MOAB & SPANISH VALLEY

2050 REGIONAL TRANSPORTATION PLAN

Table of Contents

Figures

Tables

MOAB & SPANISH VALLEY REGIONAL TRANSPORTATION PLAN

Executive Summary

The Moab and Spanish Valley Regional Transportation Plan (RTP) presents a regional transportation vision for 2050 and includes a set of projects and programs to achieve that vision. The Spanish Valley region of southeastern Utah encompasses portions of Grand and San Juan Counties and includes the City of Moab. The region has grown in prominence due to the presence of popular tourism destinations, natural resources, and the critical interstate connectivity provided by US-191. The combination of popular recreation opportunities and urbanized and rural areas in the Spanish Valley generates regional transportation issues that require a coordinated and regional planning effort. To create the RTP, the project team combined the results of three efforts: collaboration with a stakeholder group to form a regional transportation vision and goals, analysis to understand how the existing transportation network functions and to also determine future travel demand, and a public outreach process to determine the mobility needs of community members and key stakeholders. Findings from the three efforts were synthesized into a final set of plan recommendations.

The RTP process relied on a highly collaborative core management team, including the Utah Department of Transportation (UDOT), Grand County, San Juan County, the City of Moab, and the Utah School and Institutional Trust Lands Administration (SITLA). These agencies coordinated to establish the following regional transportation vision: "The Spanish Valley will have a transportation system that welcomes residents and visitors to access community amenities and recreational opportunities using a safe, efficient, and multi-modal system that moves people and goods reliably into, out of, and around the region." This vision is supported by a set of eight goals developed in coordination with the stakeholder committee and outlined in Chapter 2 of the RTP.

The project team also undertook a thorough analysis of the regional transportation network to understand how recent growth in demand for recreational visitation, local population growth, and increased goods movement have impacted connectivity in the study area. It was found that by 2050, the current study area population of approximately 25,000 will grow to over 37,000 residents. This growth is coming at a time when visitation to the region has been growing rapidly. In the 10-year period leading up to the RTP, Arches and Canyonlands National Parks, the two most significant tourist attractions in the region, saw visitation levels increase 60%. This growth has led to a rise in travel demand and increased daily traffic levels from April to October, with the most significant peaks in mid-April and mid-September. While some regional investments have been made in multi-use paths, there is a lack of regionally connected multi-modal travel options leaving most travelers with the need to drive, which further increases traffic volumes. The RTP identified a need for additional walking and biking infrastructure, along with the need to study the feasibility of a transit system, as potential traffic mitigation and mobility choice measures.

When examining future travel conditions, the project team identified that increasing travel demand on US-191 may cause traffic to spillover onto parallel facilities. It was determined that the Utah Department of Transportation has planned for capacity on enhancements on US-191 through road widening and the addition of passing lanes; this RTP carries forward those recommendations as regionally significant improvements.

The outreach process for the RTP involved multiple stakeholder committee meetings, a community survey, and a project website. Committee and community members were asked to identify the most critical transportation issues facing the region. Outreach participants shared that peak season tourism traffic is the most pressing mobility challenge and that multi-modal connectivity and enhancing the quality of life are the most important goals for the RTP. Of the different project concepts shared during outreach, a regional bicycle network emerged as the most popular option. Chapter 4 highlights the outreach process in greater depth.

The RTP project team also evaluated research best practices from peer communities to understand how smaller population centers that draw high volumes of tourist traffic navigate the challenges faced in the Spanish Valley. Key lessons from this review included the potential for enhancing wayfinding to make travel more efficient, offering a public shuttle in lieu of an area-wide transit system can help meet travel demand, and that obtaining buy-in from a wide cross-section of the community through regional coordination can make projects like regional trails networks more successful.

In coordination with the stakeholder committee, the project team used initial findings from analysis and outreach to develop a preliminary projects list. This list was screened using the UDOT prioritization process and was further refined using plan criteria established by the project team. The final project list and screening results are featured in Chapter 6 of the RTP. Chapters 7 and 8 of the RTP feature planning level project costs and proposed phasing and performance measures for tracking RTP implementation and efficacy.

The final chapter of the RTP discusses the formation of a Rural Planning Organization (RPO) to ensure on-going collaboration among key RTP stakeholders. The RPO could help ensure the RTP recommendations are realized by revisiting the plan periodically to ensure the recommendations remain relevant, by identifying local agencies to oversee projects, and acting as champions for the region when pursuing funding for transportation. This RTP will serve as a roadmap for making the Spanish Valley a more connected region prepared for the changes that will occur between now and 2050.

Chapter 1 - Introduction

The Spanish Valley region of southeastern Utah encompasses portions of Grand and San Juan Counties and includes the City of Moab. The region has grown in prominence due to the presence of popular tourism destinations, natural resources, and the critical interstate connectivity provided by US-191. The combination of popular recreation opportunities and urbanized and rural areas in the Spanish Valley generates regional transportation issues that require a coordinated and regional planning effort.

The Moab and Spanish Valley Regional Transportation Plan (RTP) represents the efforts of regional stakeholders collaborating to identify a vision for transportation in Spanish Valley in 2050 and a corresponding set of projects and programs to achieve that vision.

Plan Components

This RTP profiles the cooperative work conducted by a diverse set of stakeholders, including the Utah Department of Transportation (UDOT), Grand County, San Juan County, the City of Moab, and the Utah School and Institutional Trust Lands Administration (SITLA). A vision and set of goals for the plan were developed through a series of stakeholder meetings that established the critical issues facing the regional transportation network. In addition to direct engagement with stakeholders, the project team conducted a data-driven existing and future conditions analysis to identify whether challenges like traffic congestion or barriers to multi-modal travel exist and highlight opportunities for establishing more regional connectivity. In addition to evaluating the study area, a review of best practices in peer communities was also conducted. This survey found opportunities for creatively managing some of the Moab and Spanish Valley region's transportation challenges through innovative solutions.

After identifying the challenges, opportunities, and suite of potential solutions, the project team worked closely with the stakeholder group to identify a set of infrastructure projects and programmatic initiatives that are based on needs long-established by participating communities, specific connectivity needs as established through the project team's analysis, and through longer-term needs for meeting future travel demand as the region grows.

This Plan includes a set of projects and programmatic recommendations that have been evaluated and prioritized based on the regional short- and long-term mobility needs. Also, this Plan features a specific set of recommendations for enhancing US-191 south of Moab into Spanish Valley. The Plan represents a regional effort to ensure transportation improvements that impact and benefit Moab & Spanish Valley are planned and implemented cooperatively.

Chapter 2 - Vision and Goals

Developing a Plan Vision and Goals

The proposed vision statement and goals for the 2050 Spanish Valley Regional Transportation Plan were developed based on the top themes that emerged from the April 29, 2020 Stakeholder Committee meeting and a review of previous plans and studies. The committee is comprised of individuals representing a range of community members. Committee members bring the perspectives of their constituencies to discussions regarding the Regional Transportation Plan.

When asked to describe a transportation system for their ideal community, the most common descriptions used by committee members included:

- Safe
- Multi-modal
- Connected and Efficient
- Welcoming and Equitable

When asked to share the most pressing transportation issues in the region, stakeholders highlighted seven key challenges:

- Congestion, including the issues associated with a possible bypass
- Lack of travel options, especially transit
- Access management
- Truck traffic and the resulting noise
- Poor connectivity for cyclists and pedestrians
- Safety

In addition to the seven challenges identified by the stakeholder committee and listed above, the committee also shared aspects of the transportation system that are working well. The most consistent strengths are:

- The new bicycle and multi-use facilities that have been added to the network
- Traffic calming improvements that have helped reduce vehicle speeds through the core of Moab
- Interagency collaboration

The Vision

A vision statement results from considering how a future transportation system would serve the region if it embodied the ideal characteristics identified by the stakeholder committee. The Regional Transportation Plan vision represents a concept that will be pursued throughout the life of the plan. In

other words, the vision statement describes the end result of full plan implementation by 2050. Using the top themes that emerged from stakeholder committee input, the project team crafted the following vision:

> *"The Spanish Valley will have a transportation system that welcomes residents and visitors to access community amenities and recreational opportunities using a safe, efficient, and multi-modal system that moves people and goods reliably into, out of, and around the region."*

Plan Goals

While a vision statement communicates the future state of transportation in the region, goals define how that vision will be achieved. The goals of the Spanish Valley Regional Transportation Plan address the top challenges identified by the stakeholder committee. In addition, the goals consider the strengths of the current transportation system and seek to carry forward those strengths into future efforts.

Draft goals for the plan are divided into topic areas that reflect the strengths and challenges of the mobility network in the region.

Goal Topic Areas

1. Improving Roadway Performance
2. Transit
3. Access Management
4. Quality of Life
5. Connectivity for People Walking and Biking
6. Safety
7. Cooperative Planning

Proposed goals for each topic area are listed below.

Goal 1: Improving Roadway Performance

Improve roadway network performance for all roadway users, including through traffic and freight traffic, and reduce congestion by using best practices from peer communities to align seasonal travel demand fluctuations with the existing roadway network and leveraging new technologies for optimizing existing capacity.

Goal 2: Transit

Seek to provide a new travel option by exploring and possibly implementing a transit system that connects residents and visitors to all key destinations in the region.

Goal 3: Access Management

Increase the efficiency of travel corridors by ensuring vehicle access to adjacent land uses are well-planned, while minimizing conflicts with other modes.

Goal 4: Quality of Life

Enhance the quality of life through both policy and technology that balance efforts to limit noise pollution from freight and all-terrain vehicles, promote community health, and advance sustainability with the unique range of mobility options used in Moab and the Spanish Valley.

Goal 5: Connectivity for People Walking and Bicycling

Pedestrian: Enhance opportunities for walking through the provision of a safe, low-stress, and connected sidewalk and path network.

Bicycle: Expand the multi-use path and on-street bicycle network to fully serve Moab and the Spanish Valley and ensure bicycling is an option for accessing community resources as well as recreational opportunities.

Goal 6: Safety

Build upon and enhance safety initiatives along US-191 as well as expand the Moab traffic calming program using national best practices to further improve safety outcomes for all roadway users.

Goal 7: Planning and Project Development

Continue interagency collaboration between UDOT, Grand County, San Juan County, local government, SITLA, the business communities, National Park Service (Arches and Canyonlands), and others that identify regional transportation needs, such as the US-191 bypass and other projects that could serve as solutions. This collaborative process will result in projects that are included for funding in the UDOT Statewide Transportation Improvement Program (STIP).

Chapter 3 - Existing & Future Conditions

The Moab and Spanish Valley region has experienced tremendous growth in the past decades. With this growth comes increased residential, tourist, and freight traffic. The following analysis describes the existing conditions of the region's transportation network, which will become the base for the 2050 regional plan.

History

Moab and the Spanish Valley are located in the southeastern region of Utah and straddle Grand and San Juan Counties. Originally settled as a mining region, the area is now home to a thriving outdoor tourist destination thanks to its proximity to Canyonlands and Arches National Parks. The increase in tourism in the recent decades has led to a spike in commerce and housing throughout the region. The area is in the middle of a national north-south connectivity gap. From Los Angeles to Denver, there is no north-south interstate, making US-191 a vital freight route for the western half of the United States. US-191, or Main Street in downtown Moab, traverses the study area and brings high levels of freight traffic through the community.

Community Profiles

Population

The current population in Grand County is 9,544 people and 15,281 people in San Juan County. According to growth forecasts, both counties will experience population growth of approximately 50% over the next 40 years (Figure 3.1).

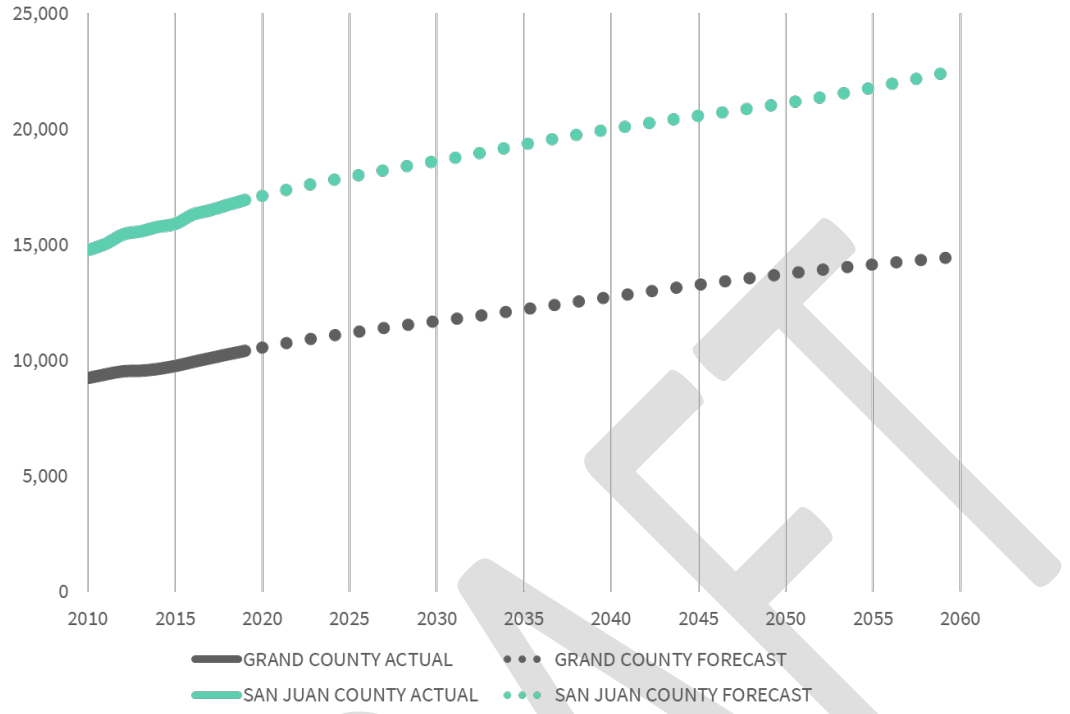


Figure 3.1: Population Growth Forecasts (Kem C. Gardner Policy Institute, 2017)

When examining the two study area counties' population by age group, San Juan County tends to skew younger, with over one-third of the population being 19 years old or younger and 54% of the population being 34 years old or younger. Grand County has different age patterns, with over a third of residents being age 35 to 59 (Figure 3.2). This different distribution of ages can have transportation planning impacts as younger, working-age populations may have different mobility needs than older adults.

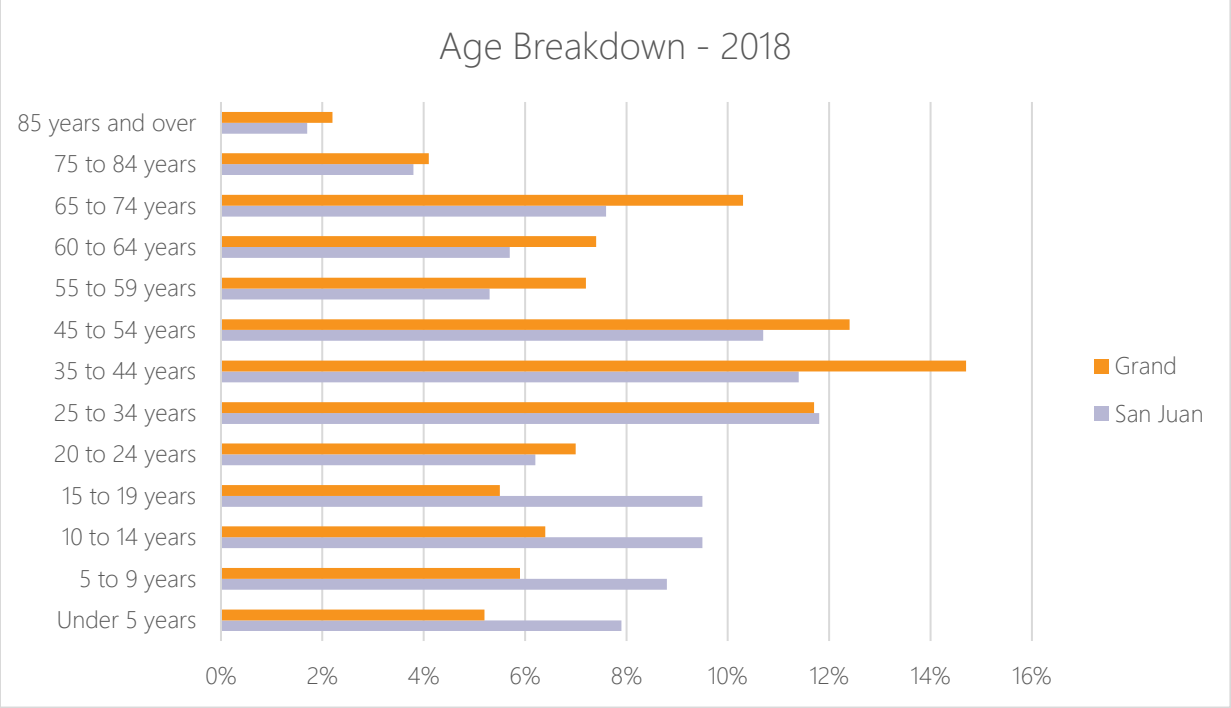


Figure 3.2: Population Breakdown by Age Group (ACS 2018 5-year estimates)

Demographics

The median household income in Grand County is $46,658. San Juan County has a $44,680 median household income.

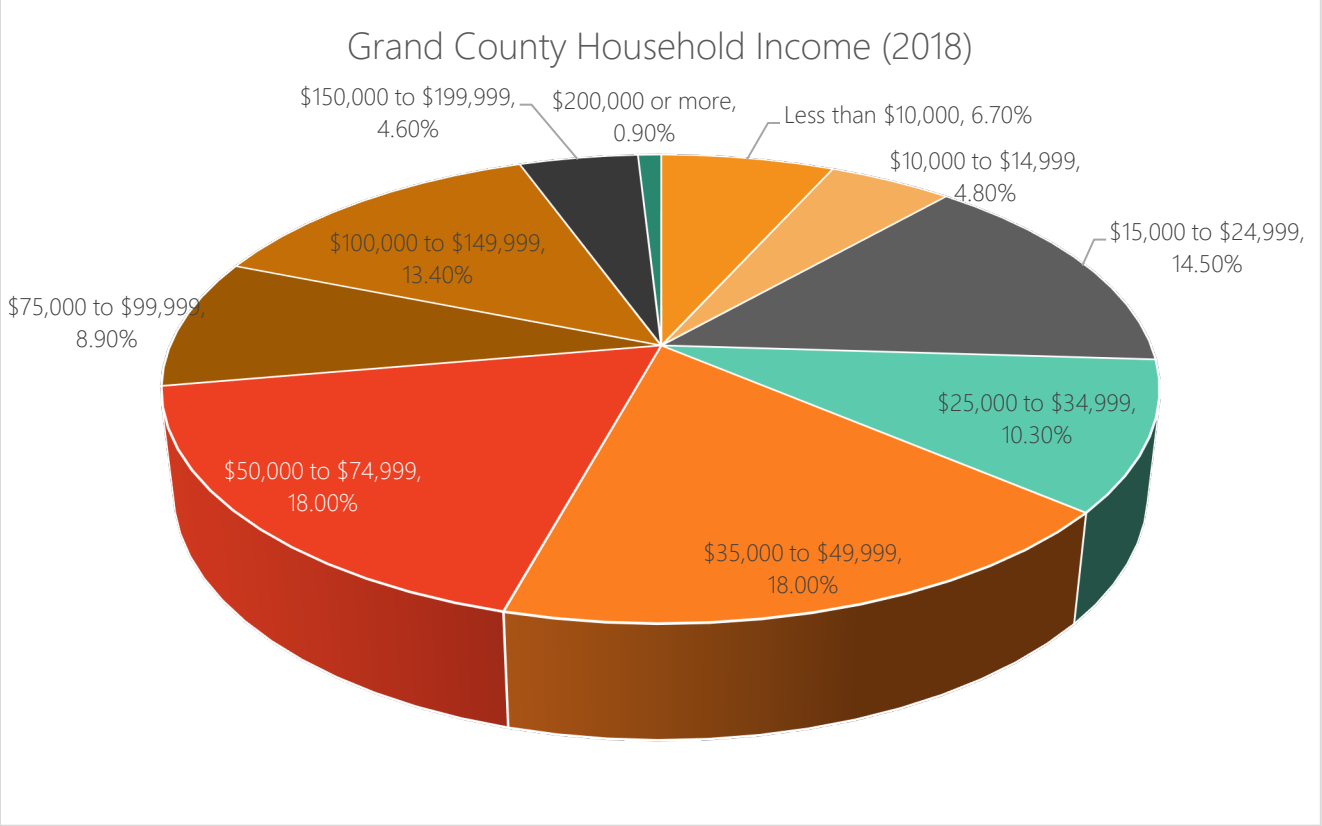


Figure 3.3: Grand County Household Income (2018)

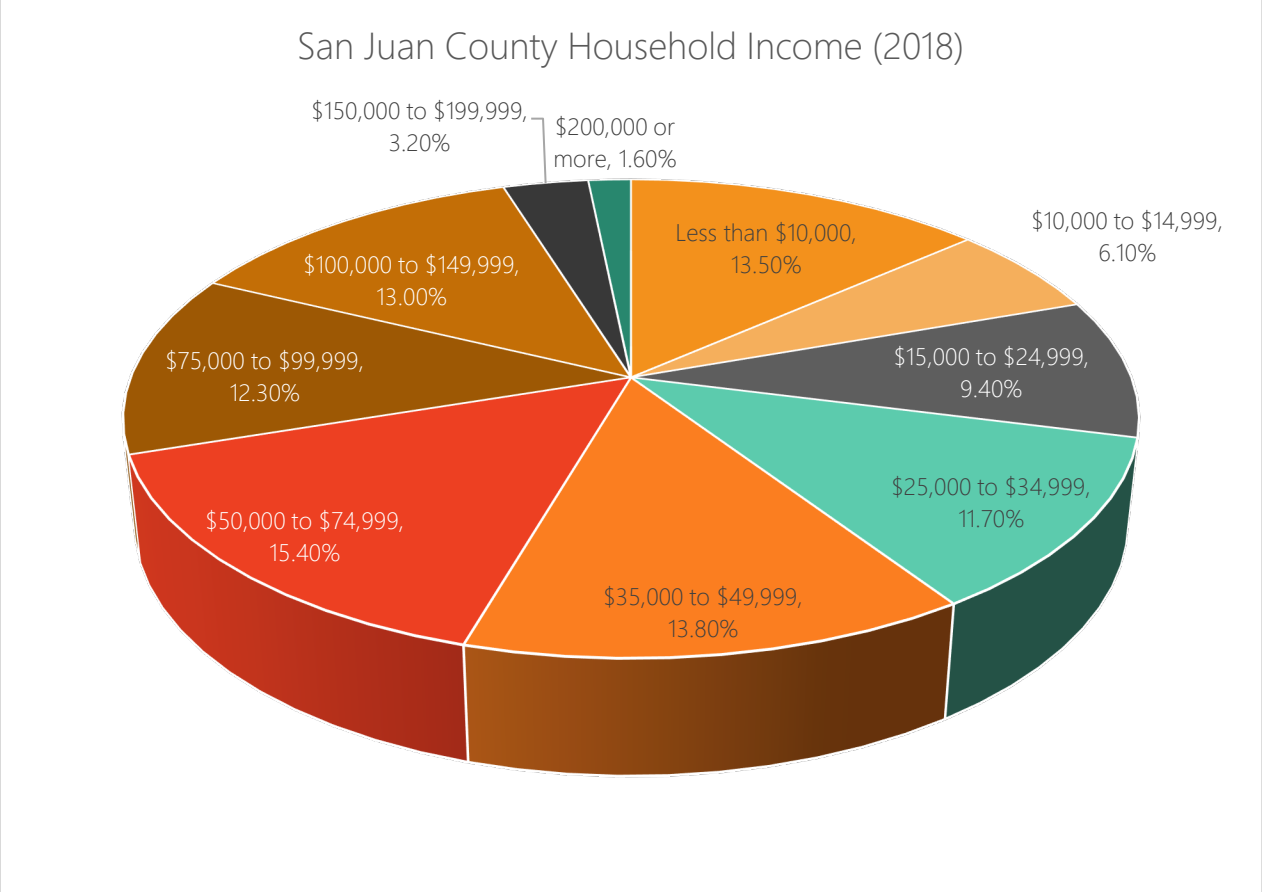


Figure 3.4: San Juan County Household Income (2018)

Driving alone represents the predominant travel mode in both Grand and San Juan Counties. However, Grand County has a 9% lower commute share of individuals driving alone and also a higher share of people carpooling. This suggests that the land use patterns and relatively higher density in Moab allows for more mode choice when commuting. Figure 3.6 shows the overall commute trends for Grand and San Juan Counties; the share of individuals living and working in Grand County is higher than in San Juan County. On average, Grand County residents also have shorter commutes, with 70% of workers having a 10-19 minute commute vs. 55% in San Juan County.

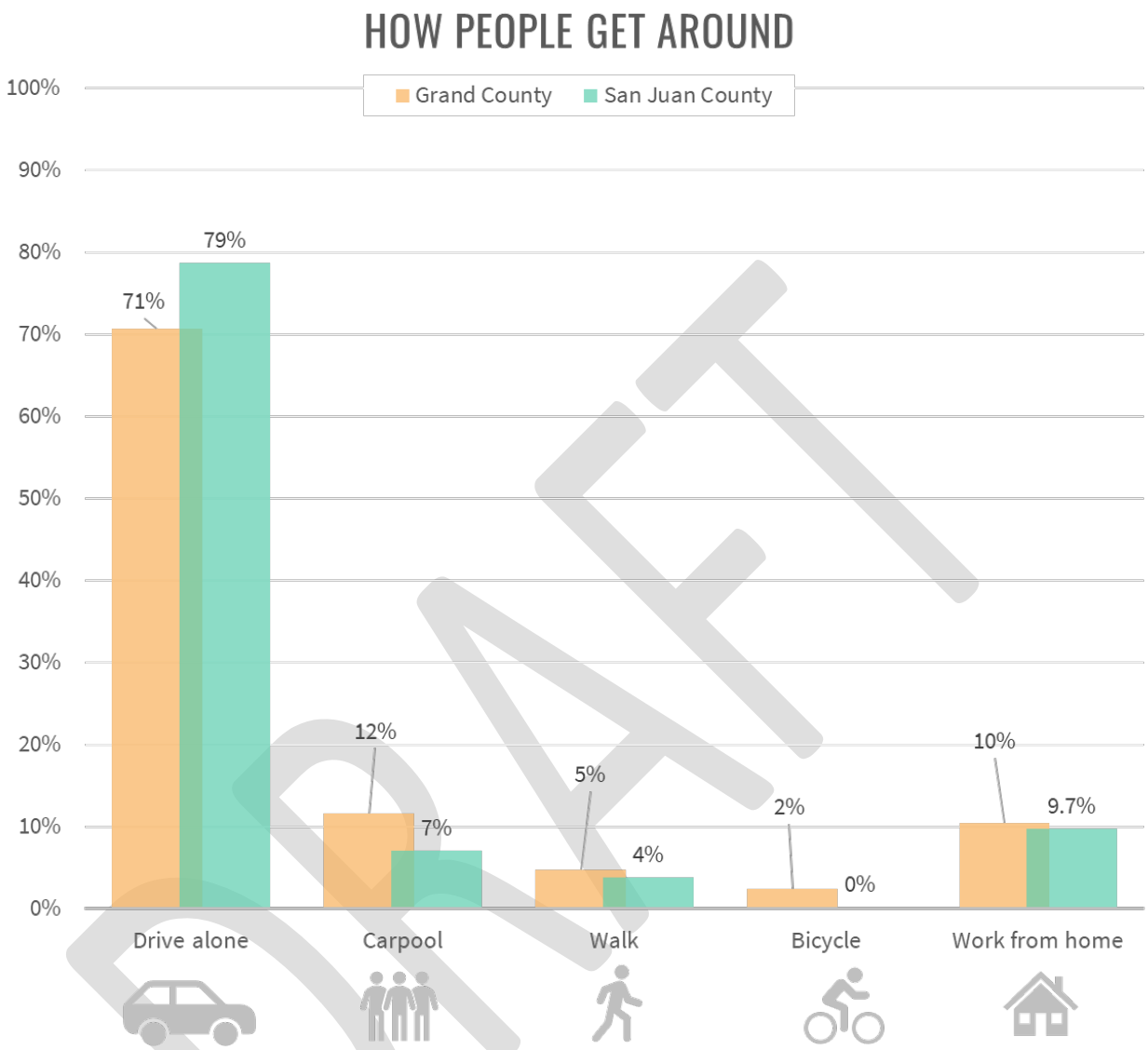


Figure 3.5: Commute Mode Split (ACS 2017 5-year estimates)

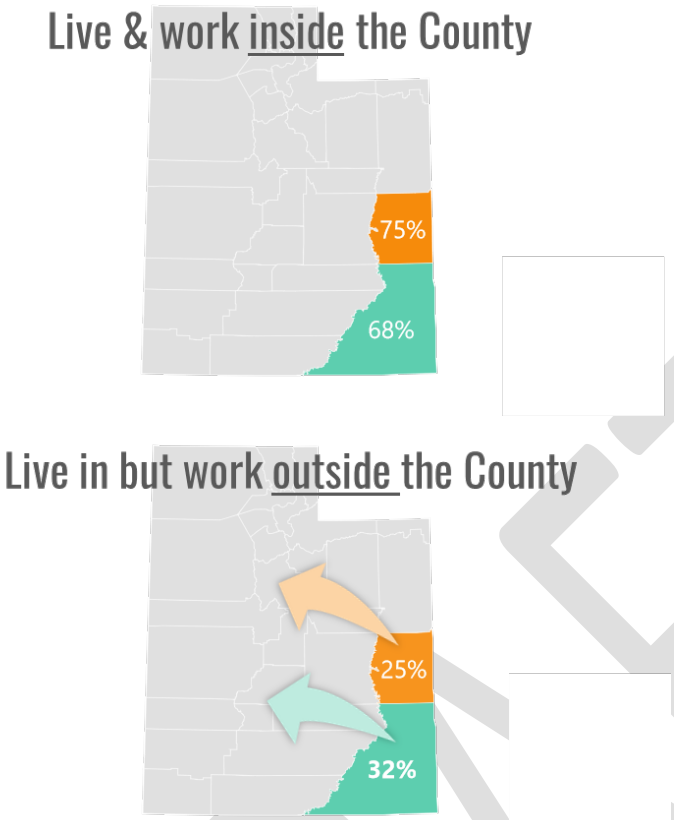


Figure 3.6: Commute Patterns (Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics, 2017)

Economic Data

The regional economy is heavily influenced by tourism, which in turn influences transportation patterns. Figure 3.7 shows steadily increasing visitation to both National Parks in the study area, with Arches National Park experiencing a significant rise in popularity over the past decade. Arches and Canyonlands visitors spent approximately $247 million in 2019, which resulted in nearly $319 million in economic output in the study area, which does not factor in the labor income for park employees residing in the region (Figure 3.8). A breakdown of 2019 visitor spending is shown in Figure 3.9.

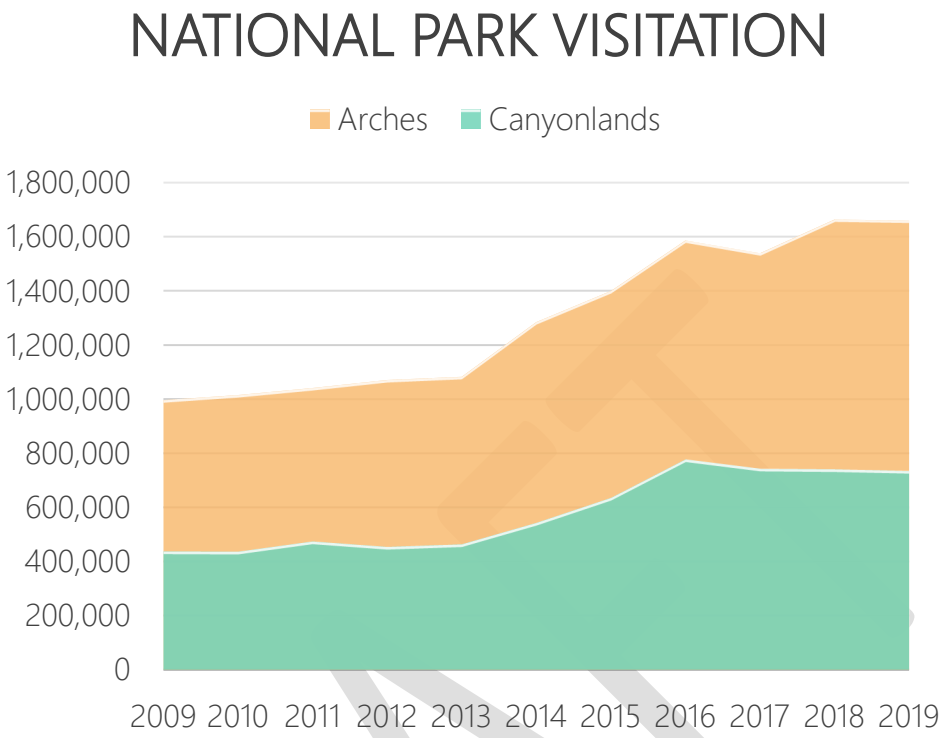


Figure 3.7: National Park Visitation 2009-2019 (National Park Service)

Figure 3.8: National Park spending vs. economic output (National Park Service)

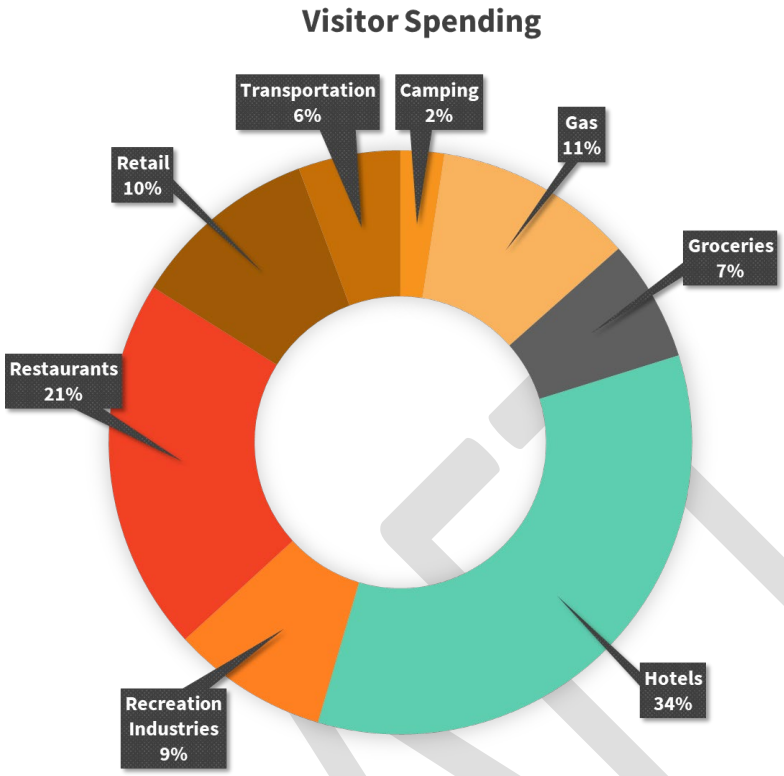


Figure 3.9: Breakdown of National Park visitor spending (National Park Service)

Existing Plans

There are several plans that provide great information for this Plan. Among them are:

Moab Transportation Plan (2004)

The Moab Transportation Master Plan (TMP) outlines several short-term and long-term projects, notably a bypass feasibility study, implementation of an emergency vehicle pre-emption system, traffic calming infrastructure, and active transportation safety improvements.

Spanish Valley Area Plan (2018)

San Juan County adopted the Spanish Valley Area Plan to guide future development in the San Juan County section of the Spanish Valley. The plan outlines mixed-use community cores with larger residential lots on the perimeter. Recreational areas should be linked with active transportation infrastructure. Service roads along US-191 should be constructed to serve new development.

Moab Downtown Plan (2019)

The Moab Downtown Plan summarizes residents' visions for downtown Moab amidst its growing tourist popularity. Due to the high levels of freight traffic along SR-191/Main Street, residents would

like traffic calming and congestion mitigation improvements, along with increased opportunities for active transportation. The community also noted that the Main Street corridor needs a balance of tourist and resident retail opportunities along with a unified community character in the downtown area.

Other Plans

The City of Moab, Grand County, and UDOT have conducted several other plans in the study area:

- US-191 Corridor Preservation Study (2015) – Grand County
- Arches Area Recreation Hotspot (2018) – UDOT
- Main Street Moab Bypass Planning Study (2018) – UDOT
- Moab Parking Study (2019) – City of Moab
- Spanish Valley Access Management Plan (2018) – Grand County
- US-191 Truck Parking Study (2019) – UDOT

Common Themes

With US-191 as a main thoroughfare, the area has been working to develop solutions to maintain a communal feel for the growing residential and tourist community while still providing important north-south highway access for freight and other through traffic. A bypass or limited access highway can provide economic benefits for freight, while traffic calming measures, active transportation infrastructure, and community centers achieve common goals of the residential and tourist population.

Roadway Network

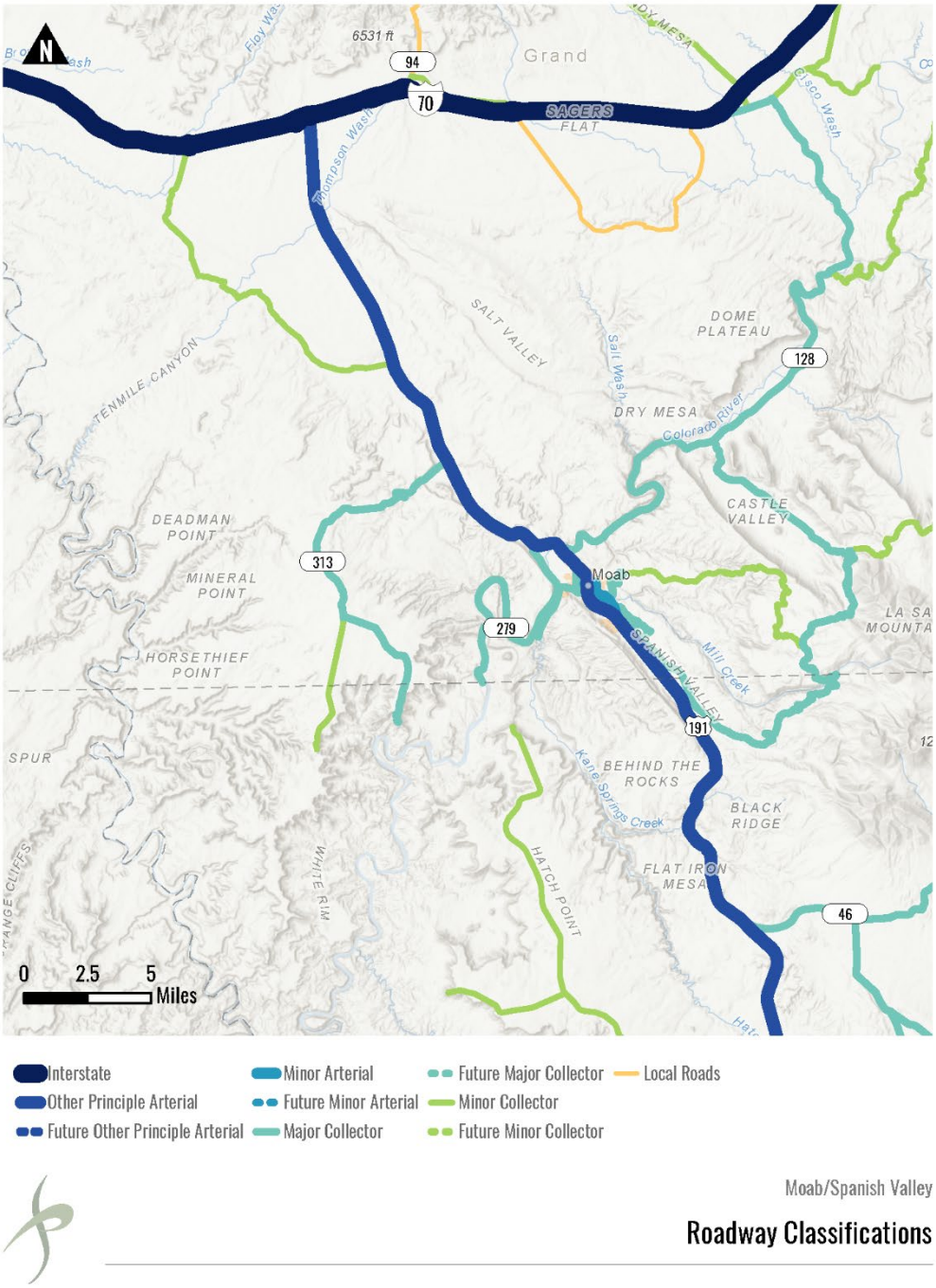


Figure 3.10: Roadway Functional Class Map (UDOT)

Traffic

AVERAGE DAILY TRAFFIC (ADT)

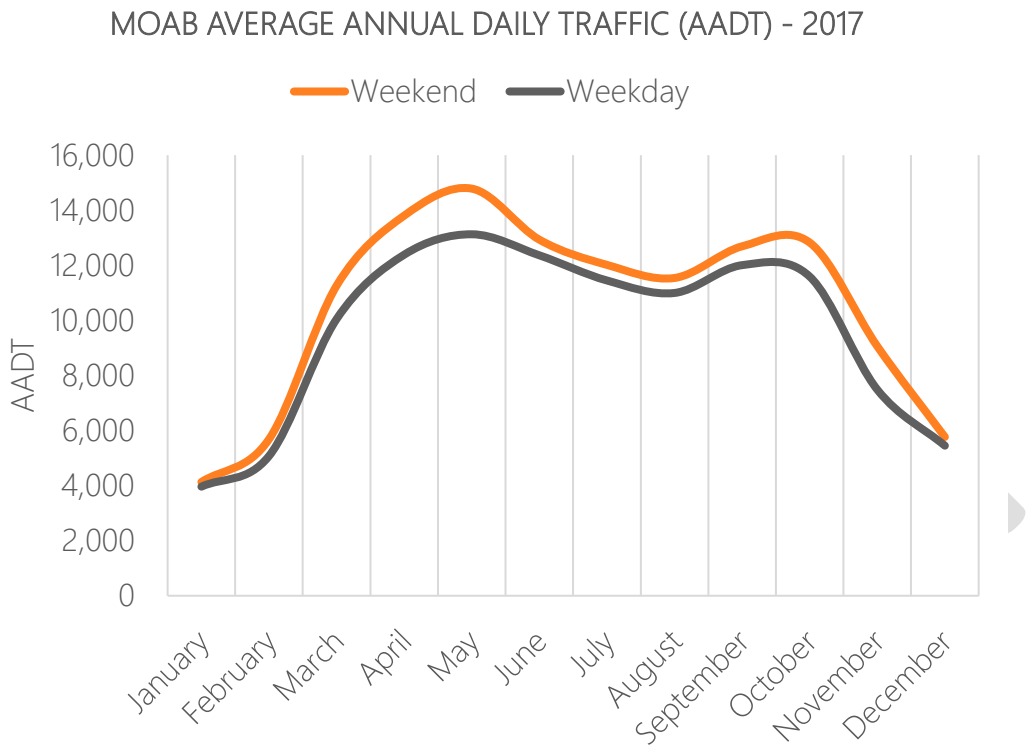


Figure 3.11: Average Daily Traffic along SR-191 (0.2mi north of SR-279 in 2017). (UDOT)

UDOT has a network of permanent automatic traffic counters throughout the state. One is located on US-191, just south of the entrance to Arches NP. The ADT demonstrates the seasonal travel peaks into and out of the Moab area. May and September are peak months, with a slight dip in the summer months and a large decline in traffic during the winter months. Other tourist areas in Utah experience tourist peaks. However, they tend to occur during the summer months, as shown below:

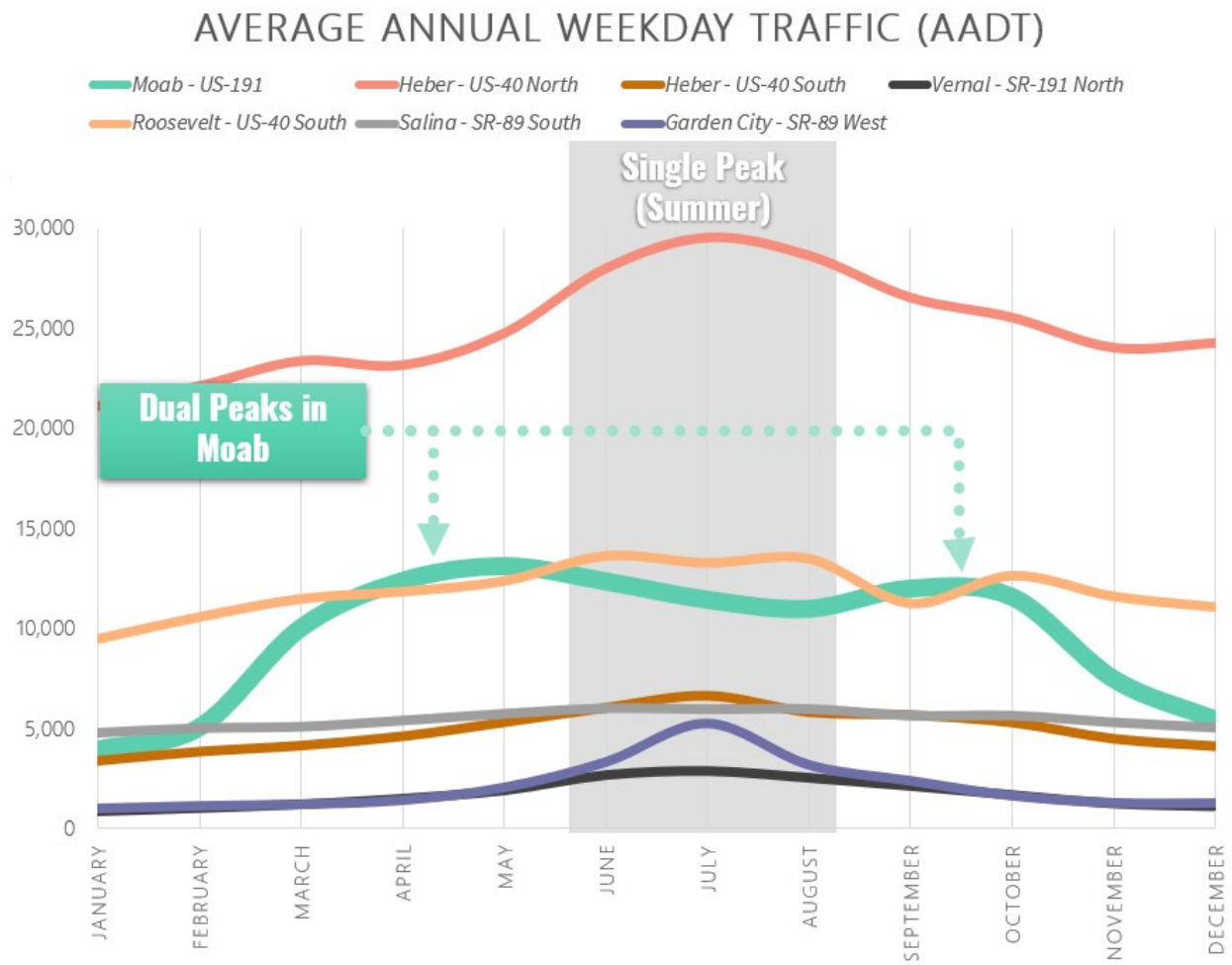


Figure 3.12: Average Daily Traffic from 2017 in similar tourist communities. (UDOT)

While many similar Utah tourist communities experience a single traffic peak during the summer months, the Moab area is unique in its dual peaks during late spring and early fall.

Congestion - Volume to Capacity Ratios

The volume to capacity ratio – or v/c ratio – is commonly used to determine the ability of a roadway segment to accommodate the vehicular demand. A typical acceptable v/c ratio is below 0.73. According to the Utah State Travel Model, all roadway segments in the study area are under 0.70 and thus well within the acceptable v/c ratio during a typical day. Of course, this is different with the large influx of visitors on many weekends and during peak seasons. It was outside of the scope of this project to perform a detailed assessment analyzing the road network's ability to accommodate peak traffic.

Visitation Trends

With the two national parks (Arches and Canyonlands), Deadhorse Point State Park, and numerous recreational sites on BLM lands, the Moab & Spanish Valley area receives hundreds of thousands of visitors every year, with a recent increase in visitors, as shown by Figure 3.13 below.

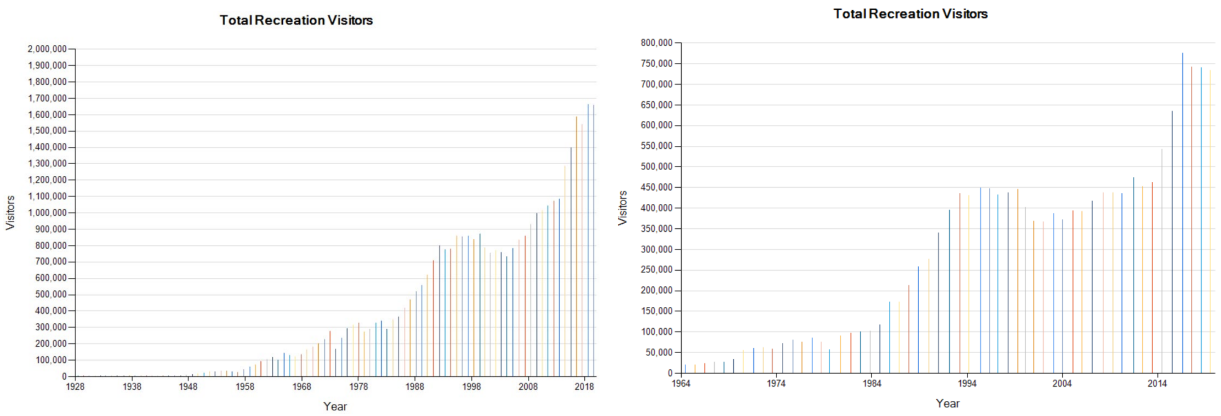


Figure 3.13: Arches and Canyonlands (respectively) National Parks Total Recreation Visitors (National Parks Service)

The influx of visitors contributes greatly to the area's economy, as shown by the below figures.

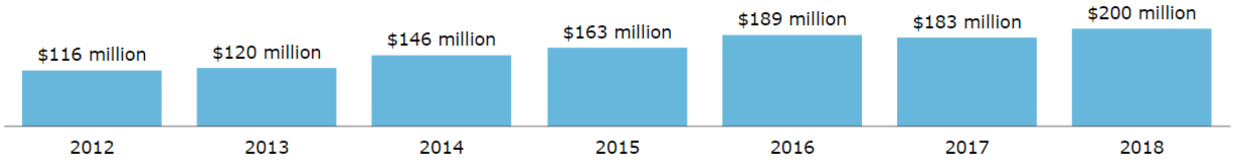


Figure 3.14: Arches National Park Economic Impact of Visitor Spending (National Parks Service)

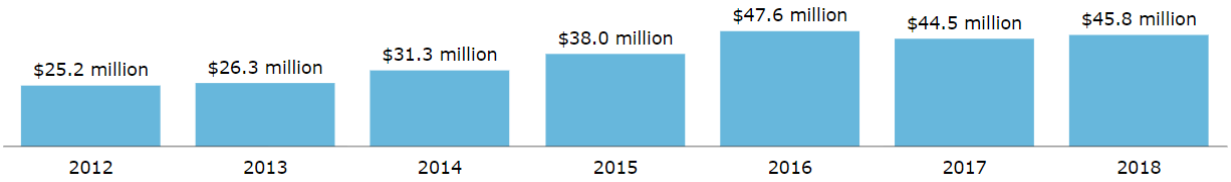


Figure 3.15: Canyonlands National Park Economic Impact of Visitor Spending (National Parks Service)

Access Standards

Access management is an important part of how a roadway system performs. Put more simply, the more driveways there are along a road, the lower it tends to function, meaning speed, volume, and safety. UDOT manages the accesses on their system in collaboration with local governments. There are adopted statewide standards that set thresholds for signalized intersection spacing, frequency of

accesses, and other design-related elements. These standards are applied using a number of factors and includes the needs of local land use access.

US-191 is an Access Category 2 from I-70 to the Colorado River bridge, requiring one mile between signals and 1,000ft between streets and driveways. From the Colorado River bridge to Sage Drive US-191 is an Access Category 7, requiring 1,320ft between signals, 300ft between streets, and 150ft between driveways. From Sage Drive to Lemon Lane, US-191 becomes an Access Category 4, which requires 2,640ft between signals, 660ft between streets, and 500ft between driveways. US-191 returns to an Access Category 2 south of Lemon Lane into San Juan County to the edge of the study area.

Bicycle and Pedestrian Network

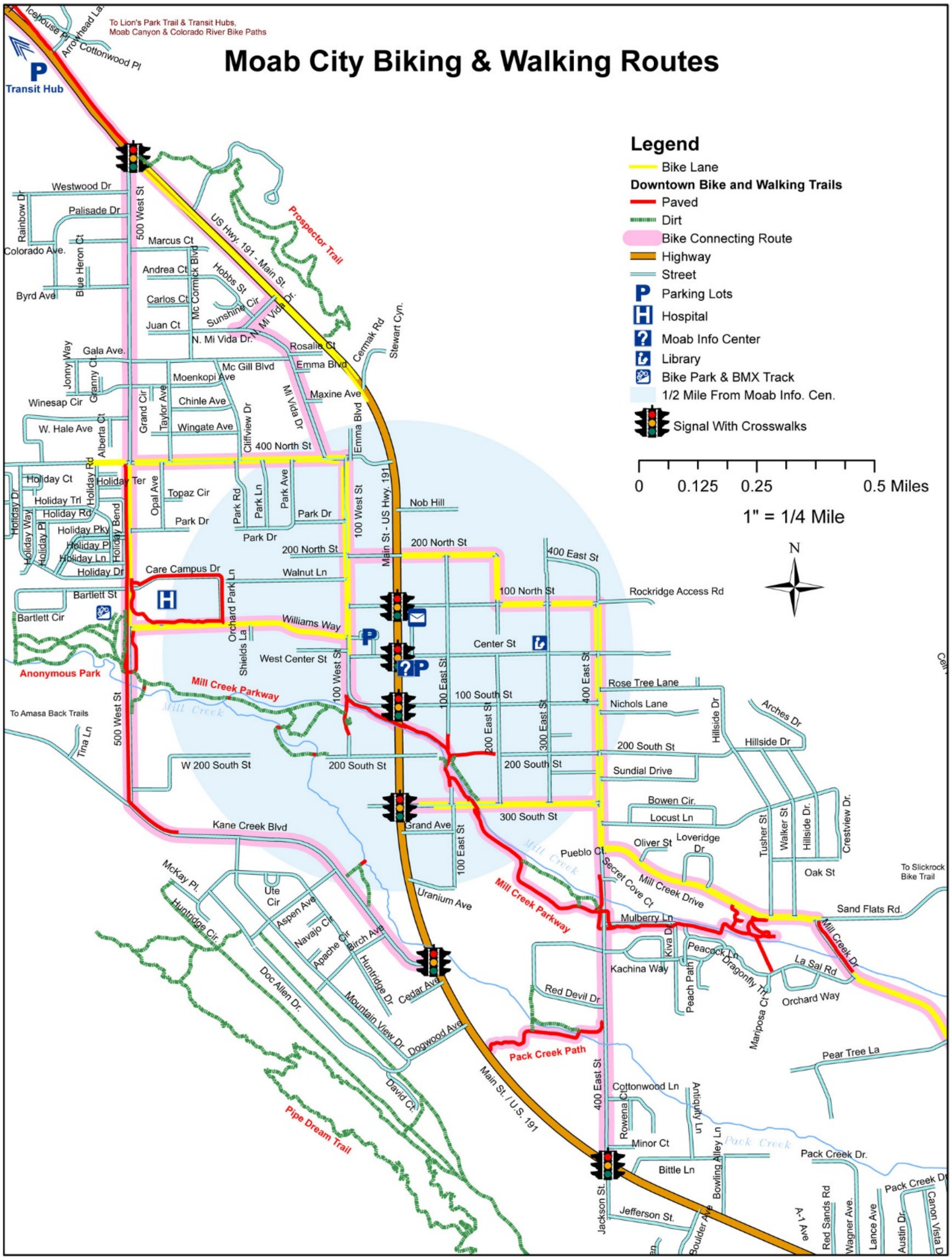


Figure 3.16: Moab City and Biking Routes (UDOT)

Notable Shared-Use Paths

The Moab Canyon Pathway connects the northern edge of Moab with Arches National Park, Canyonlands National Park, and Dead Horse Point State Park. A part of the SH-191 widening project, the Pathway will be extended south to Emma Boulevard.

The Mill Creek Parkway is a two-mile east-west facility that connects residential areas throughout Moab with Sand Flats Road and recreational opportunities to the east of the City.

The planned Millsite Riverside Trail will be constructed on the site of a former uranium mine and provide a connection to the North Moab Canyon Recreation Trail.

On-Street Facility Types

The City of Moab has striped bike lanes on a number of roadways, including 400 N Street, 500 West Street, and 400 East Street. Facility types include striped bike lanes and marked shoulders like the example shown below on 500 W Street (Figure 3.17).

Figure 3.17: Striped Shoulder Bike Lane in Moab

Transit

Private Providers

The study area does not currently have public transit service. The private providers listed below provide transportation service to tourists seeking trailhead access, access to the Moab Canyonlands Airport, and intercity service.

Canyonlands Shuttle

On-demand transportation provider serving airports in Utah, western Colorado, and northern Arizona, as well as connections to intercity bus and rail stations. In addition, Canyonlands Shuttle provides service to trailheads.

Moab Express

Provides airport service to Moab Canyonlands Airport and Grand Junction Airport.

Porcupine Shuttle

Provides bike shuttle service to trailheads, airport service to Moab Canyonlands Airport and Grand Junction Airport, and offers intercity shuttles for tourists on extended one-way bicycle or river rafting trips.

Raven Shuttle

Provides shuttle service to trailheads for bicyclists and hikers, airport service to Moab Canyonlands Airport, Grand Junction Airport, and Salt Lake City Airport, and offers intercity shuttles to destinations like Telluride or Durango.

Roadrunner Shuttle

Provides shuttle service to trailheads for bicyclists and hikers, river shuttles for rafting excursions, and airport transportation to Moab Canyonlands Airport, Grand Junction Airport, Salt Lake City Airport, and Telluride Airport.

Redrock Express

The Redrock Express is a private shuttle service that provides recreation tours in Southern Utah.

Coyote Shuttle

The Coyote Shuttle serves private excursions for biking, rafting, and hiking trips.

The Whole Enchilada

A private provider serving biking trips with trailhead access.

Freight

Freight Routes & Volumes

US-191 is considered a critical freight route stretching from the Canadian to the Mexican border. US-191 is a vital north-south freight route in a national interstate gap. No north-south interstates exist between Los Angeles and Denver, making US-191 an important connection. Freight makes up roughly 35% of all traffic along US-191 throughout the study area, according to UDOT data. The importance of this corridor is highlighted in UDOT's Statewide Freight Plan.

Truck parking is found throughout the corridor, although availability is not common around downtown Moab. New parking areas are planned for the southern portion of the roadway, while the existing parking area at Crescent Junction may potentially move to the southern leg of the interchange along US-191. This potential project is included in this RTP.

Unique Mobility Options

ATVs

All-Terrain Vehicles (ATV) that are registered as street legal and properly insured may use the roadway network for accessing trailheads.

The interface between transportation on public lands and the roadway network

There are several recreation areas and other public lands managed by the Bureau of Land Management that are on roadways served by US-191. These roadways serve All Terrain Vehicles, Recreational Vehicles, and other types of recreation-based traffic. The FHWA Federal Lands Access Program makes funding available for transportation planning efforts on publicly managed lands.

In addition, the North Moab Recreation Areas Alternative Transportation Project serves as a hub for connecting the private shuttle services described above with the shared use path system in the study area to help eliminate the need for driving passenger vehicles to access the region's non-motorized transportation options. The project includes the build-out of shared-use pathways to generate continuous enhancements in connectivity.

Safety

Crash Trends

Seven fatal motorist crashes occurred in the study area between 2017 and 2019. These crashes took place throughout the study area, and five were alcohol-related. The highest density of the remainder of the crashes occurred in downtown Moab.

Non-Motorist Crash Trends

From 2010-2019, 26 of 30 cyclist crashes took place in downtown Moab, and 24 of those crashes in downtown Moab involved another motor vehicle. 22 of 43 pedestrian crashes from 2010-2019 also occurred in downtown Moab. 12 of 43 pedestrian crashes from 2010-2019 resulted in fatalities. The majority of these crashes occurred in limited daylight hours.

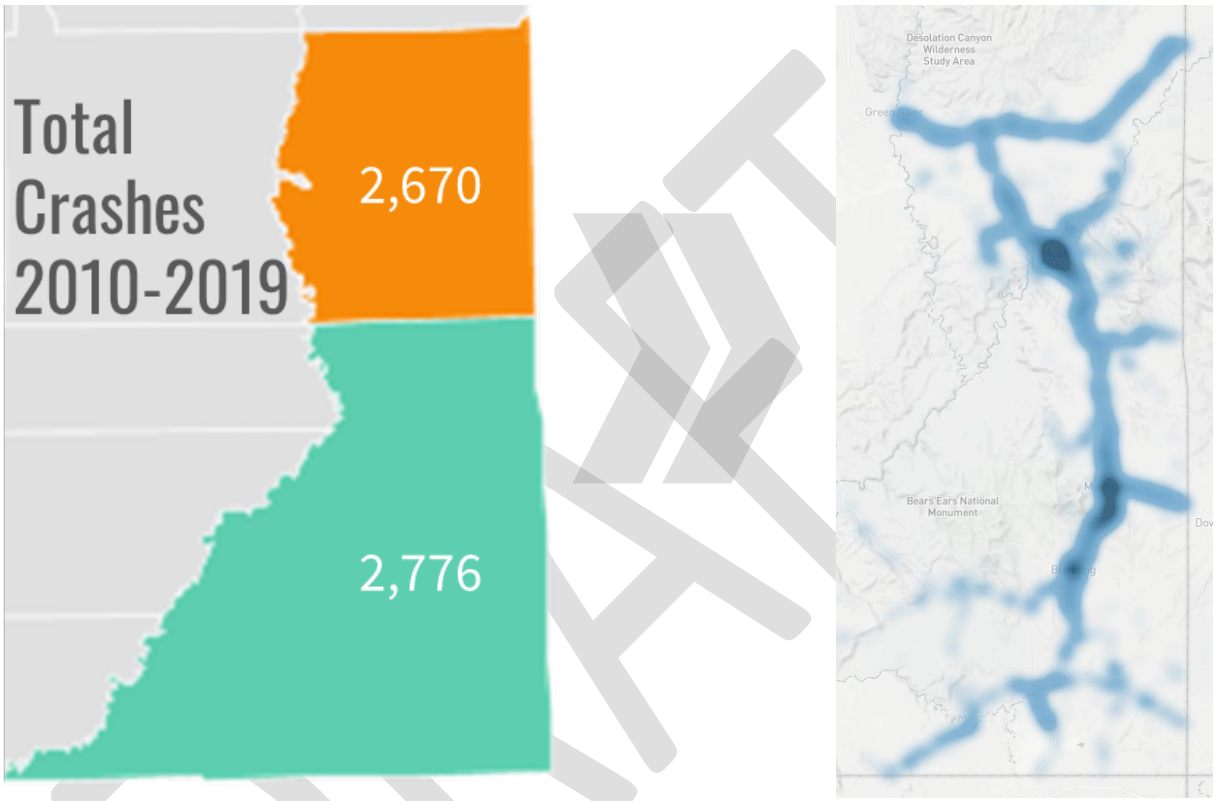


Figure 3.18: Grand County and San Juan County crashes 2010-2019. Data Source: Numetrics

Land Use & Zoning

As the Moab & Spanish Valley area grows, land use becomes very increasingly important. Below are maps describing the land uses and zoning of Grand County and Spanish Valley. There is significant development potential south of Moab, which, if realized, will require additional transportation infrastructure. The US-191 Access Plan that is featured in this Regional Transportation Plan explores opportunities for adding infrastructure that will help manage the future traffic demands generated by development in Spanish Valley.

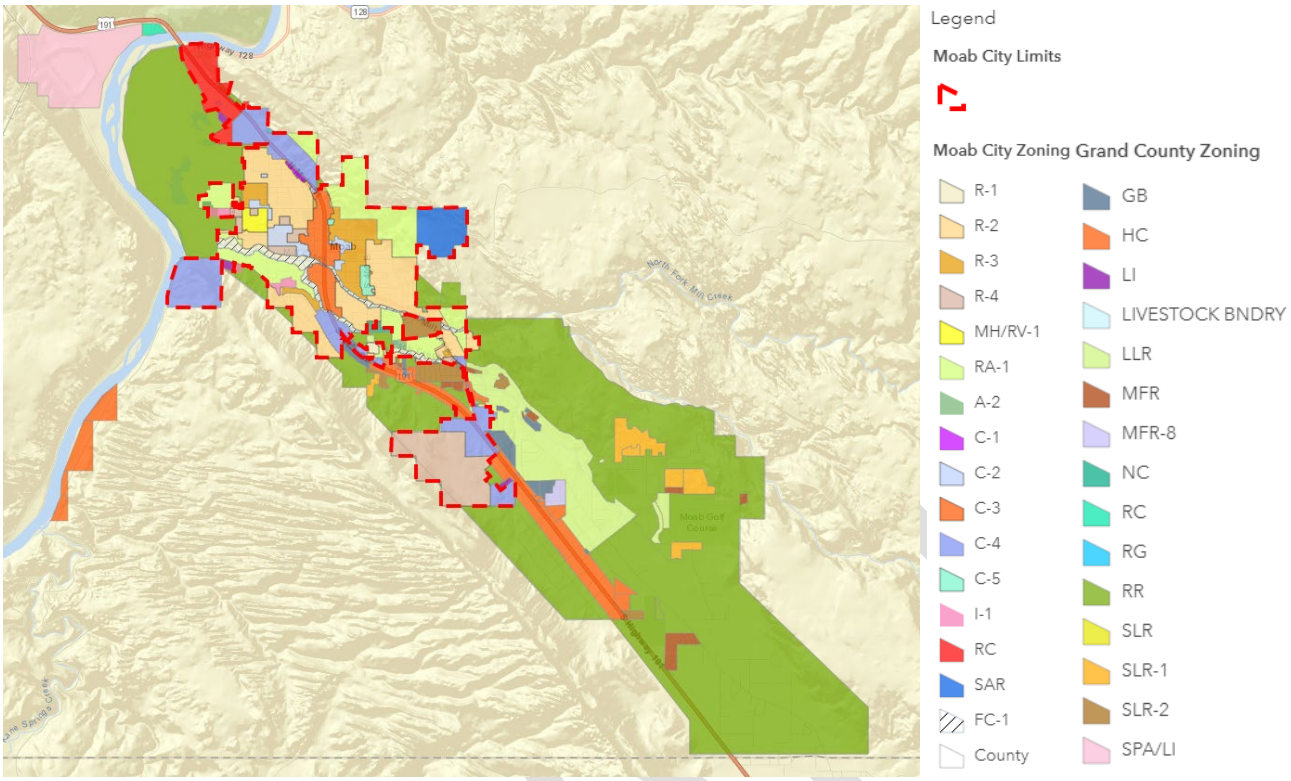


Figure 3.19: Grand County Zoning Map (Grand County)

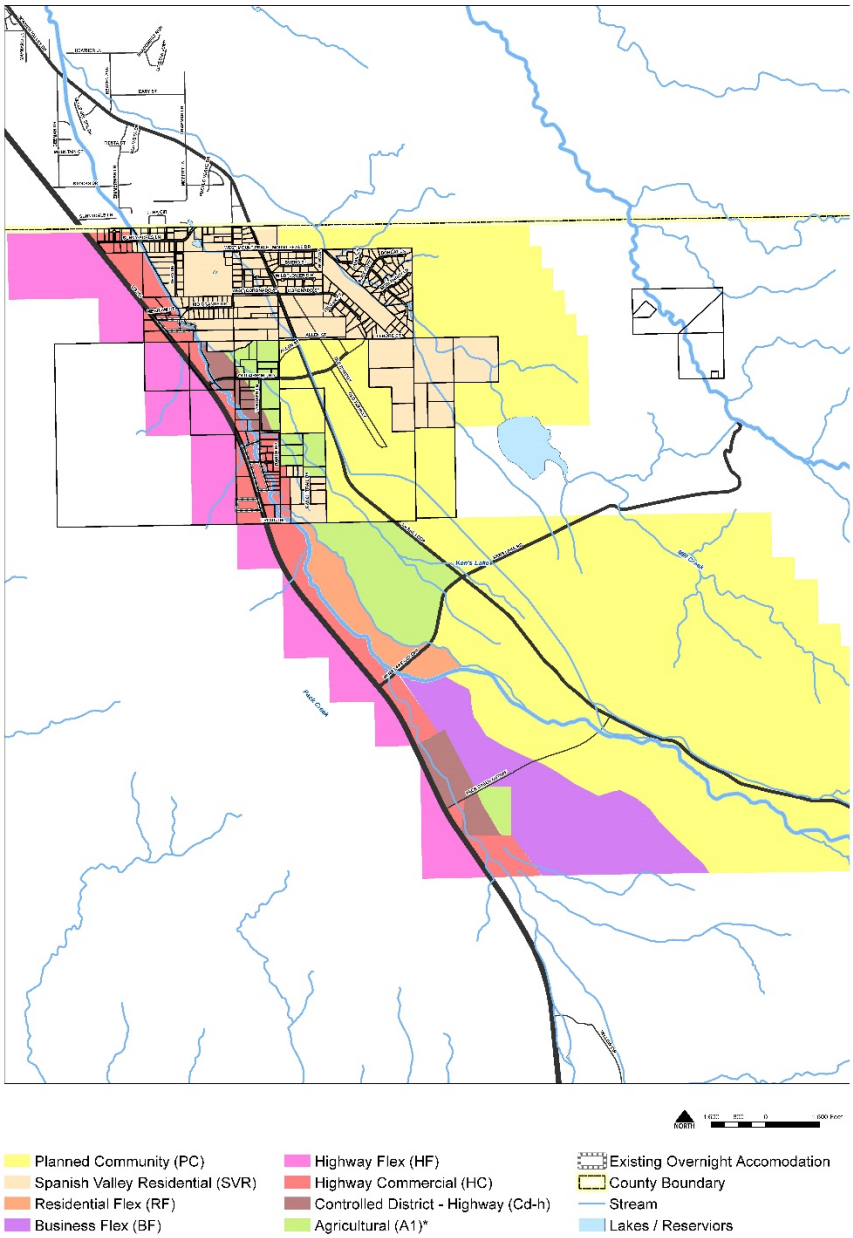
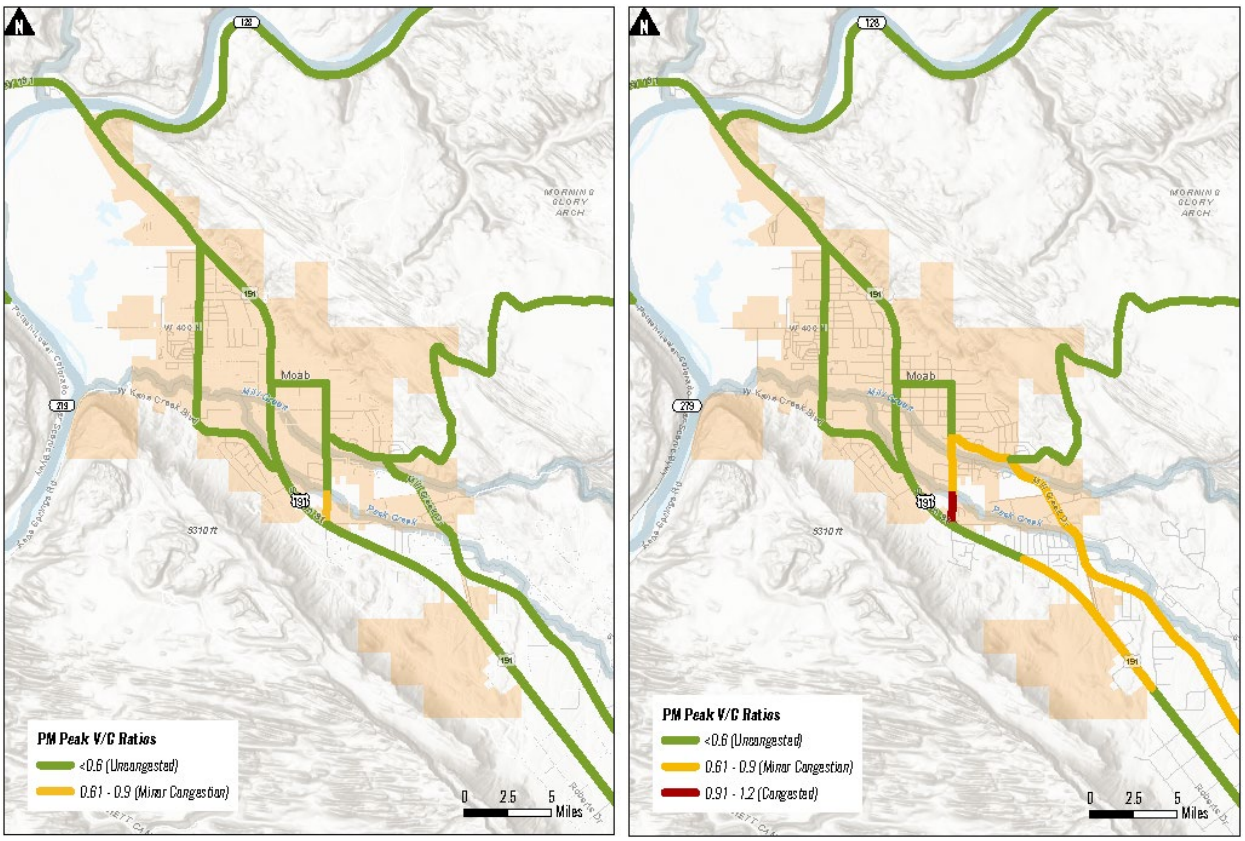


Figure 3.20: Spanish Valley Land Use Map (San Juan County)

Future Traffic Conditions

Traffic volumes are forecasted to grow in the study area but not sufficiently to outstrip existing roadway capacity in most of the study area. According to the UDOT statewide travel demand model, traffic volumes are forecasted to grow an average of 2.1% on the segments of US-191 that serve the study area. When examining future vehicle-to-capacity ratios in the study area, it was found that

some minor congestion exists during the PM peak period under existing conditions and that certain roadway segments in the study area will experience slightly more congestion in 2050 (Figure 3.21). It was found that in 2050, peak hour congestion may exist on US-191 through Moab City and that



Moab and Spanish Valley PM Peak Vehicle-to-Capacity Ratios (2019) *Moab and Spanish Valley PM Peak Vehicle-to-Capacity Ratios (2050)*

Figure 3.21: PM Peak Vehicle-to-Capacity Ratios (2019 - 2050) – (source: UDOT Statewide Travel Demand Model)

additional traffic is likely to utilize Spanish Valley Drive. This suggests a need for additional capacity through the southern portion of the study area by 2050.

Planned Projects

The Utah Unified Transportation Plan and the Statewide Rural Long-Range Transportation Plan (2019-2050) contain passing lane projects on segments of US-191 that are located in the study area (Table 3.1). These projects are the type of capacity enhancements that can help improve regional productivity and are thus also featured in this RTP.

Table 3.1: Planned Passing Lane Projects for US-191

Project Location	Description	Cost (millions)
US-191, Crescent Bench to I-70 JCT Passing Lane, MP 155.5 to MP 157	Southbound passing lane	$3.3
US-191, Canyonlands Airport to Klondike Flat Passing Lane, MP 143.9 to MP 145.4	Southbound passing lane	$5.2
US-191, Mill Canyon to Klondike Bluffs Passing Lane, MP 141.3 to MP 142.3	Northbound passing lane	$3.5
US-191, North Wilson's Arch to Looking Glass Arch Passing Lane, MP 100.8 to MP 102.3	Northbound passing lane	$5.2

Conclusion

This existing and future conditions analysis for the 2050 Moab and Spanish Valley Regional Transportation Plan has found that the region draws significant seasonal travel demand due to the local concentration of recreational attractions. Most visitors access their destination by driving, though there are private transportation providers that offer one-way trips for excursions and some intercity connectivity. Otherwise, there is a lack of public transportation service both locally and regionally. Moab has a multi-use path system that helps serve multi-modal demand, though active transportation facilities to the south into Spanish Valley are not available. The Regional Transportation Plan will explore opportunities for increasing transportation mode choice in the region while also addressing the heavy demand for vehicle access on US-191 through the study area.

Chapter 4 - Outreach

Project Management Team

The Project Management Team (PMT) consisted of representatives from UDOT, SITLA, Grand County, San Juan County, and the City of Moab. The PMT met monthly to discuss updates on RTP progress, review initial drafts of milestones, and provide local insights at critical junctures.

Stakeholder Committee

Development of the Moab & Spanish Valley Regional Plan was guided by an engaged stakeholder group representing the following agencies and groups:

- Utah Department of Transportation
- Grand County Council
- San Juan County Commission
- San Juan County Economic Development Department
- City of Moab
- National Park Service
- Bureau of Land Management
- U.S. Forest Service
- Utah State Parks
- Local business owners
- Residents

The stakeholder committee met regularly throughout the process, as detailed in the following section.

April 2020

The first stakeholder committee meeting took place on April 29, 2020. The meeting had originally been planned as an in-person event but was shifted online due to the COVID-19 pandemic that began at approximately the same time as the planning process. The meeting had 23 stakeholders in attendance and consisted of polling exercises intended to identify high-level concerns about the transportation network as well as a community vision for what mobility in the Moab & Spanish Valley region will look like in 2050. Figure 4.1 shows a sample activity from the meeting that involved project staff asking participants to develop a word cloud of the most pressing transportation issues facing the region.

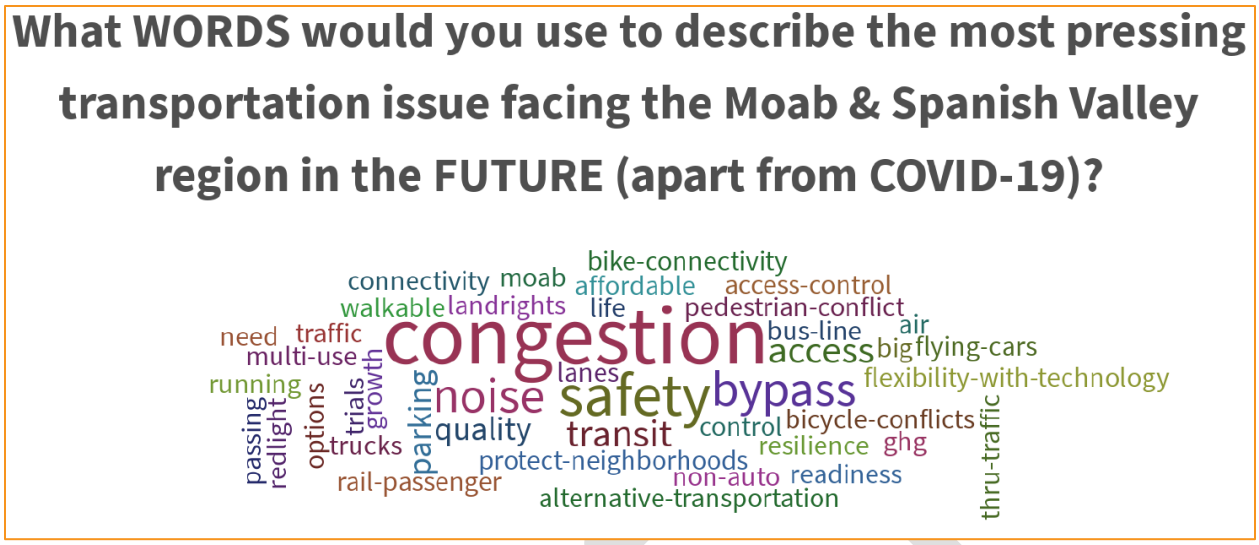


Figure 4.1: Sample polling exercise from the April 2020 Stakeholder Committee meeting

June 2020

The second stakeholder committee meeting took place on June 25, 2020. The project team reported the initial analysis findings and engaged the committee in an exercise to identify transportation issues at specific locations on a map and to also map ideas for potential solutions (Figure 4.2). The committee's input was used to form the initial list of recommended projects for the transportation plan.

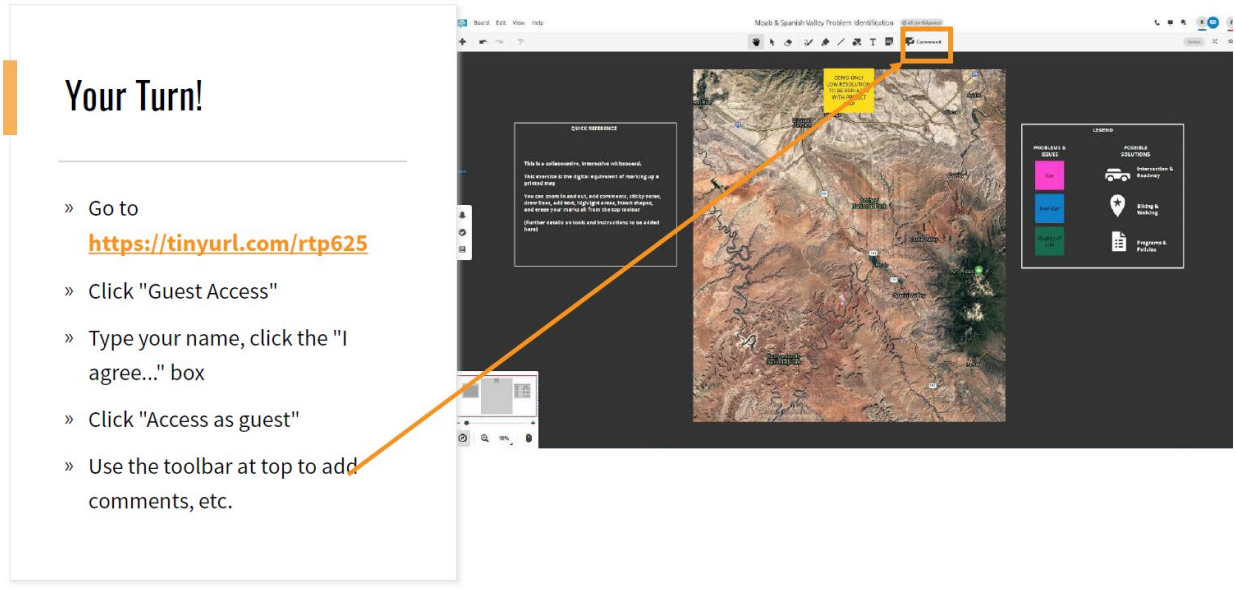


Figure 4.2: Crowdsourcing map exercise conducted during June 2020 Stakeholder Committee meeting

November 2020

A third stakeholder committee meeting was held on November 18, 2020. The committee reviewed the list of draft recommendations and shared input both verbally and through a polling exercise. One of the projects, the Moab Bypass, was discussed at length due to a lack of consensus on the appropriate location and extents. This project idea is profiled in more detail in the recommendations section.

Community Survey

A community survey was distributed via the project website from late October to mid-December 2020 and was completed by 277 individuals. The vast majority of respondents – 88% - of respondents live in the study area, suggesting that survey responses on regional transportation needs are skewed towards residents (Figure 4.3).

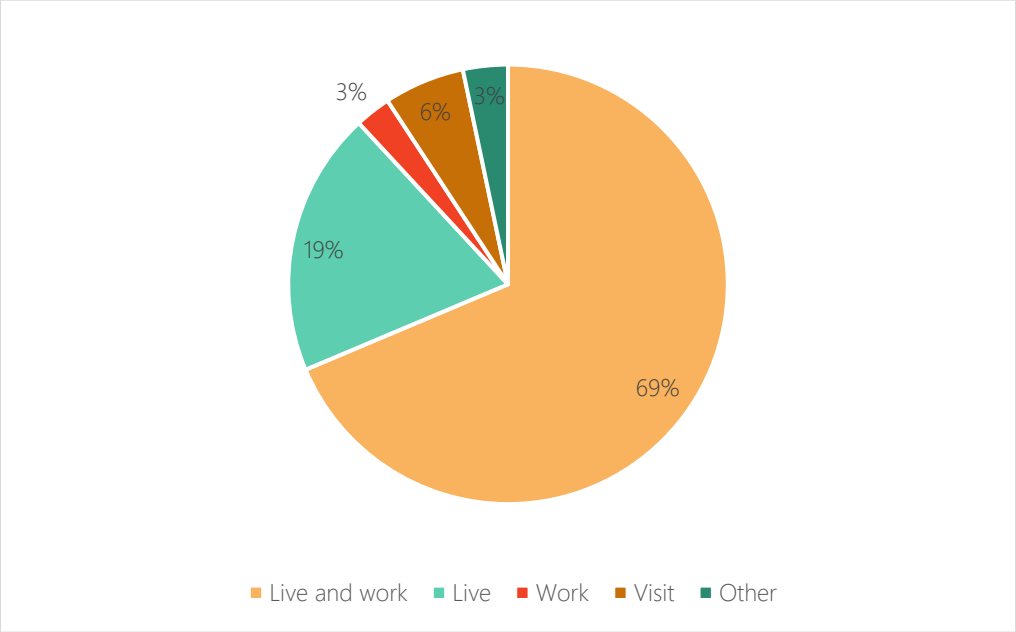


Figure 4.3: Respondent relationship to the region

When asked to rank the most pressing transportation issues facing the region, 55% of respondents indicated peak season tourism traffic as the top problem (Figure 4.4). No other single issue emerged as being especially pressing, though respondents indicated that freight truck traffic, safety, traffic-related noise and odors, and multi-modal travel challenges are all equally pressing. When asked to rank the goals of the Regional Transportation Plan, respondents indicated that enhancing quality of life and increasing connectivity for people walking and biking are the two most important goals (Figure 4.5). The results of the goals ranking diverged from responses to the question on pressing issues to which respondents identified multi-modal connectivity as a less pressing regional transportation issue.

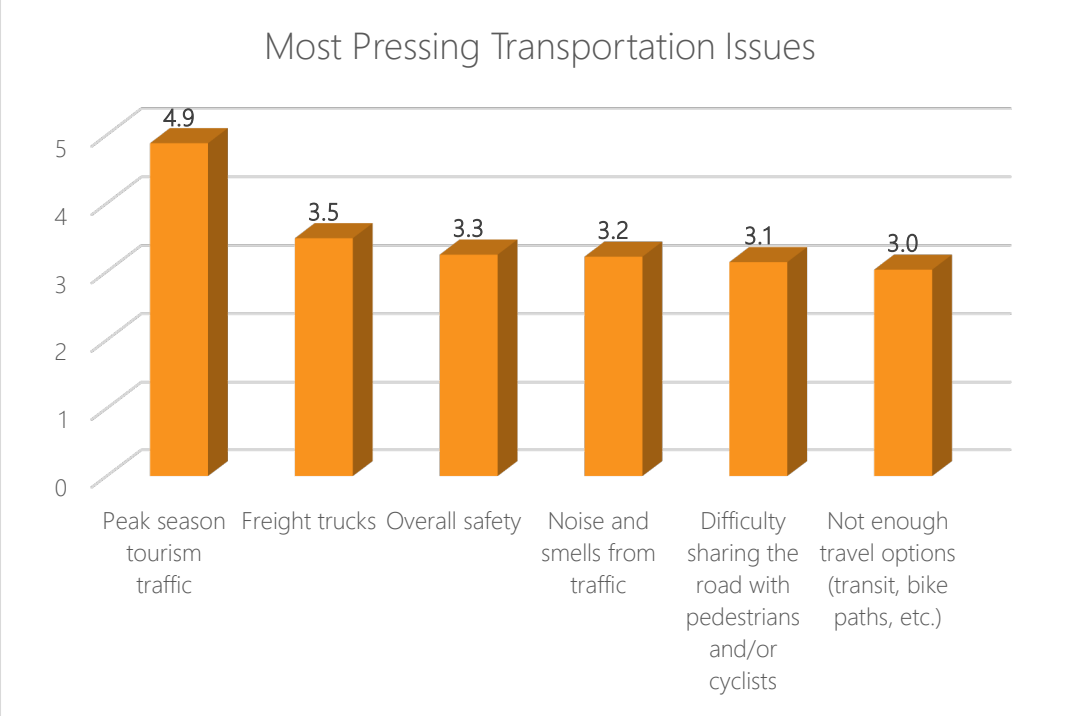


Figure 4.4: Most pressing transportation issues (ranked by composite score)

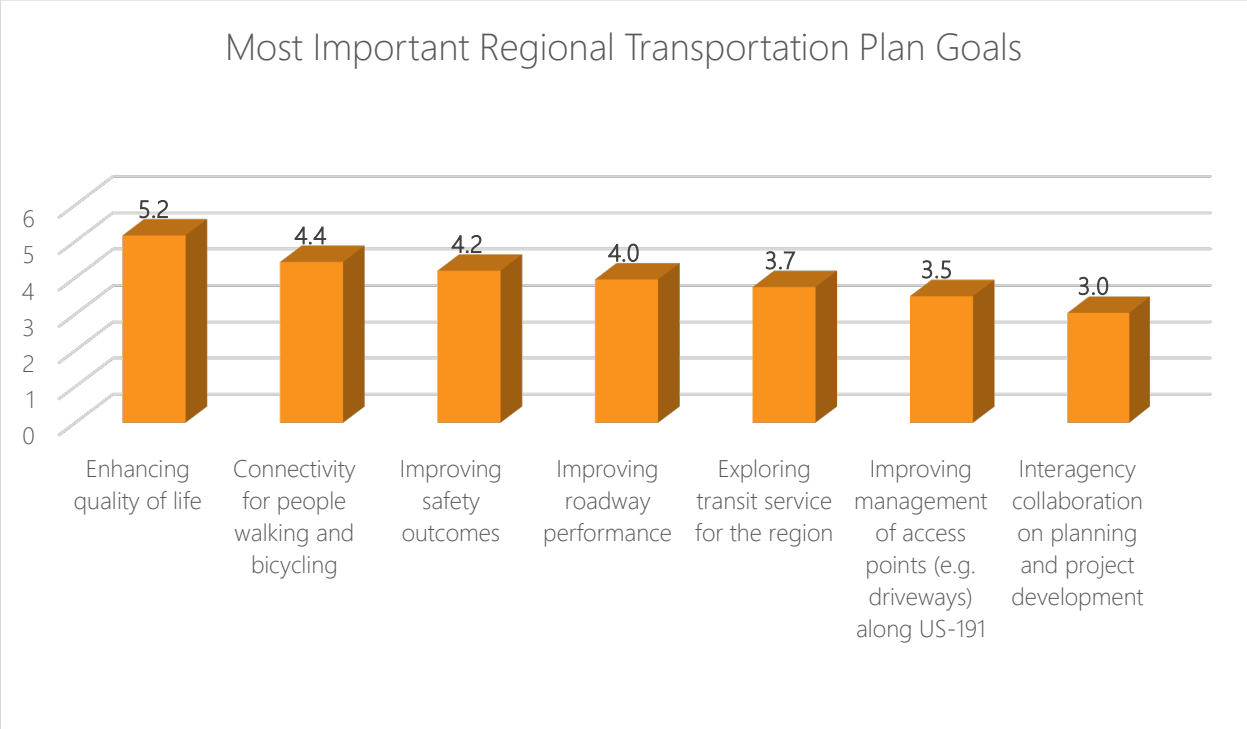


Figure 4.5: Most important Regional Transportation Plan goals (ranked by composite score)

The survey included questions regarding specific projects that may be incorporated into the Regional Transportation Plan:

- Frontage Roads on US-191
- Moab Bypass
- Extending the multi-use path network

Of the three projects, the extension of the regional bicycle network had the highest level of support, with 86% of respondents expressing support (Figure 4.6). The Moab Bypass had the lowest level of support, with approximately 27% of respondents identifying the potential project as a bad idea. The US-191 Frontage Roads project was also relatively well received, with 56% of respondents showing some level of support. However, 17% of respondents indicated a need for more information on the project, which suggests a need for awareness building on the potential benefits of frontage roads and access management.

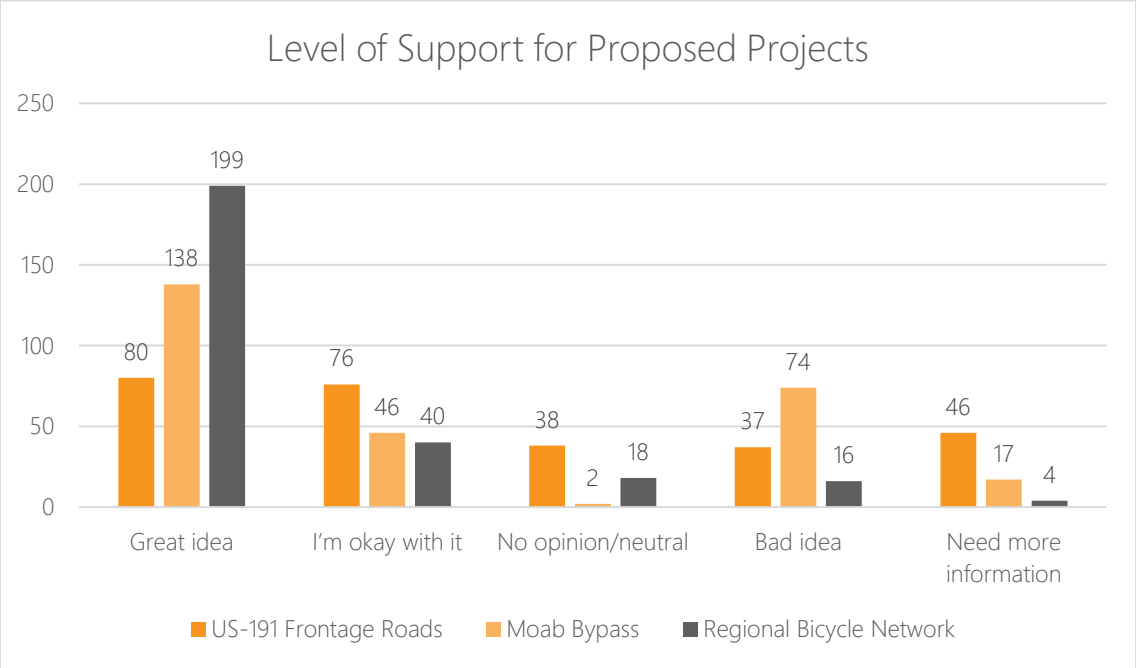


Figure 4.6: Level of support for three specific proposed projects

Chapter 5 - Peer Communities

The profiles in this report provide an overview of strategies five peer communities around the country are employing to address the most pressing transportation issues identified in Moab and the Spanish Valley. Some of those pressing issues include seasonal traffic congestion, lack of choice in transportation mode, and the need to identify transportation demand management tools that are relatively low cost.

The five peer communities profiled in this report are:

1. West Yellowstone, Montana
2. Sedona, Arizona
3. Grand Junction, Colorado
4. Sandpoint, Idaho
5. Aspen, Colorado

This investigation of peer communities found that seasonal travel demands can often be addressed through a combination of small investments into providing an option other than driving and pairing that new option with building effective public awareness. Minor enhancements can result in significant improvements.

West Yellowstone

The community of West Yellowstone, Montana, faces congestion challenges during the summer months due to its role as a gateway to Yellowstone National Park. A 2019 Gateway study identified opportunities for improving circulation as a strategy for mitigating congestion. It found that improvements could largely be achieved through a wayfinding program that could direct drivers onto under-utilized routes (Figure 5.1).

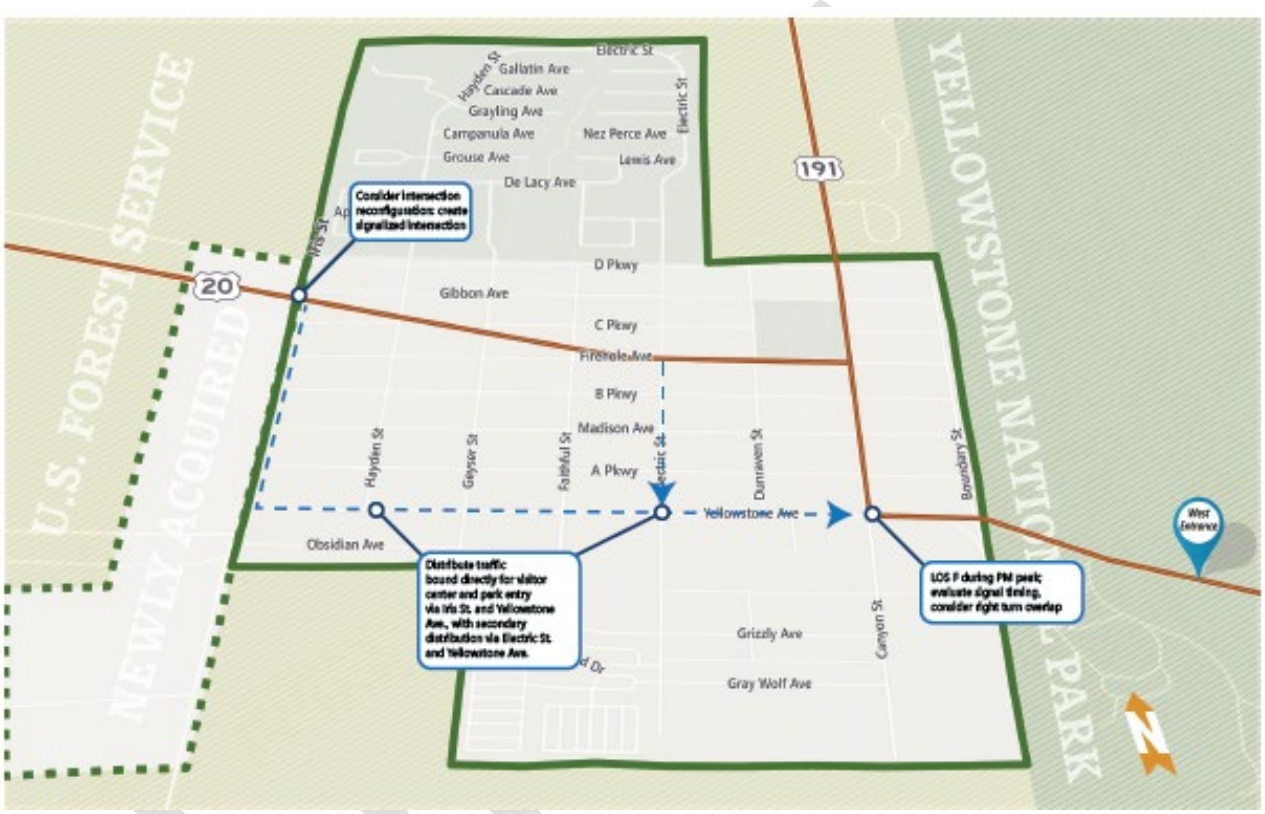


Figure 5.1: Recommended West Yellowstone Circulation Enhancement (Fehr & Peers)

The Gateway study also examined two additional issues brought up by members of the community: walkability and lack of parking. The study found that enhanced opportunities for walking could be achieved through adding a limited amount of crossing enhancements like pedestrian actuated signals that would make the crossing of US-20, the main roadway through the study area, feel safer and thus open up additional opportunities for walking trips. In addition, public outreach participants expressed concerns regarding a lack of availability of on-street parking. A subsequent parking study revealed that while utilization is high on certain blocks, there are many blocks in the study area that consistently have open parking spaces throughout the day. This suggests that a perceived parking supply issue can be solved through signage directing drivers to under-utilized parking spaces, which can help eliminate circling and related congestion.

Sedona

Sedona, Arizona, faces some similar regional transportation challenges to Moab and the Spanish Valley as a relatively small population center with access to popular and unique outdoor recreation settings that stimulate a high level of tourism-related congestion. Sedona's recent Transportation Master Planning effort, *Sedona in Motion* (Figure 5.2), pinpointed the area's travel challenges and provided targeted strategies for reducing congestion while improving the visitor experience.

Sedona recently completed a transit plan to develop a visitor-oriented shuttle that would extend transit service into Oak Creek Canyon (Figure 5.3). This additional service would provide transportation to a popular destination that is currently only accessible by driving. This service could be established through existing partnerships with agencies like the U.S. Forest Service and Arizona State Parks. A partnership agreement would provide the needed transit resource without needing to make large investments in a transit system.

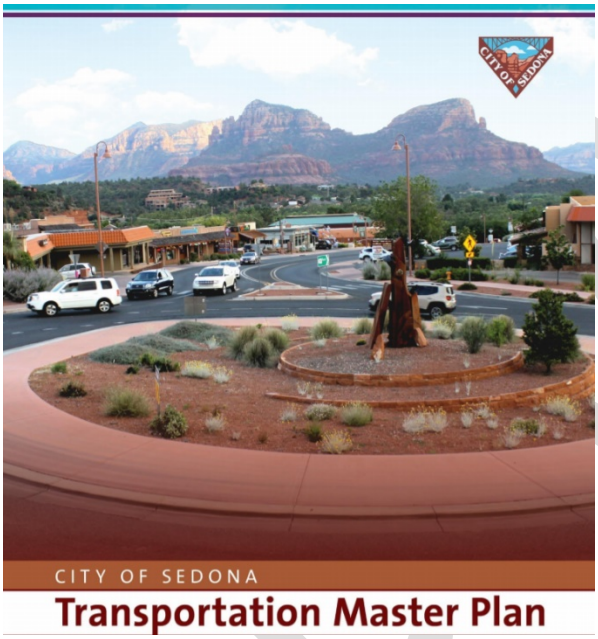


Figure 5.2: Sedona in Motion plan

Sedona in Motion also identifies dynamic signage as one of the key strategies for alerting travelers to where recreation areas are over capacity, about travel time on key corridors, and about alternate routes. Arizona Department of Transportation is partnering with Sedona to help deploy this technology.

Another strategy being considered is a time entry system for Slide Rock State Park and Oak Creek Canyon – both high-demand recreation sites. The timed entry system would serve the double purpose of managing vehicle flow into and out of the recreation sites while also encouraging more use of the proposed shuttle system.

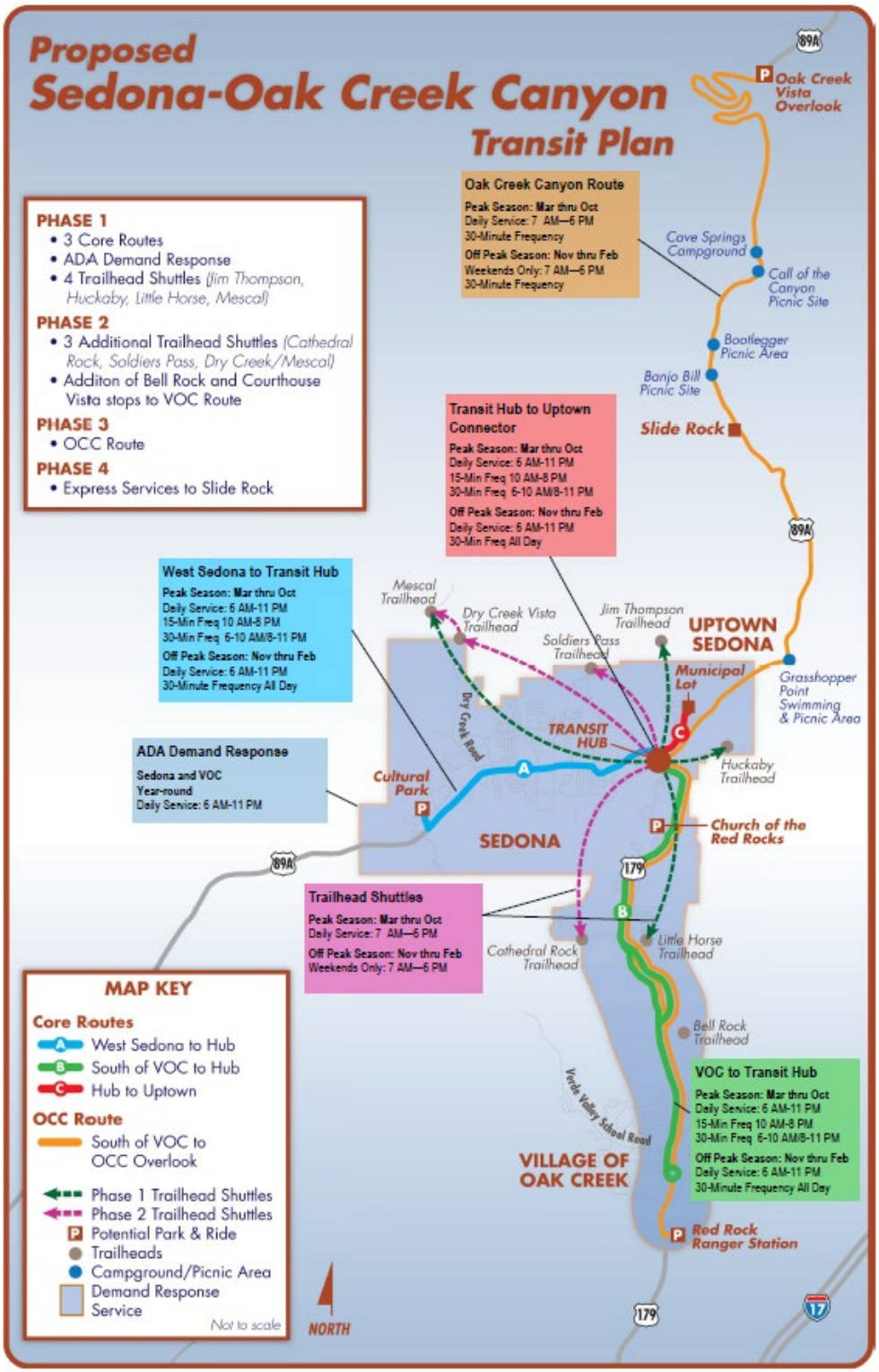


Figure 5.3: Proposed Sedona Transit Plan

Grand Junction

Grand Junction is similar to Moab in terms of being a destination for outdoor recreation activities like mountain biking and being situated near a large amount of federally managed land. Grand Junction is also close to a smaller set of population centers that together constitute a large enough total population base for a Metropolitan Planning Organization. Grand Junction serves as a model showing how one community can impact a regional planning process.

Grand Junction's Urban Trails Committee is an official committee of the City that provides input on bicycle and pedestrian planning efforts and represents Grand Junction in regional efforts to construct a trail system that connects all population centers and recreation areas with a multi-modal system. Through interagency cooperation, the Colorado Riverfront Trail (Figure 5.4) is being built out to provide connectivity between the communities to the east and west of Grand Junction. Trail development has gained community support by including components that appeal to a wide cross-section of users, like a boat launch into the Colorado River. The Riverfront Trail is a good case study for proponents of extending and enhancing the Moab Canyon Pathway and a proposed trail along Mill Creek and Spanish Valley Drives.

Figure 5.4: Colorado Riverfront Trail

As part of its Circulation Plan, Grand Junction also seeks to connect all Urban Trails, like the Riverfront Trail, with active transportation corridors within the community so cyclists and pedestrians can make direct and safe connections from Fruita to Grand Junction without needing to drive.

Sandpoint

Similar to Moab, Sandpoint in northern Idaho experiences high summer traffic with tourists traveling to the area to recreate on Lake Pend Oreille. The community is currently undertaking a Multimodal Transportation Master Plan to identify how to enable visitors to park their vehicles upon arrival and spend the duration of their visit traveling by foot or bicycle (the "park once" concept). This will be accomplished both through adding active transportation facilities and by identifying opportunities for incentivizing more mixed-use development, which would help encourage walkability.

In addition, Route 2, which is the principal arterial serving the community, crosses through downtown and experiences the worst traffic. The transportation plan is identifying opportunities for vehicles traveling through Sandpoint on Route 2 by upgrading existing roadways and thus developing a type of bypass route. To help alleviate congestion within the downtown, the community is evaluating opportunities to convert two-way streets to one-way couplet systems in order to move vehicles more efficiently.

To help identify whether traffic in Sandpoint is centered around trips to and from the community vs. trips that are passing through, a "big data" analysis was recently undertaken to track how vehicles travel through the community and to further inform both the need for a bypass and a potential alignment (Figure 5.5). The traffic analysis found that of all trips examined, 30% were internal to the community, 50% started or ended within the community, and 20% passed through Sandpoint. Nearly all trips examined begin or end within the County where Sandpoint is located. This suggests that many of the 80% of trips that occur either internally or begin or end in Sandpoint could theoretically be taken on another mode. This type of big data analysis can help determine what types of improvements are needed to accommodate travel demand and can also help to pinpoint under-utilized routes.

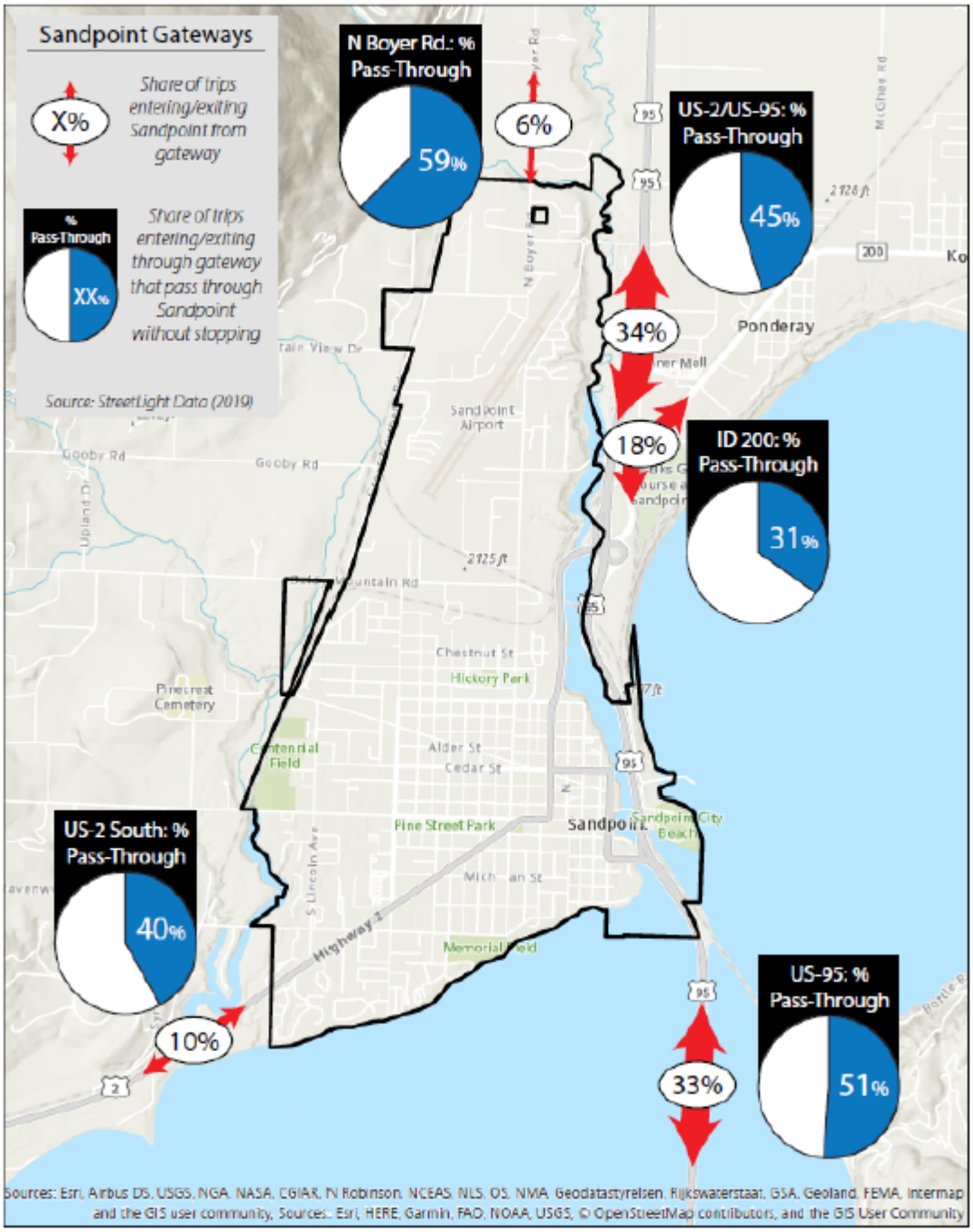


Figure 5.5: Sandpoint Pass-Through Trips

Aspen

Aspen, Colorado, is a peer community due to having world-class outdoor amenities that draw significant visitation while also being accessible by essentially one major roadway. To address congestion concerns, Aspen took the multi-prong approach of instituting paid parking with a dynamic price structure, using the parking revenues to fund transit service that is fare-free within the community, as well as a Transportation Demand Management (TDM) program that runs an effective public awareness campaign called "Drive-Less" which encourages individuals to travel by means other than driving through a set of incentives, and an innovative traffic impact analysis process whereby development has a menu of options to off-set traffic impacts. One of these incentives is a contract with a private company to provide an electric shuttle service to enhance circulation around the community (Figure 5.6).

Figure 5.6: Aspen Downtowner Shuttle

As a result of its efforts, Aspen has decreasing peak parking space occupancy by over 12% while increasing parking revenue by 26%. Commuter lots outside the city core, designed to accommodate the influx of traffic coming to the ski areas, have witnessed an increase in usage of 20% since the "Drive-Less" program promotes parking once and then traveling around the community on one of the other provided options (walking, cycling, electric shuttle, etc.).

Takeaways for Moab and the Spanish Valley

This analysis of peer communities found that while Moab and the Spanish Valley region have transportation issues, some of the major challenges like seasonal traffic variation are consistent in other communities as well. Successful strategies for managing some of the same challenges Moab and the Spanish Valley region experience include:

1. Enhancing wayfinding can help make travel more efficient by providing drivers with information about their trip and suggesting less congested routes. (West Yellowstone and Sedona)
2. A public shuttle that functions as a transit option can be effective in lieu of an area-wide transit system for a few key destinations. This can alleviate parking congestion at trailheads and other popular recreation spots while improving the user experience. (Sedona and Aspen)
3. While a bypass route may indeed be useful, a thorough analysis (as was done on the Moab Bypass Study) can help explain travel patterns and can show whether vehicles are actually passing through an area at a high-rate, and if so, which gateways they are most likely to use. This helps make informed decisions about where capital investments should be located. (Sandpoint)
4. Regional coordination is key to accomplishing multi-modal connectivity. Obtaining buy-in from a wide cross-section of the community can be achieved by ensuring projects like regional trails contain components that appeal to many different constituents. (Grand Junction)

The analysis also highlighted differences between the peer communities and the Moab-Spanish Valley area. The peer communities are mature and relatively built out, while the Spanish Valley, in particular, is growing and still has the physical space for chosen elements of a multi-modal transportation system, including roadway infrastructure.

Chapter 6 - Project Recommendations

An initial list of projects for the Moab & Spanish Valley Regional Transportation Plan was developed based on input from the project management team and the results of the June 2020 stakeholder committee meeting. This initial list of 90 projects included a wide range of proposed solutions, from small sidewalk recommendations to large-scale highway improvements.

While the initial list of solutions reflected a variety of mobility needs in the Moab and Spanish Valley region, a multi-step project screening was undertaken with the following goals:

1. To ensure the Moab & Spanish Valley Regional Transportation Plan advances projects that are regional in nature.
2. To develop a final project list that reflects both the UDOT project prioritization process and project screening criteria that are based on regional needs.
3. Key stakeholders and the general public are informing the project list throughout the life of the RTP process.

Figure 6.1 shows the process that the project team used to develop the final RTP project list along with the number of projects that remained on the list following each step of the process. After starting with the list of 90 potential projects, the project team determined a final list of 14 projects that will improve regional mobility in Moab and Spanish Valley and will advance the goals of this RTP. This section of the Plan details the project list development process and provides cost estimates as well as implementation phasing for each project.

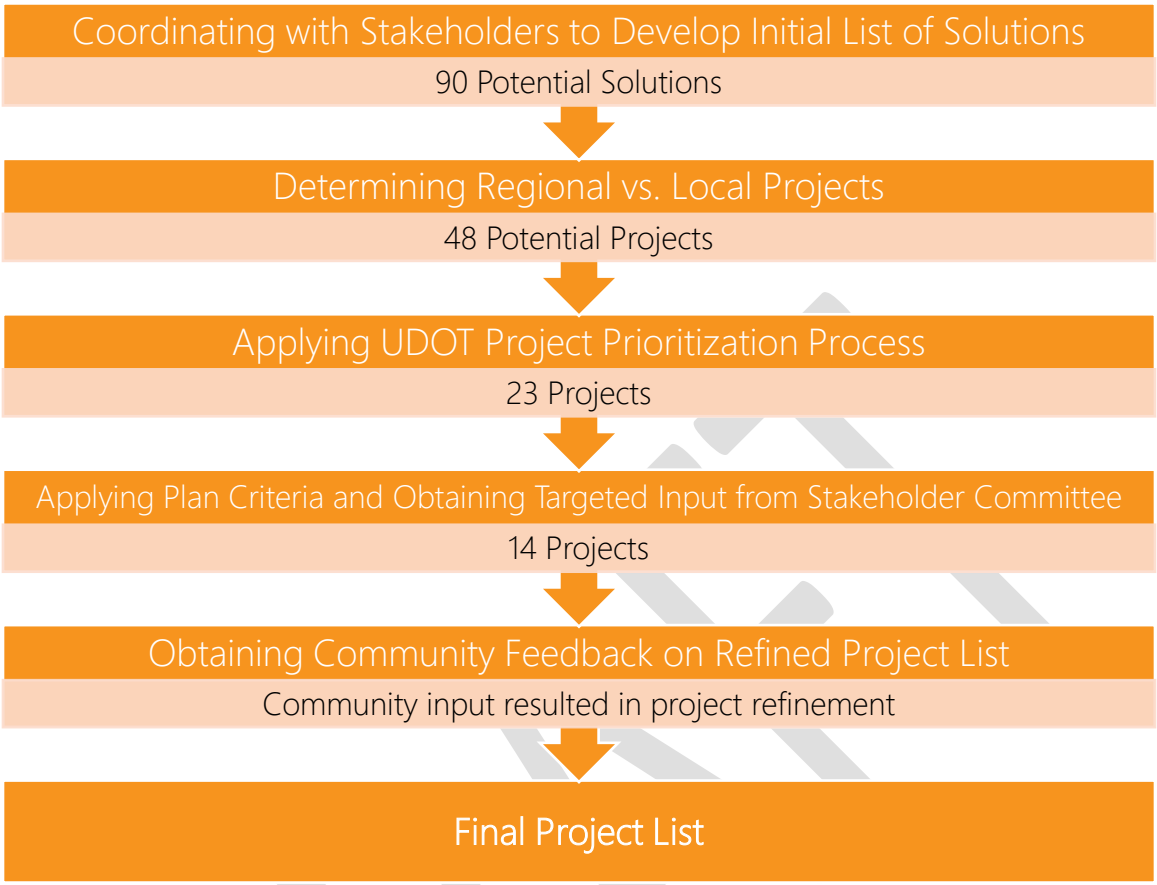


Figure 6.1: Moab and Spanish Valley Regional Transportation Plan Project Screening Process

Initial Screening

The June 2020 stakeholder committee meeting generated a list of significant project ideas, but not all projects from the initial solutions list addressed regional needs. The project team evaluated this initial list and eliminated projects that were determined to be more appropriate for local plans. Examples of local projects included intersection improvements on non-arterial roadways, filling local sidewalk gaps, and corridor enhancement projects that would have placemaking benefits for a single community. The initial project list addressed a range of needs; the projects that were determined to be more appropriate for a smaller-scale transportation plan will be pursued separately as part of future planning efforts conducted by Moab, and Grand and San Juan Counties. The initial screening process narrowed the list to 48 potential projects.

UDOT Prioritization Process

The project team further narrowed down the project list by determining whether any of the projects were already represented in plans for UDOT Region 4. As discussed in Chapter 3, it was determined that the projects shown in Table 3.1 should be implemented as part of this RTP.

The second part of applying the UDOT Prioritization Process was determining whether the project list meets the four main goals identified for achieving the Utah state transportation vision:

- Good Health
- Better Mobility
- Strong Economy
- Connected Communities

Projects that did address these goals in some part were removed from the list. The application of the UDOT prioritization process was done in coordination with UDOT staff.

Targeted Stakeholder Input

Following the UDOT screening process described in the previous section, 15 projects remained on the list. Stakeholder committee input was used to refine the project descriptions, and a final screening process was undertaken to develop the project list featured in this RTP. First, two projects that would entail a higher level of investment and would have more immediate impact were assessed in greater detail. The following section describes two of the proposed RTP projects:

1. Moab Bypass
2. US-191 Access Plan for Spanish Valley

These two projects were discussed in-depth with the stakeholder committee meeting during the November 2020 meeting.

Moab Bypass

The concept of a bypass around Moab has been discussed off and on for decades. The benefits could include reduced congestion, especially congestion associated with freight traffic, and enhanced downtown experience for pedestrians. There are certainly impacts and costs too; the possible routes will likely have major impacts on either the built or natural environment, or both. An effective bypass will also likely include a new Colorado River crossing, which is a high-cost element. UDOT completed a high-level feasibility study of a bypass in 2018. It was a technical analysis with essentially no public process. This study identified several alternatives, assessed the traffic and travel time reductions, and developed planning level costs. This study applied "DecisionLens" support tool, which enabled the

study team to consider other factors such as community impacts. A presentation was made to a joint meeting of Grand County and Moab councils at the end of the study. UDOT Region Four leadership stated that for UDOT to continue any sort of additional pre-construction activities, the *notion* of bypass must be included in a regional transportation plan.

During the process to develop this Plan, the bypass arose several times with the Stakeholder Committee. This is understandably a very contentious issue for the community due to possible impacts, costs, and changing the dynamic of the community. Several suggestions have been proffered, including encouraging UDOT to designate a totally different freight route to the west, on SR-95 to SR-24. There are other concepts suggested, such as a route along Kane Creek.

What is clear is that there are no easy routes that accomplish the purpose of a bypass. There is also division among the community and elected officials over whether a bypass should even be considered in this Plan. The community survey showed that support, or at least opposition, is split. It should be noted that a long-range regional plan such as this does not commit nor guarantee a project will be built. A project's inclusion is meant to show there is a possible need, but clearly, more analysis will eventually need to occur, and in the case of a bypass, a full environmental process, likely an Environmental Impact Statement (EIS). The benefit of this process is that a defensible purpose and need, alternatives development and evaluation, costs, impacts, and a robust public engagement process will take place.

The recommendation of this plan is to include the "notion" of a bypass in this plan without a specific alignment or timeframe. This makes no commitment for any agency to take action on it but leaves the decision to take a more comprehensive analysis open as an option that UDOT leadership and/or local elected bodies can initiate. UDOT has undertaken efforts to alleviate congestion on US-191, including widening the highway north of Moab, adding active transportation facilities, and exploring a shuttle system. If these congestion mitigation measures prove effective, then the need for a bypass can be reevaluated.

Spanish Valley Access Plan

Another important part of this Plan is a plan for the future of US-191 in the Spanish Valley. There is significant growth planned, and hence, access to and from US-191 will become a bigger issue in the future. As part of the 2015 US-191 Corridor Preservation Study, an access management plan was established for US-191 through Spanish Valley. This study identified locations for potential traffic signals and cited a need for a corridor agreement. The agreement was executed in 2016 and is discussed below.

US-191 through Spanish Valley is a critical route for traffic traveling north and south through the study area. Currently, there are numerous commercial and residential driveways that have direct access onto US-191, which poses congestion and safety challenges. As part of the Moab & Spanish Valley

RTP, the planning team evaluated the extent of US-191 through the study area to determine whether improvements are needed to upgrade the route and where those improvements should be located. This section of the RTP highlights the process used to evaluate the corridor and details recommendations relating to access management on US-191 through Spanish Valley.

Figure 6.4 shows an initial concept for US-191 from Moab to Spanish Valley. It is proposed that the corridor would be upgraded by adding frontage roads on both sides of the highway, which would allow for safer driveway access while improving traffic flow for through movements. It is important to note that this concept does not mean side streets will not have access and should be abandoned, but rather access to US-191 will be via frontage roads which then tie into signalized intersections.

In addition, a number of the intersections along the corridor will be studied for potential installation of traffic signals (signal warrants). At the time of the Regional Transportation Plan development, three intersections had been identified by UDOT as potential locations for traffic signals in a 2016 Corridor Agreement between UDOT, Grand County, San Juan County, and Moab City:

1. US-191 and Old Spanish Trail Arena
2. US-191 and Spanish Trail Road
3. US-191 and Mill Creek Drive

There are several different approaches to the implementation of a system of frontage roads and improved intersections. A recommendation of this Plan is to develop a more specific concept of what the corridor will look like, meaning some degree of survey and preliminary engineering. The concept plan should also address a phasing plan: the entire length of the corridor doesn't need to be built all at once. UDOT and the project partners should pick a logical section or two and develop the frontage roads, road widening, and intersection improvements as a pilot project, perhaps using one-time funds from the federal or state government. Once a section is completed, use the phasing developed in the concept plan to implement the next needed section, and so on, until the corridor is completed. This could easily take a number of years, but this approach will be easier to manage and provide benefits where needed first.

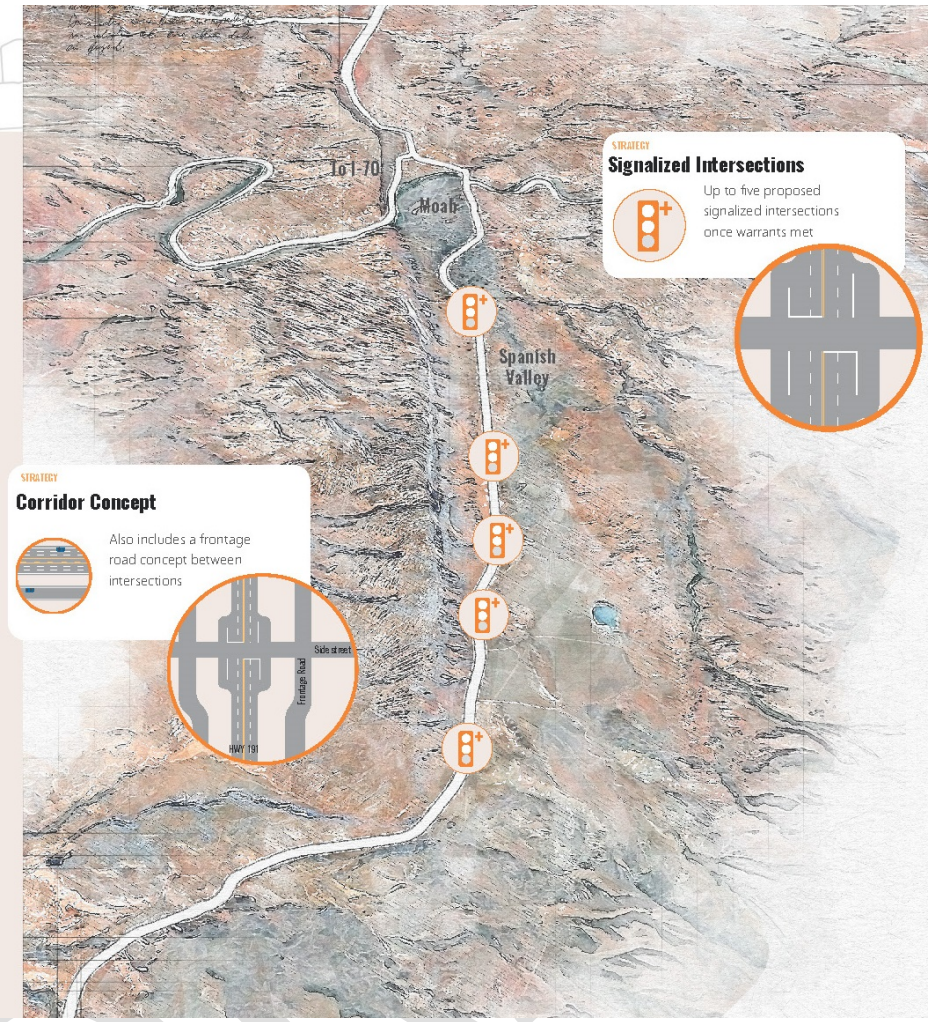


Figure 6.2: US-191 Corridor Concept

Applying RTP Criteria

The project management team identified four screening criteria for evaluating projects and determining whether the projects advance the Moab & Spanish Valley RTP goals (Table 6.2). The criteria are intended to help assess whether proposed projects also reflect the community needs expressed during public outreach and the perspectives on the study area shared by the project management team. The criteria were applied to the projects that emerged from the initial project list development and screening processes by determining whether each project advances the criterion (positive impact), does not relate to the criterion (neutral), or does not advance outcomes for the criterion. Table 6.3 shows the evaluation results.

Table 6.1: RTP Project Screening Criteria

Criteria	Definitions
Congestion Relief	Considers the ability of the project to reduce and/or manage periods of high traffic congestion. Projects that can accommodate spikes in demand that occur seasonally without providing too much excess capacity during periods of lower demand will score higher.
Safety	The project will be scored based on whether it incorporates countermeasures proven to improve traffic safety outcomes.
Improves Quality of Life	Does the project address transportation-related issues that may not limit mobility but may impact the overall quality of life in the study area. These include noise and All-Terrain Vehicle traffic.
Increase Opportunities for Active Transportation	Considers whether the project provides new facilities for walking and biking trips.

Project Scoring Key

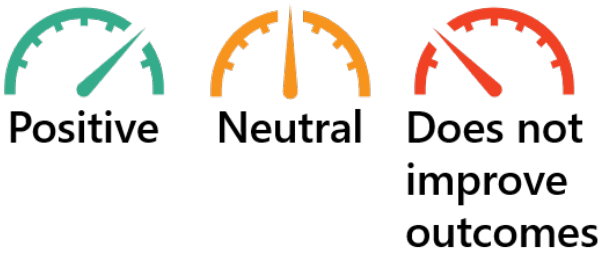


Table 6.2: Project Evaluation Results

Project Number	Project Name	Congestion Relief	Safety	Quality of Life	Active Transportation
1	US-191 west multi-modal path to connect visitor (and other) businesses well west of highway				
2	SR-128 Multiuse Path Extension Study				
3	Separated Trail System along Spanish Valley Drive				
4	Widen and update Kane Creek Road, including bike lanes				
5	Frontage Road system from Mill Creek to south Spanish Valley (Phase 1)				

Project Number	Project Name	Congestion Relief	Safety	Quality of Life	Active Transportation
	Frontage Road system from Mill Creek to south Spanish Valley (Phase 2)				
6	Multi-modal transfer center near the airport				
7	Moab Bypass (alignment TBD if this project is studied further)				
8	SR 128 Corridor Study and Improvements				
9	Intersection Improvement for 200 N & Main Street				
10	Electronic message board system for congestion, parking, special notices				
11	Transit/Shuttle study including intercity bus service to Wasatch and Grand Junction				
12	Pilot Shuttle Project				

Project Number	Project Name	Congestion Relief	Safety	Quality of Life	Active Transportation
13	Plan for Mill Creek Parkway continuation				
14	RV / Truck Parking Facility				

Approximately half of the proposed projects were determined to have positive impacts in three of the four criteria, and all projects would likely advance two of the four criteria. The project list as a whole was found to address all four criteria, thus advancing the goals of the Regional Transportation Plan. The final project list includes the four previously planned passing lane projects identified for US-191 through prior UDOT planning efforts. The passing lane projects were not screened through this RTP process.

Community Input

The community survey discussed in Chapter 3 was circulated towards the end of the project list development process and was thus able to solicit targeted feedback on specific projects. The final project list shown in the following section was refined based on this community input.

Final Project List

The list of projects shown in Figure 6.5 and Table 6.4 were determined to provide regional connectivity while also enhancing multi-modal travel opportunities in the more densely populated sections of the study area.

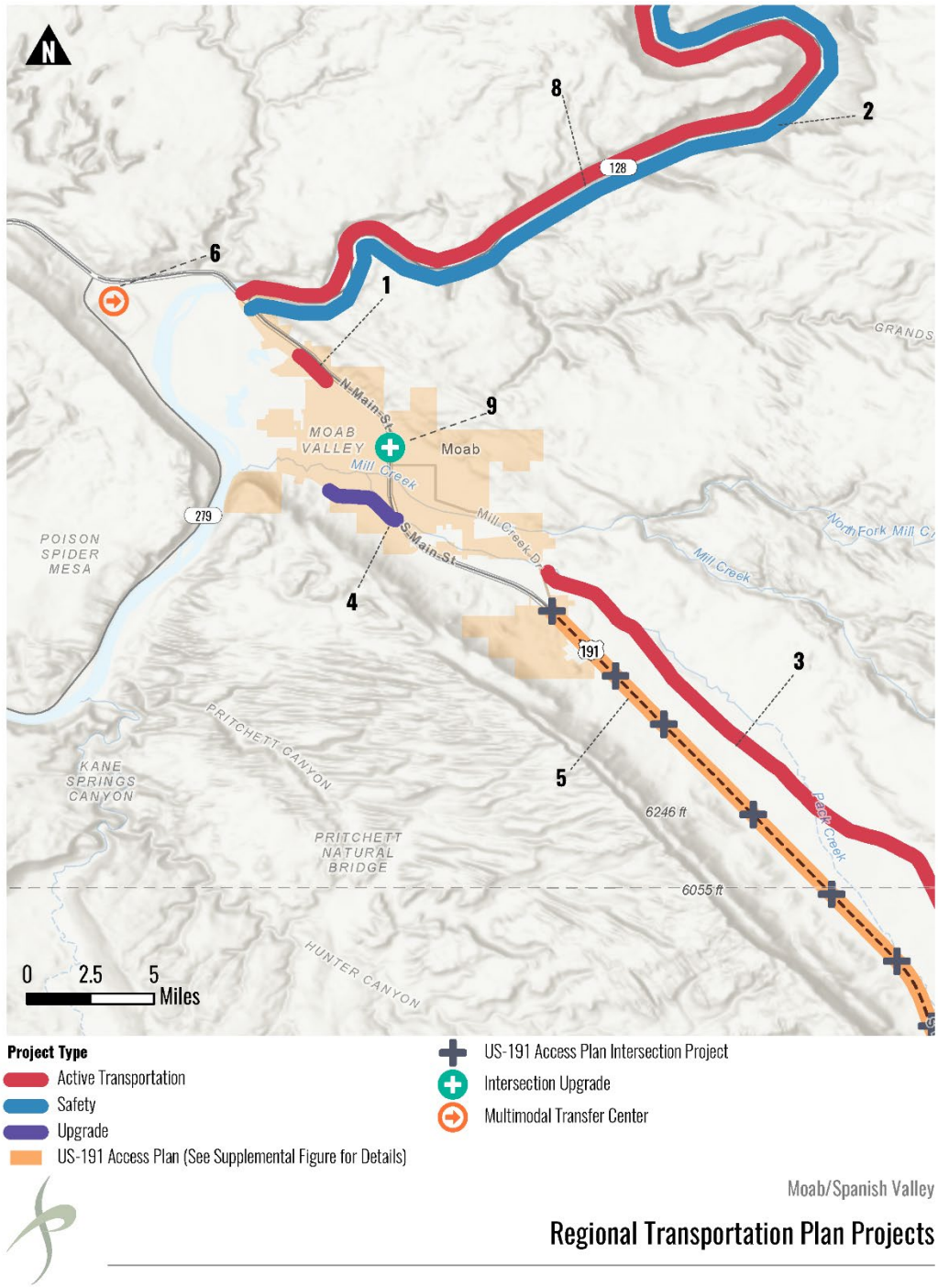


Figure 6.3: Moab and Spanish Valley Regional Transportation Plan Recommended Projects

Table 6.3: Moab and Spanish Valley Regional Transportation Plan Recommended Projects

Project Number	Project	Location / Extents	Project Type
1	US-191 west multi-modal path to connect visitor (and other) businesses well west of highway	South of W 200 S to Kane Creek Blvd	Active Transportation
2	SR-128 Multiuse Path Extension Study	From US-191 to Castle Valley	Active Transportation
3	Separated Trail System along Spanish Valley Drive	From Mill Creek Drive to Coronado	Active Transportation
4	Widen and update Kane Creek Road, including bike lanes	From 500W to Campgrounds near Moab Rim Trailhead	Upgrade
5	Frontage Road system from Mill Creek to south Spanish Valley (Phase 1)	Intersection projects at Mill Creek Drive, Resource Boulevard, and Spanish Trail Road. New frontage roads would extend between Mill Creek Drive and Spanish Trail Road.	Frontage Roads/Access
	Frontage Road system from Mill Creek to south Spanish Valley (Phase 2)	Intersection upgrades at Meador Drive, Sunny Acres Lane, and Old Airport Road. Frontage roads would extend to south Spanish Valley (precise extents to be determined)	Frontage Roads/Access
6	Multi-modal transfer center near the airport	On SITLA land south of the airport - potentially at the former UMTRA mining site. This project would connect the Moab Canyon Pathway, SR-128 Trail, and any shuttle or transit service in the area.	Multi-modal
7	Moab Bypass	Placeholder project. The bypass will only be pursued if community support builds and if other traffic mitigation measures do not alleviate congestion. Bypass alignment will be determined if the project is studied further.	New Facility
8	SR 128 Corridor Study and Improvements	With a focus on identifying potential safety improvements from US-191 to Castle Valley	Safety
9	Intersection Improvement	200 North and Main	Upgrade

Not Location-Specific / Recommendation for Further Study			
10	Electronic message board system for congestion, parking, special notices		Information
11	Transit/Shuttle study including intercity bus service to Wasatch and Grand Junction		Multi-modal
12	Pilot Shuttle Project		Multi-modal
13	Plan for Mill Creek Parkway continuation		Active Transportation
To Be Determined			
14	RV / Truck Parking Facility	Potential location on US-191 south of I-70 identified in the UDOT 2019 Freight Parking Study[1]	Freight
Previously Planned Projects			
15	Southbound Passing Lane	US-191, Crescent Bench to I-70 JCT Passing Lane, MP 155.5 to MP 157	Upgrade
16	Southbound Passing Lane	US-191, Canyonlands Airport to Klondike Flat Passing Lane, MP 143.9 to MP 145.4	Upgrade
17	Northbound Passing Lane	US-191, Mill Canyon to Klondike Bluffs Passing Lane, MP 141.3 to MP 142.3	Upgrade
18	Northbound Passing Lane	US-191, North Wilson Arch to Looking Glass Arch Passing Lane, MP 100.8 to MP 102.3	Upgrade

[1] This would serve as the new Thomson Welcome Center/Crescent Junction Rest Area per the 2007 UDOT Statewide Rest Area Plan

Chapter 7 - Funding and Cost Estimates

Funding Sources

The projects featured in this Regional Transportation Plan will each require funding from one or more sources. In some cases, separate sources of funding may need to be identified for further planning and/or feasibility assessment, design, and implementation. The list of potential funding sources in Table 7.1 is not exhaustive, and additional opportunities may be identified during the planning for each project.

Table 7.1: Potential Funding Sources

Funding Source	Description
B & C Funds	The B & C funding program, which is administered through UDOT, provides assistance to counties for the construction, improvement, or maintenance of roads and streets. B and C roads are public roads that are not state or federal roads. B & C funds are allowable for use on state highways for projects that involve safety improvements. Class B and C road funds are allocated from the State's highway user fees revenue. In FY 2020, UDOT provided a total of nearly $7 million B & C funds to Grand and San Juan Counties.
5311 Grants (Transit)	The Federal Transit Administration provides formula grants for capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000. This is a potential funding source for further studying the possibility of providing transit service in the region.
Highway Bridge Replacement and Rehabilitation	UDOT accepts applications for funding requests on projects that involve replacing substandard bridges. While there is not a standalone bridge project listed in the Regional Transportation Plan, some bridge rehabilitation may be required as part of projects like the SR-128 safety improvements study.
Highway Safety Improvement Program (HSIP)	HSIP is a federal program for funding projects that may reduce traffic fatalities and serious injuries on public roads. Eligible projects must be in a location with a documented history of crashes that could be prevented through countermeasures.
Local Option Sales Tax	The Utah State Legislature allows the use of local option sales taxes for roadways, transit, active transportation, and airports. Counties have the

Funding Source	Description
	option to adopt five quarter-cent sales taxes in total. Both Grand and San Juan Counties have local option taxes but could pursue additional increases.
State Park Access Funds	These funds are for facilities accessing State Parks. The facility must be one of several specific facilities identified in Utah Code, 72-3-202 through 72-3-206. While none of the projects directly access Dead Horse Point State Park, it is possible that as project extents become more defined, some level of park access may become a component of one or more projects.
State Recreational Trails Program	This state program provides grants for the construction and maintenance of non-motorized and motorized trail projects. Projects like the multi-use paths identified in the project list may be eligible.
Surface Transportation Program	Surface Transportation Program funds are used for constructing new streets or widening, or improving freeways, highways, arterials, or collectors. These funds can also be used for intersection improvements and projects that are intended to reduce traffic demand, such as active transportation facilities. The improvements included in the Spanish Valley Access Plan may be eligible. The funding is for projects within cities that are outside of an MPO boundary.
Transportation Alternatives Program	Transportation Alternative Program funds are for smaller-scale transportation projects such as active transportation facilities. UDOT administers these funds in non-MPO areas.
Utah Outdoor Recreation Grant	The outdoor recreation grant is intended to encourage tourism by expanding recreational amenities. Recreational projects that may help communities retain residents are also eligible.
Safe Routes to School	While none of the Regional Transportation Plan projects pertain specifically to school transportation, projects that may reduce traffic and address safety issues near schools are eligible for Safe Routes to School grant funding. Safe Routes to School grants may not fund an entire project but can fund portions of projects that serve school communities (e.g., the section of a new bicycle corridor that serves a school).
Transportation Investment Fund (TIF)	The TIF is a state fund that is supported by revenue from legislative appropriations, sales tax, and vehicle

Funding Source	Description
	registration fees. The funding is generally used for improving or optimizing roadway capacity. If a project is built using TIF funds then it is also eligible for TIF funding to cover maintenance costs. Non-motorized projects like multi-use paths that mitigate congestion and part of a UDOT approved active transportation plan are eligible for TIF funding.
Transit Transportation Investment Fund (TTIF)	TTIF is a relatively new funding source, having been passed by the state legislature in 2018. TTIF funds projects that establish a connection to a transit system and is part of the larger TIF funding source.
Federal Lands Access Program (FLAP)	FLAP was established by the Federal Highway Administration to improve transportation facilities that interface with Federal lands. FLAP funds are intended to supplement State and local resources for public roads, transit systems, and other transportation facilities that connect travelers with Federal recreation sites. Funds are awarded through a call for projects.

Project Costs

Cost estimates were developed with input from implementing agencies, UDOT long-range planning resources, and from project team knowledge of similar infrastructure treatments/planning studies in other jurisdictions.

Table 7.2: RTP Project Costs

Project Number	Project	Location / Extents	Planning Level Cost Estimate (millions)
1	US-191 west multi-modal path to connect visitor (and other) businesses well west of highway	South of W 200 S to Kane Creek Blvd	$0.63
2	SR-128 Multiuse Path Extension Study	From US-191 to Castle Valley	$0.20
3	Separated Trail System along Spanish Valley Drive	From Mill Creek Drive to Coronado	$8.51

4	Widen and update Kane Creek Road, including bike lanes	From 500W to Campgrounds near Moab Rim Trailhead	TBD
5	Frontage Road system from Mill Creek to south Spanish Valley (Phase 1)	Intersection projects at Mill Creek Drive, Resource Boulevard, and Spanish Trail Road. New frontage roads would extend between Mill Creek Drive and Spanish Trail Road.	$112
	Frontage Road system from Mill Creek to south Spanish Valley (Phase 2)	Intersection upgrades at Meador Drive, Sunny Acres Lane, and Old Airport Road. Frontage roads would extend to south Spanish Valley (precise extents to be determined)	$112
6	Multi-modal transfer center near the airport	On SITLA land south of the airport - potentially at the former UMTRA mining site. This project would connect the Moab Canyon Pathway, SR-128 Trail, and any shuttle or transit service in the area.	$8
7	Moab Bypass	Placeholder project. The bypass will only be pursued if community support builds and if other traffic mitigation measures do not alleviate congestion. Bypass alignment will be determined if the project is studied further.	TBD
8	SR 128 Corridor Study and Improvements	With a focus on identifying safety improvements from US-191 to Castle Valley. Some specific short-term safety improvements can include guardrail installation and the implementation of rockfall mitigation.	$0.30 ($0.05 for the Corridor Study and $0.25 for short-term safety improvements)
9	Intersection Improvement	200 North and Main	$0.25

Not Location-Specific / Recommendation for Further Study			
10	Electronic message board system for congestion, parking, special notices		$0.08
11	Transit/Shuttle study including intercity bus service to Wasatch and Grand Junction		$.60
12	Pilot Shuttle Project		$0.23 (per year)
13	Plan for Mill Creek Parkway continuation		$.05
To Be Determined			
14	RV / Truck Parking Facility	Potential location on US-191 south of I-70 identified in the UDOT 2019 Freight Parking Study	$3.0
Previously Planned Projects			
15	Southbound passing lane	US-191, Crescent Bench to I-70 JCT Passing Lane, MP 155.5 to MP 157	$3.3
16	Southbound passing lane	US-191, Canyonlands Airport to Klondike Flat Passing Lane, MP 143.9 to MP 145.4	$5.2
17	Northbound passing lane	US-191, Mill Canyon to Klondike Bluffs Passing Lane, MP 141.3 to MP 142.3	$3.5
18	Northbound passing lane	US-191, North Wilson's Arch to Looking Glass Arch Passing Lane, MP 100.8 to MP 102.3	$5.2

Chapter 8 – Implementation

Phasing

Table 8.1 shows recommended phasing for each project in this RTP. The phasing is split into short-term (by 2030), medium-term (by 2040), or long-term (by 2050). Phasing determinations were made based on the recommended project's likelihood to advance RTP goals (as identified in Table 6.3) as well as ease of implementation. Lower-cost projects, for example, are more likely to be implemented in the near-term.

Table 8.1: Recommended Project Phasing

Project Number	Project	Implementation Phasing	Notes
1	US-191 west multi-modal path to connect visitor (and other) businesses well west of highway	Medium	While Project 1 advances three of four RTP screening criteria, the extension of a multi-modal path will require planning, design, and construction phases, making implementation in the near-term unlikely.
2	SR-128 Multiuse Path Extension Study	Short	Project 2 advances three of four RTP screening criteria. A new multi-use path will require an initial study to confirm feasibility and path extents.
3	Separated Trail System along Spanish Valley Drive	Short	Project 3 advances three of four RTP screening criteria, and the implementation of a separated trail along a collector roadway poses fewer challenges than new active transportation facilities along more heavily trafficked state highways.
4	Widen and update Kane Creek Road, including bike lanes	Short	Project 4 advances three of four RTP screening criteria and is likely to be

Project Number	Project	Implementation Phasing	Notes
			advanced through the Moab City Capital Improvements Program.
5	Frontage Road system from Mill Creek to Resource Boulevard (Phase 1)	Short-Medium	Project 5 advances three of four RTP screening criteria and the short-term element would consist of preliminary planning and design work, along with the implementation of traffic signals at a selection of intersections. This Phase can be accomplished by 2030 and will help alleviate some of the growing congestion on the corridor by better managing traffic flow.
	Frontage Road system from Mill Creek to south Spanish Valley (Phase 2)	Medium	Phase 2 will require a longer implementation schedule due to the need for potential right-of-way acquisition, and planning, design, and construction of Frontage Roads between Spanish Trail Road and south Spanish Valley.
6	Multi-modal transfer center near the airport	Medium to Long	While a multi-modal transfer center would serve as a valuable asset for providing travelers with mode choice, at present, there are limited options for non-vehicle travel. The transfer center should follow the feasibility study for, and potential implementation, of a regional transit system.

Project Number	Project	Implementation Phasing	Notes
7	Moab Bypass	Long	A Moab Bypass was found to advance the RTP screening criteria. At the time of the RTP development, an alignment for the bypass had not yet been identified. Pending growth of public support for the project and outcomes from other traffic mitigation measures that were being explored at the time the RTP was developed, the need for a bypass may be studied further.
8	SR 128 Corridor Study and Improvements	Short	Project 8 can be implemented in the short-term though some of the resulting recommendations from the study may require a medium- or long-term implementation timeline.
9	Intersection Improvement for 200 N & Main Street	Short	Project 9 does not advance all the RTP screening criteria but is relatively low cost, and Moab City would serve as the project lead.
10	Electronic message board system for congestion, parking, special notices	Short	Project 10 is relatively low cost and would have immediate congestion relief benefits.
11	Transit/Shuttle study including intercity bus service to Wasatch and Grand Junction	Short	Project 11 would be a planning study, which can be carried out in the near-term and at a relatively minimal cost.

Project Number	Project	Implementation Phasing	Notes
12	Pilot Shuttle Project	Short	A pilot shuttle service can be implemented in the short-term.
13	Plan for Mill Creek Parkway continuation	Short	Project 13 would be a planning study, which can be carried out in the near-term and at a relatively minimal cost. Continuing Mill Creek Parkway would then be a medium- to a long-term project.
14	RV / Truck Parking Facility	Medium	Project 14 was found to advance two of four RTP criteria and would require planning and parcel acquisition, making it a medium-term project.
15	Southbound passing lane	Short - Medium	The passing lanes were previously proposed by UDOT and could be accomplished in the near term but are contingent on funding availability.
16	Southbound passing lane	Short- Medium	
17	Northbound passing lane	Short – Medium	
18	Northbound passing lane	Short- Medium	

Performance Measures

During RTP implementation, progress towards meeting the RTP goals can be tracked using the set of performance measures profiled in this section. The performance measures shown in Table 8.2 are intended to align with the RTP goals while maintaining ease of tracking by utilizing readily available data sources. The recommended thresholds shown here are relative to the baseline of existing conditions. In some instances, the baseline has been documented in the Existing and Future Conditions chapter of this report; in other instances, the baseline will need to be determined prior to performance measure tracking.

Performance measures tracking can be performed at the discretion of the Rural Planning Organization discussed in the next chapter. If the Organization is formed per the recommendation of this RTP, then it can identify a responsible agency for performing the tracking.

Table 8.2: RTP Performance Measures

Performance Measure	RTP Goal	Data Source	Recommended Threshold
Travel Time	Improving Roadway Performance	INRIX, Streetlight, Acyclica	Travel time on key corridors (e.g., US-191) does not exceed a 5% increase over existing conditions.
Vehicle-to-Capacity Ratios	Improving Roadway Performance	Streetlight, UDOT	PM Peak hour vehicle-to-capacity ratios do not exceed the baseline level shown for 2019 in this RTP
Mode Choice	Improving Roadway Performance, Transit, Quality of Life, and Connectivity for People Walking and Biking	City, County, and State level transportation infrastructure maps/tables (made available by each jurisdiction)	Mode choice can be tracked by assessing the number of travel options available for reaching key destinations in the study area and tracking whether the options grow over the lifetime of the RTP.
Miles of multi-modal facilities	Quality of Life, Connectivity for People Walking and Biking	City, County, and State level transportation infrastructure maps/tables (made available by each jurisdiction)	Mileage of sidewalks, bicycle lanes, and multi-use paths increase over the amount available under existing conditions. No existing facilities are to be removed.
Number of crashes resulting in death or severe injury	Safety	UDOT, law enforcement	The number of crashes resulting in death or severe injury does not exceed existing conditions. A more aggressive threshold would set the benchmark at zero severe crashes.
Number of driveways	Access Management	UDOT, Grand County	The number of driveways accessible immediately off of US-191 will decrease from existing conditions over the life of the RTP.

Performance Measure	RTP Goal	Data Source	Recommended Threshold
Interagency projects/funding applications	Cooperative Planning	Agency Annual Reports	For each significant milestone of RTP implementation (2030, 2040, and 2050) there will have been at least one interagency planning pursuit and one funding pursuit.

Chapter 9 - On-Going Collaboration

Once this Plan is adopted, the question left is "what's next"? How does the RTP remain relevant and useful? How do we avoid the possibility that the RTP disappears on a shelf? During the course of plan development, there was discussion regarding the Project Management Team remaining connected and acting as champions of not just the RTP but the planning process.

Metropolitan Planning Organizations (MPO) are designated for larger urban areas with populations of 50,000 or greater across the country. These organizations provide a forum for regional transportation partners to plan, program, and discuss transportation topics. Their makeup, management structure (e.g., as standalone entities like the Wasatch Front Regional Council in the Salt Lake region or the Grand Valley MPO, an agency within Mesa County, Colorado), and the breadth and depth of their responsibilities vary across the nation. The commonality between all MPOs is that each one is responsible for developing a regional long-range transportation plan at regular, five-year intervals. The plan is updated, amended, and used by the partner agencies in their respective project development process. The plans are also a way for the community to have a voice in their transportation future.

While the study area for this RTP does not meet the threshold of 50,000 residents, the need to maintain open discussion regarding implementation and updates to this RTP is the same as a formal MPO region. This ongoing work can take on a variety of forms. It could be as simple as UDOT staff conducting occasional "check-ins," or it could be a more formal process of establishing a standing committee that meets at regular intervals and coordinates with UDOT and local partners to facilitate RTP implementation.

A more formal process exists now in Utah for smaller areas to have a forum for on-going transportation discussions. Rural Planning Organizations, or RPOs, are organized groups that oversee RTPs for rural regions while maintaining a less formal structure than MPOs. RPOs have been created in four areas: Iron County (Cedar City), Tooele County, Wasatch County, and Morgan County/Ogden Valley. Each existing RPO was founded for a unique reason. Tooele County, for example, is too far away from the greater Wasatch Front to be included in the WFRC boundary, yet is a growing region with transportation planning needs. Members of the Tooele RPO include UDOT, UTA, Tooele City, Grantsville, and Tooele County. Morgan/Ogden Valley, on the other hand, was brought together with the more singular mission of working towards a new interchange along I-84; the desire for a project was the catalyst for regional collaboration.

The growth pressures, whether from in-migration or the seasonal traffic due to the recreation opportunities, will be with the greater Moab and Spanish Valley area for the future. And experience has shown that a collaborative approach with all relevant agencies has been more beneficial to local communities than tackling issues as sole entities. Furthermore, grant funding for infrastructure and

transit projects is becoming more competitive. The likelihood of success is greater when the grant application comes from a collaborative organization that has demonstrated regional buy-in for projects versus a single community pursuing grant funding.

There can be challenges with a forum such as an RPO. The most common concern is that one agency or one or two stakeholders may dominate the group. It may be helpful to establish a basic charter and short document that sets the overall framework. The Iron County RPO provides an excellent example that establishes a technical and executive committee and requires broad-based decision-making. Another concern is that the process could become too bureaucratic and take on a life of its own. That is clearly not the intent. It is up to the members to literally and figuratively "come to the table" and voice any concerns.

RPO staffing is another challenge to forming an RPO. While dedicated staffing is not a requirement, it is helpful to have a part-time person responsible for setting an agenda, coordinating among members, and performing other tasks that are difficult for volunteer members. In some situations, a jurisdiction has offered part-time use of existing staff. In other situations, such as Iron County, the participating jurisdictions collectively contribute sufficient funds to hire a part-time staff person. In this example, UDOT provided initial funding to help demonstrate the usefulness of the RPO that phased out over a few years.

Forming an RPO will help ensure there is a group of invested individuals who are advocating for the implementation of this RTP. The RPO will also be a champion for revisiting the plan and ensuring the RTP stays current and relevant to the ever-changing mobility needs of the region.

If the Moab and Spanish Valley RTP Project Management Team chooses to form an RPO, potential actions could include:

- Identifying all agencies to be represented in the RPO. Members should include UDOT Region 4 leadership and Planning, Moab City, Grand County, San Juan County, SITLA, BLM, and National Park Service
- Establishing quarterly meetings
- Setting an agenda on a rotating basis
- Conducting an annual tour of possible projects
- Determine a preferred level of staffing.
- Assuming a trial period of three years. The value, successes, and needs of the RPO can be assessed at that point in time (early 2024)