GLENWOOD SPRINGS

Long Range Transportation Plan

Appendices

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EXISTING CONDITIONS REPORT

This summary gives an overview of the current transportation network within Glenwood Springs city limits. Information presented here has been gathered from meetings with city staff, Parks and Recreation, River and Transportation Commissions, stakeholders, data collection and field work, as well as the public involvement process which includes surveys, events and workshops, and online tools. This document is divided into the following sections:

Setting

Describes the City of Glenwood Springs in terms of its location, layout and development.

Overall Network Description

Analyzes the transportation network as a whole.

Existing Bicycle Facilities

Provides an outline of existing bicycle facilities in Glenwood Springs with descriptions of facility types and local examples.

Existing Pedestrian Facilities

Identifies existing pedestrian facilities and describes typical sidewalk design, connectivity, and the use of crosswalks.

Existing Vehicular Conditions

Discusses existing vehicular conditions.

Bridges

Reviews existing bridges and the access they offer.

Circulation Conditions

Summarizes a circulation report used to identify vehicular, bicycle and pedestrian counts at key intersections in Glenwood Springs.

Needs Assessment

Highlights a list of needs and concerns in the City.

Setting

The City of Glenwood Springs is located at the confluence of the Colorado and Roaring Fork Rivers 180 miles west of Denver along I-70. Incorporated in 1885, Glenwood Springs is the county seat and most populated city in Garfield county. In recent years, the City population increased by roughly 24% from 2000 to 2010, with additional growth slowing to two percent from 9,614 in 2010 to 9,837 in 2013. Within the city, the topography is generally flat and rolling, and distances are generally short. Both of these characteristics are indicative of high potential for active transportation such as bicycling and walking.

The City stretches north-south following the Roaring Fork River and SH-82. At the north end of the city, Interstate 70 moves east-west along the Colorado River. Glenwood Springs has a total area of 4.8 square miles (12 km²) and a population density of 2,049 people per square mile. It has historically been known for its medicinal hot springs, scenic beauty and access to extensive outdoor recreational opportunities. Glenwood Springs welcomes large numbers of tourists throughout the year for multi-season sports and leisure within and surrounding the city limits.

The City was recognized for its accessibility as it was named among America's Most Walkable Communities by the Public Broadcasting Service and Walking Magazine in 2002. This plan builds upon those successes and lays out the basis for future development of a continually cohesive and integrated transportation network.

Glenwood Springs sits at the confluence of the Colorado and Roaring Fork Rivers

Amtrak Station

Bike storage on RFTA Bike Express busses (Sat & Sun) holds 12 bikes

Two types of racks on RFTA busses can hold either two or four bikes

Downtown bike racks

Overall Network Description

Glenwood Springs' vehicular, bicycle and pedestrian networks are part of a larger transportation network that includes other communities in the Roaring Fork Valley and beyond. The completeness of a transportation network is judged on its ability to facilitate different modes of transport resulting in higher individual mobility than networks that serve mainly one mode. A complete network is also one that strengthens connections between those different modes making travel more convenient for users at all levels of service. The Glenwood Springs' transportation network generally offers convenient and safe connections to other communities as well as to neighborhoods and destinations within the city. However, while the street network in place works well, it is recognized that SH-82, the main north-south highway through Glenwood Springs is becoming increasingly congested with vehicles. Additionally, the city's most important southern arterial, South Midland from 27th Street to Four Mile Canyon faces its own challenges of access and increasing congestion.

Covered bicycle parking at VelociRFTA transit stop at SH-82 and 27th Ave.

The city's internal bicycle and pedestrian infrastructure also generally allows convenient and safe access throughout the city. Regional paths draw many tourists to Glenwood Springs and currently connect the city south to Aspen and east to the eastern entrance of Glenwood Canyon. However, some gaps exist in the on-street network and some multi-use conflict zones still need to be addressed.

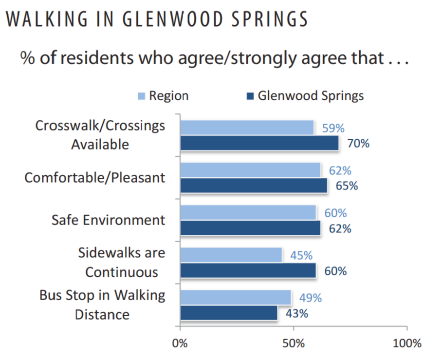
Glenwood Springs has a highly functional bus system served by two different service providers. Ride Glenwood Springs (RGS) is a year-round fixed-route public bus service that stops along Grand Avenue, Highway 6, and Midland Avenue. RGS offers connections to regional Roaring Fork Transportation Authority (RFTA) transit services, Greyhound Bus Lines, Amtrak and two free Park-'n-Ride locations within Glenwood Springs. Presently, Ride Glenwood Springs does not allow bikes on their busses nor does it offer exterior bike racks.

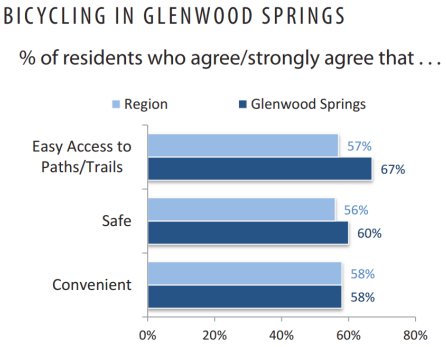
RFTA busses are equipped during the summer season with external bicycle storage. Two types of external bike racks can hold either two or four bikes.

The Roaring Fork Transportation Authority (RFTA) conducted a regional travel patterns study in 2014 of the Colorado River Valley and the Roaring Fork Valley. The study entitled *RFTA 2014 Regional Travel Patterns Update* includes communities from Parachute to Aspen and was conducted in order to provide local jurisdictions and planning agencies with relevant information on travel demand within the study area. Information gathered in the report reflects current and future needs related to motor vehicles, public transit as well as pedestrian and bicycle use. Studies examining the same data were completed in 1998 and 2004 and are used for comparison in the 2014 study to determine trends and changes in demand. Data for the 2014 study was gathered twice during the year and targeted different groups. The winter survey targeted employers and employees while the summer survey focused on residents within the study area. A total of 1,679 surveys were collected.

Of the surveys collected, the study shows that between 2004 and 2014 while people in the region as a whole commuting by car decreased by 6%, people commuting by bus in the same season increased by 60%. In the City of Glenwood Springs, data shows 68% of residents live and work in the same community, 67% drive alone to work in the winter and 50% drive alone to work in the summer. Only 6% say that their employers provide bus passes (part or all) and 99% said that their employers offer free parking at work. Responses related to pedestrian and bicycle facilities and trends show that for the most part, residents agree that the availability and safety of crosswalks, sidewalks, paths and trails are convenient and safe. This response data is displayed in Figure 1.

Figure 1: Glenwood Springs Travel Patterns





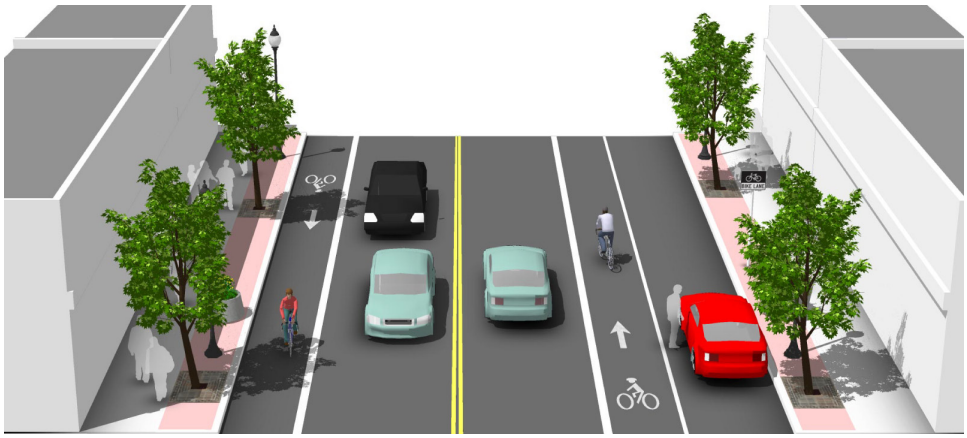
Existing Bicycle Facilities

Glenwood Springs' existing bicycle facilities include approximately 2.5 miles of on-street bike lanes, 13 miles of bike routes, 4 miles of on-sidewalk bike routes, 7.5 miles of paved and 10 miles of unpaved off-street trails. The following narrative, images and diagrams describe these varying facility types and where they can be found in Glenwood Springs. See pages A-23 and A-24 for existing conditions maps.

Bike Lanes

Bike lanes are a separate and delineated space designated for the exclusive use of bicycles on a roadway. Bike lanes are typically used on collector and arterial streets that have an annual average daily traffic (AADT) count of 3,000 or more.

Figure 2: Typical bike lane section



Blake Avenue bike lanes

Glenwood Springs presently has two existing bike lanes. Blake Avenue provides north-south travel and generally good conditions for cyclists with the exception of a section near Valley View Hospital where lane-widths become deficient and do not meet minimum widths recommended by the American Association of State Highway Transportation Officials (AASHTO). The second and more recently implemented bike lane runs along Donegan Roadand meets the minimum 5' stnadard with paving symbols and signage suggested by AASHTO. Figure 3 provides a list of existing bicycle lanes in Glenwood Springs.

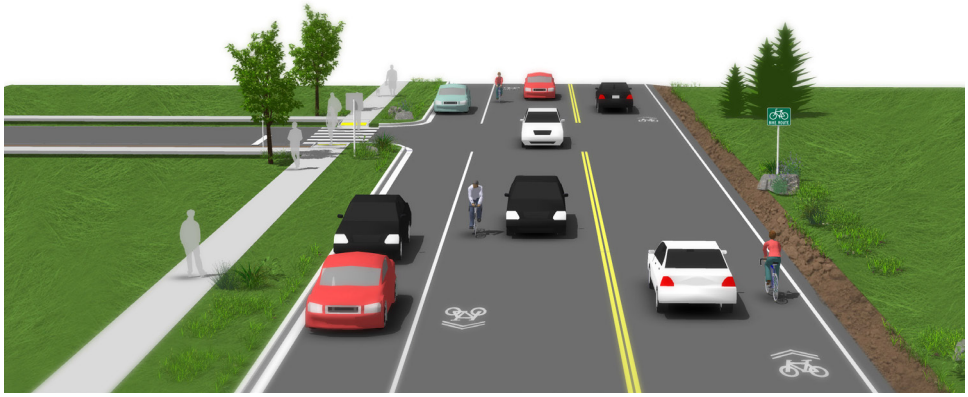
Figure 3: Existing Bicycle Lanes

Bicycle Lane	From	To
Donegan Road	Soccer Field Rd	US 6
Blake Avenue	7th Street	23rd St

Bike Routes/Sidepaths

Bike routes are signed or otherwise designated routes on roads, streets, or sidewalks that do not assign space exclusively to bicyclists but rather suggest a shared road, street or sidewalk. They are typically found on streets with lower volumes than those that would require a separated bike lane. Routes are designated as a shared sidewalk only when there are environmental or physical constraints, or when existing AADT is high enough that bicyclists would not feel comfortable sharing the road. This type of facility is defined as a 'sidepath' by AASHTO. The guide for the Development of Bicycle Facilities notes a number of design challenges and recommends the minimum width be 10 feet.

Figure 4: Marked and signed bike route



Existing bike route signage

On-sidewalk bike route

Bike routes are the most represented facility type in Glenwood Springs with 13 miles of signed roads and streets and sidewalks. Several major bike routes include along Midland, along Devereux Road and along Grand Ave. However, most of the bike routes in the City are not designated with wayfinding signage or route

information. See Figures 5 and 6 for a list and location of Glenwood's Bike Routes.

Figure 5: Bike Route On-Street

Bike Route On-Street	From	To
US 6	Center Dr.	Mitchell Creek
Mitchell Creek	US 6	Donegan Rd.
Donegan Rd.	Mitchell Creek	Soccer Field Rd.
Soccer Field Rd.	Donegan Rd.	US 6
Midland	US 6	Veltus Park
Devereux Rd.	Collision Repair	US 6
raver Trail	Harvard Dr.	US 6
Linden St.	US 6	Laurel St.
5th St.	Laurel St.	Olive St.
Olive St.	5th St.	6th St.
6th St.	N. River St.	Pine St.
North River St.	E. 6th St.	Laurel St.
Grand Ave.	6th St.	7th St.
7th St.	Midland Ave.	Lincoln Ave.
Red Mountain Dr.	Midland Ave.	W. 9th St.
Veltus Park	8th St.	Loop
8th St.	Grand Ave.	Cleveland Ave.
11th St.	Pitkin Ave.	School St.
23rd St.	Blake Ave.	Grand Ave.
South Grand Ave.	23rd St.	Old Cardiff Bridge Rd.
Old Cardiff Bridge Rd.	Grand Ave.	Midland Ave.
Midland Ave.	Old Cardiff Bridge Rd.	Airport
Blake Ave.	23rd St.	27th St.
27th St.	Blake Ave.	Grand Ave.
Mountain Dr.	Brush Creek Ln.	Mount Sopris Dr.
Mount Sopris Dr.	Midland Ave.	Mountain Dr.

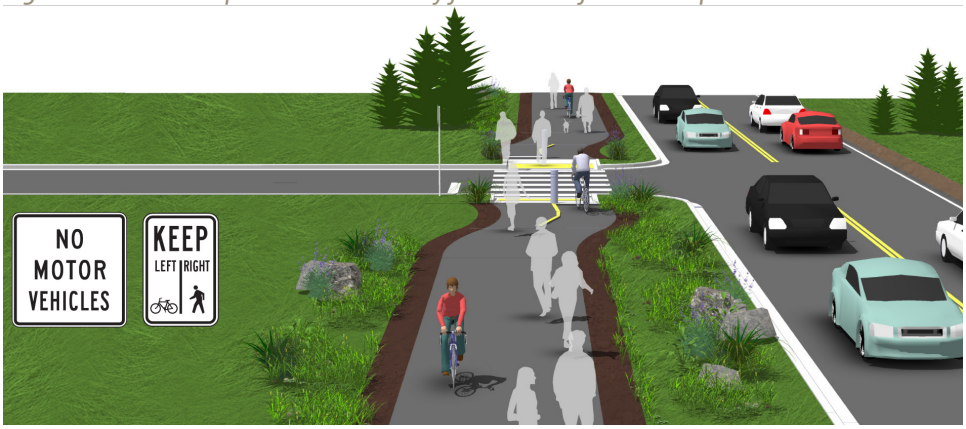
Figure 6: Bike Route On-Sidewalk

Bike Route On-Sidewalk	From	To
US 6	Center Dr.	Donegan Rd
Devereux Rd.	Midland Ave.	Collision Repair
Midland Ave.	Veltus Park	27th St.

Off-Street Shared-Use Paths

Shared-use paths are an off-street facility type that allows for two-way travel for the shared use of bicycles and pedestrians (can also include skateboarders, segways, wheelchairs and joggers). In addition to being used along roadways and highways, shared-use paths are commonly used where wide utility or railroad right-of-way exists and are designed to minimize cross-flow traffic. They offer non-motorized transportation opportunities not provided by the road system and are generally considered the most comfortable bicycle facility type for users.

Figure 7: Shared-use paths are exclusively for the use of bikes and peds



River Trail shared-use path

Atkinson Trail shared-use path

Glenwood Springs has paved shared-use paths that allow movement both across the city as well as out of town to other neighboring towns and cities. A few of the most popular shared-use paths include the Glenwood Canyon Recreation Trail and the Rio Grande Trail/River Trail. Figures 8 lists existing paved shared-use paths in Glenwood Springs. The Rio Grande Trail/ River Trail offers off-street north/south travel along the Roaring Fork River for commuting and recreational bicyclists and pedestrians with destinations throughout the Valley south all the way to Aspen. Within Glenwood Springs there are limited access points to the trail from the existing

Boy Scout Trail

Doc Holliday Trail

Red Mountain Trail

8th St. underpass has substandard sidewalk

South Blake Ave. near Walmart has sidewalks on one side of the street

Blake Ave. missing sidewalk and through street connection

roadway network. Together these facilities allow off-street corridor travel options for bicyclists and pedestrians who both live in and visit Glenwood Springs.

Glenwood Springs also offers an assortment of unpaved shared-use paths and trails. These are listed in Figure 9 The most popular trails include Boy Scout Trail, Red Mountain Trail, and the Wulfsohn Ranch Area Park.

Figure 8: Shared-Use Path Paved

Shared-Use Paved	From	To
Rio Grande Trail	Two Rivers Park	City of Aspen
Atkinson Trail	Glenwood Park	27th St.
Glenwood Canyon Path	Glenwood Springs	Dotsero
Connection	N. Traver Trail	W. Princeton Cir.
Connection	Glenwood Meadows	Red Mountain Dr.
Two Rivers Park	Loop	

Figure 9: Shared-Use Path Unpaved

Shared-Use Unpaved	From	To
Midland Ave.	Wulfsohn	The Meadows
Social Pathway	West 8th St.	7th St.
12th St. Ditch Trail (Not ADA)	Pitkin Ave.	Bennett Ave.
Doc Holiday Trail	12th St.	0.5 Miles
Boy Scout Trail	Cleveland Ave.	2.4 Miles
Red Mountain Trail	W 9th St.	7 Miles
Wulfsohn Mountain Park	Loops	1-4 Miles
Connector	Red Mountain	Com. Ctr./Wulfsohn

Existing Pedestrian Facilities

Sidewalk Design

Sidewalks are present on the majority of the downtown streets in Glenwood Springs but are less common in residential areas. Where present, sidewalks range from 3 to 10 feet in width. The sidewalk configuration is either attached or detached depending on the land-use. Attached sidewalks are typically found in commercial and retail zones, while residential zones have detached walks with a small landscape strip buffer. Five feet in width is the industry standard for a sidewalk which is enough room for two pedestrians to walk side by side. Additionally, downtown sidewalks offer pedestrian scale amenities including lighting, landscaping, seating and trash bins.

Streetscape on 7th Street (installed 2014)

Sidewalk Connectivity

An inventory of sidewalks was conducted by field reconnaissance and aerial photo review to determine the locations of gaps in the sidewalk network on both sides of the street. Though recognized as a very pedestrian friendly and walkable city, Glenwood Springs has an incomplete sidewalk network. Substantial sidewalk gaps are present in the neighborhood north of 6th Street, in town along Minter Ave, Lincoln Ave and School Street, in neighborhoods on the west side of the Roaring Fork River along Midland Ave, and in scattered parts of the central and southern parts of the City. See needs assessment maps page A-35 and A-36. Major system gaps in the City sidewalk network are more present in residential areas where there are lower traffic volumes.

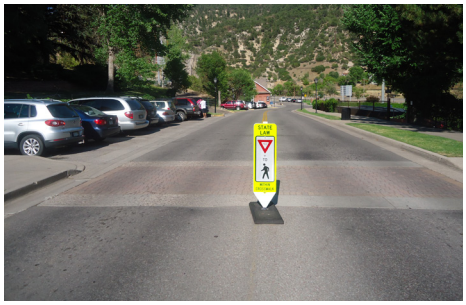
Incomplete sidewalk at Glenwood Hot Springs, along N. River Street

Sidewalk gap at 7th St. and RR Wye

Crosswalks and Intersections

Glenwood Springs has a hierarchical system of crosswalks throughout the city. Most major intersections have colored concrete crosswalks while collector and local streets may be marked with continental crosswalks or none at all. Along Grand Avenue, intersections have high quality pedestrian sidewalks with red-colored concrete crosswalks. Outside of Grand Avenue, other major intersections such as 8th and Midland, 6th and Laurel, and the I-70 collector have similar markings.

High visibility crosswalk



MUTCD "yield to pedestrians" sign

Other pedestrian facility enhancements are used at some intersections in downtown Glenwood Springs including "Yield to Pedestrians" signs in the middle of the crosswalk, pedestrian signals with push buttons and countdown timers, as well as audible devices for disabled pedestrians at Grand Avenue and 8th and 9th Streets.

Local streets that see lower traffic volumes typically don't need designated crosswalks. However local streets acting as the preferred route for Safe Routes to School (SRTS) should be identified and designed for safety and efficiency. There are nine schools in Glenwood Springs including Glenwood Springs Elementary School, Glenwood Springs Middle School, Glenwood Springs High

School, Two Rivers Community School, Colorado Mountain College, St. Stephen's School, Columbine Christian School, Our School Preschool, and Sopris Elementary School. These campuses are spread out across the city and attract pedestrians and bicyclists at intersections that cross arterial, collector and local streets. These routes often justify pedestrian scale improvements like bulbouts, pedestrian refuge islands, pedestrian signals, and high visibility crosswalks depending on context.

Continental crosswalk

Wayfinding signage for sidewalk underpass

6th St. and Pine traffic volume

Grand Ave and 27th Street

Cyclist on sidewalk

Existing Vehicular Conditions

The City's street system is comprised of over 135 roads of various lengths and widths. Each road is assigned a class according to the character of service they are intended to provide. The City has five functional classifications for its street system. They include principal arterial, minor arterial, commercial collector, residential collector, and local.

Principal arterials are intended to serve the major traffic movements within the City where focus is on providing mobility over access to abutting land uses. Minor arterials are streets that provide important connections between geographic areas of the City and are intended to augment the principal arterials where more emphasis is placed on land access. Commercial collectors are streets that provide both land access and traffic circulation within the commercial and industrial areas of the City. Residential collectors provide both land access and traffic circulation within the residential areas of the City. Finally, local streets are those that provide direct access to abutting land uses. They offer the lowest level of mobility and service to through traffic is usually deliberately discouraged.

The local street system in Glenwood Springs comprises all facilities not listed on one of the higher systems. In the neighborhoods in and around downtown, these local streets form a grid system, which is traditional for an urban area, and encourages more pedestrian and bicycle usage. In the newer areas of Glenwood Springs, however, the residential developments reflect more of a suburban approach to accommodate the topographic challenges. Consequently, the streets are typically curvilinear and connectivity is more circuitous.

Figure 10: Existing Vehicular Conditions per Street Type

Street Classification Class	Local Examples
1. Principal Arterial	*▪ SH-82* *▪ Midland from I-70 to 8th Street* *▪ 27th Street*
2. Minor Arterial	*▪ US-6 from Mel Ray to Laurel* *▪ 7th Street from Midland to Colorado* *▪ Midland from 8th Street to the south City limits*
3. Commercial Collector	*▪ Mel Ray* *▪ US-6 west of Mel Ray* *▪ Devereux Road* *▪ Wulfsohn except for segment between East Meadows and West Meadows* *▪ 7th Street from Colorado to Blake* *▪ 8th Street from School to Blake* *▪ South Grand Avenue*
4. Residential Collector	*▪ Donegan Road* *▪ Blake from 7th Street to Palmer* *▪ Pitkin from 8th Street to 14th Street* *▪ Four Mile Road*
5. Local	*▪ Small-scale traffic volume, residential local streets*

Currently, there are three congested corridors in the City where the traffic volumes are either at or over the capacity of the street. SH-82 is the primary north – south street in the City and must accommodate both travel passing through the City and local traffic. Traffic volumes range from 25,000 to slightly over 30,000 vehicles per day through the corridor. With this level of volume, the street is operating at capacity with problems at select intersections. The City, in conjunction with the Colorado Department of Transportation, completed the Corridor Optimization Plan in 2010. These improvements identified in the study are intended to strike a balance between mobility and access so the functional intent of the state highway is maintained but access is adequate to accommodate both existing land uses and potential development opportunities.

The other two congested corridors include 7th and 27th Streets. 7th Street and 27th Street provide the only two east/west vehicular connections across the Roaring Fork River. Seventh Street is currently operating at close to capacity and 27th Street at South Midland Ave is operating over capacity in the peak periods.

Much of the congestion in the City is caused by the lack of a grid network outside downtown which typically helps disperse traffic throughout the system. In Glenwood Springs, there is a limited grid network of streets due to the steep canyon topography and two major rivers. Consequently, there is more reliance on the limited number of major streets such as SH-82, 7th Street, and 27th Street. This reliance contributes to the congestion and delay at these key City connections.

Bridges

There are ten bridges in Glenwood Springs. Five bridges cross the Colorado River north/south and three cross the Roaring Fork River east/west. Two cross I-70 via Devereux Rd. Five of the ten total bridges are exclusively dedicated for bicycle and pedestrian use. The busiest vehicular bridges are the Grand Avenue Bridge with an AADT of 25,000 vpd (vehicles per day), the 27th Street Bridge with 9,500 vpd and the 7th Street Bridge with 8,300 vpd. The busiest pedestrian bridge, the Grand Avenue Pedestrian and Bicycle Bridge has combined bicycle and pedestrian volumes that can reach approximately 4,000 users per day during seasonal peaks (CDOT).

Devereux Bridge

Grand Ave. Pedestrian Bridge

Cardiff Bicycle and Pedestrian Bridge

Two Rivers Park Trail Bridge

Circulation Conditions

Four studies were considered in the development of circulation conditions data. They are the *Downtown Vehicular and Pedestrian Circulation Study,* the *SH-82 Access Control Plan, Glenwood Ridge Traffic Impact Study (March, 2014)* and the *Traffic Assessment State Highway Access Permit Application for Iron Mountain Hot Springs (July, 2014).* Data referenced from these four plans is presented in ways specific to each study but has been organized for overall comparison in the following tables. However, for each intersection that is being considered significant to this study, available information regardless of format has been incorporated here to determine the efficiencies (or lack of) for operations along major routes in Glenwood Springs. Traffic data is commonly measured and described using a grading system called level-of-service (LOS). This grading relies on average stopped delay in seconds per vehicle and characterizes the operational conditions of traffic flow at an intersection ranging from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (indicating an over-saturated intersection condition where traffic flows exceed the design capacity, resulting in long queues and delays). LOS D is commonly used as the minimum acceptable performance level grade. Other data such as pedestrian and bicycle use can present itself in the form of counts or volumes such as Annual Average Daily Traffic (AADT), vehicles per day (vpd) or Volume to Capacity Ratio (v/c).

The *Downtown Vehicular and Pedestrian Circulation Study* is presently being conducted for Glenwood Springs in order to capture traffic patterns related to vehicular, bicycle and pedestrian volume. Data for the study was gathered by All Traffic Data using the Synchro 7/0 software program during the week of October 14-19, 2013. It should be noted that mid-October is not considered peak season for tourism or bike and pedestrian traffic. However, according to historic CDOT data, traffic volumes in October typically represent the average along the Grand Avenue Corridor for the entire year. Regardless, the study is helpful in evaluating the existing and future circulation opportunities and challenges within the transportation network of Glenwood Springs. While the boundaries of this study area were restricted to the downtown area alone, the findings at key intersections are significant to the City's transportation network as a whole.

The *SH-82 Access Control Plan* was adopted by the City of Glenwood Springs in July, 2013 and was created to define future property access points along the SH-82 corridor. Reference stations were set up to determine directionality and counts. The *Glenwood Ridge Traffic Impact Study (March, 2014)* was developed to analyze the

traffic impacts associated with the Glenwood Ridge Development on Four Mile Road. The study looks at existing roadway network, existing peak hour traffic conditions, and future volume forecasts in order to make recommendations to the road system. Data was collected in February 2012 and resulting data is presented as a LOS rating. The *Traffic Assessment State Highway Access Permit Application* was prepared for the city by SGM and was completed in late 2014. The study was developed in order to provide estimated peak hour traffic generation for the Iron Mountain Hot Springs. The plan also looks at existing movements on turn lanes along US 6 to determine whether or not they meet CDOT requirements under future conditions. Traffic analysis data is presented in AADT format.

Twenty-seven intersections were analyzed for vehicular volumes, pedestrian crossing volumes and bicycle volumes during the AM (7:00-9:00 AM), PM (4:00 - 6:00 PM), and Saturday Midday (12:00-2:00 PM) peak hours. For signalized intersections, LOS is reported for the intersection as a whole, receiving an overall grade. For unsignalized intersections, only the worst performing movements are reported with a grade. At most unsignalized intersections, left turning and through movements experience lower LOS grading. At other unsignalized intersections, left turning vehicles from the minor street experience excessive delays (LOS F). However, for the city, the left turn movements cause significant delay and congestion on the minor approaches.

Figure 11 shows the location of the twenty-seven intersections being considered in this report for reasons of their outstanding numbers in all categories as they relate to this report. Figures 12 through 15 describe volumes for the downtown area in vehicular, bicycle, pedestrian and trail count volumes. Trail count information is being considered alongside vehicular, pedestrian and bicycle data as major Glenwood Springs trails are considered a significant part of the City's overall transportation network. Trail counts were collected by the Glenwood Springs Parks and Cemetery Department in 2013-2014 from counters placed at each trail.

Figure 11: Downtown Intersections Key Map

27. US Highway 6 and Devereux St

26. Four Mile Rd and Midland/Airport

25. Mount Sopris Dr and Midland Ave

21. CR 115 and Hwy 82

22. Orrison d/w and Hwy 82

Note: The above key map is a graphical reference for Figures 12 and 13

Vehicular Conditions: Existing Traffic Operations

The twenty-seven significant intersections are broken down into signalized and unsignalized groups for the sake of comparison as each condition presents it's own issues. Figure 12 describes *signalized* intersection's LOS as well as its deficiency condition. Figure 13 describes each *unsignalized* intersection through AM, PM, overall LOS, and volume-to-capacity ratio (v/c) for the worst performing movement (typically this is the left-turn approach at the stop-sign controlled intersection.) The prioritization of vehicular travel on Grand Avenue at some intersections results in longer green times on Grand Avenue and less on east-west travel. This reduced green time allocated to side streets increases vehicular (and pedestrian) wait time if crossing Grand Avenue.

Figure 12: Vehicular Volumes

VEHICULAR VOLUMES: Signalized Intersections

Intersection		Level of Service (LOS)		
	Control	Period	Overall	Deficient Approaches
1. 8th St. and Grand Ave.	*Signal*	*AM*	*B*	*EB - E, WB - E*
		PM	*C*	*EB - F, WB - E*
		Sat	*B*	*EB - D, WB - D*
2. 9th St. and Grand Ave.	*Signal*	*AM*	*A*	*WB - E*
		PM	*B*	*EB - E, WB - F*
		Sat	*B*	*WB - E*
3. 10th St. and Grand Ave.	*Signal*	*AM*	*A*	*EB - D, WB - D*
		PM	*A*	*EB - E, WB - E*
		Sat	*A*	*EB - D, WB - D*
4. 11th St. and Grand Ave.	*Signal*	*AM*	*A*	*EB - D, WB - D*
		PM	*A*	*EB - E, WB - E*
		Sat	*A*	*EB - D, WB - D*
5. 14th St. and Grand Ave.	*Signal*	*AM*	*A*	*EB - D, WB - D*
		PM	*B*	*EB - E, WB - F*
		Sat	*A*	*EB - D, WB - D*
7. 27th St. and Hwy 82	*Signal*	*AM*	*C*	*N/P*
		PM	*B*	*N/P*
23. 27th St. and Grand Ave	*Signal*	*AM*	*A*	*N/P*
		PM	*A*	*N/P*

Figure 13: Vehicular Volumes

VEHICULAR VOLUMES: Unsignalized Intersections				
Intersection	Level of Service (LOS)			
	Control	Period	Overall	(v/c)
6. 7th Street and Colorado Ave	Side-Street Stop	AM PM Sat	A B B	N/P
8. 7th Street and Cooper Ave	4-way stop sign	AM PM Sat	A A A	N/P
9. 8th Street and Cooper Ave	4-way stop sign	AM PM Sat	A A A	N/P
10. 9th Street and Cooper Ave	Side-Street Stop	AM PM Sat	A B B	N/P
11. Maple Street and Hwy 82	Side-Street Stop	AM PM	F C	0.05 0.04
12. 13th Street and Hwy 82	Side-Street Stop	AM PM	E F	0.27 0.39
13. D Street and Hwy 82	Side-Street Stop	AM PM	F F	0.54 0.41
14. Park Drive North and Hwy 82	Side-Street Stop	AM PM	C F	0.05 0.02
15. Park Drive South and Hwy 82	Side-Street Stop	AM PM	F F	0.02 0.06
16. 19th Street and Hwy 82	Side-Street Stop	AM PM	F F	0.16 0.76
17. Bradley d/w and Hwy 82	Driveway	AM PM	B F	0.04 0.30
18. 22nd Street and Hwy 82	Side-Street Stop	AM PM	E F	0.32 0.80
19. 24th Street and Hwy 82	Side-Street Stop	AM PM	D F	0.05 0.07
20. 29th Street and Hwy 82	Side-Street Stop	AM PM	F F	0.02 0.21
21. CR 115 and Hwy 82	Side-Street Stop	AM PM	E F	0.18 0.33

Grand Ave and 9th Street

Grand Ave and 27th Street

Grand Ave and Pine Street

Grand Ave and 14th Street

22. Orrison d/w and Hwy 82	*Driveway*	*AM* *PM*	*E* *F*	*0.01* *0.06*
24. 27th Street and Midland Ave	*Round-a-bout*	*AM* *PM*	*A* *A*	*N/P*
25. Mount Sopris Drive and Midland Ave	*Side-Street Stop*	*AM* *PM*	*C* *C*	*N/P*
26. Four Mile Road and Midland/Airport	*Side-Street Stop*	*AM* *PM*	*A* *A*	*N/P*
*27. US Highway 6 and Devereux St**	*Side-Street Stop*	*AM* *PM*	*B* *C*	*N/P*

*Overall LOS grade for US Highway 6 and Devereux Street intersection data is sourced from the Traffic Assessment State Highway Access Permit Application. The numbers here reflect future projection of volumes based on Synchro and SimTraffic traffic analysis software used to analyze year 2035 traffic volumes per Option #3 suggesting the installation of a signal, the relocation and widening of Traver Trail and the restriping of Devereux Rd.

In addition to intersections, corridors were also evaluated in the *Downtown Vehicular and Pedestrian Circulation Study* for their performance as a whole using delay per vehicle, number of unserved vehicles, and the average speed along the highway (compared to posted speed limits). Segments along SH-82 were considered in the study and include I-70 to Pine Street, 8th Street to 13th Street, 14th Street to Blake Ave. and CR 154 to Orrison. The study of those highway segments revealed that drivers experience the greatest delays between I-70 and 14th Street. The study also showed that traffic demands exceeded capacity for some specific movements between 14th Street and Blake Ave. However, no intersection included in that segment has a calculated volume-to-capacity ratio greater than 1, suggesting that there may be an opportunity to improve signal operations for those specific delays. Traffic speed summaries showed that of the studied corridor segments along SH-82, drivers in the I-70 to Pine Street and 8th Street to 13th Street areas drove an average of almost 9 miles below the speed limit posted at 25 miles per hour. This is typical for urbanized areas with closely spaced traffic signals.

Bicycle and Pedestrian Conditions

Bicycle and pedestrian count data from the non-peak month of October 2012 was also analyzed to identify downtown intersections that experience the most amount of bike and foot traffic. Most downtown intersections see less than six bicycle movements during any peak hour. However, increased bicycle traffic was observed at 8th and Cooper and 9th and Cooper during PM peak and Saturday

The Study found that Saturday midday generally has the highest pedestrian volume with many of the intersections seeing over 100 pedestrians per hour. The intersections with the largest pedestrian volumes are 8th Street and Grand Avenue, 9th Street and Grand Avenue and 7th Street and Cooper Avenue (see Figure 14).

Figure 14: Pedestrian and Bicycle Counts

PEDESTRIAN AND BICYCLE COUNTS							
Intersection		Ped Peak Period			Bike Peak Period		
	Control	AM	PM	Sat	AM	PM	Sat
1. 8th St. and Grand Ave.	*Signal*	*55*	*134*	*373*	*0*	*2*	*0*
2. 9th St. and Grand Ave.	*Signal*	*35*	*57*	*173*	*0*	*0*	*0*
3. 10th St. and Grand Ave.	*Signal*	*18*	*40*	*70*	*0*	*0*	*0*
4. 11th St. and Grand Ave.	*Signal*	*7*	*13*	*30*	*0*	*1*	*1*
5. 14th St. and Grand Ave.	*Signal*	*22*	*25*	*24*	*0*	*2*	*3*
6. 7th St. and Cooper Ave.	*Stop*	*17*	*75*	*176*	*1*	*6*	*2*
7. 8th St. and Cooper Ave.	*4-Stop*	*38*	*105*	*130*	*1*	*5*	*7*
8. 9th St. and Cooper Ave.	*Stop*	*22*	*62*	*60*	*1*	*3*	*5*

Trail count data was collected by Glenwood Springs Parks Department with infrared trail counters at all major trails. This data reflects both pedestrian and bicycle numbers and is displayed in Figure 15 in weekly and monthly amounts. The full trail count report includes hourly, daily, weekly, monthly and yearly numbers.

Figure 15: Trail Pedestrian and Bicycle Counts

TRAIL COUNTS - AVERAGE BIKE AND PED		
Trail	Weekly	Monthly
1. Linwood Cemetery	*863*	*3,746*
2. Red Mountain - Golay Trail	*604*	*2,620*
3. Atkinson Trail - North	*653*	*2,775*
4. Atkinson Trail - South	*350*	*1,503*
5. River Trail at Two Rivers	*2,164*	*-*
5. Wulfsohn Trail - East	*662*	*2,873*
7. Wulfsohn Trail - West	*89*	*389*

Glenwood Springs Long Range Transportation Master Plan

Multi-modal Existing Conditions - North Map

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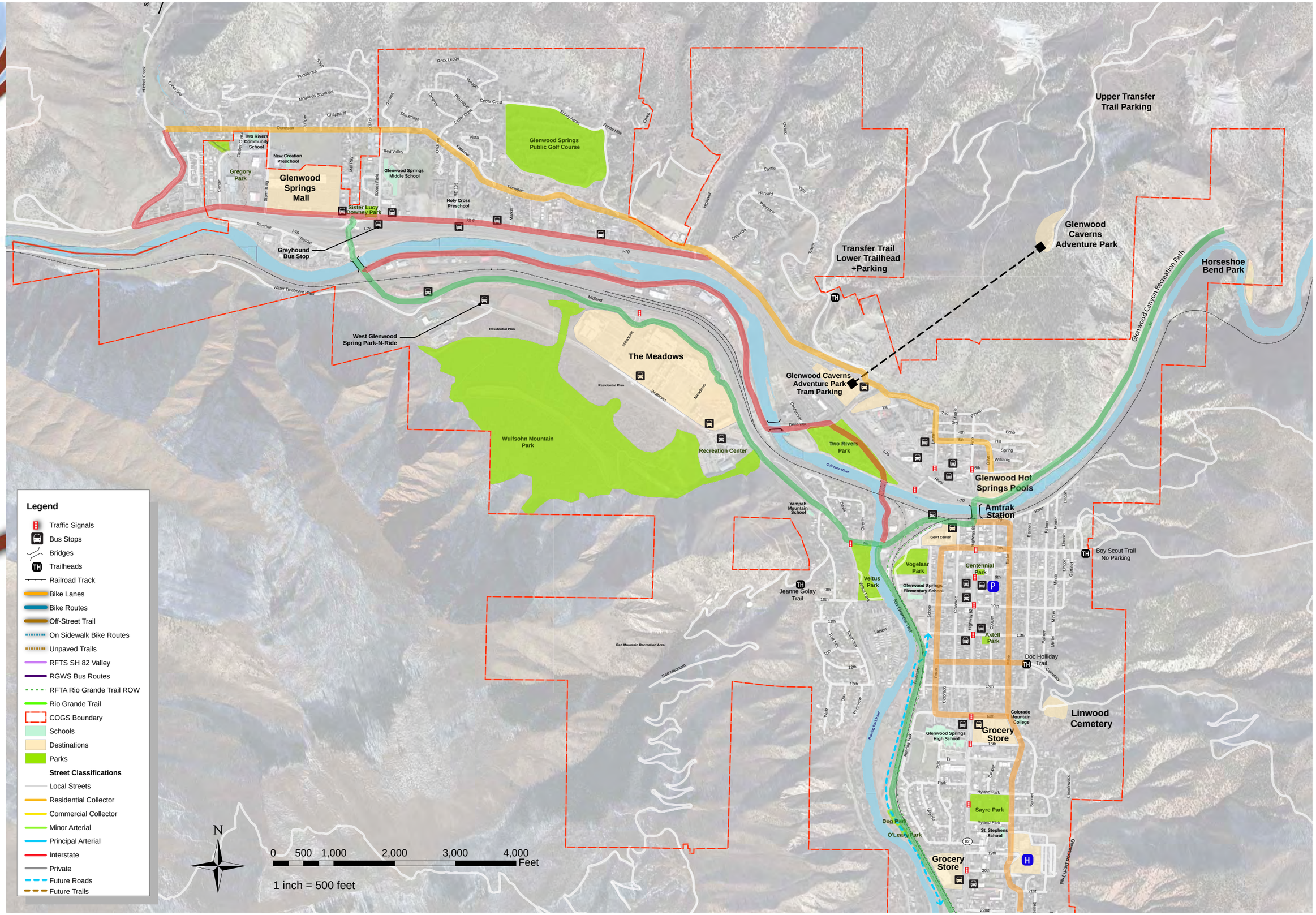

Glenwood Springs
Long Range Transportation Master Plan

Multi-modal Existing Conditions - South Map

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Needs Assessment

Glenwood Springs offers a beautiful natural environment that makes the City a desirable place to live and visit. This setting allows easy access to hiking and road and mountain biking trails, river sports and the famous hot springs. The compact nature of the City is a direct result of the surrounding natural features and existing topography. This compactness translates into short intra-city trips for its residents and visitors with a diversity of available mobility options. However, the City's size also limits usable space for expansion, both through development and for transportation improvements. Due to the varied type of development in Glenwood Springs, each area has specific needs and concerns that will shape future multi-modal transportation facilities.

The vehicular needs were identified based on a review of previous studies and reports, information provided by City staff, public input, and a planning-level assessment of existing conditions. The identified needs focus on improving connectivity, providing additional capacity via either expanding existing facilities or adding new facilities, and completing system gaps. In addition, many of the streets in the City are one-dimensional in nature, primarily designed to serve vehicular traffic. The new model for urban streets is to safely and efficiently meet the needs of all users, regardless of age, ability, or mode of transportation.

Figure 15 presents an unprioritized list of those needs and concerns to be considered in the development of future multi-modal transportation facilities. Figures 17 and 18 represent mappings of those same needs and concerns. These needs and concerns take into consideration existing conditions, circulation conditions and public feedback.

Figure 15: Needs Assessment

Transportation Network Needs		
Project #	*Need*	*Notes*
Citywide Planning and Implementation Projects		
1	Develop City Traffic Origins and Destinations Study	
2	Develop City-wide Traffic Model	
3	Develop and implement City TDM program	
4	Update 5-year Transit Operations Plan	Scheduled for 2015
5	Develop City-wide sidewalk plan	LRTP Wiki Map input as foundation
6	Develop City-wide Wayfinding and Signage Plan	See framework plan
7	Complete implementation of the 1991 RiverTrail Master Plan	See plan
8	Install and maintain pylon signs (Ped Xing) at all major crosswalks. Also develop policy to maintain striping at all crosswalks.	LRTP Design Guidelines to address this
Midland Avenue Multi-Modal Improvements		
9	Midland Avenue needs a consistent on-street bicycle facility from I-70 to Airport Road	ROW width and space limitations; environmental impacts
10	Implement pedestrian facility on Midland Ave between I-70 and the Meadows Mall	Design for section from Lowes to RFTA property will be completed in 2015. RFTA will construct the portion on their park and ride property in 2015. Coordination with the UPRR will be required to go under the existing rail bridge.
11	Widen Midland Ave from Exit 114/I-70 to 8th street	MOU transferred responsibility for widening to the City
12	Midland Ave - add lanes/widen from 8th to 27th	Future Study, roadway is close to capacity per city street classification
13	South Midland Avenue -Reconstruction from 27th to Four Mile Road	Design of the project is budgeted in 2015
14	Construct a new vehicular/bike/ped bridge from Midland Ave to Devereux Rd; trail connection to Community Center	Cost of implementation; environmental feasibility; engineering feasibility
15	Designate Midland avenue from 8th to 27th as a "share the road" avenue: mark it with signs/street painting, etc.	ADT for this street may be too high for sharrows
16	Add sidewalks along Midland Ave at Hagar Lane and the Terraces for school kids	
17	Improve safety for all modes at Mt. Sopris and Midland Intersection	
18	Install raised crossing and pedestrian activated signals on Midland near Sopris Elementary for school crossings	
19	Improve intersection safety for all modes of travel at Midland Ave and Four Mile Road (evaluate a roundabout)	Cost of implementation; funding source; may be completed with future development of South Bridge Project
20	Add a sidewalk along Midland from 27th to Four Mile Road	

21	*Pedestrian underpass at Midland Ave bridge over CO River: from Dairy Queen area to Whitewater Activity Park*	*Help make this safer for river recreationists crossing Midland to return to the Wave from downstream*
SH-82 Corridor Multi-Modal Improvements		
22	*Provide access control measures along SH-82 to improve safety and operational efficiency per access control plan*	*see SH-82 Access Control Plan*
23	*Corridor timing analysis- ITS system to improve travel efficiency across the City*	*CDOT plans to re-time the corridor upon completion of the Grand Ave Bridge project*
24	*Relocation of SH-82*	*Very expensive project- would require State and federal participation and funding*
25	*Remove vehicular parking along Grand Ave from 8th St to 10th St and add bicycle facilities*	*On-street parking demand; residential/commercial concerns over loss of on-street parking*
26	*Grade-separated ped crossing of SH-82 at 9th Street*	*Engineering feasibility; space constraints; cost of implementation*
27	*Grade-separated ped crossing of SH-82 at 15th Street*	*Engineering feasibility; space constraints; cost of implementation*
28	*Grade-separated ped crossing of SH-82 at 23rd Street*	*Engineering feasibility; space constraints; cost of implementation*
29	*Improve safety for all modes at SH-82 and 23rd intersection*	*CDOT coordination; RFTA collaboration; ROW exchange in progress; refer to ACP Sheet 4 for possible configurations*
30	*Install a pedestrian refuge island on SH-82 for 23rd St crossing to allow bikes/peds more safe crossing times- the hwy is too wide for many to complete crossing in one signal cycle*	*Could be a good alternative to more expensive grade-separated project; ACP 23rd and SH-82; Coordination with CDOT is key as they have standard ped crossing speed for signal timing*
31	*Improve the safety of 27th Street and SH 82 intersection. Poor sight distances cause many conflicts with Rio Grande Trail users. Create a bike/ped trail along the south side of 27th to provide an alternate route back to Grand Avenue*	
32	*Grade-separated ped/bike crossing of SH-82 at 27th St to connect Rio Grande Trail and BRT Station*	*RFTA Coordination (Regional Bicycle, Pedestrian, and Transit Access Plan)*
33	*Provide a sidewalk connection along Hwy 82 from South Blake Ave to Glenwood Commercial/Retail center (Thrifty Thrills, First Class Trash)*	*CDOT coordination; ROW acquisition, private property coordination*
US-6 Corridor Multi-Modal Improvements		
34	*US-6 and Traver Trail, US-6 and Devereux Rd intersection improvements*	*CDOT coordination; cost of implementation; existing safety issues. City responsible for this improvement through 2002 Access Permit with State. Improvement trigger is 150 DHV*
35	*Provide on-street bicycle facilities along Hwy 6 from Mel Ray to Devereux*	*ROW and CDOT coordination*
36	*Provide enhanced mid-block pedestrian crossing (RRFB's) along Hwy 6 to bus stops on the south side of roadway*	*CDOT coordination; operations and maintenance*

37	Provide a safe crossing of US-6 from Soccer Field Road to bus shelter on south side of hwy for Middle School kids and Greyhound patrons	
38	US-6 & Devereux intersection: provide east/west ped crosswalk with ped refuge island; provide north/south ped crosswalk across US-6 (consider ped refuge island here); extend sidewalk along east side of Devereux to US-6	Could be completed with intersection improvements based on MOU with CDOT
39	Build new shared-use path along Hwy 6 from Laurel to Donegan	CDOT coordination; roadway feasibility
40	Provide on-street bicycle facilities along Hwy 6 from Mel Ray to Devereux	ROW, CDOT coordination
41	Add a new bike lane, buffered bike lane, protected bike lane on one or both sides of US-6 from Devereux Rd to Center for the Arts (through the proposed 6th/Laurel roundabout)	
Devereux Road Multi-Modal Improvements		
42	Construct a new vehicular/bike/ped bridge from Midland Ave to Devereux Rd; trail connection to Community Center	Cost of implementation; environmental feasibility; engineering feasibility; crossing of UPRR
43	Sidewalk completion on Devereux Rd from existing ped bridge over I-70 to Centennial/Two Rivers Plaza Rd and from ped bridge north along east side of Devereux to intersection with US-6	Cost of implementation; environmental feasibility; engineering feasibility
44	Install a way finding map on the Two Rivers/ Devereux crossing to facilitate a bicycle connection through the Two Rivers parking lot back onto Devereux Rd.	
45	Design and implement a bike/ped connection between the Devereux/I-70 crossover and continuing along Devereux Road	
46	Consider marking Devereux Rd with "share the road" or bike lanes to facilitate bikers	CDOT maintenance facility on this road makes this a dangerous condition for a shared road designation; evaluate actual truck traffic
47	Finish sidewalk on Devereux Road from Colorado River Bridge westward to existing sidewalk on north side of roadway	
48	Add shared lane markings along Devereux Rd from Two Rivers Plaza Rd to US-6	Evaluate based on AADT and posted speed limit
Citywide Bridge Projects		
49	Implement South Bridge project, with improvements from Four Mile Road/Airport Road to new interchange with SH-82	Cost of implementation; public support; preliminary design complete; EA nearly complete; RFTA Coordination and Rio Grande Corridor ACP pending
50	Extension of 14th Street across Roaring Fork River to Midland: vehicle, bike/ped bridge	Cost of implementation; ROW acquisition; private property approval; environmental feasibility; engineering feasibility; RFTA coordination

51	*Replace the 27th St. Sunlight Bridge*	*42.2 sufficiency rating; Operational issues at 23rd/S. Grand; CML grant for $1.7M has been awarded for design of replacement bridge*
52	*New vehicle/bike/ped bridge from Mt. Sopris Drive to CR 154*	*Could not be constructed in advance of South Bridge project #*
53	*Consider new bicycle and pedestrian bridge across CO River connecting South River Street to North River Street, vicinity of Vapor Caves and Palmer or Bennett*	*Cost of implementation; CDOT coordination; environmental feasibility*
54	*Relocate existing Grand Ave CO River ped bridge to new location in GWS. Consider across CO River from existing western end of LoVa trail by W GWS Sanitation District to City property on south side of river by WWTP*	
55	*New ped trail connection from Two Rivers Park west along the CO River to the Whitewater Park- this includes a new shared-use bridge across river from Iron Springs development to just west of UPRR yard*	
56	*Provide new ped/bike bridge connecting Atkinson Trail to Rio Grande trail in vicinity of 22nd Street*	*Depending on extending Atkinson Trail north from Sunlight Bridge; Cost of implementation; environmental concerns along Roaring Fork River*
Vehicular Improvements within City Limits		
57	*Wulfsohn Rd signalization @ east & west intersections w/ Midland Ave*	*Associated with Meadows development*
58	*Improve overall circulation and intersection operations in the downtown area*	*Downtown Circulation Study nearly complete; CDOT coordination for SH-82 intersections and signal timing*
59	*New north-south arterial street, west of Rio Grande trail from 8th St to 23rd St (Riverside Dr)*	*Environmental feasibility; engineering feasibility; public and elected official approval; RFTA Coordination*
60	*Open Blake Ave at gate between BRT parking lot and Walmart*	*Budgeted for construction in 2015; provides continuous travel to southern GWS commercial center*
61	*Straighten Blake Ave from 21st St to 23rd St*	*Corridor Optimization Plan; Cost; ROW acquisition; private property acquisition; public and elected official approval*
62	*Traffic congestion mitigation at S Grand Ave & 27th St Sunlight Bridge- signal modification*	*Signal and geometry are an issue- evaluate all three intersections along 27th St; $1.7M CML grant awarded for bridge design. IGA in process for grant award. Potential for additional funding sources through development proposals and Garfield County participation*
Pedestrian and Bicycle Connections and Safety Improvements within City Limits		
63	*8th Street Extension and Confluence Area ped/bike improvements; Pedestrian crossing on 8th Street*	*reviewing three alternate 8th St Extension proposals; Confluence parking was added with Lift Station project*
64	*Safety enhancements for pedestrians at west Wulfsohn Rd and Midland Ave intersection*	*Associated with Meadows development; RFTA building new trail from W GWS P-and-R*

65	Add signs instructing "Do Not Block Crosswalk" at appropriate intersections. Some examples mentioned are:	6th St & Laurel; 7th St & Blake; 8th St & Grand Ave; 9th St & Grand Ave; 23rd St & Rio Grande trail; 27th St & Rio Grande trail; Rio Grande trail & CR 154 at Buffalo Valley* (outside of COGS Limits)
66	Move funeral home sign back from 8th St about 5'. Where it is now blocks visibility of oncoming westbound traffic for peds and cyclists coming up from RiverTrail until they reach the edge of 8th St	City Street or streetscape standards issue?
67	Enhance 7th St under DRGW RR wye bridge for cyclists: street too narrow and full of potholes where bikes SHOULD be ridden. Clearly mark 7th/8th St from Midland to Blake as "share the road" opportunity with appropriate signage and vehicle speed restrictions. Keep those potholes filled.	ADT for this street may be too high for sharrows; however, this problem could be addressed by new 8th St connection/pedestrian box culvert
68	Install ped-activated signal by ped crossing on 7th St where the east-leg RR wye tracks cross- this x-ing can be very dangerous during winter months when drivers are facing the low sun	RRFB rectangular rapid flashing beacon
69	Make the existing 8th St ad-hoc trail from the church across RR west wye track to City Hall parking lot usable for bikes by placing fill between the rails	Requires RFTA agreement and CO PUC-approved crossing
70	Add the following shared lane projects: -Linden St from Devereux Rd to Laurel -5th Street from Laurel to Pine -Pine Street from 5th Street to 6th Street -North River Street from Grand Avenue to 6th Street -7th Street from Midland Ave to Blake Ave -10th Street from School Street to Blake Ave -14th Street from Coach Miller Drive to Blake Ave -8th Street from School Street to Garfield -Pitkin Avenue from 8th Street to 14th Street -Laurel Street from 5th Street to the roundabout -Colorado Ave from 7th Street to 8th Street	Each project needs to be evaluated on AADT and posted speed limits
71	Commit to maintaining the Blake Ave bike lane-markings are not being maintained properly	Fix substandard section near hospital; use thermoplastic symbols and striping as an alternate; finish the bike lane loop from Blake Ave and 23rd St back down to Grand Ave
72	Formalize the 12th St & Grand Ave tunnel: add box culvert, clean out the mud, remove the cottonwood fuzz from the lights, mark it with signs at both ends	
73	Complete sidewalks on Blake Ave from Hyland Park Drive north to City Market/CMC	
74	Provide standard bicycle lanes or sharrows along Blake Ave from Hyland Park to 19th St	Street retrofit; existing space constraints and possible on-street parking loss
75	Provide sidewalks and bicycle facilities along S Blake Ave	Budgeted in 2015

76	*Provide sidewalks on at least one side of the street in north Glenwood Springs (6th to 2nd, Laurel to Olive)*	*Cost of implementation; ROW acquisition; private property approval*
77	*Reconstruct shared-use trail along CO River/I-70 corridor from Two Rivers Park to No Name Tunnels (enhance the existing not-so-pleasant user experience)*	
78	*Provide enhanced connection from Two Rivers Park to Glenwood Canyon Recreation Trail along River Road*	*ROW acquisition; corrdination with Glenwood Hot Springs; CDOT coordination*
79	*Include bicycle ramps and pavement markings to allow for bicycle movement through the new Grand Ave Bridge project roundabout*	
80	*Need longer pedestrian signal timing at 6th and Pine intersection*	*Will likely be resolved with the Grand Avenue Bridge project*
81	*Modify the ped-activated light at Exit 116 to complement the traffic signal- currently the ped signal activates with traffic turning onto eastbound on-ramp- dangerous*	*Peds currently must cross while looking over their right shoulder for vehicles turning from SH-82 onto the I-70E on ramp*
82	*Improved signage is needed around the entire 6th/ Laurel/Hotel Colorado/Hot Springs area to assist visitors- area is confusing to navigate on foot or bike for them*	
83	*Mark the road in front of the Hot Springs Pool as "share the road" to make it easier for two-way bicycling, and provide adequate signage to guide peds/bikes and warn vehicles of oncoming bike traffic*	*6th St may be revised based on an upcoming DDA project and/or the Grand Ave Bridge replacement; should this also be done on N River St?*
84	*Designate a bicycle boulevard or bicycle route between 6th&Pine and 6th&Linden intersections through N GWS neighborhood. Mark route with signage and pavement markings and add to bike route maps*	
85	*Establish policy for bikes on downtown sidewalks and clearly mark them to reduce ped/bike conflicts*	*Consider using a dismount pavement marking (Ft Collins has good example for review)*
86	*Provide bicycle and ped facilities on W 9th St*	*ROW constraints; feasibility issues*
87	*Provide shared-use path along east leg of RR wye track to connect Rio grande trail from 7th St and downtown*	*UPRR coordination; RFTA coordination; elevation change*
88	*Provide more bicycle parking downtown*	*Bike racks; on-street bike corrals*
89	*Provide bicycle parking at Glenwood Springs Elementary School*	*District/School coordination; funding source*
90	*Provide bicycle parking at Veltus Park*	*Maintenance; funding source*
91	*Provide sidewalks along School Street to enhance safe routes to school*	*ROW constraints; neighborhood coordination*

92	*Add a sidewalk along Coach Miller Drive to the High School*	
93	*Add a sidewalk east of the recycling center along School Street*	
94	*Provide trail connections to the Rio Grande Trail at 10th, 11th, 12th, 14th Streets*	*ROW acquisition, RFTA coordination and access constraints; private property approval*
95	*Provide sidewalks on at least one side of the neighborhood streets along Minter Ave, Lincoln Ave, Garfield Ave*	*Cost of implementation; ROW constraints; private property approval*
93	*Provide bicycle parking at Doc Holiday Trailhead*	*Space constraints*
97	*Add mid-block crossing of Cooper Ave between 8th/9th to access public parking lot across from Colorado Mountain College*	*Safety demand*
98	*Fix curb ramps on side path along S. Grand Ave from 23rd St to 27th St*	*Improve sight distance at Atkinson Trail intersection*
99	*Extend Atkinson Trail north from 27th St (Cottonwood Landing) to approximately 22nd St (Rose Property) and provide a new bicycle and pedestrian bridge connecting to the Rio Grande Trail*	*Cost implementation; environmental concerns along Roaring Fork River*
100	*Extend Atkinson Trail south from reach to Park East Trail*	*ROW acquisition; environmental feasibility; engineering feasibility; cost of implementation*
101	*Enhance transition from Atkinson Trail to Midland Ave*	*ROW; private property approval; tree removal*
102	*Formalize connection to Rio Grande Trail from 32nd St*	*ROW acquisition; private property coordination*
Multi-Modal Improvements outside City Limits		
103	*Construct LoVa Trail from New Castle to Glenwood Springs through South Canyon*	*Environmental concerns along CO River; ROW acquisition; funding source coordination with Garfield County*
104	*New trail connecting west Glenwood Springs to South Canyon Trail*	*Environmental concerns along CO River; ROW acquisition; funding source coordination with Garfield County*
105	*Continue bike lanes and sidewalks along Donegan Rd from Soccer Field Rd to Mitchell Creek Rd*	*ROW; coordination with Garfield County; property owner approval; Each intersection needs crosswalk markings*
106	*Provide bicycle facilities along Mitchell Creek Rd from US-6 to Donegan Rd*	*ROW; property owner approval; coordination with Garfield County*
107	*Provide shared-use path along Four Mile Rd up to Sunlight Ski Area*	*Space constraints; ROW acquisition; environmental feasibility; coordination with Garfield County*

Glenwood Springs
Long Range Transportation Master Plan

Figure A.3: Bicycle and Pedestrian Needs Assessment - North Map

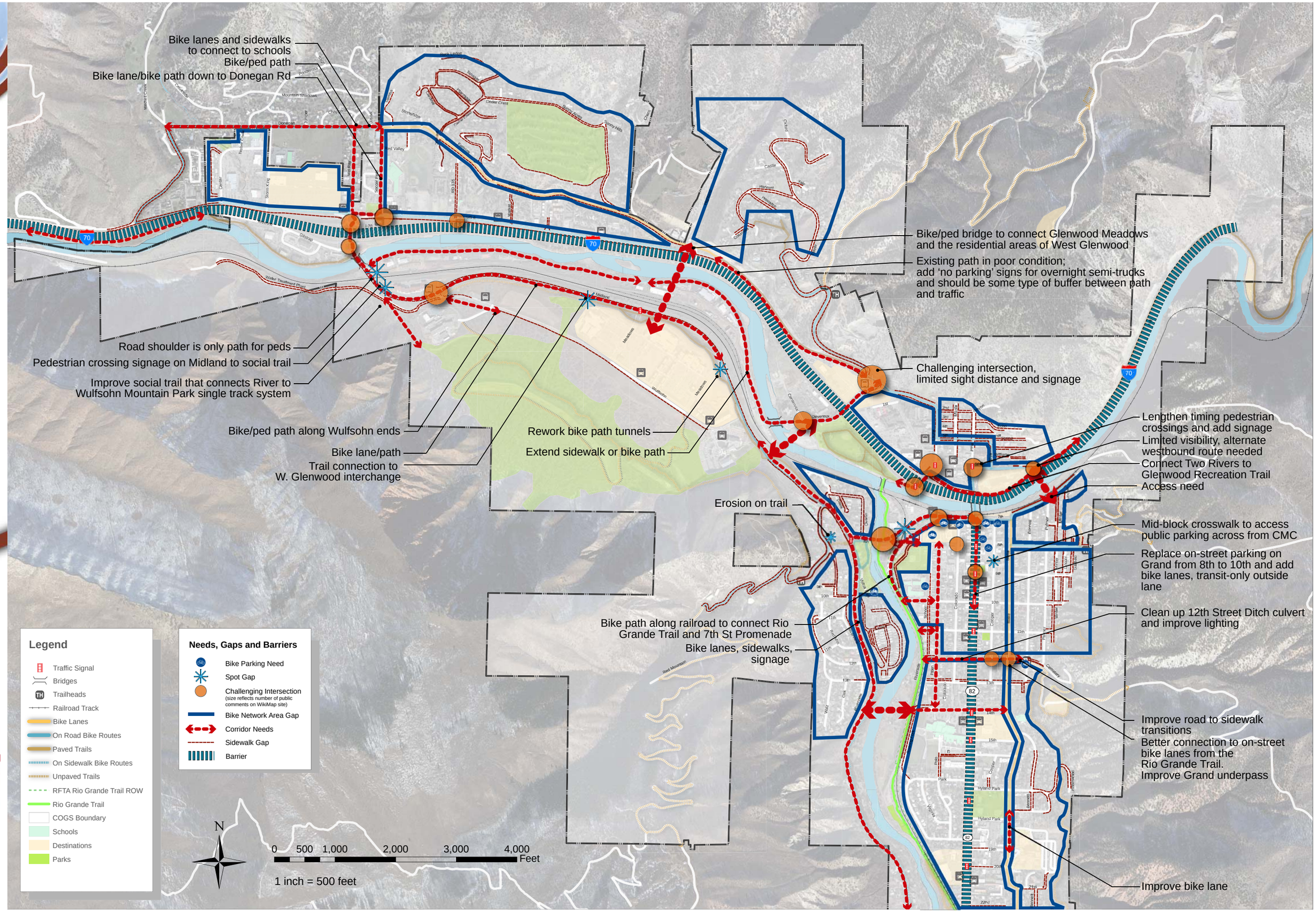

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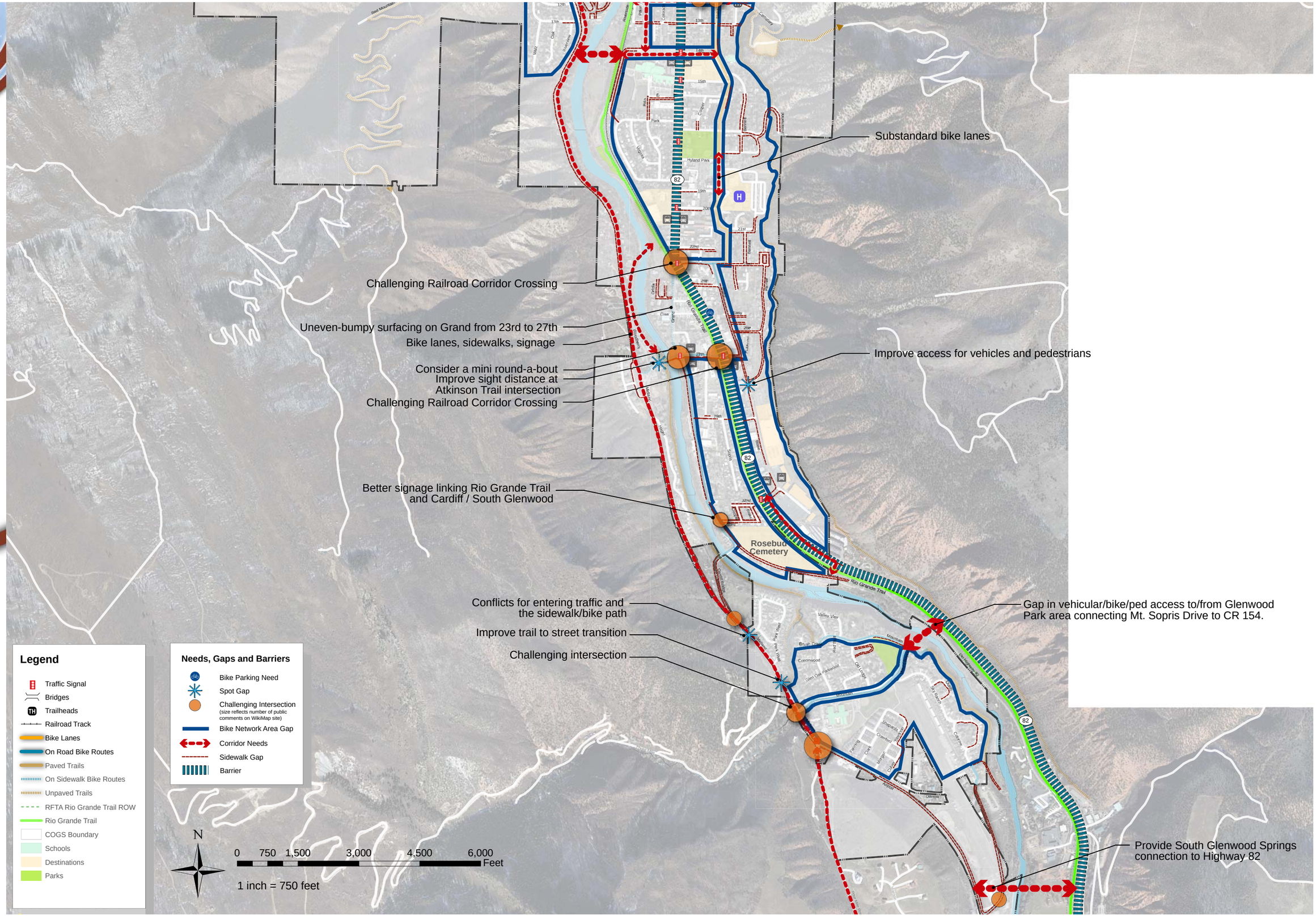
Figure A.4: Bicycle and Pedestrian Needs Assessment - South Map



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