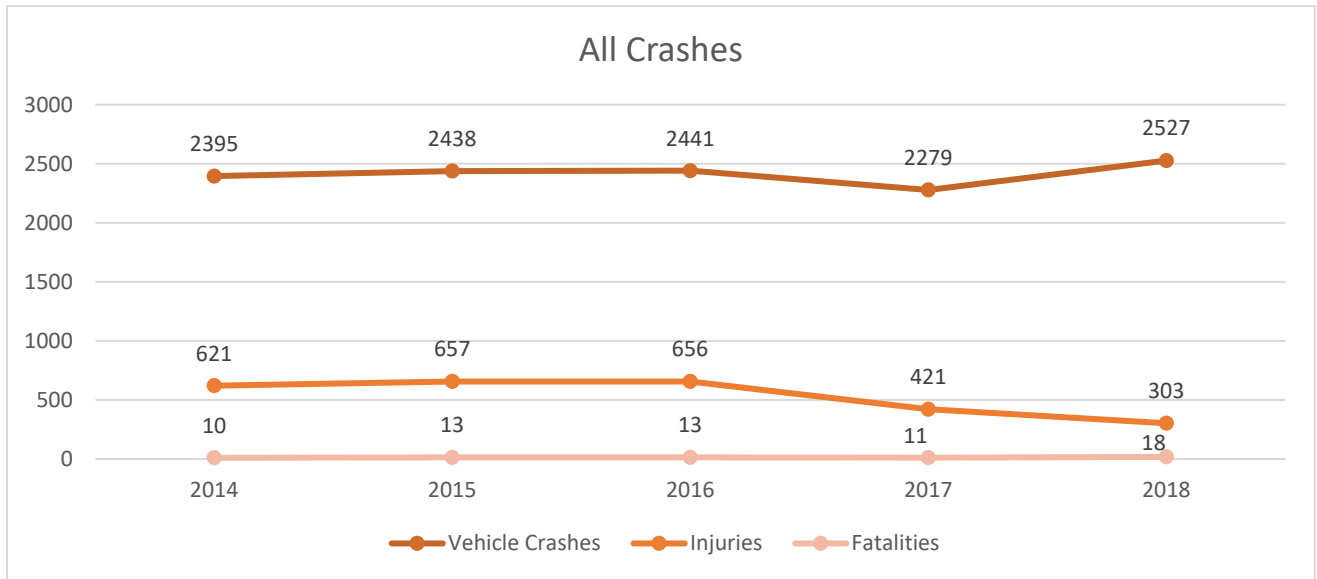


Figure 8.5: Grand Valley crash data (2014-2018)

Even as the total number of crashes has increased since 2016, the percentage of all crashes resulting in injuries or fatalities has declined. This suggests that while some of the underlying causes of crashes remain, crash outcomes are less severe. This may be due in part to vehicle technologies, infrastructure improvements, or behavior change.

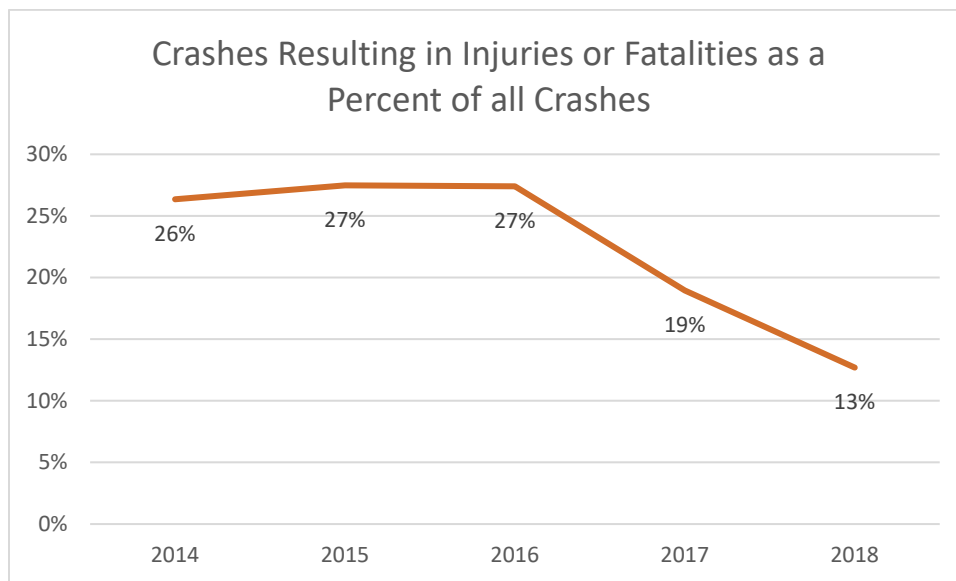


Figure 8.6: Crashes resulting in injuries or fatalities as a result of all crashes (2014-2018)

There were a range of crash types among the nearly 12,000 recorded crashes over the past five years. Most prevalent were rear-end crashes, accounting for nearly a third of all crashes (**Figure 8.7**). Broadside crashes were the next most prevalent crash type, accounting for 20% of crashes.

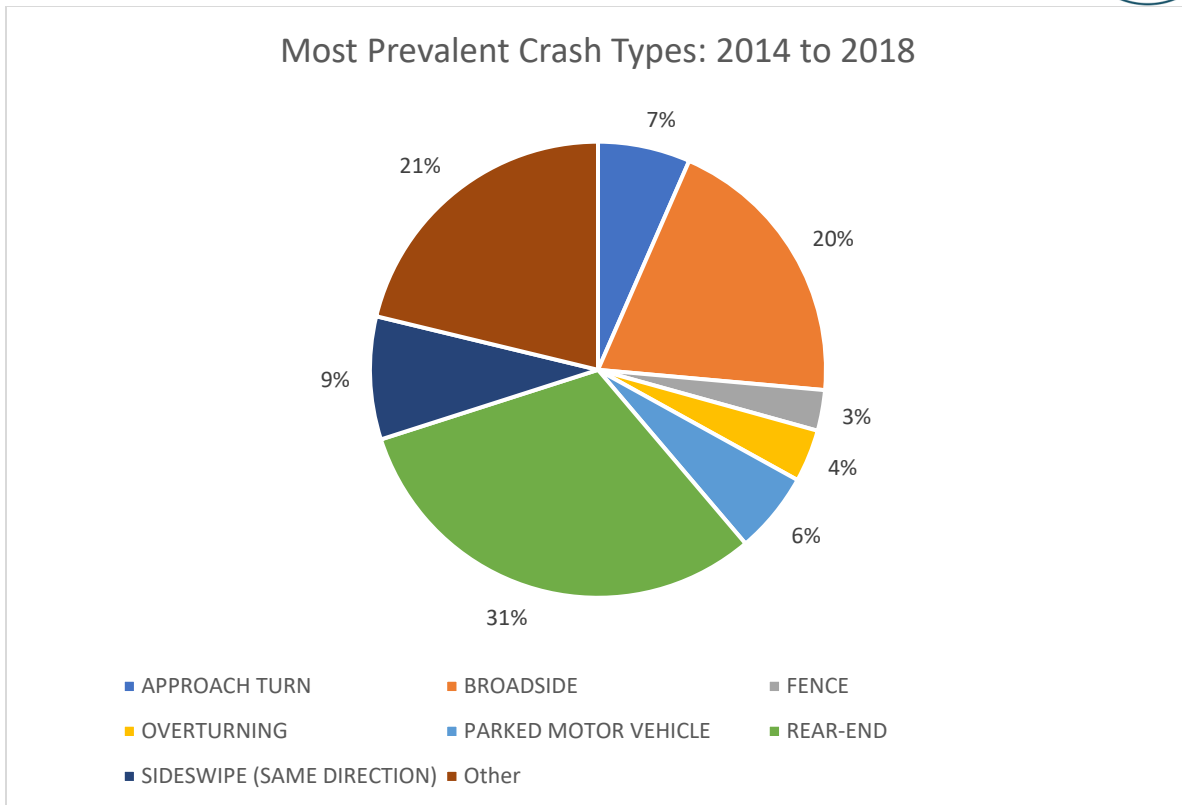


Figure 8.7: Crash types (2014 - 2018)

Since some of the most common crash types were caused by speeding. The 2045 RTP roadway project recommendations include countermeasures intended to reduce vehicle speeds when possible.

Project Recommendations

The following section outlines roadway project recommendations for the 2045 RTP. This section of the chapter includes background on the project selection and prioritization processes, and a list of projects.

The GVMPO is responsible for competing for and allocating federal and state funding to advance regional projects. CDOT Region 3 and local governments are key partners in this process and usually must provide matching funds (and in many cases, additional funding) in order to secure federal awards. The USDOT and the State of Colorado provide the majority of funding for on-system projects. Projects that are likely to be entirely funded and managed by local governments are included in the 2045 RTP.

CDOT estimates that the GVMPO could expect to receive a total of approximately \$183.7 million dollars in transportation funding between now and 2045 through sources like Senate Bill 267 and Regional Priority Program (RPP). That funding is limited to certain roadways or to certain purposes. Other funding sources and amounts are anticipated but amounts by program remain unknown presently. In addition, \$19.8 million dollars must be addressed by the RTP and programmed in the regional capital program – or four-year Transportation Improvement Program (TIP). The total cost of potential future projects identified in the RTP is more than \$1 billion. The region cannot afford to complete every potential project no matter how beneficial or how well-supported by the public. Limited funding must be dedicated to regionally



significant projects. This RTP identifies regional priority projects within the constraints of available future funding.

Project Selection

A comprehensive, community-based, and data-driven approach was used to develop and prioritize a set of roadway project recommendations for the 2045 RTP. Projects from the 2040 RTP that had not yet been completed were first added to the draft project list. Using the heatmaps (**Figure 8.1** and **Figure 8.2**) of public input showing where drivers expressed concerns about driving challenges, safety, and maintenance issues, were overlaid onto the existing list of planned projects. Any areas of concern that did not have improvements already programmed were flagged as geographies where project recommendations should be made. In collaboration with stakeholders representing local agencies, Mesa County, CDOT, and project staff assembled a draft list of project recommendations. The TAC and Steering Committee were also instrumental in helping to develop the project list. All draft recommendations were then shared with the community at an open house event and were also distributed to local stakeholder groups for review. Draft projects were modified based on input received during these efforts.

Project Types

A range of improvement types are reflected in the 2045 RTP list of recommended roadway projects. In some cases, a single project includes multiple categories of improvements. The list below shows the types of improvements that are proposed:

- Rebuild – Projects that involve replacing structurally unsound bridges or upgrading interchanges.
- Operations – Projects that will improve performance through solutions like adding turn lanes at high-volume intersections.
- Safety – Projects implemented in locations with high crash rates will include engineering countermeasures for improving safety outcomes. These can include but are not limited to bulbouts at intersections to reduce crossing distances, narrowing lanes to calm vehicle speeds, replacing intersections, or improving lighting.
- Shoulders – While not explicitly intended for multimodal travel, roadway shoulders in the Grand Valley must be maintained in good condition to ensure cyclists and pedestrians can safely access the facility. In addition, improved shoulders have safety implications for drivers as they provide a safe place to wait for assistance in the event of vehicle malfunction. Projects that improve shoulders may include re-striping to widen the shoulder or paving shoulders that are currently gravel.
- Capacity – In areas that experience congestion resulting in roadway segments that are over design capacity, projects may include the addition of travel lanes to accommodate travel demand.
- Multimodal – While the 2045 RTP includes a dedicated list of active transportation projects, some of the roadway projects include multimodal elements. For example, if a project includes

reconstructing a roadway segment with an existing sidewalk, the sidewalk would be upgraded as part of the project.

- Resurfacing – When the pavement on a roadway segment reaches the end of its drivability life, projects will include resurfacing to bring the roadway into a state of good repair.

Project Prioritization

In order to determine which projects of the recommended project list are implemented as funding becomes available, the projects were screened using a performance-based planning and programming approach that is described in detail in **Chapter 10**. The performance measures used to screen and prioritize projects were:

- Safety – Projects were scored for the safety performance measure based on the number of crashes within a defined influence area of the project. Crashes coded as visible injury, severe injury, and fatality were tabulated and utilized in the prioritization process. Projects with a higher number of severe crashes within the defined buffer area received higher scores.
- Infrastructure Condition – The infrastructure condition for CDOT roadways was received spatially in terms of “Driveability Life”. Driveability Life is a measure, in years, of how long a highway will have acceptable driving conditions. This measure was then tied to a 1-5 score. If a project was associated with two different Driveability Life scores, the higher score was applied. Grand Junction provided geocoded data that assigned a Pavement Condition Index (PCI) for roadways within the City. For all other jurisdictions, the data has not been fully tabulated. Staff knowledge was employed to determine a score for this performance measure for remaining roadways.
- System Performance – This measure addresses the extent to which a proposed project improves the efficiency of the surface transportation system. For the Interstate System and Non-Interstate National Highway System (NHS), the National Performance Management Research Data Set (NPMRDS) and analysis tools were used to score projects. Variables included the Level of Travel Time Reliability (LOTTR), Truck Travel Time Reliability (TTTR), and Volume-to-Capacity (V/C) Ratios.
- Mobility for all Travelers – Projects were screened based on proximity to key destinations consisting of schools, parks, trail access points and transit. Projects with a higher numbers of key destinations within ¼ mile of the proposed project alignment received greater scores because of the opportunity presented to enhance access to community resources for vulnerable populations.
- Economic Development – The potential for a project to contribute to the economic development of an area is an important consideration for project prioritization; transportation projects carry a strong potential to activate communities within the Grand Valley and contribute to the economic strength of commercial cores. Proposed roadway projects were screened based on population density and land use near the project.

Projects were scored on each measure (as described in **Chapter 10**) and the individual criteria scores were averaged for a final score.

Projects List

The full list of roadway projects is available in **Appendix A** and a list of priority projects by jurisdiction is shown in **Chapter 12**. Projects with multiple implementing jurisdictions are noted and shown under all relevant jurisdictions. **Figure 8.8** shows the location of each project in the Grand Valley.

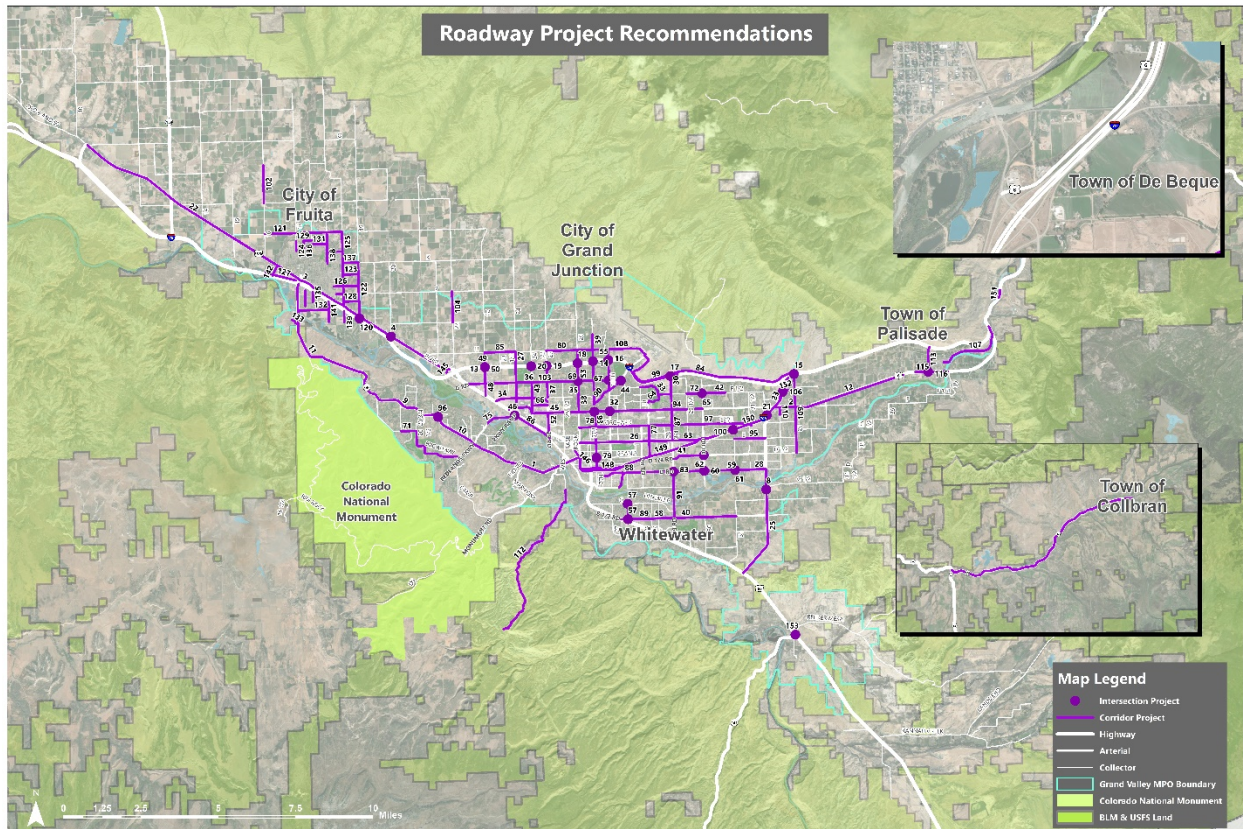


Figure 8.8: Map of Roadway Projects

Fiscally Constrained Plan

The Tier 1 projects that represent the highest regional priorities are constrained by available future funding. Regional maintenance and operating needs are growing quickly and project construction costs are also escalating with increases in material and input prices. In total, the Grand Valley’s regional priority project costs are estimated to total \$302.5 million in 2045 dollars. State and federally funded priorities are expected to account for \$152 million of total priority project costs. The region is anticipated to receive \$286.2 million (in 2045 dollars) in programmable federal, state, and local funds through 2045.

The region’s prioritized fiscally constrained project plan through 2045 is available in **Chapter 12**. This list identifies those state and federally funded projects that can be reasonably expected to be completed with available state and federal funding. Projects are included based upon total prioritization score up to the identified 2045 fiscal constraint threshold. Complete funding information (CIP, etc.) was not



available from all local jurisdictions at the time the RTP was finalized. Therefore, local revenues were accounted for within this RTP update to the extent practicable.

Corridor Visions

The corridor visions from the 2040 RTP (*Chapter 8, Corridor Visions, GV 2040 RTP*), were examined and fully considered as a component of corridor and project identification for the 2045 RTP. The projects presented in the 2045 RTP include each of the key transportation corridors throughout the Grand Valley as well as improvements at discrete locations such as intersections.



Chapter 9 - Regional Freight and Intermodal Transportation

With today’s increasingly interconnected global economy, the economic competitiveness of the region depends on its connections to other regions of the west, the U.S., and the rest of the world. Freight and intermodal transportation systems facilitate the movement of goods and people and enable regional businesses to compete in global markets. The Grand Valley offers extensive freight rail, passenger rail, air passenger and cargo, interstate trucking, and distribution capabilities. Continuing to grow and invest in these resources will be important for growing the region’s freight and passenger accessibility.

What Did we Hear?

Seeking input on freight was an important part of the development of recommendations and priorities for this Chapter of the RTP. During Phase I of public outreach in September 2019, the project team hosted a focus group with major freight stakeholders and economic development partners.

The biggest challenges faced by these groups, as it relates to freight in the region, are related to cost, access, and schedule. A shortage of personnel and drivers, the lack of accessibility of Grand Junction to ports and challenges in rail access make freight access to the region challenging. A greater amount of intermodal capacity and efficiency would benefit the cost effectiveness for freight providers. Freight groups saw public agencies as the actor to provide the infrastructure maintenance and improvements, information technology, and equipment technology.

Members of the general public identified freight as a lower priority relative to other investments in the region, as shown in **Figure 9.1**. However, discussion with some members of the public revealed that they did not realize the impact of freight on daily life (i.e. groceries, online orders, gasoline, etc.) Once people made that connection, they valued freight a lot more.

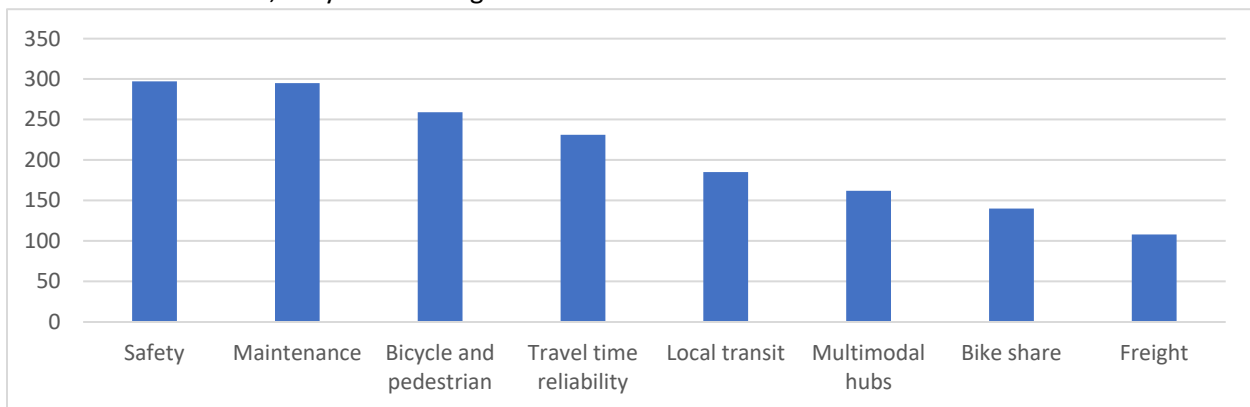


Figure 9.1: Online Survey Results: Highest Valued Goals for Potential Investments

Changes from the 2040 RTP

Over the past five years, the movement of goods nationally and internationally has been experiencing significant changes due to a number of emerging trends, including a continual shift towards e-commerce, transformative technological advancements, trade agreements, and new energy sources. In

addition, the freight industry continues to face a growing truck driver deficit, which has been exacerbated with the changes to Hours of Service (HOS) and a new requirement for monitoring HOS using electronic logging devices (ELD).

E-Commerce Consumer Trends

E-commerce continues to disrupt the flow of goods in and out of the Grand Valley. Nationally, experts have opined that the growth in e-commerce correlates with Millennials becoming a major consumer block. This generation grew up with computers and smart phones that have transformed how they socialize, travel, communicate and consume goods. A Boston Consulting Group (BCG) study⁸ found that there are differences in buying behavior and attitudes between Millennials and the older populations of Gen-exers and Baby Boomers. These differences are well-correlated with their use of social media and internet when buying products or rating purchased products. Due to access and higher use of social media and internet and their attitudes towards shopping, progressive (non-conservative) Millennials tend to shop online (use e-commerce) more than the traditional consumers. Companies that better understand the buying behavior and attitudes of Millennials have adapted their supply chains to meet their needs. In addition, capturing the older populations has partly been a function of providing faster service since Gen-exers and Baby Boomers grew up driving to the nearest retail store to purchase what they need when they need it. As ordering online has become faster and more convenient, growth in e-commerce has continued at a faster rate than traditional retail. As shown in the figure following, total retail growth has increased from \$3 trillion to \$5 trillion over the past 17 years, whereas e-commerce has gone from \$0 to \$450 billion in the same time period (see **Figure 9.2**). This means that e-commerce as a share of total retail has grown from zero to nine percent (0-9%) in 17 years. Even during the 2008-2010 global recession when total retail trade slowed, e-commerce grew capturing an additional one percent (1%) of the total retail share.

The increase in development related to e-commerce distribution and fulfillment centers is best explained by exploring the keys to successful e-commerce businesses. According to Datex, a Warehouse Management System (WMS) software developer, “for every \$1 million in online sales volume, an e-commerce operation requires approximately 1.3 million square feet to operate effectively”.⁹ This need for space, predicated by consumer demand for a wider variety and selection of merchandise (i.e., more Stock Keeping Units, or SKUs) that can be delivered within two days, has led to the development of high-cubed, automated warehouses with minimum ceiling heights of 66 feet. The most desirable locations for distribution center development have proximity to major urban population centers, available land for the development of a minimum facility size of one million square feet, zoning that allows minimum building heights of 66 feet, good access to major transportation (road, rail, airports and seaports), available workforce, and a business-friendly environment. The fulfillment centers are typically smaller, with average sizes between 50,000 and 500,000 square feet located in urban areas. Some companies, like Walmart, use their retail centers to fulfill orders. Others, like Amazon, rely on a network of local fulfillment centers to respond to same day, next day and two-day demand. Grand Junction has been

⁸ The Boston Consulting Group (BCG), *The Millennial Consumer – Debunking Stereotypes*, April 2012. Available at: <https://www.bcg.com/documents/file103894.pdf> (last accessed on August 29, 2016)

⁹ <https://www.datexcorp.com/2018-hottest-u-s-retail-e-commerce-fulfillment-markets/>



experiencing this trend over the past five years with the development of new fulfillment centers – a trend that is anticipated to continue.

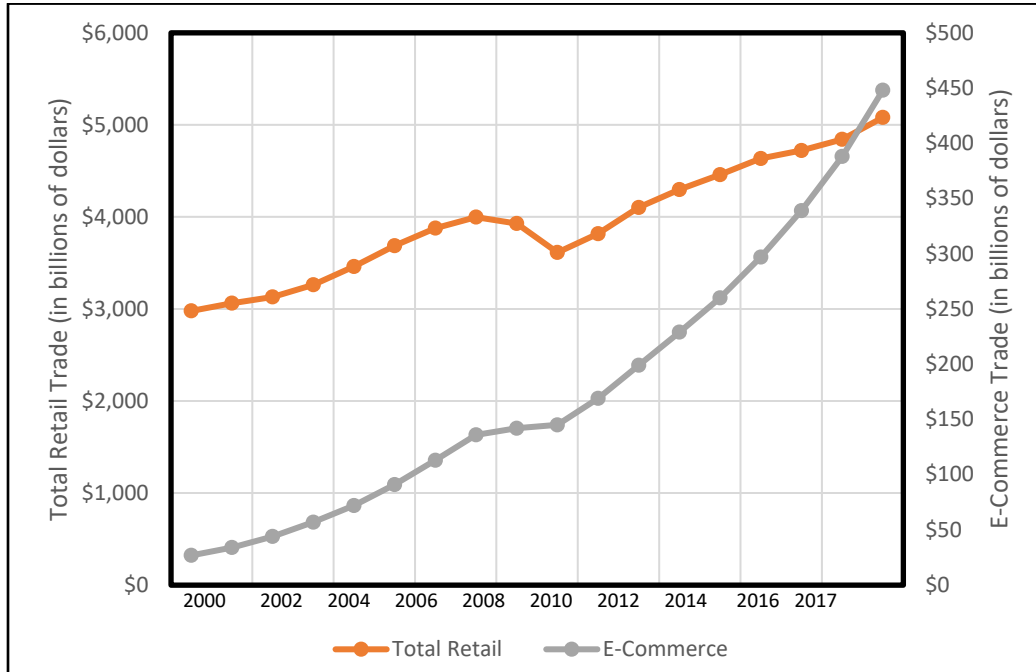


Figure 9.2: Historical National Total and E-Commerce Retail Trade Sales, 2000-2017

Source: U.S. Census Bureau’s 2017 Annual Retail Trade Survey.

Automation

The world of robotics and automation is growing even faster than many experts had predicted in all areas of the freight industry, from autonomous trucks, ships and cargo handling equipment to fully automated warehouses, ports, and rail yards. Robots have been used for the past 20 years on assembly lines in manufacturing, but as costs have come down and machine learning aided by computing power has increased, robots have become much more common. The advancement of robots through tools like artificial intelligence (AI) to emulate human activities has led to new applications for robots that are now benefitting the entire supply chain. Technological advancements in both robotics and automation create more efficiencies throughout the supply chain – from warehouses to port complexes, robots and automation are being leveraged to address efficiency, cost, safety and workforce availability challenges.

On the roadways, autonomous trucks offer a significant opportunity for addressing the driver shortage. Autonomous, or self-driving, vehicles has been identified by many as a “disruptive trend”. Disruptive trends upend, or disrupt, business as usual. Driverless technology will create several societal benefits ranging from safety to productivity, but this technology will also eliminate many jobs. In December 2018, McKinsey & Company published an in-depth article on the future of automated trucks.¹⁰

¹⁰ <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/distraction-or-disruption-autonomous-trucks-gain-ground-in-us-logistics>

According to their research, they anticipate Level 4 (nearly fully autonomous trucks capable of operating within a constrained geo-fenced environment without a driver) will be deployed as early as 2025.

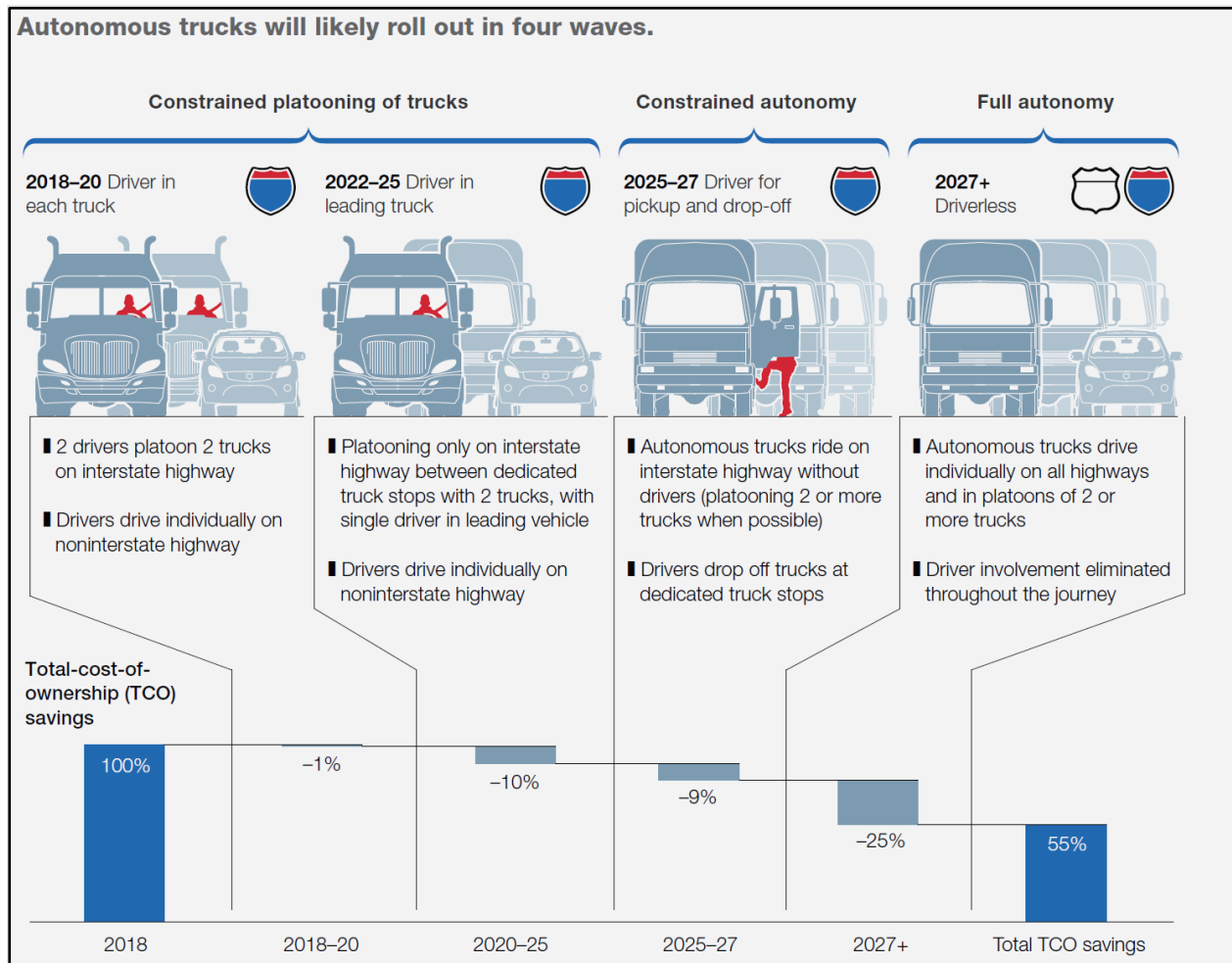


Figure 9.3: Timeframes for autonomous truck deployment

Embark, in partnership with Ryder, has been testing autonomous trucks between El Paso, Texas and Palm Springs, California. The focus has been on the freeway route, with the driver managing the local roadway driving. This accomplishment explains why McKinsey & Company researchers anticipate deployment of Level 5 autonomous trucks by as early as 2027 – which will save the industry approximately 45 percent in operating costs per truck.¹¹ Autonomous trucks are not subject to Hours of Service (HOS) rules, and autonomous trucks can drive until requiring fuel. In addition, the technology will address a major challenge – truck driver shortage. As of 2018, the American Trucking Association estimated that there is a shortage of 63,000 truck drivers (representing approximately 2% of the total

¹¹ Chottani, Aisha and Greg Hastings, *Distraction or Disruption? Autonomous trucks gain ground in US logistics*. McKinsey & Company, December 2018. <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/distraction-or-disruption-autonomous-trucks-gain-ground-in-us-logistics>



amount of drivers), and by 2026, they project that the shortage will grow to 174,000 drivers. Given the difficult terrain and challenging weather in the Grand Valley region, it may take longer for implementation of this technology.

What Does the Data Tell Us?

Air Passenger and Freight Movements

Scheduled commercial air service, general aviation services, and military operations are supported by the Grand Junction Regional Airport. In operation since 1930, the airport is the third busiest in the state – with almost 240,000 passenger boardings, or enplanements, in 2018. Passenger service is primarily provided by five major airlines with additional regional and charter services. Destination routes include Los Angeles, Las Vegas, Dallas-Ft. Worth, Houston, Salt Lake City, Denver, and Phoenix. The airport also provides air cargo support services – primarily through FedEx with additional belly cargo carried in passenger planes.

Figure 9.4 shows trends in total aircraft operations and passenger boardings at the regional airport since 2000, which was featured in the 2040 RTP. While total operations have declined as large commercial carriers have scaled back service or gone out of business, total passenger boardings have continued to increase along with the capacity of planes and efficiency of service. The Colorado Department of

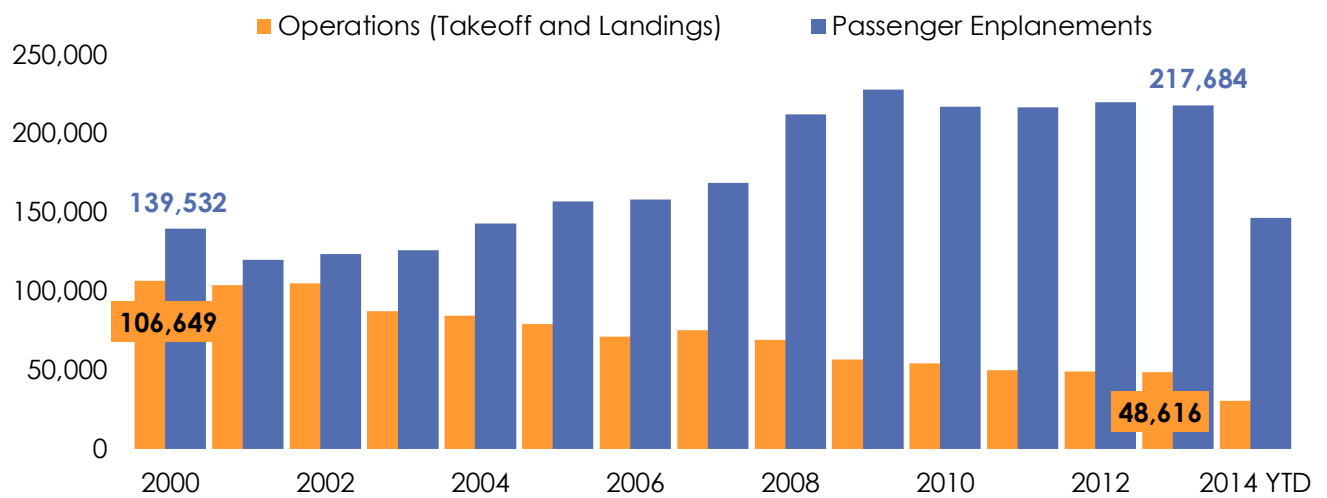


Figure 9.4: Aircraft Operation and Passenger Boardings (2000-2014) Grand Junction Regional Airport Authority, 2014.

Since the 2040 RTP, general aviation activity at the airport has seen an increase, with a steady rise in both passenger enplanements and aircraft operations **Figure 9.5**. The 2019 data shown in the chart is through October of 2019; enplanements are up an average of 12% on a monthly basis year-over-year but aircraft operations are down approximately 3% on a monthly basis year-over-year.

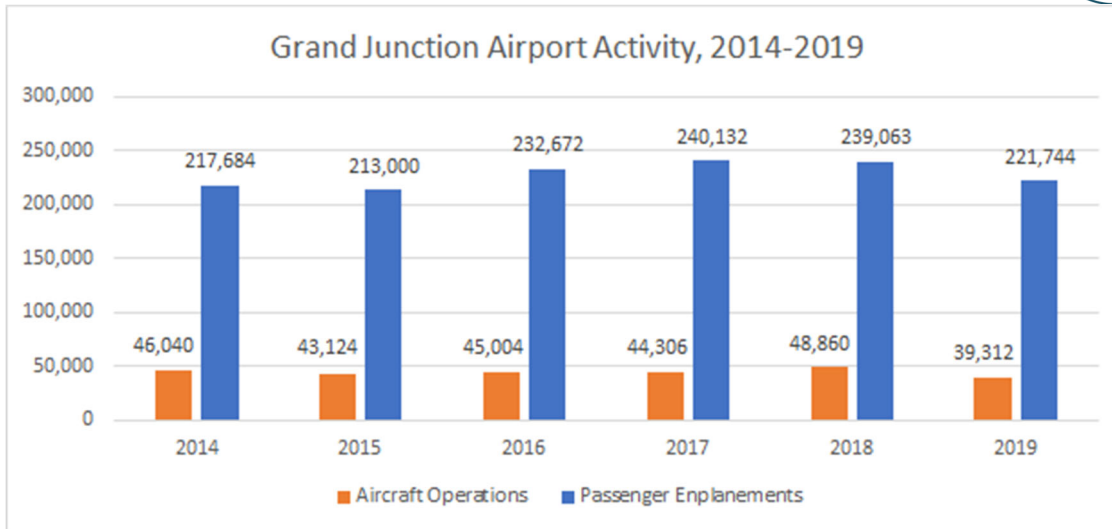


Figure 9.5: Grand Junction Airport Activity, 2014-2019

Cargo flown in and out of the region in 2018 totaled 9.7 million pounds – over 90 percent of which was handled by FedEx cargo services. Freight movements have grown in recent years even after the slowdown of the economic recession. The airport moved nearly 1.5 million pounds more of cargo in 2019 than six years earlier.

The Grand Junction Regional Airport is a critical asset to maintain and grow Mesa County’s presence as a transportation hub in the Western U.S. and to facilitate international commerce and regional business growth. Scheduled commercial service that is predictable and on-time is important to regional businesses. Many of the region’s businesses rely on the airport to bring in clients or shipments of important components and in turn, rely on air connections for staff travel and outbound product deliveries.

According to the airport’s most current master plan, prepared in 2011, forecasts of aviation activity through 2027 indicated continued growth in passenger traffic. Commercial air service operations are expected to increase 37 percent contributing to a continued growth in passenger enplanements of 47 percent. Should these forecasts hold true, over 370,000 total passengers could be accommodated at the airport by 2030.

The airport has gone through an extensive master planning process that will help guide future expansion plans. More information about that plan can be found by visiting the website: gjairport.com/documents.

Rail Passenger and Freight Movements

The Grand Valley region has historically been a transportation crossroads – from river to rail. Currently, two Class I freight railroads operate within the region - the Union Pacific and the Burlington Northern Santa Fe. Amtrak operates the California Zephyr between Denver and San Francisco through Grand Junction daily in each direction.



In 2019, the Grand Junction Amtrak station was the third busiest in the state with 32,000 boardings and alightings. **Figure 9.6** shows that ridership on the Zephyr route to and from the Grand Junction station has trended upwards in recent years. The majority of Amtrak passengers in 2018 used passenger rail service as an inter-regional transportation option. More than half (58%) of trips made on Amtrak that year were less than 500 miles. This distance includes popular destinations and origins such as Glenwood Springs, Denver, Provo, and Salt Lake City. Only a third of Amtrak trips through Grand Junction are cross-country or long-distance. The majority of trips are likely made by residents, visitors, and businesses to nearby regions and hubs.

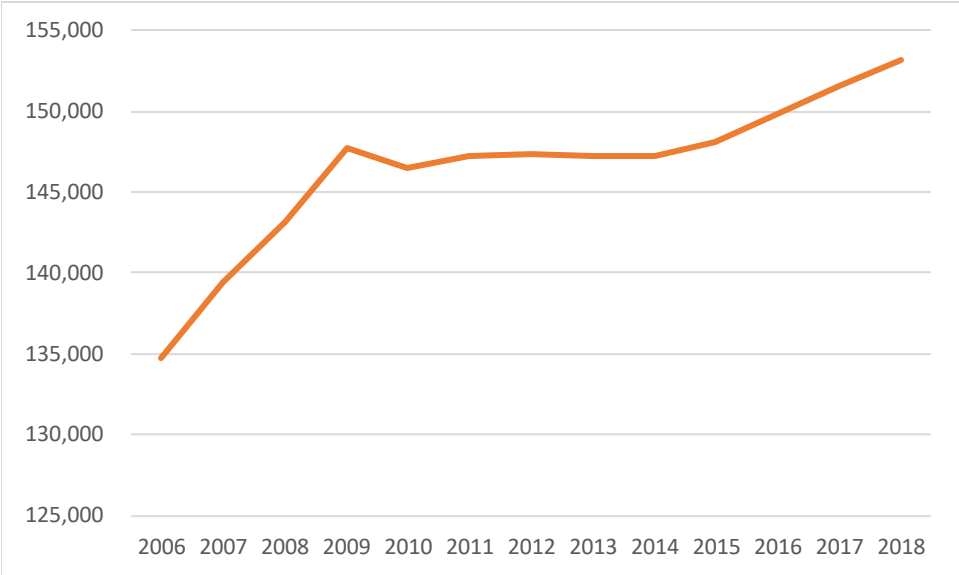


Figure 9.6: Amtrak Total On/Off Passengers in Grand Junction, 2012-2018

Freight rail in Colorado is largely concentrated on moving lower value, higher bulk goods, such as coal, cement, and agricultural products to and from the state. Colorado is not situated on a major east-west trunk rail line as the Continental Divide passage in Colorado is a barrier to train speed, length, and tonnage. Regional data is not available on freight rail movements in Mesa County. However, in Colorado, the Union Pacific and the Burlington Northern Santa Fe railways together operate 2,236 miles of track, including a rail yard in Grand Junction. In 2010, the two railroads moved over 600,000 carloads to and from Colorado carrying goods measured in the millions of tons. Top commodities for carloads originating or terminating in Colorado included: intermodal wholesale products and shipping containers, coal, aggregates, agricultural grains and products, scrap metal, and food products. Figure 9.7 maps the volume of trucks traveling through Colorado. The majority of freight flows, by weight, are shipped along North-South corridors along the Front Range and along the I-80 East-West corridor. A small share of the state’s total rail freight movements travel through the I-70 corridor and Mesa County.

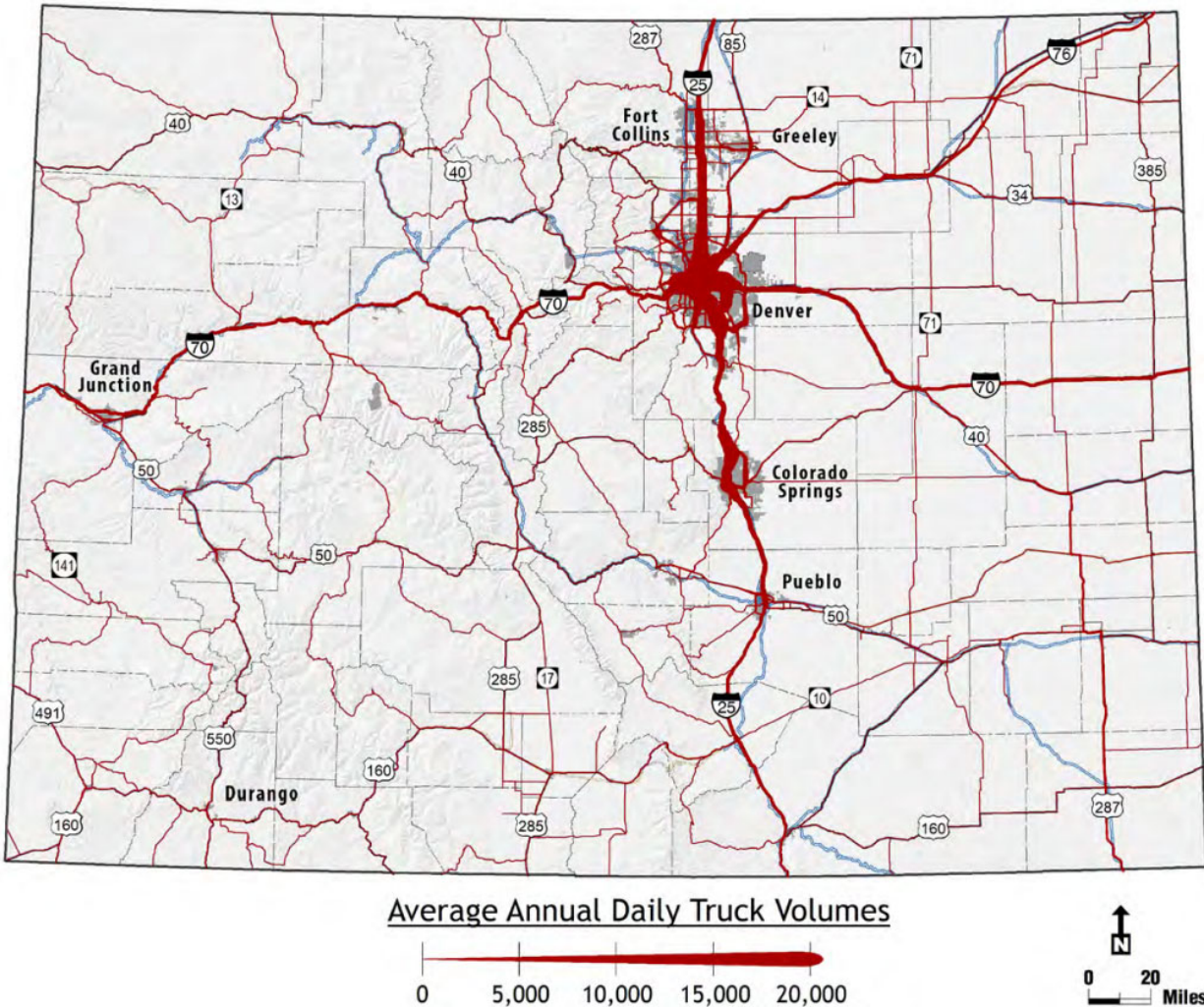


Figure 9.7: Average Annual Daily Truck Traffic Volumes, 2017

Rail still plays a significant role in the region’s transportation system and that role could be expanded as the nation’s freight rail volumes increase and other major cross-continental routes reach capacity. Mesa County lacks an intermodal logistics center to efficiently transfer shipping containers from rail to truck or to transload goods from one mode to another. Rail safety is also an important consideration in the region as there are a number of at-grade rail crossings and facilities that could be made safer for vehicles, cyclists, and pedestrians as well as ensuring safe and efficient rail movements.

Truck Freight Movements

Mesa County experiences significant interstate and regional truck travel. The region’s proximity to Interstate 70; status as a major consumer market and distribution hub in Western Colorado; and, as a producer of agricultural products, manufactured goods, and energy ensure that truck freight movements are critical to the regional economy.

In 2013, trucks traveled an average of 206,563 miles on state highways in the region – every day. **Figure 9.8** shows trends in truck movements in the region since 2000. Truck travel is sensitive to consumer

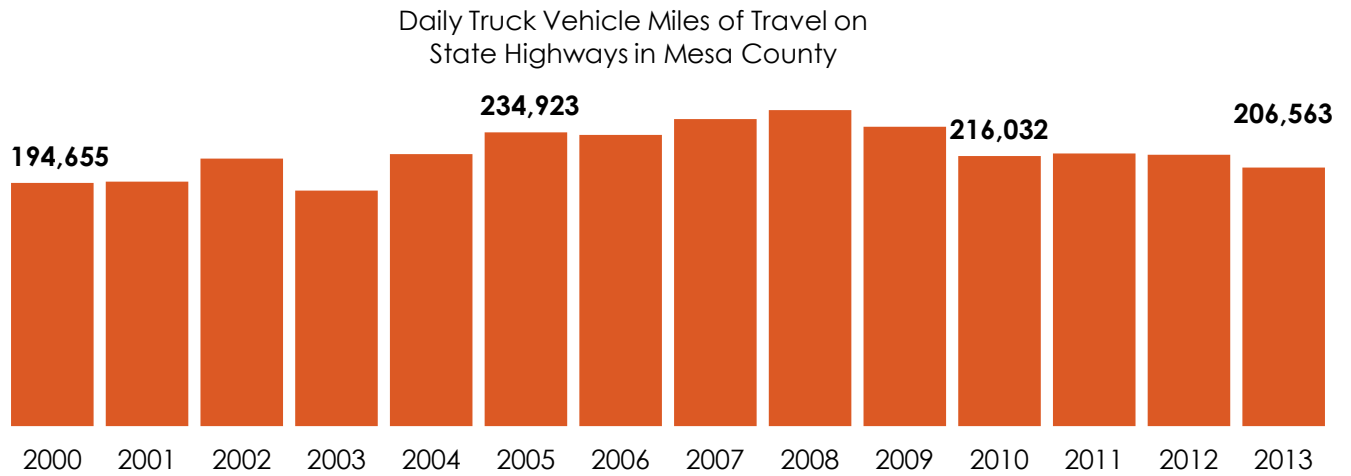


Figure 9.8: Truck Daily Vehicle Miles Traveled on State Highways, 2000-2013

Figure 9.9 shows how Grand Junction roadways compare to truck corridors across the state regarding truck parking usage. This truck parking shortage also contributes to the truck driver shortage due to increased frustration of drivers. This driver shortage is also exacerbated in Colorado because of the presence of mountain passes.

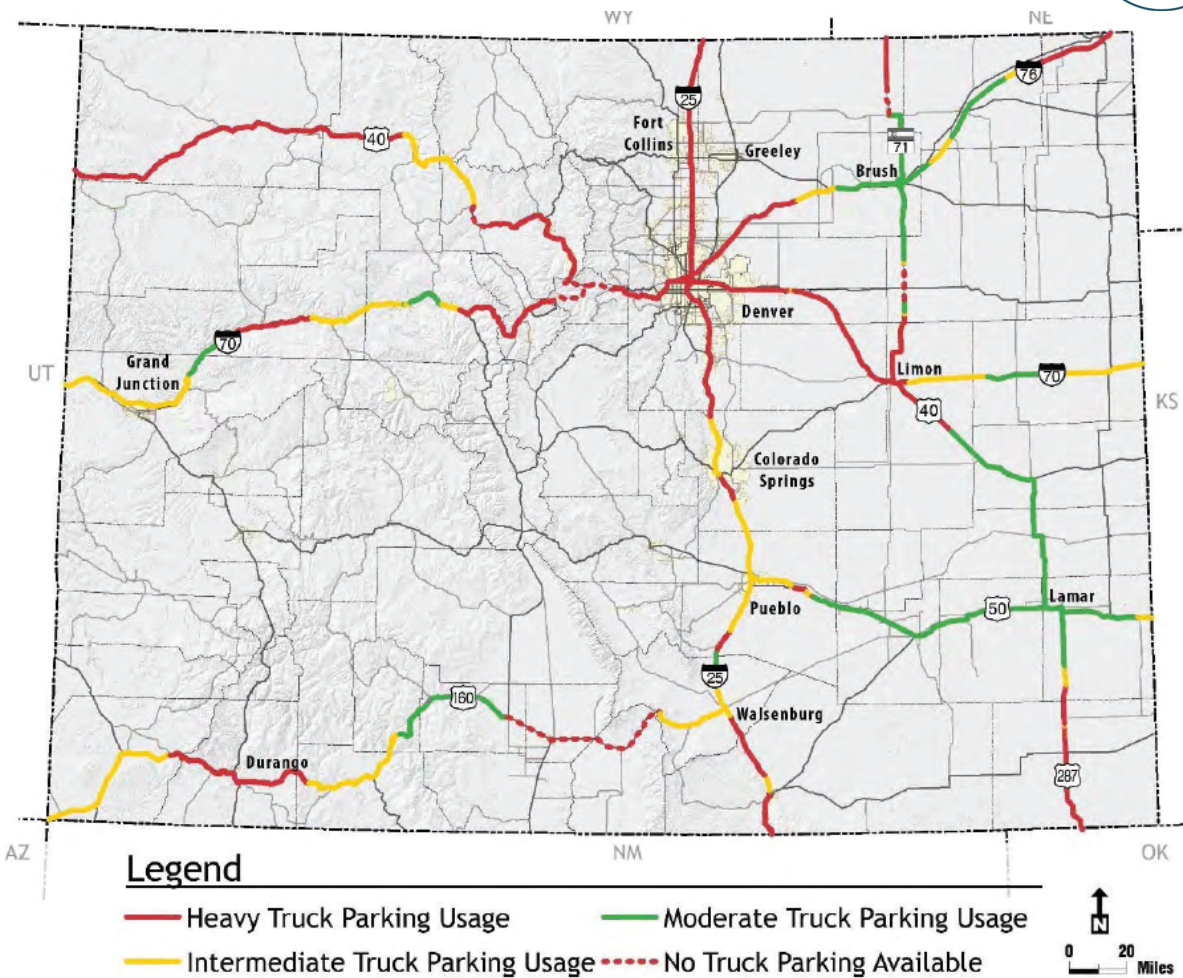
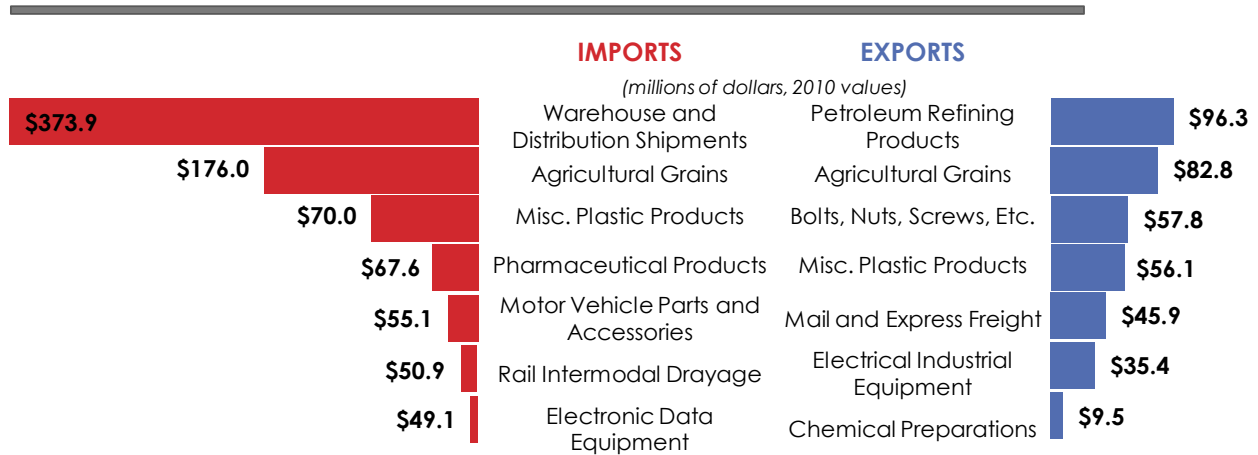


Figure 9.9: 2017 TPA Corridor Usage Levels, Colorado Truck Parking Assessment

On average, trucks represent roughly ten percent of regional daily vehicle miles traveled on state highways. From 2015 to 2017, two percent of roadway crash in the region involved large commercial trucks. From 2008 to 2014, three percent of crashes in the region involved a truck. This rate continues to decrease; in 2007, nearly seven percent of injury and fatality accidents involved trucks.

Trucks move the majority of freight in and out of the region – as much as 70 percent of all freight by weight and value according to the Colorado state average. The top commodities imported and exported into Mesa County by truck in 2010 are shown in **Figure 9.10** and include: consumer products and other shipments to distribution centers, products exported by the energy industry, agricultural grain trade, and other machinery, equipment, and components either produced or consumed in the region.



TRANSEARCH | Colorado Department of Transportation, 2014

Figure 9.10: Value of Truck Freight in Mesa County in 2010 (Transresearch, Colorado Department of Transportation, 2014)

By 2040, commodity imports are forecast to grow 89 percent and exports are forecast to grow 129 percent. As Mesa County’s consumer base, manufacturing activity, and agricultural and energy production continue to grow so will the need to transport goods by truck over the region’s roadways. Even goods that are flown into the regional airport or that arrive in bulk by rail are transported to their final destination by truck.

Trucking is critical to the region’s businesses and consumers as nearly all goods made or consumed in Mesa County are moved by truck. Upgrading interchanges and intersections, maintaining bridges, enhancing truck routes, improving safety, and providing access to commercial centers, industrial parks, and major manufacturers is critical to keeping goods moving freely and efficiently in the region.

International Exports

Global trade in goods and services is increasingly important to regional economies. While domestic business declined during the recent economic downturn, companies that exported saw international sales hold steady and even grow significantly. According to the U.S. International Trade Administration, U.S. companies that export grow 15 percent faster, pay 15 percent higher wages, and are 12 percent more profitable, and yet nationally, only 3 percent of small businesses export.

Mesa County is home to a number of international exporters of manufactured goods and agricultural products. Exports add significantly to the regional economy, accounting for the equivalent of three percent of gross regional product or \$154.7 million dollars in 2013. **Figure 9.11** reports the substantial increase in international exports from the region and the region’s growing share of the state’s total exports. Importantly, regional exports grew following the economic downturn and at a time when many other businesses were struggling. This mirrors trends across the U.S. as businesses turned to overseas markets to make up for slowing domestic sales. Top regional exports by value include transportation equipment and components (\$45.9m), computers and electronics (\$32.9m), machinery and components (\$22.8m), and other mineral products (\$12.7m). Most regional products are exported to markets in Asia, Canada, Mexico, and Europe.

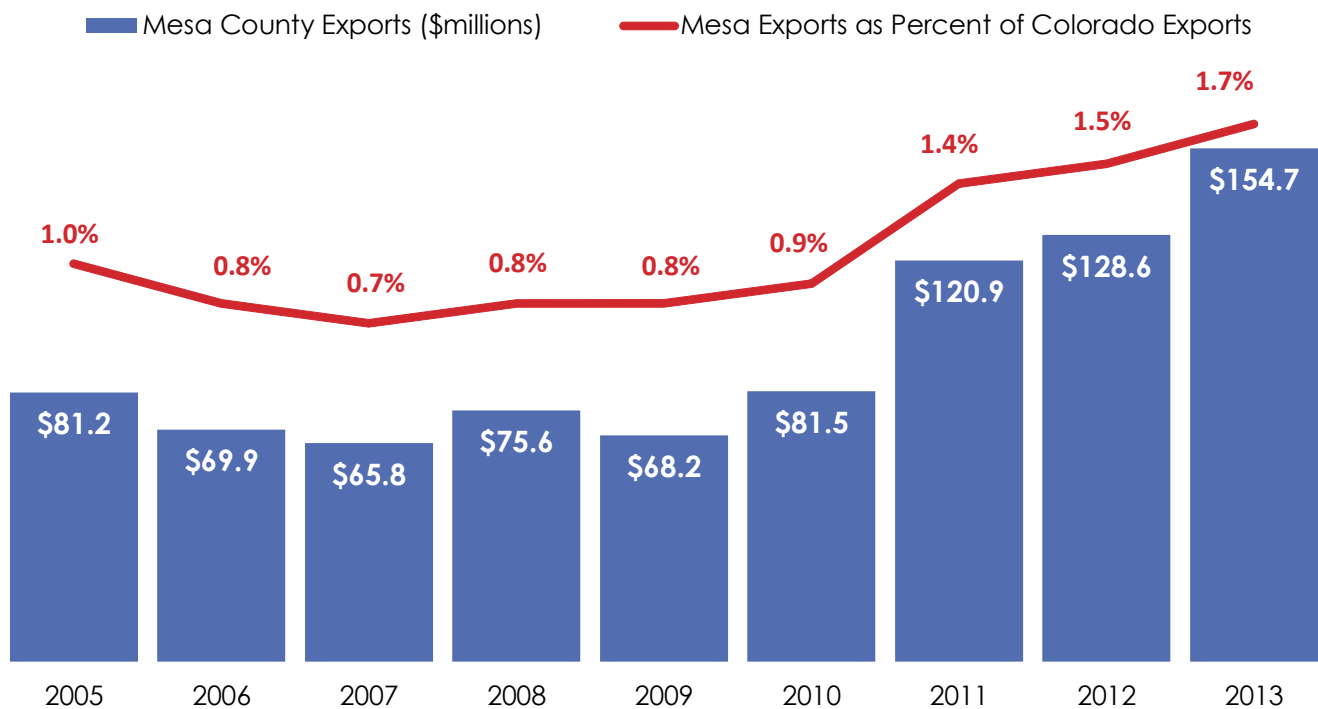


Figure 9.11: Value of Exports Produced in Mesa County, 2005-2013

Exports are a key indicator of freight movement and economic vitality in the region. The region’s increasing export value and share of total Colorado exports indicates the recent success of regional manufacturing and underscores the importance of a seamless air, rail, road, and intermodal system to keep the region competitive.

According to the FHWA Freight Analysis Framework (FAF) dataset and shown in **Figure 9.12**, more goods (as measured by total weight) are exported from Colorado, than the state imports. When measured by the value of those products, more are imported into the state than are exported.

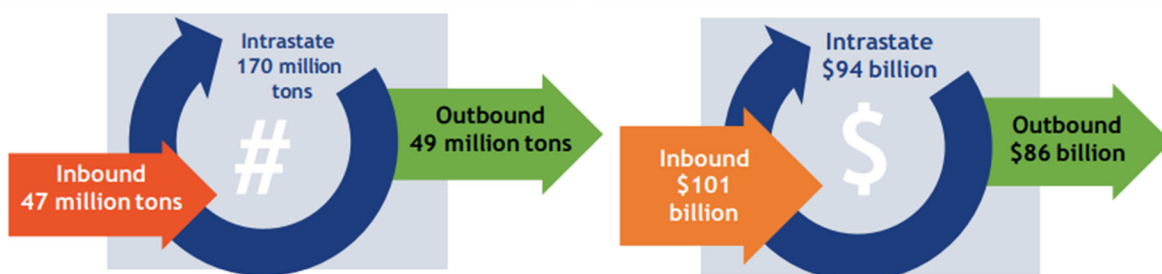


Figure 9.12: Directional Freight Movement In and Out of Colorado, by Tonnage and Value (FHWA, Freight Analysis Framework, 2015)



Short-term and long-term recommendations

The goal for freight in the Grand Valley is to:

Provide a transportation system, operating parameters, and policy-framework that support the safe, efficient, and reliable movement of goods within, to and from the Grand Valley; and, identify programs and strategies to support the economic viability of freight-dependent industries in the region.

The project team, stakeholders and public have collaborated to develop a set of policies for freight as a part of the RTP that can serve as a guide to ensure that the Grand Valley moves towards this goal. Each policy has corresponding strategies, or action items to work towards the given policy. Please reference **Chapter 2** for the full list of policies and strategies relating to this freight goal.

Chapter 10 - Performance-Based Planning

Transportation planning and standards are continuously evolving and innovating. These standards guide the processes and products of planning efforts, such as the Regional Transportation Plan. Under federal transportation legislation in 2012, performance-based planning became a standard within federally-required planning and programming processes. Transportation Performance Management (TPM) is the practice of setting goals; selecting measures; setting targets; applying data and measures in decision-making; and, reporting results. The 2045 Plan continues the transition toward a performance-based planning process that began with the 2040 RTP.

Summary of Performance-Based Planning

Moving Ahead for Progress in the 21st Century Act (MAP-21), signed in 2012, revised the national policy and programmatic framework for over \$100 billion in transportation investment from FY 2013 to 2015. The most significant feature of MAP-21 was the integration of performance-based planning into transportation planning and programming decisions. MAP-21 created a performance-based federal program with the intent of increasing accountability and improving transportation investment decision-making. The Fixing America's Surface Transportation (FAST) Act carried this approach forward and required that Transportation Performance Management be incorporated into plans and programs that Metropolitan Planning Organizations (MPOs) produce.

Performance-based planning considers trends in past and anticipated future performance outcomes to inform investment decisions and then measure progress toward meeting performance goals. The objective is to direct state and regional investment in projects that make progress toward achieving national goals. Federal legislation establishes a core set of national goals with associated performance measures (some of which are yet to be determined by the USDOT, Federal Highway Administration [FHWA] and Federal Transit Administration [FTA]) along with a variety of planning and programming requirements. Instituting a performance-based program carries significant implications for metropolitan planning organizations.

Key elements of this legislation and its implementation include:

- Regulations that require regional long range plans to incorporate a performance-based approach to decision-making that supports national goals;
- Guidance for states and MPOs to establish targets for national performance measures;
- Requirements for regular (within LRTP/RTP update) metropolitan system performance report, through collaboration with CDOT, that evaluates condition and performance, demonstrates progress toward national goals, compares actual performance to target values, and assesses how local policies and investments have impacted costs necessary to achieve performance targets;
- Consideration of measures and targets when developing policies, programs and investment priorities and linkages between national goal areas and Transportation Improvement Program (TIP) projects; and,
- Coordination with the state DOT and transit agencies on measures, targets and performance reporting.



MAP-21 establishes seven key national goals:

- *Safety* - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- *Infrastructure Condition* - To maintain the highway infrastructure asset system in a state of good repair.
- *Congestion Reduction* - To achieve a significant reduction in congestion on the National Highway System.
- *System Reliability* - To improve the efficiency of the surface transportation system.
- *Freight Movement and Economic Vitality* - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- *Environmental Sustainability* - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- *Reduced Project Delivery Delays* - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

These areas are the foundation of the national highway performance program and the USDOT (FHWA and FTA) will establish consistent performance measures and data elements that align with these goals. Performance measures are focused on the National Highway System (NHS) and Interstate System networks within the region and do not necessarily apply to all public roads. Minimum data and performance reporting requirements will extend primarily to NHS networks.

The Colorado Department of Transportation has adopted the national goals established by MAP-21. The Grand Valley Metropolitan Planning Organization’s 2045 long-range goals also align with these important state and national goal areas. **Table 10.1** shows the links between national goals and the region’s 2045 goals.

Table 10.1: Connection between national and local goals

National goal	National goal description	Local goal
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Make the multimodal regional transportation system safe for all users by using proven methods for lowering crash rates, ensuring roadways are in good repair, increasing personal safety, and providing low-stress facilities for people walking, biking, driving or taking transit.

Infrastructure condition	To maintain the highway infrastructure asset system in a state of good repair.	Bring roadways, sidewalks, and multi-use trail to a state of good repair.
Congestion reduction	To achieve a significant reduction in congestion on the National Highway System.	<p>Make transit a reliable, viable, and efficient transportation option for local and regional travel throughout the Grand Valley.</p> <p>Foster active transportation by providing a regionally connected network of low-stress facilities that are safe for people walking and people biking.</p>
System reliability	To improve the efficiency of the surface transportation system.	Ensure driving in the Grand Valley is efficient, safe, and comfortable.
Freight Movement and Economic Vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.	Provide a transportation system, operating parameters, and policy-framework that support the safe, efficient, and reliable movement of goods within, to and from the Grand Valley; and, identify programs and strategies to support the economic viability of freight-dependent industries in the region.
Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment.	Support the physical, social and mental health of those traveling in the Grand Valley by investing in a connected, safe, equitable, and accessible multimodal transportation network.
Reduced Project Delivery Delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.	Leverage available resources and prioritize projects to fulfill the transportation vision for the Grand Valley.



Monitoring program for tracking performance measures

As part of the TPM program, each state DOT and MPO must adopt targets to strive for within the planning and programming process. State DOTs and MPOs are required to set targets for performance measures related to safety (PM1), state of good repair (PM2), and system performance (PM3). The GVMPO developed its process for setting targets through close coordination with CDOT and has adopted and supported CDOT’s targets. By supporting the state’s targets, GVMPO reflects the support of the target through its planning and programming activities. 2045 RTP projects were quantified and selected based on a similar process as the one described in this section for national and state monitoring. The data-driven, performance-based approach used to prioritize and select projects ensures that the projects in this RTP will help to achieve state and national goals. The prioritization process for the RTP is described further in Chapter 12.

Safety

The state's safety performance targets will help improve data, foster transparency and accountability, and allow safety progress to be tracked at the national and state level. States use the safety performance management framework to assist them in making progress toward improving road safety through the Highway Safety Improvement Plan (HSIP), which requires a data-driven, strategic approach to improving highway safety through performance. The annual measures applied by CDOT are defined as follows, with current data and targets shown in **Table 10.2**.

- Number of fatalities- The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.
- Rate of fatalities per 100 million vehicle miles traveled (VMT)- The ratio of total number of fatalities to the number of vehicle miles traveled (VMT expressed in 100 Million VMT) in a calendar year.
- Number of serious injuries- The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year.
- Rate of serious injuries per 100 million VMT- The ratio of total number of serious injuries to the number of VMT (expressed in 100 Million VMT) in a calendar year.
- Number of non-motorized fatalities and number of non-motorized serious injuries combined- The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year.

Table 10.2: Safety performance measures and targets (CDOT)

Performance Measure	CDOT 5-year average (2013-2017)	CDOT 5-year average (2015-2019)
Number of fatalities	554.4	644
Rate of fatalities (per 100 M VMT)	1.098	1.21
Number of serious injuries	3,122	2,909
Rate of serious injuries (per 100 M VMT)	6.218	5.575
Number of non-motorized fatalities and non-motorized serious injuries	548.2	514

Infrastructure Condition

An FHWA rule published on January 18, 2017 established performance measures for state DOTs and MPOs for the performance of the Interstate and non-Interstate National Highway System (NHS) to carry out the National Highway Performance Program (NHPP); freight movement on the Interstate system to carry out the National Highway Freight Program (NHFP); and traffic congestion and on road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. Maintaining the Grand Valley roadway system is important to ensure the safety, efficiency, and reliability for moving people and goods. The annual measures applied by CDOT are defined as follows, with current data and targets shown in **Table 10.3**.

Table 10.3: Infrastructure condition performance measures and targets (CDOT)

Performance Measure	CDOT Baseline	CDOT 4-Year Target
Percentage of pavements of the Interstate System in Good condition	N/A	47%
Percentage of pavements of the Interstate System in Poor condition	N/A	1%
Percentage of pavements of the non-Interstate NHS in Good condition	49.4%	51%
Percentage of pavements of the non-Interstate NHS in Poor condition	12.7%	2%
Percentage of NHS bridges classified as in Good condition	47.2%	44%
Percentage of NHS bridges classified as in Poor condition	3.8%	4%

System Reliability

A reliable transportation system dependably provides users with a consistent range of predictable travel times. Transportation system reliability is one of the core performance outcomes of many management and operation strategies. The annual measures applied by CDOT are defined as follows, with current data and targets shown in **Table 10.4**.

Table 10.4: System reliability performance measures and targets (CDOT)

Performance Measure	CDOT Baseline	CDOT 4-Year Target
Percent of the person-miles traveled on the Interstate that are reliable	80.7%	81%
Percent of the person-miles traveled on the non-Interstate NHS that are reliable	N/A	64%
Truck Travel Time Reliability (TTTR) Index	1.37	1.5
Annual Hours of Peak Hour Excessive Delay Per Capita	GVMPO does not qualify (metric only for non-attainments areas or populations over 1 Million)	
Percent of Non-SOV travel	GVMPO does not qualify (metric only for non-attainments areas or populations over 1 Million)	



Total Emissions Reduction (kg/day) through CMAQ projects	PM10	590.917	152
	NOC	1,663.53	105
	CO	9,998.7	1,426
	VOC	672.28	105

Transit Asset Management Plan Performance Measures and Targets

The Federal Transit Administration (FTA) requires recipients of FTA funds to maintain and document minimum Transit Asset Management (TAM) standards. The purpose of these standards is to create a strategic and systematic practice of procuring, operating, inspecting, maintaining, and replacing transit capital assets and to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost effective, and reliable public transportation.

Transit capital assets owned by Mesa County for the operation of Grand Valley Transit (GVT) are repaired, assessed against annual targets, and replaced according to the Grand Valley Transit Asset Management Plan (TAMP) which was updated alongside the update of the 2045 RTP, March 1, 2018. The TAMP is intended to fulfill the requirements of MAP- 21 and the FTA. Mesa County and GVT will monitor FTA guidance and update the plan as needed. The TAMP provides direction for Mesa County and GVT to protect and preserve capital assets for maximum utilization. The performance measures and respective performance and targets are shown in **Table 10.5**.

Table 10.5: Transit Asset Management performance measures and targets

Performance Measure	Current Performance		Target
	Revenue Fleet	Non-Revenue Fleet	
Percent of fleet in at least good or fair condition	90% (96% excluding contingency buses)	100%	65%
Percent of vehicles that have not yet reached their useful life benchmark (ULB)	Total: 86% (97% excluding contingency buses) Paratransit: 100% Other buses: 79% (93% excluding contingency buses)	25%	80% - Rev. vehicles 50% - Non-revenue vehicles Vehicles will be considered for replacement after reaching their ULB

Next Steps

Fully implementing and integrating performance-based planning is a long-term and iterative process. Federal regulations and state guidance were only recently established and may continue to evolve. This 2045 RTP is the latest step in a full transition to a performance-based approach. The Grand Valley has a long history of regional cooperation, a capable foundation in data management and reporting, commitment from staff and partners, and can learn from the lessons of other regional organizations.

Lessons and experiences from early adopters of performance-management approaches should be considered and may hone the methodology, path of regional efforts, and tracking over time. Some of those key lessons can be summarized as follows:

- Leverage existing planning efforts and tools such as state data management systems, transit asset management plans, complementary regional planning processes, GIS databases, or local initiatives.
- Start with national measures and other statewide base measures and incrementally add regional measures that further communicate goals.
- Emphasize internal cross-function coordination and increase external collaboration with new partners and stakeholders.
- Dedicate resources to managing data, processes, and people. A performance-based approach may take additional organizational resources or at least a redistribution of existing resources within the MPO.
- Provide clear visuals and communication of performance decisions and impacts to help stakeholders and decision-makers better understand the tradeoffs and impacts of decisions.
- A performance-based process alone, without sufficient resources or regional cooperation, will not drive better performance results. However, this approach can help communicate financial needs and illustrate performance impacts.
- Prepare for an iterative and evolutionary period of adjustment as the performance approach is continually implemented and prior planning processes, projects, procedures, and protocols are continually reevaluated.



Chapter 11 - Finance and Funding

Financing transportation in the region requires a solid, complex partnership between local, state, and federal agencies. A range of different transportation funding programs exist and each is funded from a variety of sources and is dedicated to specific purposes, such as safety, maintenance, bridges, or transit. The amount and types of revenues available to fund future regional investments is uncertain and many important sources of funding are declining in real value over time. Without alternative revenues, responsible choices must be made. This chapter documents anticipated revenues and fiscal constraint in the region over the next twenty years.

Financing Transportation in Colorado

Transportation is costly for both consumers and public agencies. The cost of designing and building infrastructure continues to rise and long-term expenses of maintenance, snow-removal, upgrades, and replacement are significant. While costs are increasing, revenues to fund transportation improvements have not kept pace with these cost escalations and with overall maintenance and replacement needs.

Federal and state fuel taxes provide the majority of transportation funds. The federal fuel tax has remained constant since 1993 – the longest period since 1956 without an increase. Colorado’s fuel tax was last increased in 1991 and remains at 22 cents per gallon. In addition to the tax amount remaining static, increasing presence of hybrid and electric vehicles that get better miles to the gallon has caused gas tax revenues to fall even while the rate of driving has increased. Increased driving rates have driven a need for infrastructure upgrades and the decline in revenues has resulted in CDOT projecting a \$1 billion gap in state transportation funding by 2040.

Regional Transportation Investments

Transportation funding flows are complex. Federal funds derived from gas taxes are distributed to the state and directly to the partner jurisdictions of the Grand Valley Metropolitan Planning Organization (GVMPO) and Grand Valley Transit (GVT). State funds are derived primarily from gas taxes which are distributed to local governments. State vehicle registration and miscellaneous ownership fees fund Colorado’s Funding Advancement for the Surface Transportation & Economic Recovery (FASTER) program which supports regional safety, bridge, and capacity investments. Local governments collect vehicle registration fees and fund local capital construction funds through property taxes and sales and use taxes. These revenues are used to meet local match funding requirements for federal investments in regional projects, as well as directly financing local transportation projects.

Through implementation of the 2016-2019 Transportation Improvement Program (TIP), approximately \$57 million dollars have been invested in the regional road, bridge, rail, trail, and transit system. The investments made over the past several years have contributed to advancing the regional goals of the 2040 Regional Transportation Plan (RTP).

Figure 11.1 shows the proportion of regional transportation investments by project category. This chart reflects only those investments made in partnership with the GVMPO and does not capture all investments by local governments or the Colorado Department of Transportation (CDOT). In addition, projects often have multiple components and may contribute to several goal areas (e.g. safety and capacity). For example, a road maintenance resurfacing project may also increase road shoulder width

or add bike lane striping that benefits active transportation users even if the project is not considered an active transportation project.

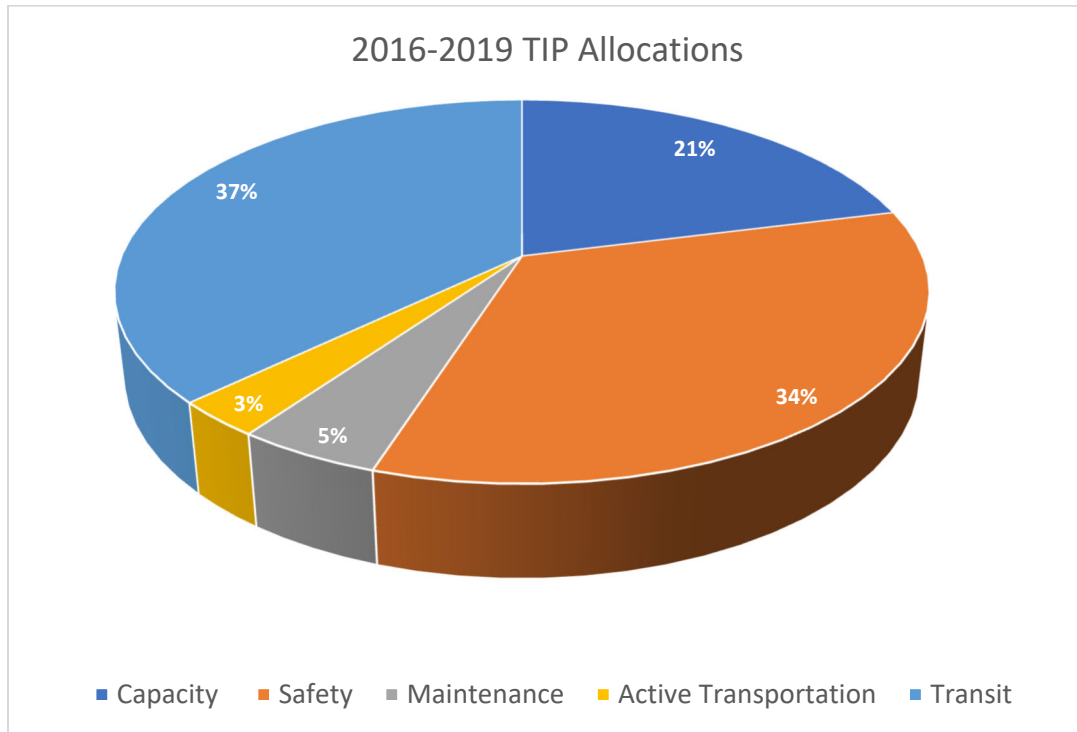


Figure 11.1: GVMPO 2016-2019 TIP Allocations

At the time of the 2045 RTP development, the 2020-2023 TIP had been adopted in April 2019 and amended in November 2019. The total amount forecasted for the four-year TIP is \$40.1 million, which includes transit funding. Of the total TIP funding, \$20.3 million is for CDOT-sponsored projects and is included in the CDOT 1-4 year revenue estimate provided in the following section.

Finally, past patterns of investments in the region do not indicate future allocation as regional priorities do change. Based on the revised goals of the 2045 RTP, transportation investment in the region over the next twenty years will emphasize different projects and investment levels.



2045 Transportation Revenue Forecasts

The Grand Valley 2045 RTP is required to identify what revenues can be reasonably expected over the next 25 years and what project alternatives may be accomplished with those resources. For these purposes, the 2045 RTP forecasts available federal, state, and local match revenues by major program area.

CDOT estimates that the 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. The historic and current RPP funding formulas were used to calculate the projected base portion allocated to GVMPO in the same time frame. In this plan, projects are split into year 1-4 projects for \$86 million and years 5+ projects for \$97.7 million. This 10-year estimate is currently only proposed, and is not guaranteed by the state government at this time. As a result, CDOT has been unable to provide 25-year transportation funding projections. Therefore, this plan is assuming \$183.7 million for the entire 25-year fiscally constrained project list. This includes a projection of \$17.5 million RPP funding, \$20 million FASTER Safety funding, \$86 million of approved SB 267 funding and \$75 million of planned potential SB267 future funding. The GVMPO 2020-2023 TIP also allocates \$40.1 million for transportation improvements: \$23.6 million for roadway projects and \$16.5 million is for transit funding. Local funds account for \$11.2 million of the TIP funding. In addition, the City of Fruita has local funding sources sufficient to meet the cost of implementing the projects designated in this RTP.

Local transportation revenues are primarily derived from sales and property taxes and miscellaneous fees, including vehicle registration and ownership taxes. The value of these tax collections vary with regional economic conditions.

At the time of the 2045 RTP process, timeline and cost estimate information was not available for the Active Transportation projects. Mesa County and local government funding forecasts prepared for the 2045 RTP include overall transportation funding that is applied to both roadway and active transportation improvements. In some cases, both types of improvements are completed with the same funding (e.g. when roadway improvement projects include the addition of shoulders, bike lanes, and/or sidewalks).

Table 11.1: Funding Forecast – in millions of dollars

Source	Five Year Forecast		2045 Forecast
CDOT			
STIP Budget (SB 267, Years 1-4) and other CDOT funding	\$86.0		\$97.7
GVMPO TIP (2020-2023) – Break down in italics (CDOT portion is also represented in STIP budget)	Total	\$40.1	N/A
	<i>CDOT:</i>	\$20.3	
	<i>Local funding for roadways project</i>	\$3.3	
	<i>Transit</i>	\$16.5	

Table 11.2: Local Jurisdiction Revenue Forecasts and Project Costs

Revenue vs Project Costs- Including Aspirational Projects (in \$ millions)							
	Revenue		Roadway Project Costs (including aspirational)	Active Transportation Project Costs	Total Project Costs (including Aspirational)	Difference (Including Aspirational)	Maintenance
	CIP	TIF					
Mesa County	\$250*		\$220	\$66	\$286	(\$36)	\$250
City of Grand Junction	\$124	\$79	\$519	\$38	\$557	(\$353)	\$103
Fruita	\$20	\$30	\$123	\$27	\$149	(\$99)	\$10
Palisade	\$5*		\$12	\$2	\$14	(\$9)	\$8

*Based on capital spending over a five-year period preceding the development of the 2045 RTP

Future Road and Trail Funding

The 2045 Fiscally Constrained Plan for major roadway and transit systems in the Grand Valley includes only those projects that can be implemented with available funds from federal and state sources in addition to required local matching funds, as available.



For planning purposes “available funds” includes allocations to the GVMPO from major federal and state funding sources as identified by CDOT. The funding projections discussed in this plan do not constitute a guarantee of funding from the state and may change over time.

Transportation funding programs are restricted to specific uses (e.g. safety or bridge improvements), are dedicated to certain roadways (e.g. on-system national or state highways), and are allocated through various processes (e.g. state Transportation Commission, CDOT Region, or local governments.) There are a number of programs available to fund transportation improvements in the region and the GVMPO may sponsor projects with local partners to secure additional funding. Listed below are several of the major sources of funds detailed in the 2045 revenue projections.

- **Asset Management Funding:** CDOT dedicates the majority of funding for asset management and maintenance activities on state highways and National Highway System roads. Maintenance and preservation of off-system roads is the responsibility of local governments. Of total CDOT funding in 2016, more than 55 percent is dedicated to maintaining existing roads, bridges, and infrastructure in a state of good repair. These funds are allocated by formula set by the Colorado Transportation Commission. Local and regional projects are prioritized through CDOT Region 3 and the GVMPO RTP process.
- **Safety – State FASTER Safety Program:** 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 CDOT Region 3.
- **Safety – 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.
- **Metropolitan Planning:** Federal funds are allocated to the GVMPO to provide for a continuing, comprehensive, and cooperative (3C) transportation planning process in the region. The region receives approximately \$300,000 annually to fund planning studies and to carry out MPO responsibilities.
- **Transportation Alternatives:** Under MAP-21 this new federal program consolidates several previous programs and provides reduced funding from historic levels. Eligible activities include planning or construction projects for on and off-road pedestrian and bicycle facilities, community enhancement activities, and Safe Routes to Schools. The GVMPO may sponsor projects with local partners but does not directly receive or compete for TAP funding. Projects are screened and selected by CDOT Region 3 and funds are awarded through a competitive process to local entities.
- **Regional Priority Program:** This program covers priority projects that are not addressed in other federal and state programs and usually utilized for major new construction or reconstruction projects. These projects are identified cooperatively with CDOT and local partners.
- **Safe Routes to School (SRTS):** This program was formed to: Enable and encourage children to walk and bike to school; make walking and biking safer and more appealing; facilitate planning development, and implementation of projects that improve safety, reduce traffic, reduce fuel

consumption, and reduce 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.

As this RTP was being finalized, an additional one-time funding source became available – Senate Bill 18-001, that includes a provision that establishes a Multimodal Options Fund (MMOF). The Grand Valley MPO/TPR was allocated \$1.731 million to be used in the Grand Valley TPR. Subsequently, an initial call and then second call for projects was issued, and a total of eight (8) projects across seven member jurisdictions was awarded. Additional intergovernmental agreement steps are being completed for the projects. Following that, the identified funding shown in the tables in Chapter 12 will be updated to reflect the awarded MMOF amounts.

Future Transit Funding

Estimating future transit revenues is particularly challenging as a variety of federal, state, and local funding sources are utilized to support transit services in the region. Grand Valley Transit (GVT) relies on financial support from federal agencies, Colorado’s FASTER program, and local governments to support transit capital construction projects. Capital expenses vary from year to year with vehicle replacement needs and major construction, such as new transfer or maintenance facilities. Annual operating and administration costs are primarily supported by local governments, Federal Transit Administration (FTA) grants, and from agency-generated revenues such as service fares. Operating expenses are more stable but vary with changes in the prices of fuel, labor rates, and contracted transportation services.

GVT receives funding directly from the FTA primarily through formula grants that support service in urbanized and non-urbanized areas of Mesa County. GVT may also apply for additional FTA grants that are competitively awarded to support vehicle repair and replacement, transit programs for elderly, low-income, or disabled residents, and programs that support transit ridership as a commute alternative. CDOT allocates a portion of FASTER revenues to support statewide and local transit capital projects. The projects are competitively awarded to local transit agencies. Local funding is provided mostly to support ongoing operating and maintenance needs, with some money set aside for capital improvements such as bus replacements. Mesa County and local governments collectively contribute over \$1.3 million annually to support essential transit services in the region. These funds are primarily derived from sales and property tax revenues from local governments. A legislative change in 2013 under Colorado Senate Bill 13-140 enabled local governments to flex Highway User Tax Fund (HUTF) dollars to transit-related projects. However, no more than 15 percent of HUTF allocations may be expended for operating and administrative purposes. More detailed financial information for GVT can be found in the Mesa County Coordinated Transit and Human Services Transportation Plan, a separate document produced in the process of developing the 2045 Regional Transportation Plan. **Table 11.3** displays the 2018 funding GVT funds expended.

Table 11.3: 2018 GVT Expended Funds by Source

Funding Source	Amount (millions)
Operating: FTA	\$1.6
Operating: Local	\$1.3
Operating: Fares and other revenues	\$0.6



Operating: Other	\$0.02
Operating Total	\$3.5
Capital: FTA and State	\$1.4
Capital: Local	\$0.3
Capital Total	\$1.8
Total GVT Funding:	\$10.5

Alternative Future Regional Transportation Funding

The total value of available transportation revenues between now and 2045 represents a significant investment in the future of the region – potentially more than \$286 million. However, the ongoing expenses of maintaining and operating the regional transportation system as well as the costs of making important safety, capacity, and quality improvements is also substantial and increasing faster than revenues.

Many Grand Valley residents recognize that available funding is not sufficient to address all future regional transportation needs; however, there is less agreement on strategies to address funding shortfalls.

Recognizing that fuel taxes are unpopular, states and local governments across the country are seeking other sources to fund transportation needs. Vehicle registration and title fees are among the most common sources and have recently increased in Colorado. Other mechanisms include transportation impact fees, other development impact fees, tax-increment financing, household utility fees, document stamp taxes, employment-based fees, and property, sales and use taxes. With a growing list of unfunded transportation needs and increasingly constrained revenues, the Grand Valley could benefit from additional sources of transportation revenues.

Other potential sources of funding are listed below. These sources are included for informational purposes only and do not constitute an endorsement by GVMPO, local governments, or the citizens of Mesa County.

- In November 2019, Grand Junction residents voted to authorize a \$70 million bond for road and infrastructure improvements. Other incorporated communities in the Grand Valley or Mesa County could also pursue this funding mechanism.
- In addition to sales taxes, lodging taxes can also be a source of transportation funding. Grand Junction currently collects a 6% lodging tax. As recreation tourism grows in the region, other jurisdictions and Mesa County could also collect a similar tax on hotel rooms and stays in short-term rentals like Airbnb.
- Since property taxes are a major funding source for all municipal services, a higher mill levy could translate to a meaningful source of funding for transportation improvements.
- The number of registered vehicles in Mesa County continues to grow with population and jobs. Increasing license and ownership fees would help generate more funding.



- Transportation Impact Fees (TIF) are one-time fees charged to new development to offset the transportation capacity consumed by the new development. In 2018-2019, an updated Transportation Impact Fee study was led and completed by GVMPO staff on behalf of Mesa County, the Cities of Grand Junction and Fruita, and the Town of Palisade. Each jurisdiction is in the process of implementing the fees determined by the regional study but with consideration to local ordinances.
- Household utility fees are monthly or annual surcharges for transportation similar to annual assessments for local sewer or waste services could be levied in Mesa County. Peer communities in Colorado like Loveland and Fort Collins use this practice as a funding source.

Given the somewhat uncertain future for federal funding sources, state and local funding are likely to be increasingly important for expanding and maintaining the Grand Valley's transportation system, including all modes of travel and transport.



Chapter 12 - Recommendations, Prioritization and Implementation

Project Prioritization

In order to determine which projects of the recommended project list are implemented as funding becomes available, the RTP underwent a comprehensive community-based, data-driven approach to prioritizing recommended projects. This process is consistent with the Transportation Performance Management program, as defined by the Federal Highway Administration (FHWA) in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America's Surface Transportation (FAST) Act. These acts require that all state departments of transportation and metropolitan planning organizations use a performance-based planning and programming approach as part of the Transportation Performance Management (TPM) program. FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Performance measures related to safety (PM1), state of good repair (PM2), and system performance (PM3) are utilized in the data-driven approach described in the following sections. The additional two performance measures, mobility for all travelers and economic development, were identified based on the planning process and outcomes. They were included to reflect the important role transportation plays in making the Grand Valley more equitable and for supporting a healthy regional economy.

Methodology

The prioritization process considers how all recommended active transportation and roadway projects rank for five performance measures—safety, infrastructure conditions, system reliability, mobility for all travelers and economic development. Each project receives scores on all relevant performance measures, and those scores are averaged for an overall project score. Projects are then ranked based on the average score. This average score does not include performance measures for which a project does not have a score.

Scores are determined based on project locations and the state of the land use, roadways and crashes proximate to the proposed project; the scope of the project will be determined as a part of future analyses following the adoption of the RTP. For example, a project with a high safety score, acknowledges that there are a high number of crashes within the project's influence area, but not necessarily that that project will provide safety countermeasures to address conditions that may be contributing factors to crashes. In the project analysis following the RTP, the scope of the project will be determined based on components such as crash patterns.

It should be noted for all performance measures, staff and stakeholder knowledge of the project area was used to supplement available data in order to further inform the scores for projects in their jurisdiction, as appropriate.

This section describes the prioritization process at a high level. See **Appendix E** for a more in-depth description of the methodology.

Performance Measures

The following sections describe the methodology for scoring projects based on the following five performance measures:

1. Safety (PM1) – as identified by the FHWA
2. Infrastructure Conditions (PM2) – as identified by the FHWA
3. System Reliability (PM3) – as identified by the FHWA
4. Mobility for All Travelers – as identified through public and stakeholder engagement
5. Economic Development – as identified through public and stakeholder engagement

Safety (PM1)

Prioritizing projects that are proximate to high crash locations is an important way to determine whether a project should have components that will serve as countermeasures for improving safety. Safety is frequently identified as the highest priority for community members as well as stakeholders. The RTP’s online survey results with 350 responses, as shown in **Figure 12.1** confirms this trend.

Projects were scored for the safety performance measure based on the number of crashes within a defined influence area of the project. Only crashes coded as visible injury, severe injury, and fatality were counted. Projects with a higher number of severe crashes within the defined buffer area received higher scores. People riding bikes and people walking are more vulnerable road users. Therefore, to more effectively weight bicycle/pedestrian-related crashes for active transportation projects, any crash involving a bicyclist or pedestrian was counted as two crashes.

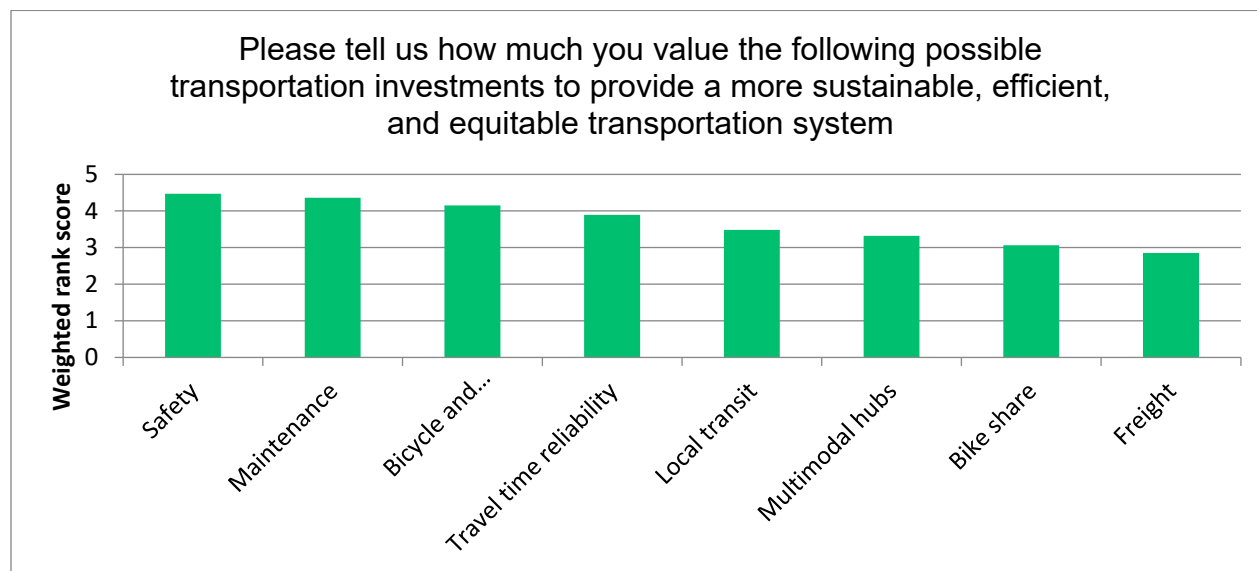


Figure 12.1: Online survey results on priorities

Infrastructure Condition (PM2)

Infrastructure condition is a measure of the pavement quality and need for maintenance. This measure addresses the extent to which a proposed project maintains the roadway infrastructure asset system in a state of good repair. **Figure 12.1** shows that maintenance was the second highest priority for survey respondents.

The infrastructure condition for CDOT roadways was received spatially in terms of “Driveability Life”. Driveability Life is a measure, in years, of how long a roadway surface will support acceptable driving



conditions. This measure was then tied to a 1-5 score. If a project was associated with two different Driveability Life scores, the higher score was applied. Grand Junction provided geocoded data that assigned a Pavement Condition Index (PCI) for roadways within the City. For all other jurisdictions, the data has not been fully tabulated. Staff knowledge was employed to determine a score for this performance measure for any roadways without available Driveability Life or PCI data.

System Reliability (PM3)

This measure addresses the extent to which a proposed project improves the efficiency of the surface transportation system. For the Interstate System and Non-Interstate National Highway System (NHS), the National Performance Management Research Data Set (NPMRDS) and analysis tools were used to score projects.

This data determined the Level of Travel Time Reliability (LOTTR) and Truck Travel Time Reliability (TTTR) for I-70 through the Grand Valley. All segments of I-70 through the GVMPO region are operating better than the CDOT/MPO-set target for LOTTR and TTTR. For the non-Interstate NHS, LOTTR is also at or above target, except for limited hot spots. In spite of the limited hot spots identified, GVMPO-wide the LOTTR and TTTR are performing better than the target levels set by CDOT.

The NPMRDS data provides a look at current and recent conditions. To look ahead, the 2040 Mesa County Regional Travel Model (MCRTM) was used to determine volume to capacity (V/C) ratios at all locations within the model network for the year 2040. The 2045 model will be applied for additional future comparisons. Each project is scored for system reliability based on that roadway's V/C ratio, as determined by the 2040 MCRTM.

System Performance was not considered for active transportation projects, given that decisions on implementing bicycle and pedestrian projects are not driven by the utilization of existing active transportation facilities.

Mobility for all Travelers

Mobility for all travelers is measured based on a project's proximity to key destinations in order to represent improved ability to access the most common destinations. Prioritizing access to these frequently visited locations and destinations often frequented by vulnerable populations will expand the impact of transportation projects. The potential for a project to contribute to improved mobility is determined by the number of key destinations from the following two categories that fall within ¼ mile of a project:

1. Key destinations: schools, parks, and trail access points
2. Transit stops and stations

Economic Development

The potential for a project to contribute to the economic development of an area is an important consideration for project prioritization; transportation projects carry a strong potential to activate communities within the Grand Valley and contribute to the economic strength of commercial cores. The score for this performance measure was determined based on the sum of two inputs:



1. A population density index that weights certain populations (listed below) higher (using 2017 five-year ACS Data). This methodology applied the Transportation Research Board (TRB) Transit Cooperative Research Program (TCRP) *Report 28: Transit Markets of the Future, The Challenge of Change*. (weighted at 80%):
 - a. Females
 - b. Ethnic or racial minorities
 - c. Persons with ambulatory difficulty
 - d. Persons below the poverty line
 - e. Persons without access to a vehicle

2. The land use zoning where the project is located. Projects in dense and mixed-use areas received higher scores. (weighted at 20%)



Prioritized Project Plans

Table 12.1 through **Table 12.6** show the highest priority roadway projects by jurisdiction. **Table 12.7** through **Table 12.10** show the highest priority active transportation projects by jurisdiction. For Interstate and non-Interstate National Highway System projects (the CDOT-led projects), the best currently available information is presented in **Table 12.1** and **Table 12.2**. This table assumes that the funding amounts in the current GVMPO Transportation Improvement Program (2020-2023 TIP) combined with Senate Bill 267 funds and other presently known funding sources will be available as shown for a 10-year horizon. Accordingly, project costs for the 10-year program shown are matched to the estimated revenue.

Fiscally Constrained Plan

As Federal and CDOT funding sources beyond the 10-year horizon become known, the fiscally constrained plan shown in **Table 12.1** and **Table 12.2** will be revised to a 2045 horizon.

The fiscally constrained plan demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. Only the CDOT-funded projects listed in **Table 12.1** and **Table 12.2** are fully fiscally constrained, all other projects represent the highest priority for meeting the needs established in the RTP regardless of the anticipated revenue the jurisdictions are expecting. However, numerous local projects are programmed within the respective CIPs for Mesa County, the City of Grand Junction, the City of Fruita, and the Town of Palisade.

The fiscally constrained plan compares the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses with the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan.

Prioritized Roadway Projects

The tables below show the roadway projects that are most likely to fulfill the 2045 RTP goals within the constraints of anticipated revenues. Projects are ranked by their prioritization score. Scores were determined based on the prioritization process described in this chapter, and all projects scores are available in **Appendix A**.

Table 12.1: CDOT 1-4 Year Projects

Roadway Project Code	Project	Extent	Extent	Cost
26	US 6 North Avenue	1st Street	30 Road	\$8,000,000
4	US 6 and 20 Road intersection			\$4,000,000
2	US 6 Clifton	I-70 B	33 Road	\$15,000,000

5	I-70 B (Phase 5), 1st and Grand Avenue intersection	Mulberry	Rood	\$18,000,000
3	US 6 (corridor and intersection improvements)	15 Road	I-70 Exit 26 (22 Road)	\$5,000,000
146	I-70B (Phase 6)	Rood Avenue	~ 4th Street	\$15,000,000
12	US-6 (Intersection Improvements)	33 Road	Palisade	\$6,000,000

Table 12.2: CDOT 5-10 Year Projects

Roadway Project Code	Project	Extent	Extent	Cost
150	I-70B (scope TBD)	29 Road	32 Road	\$8,000,000
23	I-70B (scope TBD)	32 Road (SH-141)	I-70	\$5,000,000
149	I-70B (scope TBD)	15th Street	29 Road	\$6,000,000
148	I-70B	~ 6th Street	15th Street	\$10,000,000
25	32 Road (SH-141)	D Road	US 50	\$15,000,000
147	I-70B (Phase 7)	~ 4th Street	~ 6th Street	\$8,000,000
1	SH-340 (scope TBD)	Redlands Parkway	Grand Avenue	\$9,000,000
11	SH-340 (scope TBD)	I-70 (Fruita)	Fawn Lane	\$13,200,000
115	US 6	Palisade High School	Lincoln Avenue	\$1,000,000
10	SH-340 (scope TBD)	Greenwood Drive	Redlands Parkway	\$6,000,000



Table 12.3: Mesa County Projects

Roadway Project Code	Project	Extent	Extent	Timeline	Cost	Other Implementing agencies
96	SH-340 at Colonial Drive	Colonial Drive		2020	\$475,000	Grand Junction
104	22 Road	I Road	J Road (shoulders & minor realignment)	2020	\$3,000,000	
106	I-70B at F 1/2 Road intersection			2020	\$ 3,000,000	
107	North River Road	Palisade	US 6	2020-2025	\$5,000,000	
35	G Road and 26 Road (1st Street) (Intersection)			2020-2025	\$ 3,410,000	Grand Junction
105	32 Road (SH-141) at Springfield Road intersection			2021	\$ 1,200,000	
95	E Road	31 Road	32 Road	2021-2023	\$ 5,000,000	Grand Junction

Table 12.4: Grand Junction Projects

Roadway Project Code	Project	Extent	Extent	Timeline	Cost	Other Implementing agencies
27	24 Road	Patterson Road	I-70	Year 1-4	\$10,000,000	
34	F1/2 Road Pkwy from I-70 B to 25 Road	24 Road	25 Road	Year 1-4	\$17,000,000	
35	G Road and 26 Road (1st Street) (Intersection)			Year 1-4	\$3,410,000	Mesa County
39	26 1/2 Road	Horizon Drive	Summer Hill Way	Year 1-4	\$13,100,000	
40	B 1/2 Road	29 Road	29 3/4 Road	Year 1-4	\$3,200,000	
41	D 1/2 Road	29 1/4 Road	30 Road	Year 1-4	\$3,500,000	
42	F 1/2 Road	30 Road	30 3/4 Road	Year 1-4	\$4,200,000	
43	24 1/2 Road	Patterson Road	G 1/4 Road	Year 1-4	\$6,000,000	
44	Horizon Drive/G Road/27 1/2 Road Roundabout			Year 1-4	\$4,000,000	
45	Patterson Road	Turn Lanes		Year 1-4	\$1,000,000	
46	River Road/Redlands Parkway (near Junior Service League Park)			Year 1-4	\$4,000,000	



Roadway Project Code	Project	Extent	Extent	Timeline	Cost	Other Implementing agencies
36.5	G Road	24 1/2	Horizon Drive	Year 1-4	\$ 4,200,000	
95	E Road	31 Road	32 Road	2021-2023	\$ 5,000,000	Mesa County

Table 12.5: Fruita Projects

Roadway Project Code	Project	Extent	Extent	Timeline	Cost
130	K.4 Road	Pine St	Fremont St	2 years	\$2,000,000
122	19 Road	US 6	Ottley Ave	5 years	\$14,110,000
124	Coulson Street	Sunset Dr	K 3/4 Road	5 years	\$996,000
125	Fremont Street	US 6	L Road	5 years	\$11,686,400
126	Grand Avenue	Cottonwoods subdivision (just east of Pine Street)	19 Road	5 years	\$1,992,000
128	I 3/4 Road	Fremont Street	19 Road	5 years	\$3,320,000
139	S. Fremont Street	Frontage Road	Adobe Falls Sub	5 years	\$665,000
141	S. Pine Street	Frontage Road	Adobe View North	5 years	\$149,400
143	Wildcat Ave.	J.3 Road	Fremont St	5 years	\$2,075,000

Table 12.6: Projects for Other Jurisdictions

Roadway Project Code	Project	Extent	Extent	Timeline	Cost	Implementing agencies
115	US 6	Palisade High School	Lincoln Avenue	Year 5-10	\$1,000,000	Palisade, CDOT
116	US 6 & Elberta intersection			Year 5-10	\$6,000,000	Palisade, CDOT
152	CO 330 bridge	MP 8		Aspirational	\$8,000,000	CDOT, Collbran
153	CO 330 bridge	MP 8.5		Aspirational	\$8,000,000	CDOT, Collbran



Prioritized Active Transportation Projects

The tables below show the active transportation projects that are most likely to fulfill the 2045 RTP goals within the constraints of anticipated revenues. Projects are ranked by their prioritization score. Scores were determined based on the prioritization process described in this chapter, and all projects scores are available in **Appendix B**.

Table 12.7: Mesa County Active Transportation Projects

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
7	Shared Use Path and Sidewalks	B½ Road	Linden Avenue	32½ Road	Years 1-4	TBD	Grand Junction
8	Shared Use Path	Riverfront Trail	27½ Road	29 Road	Within 10 years	\$3,000,000	Grand Junction
11	Sidewalk	Fairgrounds Entrance			Within 10 years	\$1,000,000	
18	Shared Use Path	Riverfront Trail	33½ Road	36¼ Road	Within 10 years	\$5,000,000	
24	Shared Use Path	Monument Road	Lunch Loops TH	S. Camp Road	Within 10 years	\$2,500,000	Grand Junction
26	Shared Use Path	Monument Road	S. Camp Road	East Entrance Colorado National Monument	Within 10 years	\$1,500,000	Grand Junction
27	Shared Use Path	SH-139	Hawkeye Road	N¼ Road	Within 10 years	\$5,000,000	CDOT

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
30	Bike Path and Bridge	31½ Road	Perkins Drive	E½ Road	Within 10 years	\$5,000,000	
36	Bike Lanes	33 Road	Riverfront Trail	G Road	Within 10 years	\$5,000,000	
38	Bike Route	32½ Road	B½ Road		Within 10 years	\$5,500,000	
40	Shared Use Path	Peony Drive/20¼ Road	SH-340	Riverfront Trail	Within 10 years	\$2,000,000	
44	Shared Use Path	SH-65	KE Road	RV Park N. of KE½ Road	Within 10 years	\$1,214,400	CDOT
31	Bike Route	C½ Road	27½ Road	29 Road	Years 5-10	\$1,500,000	Grand Junction
47	Bike Lanes	F Road	35 Road	Riverfront	Within 10 years	\$3,400,000	
55	Tour of the Moon Byway	Segments of Monument Rd, S. Camp Rd, S. Broadway, and SH-340	East entrance Colorado National Monument	West entrance Colorado National Monument	Within 10 years	\$3,500,000	CDOT, Grand Junction
63	Bike/Ped Improvements	30 Road	Patterson Road	F 1/2 Road	Within 10 years	\$2,500,000	Grand Junction
34	Bike Lanes and Bike Route	K Road, Fruita/Mesa County	US 6	20 Road	20 years	\$2,085,000	Fruita



Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
72	Wayfinding	Grand Valley Wayfinding Project	Palisade	Fruita	Years 1-4	\$300,000	Grand Junction, Fruita

Table 12.8: Grand Junction Active Transportation Projects

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
4	Shared Use Path	24 Road	Redlands Parkway Ramp	H Road	Years 1-4	\$2,800,000	
6.5	Bike Lanes and Sharrows	7th Street	Horizon	Summerhill Way	Years 1-4	Part of street reconstruction	
7	Completion of Sidewalks and Bike Lanes	B½ Road	Linden Avenue	32½ Road	Years 1-4	TBD	Mesa County
22	Bike Lanes	Crosby Avenue (including	W. Main Street	Base Rock Street	Years 1-4	\$1,500,000	

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
		connectivity to pedestrian bridge)					
50	Pedestrian and Crossing Improvements	12th Street	North Avenue	Patterson Road	Years 1-4	\$200,000	
54	Bike/Ped Overpass	UPRR Bike/Ped Overpass	Depot	Riverfront at Dos Rios	Years 1-4	\$4,500,000	
60	Shared Use Path and Bike/Ped Improvements	I-70B	W Gunnison Avenue	1st Street	Years 1-4	Part of CDOT I-70B Phase 5 project	CDOT
66	Bike Lanes	SH-340 Colorado River Bridge (a segment of A3)	West Avenue	west abutment of bridge	Years 1-4	CDOT to restripe	CDOT
68	Bike/Ped Improvements and Wayfinding	W Main Street (utilizing existing bike/ped bridge)	Riverfront	1st Street	Years 1-4	\$10,000	
69	Bike Route	Main Street	1st Street	8th Street	Years 1-4	\$5,000	
70	Bike Improvements	10th St	North Avenue	Main Street	Years 1-4	\$20,000	



Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing Agencies
71	Bike Signal Detection	Multiple Intersections			Years 1-4	\$20,000	
72	Wayfinding	Grand Valley Wayfinding Project	Palisade	Fruita	Years 1-4	\$300,000	Mesa County, Fruita

Table 12.9: Fruita Active Transportation Projects

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing agencies
34	Bike Lanes and Bike Route	K Road, Fruita/Mesa County	US 6	20 Road	20 years	\$2,085,000	Mesa County
51	Bike Overpass	Adjacent to the I-70 SH-340 interchange			20 years	\$2,000,000	CDOT
53	Bike Path	Colorado Riverfront Trail	Monument View	Kokopelli Drive	20 years	\$5,000,000	

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Other Implementing agencies
10	Bike Lanes and Bridge	18 Road	Riverfront Trail	J Road	20 years	\$428,000	
32	Shared Use Path	Riverfront Trail	SH-340	20 Road Overpass	20 years	\$3,991,000	
20	Shared Use Path	17¼ Road	SH-340	River Bridge	20 years	\$5,000,000	
29	Shared Use Path	Fruita Colorado River Bridge	Kingsview Road	Colorado River State Park, Fruita Section	20 years	\$5,654,000	
48	Shared Use Path	Big Salt Wash - Fruita	Riverfront Trail	L Road	20 years	\$1,500,000	
52	Bike Overpass	18.5 Road over I-70			20 years	\$2,000,000	
72	Wayfinding	Grand Valley Wayfinding Project	Palisade	Fruita	Years 1-4	\$300,000	Grand Junction, Mesa County



Table 12.10: Palisade and Collbran Active Transportation Projects

Active Transportation Project Code	Facility Type	Project	Extent	Extent	Timeline	Cost	Implementing Agencies
15	Bike Lanes	Fruit and Wine Byway (East OM)			Aspirational	TBD	Palisade, Mesa County
16	Bike Lanes	Fruit and Wine Byway (Palisade)			Aspirational	TBD	Palisade, Mesa County
39	Shared Use Path/Sidewalk	Elberta Avenue	I-70	Hwy 6	5 years	\$1,000,000	Palisade
58	Shared Use Path and Sidewalks	Highway 6	36 1/4 Road	Palisade High School	5-10 years	\$500,000	CDOT, Palisade
59	Shared Use Path and Sidewalks	Highway 6 & frontage roads	Iowa Street	Palisade High School	3-5 years	\$1,000,000	CDOT, Palisade
28	Shared Use Path	Hwy 330/ along PE Road	Town of Collbran	Plateau Valley School / Job Corps Center	Aspirational	\$1,500,000	Collbran

Implementation Considerations

As proposed high-priority projects approach implementation, there are a number of factors to consider to help guide the construction of projects to ensure they are completed in a streamlined, cost-effective, and sustainable way.

Coordination

Given the size and number of jurisdictions within the Grand Valley, coordination between and within various municipalities and departments is especially important. The project lists in **Table 12.1** through **Table 12.10** show the implementing jurisdiction(s) for each project. Having the right stakeholders at the table during the planning and design phases of a project is essential so that: the project scope encompasses the needs of all users; all available funding sources are being leveraged; and project implementation is coordinated with other related efforts. Coordinating within a municipality is equally as important. For example, if a proposed project includes restriping a roadway to add bike lanes, being aware of the repaving schedule will leverage funds to implement the bike lane project in a much more cost-effective manner.

In addition, the GVMPO coordinates routinely with federal lands managers. Through this coordination, additional projects emerge which can be incorporated into Federal Lands Transportation Programs (FLTP) and therefore incorporated into Federal Lands Access Programs (FLAP).

Enhanced Quality of Life and Economic Vitality Through Improved Federal Lands Access

As referenced in the 2045 Regional Transportation Plan Updates section of Chapter 1 of this plan and in conjunction with the recommendations described in the previous section, this 2045 plan update is taking a closer look at the needs and priorities associated with the Federal Lands Transportation Program (FLTP) and Federal Lands Access Program (FLAP). Similar to the bigger pot of federal funds allocated to CDOT on an annual basis, the FLTP and FLAP are also funded by the Highway Trust Fund (HTF). The HTF is funded by a federal tax that collects 18 cents per every gallon of gasoline purchased nationwide. The Federal Lands Highway Division (FLH) of the FHWA administers the FLTP and FLAP in close partnership with the following federal agencies:

- National Park Service (NPS)
- U.S. Fish and Wildlife Service (FWS)
- U.S. Forest Service (USFS)
- Bureau of Land Management (BLM)
- U.S. Army Corps of Engineers (USACE)
- U.S. Bureau of Reclamation (BOR)

Table 12.11 shows a breakdown of FLTP funding among these agencies nationwide. The NPS, FWS, USFS are non-competitive partners while the remaining three partners have to compete annually for their portion of the FLTP. For the non-competitive partners, the funds are further sub-allocated based on agency processes.



Table 12.11: Breakdown of FLTP funding among agencies

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
NPS	\$268M	\$276M	\$248M	\$292M	\$300M	\$1.420B
FWS	\$30M	\$30M	\$30M	\$30M	\$30M	\$150M
USFS	\$15M	\$16M	\$17M	\$18M	\$18M	\$85M
BLM, USACE, BOR and IFAs	\$22M	\$23M	\$24M	\$25M	\$26M	\$120M
Total	\$335M	\$345M	\$355M	\$365M	\$375M	\$1.775B

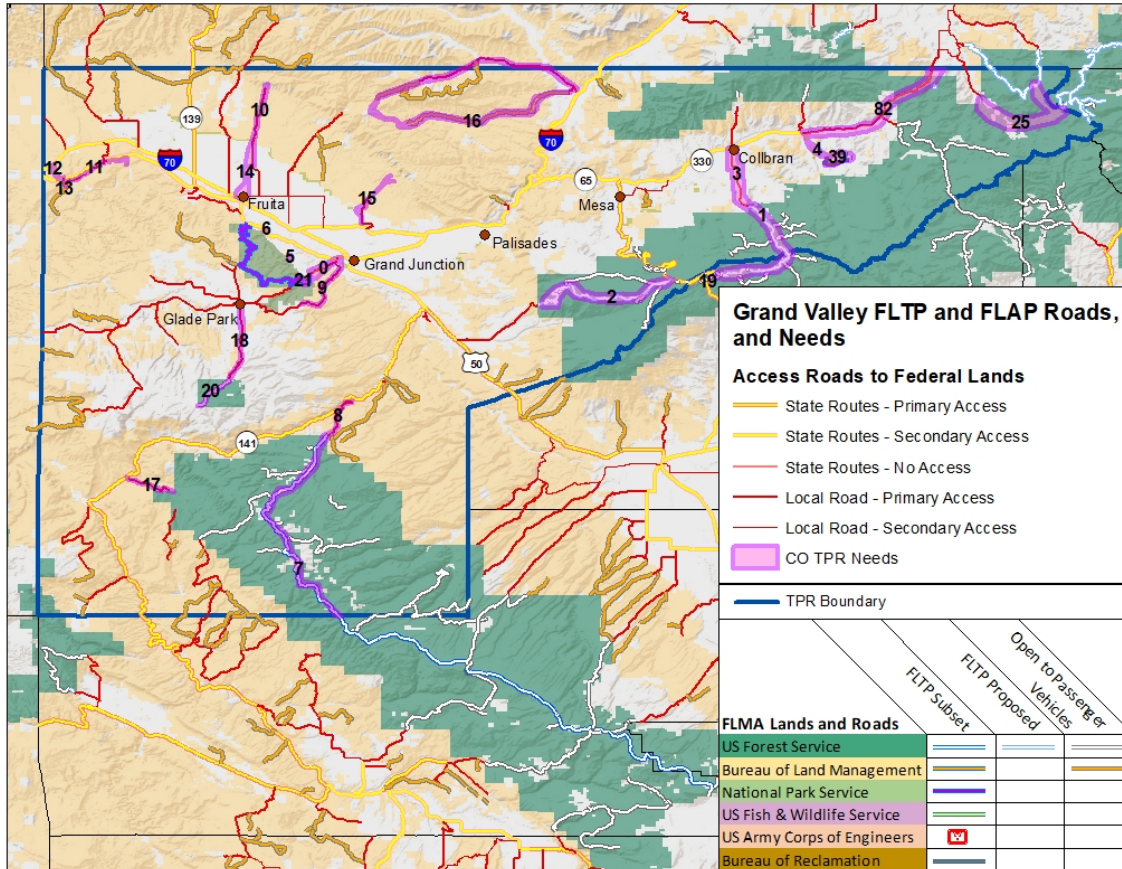
It is important to recognize that the FLTP is stretched very thin when compared to the amount of road miles each agency has to manage for public access. For example, the USFS has approximately 70,000 miles of road it maintains as primary public access and it will only receive \$18 million in 2020. Similarly, the BLM has approximately 45,000 miles of road, and the other two competitive partners (USACE and BOR) manage roadway networks that are approximately 5,000 and 3,000 miles respectively. Thus, there is only \$26 million available for about 53,000 miles of road managed by the competitive partners. The NPS and FWS (5,000 and 4,000 miles of roadway respectively) are strategically better positioned funding wise with network sizes similar to USACE and BOR and available funding is set at higher levels. However, regardless of network size and available FLTP funding, each agency struggles to meet all their transportation needs. Additionally, none of these funds are dedicated to the state of Colorado. Rather, local Federal land offices throughout the state have to compete regionally or nationally among the other offices in their respective agencies to get their projects funded.

In comparison, the FLAP receives \$270 million per year nationally, of which the state of Colorado receives \$15.6 million. While the FLTP is prioritized by these federal agencies, the FLAP is prioritized by Program Decision Committees (PDCs) set up in each state. Projects are selected through competitive calls for projects that occur approximately every two years.

Figure 12.2 and the appended table shows the mileage of the FLTP color coded by the federal agency that owns the routes (TPRs Needs are discussed in next section). The red and gold routes represent the state and local routes that provide primary access to the FLTP and are eligible to receive funding through the FLAP. Three critical considerations need to be made when looking at these routes:

1. The priorities for the FLTP routes are determined by the federal agencies that own them and those set priorities are one of the main factors that influence how FLAP funding will be allocated.
2. For projects that are identified on the state routes highlighted in gold, there is an opportunity to leverage FLAP funding with other pots of funding managed by GVMPO and CDOT.

- For projects that are identified on the local routes highlighted in red, FLAP provides a rare opportunity for local agencies to receive federal funding for their roads to the extent that those projects can be shown to enhance primary access to the adjacent federal lands and align with the priorities of the federal agency in charge of those lands and a portion of FLTP funding.



FLTP Road Mileage

	FLTP Subset	FLTP Proposed	FLTP Total	Open to Passenger Vehicles	Paved	Unpaved
Grand Valley						
US Forest Service	31.0	63.0	94.0	238.0	6.0	255.0
Bureau of Land Management	0	0	0	219.0	8.7	210.0
National Park Service	25.6		25.6	25.6	25.6	0
US Fish & Wildlife Service	0		0	0	0	0
US Army Corps of Engineers	0		0	0	0	0
Bureau of Reclamation	6.2		6.2	6.2	3.0	3.2
	62.8	63.0	125.8	488.8	43.3	468.2

Figure 12.2: Mileage of FLTP roads by agency



From a planning process standpoint, the differing approach to project prioritization and selection between the FLTP and FLAP creates a number of challenges in terms of aligning project priorities among FLTP partners and the PDCs in each state. In Colorado, the PDC is made up of a tri-party member group that includes representatives from FLH, CDOT, and a person from the Association of Counties. Additionally, FLH convenes a Transportation Advisory Group (TAG) to help evaluate the projects submitted during each FLAP call for projects. The TAG is comprised of a representative from each federal agency, and while TAG members aren't formally part of the PDC, they are very influential in the project selection process.

In conjunction with the preparation of the 2045 RTP, a work session was held with federal, state, and local agencies in Mesa County to facilitate a more integrated approach to planning and program projects of mutual interest. As indicated above, **Figure 12.2** shows an initial list of access enhancement needs that are intended to be the basis for collaboration during the next planning cycle under the 2045 RTP. The FLTP funded projects discussed in this section are separate from the 2045 RTP projects listed in Chapters 6, 8, and 12.

Evaluating Enhanced Federal Lands Access Needs

When looking at the needs identified in **Figure 12.2**, it is important to keep in mind that managing access to Federal Lands and publicly owned land in general requires an ever increasing amount of interagency coordination and collaboration. As many of the needs indicate, demand for open space access continues to grow. Land managers at all levels of government (federal, state, and local) are confronted with seasonal overcrowding in popular locations with a lack of infrastructural capacity which may lead to degraded visitor experience and resource conditions caused by congestion, undesignated parking, and trail crowding. Many of the solutions to these common problems are enhanced and better achieved when agencies work collaboratively within and outside of their jurisdictional boundaries. Public agencies need to think regionally across the broad landscape and look for creative ways to communicate and coordinate across their boundaries by leveraging partnerships towards common solutions.

The list of needs represented in **Table 12.12** is a product of this type of regional collaboration; understanding the interconnectedness of the needs is important. Additionally, it's important to understand the diversity of need represented by the list. The needs represented range from road maintenance to increased emergency response, safety, alternate Interstate access, improved bicycle and pedestrian connectivity, expanded parking, and improved trailhead access. Both the BLM and USFS, as well as Mesa County, have identified a number of roadway improvement needs that currently exceed available funding from the FLTP, FLAP, or other funds managed by CDOT. Note that the needs are organized on the map by FID number. In total, 24 needs were identified and the following is a summary of how they interrelate to each other.

Table 12.12: TPR Needs

FID	Project Name	Project Description	Project Type	Ownership	FLMA Access
10	18 Road	FLAP project	Roadway	County	BLM
11	Rabbit Valley Frontage Road	Road maintenance	Roadway	County	BLM
12	Rabbit Valley High North	Road maintenance	Roadway	County	BLM
13	Rabbit Valley horse parking access	Road maintenance	Roadway	BLM	BLM
14	Bike access to 18 Road	Connection from Fruita to BLM portion of 18 Road, bike path and/or bike lane	Bike/Ped	Municipal	BLM
15	27 1/4 Road	Road maintenance	Roadway	County	BLM
16	Wild Horse Range Loop	Road maintenance	Roadway	BLM	BLM

The Monument Road Corridor (the east entrance to the NPS' Colorado National Monument (COLM) in Grand Junction) is a congested area with increasing demand for access. In addition to providing access to COLM, it also provides access to BLM lands (Lunch Loops and Bangs Canyon SRMA trailheads). A variety of access improvements have been identified by the city, county, NPS and BLM including increased parking, improved bicycle and pedestrian access to downtown, and improved congestion management strategies for the east entrance to COLM.

FID	Project Name	Project Description	Project Type	Ownership	FLMA Access
0	Colorado National Monument Trailheads	BLM / NPS Trailhead Congestion - Lack of Parking	Parking	Municipal	NPS
5	Wildwood Trailhead	Land Transfer BLM to NPS & Construct Parking	Parking	BLM	BLM
6	Monument Canyon Trailhead	Land Transfer BLM to NPS & Construct Parking	Parking	BLM	BLM
9	Little Park Road	Road improvement/widening, trailhead improvements	Roadway	County	BLM
21	COLM_East_Entrance	East entrance congestion and limited parking	Roadway	NPS	NPS



Looking more broadly at the county, as demand for access to NPS and BLM land continues to grow within the Grand Valley urbanized area, demand for improved access outside the urbanized area is also growing, resulting in increasing pressure placed on federal lands. There are a number of long corridors that provide both recreational access as well as inter-regional connectivity that could absorb more demand with some investment in upgrading the infrastructure.

FID	Project Name	Project Description	Project Type	Ownership	FLMA Access
7	NFSR 402 Divide Road	designated FLTP road (single lane maint. level 4)	Roadway	USFS	USFS
8	Divide Road (County Jurisdiction) on BLM	gravel surface access road, steep/rocky	Roadway	County	USFS/BLM
17	Niche Road	Road maintenance	Roadway	County	BLM
18	16.5 Road	Road maintenance	Roadway	County	BLM
20	Fruita Division Rd FSR 400	Long-term maintenance; projected increasing future use	Roadway	USFS	USFS

The Divide Road, maintained by the county and providing access to BLM land, becomes a FLTP-designated National Forest Service Road (NFSR 402) through the Uncompahgre National Forest which connects Mesa County and Montrose County to the south. Trickel Park Road and Land’s End Road are also good examples of NFSR routes that are FLTP designated and provide both recreational access to the Grand Mesa National Forest as well as inter-regional connectivity between Mesa County and Delta County to the east. Crossing into the White River National Forest, CR 330 from Collbran to Silt and NFSR 800, 801, and 812 round out the list of critical corridors in need of roadway improvement.

FID	Project Name	Project Description	Project Type	Ownership	FLMA Access
1	Trickel Park Road	Reconstruction of Trickel Park Road 16 miles	Roadway	USFS	USFS
2	Land's End Road	Long Term Maintenance and New Trailheads	Roadway	USFS	USFS
39	Vega State Park Roads	Repave all paved roads in Vega State Park	Maintenance	BOR	BOR
82	CR 330 Collbran to Silt	Road improvements to facilitate emergency use	Roadway	County	USFS

FID	Project Name	Project Description	Project Type	Ownership	FLMA Access
3	Mesa County 59/50/58.5	Road Rehabilitation	Roadway	County	USFS
4	64 6/10	Long Term Maintenance	Roadway	County	BOR
19	Ward Creek Parking Area/Trailhead	Unsafe Parking area on Hwy 65 ... major redesign needed to alleviate safety issues, particularly during winter use	Parking	USFS	USFS

All of these FLTP and FLAP eligible needs currently exceed the available funding. However, their inclusion in this plan is a starting point for improved representation of these important programs and an attempt to organize these needs into a program of projects that complement each other as opposed to just being competitors against each other in future calls for projects. While detailed cost estimates have not yet been developed, it is likely that the cost to implement all these projects would require an investment in excess of \$100 million. The funding gap is large right now for how these needs will be met, but as demand for access to federally owned open space continues to grow, so too will improvement needs.

Funding

Discussed further in **Chapter 11**, identifying relevant and new funding sources is essential to ensuring that the project list identified in the RTP can come to fruition. Although projects are prioritized as a part of this plan, this prioritization should maintain a level of flexibility. If a funding source becomes available that is geared towards a certain project type or location, the RTPO and relevant municipalities and agencies have the ability to modify the prioritization list in order to leverage this opportunity. For example, if the transportation impact fees associated with a new development can be used towards a specific project, that should be considered in tandem with the prioritization rank of that project.

Phasing

Although most projects are listed in this plan as a single project, the GVMPO and relevant municipalities should consider the phasing of projects, as appropriate. This means that projects can be completed for part of the defined limits or only including part of project description, if deemed appropriate. This desire to implement projects in a phased approach may arise if there are opportunities through partnerships, funding sources, repaving schedules, or changes in project needs. For example, a grant specific for active transportation may fund the bicycle and pedestrian components of a multimodal project but not the roadway components.



Appendix A: Roadway Projects

2045 RTP Roadway Projects

Roadway Project Code	Implementing Jurisdiction	Project	Project Type			Project Type					Prioritization Criteria					Score	Timeline	Cost				
			Extent 1	Extent 2	Capacity Increase	Rebuild	Operations	Safety	Shoulders	Capacity	Multimodal	Resurfacing	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)				Mobility for all Travelers	Economic Development		
1	CDOT	SH-340 (scope TBD)	Redlands Parkway	Grand Avenue	Center Turn Lane, Redlands Parkway to Mesa Grande Drive			X	X	X	X	X			2	5	1	3.4	2.6	2.8	Year 5-10	\$ 9,000,000
2	CDOT	US 6 Clifton	I-70 B	33 Road	Additional lane each direction, I-70 B to 1st Street; Additional eastbound lane, 1st Street to 5th Street	X	X	X			X				1	5	3	3.4	3.4	3.2	Year 1-4	\$ 15,000,000
3	CDOT	US 6 (corridor and intersection improvements)	15 Road	I-70 Exit 26 (22 Road)	Center Turn Lane and intersection turn lane improvements		X	X			X	X			1	5	3	3.8	2.6	3.1	Year 1-4	\$ 5,000,000
4	CDOT	US 6 and 20 Road intersection (within limits of roadway project 3)			included in Project Code 3		X	X							5	5	5	1	1	3.4	Year 1-4	\$ 4,000,000
5	CDOT	I-70 B (Phase 5), 1st and Grand Avenue intersection	Mulberry Road		Additional lane each direction, Grand Avenue to Road	X	X	X			X	X			2	5	1	3.4	4.2	3.1	Year 1-4	\$ 18,000,000
8	CDOT	32 Road (SH-141) at C 1/2 Road (intersection)					X	X							2	5	1	1.8	1	2.2	Aspirational	\$ 2,500,000
9	CDOT	SH-340 (scope TBD)	Fawn Lane	Greenwood Drive					X		X				1	3	1	1.8	2.6	1.9	Aspirational	\$ 20,400,000
10	CDOT	SH-340 (scope TBD)	Greenwood Drive	Redlands Parkway					X		X				1	3	3	2.2	2.6	2.4	Year 5-10	\$ 6,000,000
11	CDOT	SH-340 (scope TBD)	I-70 (Fruita)	Fawn Lane					X		X				1	3	3	3.4	2.6	2.6	Year 5-10	\$ 13,200,000
12	CDOT	US-6 (Intersection Improvements)	33 Road	Palisade	Center Turn Lane and intersection turn lane improvements			X	X		X				2	5	1	2.2	3.4	2.7	Year 1-4	\$ 6,000,000
13	CDOT, Mesa County, Grand Junction	23 Road bridge over I-70				X		X			X	X			1	3	1	3	0.8	1.8	Aspirational	\$ 15,000,000
14	CDOT, Mesa County, Grand Junction	26 1/2 Road bridge over I-70				X		X			X	X			1	3	1	3	3	2.2	Aspirational	\$ 15,000,000
15	CDOT, Mesa County	33 Road bridge over I-70				X		X			X	X			1	3	1	3	1.6	1.9	Aspirational	\$ 15,000,000
16	CDOT, Mesa County, Grand Junction	27 Road bridge over I-70				X		X			X	X			1	3	1	3	0.8	1.8	Aspirational	\$ 15,000,000
17	CDOT, Mesa County, Grand Junction	29 Road bridge over I-70 (non-interchange overpass replacement)				X		X			X	X			1	3	3	0.8	2.0	Aspirational	\$ 15,000,000	
18	CDOT, Mesa County, Grand Junction	26 Road bridge over I-70				X		X			X	X			1	3	1	1	0.8	1.4	Aspirational	\$ 15,000,000
19	CDOT, Mesa County, Grand Junction	25 Road bridge over I-70				X		X			X	X			1	3	1	3	0.8	1.8	Aspirational	\$ 15,000,000
20	CDOT, Mesa County, Grand Junction	24.5 Road bridge over I-70				X		X			X	X			2	3	1	3	0.8	2.0	Aspirational	\$ 15,000,000
21	CDOT	I-70B at 32 Road (SH-141) intersection					X	X							2	5	1	1.8	3	2.6	Aspirational	\$ -
22	CDOT	US 6	10 1/2 Road	N Coulson Street				X	X		X				2	1	1	2.6	3.4	2.0	Aspirational	\$ -
23	CDOT	I-70B (scope TBD)	32 Road (SH-141)	I-70	Additional lane each direction			X			X				2	5	5	2.2	3.4	3.5	Year 5-10	\$ 5,000,000
24	CDOT	SH-330	SH-65	Collbran							X				2	5	1	2.2	1	2.2	Aspirational	\$ 3,800,000
25	CDOT	32 Road (SH-141)	D Road	US 50							X	X			2	5	3	1.8	3.8	3.1	Year 5-10	\$ 15,000,000
26	CDOT	US 6 North Avenue	1st Street	30 Road	Intersection and access control improvements			X			X	X			5	5	3	4.2	5	4.4	Year 1-4	\$ 8,000,000
27	Grand Junction	24 Road	Patterson Road	I-70	Additional lane each direction		X	X			X				4	3	5	2.2	2.6	3.4	Year 1-4	\$ 10,000,000
28	Grand Junction	D Road	29 Road	32 Road (SH-141)	See Project Code 59			X			X				3	5	1	1.8	3.8	2.9	Within 10 years	\$ 12,000,000
30	Grand Junction, Mesa County	29 Road from Patterson Road to I-70 (including interchange)	Patterson Road	I-70	Additional lane each direction, center turn lane, new interchange with I-70		X	X			X				2	1	2.6	3	2.2	Within 10 years	\$ 50,000,000	

2045 RTP Roadway Projects

Roadway Project Code	Implementing Jurisdiction	Project	Project Type			Prioritization Criteria															
			Extent 1	Extent 2	Capacity Increase	Rebuild	Operations	Safety	Shoulders	Capacity	Multimodal	Resurfacing	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost	
32	Grand Junction	12th Street and Patterson (Intersection)					X				X			4	1	5	2.2	4.6	3.4	Within 10 years	\$ 3,500,000
33	Grand Junction	F 1/2 Road link from Cortland Avenue at 28 Road to F 1/2 Road at 29 Road	Cortland Avenue (28 Road)	F 1/2 Road (29 Road)	New roadway, one lane each direction		X	X			X			3	1	1	2	3.4	2.1	Aspirational	\$ 3,500,000
34	Grand Junction	F1/2 Road Pkwy from I-70 B to 25 Road	24 Road	25 Road	New roadway, one lane each direction		X							2	5	1	2.2	2.2	2.5	Year 1-4	\$ 17,000,000
35	Grand Junction, Mesa County	G Road and 26 Road (1st Street) (Intersection)							X		X			3	5	1	1	2.6	2.5	Year 1-4	\$ 3,410,000
36	Grand Junction	G Road	23.5	24.5																Year 1-4	\$ 4,200,000
36.5	Grand Junction	G Road	24.5	Horizon Drive	See Project Code 103		X	X						2	5	1	3	3.8	3.0	Year 1-4	\$4,200,000
37	Grand Junction	25 Road	North of the F 1/2 Road Parkway	G Road	Center turn lane			X						2	5	1	1	2.6	2.3	Within 10 years	\$ 2,500,000
38	Grand Junction	26 Road	Patterson	H Road	Center turn lane					X	X			2	3	1	1.8	3	2.2	Aspirational	\$ 8,400,000
39	Grand Junction	26 1/2 Road	Horizon Drive	Summer Hill Way	Center turn lane					X	X			2	3	1	3	2.6	2.3	Year 1-4	\$ 13,100,000
40	Grand Junction	B 1/2 Road	29 Road	29 3/4 Road	Center turn lane					X	X			2	1		2.2	2.6	2.0	Year 1-4	\$ 3,200,000
41	Grand Junction	D 1/2 Road	29 1/4 Road	30 Road	Center turn lane					X	X			2	5	1	1.8	3.4	2.6	Year 1-4	\$ 3,500,000
42	Grand Junction	F 1/2 Road	30 Road	30 3/4 Road	Center turn lane					X	X			2	1	1	2.2	4.2	2.1	Year 1-4	\$ 4,200,000
43	Grand Junction	24 1/2 Road	Patterson Road	G 1/4 Road	Additional lane each direction, Patterson to F-1/2 Road; center turn lane F-1/2 Road to G-1/4 Road					X	X			2	5	1	2.2	2.2	2.5	Year 1-4	\$ 6,000,000
44	Grand Junction	Horizon Drive/G Road/27 1/2 Road Roundabout								X	X			5	1	1	1.8	4.2	2.6	Year 1-4	\$ 4,000,000
45	Grand Junction	Patterson Road	Turn Lanes				X	X		X				2	5	3	4.2	5	3.8	Year 1-4	\$ 1,000,000
46	Grand Junction	River Road/Redlands Parkway (near Junior Service League Park)					X				X			2	3	1	2.2	2.2	2.1	Year 1-4	\$ 4,000,000
47	Grand Junction	23 Road	I-70	H Road	Center turn lane			X		X	X			2	5	1	1	1.8	2.2	Within 10 years	\$ 3,000,000
48	Grand Junction	23 Road	I-70B	I-70	Center turn lane					X	X			2	5	1	1	2.6	2.3	Within 10 years	\$ 5,000,000
49	Grand Junction	23 Road I-70 Bike/Pedestrian Bridge						X			X			2	3	1	1	0.8	1.6	Within 10 years	\$ 3,000,000
50	Grand Junction	24 Road I-70 Bike/Pedestrian Bridge						X			X			2	3	1	1	0.8	1.6	Aspirational	\$ 3,000,000
51	Grand Junction	25 Road	F 1/2 Road	G 3/8 Road						X	X			3	5	1	1	2.6	2.5	Within 10 years	\$ 3,100,000
52	Grand Junction	25 Road	I-70 B	Patterson	Additional lane each direction					X				2	5	3	1.8	3.8	3.1	Within 10 years	\$ 10,000,000
53	Grand Junction	26 Road	Patterson Road	H Road	Center turn lane					X	X			2	5	1	1.8	3	2.6	Within 10 years	\$ 8,400,000
54	Grand Junction	12th Street/27 Road	Horizon Drive	H Road	Center turn lane					X	X			2	3	1	2.6	4.2	2.6	Aspirational	\$ 4,700,000
55	Grand Junction	27 Road I-70 Bike/Pedestrian Bridge						X			X			1	3	1	1.8	0.8	1.5	Aspirational	\$ 3,000,000
56	Grand Junction	27 1/2 Road	US 50	UnawEEP	Center turn lane (add this link to the model, from B 1/2 Road to UnawEEP)					X	X			1	3	1	1.8	4.2	2.2	Within 10 years	\$ 1,800,000
57	Grand Junction	27 1/2, B 1/2, UnawEEP Intersections					X				X			1	3	1	1.8	3.4	2.0	Aspirational	\$ 900,000
58	Grand Junction	B 1/2 Road	US 50	29 Road	Center turn lane					X	X			2	3	1	3	3.8	2.6	Aspirational	\$ 3,900,000
59	Grand Junction, Mesa County	D Road	29 Road	32 Road	Center turn lane					X	X			3	3	1	1.8	2	2.2	Within 10 years	\$ 9,600,000
60	Grand Junction	D Road and 30 Road Intersection					X			X	X			2	3	1	1	2.6	1.9	Within 10 years	\$ 760,000
61	Grand Junction	D Road and 31 Road Intersection					X			X	X			2	3	1	1	2.6	1.9	Within 10 years	\$ 760,000
62	Grand Junction	D 1/2 Road and 30 Road Intersection					X			X	X			2	1	1	1	2.6	1.5	Within 10 years	\$ 760,000

2045 RTP Roadway Projects

Roadway Project Code	Implementing Jurisdiction	Project	Project Type			Prioritization Criteria																
			Extent 1	Extent 2	Capacity Increase	Rebuild	Operations	Safety	Shoulders	Capacity	Multimodal	Resurfacing	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost		
63	Grand Junction	E Road	29 Road	30 Road	Center turn lane					X	X				2	5	1	2.2	4.6	3.0	Aspirational	\$ 2,600,000
64	Grand Junction	F 1/2 Road Matchett	28 1/4 Road	F 1/2 Road extension	New roadway, one lane each direction						X	X			1	3	1	3	3.4	2.3	Aspirational	\$ 4,400,000
65	Grand Junction	F 1/2 Road and 30 Road Intersection					X				X	X			2	1	1	1.8	4.2	2.0	Aspirational	\$ 450,000
66	Grand Junction	F 1/4 Road	24 1/2 Road	25 Road	New roadway, one lane each direction						X	X			2	1		2.2	2.2	1.9	Within 10 years	\$ 1,300,000
67	Grand Junction	G Road and 27 Road Intersection					X	X			X	X			2	5	1	1.8	3.4	2.6	Within 10 years	\$ 1,400,000
68	Grand Junction	G Road	23 Road	23 1/2 Road	See Project Code 103						X	X			2	5	1	1	1.8	2.2	Within 10 years	\$ 2,500,000
71	Grand Junction	South Broadway	S. Camp Road	20 Road			X	X	X		X	X			2	3	1	1.8	1.8	1.9	years	\$ 4,000,000
72	Grand Junction	F 1/2 Road from 29 1/2 Road to 30 Road	29 1/2 Road	30 Road	New roadway segment connecting to existing F 1/2 Road						X	X			2	5	1	1.8	4.2	2.8	Aspirational	\$ 2,500,000
73	Grand Junction	O Road from 9th Street to Riverside Pkwy	9th Street	Riverside Pkwy									X		2	3	1	2.6	2.6	2.2	Aspirational	\$ 2,500,000
77	Grand Junction	28 1/4 Road	I-70 B	Orchard Ave	New roadway segment connecting to existing 28 1/4 Road		X				X	X			2	1	1	1.8	4.6	2.1	Within 10 years	\$ 10,000,000
78	Grand Junction	Patterson Road and 7th Street (intersection)					X								2		5	1.8	4.6	3.4	Aspirational	\$ 3,500,000
79	Grand Junction	Grand Avenue and 7th Street					X				X				2	5	1	1.8	5	3.0	Aspirational	\$ 3,500,000
80	Grand Junction, Mesa County	H Road from 25 Road to 26 Road	25 Road	26 Road	New roadway segment connecting to existing H Road, plus center turn lane full segment						X				1	3		1.8	1	1.7	Aspirational	\$ 5,000,000
83	Grand Junction	29 Road and D Road (intersection)					X	X				X			2		5	1.8	3	3.0	Aspirational	\$ 5,000,000
84	Grand Junction, Mesa County	29 Road/H Road connection from Horizon Drive to I-70 (Exit 37)	from Horizon Dr	I-70 (Exit 37)	see 29 Road PEL documentation for alignments			X				X			1		1	1.8	1.4	1.3	Aspirational	\$ 50,000,000
85	Grand Junction	H Road	23 Road	24 Road				X			X				2	5	1	2.2	1.8	2.4	Aspirational	\$ 5,200,000
86	Grand Junction	Riverside Parkway	24 Road	25 Road			X				X				2	3	1	2.2	2.2	2.1	Aspirational	\$ 8,000,000
87	Grand Junction	29 Road	North Ave	Patterson Road			X	X				X			3	3	3	1.8	5	3.2	Aspirational	\$ 10,000,000
88	Grand Junction	Riverside Parkway	15th Street	29 Road			X								3	5	5	2.6	3	3.7	Aspirational	\$ 15,000,000
89	Grand Junction	B 1/2 Road	29 3/4 Rd	31 Road			X				X				3	3	1	3	3.8	2.8	Aspirational	\$ 6,500,000
90	Grand Junction	Horizon Drive	7th Street	G Road			X	X							2	3	3	2.2	4.2	2.9	Aspirational	\$ 10,500,000
91	Grand Junction	29 Road	D Road (Riverside Parkway)	B 1/2 Road				X							3	5	5	2.2	3	3.6	Aspirational	\$ 12,600,000
93	Grand Junction	7th Street	Patterson Road	Pitkin Avenue		X							X		4	2	1	5	5	3.4	Aspirational	\$ 23,900,000
94	Grand Junction	Patterson Road	I-70 B (west side)	30 Road									X		5		3	4	5	4.3	Aspirational	\$ 82,500,000
95	Grand Junction, Mesa County	E Road	31 Road	32 Road	Center turn lane			X			X				3	5	1	5	3.8	3.6	2021-2023	\$ 5,000,000
96	Mesa County	SH-340 at Colonial Drive	Colonial Drive				X		X		X				4	1	1	1.8	1.8	1.9	2020	\$ 475,000
97	Grand Junction, Mesa County	Orchard Avenue (E 1/2 Road)	1st Street	I-70 B	Center turn lane (through entire corridor)			X			X				5	3	1	4.2	4.6	3.6	Aspirational	\$ 15,000,000
99	CDOT, Mesa County, Grand Junction	I-70 Auxillary Lanes (if 29 Rd interchange is built)	Horizon Drive	29 Road	Auxiliary lanes (between Horizon Drive and 29 Road interchanges)						X				1			1.8	0.8	1.2	Aspirational	\$ 10,000,000
100	Mesa County	31 Road with overpass of I-70B			New roadway segment connecting E Road to F Road with overpass of I-70B		X	X			X				NR	NR	NR	NR	NR	NR	Aspirational	\$ 30,000,000

2045 RTP Roadway Projects

Roadway Project Code	Implementing Jurisdiction	Project	Project Type					Prioritization Criteria													
			Extent 1	Extent 2	Capacity Increase	Rebuild	Operations	Safety	Shoulders	Capacity	Multimodal	Resurfacing	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost	
102	Mesa County	16 Road corridor from M to N	M Road	N Road J Road (shoulders & minor realignment)				X						1	3	1	1	1	1.4	Year 5-10	\$ 5,000,000
104	Mesa County	22 Road	I Road					X	X					3	3	1	3	3	2.6	2020	\$ 3,000,000
105	Mesa County	32 Road (SH-141) at Springfield Road intersection					X	X							3	1	0	0	1.0	2021	\$ 1,200,000
106	Mesa County	I-70B at F 1/2 Road intersection					X	X		X				5	3	1	3	5	3.4	2020	\$ 3,000,000
107	Mesa County	North River Road	Palisade	US 6 Horizon Drive						X				5	3	1	3	3	3.0	2020-2025	\$ 3,000,000
108	Grand Junction, Mesa County	H Road	26 Road	D 1/2 Road	I-70	Center turn lane								2	3	1	3	1.4	2.1	Aspirational	\$ 6,300,000
109	Mesa County	33 Road Corridor	Grand Avenue	Front Street	New roadway connection		X		X	X				2	1	1	1	3	1.6	Year 5-10	\$ 7,500,000
110	Mesa County	1st Street (Clifton)	Grand Avenue	Front Street	New roadway connection	X		X	X	X				3	5		1	3	3.0	Year 5-10	\$ 2,000,000
112	Mesa County	Little Park Road at C 1/2 Road to 5 miles south	C 1/2 Road	~ 5 miles south				X						NR	NR	NR	NR	NR	NR	Year 5-10	\$ 15,000,000
113	Palisade	Elberta Avenue from I-70 to G Road (US-6)	I-70	G Road (US 6)			X	X		X				2	3	1	1.8	1.8	1.9	5 years	\$ 2,500,000
114	CDOT, Palisade	US 6	Lincoln Avenue	Bridge (over CO River)				X	X		X			1	3	1	2.2	1.8	1.8	Aspirational	\$ 2,500,000
115	CDOT, Palisade	US 6	Palisade High School	Lincoln Avenue				X	X		X			1	5	1	3	1.8	2.4	Year 5-10	\$ 1,000,000
116	CDOT, Palisade	US 6 & Elberta intersection						X			X			1	3	1	1.8	1.6	1.7	Year 3	\$ 6,000,000
117	De Beque	De Beque Truck Bypass	V.2 Road	Roan Creek Road	See 2045 shapefiles		X							1		1	1	1	1.0		
118	De Beque	New I-70 interchange at De Beque (west of existing interchange)			See 2045 shapefiles					X				1	3	1	1	1	1.4		
120	Fruita	I-70 and 19 Road (new interchange)			New full access I-70 interchange at 19 Road	X				X				3	1	1	1.8	2.6	1.9	Aspirational	\$ 40,000,000
121	Fruita	L Road	16 Road	Fremont Street	Center turn lane	X			X	X	X			1	3	1	1.8	2.6	1.9	20	\$ 16,940,000
122	Fruita	19 Road	US 6	Ottley Ave	Additional lane each direction, center turn lane	X			X	X	X	X		2	3	1	1.8	2.6	2.1	5	\$ 14,110,000
123	Fruita	Aspen Ave.	Fremont	19 Road	Center turn lane				X		X			1	3	1	3	2.6	2.1	10	\$ 1,660,000
124	Fruita	Coulson Street	Sunset Dr	K 3/4 Road	Center turn lane	X		X	X		X			2	3	1	1.8	2.6	2.1	5	\$ 996,000
125	Fruita	Fremont Street	US 6	L Road	New connection to US 6, center turn lane through entire segment				X	X	X			2	3	1	3.8	2.6	2.5	5	\$ 11,686,400
126	Fruita	Grand Avenue	Cottonwoods subdivision (just east of Pine Street)	19 Road	Center turn lane				X	X	X			2	3	1	2.6	2.6	2.2	5	\$ 1,992,000
127	Fruita	Greenway Dr.	Coulson Street	16 Road/Big Salt Wash Bridge	Existing plus new roadway connection	X			X	X	X			1	5	1	1.8	2.6	2.3	10	\$ 10,000,000
128	Fruita	I 3/4 Road	Fremont Street	19 Road	New roadway connection, one lane each direction, center turn lane	X			X	X	X			1	5	1	2.2	2.6	2.4	5	\$ 3,320,000
129	Fruita	K 3/4 Road	Mesa St	Maple St	Center turn lane				X	X	X			2	3	1	1.8	2.6	2.1	10	\$ 830,000
130	Fruita	K.4 Road	Pine St	Fremont St	Center turn lane	X			X	X	X			1	5	1	2.6	2.6	2.4	2	\$ 2,000,000
131	Fruita	K.6 Road	Maple St	Pine St	Center turn lane				X	X	X			1	1	1	2.6	2.6	1.6	15	\$ 1,660,000



Appendix B: Active Transportation Projects

2045 RTP Active Transportation Projects

Active Transportation Project Code	Implementing Jurisdiction	Facility Type	Project	Extent 1	Extent 2	Prioritization Criteria					Score	Timeline	Cost
						Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development			
1	Grand Junction	Bike Lanes	1st Street (26 Road)	Main Street	I Road	3	5	3	4.2	4.2	3.9	Within 10 years	\$ 3,000,000
2	Grand Junction, Mesa County	Bike Lanes and Sharrows	Orchard Ave	Mesa Mall	32 Road	5	5	1	5	5	4.2	Aspirational	\$ 3,000,000
3	CDOT	Bike Lanes	SH-340	Colorado River State Park, Fruita Section	Rice Street	2	5	4.6	3.8	3.4	3.8	Aspirational	TBD
4	Grand Junction	Shared Use Path	24 Road	Redlands Parkway Ramp	H Road	1		1	2.2	2.2	1.6	Years 1-4	\$ 2,800,000
5	Grand Junction, Mesa County	Bike Lanes and Shared Use Path	31 Road	Riverfront	F½ Road	3	3	5	3	3.8	3.6	Aspirational	TBD
6	Grand Junction	Bike Lanes and Sharrow	7th Street	Grand Avenue	Horizon	3	5	1	3.8	4.6	3.5	Aspirational	TBD pending consideration of alternatives
6.5	Grand Junction	Bike Lanes and Sharrow	7th Street	Horizon	Summerhill I Way							Years 1-4	Part of Street Reconst
7	Grand Junction, Mesa County	Completion of Sidewalks and Bike Lanes	B½ Road	Linden Avenue	32½ Road	3	3	3	3.8	3.8	3.3	Years 1-4	TBD
8	Grand Junction, Mesa County	Shared Use Path	Riverfront Trail	27½ Road	29 Road	1			3.4	2.6	2.3	Within 10 years	\$ 3,000,000
10	Fruita	Bike Lanes and Bridge	18 Road	Riverfront Trail	J Road	2	1	1	3.8	2.6	2.1	20 years	\$ 428,000
11	Mesa County	Sidewalk	Fairgrounds Entrance			1		1	2.2	4.2	2.1	Within 10 years	\$ 1,000,000
12	Grand Junction	Sharrows	Grand Avenue	Spruce Street	7th Street	3	3	1	3.4	4.2	2.9	Within 10 years	TBD pending consideration of alternatives
13	Grand Junction	Shared Use Path	Horizon Drive/Patterson Road	24½ Road	7th Street	4	5	3	4.2	4.2	4.1	Within 10 years	\$ 3,000,000
14	Grand Junction	Shared Use Path and Sidewalks	27 Road/Linden/U.S. 50			2	1		3	4.2	2.6	Within 10 years	\$ 750,000
15	Mesa County	Bike Lanes	Fruit and Wine Byway (East OM)			3			2.2	3	2.7	Aspirational	TBD
16	Palisade, Mesa County	Bike Lanes	Fruit and Wine Byway (Palisade)			3		1	4.2	5	3.3	Aspirational	TBD
17	Grand Junction	Bike Lanes and Shared Use Path	G Road	I-70B west	27 Road	3	5	1	3	3.4	3.1	Within 10 years	Part of Street Reconst
18	Mesa County	Shared Use Path	Riverfront Trail	33½ Road	36¼ Road	1		1	1.8	3.4	1.8	Within 10 years	\$ 5,000,000
19	Grand Junction	Sharrows	12th Street	Patterson Road	Bonito Avenue	3	1	1	2.2	3.8	2.2	Aspirational / to be evaluated further, consider alternatives	TBD
20	Fruita	Shared Use Path	17¼ Road	SH-340	River Bridge	1	3		1.8	2.6	2.1	20 years	\$ 5,000,000
21	Grand Junction	Bike Lanes	23rd Street/24th Street	Grand Avenue	Orchard Avenue	2	5	1	3	5	3.2	Within 10 years	Part of Chip Seal

2045 RTP Active Transportation Projects

						Prioritization Criteria							
Active Transportation Project Code	Implementing Jurisdiction	Facility Type	Project	Extent 1	Extent 2	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost
22	Grand Junction	Bike Lanes	Crosby Avenue (including connectivity to pedestrian bridge)	W. Main Street	Base Rock Street	2	1		3.2	2.6	2.2	Years 1-4	\$ 1,500,000
23	Grand Junction	Bike Lanes and Bike Path	F½ Road/Cortland Avenue	28 Road	33 Road	3	3	1	3.4	4.6	3.0	Aspirational	\$ 4,500,000
24	Grand Junction, Mesa County	Shared Use Path	Monument Road	Lunch Loops TH	S. Camp Road	2	1	1	2.6	1.8	1.7	Within 10 years	\$ 2,500,000
26	Grand Junction, Mesa County	Shared Use Path	Monument Road	S. Camp Road	East Entrance Colorado National Monument	1		1	1.8	1.8	1.4	Within 10 years	\$ 1,500,000
27	CDOT, Mesa County	Shared Use Path	SH-139	Hawkeye Road	N¼ Road	NR	NR	5	NR	NR	NR	Within 10 years	\$ 5,000,000
28	CDOT, Collbran	Shared Use Path	SH-330 along PE Road	Town of Collbran	Plateau Valley School/ Job Corps Center	1	5	1	1.8	1	2.0	Aspirational	\$ 1,500,000
29	Fruita	Shared Use Path	Fruita Colorado River Bridge	Kingsview Road	Colorado River State Park, Fruita Section	1	3	1	1.8	2.6	1.9	20 years	\$ 5,654,000
30	Mesa County	Bike Path and Bridge	31½ Road	Perkins Drive	E½ Road	2		1	1.8	3.8	2.2	Within 10 years	\$ 5,000,000
31	Grand Junction, Mesa County	Bike Route	C½ Road	27½ Road	29 Road	1	3	1	2.6	2.6	2.0	Years 5-10	\$ 1,500,000
32	Fruita	Shared Use Path	Riverfront Trail	SH-340	20 Road Overpass	1		1	3.4	2.6	2.0	20 years	\$ 3,991,000
33	DeBeque, Mesa County	Shared Use Path	Roan Creek Road De Beque	I-70	East 4th Street	NR	NR	3	NR	NR	NR	Aspirational	\$ 5,000,000
34	Fruita, Mesa County	Bike Lanes and Bike Route	K Road, Fruita/Mesa County	US 6	20 Road	2			4.6	2.6	3.1	20 years	\$ 2,085,000
36	Mesa County	Bike Lanes	33 Road	Riverfront Trail	G Road	2		3	1.6	4.2	2.7	Within 10 years	\$ 5,000,000
37	Grand Junction	Intersection Improvements	Independent Avenue	Rim Rock Avenue to East 300 feet		1	1	1	3	3.8	2.0	Within 10 years	\$ 250,000
38	Mesa County	Bike Route	32½ Road	B½ Road		2		1	1	1	1.3	Within 10 years	\$ 5,500,000
39	Palisade	Shared Use Path/Sidewalk	Elberta Avenue	I-70	Hwy 6	2			3	1.8	2.3	5 years	\$ 1,000,000
40	Mesa County	Shared Use Path	Peony Drive/20% Road	SH-340	Riverfront Trail	2	1	1	1.8	1.8	1.5	Within 10 years	\$ 2,000,000
41	Grand Junction	Sidewalk	US 50 Frontage Road	B½ Road	Lynwood Street	1		1	2.2	4.2	2.1	Aspirational	\$ 1,500,000
44	CDOT, Mesa County	Shared Use Path	SH-65	KE Road	RV Park N. of KE½ Road	1	3		1.8	0.8	1.7	Within 10 years	\$ 1,214,400

2045 RTP Active Transportation Projects

						Prioritization Criteria							
Active Transportation Project Code	Implementing Jurisdiction	Facility Type	Project	Extent 1	Extent 2	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost
45	Grand Junction, Mesa County	Shared Use Path and River Bridge	South Redlands Road	Mira Monte Road	US 50 @ UnawEEP Avenue	1	5	1	3	3.8	2.8	Aspirational	\$ 6,000,000
46	Mesa County	Shared Use Path	Whitewater	Delta County Line	SH-141	1		1	1	1	1.0	Within 20 years	\$ 20,000,000
47	Mesa County	Bike Lanes	F Road	35 Road	Riverfront	2			1.4	1.8	1.7	Within 10 years	\$ 3,400,000
48	Fruita	Shared Use Path	Big Salt Wash - Fruita	Riverfront Trail	L Road	1			2.6	2.6	2.1	20 years	\$ 1,500,000
50	Grand Junction	Pedestrian and Crossing Improvements	12th Street	North Avenue	Patterson Road	4	3	1	4.2	5	3.4	Years 1-4	\$ 200,000
51	CDOT, Fruita	Bike Overpass	Adjacent to the I-70 SH-340 interchange			1	3	1	3.8	2.6	2.3	20 years	\$ 2,000,000
52	Fruita	Bike Overpass	18.5 Road over I-70			1		5	2.6	2.6	2.8	20 years	\$ 2,000,000
53	Fruita	Bike Path	Colorado Riverfront Trail	Monument View	Kokopelli Drive	1		1	3.8	2.6	2.1	20 years	\$ 5,000,000
54	Grand Junction	Bike/Ped Overpass	UPRR Bike/Ped Overpass	Depot	Riverfront at Dos Rios	1		1	2.2	2.6	1.7	Years 1-4	\$ 4,500,000
55	CDOT, Grand Junction, Mesa County	Tour of the Moon Byway	Segments of Monument Rd, S. Camp Rd, S. Broadway, and SH-340	East entrance Colorado National Monument	West entrance Colorado National Monument	NR	NR	1	NR	NR	NR	Within 10 years	\$ 3,500,000
56	Grand Junction	Redlands Parkway	Redlands Parkway/South Rim Intersection			NR	NR	1	NR	NR	NR	Aspirational	TBD, in conjunction with South Rim intersection construction
58	CDOT, Palisade	Shared Use Path and Sidewalks	Highway 6	36 1/4 Road	Palisade High School	1	5	1	3	1.8	2.4	5-10 years	\$ 500,000
59	CDOT, Palisade	Shared Use Path and Sidewalks	Highway 6 & frontage roads	Iowa Street	Palisade High School	1	3	1	3	1.8	2.0	3-5 years	\$ 1,000,000
60	CDOT, Grand Junction	Shared Use Path and Bike/Ped Improvements	I-70B	W Gunnison Avenue	1st Street	1	5	NR	2.2	3.8	3.0	Years 1-4	In CDOT I-70B Phase 5
61	CDOT, Grand Junction	Bike/Ped Improvements	North Avenue	23rd Street	30 Road	2	5	NR	3.4	4.6	3.8	Within 10 years	CDOT Maintenance 2021
62	Grand Junction	Bike/Ped Improvements	27 1/2 Road	B 1/2 Road	UnawEEP Avenue	1	3	1	2.2	3.4	2.1	Within 10 years	\$ 1,000,000
63	Grand Junction, Mesa County	Bike/Ped Improvements	30 Road	Patterson Road	F 1/2 Road	3	1	1	2.2	3.8	2.2	Within 10 years	\$ 2,500,000
64	Grand Junction	Bike Lanes	W Independent Ave (extension)	Bogart Lane	24 3/4 Road	NR	NR	1	NR	NR	NR	Within 10 years	\$ 1,500,000
65	Grand Junction	Bike Lanes	9th Street	Riverside Parkway	Main Street	2	3	NR	3	5	3.3	Within 10 years	\$ 1,500,000
66	CDOT, Grand Junction	Bike Lanes	SH-340 Colorado River Bridge (a segment of A3)	West Avenue	west abutment of bridge	1	5	1	3	1.8	2.4	Years 1-4	Work with CDOT to stripe

2045 RTP Active Transportation Projects

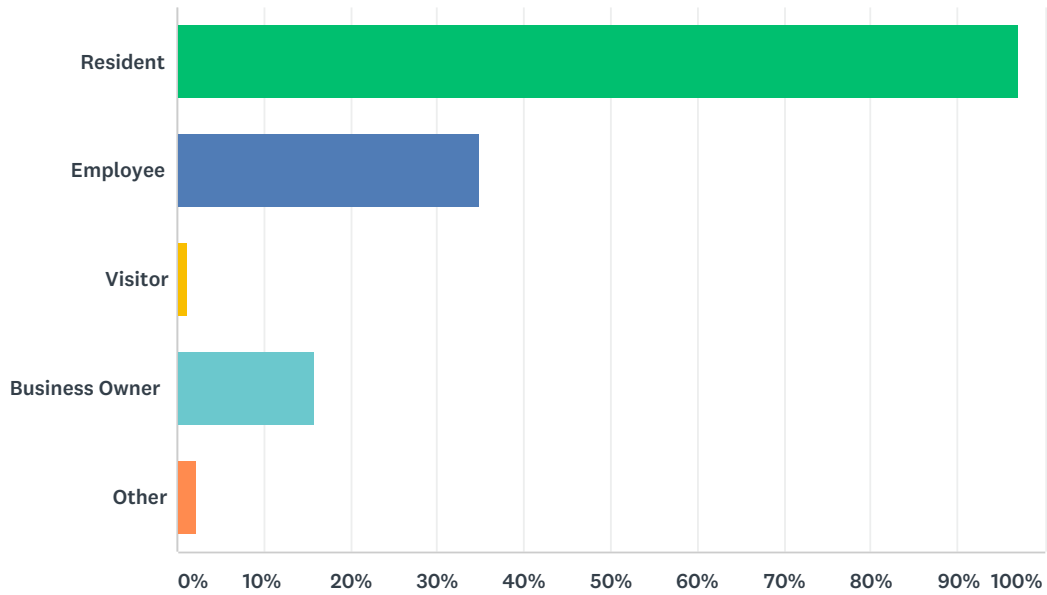
						Prioritization Criteria							
Active Transportation Project Code	Implementing Jurisdiction	Facility Type	Project	Extent 1	Extent 2	Safety (PM1)	Infrastructure Condition (PM2)	System Performance (PM3)	Mobility for all Travelers	Economic Development	Score	Timeline	Cost
68	Grand Junction	Bike/Ped Improvements and Wayfinding	W Main Street (utilizing existing bike/ped bridge)	Riverfront	1st Street	1		NR	3	2.6	2.2	Years 1-4	\$ 10,000
69	Grand Junction	Bike Route	Main Street	1st Street	8th Street	NR	NR	NR	NR	NR	NR	Years 1-4	\$ 5,000
70	Grand Junction	Bike Improvements	10th St	North Avenue	Main Street	NR	NR	NR	NR	NR	NR	Years 1-4	\$ 20,000
71	Grand Junction	Bike Signal Detection	Multiple Intersections			NR	NR	NR	NR	NR	NR	Years 1-4	\$ 20,000
72	Grand Junction, Mesa County, Fruita	Wayfinding	Grand Valley Wayfinding Project	Palisade	Fruita	NR	NR	NR	NR	NR	NR	Years 1-4	\$ 300,000



Appendix C: Survey Results

Q1 What is your relationship to the Grand Valley? (select all that apply)

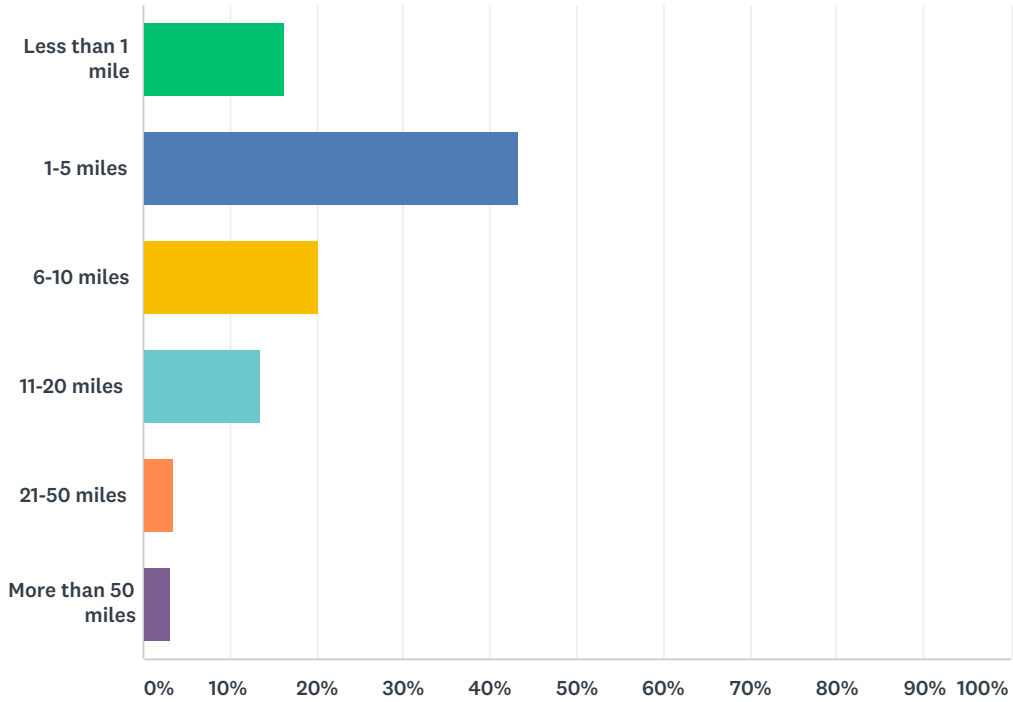
Answered: 341 Skipped: 2



ANSWER CHOICES	RESPONSES	
Resident	97.07%	331
Employee	34.90%	119
Visitor	1.17%	4
Business Owner	15.84%	54
Other	2.35%	8
Total Respondents: 341		

Q2 How long is your typical commute to work?

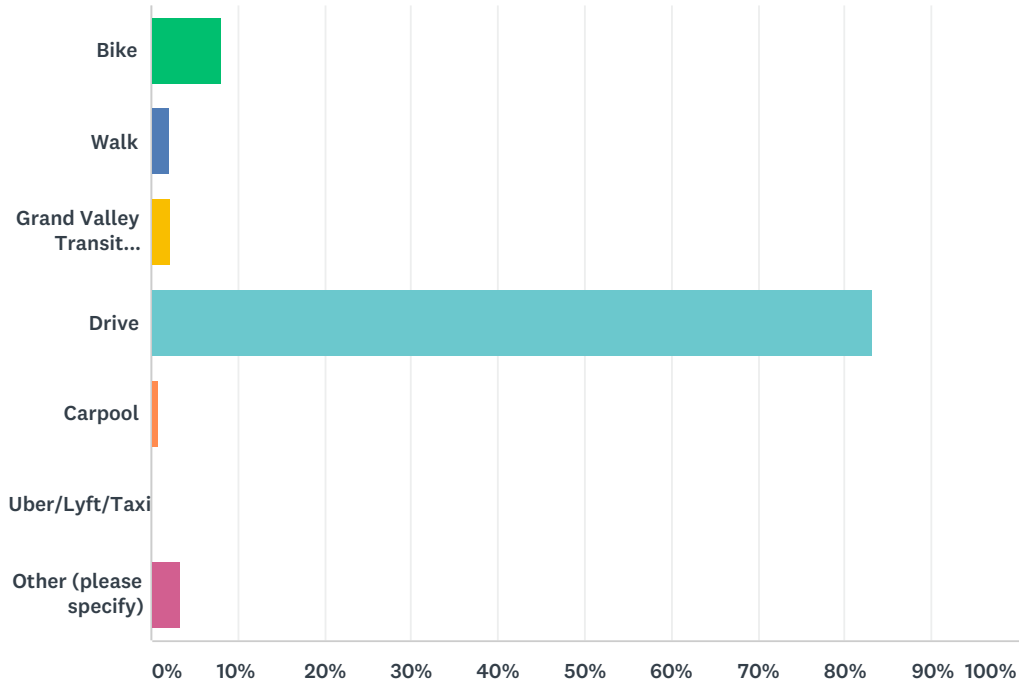
Answered: 317 Skipped: 26



ANSWER CHOICES	RESPONSES	
Less than 1 mile	16.40%	52
1-5 miles	43.22%	137
6-10 miles	20.19%	64
11-20 miles	13.56%	43
21-50 miles	3.47%	11
More than 50 miles	3.15%	10
TOTAL		317

Q3 What mode do you take for the majority of your trips?

Answered: 334 Skipped: 9



ANSWER CHOICES	RESPONSES	
Bike	8.08%	27
Walk	2.10%	7
Grand Valley Transit (GVT-public bus)	2.40%	8
Drive	83.23%	278
Carpool	0.90%	3
Uber/Lyft/Taxi	0.00%	0
Other (please specify)	3.29%	11
TOTAL		334

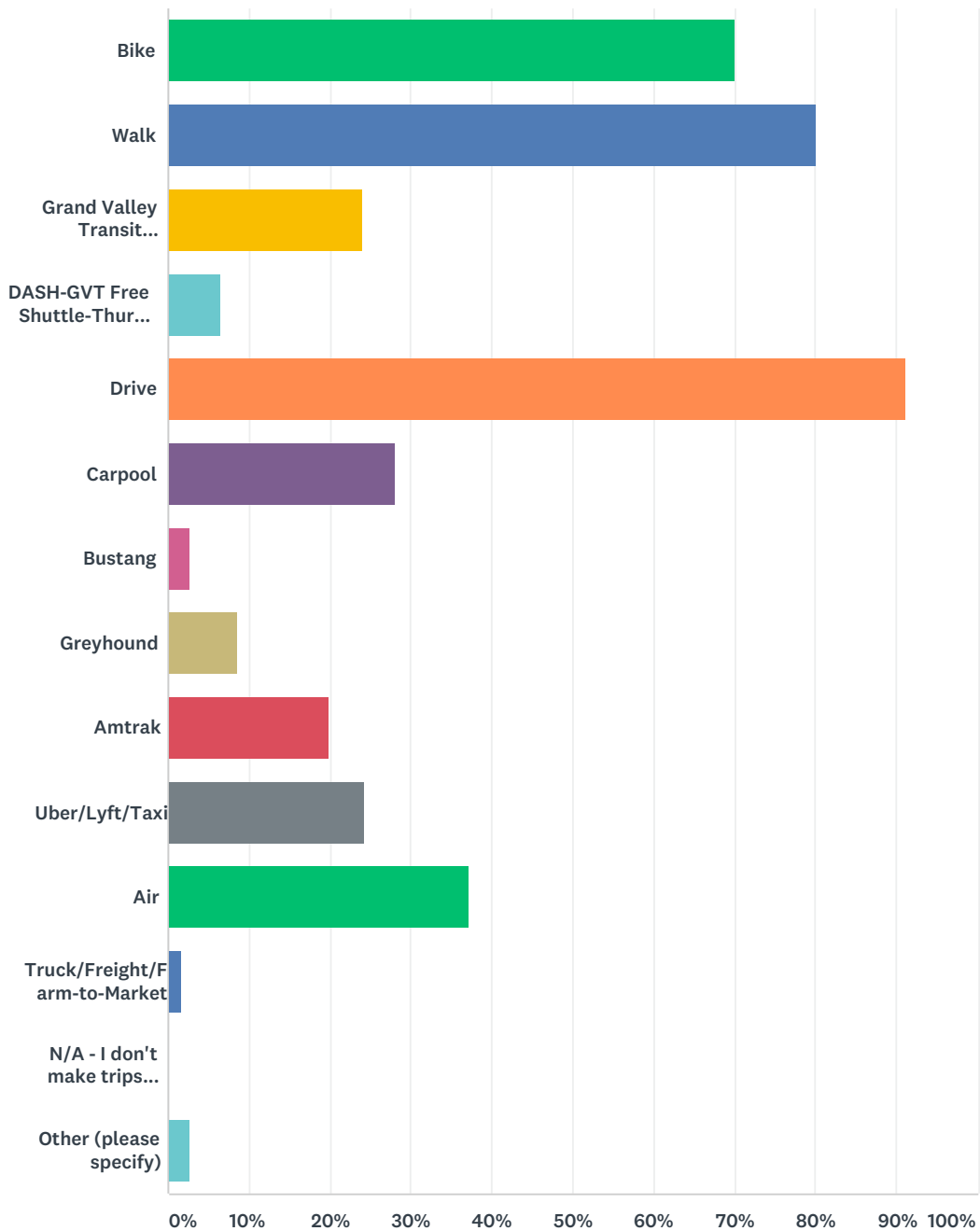
#	OTHER (PLEASE SPECIFY)	DATE
1	I am currently a majority-car commuter but am slowly switching to bicycling to work.	9/19/2019 10:52 AM
2	EV	9/9/2019 12:56 PM
3	Bike and walk in nice weather, drive in inclement weather.	9/6/2019 11:26 PM
4	Run commute	9/5/2019 5:19 AM
5	GVT Paratransit	9/3/2019 2:14 AM
6	bike and drive	9/3/2019 2:10 AM
7	I bike and walk a lot.	9/2/2019 9:20 AM
8	test submit from GJ farmers market	8/22/2019 10:40 AM
9	Test submit from GJ Downtown Farmers Market	8/22/2019 10:39 AM

Grand Valley 2045 Regional Transportation Plan Update Online Survey

10	Onewheel (like an electric skateboard).	8/19/2019 8:27 AM
11	Truck	8/18/2019 10:22 AM

Q4 What modes of transportation have you used within Grand Valley? (select all the apply)

Answered: 338 Skipped: 5



ANSWER CHOICES	RESPONSES	
Bike	70.12%	237
Walk	80.18%	271
Grand Valley Transit (GVT-public bus)	23.96%	81
DASH-GVT Free Shuttle-Thursday-Saturday evenings on Route 1	6.51%	22

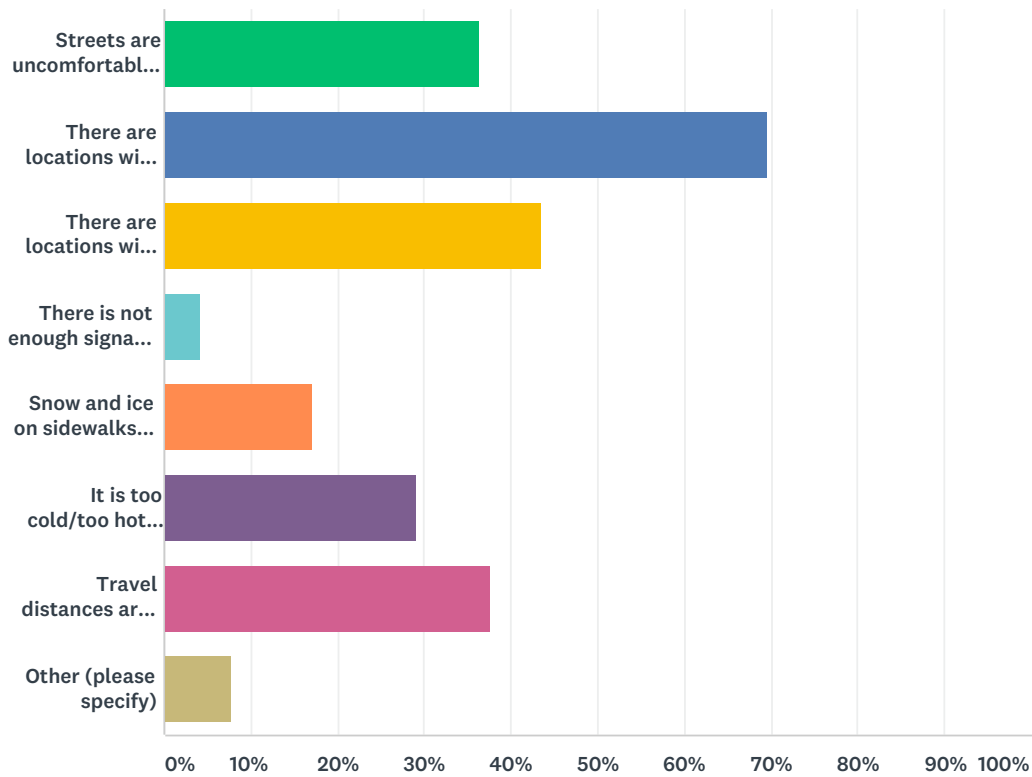
Grand Valley 2045 Regional Transportation Plan Update Online Survey

Drive	91.12%	308
Carpool	28.11%	95
Bustang	2.66%	9
Greyhound	8.58%	29
Amtrak	19.82%	67
Uber/Lyft/Taxi	24.26%	82
Air	37.28%	126
Truck/Freight/Farm-to-Market	1.78%	6
N/A - I don't make trips within the Grand Valley	0.00%	0
Other (please specify)	2.66%	9
Total Respondents: 338		

#	OTHER (PLEASE SPECIFY)	DATE
1	Unicycle	9/21/2019 5:16 AM
2	Collbran Senior Trip	9/10/2019 1:37 PM
3	Inline scooter.	9/10/2019 11:51 AM
4	horseback and river raft	9/7/2019 2:55 PM
5	motorcycle	9/6/2019 2:48 PM
6	electric scooter/skateboard	9/6/2019 7:38 AM
7	Neither Bustang, Greyhound, Amtrak or Air are transportation within the GV. Bad question.	9/3/2019 9:00 AM
8	GVT Paratransit	9/3/2019 2:14 AM
9	Onewheel	8/19/2019 8:27 AM

Q5 The biggest challenge(s) associated with walking in the Grand Valley is/are... (select all that apply)

Answered: 327 Skipped: 16



ANSWER CHOICES	RESPONSES	
Streets are uncomfortable or unsafe to walk along	36.39%	119
There are locations with nonexistent or insufficient sidewalks	69.72%	228
There are locations with nonexistent or insufficient crossings	43.43%	142
There is not enough signage for me to find where I want to go	4.28%	14
Snow and ice on sidewalks or trails make it difficult or unsafe to walk	17.13%	56
It is too cold/too hot to walk	29.05%	95
Travel distances are too long	37.61%	123
Other (please specify)	7.65%	25
Total Respondents: 327		

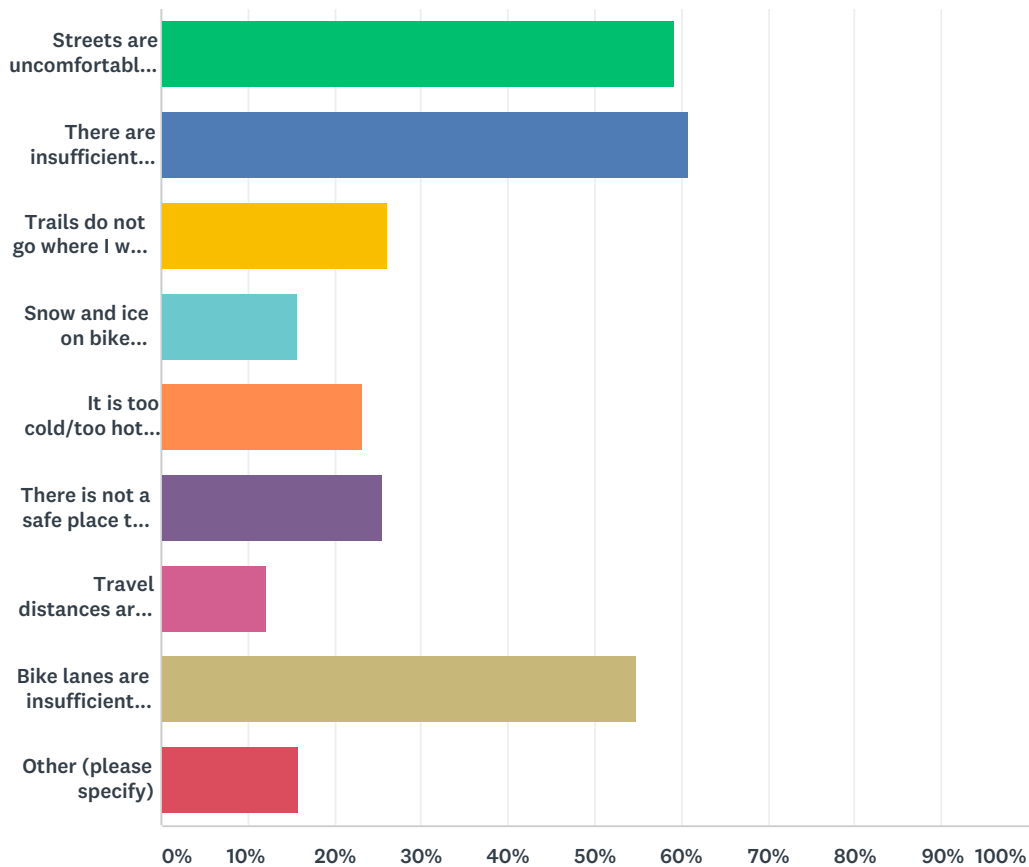
#	OTHER (PLEASE SPECIFY)	DATE
1	Bicyclists who don't give any warning when overtaking and passing.	9/21/2019 4:23 AM
2	Homeless	9/20/2019 8:11 AM
3	Walks toooo narrow along arterials.	9/10/2019 11:51 AM
4	Cane	9/10/2019 10:52 AM

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5	Insufficient traffic enforcement running intersections, coal rolling, aggressive driving, road rage	9/10/2019 4:56 AM
6	Speed of cars along roads is excessive. Crossing time is too short. Running red lights into occupied crosswalks	9/9/2019 10:39 AM
7	walking is a great way to get around if you have the time	9/9/2019 10:28 AM
8	No green strip between road and sidewalk in busy areas	9/6/2019 3:23 PM
9	Need more bike trails! I would bike more than drive!	9/6/2019 12:50 PM
10	The new sidewalks on North Ave are super wide...and now bicycles race down them... I have been clipped 3 times by bike riders while I walk from 12th to 21st in the past year. And that has never happened in the 10 years I lived and walked along the same route when the sidewalks were normal size. Also drivers of cars, entering and exiting business in this same stretch have nearly hit me on more than one occasion..as they cross over the sidewalks...which are not clearly marked now that its a part of the wide sidewalk... Bring back the old sidewalks....they were more narrow, but safer overall.	9/6/2019 7:38 AM
11	Large numbers of homeless people downtown. Dirty Downtown.	9/5/2019 11:01 AM
12	Canals (ideal for walking, running, biking) are no trespass paths	9/5/2019 5:19 AM
13	Areas with few or immature trees make walking noisy and unpleasant.	9/4/2019 2:27 AM
14	Many Seniors can not walk those distances.	9/3/2019 9:00 AM
15	Distance verse lack of time	9/2/2019 4:01 PM
16	Both high speeds of cars in areas with insufficient sidewalks and the insufficiency of sidewalks.	9/2/2019 9:20 AM
17	I don't like walking	8/31/2019 12:27 AM
18	I like to walk my dog but there are too many dogs off leash that confront my dog.	8/29/2019 9:10 AM
19	Doesn't feel safe with children: near traffic. Extreme heat in summers with little shade.	8/28/2019 3:56 PM
20	Drivers not slowing down and paying attention	8/28/2019 2:43 PM
21	Services within walking distance are few;; crossing Patterson Road to get to them is a major barrier.	8/28/2019 10:32 AM
22	some, not all, streets are not comfortable to walk along	8/23/2019 9:58 AM
23	I just moved here a week ago so everything looks good so far.	8/19/2019 8:27 AM
24	insufficient lighting	8/19/2019 4:07 AM
25	Too hot/cold	8/18/2019 11:10 AM

Q6 The biggest challenge(s) associated with biking in the Grand Valley is/are... (select all that apply)

Answered: 314 Skipped: 29



ANSWER CHOICES	RESPONSES
Streets are uncomfortable or unsafe to bike along	59.24% 186
There are insufficient multi-use trails/protected bike lanes	60.83% 191
Trails do not go where I want to go	26.11% 82
Snow and ice on bike facilities make it difficult or unsafe to bike	15.61% 49
It is too cold/too hot to bike	23.25% 73
There is not a safe place to leave my bike	25.48% 80
Travel distances are too long	12.10% 38
Bike lanes are insufficient, inconsistent or not sufficiently marked	54.78% 172
Other (please specify)	15.92% 50
Total Respondents: 314	

#	OTHER (PLEASE SPECIFY)	DATE
1	Dangerous drivers texting, talking on a cell phone and running red lights.	9/22/2019 10:53 AM

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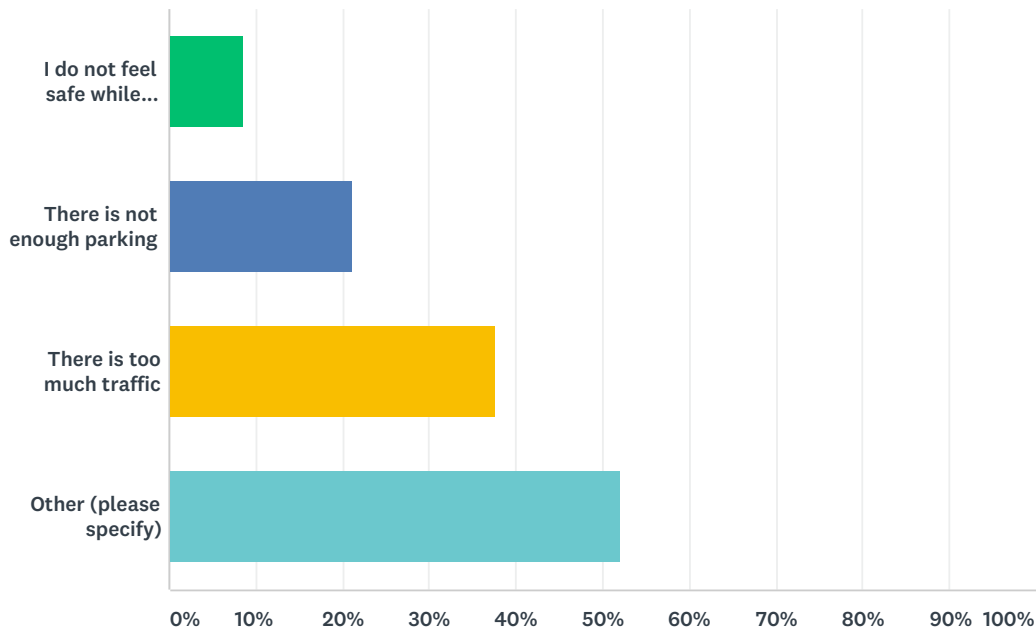
2	Bike lanes covered with debris. Wide lanes shared with motorists (whose tires keep the pavement swept clean) work better than bike lanes.	9/21/2019 4:23 AM
3	People need to learn how to drive	9/21/2019 3:37 AM
4	Don't bike	9/21/2019 3:01 AM
5	attitude	9/20/2019 8:52 AM
6	the bike lanes that are provided always have trash, tree limbs and other debris you need to watch out for	9/20/2019 8:47 AM
7	Trails on cover Grand Junction and Fruita, don't extend to Palisade	9/20/2019 3:22 AM
8	n/a	9/18/2019 2:19 AM
9	I would not choose to use a bike as a form of transportation or sport due to the inherent dangers associated with riding one	9/17/2019 2:27 PM
10	I	9/11/2019 7:37 AM
11	Bikes should be encouraged to stay off roadways it is a hazard to them and the drivers	9/11/2019 5:32 AM
12	bicycle users are not taxed commensurately with the expense of creating dedicated, protected bike lanes/ routes, causing non bicycling taxpayers to unfairly shoulder the fiscal burden. if there was a mechanism to tax the users of bicycling infrastructure to pay for its creation and maintenance. I would be willing to pay such a tax if I knew it would provide a protected bike lane or route that my children could use to get to school, or if it made my commute to work safer. protected route to the lunch loop? Not so much...	9/10/2019 10:57 AM
13	Insufficient traffic enforcement running intersections, coal rolling, aggressive driving, road rage	9/10/2019 4:56 AM
14	Poor signage	9/9/2019 12:56 PM
15	Drivers on back roads north of GJ and Fruita are fast and aggressive.	9/9/2019 12:37 PM
16	Cyclists need to be held to the same laws as autos.	9/9/2019 12:31 PM
17	The canals would be a great trail system for biking.	9/9/2019 11:32 AM
18	Same as 5	9/9/2019 10:39 AM
19	there are plenty of bike lanes, but weather can be a factor	9/9/2019 10:28 AM
20	Driver attitudes play a large roll in lack of safety. Drivers tend to treat you like second class because you choose to pedal. I even had a state patrol accuse me of staging an accident when an elderly lady side swiped me after not yielding properly.	9/8/2019 5:36 AM
21	Bikes need to fallow rules as cars or stay off roads	9/7/2019 5:19 AM
22	No problems as long as I stay aware of surrounding traffic.	9/6/2019 11:26 PM
23	inconsiderate drivers	9/6/2019 2:48 PM
24	Need more bike trails! I would bike more than drive!	9/6/2019 12:50 PM
25	The Elephant in the room is North Ave.... its used as an expressway heading east to west by auto traffic exclusively. Which destroys any reasonable use by bicyclist in the heart of town...serving thousands of students and homeowners and businesses. Everything about North Ave is perfect for bike travel...., flat and level, connects business, neighborhoods and schools....and yet there is no bike traffic. Marked Bike Share lanes should be instituted with signage from 1st street to 29rd and 25mph speed limit. I see some new bike lanes have been added here and there around town...but seriously if you want to get cars off the road, free up traffic, clean the air, lower the air pollution, then work on getting bikes on the roads in the core of the city. Ive see shared bike lanes in cities with more traffic that Grand Junction...its a boom for everyone. Express traffic traveling east and west...should be using I-70B and patterson...not the a road full of businesses and community that people want to stop at as well as live in.	9/6/2019 7:38 AM
26	Too much consideration is made for bikes. How many bikers do we have? Has this number been counted or even estimated? How much do we spend per biker vs. per driver? I love bike and ride often, however is this really a priority for Grand Valley tax payers? Homeless people on ever corner of our city. Can this bike money be spent more wisely? I under stand their are colors of money to consider and that "bike" money cannot be spend on homeless problems. But the point remains we spend to much effort and money on bikes. Very small population.	9/5/2019 11:01 AM

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27	Bike lanes are dirty with debris	9/5/2019 10:34 AM
28	changing/shower facilities at work place	9/5/2019 5:49 AM
29	Canal paths (great for biking) are no trespass paths	9/5/2019 5:19 AM
30	Red neck drivers	9/4/2019 3:28 PM
31	People are incredibly rude when you commute via bicycle	9/4/2019 4:01 AM
32	Malicious or ignorant drivers	9/4/2019 2:27 AM
33	It takes too long to get places.	9/3/2019 9:00 AM
34	No bike path routes, they start stop and end into streets which has almost gotten hit a few times because the bike line disappeared and everyone is on cell phones driving poorly.	9/2/2019 4:01 PM
35	Inattentive motorists	9/2/2019 9:20 AM
36	Drivers do not respect bicyclists. Do not follow 3 foot rule. Gravel on shoulders. Inconsistent shoulders. Should use irrigation paths for bike/pedestrian paths.	9/1/2019 1:50 PM
37	Vehicle exhaust, vehicles do not share the road, bikeways are not a community priority	8/31/2019 3:05 PM
38	There is plenty of room on the road for bicyclists who ride single file and obey traffic laws as they are required to.	8/31/2019 12:27 AM
39	Idiot bike riders that don't follow laws	8/30/2019 6:00 AM
40	We live in Palisade and would LOVE to be able to get to corn lake without riding on HWY 6 or taking canal roads. Cars need to be more aware of cyclists & give space when passing.	8/28/2019 3:56 PM
41	Drivers	8/28/2019 2:43 PM
42	Lights don't change for me at intersections.	8/28/2019 8:36 AM
43	Gravel is often not swept off of shoulders, making road biking dangerous.	8/28/2019 6:30 AM
44	road shoulders are full of debris	8/26/2019 5:43 AM
45	Insufficient crossings for barriers, esp. Gunnison River and RR	8/21/2019 4:39 AM
46	Bike lanes are not kept free of gravel and glass	8/19/2019 4:28 AM
47	Don't want to fall off	8/18/2019 11:25 AM
48	Too hot/cold	8/18/2019 11:10 AM
49	I don't own a bike	8/17/2019 10:59 AM
50	Roadways are not always clean of gravel and debris.	8/16/2019 11:28 AM

Q7 The biggest challenge(s) associated with driving in the Grand Valley is/are... (select all that apply)

Answered: 223 Skipped: 120



ANSWER CHOICES	RESPONSES
I do not feel safe while driving	8.52% 19
There is not enough parking	21.08% 47
There is too much traffic	37.67% 84
Other (please specify)	52.02% 116
Total Respondents: 223	

#	OTHER (PLEASE SPECIFY)	DATE
1	Drivers disrespecting the law. People running red lights is a big concern.	9/22/2019 10:53 AM
2	Aggressive driving and lack of traffic code enforcement	9/22/2019 4:17 AM
3	Cone zones blocking traffic for months.	9/21/2019 4:23 AM
4	No issues	9/21/2019 3:01 AM
5	Downtown	9/21/2019 2:44 AM
6	Allowing structures too close to intersections. Cannot see without entering intersections,	9/20/2019 2:34 PM
7	law enforcement does not run traffic and so many people running red lights	9/20/2019 8:47 AM
8	Other drivers not obeying the laws.	9/20/2019 6:35 AM
9	Lengthy duration construction zones (N 7th Street reconstruction)	9/20/2019 6:21 AM
10	Not a challenge to drive here. People who think there is congestion in Grand Junction have never visited another city	9/20/2019 6:02 AM
11	Not a challenge to drive here. People who think there is congestion in Grand Junction have never visited another city	9/20/2019 3:48 AM

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12	Roads are still the same as they were in the 1940"s, but we have more traffic on them now	9/20/2019 3:22 AM
13	I have no issues driving here.	9/19/2019 2:04 PM
14	No challenges driving	9/19/2019 10:56 AM
15	Driving is very inefficient compared to walking or biking.	9/19/2019 10:33 AM
16	I don't really see 'challenges' to driving except that it shouldn't be our first option for transportation. There's ample parking, sparse traffic, and short commutes. It just took a friend of mine 56 minutes to drive 12 miles in NYC from the airport to her hotel. Driving in GJ is cake.	9/19/2019 8:48 AM
17	Signal Timing	9/19/2019 8:08 AM
18	bad scheduling on road and street improvements	9/18/2019 2:19 AM
19	No challenges	9/18/2019 12:31 AM
20	none really	9/17/2019 2:27 PM
21	Wild life	9/16/2019 3:16 PM
22	Excess consumption of fuel/environmental impact	9/16/2019 5:31 AM
23	The intersection of 25 and Patterson is dumb. That Sinclair station needs one way in and another way out. Too many people try to cut across lane s or turn in on 25 Road with cars piling up behind them.	9/15/2019 12:19 AM
24	G Road - Patterson - 24rd - traffic.	9/13/2019 10:29 AM
25	No challenge	9/13/2019 8:24 AM
26	Lots of speeding	9/13/2019 7:48 AM
27	Stupid drivers	9/11/2019 11:28 AM
28	Inadequate maintenance.	9/11/2019 8:29 AM
29	Roads to Downtown are very restrictive!	9/11/2019 7:37 AM
30	Speed limit changes and new intersections	9/11/2019 7:16 AM
31	Rural road maintenance	9/11/2019 5:32 AM
32	No quick way to get from A to B. Speed limits are low and one lane roadways. I70B has too many lights.	9/10/2019 4:41 PM
33	Uncoordinated road construction	9/10/2019 2:08 PM
34	Laws not enforced. Triple fines for red light violations.	9/10/2019 11:51 AM
35	Inconsiderate drivers	9/10/2019 11:16 AM
36	Lack of north-south arterials	9/10/2019 11:11 AM
37	None	9/10/2019 11:05 AM
38	Bicyclists	9/10/2019 10:57 AM
39	People not using signals	9/10/2019 10:52 AM
40	Some of the dips on I70 and on Hwy 50 south of GJ	9/10/2019 6:50 AM
41	GJ does majority of street improvements in summer and it is hsdifficult to take detours as they are also under construction in congested areas.	9/10/2019 6:45 AM
42	mistimed lights, insufficient traffic enforcement running intersections, coal rolling, aggressive driving, road rage	9/10/2019 4:56 AM
43	speeding/loud drivers, community outgrowing roadways	9/9/2019 5:54 PM
44	speeds are too high on city streets	9/9/2019 1:16 PM
45	Driving is ok, better than most cities	9/9/2019 12:56 PM
46	Stoplight timing doesn't always sync up on North ave, I-70B	9/9/2019 12:37 PM
47	No problems with driving	9/9/2019 11:45 AM

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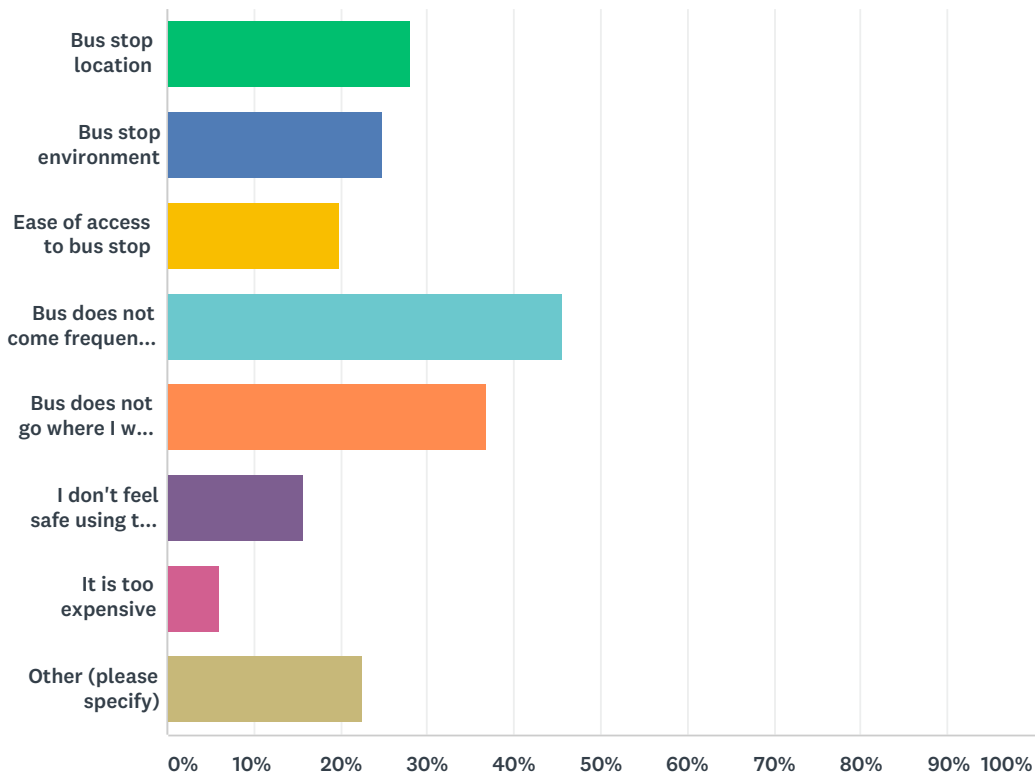
48	NO traffic enforcement!!!!	9/9/2019 10:39 AM
49	signal timing	9/9/2019 10:32 AM
50	uncontrolled signals, lack of signal coordination leading to many unnecessary stops and long idle times, wasting time and fuel.	9/9/2019 10:28 AM
51	none really	9/9/2019 10:00 AM
52	no problem	9/9/2019 1:58 AM
53	Driving is a breeze in Grand Valley.	9/8/2019 5:36 AM
54	Speed	9/7/2019 8:05 AM
55	I don't really like driving.	9/7/2019 3:42 AM
56	There are not enough center median lanes or left hand turn lanes.	9/7/2019 12:26 AM
57	Not enough access to i70	9/7/2019 12:24 AM
58	Speeding and cell phone use while driving.	9/6/2019 11:26 PM
59	To many distracted drivers	9/6/2019 4:20 PM
60	There are way to many people that they think that they dont have to share the road with other drivers and dont use blinkers when changing lanes or turning and to many accidents	9/6/2019 3:48 PM
61	Inefficient planning on 6&50	9/6/2019 3:23 PM
62	cost of maintaining a vehicle	9/6/2019 2:48 PM
63	Drivers running red lights and stop signs.	9/6/2019 1:14 PM
64	cost of owning and operating a vehicle	9/6/2019 11:19 AM
65	Pollution	9/6/2019 11:02 AM
66	speed limits havent been changed on many roads for 40 years.... regardless of development and growth. North Ave for instance.... CMU now has thousands of students, essentially a school zone and yet there is no school zone speed limit to match...let alone the growth of business along with the increase size of VA hospital...or attendance of at Lincoln Park. All these people...and traffic and yet the speed limits are the same as they were 40 years ago. Freakin Mindboggeling....the incompetence at city hall. There are simple inexpensive fixes that could be made..and yet nothing is done.	9/6/2019 7:38 AM
67	I have to use fossil fuels. I've tried hybrids. battery-powered autos, and even plant based fuels like bio-diesel. I assure you driving is a real frustration for an environmentalist like me.	9/6/2019 6:55 AM
68	Driving in the Grand Valley is not challenging compared to other Urban areas	9/6/2019 3:19 AM
69	Traffic on Patterson between St. Mary's and 29 road heavy most of the day. Road is at or under capacity now. No room for growth on this road.	9/5/2019 11:01 AM
70	patterson, 6/50, and 24 road are too slow/busy	9/5/2019 8:25 AM
71	No real challenges except construction zones	9/5/2019 6:33 AM
72	Poor intersection design (see Grand and 1st as prime example)	9/5/2019 5:19 AM
73	Running red lights	9/5/2019 1:44 AM
74	Cell phones and bad drivers	9/4/2019 7:33 PM
75	Idiots who can't read signs or stripes	9/4/2019 3:41 PM
76	No law enforcement so everyone drives like shit! Also need vehicle emissions, it's not 1950 anymore, diesel exhaust is cancerous!!!	9/4/2019 3:28 PM
77	Distracted drivers and non-stop construction zones	9/4/2019 4:50 AM
78	quality of road infrastructure is poor at best but improving	9/4/2019 4:01 AM
79	Driving is easy—so easy that it discourages other transportation modes.	9/4/2019 2:27 AM
80	Roundabouts are TOO SMALL & drivers DO NOT use them properly	9/4/2019 1:38 AM
81	other drivers	9/3/2019 8:04 AM

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82	Roads in poor shape	9/3/2019 6:22 AM
83	left turn lanes placed where difficult to see on coming traffic; streets designed without proper thought of potential obstructions; parking lots are very poorly engineered; downtown signals are ridiculously slow	9/3/2019 2:10 AM
84	We have no traffic police, at all most every traffic light, someone is running the red ! We need traffic ticketing Cameras! Everyone speeds while texting and driving. Next time your driving, look around, everyone is on a cell phone. We need speed bumps to slow down traffic. Make 12th street one lane and the other 2 lanes for bikes and pedestrians.	9/2/2019 4:01 PM
85	Inattentive motorists not obeying speed limits and traffic signs	9/2/2019 9:20 AM
86	The access/frontage roads are cumbersome and have poor exits, e.g., near Splish Splash, Walmart, 6/50 corridor.	9/1/2019 1:50 PM
87	No regard to follow laws, no police enforcement	8/31/2019 3:05 PM
88	Actually, I think driving in the Grand Valley, especially in the incorporated areas, is too easy. This just encourages more driving.	8/31/2019 12:50 PM
89	There is no problem driving.	8/31/2019 12:27 AM
90	Idiot drivers that don't follow laws	8/30/2019 6:00 AM
91	Bottlenecks and poorly designed intersections in key areas	8/30/2019 4:27 AM
92	No real issues driving - we do need more bike connectivity (such as specific bike paths and trails) to encourage people to bike instead of drive. This may help with increased congestion.	8/30/2019 3:43 AM
93	This City is designed for vehicle traffic...there are no problems driving in the Grand Valley in a car.	8/30/2019 3:21 AM
94	No challenges at all	8/30/2019 3:19 AM
95	It's really easy to drive around the Grand Valley.	8/30/2019 2:40 AM
96	I don't drive	8/29/2019 8:37 AM
97	I don't drive	8/29/2019 8:33 AM
98	The roads are to narrow and then lanes are constantly backed up to an unsafe distance	8/29/2019 4:48 AM
99	25 Rd and patterson are getting too much traffic. the 2 lane HWY to Palisade feels unsafe.	8/28/2019 3:56 PM
100	Wish people would obey traduce lights signs and laws better	8/28/2019 2:43 PM
101	Poor road conditions/maintenance	8/28/2019 12:10 PM
102	Other drivers not stopping at stop signs/lights. Drivers not using roundabouts correctly.	8/28/2019 8:36 AM
103	None of the above	8/28/2019 6:30 AM
104	unsafe behavior of other motorists	8/26/2019 5:43 AM
105	Highway 6&50 between Fruita and GJ needs major safety and maintenance improvements--does not feel safe with the daily traffic being more than the Interstate.	8/23/2019 9:58 AM
106	Don't drive	8/22/2019 11:33 AM
107	Not enough traffic lanes	8/22/2019 11:21 AM
108	None	8/20/2019 6:50 AM
109	Just fine compared to Boulder.	8/19/2019 8:27 AM
110	Having to pay for parking downtown	8/19/2019 4:07 AM
111	none	8/19/2019 3:48 AM
112	NA	8/18/2019 11:20 AM
113	Limited connections to Denver by air or bus	8/17/2019 7:55 AM
114	Roads are rough	8/17/2019 5:25 AM
115	Poor signage before intersections. Once at the intersection, it's too late to pick a lane.	8/16/2019 12:22 PM
116	other drivers - lots of traffic violations.	8/16/2019 8:52 AM

Q8 The biggest challenge(s) associated with using transit (bus) in the Grand Valley is/are... (select all that apply)

Answered: 261 Skipped: 82



ANSWER CHOICES	RESPONSES	
Bus stop location	27.97%	73
Bus stop environment	24.90%	65
Ease of access to bus stop	19.92%	52
Bus does not come frequently enough	45.59%	119
Bus does not go where I want to go	36.78%	96
I don't feel safe using the bus	15.71%	41
It is too expensive	6.13%	16
Other (please specify)	22.61%	59
Total Respondents: 261		

#	OTHER (PLEASE SPECIFY)	DATE
1	Busses are noisy and uncomfortable	9/21/2019 4:42 AM
2	I don't use the bus	9/20/2019 3:26 AM
3	The single time I took the bus to the mall it took way too long.	9/19/2019 8:48 AM
4	n/a	9/18/2019 2:19 AM

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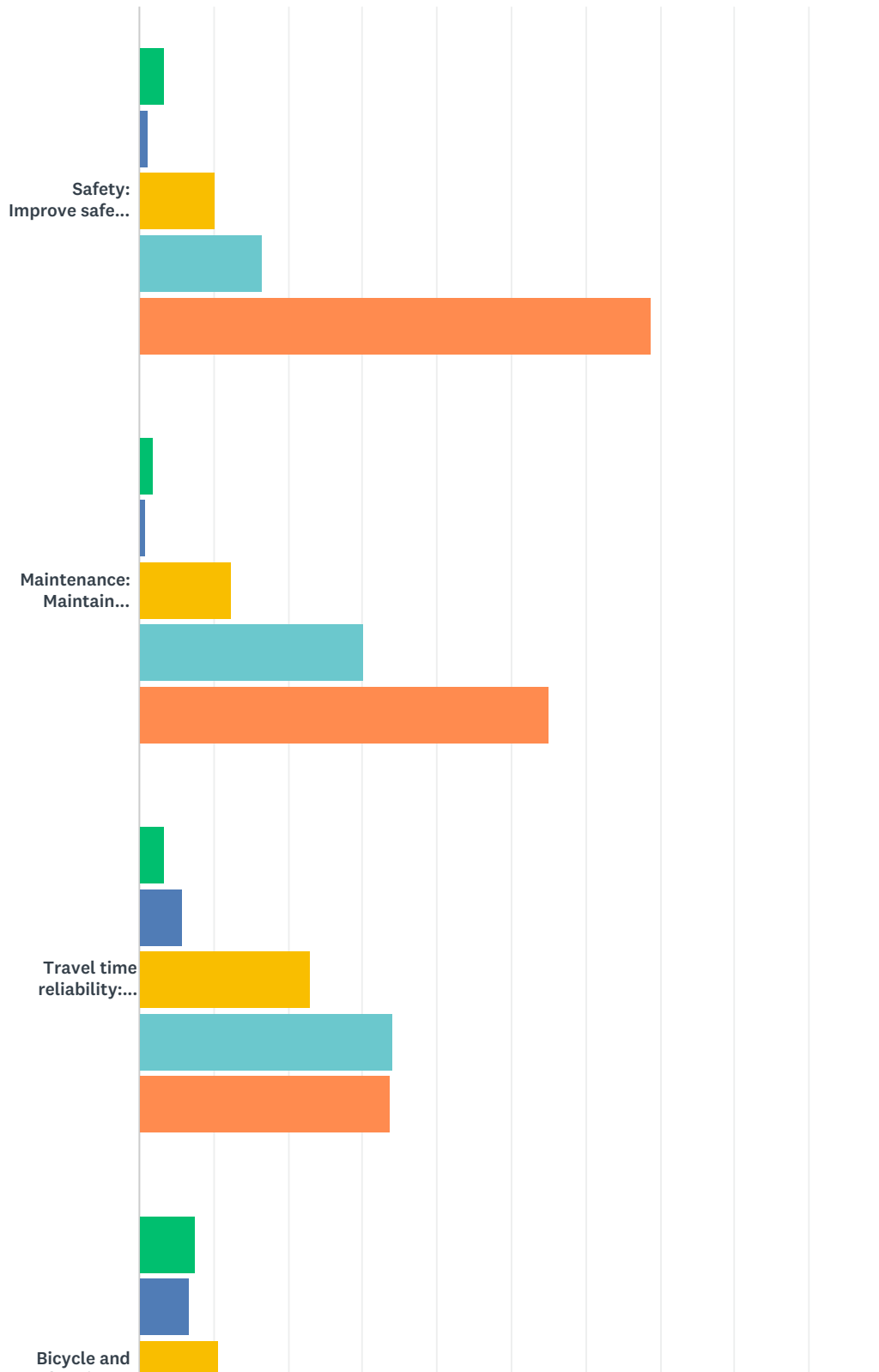
5	Never used it	9/17/2019 7:59 PM
6	car is much more convenient	9/17/2019 2:27 PM
7	we don't have bus service out 26 1/2 road	9/17/2019 9:28 AM
8	Don't use bus	9/16/2019 3:16 PM
9	NO bus is offered to/from Collbran/Grand Mesa	9/16/2019 10:21 AM
10	I have a 15-minute commuter to work (Fruita to Horizon Drive). The bus ride would consume nearly 2 hrs each way. Not practical for e to switch, tho I'd like to take public transportation instead of an individual vehicle	9/16/2019 5:31 AM
11	Bus does not come to my neighborhood	9/16/2019 4:08 AM
12	Buses stop running too early.	9/16/2019 2:14 AM
13	I don't know enough to comment in an educated way.	9/13/2019 10:29 AM
14	Zero Interest	9/11/2019 7:37 AM
15	I do not use this form of transit	9/11/2019 5:32 AM
16	I live in Collbran. Once I drive to GV its too cumbersome to utilize mass transit	9/10/2019 1:37 PM
17	Takes toooo long.	9/10/2019 11:51 AM
18	Speed of travel - no express bus, quicker to walk or bike	9/10/2019 4:56 AM
19	haven't used bus mode so ignorant on viability of existing	9/9/2019 5:54 PM
20	I don't ride the transit bus, but have heard the riders can be creepy/unpleasant and deter other riders	9/9/2019 12:37 PM
21	I do not use the bus	9/9/2019 11:45 AM
22	doesn't offer the fleibility	9/9/2019 11:30 AM
23	Not used bus	9/9/2019 11:25 AM
24	n/a	9/9/2019 10:32 AM
25	n/a	9/9/2019 10:28 AM
26	I once walked along North ave and beat the bus, probably not frequent enough	9/9/2019 10:00 AM
27	6	9/7/2019 8:05 AM
28	Nothing within a few blocks!	9/7/2019 7:08 AM
29	The cost from Palisade to Fruita is prohibitive.	9/7/2019 3:42 AM
30	Stops along B1/2 heading toward 29Rd are unsafe! Literally there is no shoulder. Just a ditch!Extremely unsafe!	9/7/2019 2:35 AM
31	Limited hours to ride the bus which limits job oppourtunities that may be avaiable in the evening or overnight.	9/6/2019 11:35 AM
32	Bums	9/6/2019 10:15 AM
33	I don't use the bus so I can't give an opinion.	9/6/2019 9:59 AM
34	There are benches to sit down at while waiting at many bus stops. there are also no trash cans or signage type schedules posted on bus stop poles. Norht Ave use to have covered bus stop benches with advertising and trash cans... The city spends millons on phase 1 of north ave improvement and its worse than before. Now benches and some genius thinks that Grey plastic 55 gallon trash barrels is a nice looking..... what a joke. Ive ridden the bus recently...2019.. it was full of homeless just riding around...and there was actually a 10 min stop near downtown.... we had to get off....stand around and then get back on...talk about inefficeint..	9/6/2019 7:38 AM
35	How many bus riders does the valley have on a daily bases? How much in the negative does the transit run each year? Buses like bikes seem to occupy more thought and money then is justified.	9/5/2019 11:01 AM
36	Need to pick up kids, practices, games - bus isn't an option	9/5/2019 6:33 AM
37	Waste of tax payer dollars	9/4/2019 3:41 PM

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38	Need to transfer twice; too long of commute timewise	9/4/2019 5:05 AM
39	Please get bus shelters for stops.	9/4/2019 3:13 AM
40	Not convenient	9/2/2019 4:01 PM
41	Not applicable to me at the moment	9/2/2019 9:20 AM
42	I live in the Redlands. Not easy access.	9/1/2019 1:50 PM
43	I have never had a reason use transit in the Grand Valley.	8/31/2019 12:50 PM
44	There are no issues with buses	8/30/2019 6:00 AM
45	Bus consistently runs late	8/30/2019 5:18 AM
46	Much of my driving is taking kids to/from school and activities on a tight schedule. The bus is just not practical for this.	8/30/2019 4:27 AM
47	How about more park and ride options? Also, the bus routes are a little confusing to understand.	8/30/2019 3:43 AM
48	IF I have to go to a place 2 stops before getting on, I have to go all around the GVT transit to get off. Instead of having buses coming on one lane and going at the other lane.	8/30/2019 3:19 AM
49	Need Sunday Service! (and later evening service)	8/29/2019 9:10 AM
50	for a 6 mile route it takes over 75 minutes	8/29/2019 7:35 AM
51	It takes too long to get from Fruita to CMU.	8/29/2019 1:46 AM
52	Bus should absolutely go to Powderhorn. Hundreds of people drive there every weekend, can't believe there's still no shuttles.	8/28/2019 3:56 PM
53	rather drive on my own schedule--time is important	8/23/2019 9:58 AM
54	Never used it.	8/19/2019 8:27 AM
55	Covers at bus stop	8/18/2019 11:25 AM
56	NA	8/18/2019 11:20 AM
57	I have 2 young kids	8/18/2019 11:10 AM
58	I don't use it currently.	8/17/2019 7:55 AM
59	No need to use.	8/17/2019 6:14 AM

Q9 Please tell us how much you value the following possible transportation investments to provide a more sustainable, efficient, and equitable transportation system. (1: don't value, 5: highly value)

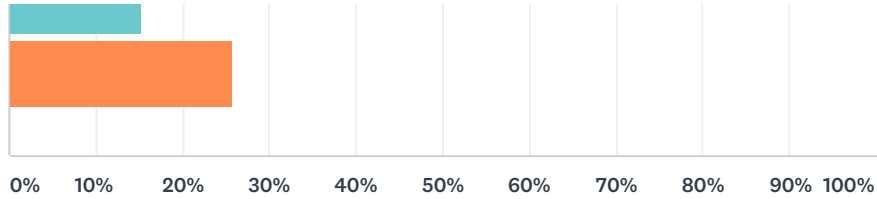
Answered: 335 Skipped: 8



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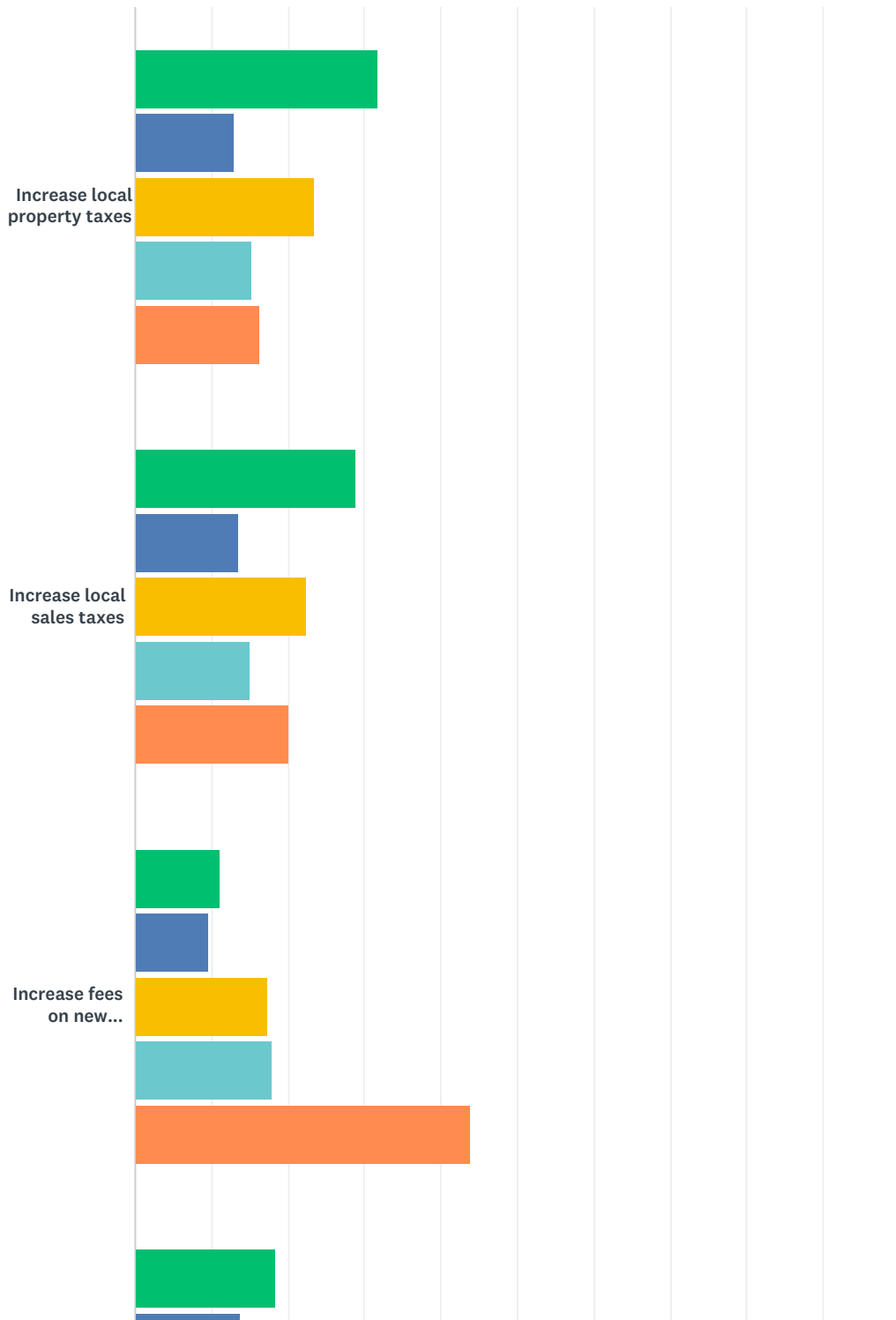


■ 1: don't value
 ■ 2
 ■ 3
 ■ 4
 ■ 5: highly value

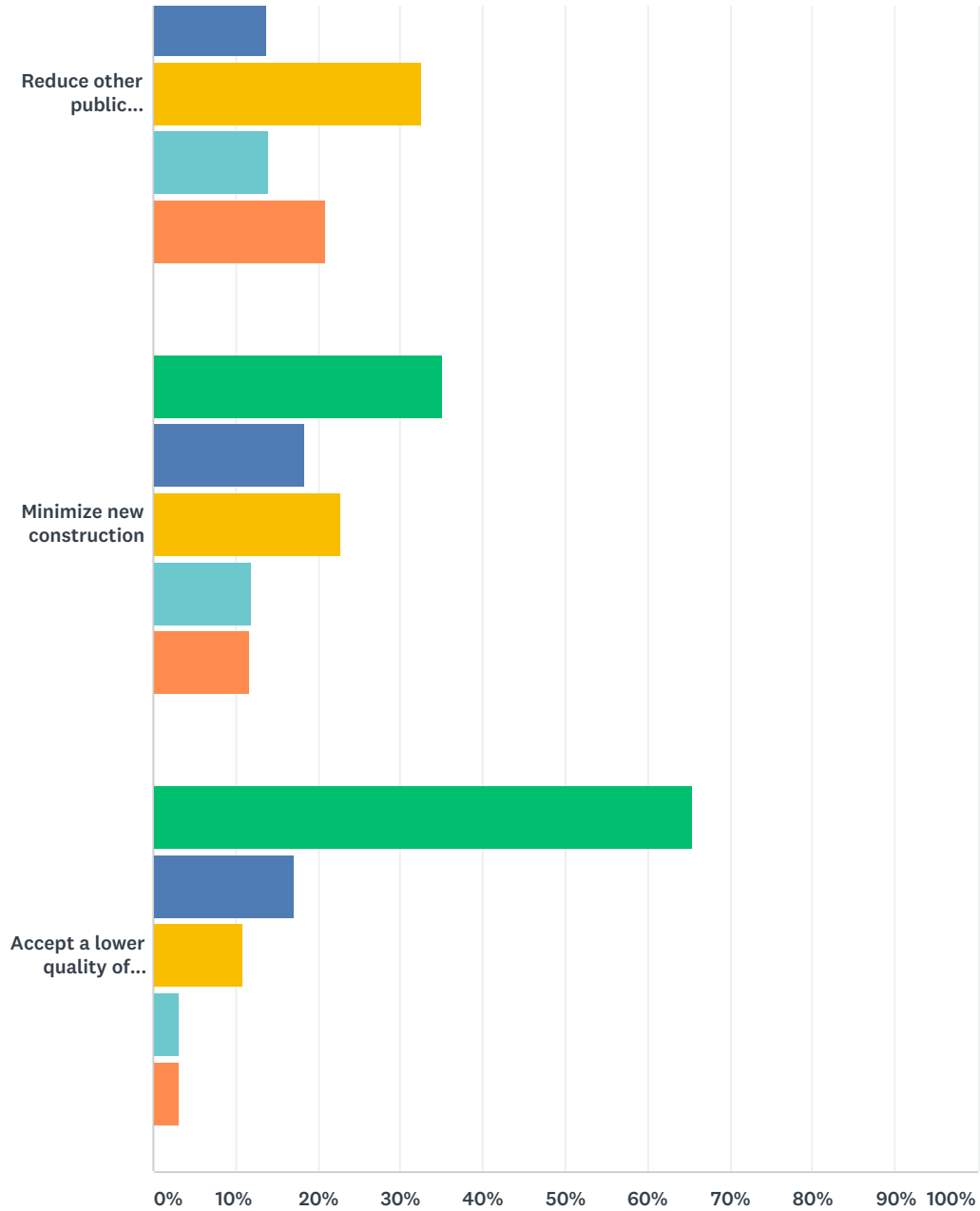
	1: DON'T VALUE	2	3	4	5: HIGHLY VALUE	TOTAL	WEIGHTED AVERAGE
Safety: Improve safety for all travelers	3.30% 11	1.20% 4	10.21% 34	16.52% 55	68.77% 229	333	4.46
Maintenance: Maintain existing infrastructure	1.80% 6	0.90% 3	12.31% 41	30.03% 100	54.95% 183	333	4.35
Travel time reliability: Increase capacity of network, improve signal timing and traveler information	3.41% 11	5.88% 19	22.91% 74	34.06% 110	33.75% 109	323	3.89
Bicycle and pedestrian: Expand the network for biking and walking	7.58% 25	6.67% 22	10.61% 35	14.55% 48	60.61% 200	330	4.14
Local transit: Improve local transit service by increasing frequency of buses or expanding coverage	13.75% 44	10.94% 35	21.56% 69	22.81% 73	30.94% 99	320	3.46
Multimodal hubs: Provide multimodal connections to allow transfers between travel modes (for example, bus to multipurpose trails).	14.15% 45	13.21% 42	25.16% 80	22.96% 73	24.53% 78	318	3.31
Freight: Improve truck parking, improve intermodal connectivity, improved reliability	21.20% 67	19.30% 61	28.48% 90	16.46% 52	14.56% 46	316	2.84
Bike share: Shared bike program to connect area attractions	23.82% 76	13.17% 42	21.94% 70	15.36% 49	25.71% 82	319	3.06

Q10 Given limited available funding, how would you rank the strategies below to pay for the transportation system (e.g., capacity improvements, increased maintenance, improvements to bicycle and pedestrian facilities, improvements to transit service)? (1: don't support, 5: highly support)

Answered: 332 Skipped: 11



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■ 1: don't support
 ■ 2
 ■ 3
 ■ 4
 ■ 5: highly support

	1: DON'T SUPPORT	2	3	4	5: HIGHLY SUPPORT	TOTAL	WEIGHTED AVERAGE
Increase local property taxes	31.89% 103	13.00% 42	23.53% 76	15.17% 49	16.41% 53	323	2.71
Increase local sales taxes	28.92% 94	13.54% 44	22.46% 73	15.08% 49	20.00% 65	325	2.84
Increase fees on new development	11.15% 36	9.60% 31	17.34% 56	17.96% 58	43.96% 142	323	3.74
Reduce other public expenditures to fund transportation	18.50% 59	13.79% 44	32.60% 104	14.11% 45	21.00% 67	319	3.05
Minimize new construction	35.16% 109	18.39% 57	22.90% 71	11.94% 37	11.61% 36	310	2.46

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Accept a lower quality of maintenance	65.50%	17.25%	10.86%	3.19%	3.19%		
	205	54	34	10	10	313	1.61

Q11 Please share any comments about how you would like to see transportation improve in the Grand Valley.

Answered: 143 Skipped: 200

#	RESPONSES	DATE
1	more frequent local public transit service	9/23/2019 4:41 AM
2	Better multimodal infrastructure.	9/22/2019 10:53 AM
3	I would like to see better connectivity of bike/ped lanes/paths throughout the city to improve biker/pedestrian safety.	9/22/2019 3:49 AM
4	I'm from Wisconsin,I love it here	9/21/2019 3:39 AM
5	Advertisement of routes on tv , newspaper, and internet, billboards	9/21/2019 3:23 AM
6	Many 2 lane roads need widened to avoid collisions. 25 Rd. has had massive new residential construction with associated increase in traffic and is still only 2 lanes between G and F. Have witnessed several collisions. NEED TURNING LANES!	9/20/2019 2:34 PM
7	Have earlier bus times. I work 6 am-5 pm. As the area grows eventually have rail from Grand Junction to Montrose for commuters and possibly expand to Glenwood.	9/20/2019 9:15 AM
8	get new leadership in the county and the city!!	9/20/2019 8:47 AM
9	More Side walks	9/20/2019 8:14 AM
10	Remember that biking (bicycling) and walking are two separate things, and each needs its own respective place in the transportation world. Also maintenance is most crucial for longevity of our transportation infrastructure. Furthermore building or completing a project just to dig it up for a service that could have been replaced during construction is by far the most annoying aspect of how our roads and other modes of transportation get messed up in the Grand Valley. A little forethought might go a long way. Don't tear up a brand new roadway or sidewalk right after it's built. We are growing and need a big broad look at how things are and are not working. One day we will need a better connection to I-70 from SH-050. We will need 4 lane roads through the city's. Let's not forget the bigger picture!	9/20/2019 6:35 AM
11	I feel a focus on updating existing infrastructure is necessary prior to providing new facilities.	9/20/2019 6:21 AM
12	Very worried that if developers do not pay for their impacts the city will be left with unfunded liabilities to repair the roads. Related to this, I worry about low density development, especially in unincorporated Mesa County, that does not generate enough in taxes to to pay for supporting infrastructure. Not having development that pays for itself is financially irresponsible, and limits what we can do with our transportation system in the future.	9/20/2019 6:02 AM
13	Traffic signal timing needs to be monitored and changed as needed, if it is not already. Construction should be done at night if at all possible to avoid adding congestion.	9/20/2019 5:42 AM
14	Be more responsible with the funds we already give you. Live on a budge like the rest of us have to	9/20/2019 3:59 AM
15	Very worried that if developers do not pay for their impacts the city will be left with unfunded liabilities to repair the roads. Related to this, I worry about low density development, especially in unincorporated Mesa County, that does not generate enough in taxes to to pay for supporting infrastructure. Not having development that pays for itself is financially irresponsible, and limits what we can do with our transportation system in the future.	9/20/2019 3:48 AM
16	Although I do not use any of the transportation I feel that we need it for those that need it to get to work or other areas.	9/20/2019 3:26 AM
17	Would love to see a bus stop outside of 482 28 Road for veterans.	9/20/2019 1:55 AM
18	I'd like to see more soft surface trails built and I'd like to see the canal banks become a viable transportation option for non-motorized users.	9/19/2019 2:04 PM
19	Connect/complete River Front bike/pedestrian trail from Fruita to Palisade.	9/19/2019 10:56 AM

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20	Route along Riverside Parkway	9/19/2019 9:44 AM
21	Development should pay it's own way including increased transportation capacity payments, under-grounding of overhead utilities, and higher school impact fees. I also think higher density mixed use developments in the urbanized area are a great way to get people out of cars.	9/19/2019 8:48 AM
22	Stop spending money on the 29 Road Interchange. The money should be spent on current issues, not an interchange that is not needed for 25+ years. Protect the right-of-way for the 29 Road Interchange now, but focus on building projects that are needed now - like 24 Road.	9/19/2019 7:40 AM
23	Road system must be improved and expanded to accommodate the increased traffic and population growth!	9/18/2019 11:18 AM
24	require license & registration for everything that uses the public roads	9/18/2019 4:06 AM
25	For City and County, dedicate more of general fund to street system with emphasis on bike/walk trails even if it means fewer resources for other general fund needs.	9/18/2019 2:41 AM
26	improve street capacity before approving new developments	9/18/2019 2:19 AM
27	Stop spending money on surveys and just do your job	9/18/2019 12:31 AM
28	Write for grant funds for some of these improvements.	9/17/2019 7:59 PM
29	Areas keep being annexed into the city yet things like bike lanes and bus service are not extended.	9/17/2019 9:58 AM
30	development fees are mainly used as a general fund and not used to improve infrastructure. That is why I didn't approve increasing development fees.	9/17/2019 9:54 AM
31	we desperately need a safe bike lane on 26 1/2 Road. It is very dangerous especially when some decide to pass a bike when there is limited view. Walkers and bikers are at risk every day.	9/17/2019 9:28 AM
32	Come to the Grand Mesa or Collbran	9/16/2019 10:21 AM
33	Guard rails on dangerous county roads in the Plateau Valley area.	9/16/2019 4:48 AM
34	I commute to work whenever I can from the Redlands. A bike path from South Camp all the way down monument would be an awesome addition. Currently the pathway being constructed to the Lunch loop trailhead will be awesome. Finishing it up to the monument and to the neighborhoods off of south Camp is highly needed. Monument road has gotten really busy and people drive faster than the speed limit always. I know a lot more people would commute if they could get down Monument Road on a safe bike trail. Also, finish the existing bike trail to Palisade. Most people won't make the ride to Palisade from GJ because of the dangerous road portions linking the bike trails. It is such a shame that it isn't finished. Also as a walker downtown, there needs to be more crosswalks & signage that tells drivers to stop for pedestrians. The speed limit on 5th street needs to be reduced. It is scary trying to cross that street anytime. There are people in vehicles who speed up when they see a pedestrian, not slow down. Strange aggressive attitude	9/16/2019 4:08 AM
35	.	9/16/2019 2:14 AM
36	The entire Grand Valley is falling drastically behind on construction & maintenance spending on basic transportation infrastructure. STOP wasting money on "feel good" social-engineering programs like public transit, etc. The valley is too spread out to make these EVER be effective. We are not NYC, or even Metro Denver with people stacked on top of one another.	9/13/2019 6:15 AM
37	More familiar bus stops and or places where it usually dose not stop	9/11/2019 11:12 AM
38	Better Roads, forget roundabouts.	9/11/2019 9:07 AM
39	Too much energy being expended on public transportation	9/11/2019 7:37 AM
40	Better speed limits, people already drive 5 unde . Its slows traffic and causes extra congestion. Growing number of residents we need to adapt to a growing city as we arent a slow paced country town anymore.	9/10/2019 4:41 PM
41	Optimize signal timing, coordinate construction among governments and public utilities, improve land use decision making processes, and implement a sliding scale of development fees (more where infrastructure is lacking) are all important steps to making use of the transportation system we have.	9/10/2019 2:08 PM
42	Increase gas tax.	9/10/2019 11:51 AM
43	Make this a place that people will talk about	9/10/2019 11:11 AM

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44	The Grand valley should be a crown jewel for multi modal transportation. With the bicycle tourism crowd we should be able to fund bike routes not just to fat tire routes but also to make bicycle commuting and general transportation throughout the Grand Valley	9/10/2019 10:57 AM
45	I would like to see 29 road connect to I_-70.	9/10/2019 8:06 AM
46	Bus more affordable for low income and elderly friendly	9/10/2019 7:13 AM
47	Light rail, express bus, shuttles for disabled, traffic enforcement, bike lanes, timed lights	9/10/2019 4:56 AM
48	undecided. need to learn more about	9/9/2019 5:54 PM
49	People are using the canal roads for walking, running and biking despite no trespassing signs. The city should explore these roads for potential use. Put up a fence next to the water.	9/9/2019 1:16 PM
50	Bus stops on g road	9/9/2019 1:04 PM
51	Bikes and ebikes as transportation plan now! Recreational too but they are not the same. Look at other cities and countries. This is not a fad it's the inevitable near future. Failure to prepare for this will be fatal to	9/9/2019 12:56 PM
52	I would like to see more options for biking and walking, with complete thoroughfares. Please complete bike lanes and sidewalks so we can get to our destinations without having to transition into vehicular traffic.	9/9/2019 12:41 PM
53	Would love to see increased traffic capacity on 24 Road from Patterson to H road.	9/9/2019 12:37 PM
54	More bike lanes!!	9/9/2019 12:29 PM
55	Better support of multimodal walk/bike transportation	9/9/2019 12:28 PM
56	Improve county spaces outside city limits	9/9/2019 11:32 AM
57	Increasing the ability to bike safely all over the valley should be top priority. Europe is a model. Clear separation of bike and vehicle traffic. Bikes don't impede vehicle traffic. Bikers are safer.	9/9/2019 11:30 AM
58	Could spend all day on this one.	9/9/2019 10:39 AM
59	improve signal timing	9/9/2019 10:32 AM
60	improve signal timing	9/9/2019 10:28 AM
61	Create more North South transportation routes through the valley.	9/9/2019 10:09 AM
62	Developers should be expected to pay for their impact on traffic conditions, or else there should not be any new development.	9/9/2019 4:53 AM
63	I live away from downtown in the Redlands. I would not expect a bus service out here. If I need transportation besides driving my car it would be taxi.	9/9/2019 1:58 AM
64	Make 12th Street 2 lanes and make 15th 4 lanes near college. Improve cross walks on 12.	9/8/2019 3:38 PM
65	More parks, more solar and wind energy, more bike paths, better mass transit, better train options in Colorado the city and county should use hybrid or electric cars	9/8/2019 9:27 AM
66	We need to recognize that there are many options for our community to get around and that needs to be looked at for all modes, not just cars.	9/8/2019 5:36 AM
67	The greatest need is a light rail line. More bus lines covering more areas as well as more frequent stops are definitely needed in the valley.	9/7/2019 2:55 PM
68	Please add bus service along South Camp Road!	9/7/2019 7:08 AM
69	Consider time limited bond sales for funding. Add an express bus between transit stations.	9/7/2019 3:42 AM
70	To much government waste! We need better oversight of the increasef sales tax we already are paying and out property tax. To much misuse!	9/7/2019 2:35 AM
71	Definitely add the 29 road i70 access	9/7/2019 12:24 AM
72	Driver education in all schools with written and driving test about traffic laws.	9/6/2019 11:26 PM
73	Make use of the canals, which are actually owned by the federal government, available to the public.	9/6/2019 5:30 PM

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74	There are people looking for work and cant afford the bus fees and there is no help to get to place and getting things home from the store on the busses is not very easy to do cause buses are full and there is little room on the bus so if you cant hold it on your lap it really cant go on the bus and buses if you dont leave your house in about 4 hours earlier then you have to be to work you late that is the earliest I have left for work to be on time riding the bus and boss is not to happy you are there on hour or two before you start working that I had to that early just to be on time cause buses take you some of the way and then you walk ride your bicycle to get the rest of the way and then you get off work after the busses stop running and to day the streets are becoming unsafe to go down by yourself and the busses fee are fine at where they are at to get affordable rates when people have the money for them	9/6/2019 3:48 PM
75	An adequate road shoulder or bike trail on all road would help. Allow golf carts.	9/6/2019 2:48 PM
76	Disabled and seniors should get a discount.	9/6/2019 1:14 PM
77	I would like to see bike trails making travel through and around town possible and safe by bicycle. I would bike around town rather than drive. I think a lot of people would. It would cut down traffic tremendously!	9/6/2019 12:50 PM
78	Crosswalks near schools, light signals for high traffic areas with crosswalks, maintain potholes so cars, trucks, busses, bikes can all drive safely.	9/6/2019 11:54 AM
79	I would love to see options where I wouldn't need to drive as much.	9/6/2019 11:19 AM
80	Electric Buses are available. Start buying them.	9/6/2019 11:02 AM
81	Force cyclists to register the bikes like the rest of us register cars boats,atvs,snwmobiles.	9/6/2019 10:15 AM
82	1st street to 29rd on North Ave should have a shared lane for bicycles and the speed limit should be lowered to 25mph in this section. Bus stops need benches and trash cans, and schdule mounted on pole. Basically if just get a group together...take a trip to San Francisco or bay area of CA... and implement what have done...it works for millions of people.. And quite trying to build trails and paved paths....when we have trails and paved paths...there call streets they just need to made safer for bike travel by simply lowering the speed to 25mph...and add some signage.	9/6/2019 7:38 AM
83	We have too many people and need to slow growth to maintain quality of life	9/6/2019 6:20 AM
84	Maintain existing infrastructure...without having its own funding mechanism transportation will only continue to be a discussion of priority which often doesn't rank high enough when competing against against other community needs.	9/6/2019 3:19 AM
85	In number 9 above, 4 out of 8 question were aimed at bikes and buses. Is this really appropriate? This transportation plan has a disproportionate view of the importance of bikes and buses to the future of transportation needs.	9/5/2019 11:01 AM
86	I would love for the city to acquire ownership and liability for the extensive canal network that exists and work to build a model similar to the highline canal in Denver.	9/5/2019 5:19 AM
87	Added bike lanes.	9/5/2019 3:09 AM
88	more bike paths	9/5/2019 1:44 AM
89	Lots of old people that should be driving. Cell phone use while driving. Intersection always being run, need traffic cameras. Use canals for bike path and alley ways to create travel corridors. I would like to see 24 hour road construction to limited road detours - 7th street has been worked on for a month.	9/4/2019 7:33 PM
90	Safety first- bikes off roads and sidewalks. Create bike corridors like big cities. Enforcement of traffic laws for cars. Clean air- emission standards	9/4/2019 3:28 PM
91	Need options to get elderly drivers off the road.	9/4/2019 5:05 AM
92	As a person that constantly bikes to work and has to cross North Avenue and 7th street I would love to see improvements for connected bike paths across the city. It's essentially impossible to get from where I live out to the mall or most grocery stores without having to go across some scary roads.	9/4/2019 4:01 AM

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93	Sidewalks need to be repaired or even created. The existing paths along the Riverfront have been grossly neglected and are in poor condition. Start repairing sidewalks and walking paths! Roundabouts are TOO SMALL they must be larger to function (like east coast & European ones!). Please hire people who can design LARGER ones! Larger ones will NOT need ridiculous "lanes." RA's in GJ are too small so motorists have no option but to basically slow almost to a stop - STUPID! Traffic lights remain an intelligent alternative to small RA's! Also most do not need shrubs as GJ has no crews who care for existing plants & trees.	9/4/2019 1:38 AM
94	Transportation is fine	9/3/2019 1:10 PM
95	Forget the whole multi-modal stuff. Just build roads and make them wide enough for bikes too.	9/3/2019 9:00 AM
96	reduce pedestrian/automobile conflicts with pedestrian/bicycle bridges in congested areas. Better traffic light control at worst accident intersections. Improve bicycle paths/lanes for safety.	9/3/2019 8:04 AM
97	Please make cyclist and pedestrian safety a serious priority like it is in other growing, progressive Colorado towns.	9/3/2019 3:29 AM
98	There should be more options for frequent paratransit clients, such as a purchasable yearly pass, or at least better cards that do not bending easily, making them unusable. Better coverage on Saturdays, new coverage on Sundays and later in the evening. SIDEWALKS ON REDLANDS PARKWAY.	9/3/2019 2:14 AM
99	Need cycling corridors that area actual route for pedestrian and cyclists.	9/2/2019 4:01 PM
100	The road biking situation in the Grand Valley is dismal. The county could care less about bikes on the highways, the city has some skin in the game but not much. Really, the CNM is the only entity that wants cyclists on the roads. Motorists are more inattentive toward bikes than ever. The laws regarding cell phone use while driving should be passed and enforced. All in all, with regard to cyclists, the Grand Valley is about 30 years behind the times.	9/2/2019 9:20 AM
101	I would like to see sufficient shoulders/bike paths with new road or road expansion projects.	9/1/2019 1:50 PM
102	I do not support bike road way share programs because bikes get run over by vehicles frequently. Not a solution! Creating bike paths / route/ trails that share with similar users (recreation/ walking)	8/31/2019 3:05 PM
103	This more applies to question 10: I'd like to see improvements in transportation paid for by an increase in the fuel tax. Regarding question 11: I'd like to see much more support for non-motorized transportation, with a greater emphasis on maintaining existing non-motorized infrastructure.	8/31/2019 12:50 PM
104	Don't give cyclists everything they ask for. Allow law enforcement to enforce traffic laws when cyclists don't follow traffic laws. Build a pedestrian bridge on 12th street and eliminate crosswalks.	8/31/2019 12:27 AM
105	There are some great walking/biking routes, but they are not connected well enough. The gaps pose serious safety issues trying to get from one area to another.	8/30/2019 6:48 AM
106	Use the existing taxes I pay to better use. Don't even think about raising taxes. Good grief!	8/30/2019 6:00 AM
107	Road conditions and connectivity	8/30/2019 3:58 AM
108	More public transportation options and bicycle infrastructure. Since we are talking about 2045, are we going to need a light rail by then?	8/30/2019 3:43 AM
109	I'd like to see more off street bike facilities with more north-south routes that connect the community to the downtown area. Biking in town does not feel safe unless it's off street!	8/30/2019 3:21 AM
110	Two way buses. Coming on one lane and going on the other lane. Also bus seats and roof for shade and a trash can area, to keep the area clean.	8/30/2019 3:19 AM
111	Mesa County needs to have a much more data driven process for funding capital projects. It seems like projects are chosen at the whim of the commission rather than by actual needs. Finish the K Road corridor before doing unneeded things like raising the grade at 24 Rd/I Rd. That project was an amazingly expensive solution to a non-existent problem. For Grand Junction, they need to focus on what's most important. Areas like 24 Road, Patterson, etc, have serious problems. Please give up on illustrious things like the 29 Road Interchange and focus on actual problems. On state highways, I think the focus needs to be on maintaining what they have. For any new construction, they need to be very strategic given their funding limitations. Priorities need to be I-70B downtown (1st St) and widening SH6 west of Exit 26.	8/30/2019 2:40 AM
112	Invest more on maintaining good roads in good condition.	8/29/2019 10:05 AM

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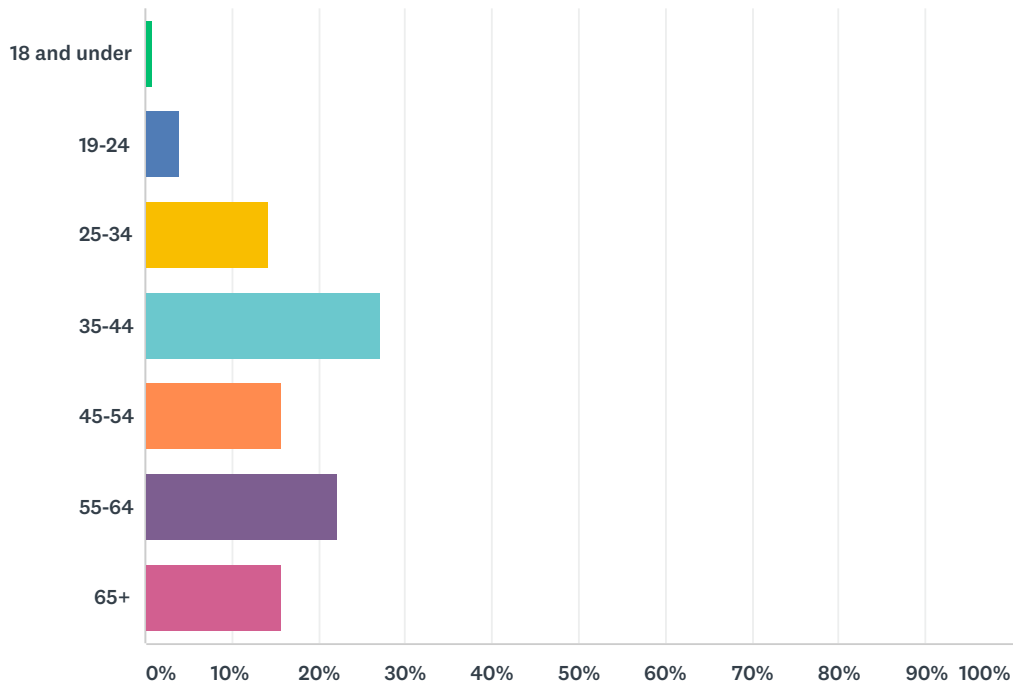
113	Sunday service needs to be available for low income shift workers, tourists, kids, (Steamboat bus is free and locals and tourists all use it) and residents.	8/29/2019 9:10 AM
114	Bugger wider roads for better traffic flow.	8/29/2019 4:48 AM
115	I would like to see CMU shuttles from areas further away from the school like Fruita and Clifton so that the commute takes 30-45 minutes rather than 2 hours.	8/29/2019 1:46 AM
116	Better urban bike path routes from north to south, particularly to downtown and Las Colonias Park.	8/29/2019 12:29 AM
117	Shuttles to Powderhorn and better bike trails connecting Fruita to Palisade. More bike trails going through the city so that families can bike safely around GJ. It's very difficult to feel safe when biking with young children in the city. Good bike paths that connect to hot spots would be so beneficial.	8/28/2019 3:56 PM
118	Please continue to improve and add biking and walking trails, bike lanes, route signage, etc.	8/28/2019 1:33 PM
119	Please continue to add and improve biking and hiking trails, bike lanes, route signage, etc.	8/28/2019 1:29 PM
120	Complete the Riverfront trail Clifton to Cameo	8/28/2019 12:10 PM
121	More consistent management of bike trails, not sure why state parks is disrupting a couple decades of cooperation to make through trail use difficult. Better understanding of cyclists needs for other than recreation use, although that is important. Make lanes connect to be able to ride to and from work, services and play.	8/28/2019 10:32 AM
122	Bike lanes in Palisade and Clifton are few and unsafe.	8/28/2019 9:04 AM
123	1.) Maintain the infrastructure that exists. It's criminal that the Riverfront Trail would be allowed to erode into the river. Weeds are 3-4 feet high in many sections, and no maintenance has been done in many sections. 2.) Is there a valley-wide plan? Many bike paths abruptly end or terminate into narrow streets with heavy traffic.	8/28/2019 8:57 AM
124	with the Grand valley exploding in alternatives to transportation and people getting outside we really need to look at safety measures for those that are walking or biking	8/28/2019 7:44 AM
125	Add a dedicated bike path along highway 340 for the Tour of the Moon loop. That section of road is dangerous!	8/28/2019 6:30 AM
126	facilitate biking and walking and dissuade driving when appropriate	8/26/2019 5:43 AM
127	Clifton needs lots of improvements	8/22/2019 11:45 AM
128	More sidewalk improvements and bike lanes	8/22/2019 11:33 AM
129	Access to canals and more bike lanes throughout GJ.	8/22/2019 10:11 AM
130	I would love to see more railroad crossings and river crossings. I would also love to see more irrigation canals, whether open or piped, translated into an alternative transportation network for non-motorized travel. The real dream is to use some of the railroad right-of-way for light rail to serve valley residents, traveling from Palisade to downtown GJ to Fruita.	8/21/2019 4:39 AM
131	Improve bike infrastructure safety and availability - especially north to south thru GJ; continue to work on bike/walk paths; increase connection of green space	8/21/2019 4:05 AM
132	Developers should pay fees for their impacts on traffic, not the citizens who have lived in the Grand Valley for ever. More Bike Routes. Make use of the Canals to bike and walk like other cities in the US.	8/20/2019 3:43 AM
133	The CMU campus and downtown areas do a great job of creating and maintaining pedestrian/bicyclists friendly paths. It would be great to see more emphasis placed on non-motorized travel, where appropriate.	8/19/2019 11:34 AM
134	Bike lanes. I would ride my bike much more often if I felt I could get to work safely.	8/19/2019 9:02 AM
135	Everything does look good so far...Could use more bike lanes/better river trail maintenance.	8/19/2019 8:27 AM
136	I believe that all new development should pay a larger fee and be required to install sidewalks and bike lanes to all adjacent streets and interior streets for subdivisions.	8/19/2019 7:54 AM
137	Improve and maintain street repairs.	8/19/2019 4:28 AM
138	Tourists are interested in biking the trails and would like to have the transportation to trails and to have experienced drivers to show them the Grand Valley for a more relaxed visiting experience.	8/19/2019 4:07 AM

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139	I love GVT! I think it's doing a good job	8/18/2019 11:25 AM
140	Run the bus from 7am to 10pm on Sunday and 5am to 2am Monday through Saturday.	8/18/2019 11:14 AM
141	I would love for there to be more alternatives to driving everywhere or having to take a bus	8/17/2019 7:06 AM
142	New road construction must consider bicycle traffic given The popularity of cycling as a draw for visitors and new residents. Especially 24 road to Redlands.	8/16/2019 12:22 PM
143	Separated bike lanes and driver education.	8/16/2019 8:52 AM

Q12 The following demographic and socio-economic questions will help us better understand the needs of Mesa County residents, visitors and employees. All of the following questions will be anonymous but are optional. How old are you?

Answered: 330 Skipped: 13



ANSWER CHOICES	RESPONSES	
18 and under	0.91%	3
19-24	3.94%	13
25-34	14.24%	47
35-44	27.27%	90
45-54	15.76%	52
55-64	22.12%	73
65+	15.76%	52
TOTAL		330



Appendix D: Review of Existing Plans

Grand Valley MPO 2045 Regional Transportation Master Plan Update Existing Plans Review

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Introduction

The following memorandum provides an overview of existing plans throughout the Grand Valley region that reflect priorities both at the community and regional levels. The 2045 RTP will update and build off the recommendations, goals, objectives, and vision set by existing plans for all transportation modes. The 2045 RTP will identify accomplishments from previous planning efforts, highlight any actions not yet taken, and provide new opportunities for improving local and regional transportation options in Grand Valley. These existing plans also included extensive public outreach and stakeholder engagement efforts in order to establish visions for the community, policies and goals. It is important that the 2045 process considers and is consistent with the priorities and values identified in these planning efforts while also performing its own comprehensive outreach effort acknowledging that these values evolve over time. The County has also grown and implemented a number of recommendations since the adoption of these plans; the 2045 Plan will provide updates that reflect these changes and progression.

This report begins with a review of the 2040 Grand Valley Regional Transportation Plan (RTP), with a particular focus on areas that will be updated for the 2045 RTP. Additional plans reviewed in this report include regional plans, community plans, trails plans, safety assessments, and other plans that will have bearing on the RTP process.

Regional Plans

The following regional plans are important to consider during the 2045 RTP planning process.

2040 RTP

Key Issues

The 2040 Grand Valley RTP served as an update to the 2035 Plan. In preparing the 2040 update, several key issues emerged during public outreach. Grand Valley residents wanted to see: a more complete multimodal network established through better connectivity of existing trails, transit, and roadways; an emphasis on maintenance over adding new capacity; and offering transportation improvements that support growth. In addition, the funding source Moving Ahead for Progress in the 21st Century Act (MAP-21), which was signed into law in 2012, brought new requirements for a performance-based approach to prioritizing projects and determining which investments will help the region meet safety, mobility, congestion, asset management, and freight targets. The 2045 RTP is an opportunity to evaluate whether the regional transportation system is meeting performance targets and whether performance measures need to be adjusted as the Grand Valley region grows.

Funding

The 2040 RTP identified sales taxes, local tourism receipts, property value tax assessments, vehicle registrations fees, and household utility fees as potential funding sources that could be utilized to fill gaps left by decreasing federal funding. The 2045 RTP can determine whether any new potential funding sources exist that could help the region better support its transportation network.

Performance Based Planning

The 2040 RTP Steering Committee ranked projects on how well they met GVMPO performance measure for the following seven goals:

1. Safety



2. Maintenance
3. Efficient Multimodal Network
4. Mobility and Transit
5. Economic Competitiveness
6. Lifestyle and Recreation
7. Leadership and Cooperation

The resulting rankings were divided into three tiers, with first tier projects carrying the greatest perceived benefits.

Modal Priorities

The 2040 RTP highlighted the following modal priorities:

Non-Motorized Transportation

The 2040 RTP was released at a time when the rate of commuting by foot or bicycle was rising very slowly, and while roadway safety outcomes for multimodal users were growing worse. The plan focused on generating greater connectivity for the non-driving network in order to make regional travel by walking or biking safer and more competitive with driving.

Certain changes since the 2035 plan influenced nonmotorized planning for the 2040 RTP. The Urban Trails Master Plan was sunsetted and the Grand Valley Trails Master Plan was developed but not adopted by the time of the 2040 RTP's completion. The 2040 Plan has a base trail network but no alignments along canals or drainages outside municipalities. Dedicated funding for Safe Routes to School was replaced with Transportation Alternatives Program (TAP) funding. Safe transportation to schools was to be managed through Grand Valley Bikes, local governments, and regional partners collaborating on funding and safety programs. Finally, the regional trail network grew between the two plans, with the Riverfront Trail being completed between Fruita and Grand Junction.

Regional Transit

At the time of the 2040 Plan, passenger miles traveled on Grand Valley Transit (GVT) had been rising much more quickly than vehicle miles traveled in the region. In addition, Grand Valley Transit had invested in maintenance facilities, a compact service area, and route management, all of which helped the agency operate much more cost efficiently than its peers.

National ridership trends have shown a decline in transit usage since the 2040 Plan. Planning efforts for the 2045 RTP will need to evaluate whether transit has continued serving as a strong community connector since the previous plan and identify ways to ensure Grand Valley Transit continues to be an effective part of the regional transportation network. In addition, as other communities in Grand Valley grow, the 2045 RTP may need to identify gaps in service or geographies that will need new transit options. Transportation has evolved tremendously over the last five years, and the 2045 Plan will evaluate and incorporate as appropriate these new modes such as on-demand transportation, microtransit and micromobility.

Regional Roadways

The 2040 RTP anticipated a 70% increase in VMT from 2012 to 2040 and included a list of 22 regional roadway projects that were mostly focused on adding capacity to the roadway system and improving safety. The total estimated cost of these improvements would be \$448.6 million. However, since the



region is anticipated to receive a lower rate of programmable funds, a fiscally constrained projects list, containing five projects at a cost of \$130.7 million, is also included in the plan. There are also three unfunded priority projects listed, at a total of \$37.2 million.

At the time the 2040 RTP was developed, projections on travel trends were influenced by the great recession and a corresponding decline in rates of commuting. The 2045 RTP process will be conducted during a time when economic, social and technological factors influencing VMT, and other factors influencing travel behavior, have shifted. This shift may require evaluating proposed projects from the 2040 RTP that have not yet been executed and determining whether they continue to meet the region's evolving travel needs.

Corridor Visions

The 2040 RTP identified 38 multimodal corridors that could be altered to improve regional mobility. Each corridor is a key regional travel facility and includes multimodal and goods movement infrastructure. The 2040 RTP outlines a vision, set of improvements, goals, and objectives for obtaining corridor-specific goals. Some goals, such as increasing travel reliability or addressing access management issues, are recurring throughout several of the specific corridor plans. The 2045 RTP is an opportunity to revisit the corridor visioning process and develop a set of common corridor-level goals while assessing which corridors have been updated to meet the 2040 RTP improvements list.

Freight and Intermodal

At the time of the 2040 RTP, Mesa County was importing approximately double the tonnage of goods that it was exporting. Since 2014, the outdoor gear industry, which represents a large portion of the regional economy, has gained prominence. Mesa County is served by a robust freight rail network and the Grand Junction Airport. Since infrastructure for goods movement is in place, the 2045 RTP should explore how economic development trends have shifted in the last five years and identify further opportunities to leverage Mesa County's connectivity to other regions within Colorado as well as other states.

2040 Transit and Human Services Plan

The 2040 RTP included a stand-alone Coordinated Transportation and Human Services Plan. The plan cataloged existing services, identified gaps in service, and also highlighted the following coordination strategies for continuing to address gaps and improve coordination:

- Coordination groups (coordinating council, coalitions)
- Vehicle sharing
- Joint procurement
- Shared maintenance and storage
- Joint funding applications
- Training
- Knowledge sharing
- Rural Transportation Authority

As part of the 2045 RTP, previous gaps should be evaluated to understand whether needed updates were made over the last five years, resulting a shift in this gap analysis. In addition, any new gaps as

identified by the public and through an analysis should be identified and mitigation strategies should be identified accordingly.

Grand Valley Metropolitan Planning Organization Transportation Improvement Program

The Grand Valley Metropolitan Planning Organization (GVMPO) Transportation Improvement Program (TIP), dated April 2019, compiles all of the state and federally funded transportation projects in Grand Junction, Palisade, Fruita, and other CDOT projects within the MPO boundary. The listed projects are for Fiscal Years 2020-2023. The TIP highlights six MPO priority projects that are designed to increase capacity, improve safety, and alter roadway geometry. Projects include: widening I-70 through the eastern portion of Grand Junction; intersection improvements along US-6; and shoulder improvements on State Highway 340. The TIP contains placeholders for project areas like the Transportation Alternatives Program, which creates opportunities for the 2045 RTP to suggest projects for a future TIP update.

Statewide Transportation Improvement Program (FY 2018 – 2021)

The CDOT Statewide Transportation Improvement Program (STIP) was adopted in May 2017. The STIP program funds projects that have been selected through the long-range transportation planning process. Grand Valley is in CDOT Region 3. STIP projects that will impact the Grand Valley section of Region 3 include safety improvements on I-70 and geometry updates in the Palisade area. Region 3 is programed to receive 1% of Congestion Mitigation and Air Quality (CMAQ) Improvement Program funding, 13% of Transportation Alternatives Program funding, 14.3% of Regional Priority Program funding, 14.1% of FASTER Safety Mitigation funding, 20% of Hot Spots funding, 16.7% of Traffic Signals funding, and no Congestion Relief funds.

Grand Valley Transit Strategic Plan

The 2018 Strategic Plan for Grand Valley Transit (GVT) outlines four potential scenarios for the future of GVT: maintaining the status quo, enhancing the existing fixed-route network, growing service, or reducing service. The implementation plan sets a goal for a 1.5% annual increase in ridership, which would in part be accomplished through enhancing existing service in the short-term, and then adding service in the longer-term if more funding becomes available. Given how recently the Strategic Plan was published, progress towards meeting Plan goals may not be measurable yet, but the 2045 RTP should ensure that the most recent GVT transit planning efforts and recommendations are reflected.

Grand Valley Transit Operational, Route, and Schedule Analysis

Date: April, 2016

Grand Valley Transit (GVT) analyzed its existing transit services and compared local transit demand with GVT service to determine need for changes that would better serve the local population. This study served as an update to a similar operations analysis conducted in 2011. After analyzing demand, GVT found that the operating budget should be increased to provide more frequent service in high-need areas but the number of vehicles should stay constant. As of summer 2019, some of the service adjustments recommended in the new Service Plan have been implemented (e.g. route restructuring on Route 1) and others have not (e.g. addition of Route 12). The 2045 RTP can review the most recent ridership trends and determine whether the service adjustments are producing the intended changes.



Bureau of Land Management Approved Resource Management Plan and Approved Travel Management Plan (Grand Junction Field Office)

The 2015 Plan is an update to the 1987 Resource Management Plan. The Grand Junction Field Office for the Bureau of Land Management (BLM) oversees approximately half the land area within the GVMPO boundary. BLM land is often the site of nonmotorized recreational transportation activities such as biking and walking. The management plan limited nonmotorized travel to designated routes on approximately one million acres and opened 10,200 new acres to travel. The 2045 RTP planning process should closely involve BLM representatives and outcomes of this effort since BLM-managed lands should be included in efforts to improve nonmotorized connectivity throughout the region.

Grand Junction and Mesa County Competitive Location Assessment

In 2015, North Star Destination Strategies assembled a competitive location assessment for Grand Junction. The assessment identifies aspects of Grand Junction that businesses seeking new locations may or may not find appealing. The assessment evaluates aspects of the local economy like the real estate offerings, utilities, business environment, and transportation access. Grand Junction Airport and I-70 are highlighted as assets for regional connectivity and the outdoor recreation industry is flagged as a major driver of local economic activity. Planning for the 2045 RTP should consider the implications of outdoor recreation on nonmotorized transportation in the region and the implications of business location on new hubs and destinations for users of all modes.

Community Plans

The following plans represent local, community planning efforts. These plans show individual community concerns throughout Grand Valley and are important to consider collectively for regional planning efforts.

City of Grand Junction Circulation Plan

Date: Draft plan from February 8, 2018

The draft Circulation Plan is divided into four elements: a network map, a map of active transportation corridors, a Street Plan Functional Classification map, and a strategies/policies section. The Active Transportation corridors replace the Urban Trails Master Plan, adopted by the City in 2001. The strategies and policies element has six components:

1. Adopting Complete Streets Policies for Grand Junction and Mesa County.
2. Developing an integrated transportation system through actions like including bicycle and pedestrian enhancements in development codes, revising the City of Grand Junction Transportation Engineering and Development Standards (TEDS) manual to support the Circulation Plan, revising the Zoning and Development Code to incorporate best practices in street and intersection design alternatives for multimodal travel, updating the Mesa County Road and Bridge Standards in line with the Circulation Plan, and revising the County Development Standards to promote integrated transportation.
3. Developing sub area and corridor maps that recognize past planning efforts along with future planning needs. Existing planning efforts include Safe Routes to School for District 51, the Clifton Pedestrian Plan, and the North Avenue Corridor Plan. Future efforts will include the Horizon Business District and Mesa Mall Environs.



4. Improve interconnectivity between GVT and centers, neighborhoods, and community attractions through a two-pronged approach of improving access and also development of strong community partnerships.
5. Improving the Urban Trails System by providing guidance on incentives for trail construction, standards for trail construction, ownership and maintenance of the trail system, maintaining or improving multi-purpose trails, providing wayfinding to attract visitors to the trail system and improve the ability of residents and visitors to find area attractions.
6. Maintaining or improving circulation of vehicles on the roadway system by using the Traffic Impact Analysis process to determine anticipated traffic demand in the larger area surrounding a development, and requiring developments to make the street system more interconnected.

Palisade Highway 6 Corridor Study

Date: 2012

The Corridor Study was conducted to identify improvements on the portion of US-6 that runs between Palisade High School and the junction of I-70 at Elberta Avenue. The study sought to address safety issues caused by varying cross sections along the corridor that prohibited travelers from having a consistent path of travel. In addition, entryways from major intersections lacked signage and other defining features. The plan identified four different potential cross sections for either an 85-foot or 155-foot right-of-way. Each cross section included one travel lane in each direction, a raised median, left turn lanes, detached sidewalks, and on-street bike lanes. The study also offered redesigns for the intersections of US-6 and 37 1/10 Road, Elberta Avenue, Iowa Avenue, and Kluge Avenue/Brentwood Drive that would involve roundabouts, landscaping, and other traffic calming measures. The overall aim of the study was to create opportunities for US-6 through Palisade to become a safer facility for all users. At the time the 2045 RTP update process started, most recommendations from the corridor study had not yet been implemented so the RTP update is an opportunity to reevaluate whether the treatments are still appropriate and identify an implementation strategy.

Clifton-Fruitvale Community Plan

Date: October 2006, Amended on July 14, 2011

The Clifton-Fruitvale Community Plan includes governance options, an inventory of existing conditions, and a set of goals, objectives, and actions. Basic community services within Clifton-Fruitvale are provided by Mesa County. During public outreach, residents expressed that they feel that certain services are not adequate. Specific to transportation concerns, a lack of sidewalks and streetlights was cited as problematic. Based on this feedback, the Community Plan set three transportation objectives:

1. Updating the Grand Valley Circulation Plan and Urban Trails Plan
2. Constructing roads from the Eastern Expansion Area street plan by constructing a crossing of the railroad tracks for 33 ¾ Road, F Road at US-6, and new intersections for 33 3/8th Road and 33 ½ Road at US-6
3. Upgrading substandard transportation infrastructure to urban standards through the CIP

Fruita Pedestrian and Bicycle Circulation Study

Date: April 2011



The 2011 Fruita Pedestrian and Bicycle Circulation Study partially fulfills a requirement from the 2009 Fruita Parks, Open Space, and Trails Master Plan to develop a bicycle and pedestrian master plan for the community. The Circulation Study provides an inventory of existing facilities, identifies gaps, provides design standards for improvements and prioritizes projects for a capital improvements plan. The Circulation Study included recommendations to add off-street trails systems as a part of new development and to create minimum cross sections for trails and bike lanes. The recommended projects list prioritizes adding on-street bike lanes on roadways that are already sufficiently wide to accommodate bike lane striping without modifying travel lanes. Lower priority projects include new bike paths and widening projects that are more costly to accomplish. The 2045 RTP should evaluate progress made since the 2011 Circulation Study and ensure Fruita’s work towards improving bicycle and pedestrian circulation can be integrated into regional projects for improving nonmotorized travel.

Grand Junction Comprehensive Plan

Date: 2009 (Currently being updated)

At the time of the 2009 Comprehensive Plan, Grand Junction identified a lack of modal options and an imbalance of land uses as two major elements that were creating traffic congestion issues in the City. To address these problems, the Comprehensive Plan sought to address these challenges by planning more street connectivity where gaps exist, add railroad and river crossings, focus new development in transportation corridors, and improve conditions for transit operations. The 2045 RTP planning process is being conducted alongside the Grand Junction Comprehensive Plan update, which will allow opportunities for collaboration to ensure the transportation elements of the new Comprehensive Plan complement the RTP.

Fruita Parks, Open Space, and Trails Master Plan

Date: December 2009

The 2009 Fruita Parks, Open Space, and Trails master plan inventoried the outdoor recreation facilities throughout Fruita and conducted an assessment of the need for additional facilities and the improvement of existing ones. The plan identifies that trails are some of the most frequently used recreation facilities in Fruita. The plan sets goals to create more local trails, increase connectivity of trail systems both locally and regionally. The plan also identifies that improving the network of comfortable and safe trails is a key piece in encouraging commuters to use alternative transportation. The plan also establishes trail standards to guide new trail development. This plan establishes trails as important infrastructure in Fruita for both recreation and commuting and recognizes the regional nature of the trail network. Additionally, one of the trail projects the plan proposes is the connecting the existing segments of the Riverfront trail to create a continuous regional connector for pedestrians and cyclists.

Fruita Community Plan

Date: 2008 (Currently being updated)

The multi-modal transportation section of the 2008 Plan focuses on creating new roadways while also increasing transit service in Fruita along with enhancing opportunities for pedestrians and cyclists. Corridors slated for increased capacity were L Road as an east-west road and 19 Road as a north-south road. As with other communities in the I-70 corridor, Fruita relies heavily on state-managed transportation assets so coordination with CDOT and the County is crucial to ensuring access is



maintained throughout the community. Fruita is updating their Community Plan concurrent with the 2045 Plan update; the 2045 Plan will incorporate the most up-to-date feedback from public outreach as well as identified goals, priorities, and project recommendations.

H Road/Northwest Area Plan

Date: 2007

The 2007 City of Grand Junction H Road/Northwest Area Plan considers future land use policies for a 250-acre area abutting the urban growth boundary of Grand Junction. The Plan changed the land use designation for the study area from Rural to Commercial/Industrial, which carried implications for travel demand. The Plan includes a proposal to add collector streets that would improve connectivity to US-6. The 2045 RTP is an opportunity to review transportation network changes in the area and determine whether the land use change merits additional investment in multimodal travel infrastructure.

Palisade Comprehensive Plan

Date: May 2007

The 2007 Palisade Comprehensive Plan had a 20-year outlook for transportation improvements. Recommended improvements were focused on addressing the railroad that bisects the community and to improve east-west capacity for commuters traveling to Grand Junction from Palisade. New frontage roads along I-70 and US-6 were recommended to improve east-west capacity and the Plan also called for striped bicycle lanes to be included with any new roadway project. The Comprehensive Plan transportation policy focuses on coordination with both the County and CDOT since facilities operated by those entities represent critical infrastructure for Palisade residents. The 2045 RTP can help establish a Grand Valley-wide approach to coordination with County and State agencies and action items that are outcomes of this coordination, as the concerns Palisade has about its transportation infrastructure may be common with other communities in the region.

Clifton Pedestrian Circulation Study

Date: October 2006

The 2006 Clifton Pedestrian Circulation Study addresses pedestrian connectivity issues in Clifton, including the presence of I-70 and US-6 as a barrier and connectivity issues surrounding area schools. The Study identified four general recommendations that could improve pedestrian safety and opportunities for multimodal circulation:

1. Routinely cleaning sidewalks and bike lanes to keep them free of debris
2. Ensuring existing sidewalks meet ADA standards
3. Removing barriers like cement posts
4. Enforcing speed limits

The 2045 RTP will evaluate the change in mode share for walking and biking in Clifton since 2006, assess implementation status of the Plan's four recommendations, and determine whether additional multimodal infrastructure is needed beyond focusing on managing the existing infrastructure.

Pear Park Neighborhood Plan

Date: December 2004



At the time of the Pear Park Neighborhood Plan’s publication, Peak Park mostly fell within unincorporated Mesa County, but the city of Grand Junction was expanding its boundaries to encompass Peak Park. The plan identified several projects as priority transportation improvements, all of which pertained to improving roadway performance for vehicles. However, plan goals reflect a desire to improve access for cyclists and pedestrians. Pear Park was fast growing at the time the Neighborhood Plan was published; the 2045 RTP will need to evaluate this population center based on the recent growth and ensure residents have access to a reliable multimodal network.

Collbran 2035 Comprehensive Plan

Date: January 2011

Five of the six Core Values established in Collbran’s 2035 Comprehensive Plan mention transportation, and “Safe and Efficient Transportation” is also its own core value, making transportation a reoccurring priority throughout the comprehensive plan. The plan’s transportation vision emphasizes pedestrian and bicycle infrastructure as a backbone of the community’s transportation network and calls out the desire to encourage more alternative transportation, including transit, and reduce truck traffic in town. The Collbran Comprehensive Plan highlights the importance of alternative modes of transportation in the community of Collbran and commits to working with Mesa County and other regional partners to further develop a connected trails network and regional transit system.

DeBeque Comprehensive Plan Update

Date: August, 2009

In the 2009 Comprehensive Plan Update, the Town of Debeque establishes the desire to grow incrementally and in a fiscally-responsible manner, while retaining its small town character. Specifically relating to transportation, the plan calls out the need for greater connectivity to the rest of the region for both active modes of transportation, as well as driving. The plan notes that the majority of trail use in the community is for recreation, but that creating local and regional trail connections could encourage alternative forms of transportation. The plan calls out specific transportation projects, including continuing to develop the town’s road network, improving connectivity to I-70 and major highways, and building new trails and connections for cyclists and pedestrians. The plan specifically calls out connecting the existing segments of the Colorado River Trail to create a continuous regional trail.

US 6C Clifton Transportation Study

Date: June, 2016

CDOT conducted the US-6C Transportation Study to help identify potential solutions for improving traffic operations, addressing a lack of multimodal facilities, and addressing safety concerns. The preferred alternative included adding turn lanes, implementing turn restrictions, and adding a traffic signal at 5th Street to improve operations, striping bike lanes, adding pedestrian crossing, and enhancing bus stops. The project implementation plan did not include prioritization or a schedule. The 2045 RTP is an opportunity to monitor progress and determine whether the improvements recommended in the Clifton Study should be replicated along a wider area of the corridor.



Trails Plans

Grand Valley is recognized as a region with a high concentration of trails. Non-motorized travel is a core component of regional transportation planning efforts since so many residents rely on the trails and local tourism is driven in large part by the large-scale trail access. The 2045 RTP will build upon past planning efforts to consider how trails can further underpin the regional transportation network and provide greater connectivity between key destinations.

Walking and Biking Trails Summit Report

Date: March 2013

The Walking and Biking Trails Summit report serves as a summary of the 2013 Walking and Biking Summit, which took place in Grand Junction. The report suggests there was strong enthusiasm for continuing to grow the County's trail system and general support for adding infrastructure that facilitates and makes safer an increase in active transportation.

Walking and Biking Summit Report

Date: March 2015

The 2015 Walking and Biking Summit Report summarizes the event which was held in Grand Junction. The topics highlighted at the summit included the benefits of walking and biking to local businesses and health. The summit also covered how to promote more walking and biking through Safe Routes to Schools education and advocating for streets that are safe for all modes. The main take-aways and next steps identified in the report include partnering with Healthy Mesa County and continuing education and outreach efforts.

Old Spanish Trail Plan

Date: July 2014

The Old Spanish Trail Plan tells the history of the Old Spanish Trail as a transportation corridor since 1829 extending from Santa Fe to Los Angeles. The plan recognizes the stretch of trail that passes through Mesa County as a regional asset to be preserved and enhanced. The plan documents the current alignment and condition of the trail and identifies priority projects to maintain and improve the trail.

Grand Valley Strategic Trails Plan

Date: September 2018

The Strategic Trails Plan outlines the improvements that can be made to improve Grand Valley's trail network. The plan explains the economic benefits that come from a well developed and maintained trail network, and how the Grand Valley measures up to big trail destinations across the country. The strategic plan can be a great asset to the 2045 RTP, as it contains helpful data around current trail use and gaps or shortcomings in the existing trail network. However, the Strategic Trails Plan focuses mainly on mountain biking use of trails. The 2045 RTP can utilize the analysis and conclusions from the Strategic Trails Plan, but expand the consideration to other modes and the use of trails for commuting.



Safety Assessments

Tour of the Moon Bicycle Safety Assessment

Date: 2018

In 2018, McDowell Engineering conducted a bicycle safety assessment for South Broadway between Escondido Circle and State Highway 340 in Grand Junction. This section of South Broadway, which is classified as a major arterial, is part of the “Tour of the Moon Byway,” which is popular among cyclists and was also observed to be the site of speeding vehicles that created unsafe conditions for cyclists. The study found that speeding was a frequent cause of crashes and recommended traffic calming as one of the short-term measures for improving safety conditions. Recommendations included implementing stop lines at intersections, sharrows, signage alerting drivers to the presence of cyclists, rumble strips, and shoulder widening. Longer-term recommendations included adding bike lanes, speed bumps, roundabouts, and alternate bike routes. The 2045 RTP is an opportunity to evaluate whether safety outcomes have improved since the last year of data reported in the safety assessment (2015) and determine whether the recommended safety improvements should be incorporated into the RTP.

Safe Routes to School Audit Report

Date: Audits conducted in fall of 2016

The Safe Routes to Schools Audit Report summarized the Mesa County Regional Transportation Planning Office’s finding from data collected from 12 elementary and 8 middle schools around the county. The audit found a variety of factors that could be improved to increase frequency and safety of children walking and biking to school. These improvements include coordination with local schools to implement education and safety programs, as well as working with schools and local governments to prioritize creating and improving walking and biking infrastructure around schools.

Other Plans

29 Road Interchange at I-70 Planning and Environmental Linkages Study

Date: Ongoing

The 29 Road Planning and Environmental Linkages (PEL) study is part of a project to upgrade circulation through Grand Junction and increase regional connectivity through improved connections to I-70. The new interchange at 29 Road would provide a direct connection between US-50 and I-70. The 2045 RTP will be planned alongside the PEL, providing opportunities to ensure the RTP update plans for the new development that would occur near the Grand Junction Airport after the interchange is constructed. In addition, the interchange will bring new travel demand to the commercial corridor north of I-70, and meeting that demand should also factor into the RTP update.

Colorado National Monument, Congestion Assessment

Date: March, 2019

Colorado National Monument’s 2019 Congestion Assessment identifies the many competing uses of the monument’s main road, Rim Rock Drive. Special events, local commuters, cyclists, and tourists visiting the monuments most popular site all contribute to considerable congestion in the park. The plan proposes several congestion management solutions that can be implemented at a range of costs. The



2045 RTP can utilize this assessment to better understand the impacts that the Colorado National Monument has regional travel, and its role as a major destination locally and across the region.

Mesa County Community Health Needs Assessment

Date: 2018

The 2018, Health Needs Assessment focused on identifying factors that impact community health outcomes. The assessment focused specifically on areas of concern relating to populations that are disadvantaged due to lower incomes, institutional inequities that create unequal access to medical care, and physical, social, and service environment factors that carry implications for community health outcomes. The 2045 RTP can leverage findings from the Health Needs Assessment that relate to transit access for vulnerable populations and other geographic factors like access to work and education opportunities to identify areas where transportation improvements could help achieve better community health outcomes.

Bureau of Land Management Recreation Strategy

Date: 2014

The Bureau of Land Management (BLM) plays a key role in facilitating the outdoor recreation industry, which is a large driver of social and economic activity in Mesa County. The Recreation Strategy was developed in order to help improve collaboration between BLM and local communities and to help those communities achieve their social, economic, and environmental goals while accommodating the approximately 60 million people per year who visit BLM lands. The Strategy goals include managing recreation efforts to achieve community benefits and prioritizing programs that achieve economic benefits while transforming public outreach efforts. The Recreation Strategy has implications for the way BLM manages transportation access to its lands, which make up approximately half of Mesa County. Therefore, BLM is a key partner to engage in the 2045 RTP process as the plan will include a focus on balancing the success of the outdoor recreation industry in Mesa County with the demands that industry brings on the transportation networks of local communities adjacent to BLM-managed lands.

Grand Junction Airport Master Plan

Date: 2009

At the time the Master Plan was developed, total aviation activity was expected to rise over 30% by 2027. This increase in activity will bring a high level of ancillary travel demand to the airport as travelers and freight providers seek access. The 2045 RTP should consider the importance of including the airport in transportation planning efforts and ensure that adequate consideration is given to providing multimodal connectivity to this key regional destination.

Mesa County Cooperative Planning Areas

Date: 1998

In 1998 Mesa County established two buffer zones. One is between Fruita and Grand Junction, and the other is between Grand Junction and Palisade. The cooperative planning agreements ensure that any development occurring within the buffer areas will be the result of collaboration between the two jurisdictions and will follow the Countywide Land Use Plan. The 2045 RTP is an opportunity to evaluate



the development that has occurred within the buffers in the last 20 years and determine whether transportation infrastructure adequately serves this area.

Conclusion

The 2045 RTP will build upon the planning efforts outlined in this review. The following elements were found to be particularly important to Grand Valley communities:

- **Regional connectivity** – I-70 is a critical corridor that links Grand Valley to other parts of Colorado as well as the wider region. Existing planning efforts emphasize the importance of improving connectivity to the I-70 corridor as well as building opportunities for multimodal travel on state highway corridors that often serve as a Main Street for some Grand Valley communities.
- **Intergovernmental Collaboration** – Collaboration with CDOT and the Mesa County government is critical to reflecting community needs for connections with significant corridors like I-70 and US-6 and for ensuring land use planning along these corridors matches the Grand Valley’s changing population patterns.
- **Further strengthening the multimodal transportation network** – Grand Valley relies heavily on an extensive trail system to both provide nonmotorized connectivity and to support its large outdoor recreation industry. All transportation planning efforts focus heavily on ensuring the nonmotorized network serves to improve connectivity in Grand Valley. Additionally, federal partners at the Bureau of Land Management, Forest Service, and National Park Service emerge as critical stakeholders in the 2045 RTP process given the interface between local communities and federally-managed lands where a high volume of nonmotorized transportation activity takes place.
- **Better supporting transit** – Aligning land use with transit service, investing in better service, and bringing transit to more communities is a recurring theme throughout previous planning efforts.
- **Adding capacity in strategic locations** – Previous and ongoing planning efforts highlight the need for adding roadway capacity in areas where it is most needed (e.g. connections to I-70, filling gaps in a grid network, etc.).
- **Emphasizing roadway maintenance that serves all users** – Where roads are already built out, existing community and regional plans emphasize maintaining the roadway network to not only facilitate vehicle travel, but also to improve multimodal travel conditions by fixing shoulders, adding bicycle lanes, and upgrading sidewalks.

The 2045 RTP planning process will carry forward these local and regional priorities while also determining new transportation priorities that reflect the evolving nature of the Grand Valley.



Appendix E: Prioritization Methodology

Grand Valley 2045 RTP

Roadway and Active Transportation Prioritization

The prioritization process considers how all recommended active transportation and roadway projects rank for the five performance measures defined in this memo. The subscores for each project for each criteria are averaged, and projects are ranked based on the averaged scores. This average score does not include performance measures for which a project does not have a score.

Scores are determined based on project locations and the state of the land use, roadways, and crashes proximate to the proposed project; the scope of the project will be determined as a part of future analyses following the adoption of the RTP. For example, a project with a high safety score, acknowledges that there are a high number of crashes within the project’s influence area, but not necessarily that that project will provide the necessary safety countermeasures. In the project analysis following the RTP, the scope of the project will be determined based on components such as crash patterns.

It should be noted for all performance measures, staff knowledge was used to further inform the scores for projects in their jurisdiction, as appropriate.

Transportation Performance Management

The Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America’s Surface Transportation Act (FAST ACT) requires that all state departments of transportation and metropolitan planning organizations use a performance based planning and programming approach as part of the Transportation Performance Management (TPM) program. FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Performance measures related to safety (PM1), state of good repair (PM2), and system performance (PM3) are utilized in the data-driven approach described in the following three sections.

1. Safety (PM1)

Projects were scored for the safety performance measure based on the number of crashes within a 100-foot influence area of the project. Only crashes coded as visible injury, severe injury, and fatality were counted. Projects with a higher number of severe crashes within the defined buffer area received higher scores. In order to effectively weight bicycle/pedestrian-related crashes for active transportation projects, crashes involving bicyclists or pedestrians were counted as two crashes. The respective score for the number of crashes is shown for roadway and active transportation projects in the following table:

Table 1: Number of Crashes

Score	Roadway projects	Active Transportation projects (bike/ped crashes counted as 2 crashes)
1	0	0
2	1-13	1-8
3	14-33	9-29
4	34-68	30-57
5	69-167	>57

2. Infrastructure Condition (PM2)

Infrastructure condition is a measure of the pavement quality and need for maintenance. The infrastructure condition for CDOT roadways was received spatially in terms of “Driveability Life”. Drivability Life is a measure, in years, of how long a highway will have acceptable driving conditions. This measure was then tied to a 1-5 score. If a project was associated with two different Driveability Life scores, the higher score was applied.

Grand Junction provided geocoded data that assigned a Pavement Condition Index (PCI) for roadways within the City. This PCI value was broken up into categories to relate the PCI values to CDOT’s Drivability Life values. **Table 2** displays the different pavement condition values for CDOT and Grand Junction Roadways and how they relate to the pavement condition scores. Pavement condition scores were attributed to projects that ran along a roadway with pavement condition data. Scores were not attributed to projects that only intersected pavement condition data.

For all other jurisdictions, the data has not been fully tabulated. Staff knowledge was employed to determine a score for this performance measure for remaining roadways.

Table 2: Pavement Conditions Scores

Score	CDOT Roadways (Driveability Life)	Grand Junction Roadways (PCI)
1	>10 years	>85
2		
3	3-10 years	55-85
4		
5	< 3 years	<55

3. System Reliability (PM3)

For the Interstate System and Non-Interstate National Highway System (NHS), the National Performance Management Research Data Set (NPMRDS) and analysis tools were used to identify areas for further study. The NPMRDS data is aggregated from actual measurements across the system using big data sources. The most recent complete year is 2018. However, the NPMRDS is updated monthly, therefore, data through October 31, 2019 was utilized to provide the most current picture of system performance.

This data determined the Level of Travel Time Reliability (LOTTR) and Truck Travel Time Reliability (TTTR) for Interstate 70 (I-70) through the GVMPO. All segments of I-70 through the MPO are operating better than the CDOT/MPO-set target for LOTTR and TTTR. For the non-Interstate NHS, LOTTR is also at or above target, except for limited hot spots—1. US 50/I-70B intersections, and 2. I-70B near 30 Road, 3. SH 141 (32 Rd)/I-70 B intersection, 4. SH 141/US 50 Intersection, and 5. US 6 in the vicinity of 22 Road (I-70 Exit 26), as shown in the following Figure 3-10:

Figure 3: Level of Travel Time Reliability (LOTRR) for Interstate 70 (I-70)

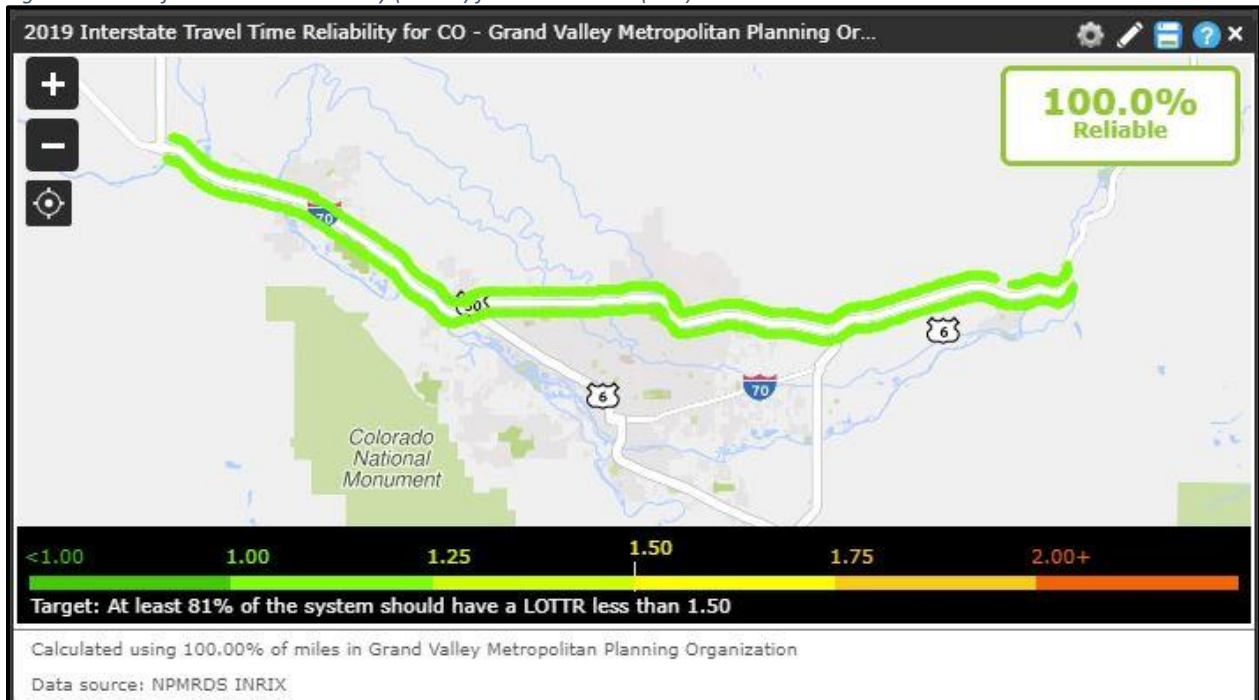


Figure 4: Truck Travel Time Reliability (TTTR) for Interstate 70 (I-70)



Figure 5: Non-interstate Level of Travel Time Reliability (LOTTR)



Figure 6: Non-interstate Level of Travel Time Reliability (LOTTR) - 1. US 50/I-70B intersections



Figure 9: Non-interstate Level of Travel Time Reliability (LOTTR) - 4. SH 141/US 50 Intersection



Figure 10: Non-interstate Level of Travel Time Reliability (LOTTR) - 5. US 6 in the vicinity of 22 Road (I-70 Exit 26)



In spite of the limited hot spots identified and shown above, GVMPO-wide the LOTTR and TTR are performing better than the target levels set by CDOT.

The NPMRDS data provides a look at current and recent conditions. To look ahead, the 2040 Mesa County Regional Travel Model (MCRMTM) was used to determine V/C ratios at all locations within the model network for the year 2040. The 2045 model will be applied for additional future comparisons.

Each project is scored for system reliability based on that roadway’s V/C ratio, as determined by the 2040 MCRTM. For roadways with a V/C ratio of less than .85, a score of 1 was given to a project. For projects with a V/C ratio between .85 and 1, a score of 3 was assigned. And a score of 5 was assigned to projects tied to a V/C ratio of greater than 1. If a project was associated with two different V/C ratios, the higher score was applied.

Table 11: V/C Ratios

Score	Roadway projects	Active Transportation projects
1	<.85	<.85
2		
3	.85-1	.85-1
4		
5	>1	>1

System Performance was not considered for active transportation projects, given that bicycle and pedestrian projects are not driven by the amount of available capacity for vehicles.

4. Mobility for all Travelers

Mobility for all travelers is measured based on a project’s proximity to key destinations in order to represent improved ability to access the most common destinations. The potential for a project to contribute to improved mobility is determined by the number of the following two categories of destinations within ¼ mile of a project:

1. Key destinations: schools, parks, trail access points (weighted at 80%)

Table 12: Number of Key Destinations

Score	Roadway projects	Active Transportation projects
1	0	0
2	1-5	1-3
3	6-10	4-6
4	11-19	7-14
5	20-31	15-34

2. Transit stops and stations (weighted at 20%)

Table 13: Number of Bus Stops or Stations

Score	Roadway projects	Active Transportation projects
1	0	0
2		
3	1-4	1-16
4		
5	5-8	>16

5. Economic Development

The potential for a project to contribute to the economic development of an area is determined based on the sum of two inputs:

1. A weighted population density weighting the populations listed below higher (using 2017 5-year ACS Data). This methodology applied the Transportation Research Board (TRB) Transit Cooperative Research Program (TCRP) *Report 28: Transit Markets of the Future, The Challenge of Change*. (weighted at 80%):
 - a. Females
 - b. Ethnic or racial minorities
 - c. Persons with ambulatory difficulty
 - d. Persons below the poverty line
 - e. Persons without access to a vehicle

2. The land use zoning where the project is located. Projects in dense and mixed use areas received higher scores, as shown in the following table. (weighted at 20%)

Table 14: Land Use Codes

Score	Grand Junction Comprehensive Plan Land Use	Rural Land Use
1	All land use codes not in score 3 or 5	All land use codes not in score 3 or 5
2		
3	Business Park mixed-use, Commercial, Village Center	Mixed-use Residential, Medium Density Residential, Recreation Commercial, Highway Commercial
4		
5	Downtown Mixed-use, Neighborhood Center, Residential High Mixed-use, Urban Residential Mixed-use	Gateway Mixed-use, Mixed-use Commercial, Main Street, Commercial