River Mountains Loop Trail Improvements Study

FINAL REPORT

JUNE 2019

River Mountains Loop Trail Improvements Study

UPWP TASK CONTRACT NO. 18-022: RIVER MOUNTAINS LOOP TRAIL IMPROVEMENTS STUDY

Submitted to:

Regional Transportation Commission of Southern Nevada
and Boulder City

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   b. Community Outreach Materials

E. Implementation - Cost Estimate and Phasing Spreadsheets

Acknowledgements

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SECTION 1: PROJECT OVERVIEW

1.1 Purpose and Background

Study Background

Boulder City is a city in Clark County, Nevada, with a population of about 15,000 residents, located approximately 26 miles southeast of Las Vegas. Prior to the construction of I-11, an estimated 34,000 vehicles would pass through the area daily with traffic signals and congestion near the historic downtown area. However, in August 2018, the I-11 Boulder City Bypass opened, relieving congestion, improving safety and enhancing travel and commerce between Arizona and Nevada. As a result, the new Interstate 11 is diverting thousands of cars, trucks and potential spending. Many local business people are concerned that thousands of customers will not find their way to Boulder City streets. Others are happy that there will now be relief from traffic jams.

Boulder City and its community has recognized the need to attract new visitors to maintain its economic vitality. However, they have also recognized the opportunity for multimodal enhancements due to reduced vehicular traffic volumes.

Return On Investment:
Every $1.00 of trail construction supports $1.72 annually from local business revenue, sales tax revenue, and benefits related to health and transportation.
Source: go.ncsu.edu/sharedusepaths (March 2018)

In December 2017, Nevada's Division of Museums and History unveiled a plan to turn the Nevada State Railroad Museum in Boulder City into an even larger tourism attraction. The new museum will occupy approximately the same land on Yucca Street, with new prominent features planned for the vacant northwest corner of U.S. 93 and Buchanan Boulevard. It will include a new visitors center, a linear park with interactive features and links to the River Mountains Loop Trail. The expansion is estimated to cost $35 million. Assembly Bill 84 passed the Senate Finance Committee on June 2, 2019. The bill allocates $30 million for state museums, including the expansion of this museum. Another project the City is successfully bringing to reality is the Boulder City Parkway Complete Streets Project. The project will renovate the street and sidewalks from Buchanan Boulevard to Veterans Memorial Drive to make it safer and more aesthetically pleasing. Plans call for widening sidewalks, creating bike lanes, improving pedestrian and bike crossings, improving the median and creating bus turnouts. The project is expected to begin in late July 2019 and take 10 months to complete.

Study Objective

Project Mission Statement:
Identify optimal multimodal improvements to connect the existing River Mountains Loop Trail to Downtown and the Nevada State Railroad Museum to enhance the economic vitality of Boulder City.

This study identifies the routes (both on-street and off-street), design features, amenities, project costs, and phasing that will improve multimodal access, connectivity, and safety for pedestrian and non-motorized vehicle circulation to and from the Nevada State Railroad Museum and into downtown Boulder City, Nevada. The recommendations of this study support the redevelopment of underutilized land along key transportation corridors by leveraging the new railroad museum to improve multimodal access to the River Mountains Loop Trail and downtown Boulder City.

Study Area

The existing River Mountains Loop Trail is a 35-mile loop around the River Mountains, which form the backdrop of Las Vegas and Henderson. The trail is 12 feet wide and paved, with an adjacent trail for equestrians for about 15 miles of its length. The surrounding River Mountains are home to one of the largest bighorn sheep populations in Nevada, which you may encounter on this trail. The route links the Lake Mead National Recreation Area, Hoover Dam and Boulder City, with access to Lake Las Vegas and Clark County Wetlands Park.



Figure 1-1: Existing River Mountains Loop Trail Overview Map

The Study Area in this report includes the area surrounding the Nevada State Railroad Museum, downtown Boulder City, the complete streets improvements planned on U.S. 93 (Boulder City Parkway) and the section of the existing River Mountains Loop Trail that passes nearby.

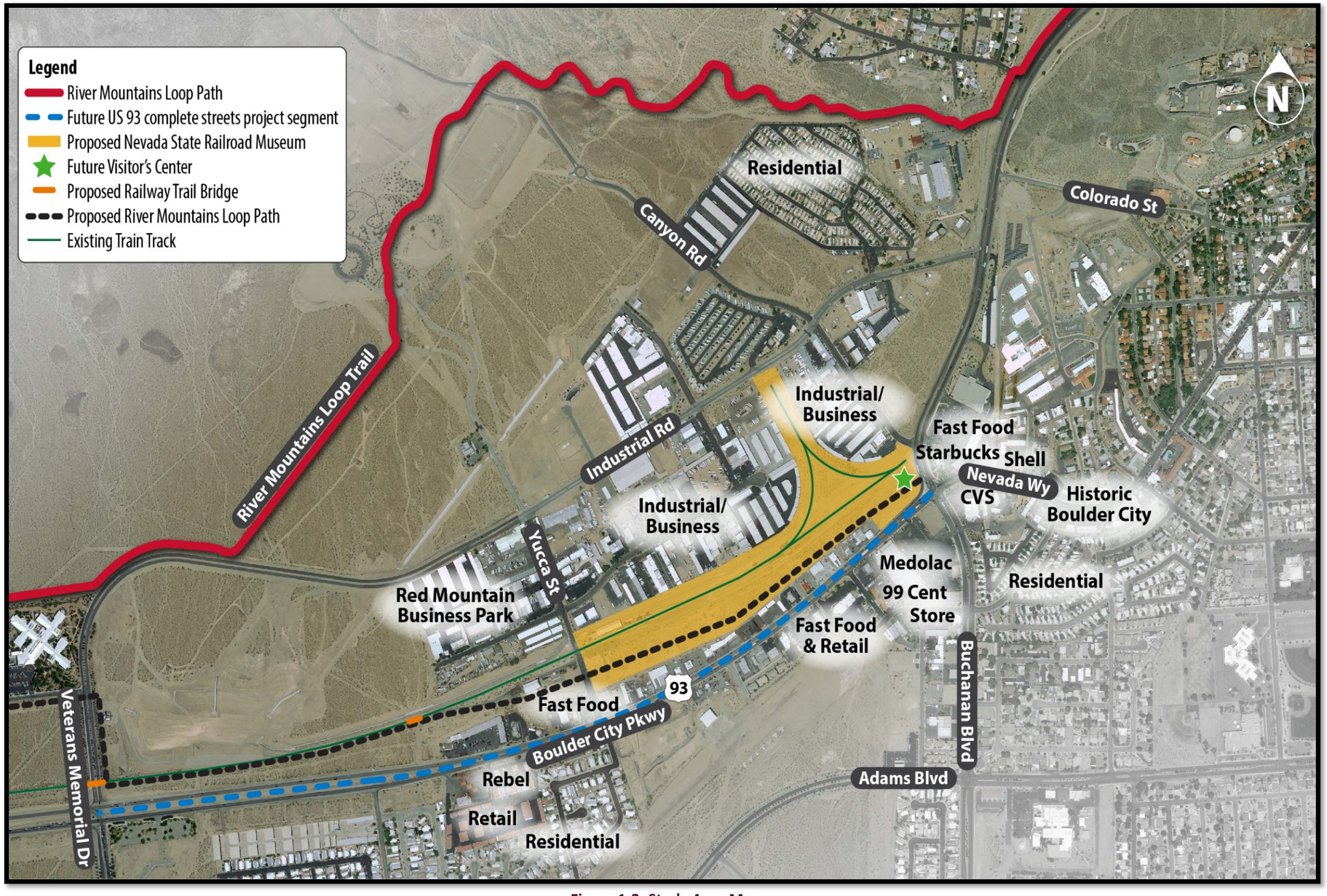


Figure 1-2: Study Area Map

1.2 Study Approach

Scope of Work Summary

The study scope included seven primary tasks as listed below.

- Task #1: Project Management and Coordination
- Task #2: Stakeholder and Public Outreach
- Task #3: Data Collection and Review
- Task #4: Analyze Multimodal Network
- Task #5: Develop Preliminary Multimodal Alternatives
- Task #6: Final Recommended Alternatives and Implementation
- Task #7: Deliverables

The scope included three different stages of community outreach as the project developed. Therefore, the study team organized the tasks above into three phases as shown in the next figure. At the kick-off meeting, the team introduced key stakeholders, established the Project Mission Statement, outlined the approach and schedule. Phase 1 involved data collection and reviewing existing conditions. Phase 2 analyzed the existing and planned multimodal network and developed preliminary alternatives. The final stage, Phase 3, refined alternatives into final concepts, recommendations and estimated costs. Each phase included a stakeholder meeting to review progress and ensure consensus on developments before going public. Each phase also included community outreach to gather and incorporate feedback before advancing to the next phase. The next chapters of this report summarize this approach development and follow the same structure as shown in the next figure.

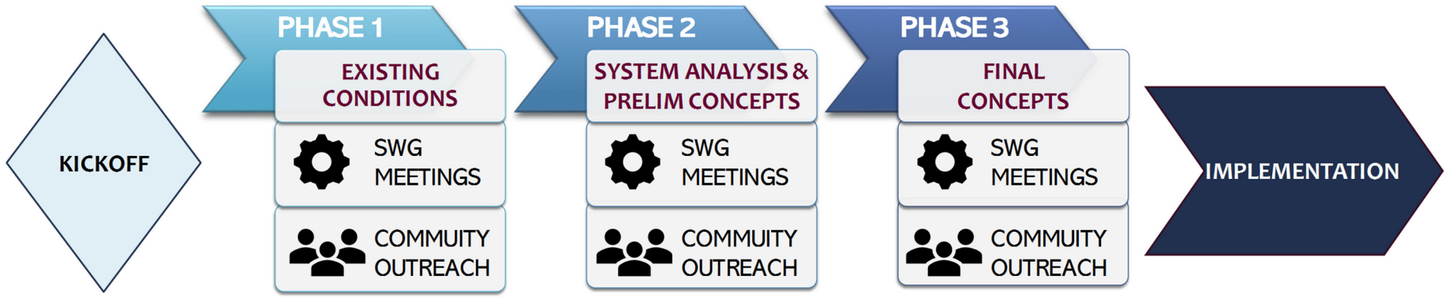


Figure 1-3: Study Approach Flow Diagram

Stakeholder Working Group

A Stakeholder Working Group (SWG) was created to guide the development of the study. It included coordination with the primary Participating Agencies of the Regional Transportation Commission of Southern Nevada, Boulder City Public Works, the River Mountains Loop Trail Advisory Committee and the Nevada State Railroad Museum. Coordination also included other agencies and groups as shown below.





SECTION 2:
PHASE 1 DEVELOPMENT

2.1 Data Collection

To develop an understanding of the study area, the team collected information on existing conditions and, when applicable, on future conditions as well. This information was used in Phase 2 to analyze the multimodal system and evaluate which connections will provide the greatest benefits.

Bike Facilities

Boulder City's existing bikeway system is primarily comprised of three facility types that include:

Bike Lane: Striped lane, typically to the right of vehicle travel lanes, that is designated exclusively for bicycle travel using pavement markings and signage.

Separated Bike Lane (sometimes called a "Protected Bike Lane"): Separated facility designated for exclusive bicycle travel, one- or two-way, that is within or adjacent to the road; with a vertical element such as a raised lane to separate from vehicle travel lanes to provide for a protected facility.

Shared-Use Path: Off-street facility, typically paved, shared by pedestrians, bicyclists, and other non-motorized users; generally located in its own right-of-way away from or adjacent to, with adequate separation, the road.

Additional facility types not currently existing in Boulder City include:

Buffered Bike Lane: Conventional bike lane further separated from vehicle travel or parking lanes by a designated, striped buffer space.

In addition to the River Mountains Loop path, nearly all of the existing facilities in the City are shared-use paths that are adjacent to several major streets such as Veterans Memorial Dr, Buchanan Blvd, Adams Blvd, and Boulder City Pkwy. A separated bike lane parallels portions of Georgia Ave while designated bike lanes are located on Georgia Ave, Canyon Rd, Nevada Way, Wyoming St, Utah St, Yucca St, Lake Mountain Dr and Quartzite Rd.

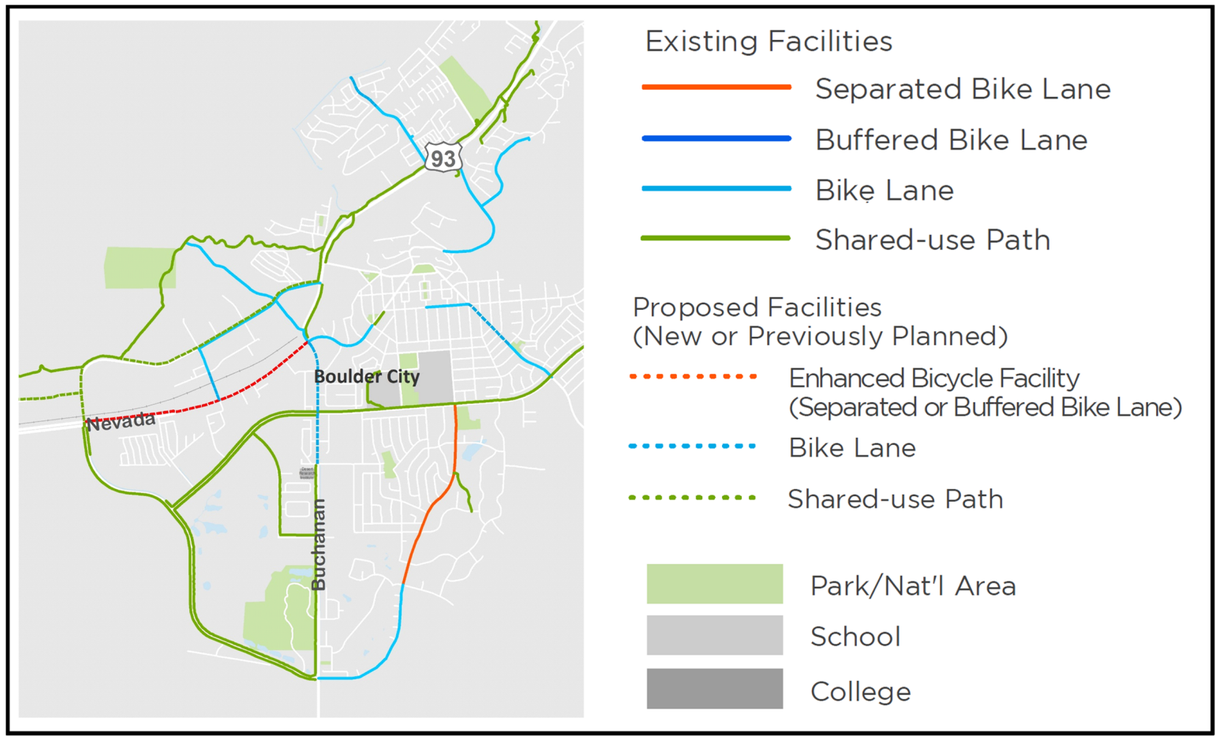


Figure 2-1: Bike Facilities ***(Source: Regional Bicycle and Pedestrian Plan)***

Currently, the bike lane on Canyon Rd and the shared-use path adjacent to Boulder City Pkwy connect River Mountains Loop Trail to the eastern section of the proposed Nevada State Railroad Museum. Previously planned bicycle facilities, a shared-use path and an enhanced bicycle facility, in the focus area provided additional east-west connectivity from the Nevada State Veterans Home to Boulder City Pkwy. North-south improvements in the focus area included the extension of bicycle lanes on Buchanan Blvd and Yucca St.

Existing Roadway Network

The study roads in the focus area are diverse; they vary from 2-lane city streets to 5-lane principal arterial connecting Boulder City to Las Vegas and the region. Table 2-1 summarizes major elements inventoried for the study roads including number of lanes, posted speed, right-of-way, street facilities, utilities, and surrounding landmarks. In addition, Nevada DOT's Roadway Functional Classification map for Boulder City was reviewed.

Boulder City Pkwy is a 5-lane Principal Arterial with a posted speed of 45-mph and 100-feet right-of-way (ROW). Streetscape elements included sidewalks, medians, crosswalks, lighting and overhead power lines. The Boulder City Parkway Complete Streets Project will renovate the street and sidewalks from Buchanan Boulevard to Veterans Memorial Drive to make it safer and more aesthetically pleasing. Improvements include widening sidewalks, adding new bike lanes, enhancing pedestrian and bike crossings, improving the median and creating bus turnouts. The project is scheduled for construction in late July 2019.

Veterans Memorial Dr (north and south), Industrial Rd, Adams Blvd, Nevada Way, Buchanan Blvd, and Great Basin Hwy are Minor Arterials varying from 2- to 4-lanes with speeds ranging from 25- to 45-mph and ROW ranging from 60- to 136-feet. Streetscape elements included lighting, sidewalks, medians, lighting and in some locations on-street parking, bike lanes, multiuse paths and overhead power lines.

Canyon Rd and Yucca St are 2-lane Minor Collectors with 45-mph posted speeds and ROW ranging from 60- to 90-feet. Streetscape elements include sidewalks, on-street parking, bike lanes, lighting and in some locations overhead power lines.

Gingerwood St, Aspen Dr, Cedar Dr, Foothill Dr, and Wells Dr are 2-lane city streets with 25-mph posted speeds and 60-feet ROW. Streetscape elements include on-street parking, lighting, and sidewalks in some locations. These streets are in residential and industrial areas.

Table 2-1 Existing Roadway Network

Street Name	Speed Limits	Right of Way	# of lanes	Utilities (Lighting, or other observed)	Street Facilities (Sidewalks, Medians, On-Street Parking)	Landmarks
Veterans Memorial Dr (North)	35 MPH	90'	4	Lighting	Sidewalks, Medians	- Nevada State Veterans Home - River Mountains Loop Trail
Veterans Memorial Dr (South)	45 MPH	120'-136'	4	Lighting, Overhead Power	Sidewalks, Medians	- Boulder Creek Golf Club - Veterans Memorial Park - Boulder City Airport - Southern Nevada Veterans Memorial Cemetery
Industrial Rd	35 MPH	60'	3	Lighting	On-Street Parking, Bike lanes	
Canyon Rd	25 MPH	60'	2	Lighting, Overhead Power	Sidewalks, Bike lanes, On-Street Parking	
Boulder City Pkwy	45 MPH	100'	5	Lighting, Overhead Power	Sidewalks, Medians, Crosswalks	- Historic Boulder City
Adams Blvd	45 MPH	120'-136'	2	Lighting	Multiuse Paths, Medians	- Boulder Creek Golf Club
Gingerwood St	25 MPH	60'	2	Lighting	Sidewalks, On-Street Parking	
Aspen Dr	25 MPH	60'	2	Lighting	Sidewalks, On-Street Parking	
Cedar Dr	25 MPH	60'	2	Lighting	Sidewalks, On-Street Parking	
Yucca St	25 MPH	60'-90'	2	Lighting	Sidewalks near developments, On-Street Parking, Bike lanes	
Foothill Dr	25 MPH	60'	2	Lighting	On-Street Parking	
Wells Rd	25 MPH	60'	2	Lighting	On-Street Parking	
Nevada Way	25 MPH	92'	3	Lighting	Sidewalks, Medians	- Historic Boulder City
Buchanan Blvd	35 MPH	120'	4	Lighting, Overhead Power	Sidewalks, Medians	- Boulder City Golf Course
Great Basin Hwy	45 MPH	120'	4	Lighting	Sidewalks, Medians	

Roadway Traffic and Congestion

Historic Traffic

Where available, historical vehicle traffic counts obtained from Nevada DOT's Traffic Record Information Access (TRINA) database reflect counts collected from 2007 through 2016. Counts were reported in terms of Average Annual Daily Traffic (AADT), the annualized average 24-hour traffic volume at a specific location or segment. Key observations and findings include:

- Counts on average fluctuate between -4% to 5% growth per year. Boulder City Pkwy has the highest annual increase at 5% while travel on Nevada Way and Buchanan Blvd decrease annually by -4% and -2%, respectively.
- Boulder City Pkwy is the most heavily travelled road in the focus area, traffic on the road can range between 24,000 to 33,000 vehicles daily.
- Buchanan Blvd, Nevada Way, and Adam St have daily volumes in the range 6,000 to 9,000.
- Yucca St and Canyon Rd carry an estimated 1,800 to 2,000 daily vehicles.

Table 2-2: Historic Traffic Counts on Roadways

Route/Location	Functional Classification (NDOT)	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT	Traffic Increase (Decrease)	Average Increase (Decrease) per year
Nevada Way, 0.1 mi S. of Fifth Street	Minor Arterial	14,000	14,000	12,000	10,000	10,000	10,000	10,500	9,200	9,650	9,500	-32%	-4%
US93, 0.2 mi S. of Industrial Rd in Boulder City	Other Principal Arterial	17,000	18,000	19,000	18,000	20,000	22,500	20,500	24,500	36,500	24,000	41%	5%
Industrial Rd, 300 ft E. of Yucca Street	Minor Arterial	1,700	1,700	1,600	1,500	1,700	1,600	1,700	1,400	1,700	1,800	6%	1%
Buchanan Bl, 150 ft S. of US-93 (NV Hwy)	Minor Arterial	7,600	7,400	7,300	7,400	6,500	6,600	6,300	6,400	6,700	6,300	-17%	-2%
Yucca St, Between the Nevada Hwy and the RR tracks	Minor Collector								1,700	1,900	1,800	6%	3%
US93, 0.3 mi S. of Buchanan Bl	Other Principal Arterial	30,000	28,000	28,000	28,000	27,000	26,500	30,000	31,500	34,500	33,000	10%	1%
Canyon Rd, W. of US-93	Minor Collector							2,100	1,900	2,000	2,000	-5%	-2%
Adams Bl, E. of Bristlecone Dr.	Minor Arterial							6,100	6,000	6,300	6,400	5%	2%

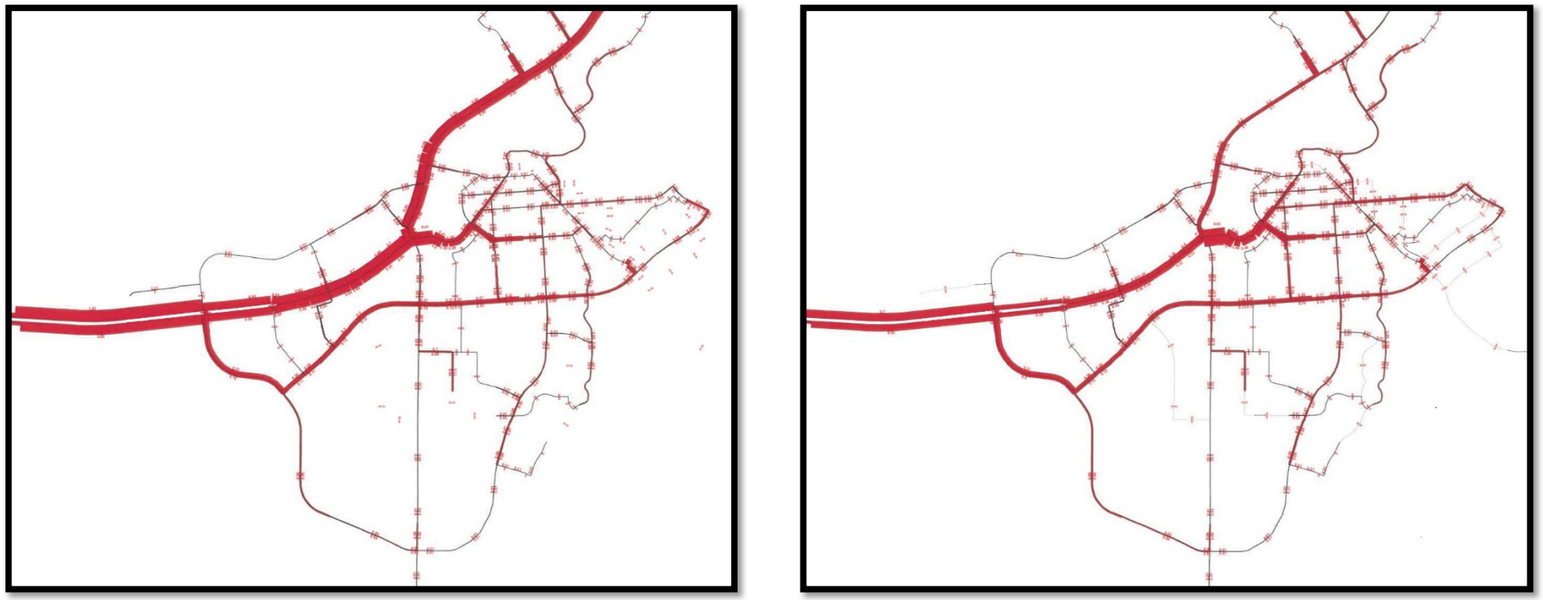
NOTE: Date of data collection is indicated in the table headers and was the most recent available at that time.

Forecasted Congestion

One key method of determining congestion of roadway systems is to compare the volume of traffic against the available capacity of the physical facility, otherwise known as the "v/c ratio". Depending on v/c ratio levels, there could be opportunities to implement road diet strategies. A road diet is a method in transportation planning where the number of vehicle travel lanes and/or effective width of the road is reduced in order to achieve systemic improvements allowing for improved multimodal options.

Model results from the Regional Transportation Commission of Southern Nevada's (RTCSNV) Regional Travel Demand Model (TDM) were obtained to identify congestion in the focus area using v/c ratios calculated for existing and forecasted traffic. Figure 2-2 visually displays the peak congestion for the years 2015 and 2040. Boulder City Pkwy and Nevada Way experience slightly higher congestion levels than other streets in the focus area; this trend continues into the year 2040.

However, overall, the forecast indicates a significant reduction in traffic congestion throughout most roadways in Boulder City, as can be seen in the figure. The model predicts approximately a 38% reduction in traffic which presents a very good opportunity for implementing multimodal and road diet strategies. This reduction is primarily a result of the forecast accounting for the new I-11 Boulder City Bypass diverting traffic from the Boulder City area.



2015 VOLUME/CAPACITY RATIOS **2040 VOLUME/CAPACITY RATIOS**

Figure 2-2 Forecasted Reduction in Congestion

Transit Routes and Stops

An important consideration when developing a plan for pedestrian and bicycling facilities is the transit system. Often transit is used as an additional connection to and from destinations.

RTCSNV provides express bus service that links downtown Las Vegas and Boulder City. The Henderson Downtown Express runs seven days a week from 4:35 AM to 11:41 PM. The express route follows Boulder City Pkwy, Buchanan Blvd, Adams Blvd, Utah St, and Nevada Way to loop through the more developed portion of the City as illustrated in Figure 2-3. Express stops, in the focus area, include Buchanan & Boulder City Pkwy and Utah & Northridge/6th (Del Prado Park).

Safety Analysis

Crash data maintained by NDOT was obtained from 2014 to 2016 in the study area and showed a total of the 510 crashes occurred during this period. Figure 2-4 displays the overall density of the crashes, pedestrian related crashes, and Bicycle related crashes. Crashes generally occurred on major routes in the focus area such as Boulder City Pkwy, Nevada Way, and Buchanan Blvd corridors. Key observation and findings include:

- Injury Severity: 1 fatal crash, 120 crashes resulted in injuries, and 389 crashes were property damage only.
- Hot spots include: Boulder City Pkwy, Buchanan Blvd, and Nevada Way intersection and Boulder City Pkwy and Yucca St intersection.
- 5 crashes were collisions with pedestrians that resulted in injuries. At least 1 crash is located within the focus area near the Industrial Rd and Yucca St intersection.
- 12 crashes were collisions with bicyclists; 9 crashes resulted in injuries and 3 were property damage only. At least 3 crashes are located within the focus area, 2 injury related crashes occurred on Boulder City Pkwy between Yucca St and Buchanan Blvd, and 1 crash in resulting in property damage only occurred near Elm St and Nevada Way.

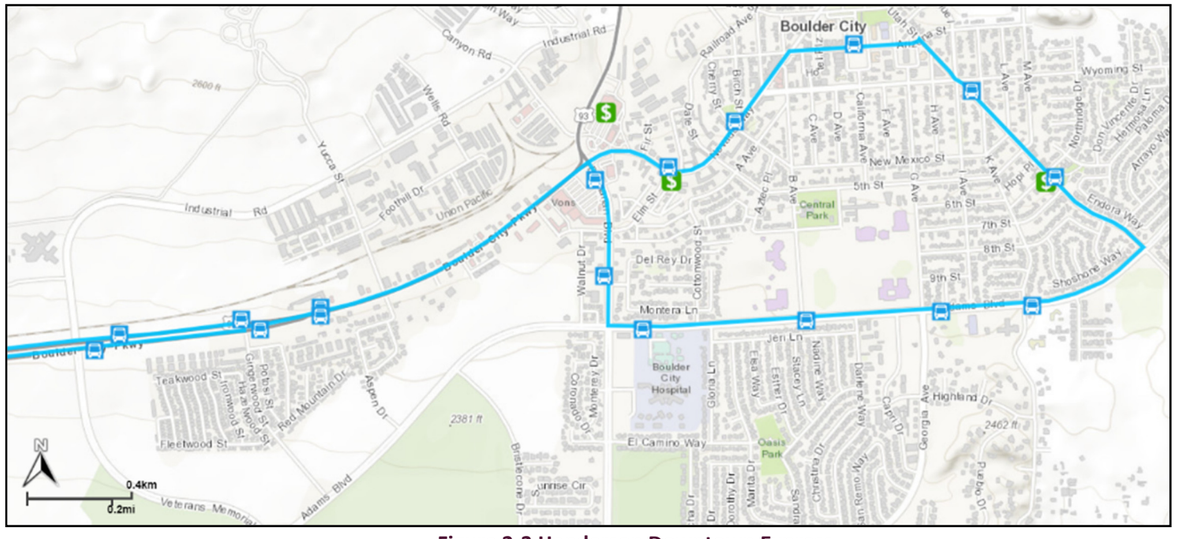


Figure 2-3 Henderson Downtown Express

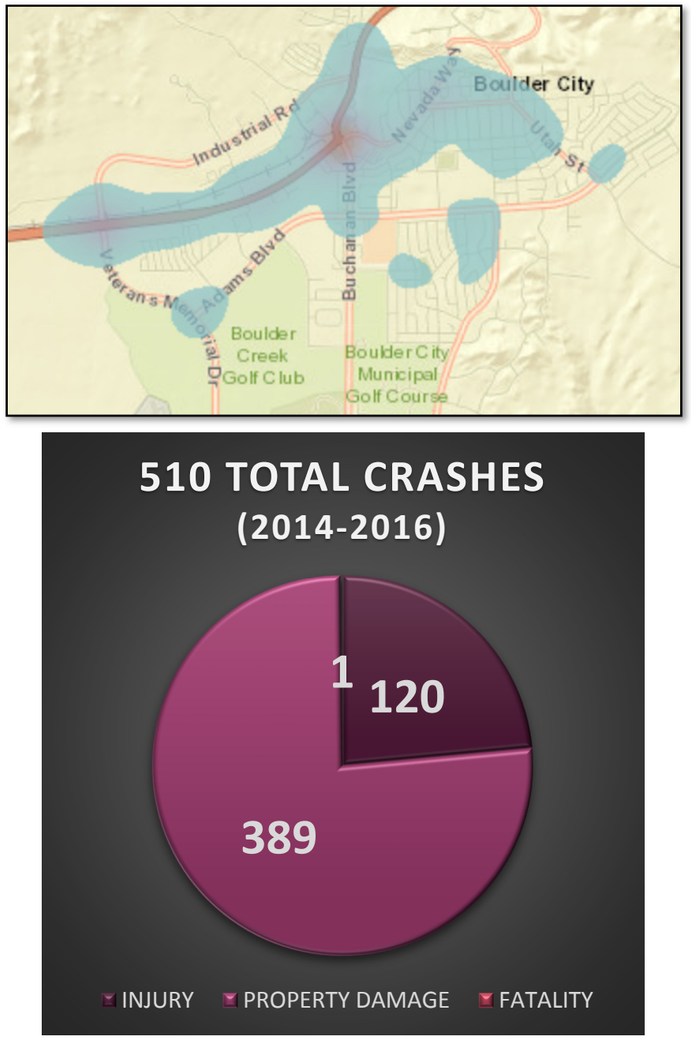


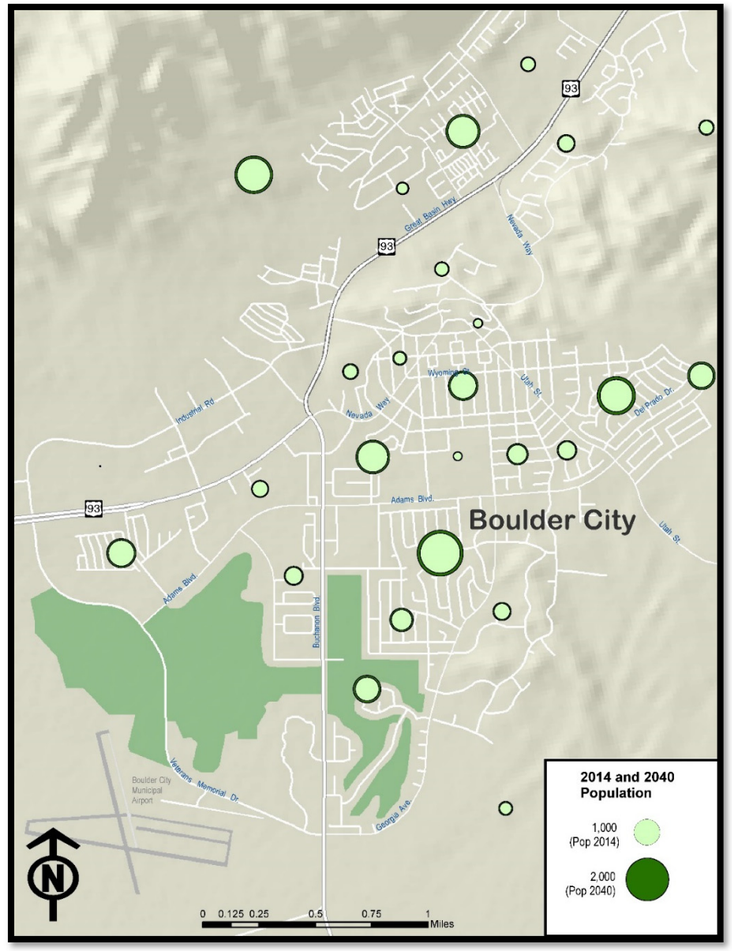
Figure 2-4 Crash Summary and Heat Map

Origins and Destinations

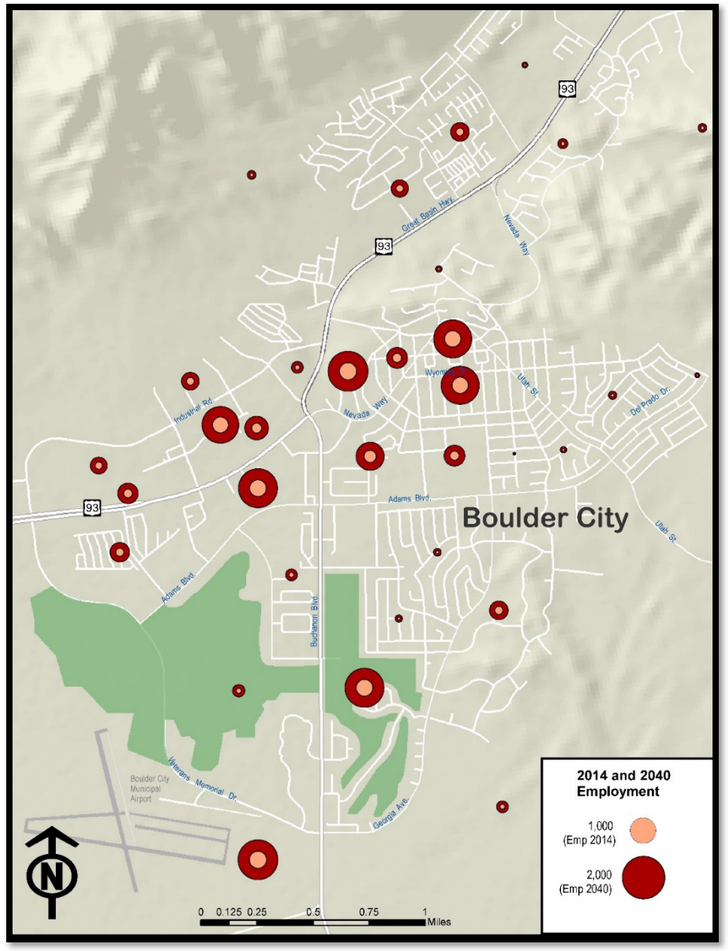
Another important consideration when developing this plan are the origins and destinations of the community. A good indicator for this is population (where people reside) and employment (where people go to work or go to spend money).

The population residing in Boulder City is concentrated in two general areas: 1) the area east of Buchanan Blvd, and 2) the area north of the US93/Boulder City Pkwy near Lake Mountain Dr. By 2040 the overall population in the City is anticipated to increase slightly. However, the existing population trends will remain relatively the same as the base year of 2014.

Employment in 2014 is primarily located in two general areas: 1) near Boulder City Pkwy and Nevada Way corridors from Yucca St to Utah St, and 2) the southern portion of the City that includes the Airport. The City anticipates a substantial increase in employment by the year 2040, however, trends will remain relatively the same as the existing year.



POPULATION DENSITY



EMPLOYMENT DENSITY

Figure 2-5 Origins and Destinations

(Source: RTC Regional Travel Demand Model, organized by TAZ)

2.2 Community Outreach and Input

The study team compiled information prepared as part of the Phase 1 development and presented this to the community for feedback. This was done using the following methods:

1. Flyer distribution and project website
2. Community Open House
3. Information booth at a Pop-Up Event

Project information was uploaded onto the RTC project website. Then the study team prepared a one-page, two-sided flyer with the website link, general information on the project, the study area and the upcoming community open house. The open house was advertised through various social media and fliers distributed at community meeting places and businesses. Five-hundred flyers were hand delivered to businesses throughout the study area, discussing the project face-to-face with individuals along the way. Additionally, flyers were posted at key locations with the City such as the library and the recreation center. The team worked with the Chamber of Commerce for additional distribution through email and by displaying the upcoming open house on the digital display at the intersection entrance to Boulder City.

For both events, participants were given colored map tacks (red for Boulder City Residents and white for Non-residents). Three tacks were to be placed on the "Destinations Voting Board" and three on the "Community Priorities Voting Board."

Destinations Voting Board - the public was instructed to place tacks on the top 3 destinations they would like to make more accessible if starting from the site of the new Railroad Museum Visitor Center on the corner of Buchanan.

Community Priorities Voting Board - the public was instructed to place tacks on the top 3 amenities or safety features that they would like incorporated into the new trail system.

Community Open House - April 26, 2018, 5PM - 7PM

Location: Boulder City Parks & Recreation Department

900 Arizona St, Boulder City, NV 89005

A welcome table was set up to explain the process and the public was asked to fill out the sign-in sheet. Boards were placed in a semi-circle around the gymnasium and guests visited each board. First was a Welcome board depicting the site. Public unfamiliar with the project were informed of the goals, process and timeline. Community members were then asked to proceed to the voting boards. Anyone with additional comments were asked to fill out the comment cards at the final table.

The community began arriving promptly at 5 PM. Approximately 20 people came to the event. The meeting concluded at 7PM.





Pop-Up Meeting (#1 of 3) - May 5, 2018, 10 am - 2 PM

Location: Spring Jamboree

Bicentennial Park

401 California Street, Boulder City, Nevada 89005

The team attended the Spring Jamboree and located in a tent where visitors could stop by and learn about the project. The tent area was set up with a welcome table with sign in sheets, take away flier, and comment cards. In addition, water and snacks were provided for the public. The team also included boards and attendees were also asked to vote for their priorities and destinations. Approximately 30 people attended the booth.





Summary of Feedback

Destinations Voting Board - Clusters of tacks were formed in the areas of "Fast Food / Starbucks," "Historic Boulder City" and "Shops and Restaurant Areas"

Community Priorities Voting Board - tacks were concentrated in "Drinking Water, "Shading/ Rest Areas," and "Protected Bike Lanes."

Totals for each of the events are depicted respectively in the following tables:

Table 2-3: Summary of Community Priorities Voting Board

Priorities	Resident Votes	Non-Resident Votes	Total
Wider Paths	4	0	4
Landscaping	0	1	1
Drinking Water	8	2	10
Effective Signage	4	0	4
Lighting	1	0	1
Shading / Rest Areas	7	3	10
Art & Aesthetics	3	2	5
Protecting Bike Lanes Along Roadway	8	1	9
Enhanced Walkability	6	2	8
Traffic Controls	1	0	1
Enhanced Bike Parking Options	1	0	1
Bike Share System	0	0	0

Results of the Community Open House

Priorities	Resident Votes	Non-Resident Votes	Total
Wider Paths	10	2	12
Landscaping	2	2	4
Drinking Water	11	5	16
Effective Signage	6	4	10
Lighting	5	2	7
Shading / Rest Areas	14	7	21
Art & Aesthetics	4	3	7
Protecting Bike Lanes Along Roadway	19	4	23
Enhanced Walkability	0	2	2
Traffic Controls	1	1	2
Enhanced Bike Parking Options	2	0	2
Bike Share System	9	1	10

Results of the Pop-Up Event #1

SECTION 3:
PHASE 2 DEVELOPMENT

3.1 Overview

This section of the report will cover three main components included in Phase 2 development: System Analysis, Preliminary Alternatives and Community Outreach.

3.2 System Analysis

The System Analysis consisted of two primary steps. First, the team identified candidate route segments. Second, the team grouped those segments into potential full connection options that meet the study goals of accessibility to the Museum and downtown Boulder City.

Candidate Route Segments

Utilizing the existing and previously planned bicycle and pedestrian facilities and findings, the study team collaborated with the SWG and identified ten candidate segments for evaluation. These candidate segments are shown in Figure 3-1, as well as the River Mountains Loop Trail which transverses diagonally through the northwestern portion of the study area. Following several street corridors, Route 1 to 5 directly connect to River Mountains Loop Trail; Routes 1 to 4 align north-south while Route 5 extends east-west. Similarly, Routes 6 to 10 extend east-west linking major transportation corridors to connect downtown Boulder City and the proposed Nevada State Railroad Museum from the west and northeast.

Route 1 (Veterans Memorial Drive/Veteran's Drive) connects River Mountains Loop Trail to Boulder City Parkway. The route is adjacent to Nevada State Veterans Home and undeveloped land in the western portion of the study area. Existing facilities include a shared use path.

Route 2 (Yucca Street) links River Mountains Loop Trail to Boulder City Parkway. The route extends through the industrial area north of Boulder City Parkway. Existing facilities include bike lanes along several segments.

Route 3 (Canyon Road) provides the most direct connection between River Mountains Loop Trail and the proposed new Museum Visitor Center. The route provides access to the residential and industrial area north of Boulder City Parkway. Existing facilities include bike lanes along entire route.

Route 4 (US93 Great Basin Highway) links River Mountains Loop Trail from the northeast to Canyon Road. The route parallels US93 which carries regional traffic to/from the Las Vegas metro area. Existing facilities include a shared use path.

Route 5 (Veterans Memorial Dr/Industrial Road) connects River Mountains Loop Trail from the west to Great Basin Highway in the northeast. The route passes through commercial areas north of Boulder City Parkway. Planned improvements include a shared-use path along the route.

Route 6 (Railroad Right of Way) directly links to the proposed Museum from the west and is currently part of the future railroad trail and linear park of the Museum. The route passes through the industrial area north of Boulder City Parkway.

Route 7 (Boulder City Parkway) connects to the proposed Museum Visitor Center from the west and is currently part of the future US93 Complete Streets Project. The route is also part of US93 which facilitates regional traffic.

Route 8 (Colorado Street) links downtown to the northeast portion of the study area. The route passes through the residential and undeveloped area south of the Great Basin Highway. Bicentennial Park and other activity centers are located at the eastern terminus.

Route 9 (Nevada Way South) links the proposed Museum to Downtown. The route provides access to major activity centers, and commercial and residential areas. Existing facilities include bike lanes and shared-use paths along several segments.

Route 10 (Nevada Way North) links Downtown to Great Basin Highway in the northeast. The route passes through residential and undeveloped areas. Bicentennial Park is at the western terminus. Existing facilities include bike lanes and shared-use paths on several segments.

Candidate Grouped Route Connections

Understanding that the best connections for the study goals may not come from a single route itself, the team used the Candidate Route Segments to create grouped connections that best tie to the desired destinations. Additionally, one of the key guidance points the team received from stakeholders was the importance of creating a loop, or connections from both sides of the study area. Therefore, the routes were grouped to identify optimal connections linking the existing River Mountains Loop Trail to downtown Boulder City and to the proposed Nevada State Rail Road Museum – from both ends of the study area. These groupings are shown in Table 3-1.

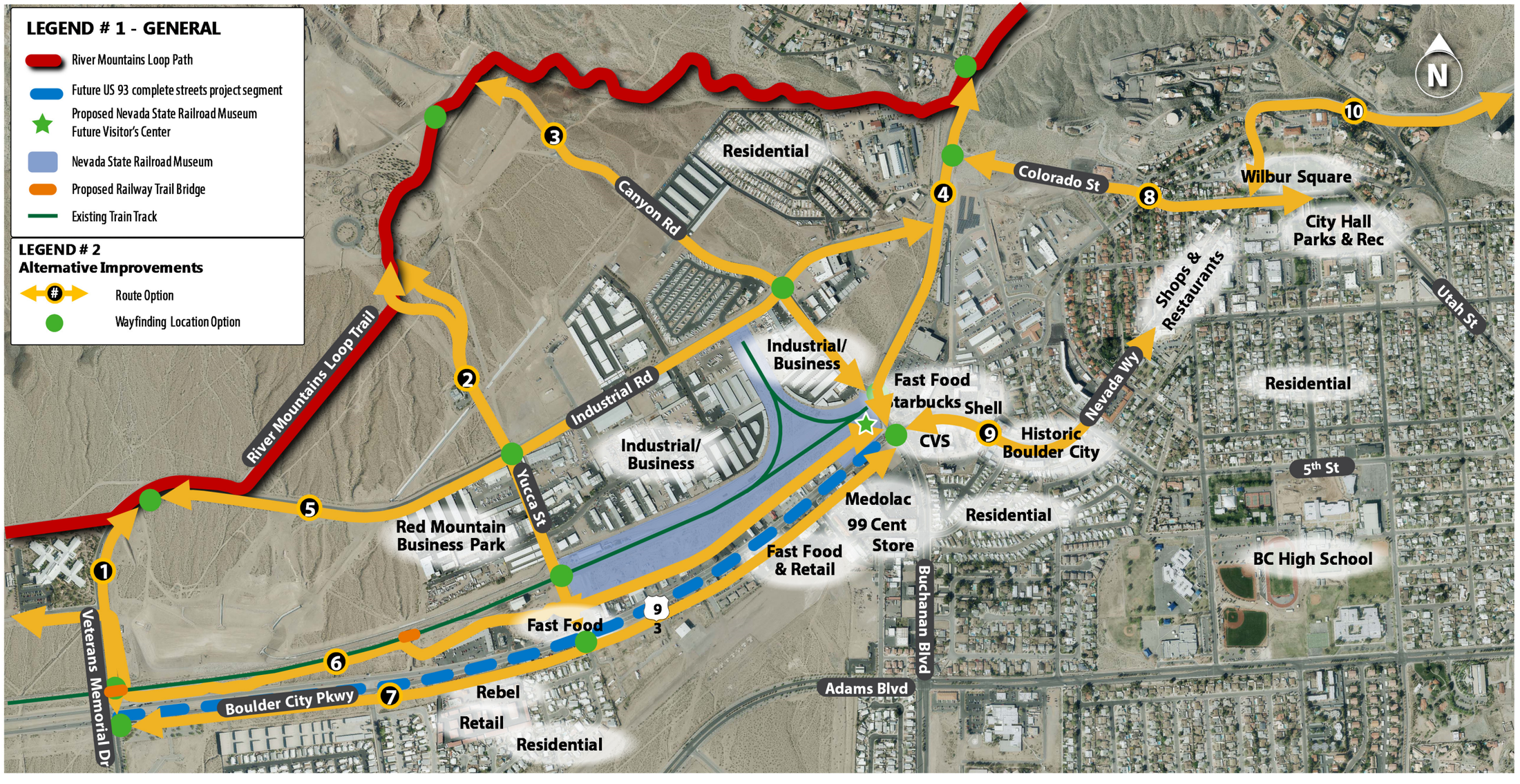


Figure 3-1: Candidate Route Segments

Table 3-1: Grouped Route Connections

Connecting from RMLT to Destinations	Grouped Route Connections
West to Nevada State Railroad Museum	Route 2
	Route 1 to 6
	Route 5 to 2
West to Downtown Boulder City	Route 2 to 7 to 9
	Route 1 to 7 to 9
	Route 2 to 6 to 9
	Route 1 to 6 to 9
	Route 5 to 2 to 7 to 9
	Route 5 to 3 to 9
	Route 2 to 5 to 4 to 8
Northeast to Nevada State Railroad Museum	Route 3
	Route 4
	Route 10 to 9
	Route 4 to 5 to 3
Northeast to Downtown Boulder City	Route 4 to 9
	Route 3 to 4 to 9
	Route 10 to 9
	Route 4 to 8
	Route 3 to 5 to 4 to 8
	Route 10

Route Selection Process

This section outlines the process for evaluating candidate grouped routes connections for the implementation of multimodal transportation facilities to enhance circulation between River Mountains Loop Trail and the new Nevada State Railroad Museum to improve accessibility and connectivity to downtown Boulder City and benefit the community at large.

A complete and cohesive bicycle and pedestrian network can positively impact the community through increased transportation options, economic revitalization, safe and accessible travel for people of all ages and abilities, improved public health, reduced auto dependency and managed congestion. An ideal network would consist of bicycle and pedestrian facilities on nearly every street; however that may not be practical. Therefore, to determine which routes are viable options for bicycle and pedestrian facilities, it is necessary to develop an evaluation process to identify optimal connections that meet the study objectives and the community's vision and goals.

The evaluation and development process consist of four principal factors to determine the potential benefits and ranking for the competitive selection of candidate routes to advance to the next phase.

Demand: Determination of potential users and concentration of major destinations attracting those users in terms of land use context.

Need: Identification of deficiencies or constraints of safe and efficient travel that defines an opportunity for improvements.

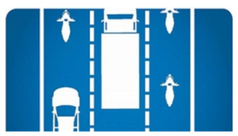
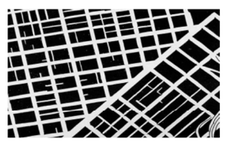
Compatibility: Assessment of corridor suitability and flexibility for the implementation of bicycle and pedestrian improvements based on design principles and network connectivity.

Support and Opportunity: Evaluation of stakeholder comments and suggestions to ensure recommendations reflect the community's vision and goals.

Table 3-2 summarizes the evaluation components and criteria including sub categories and scoring guidelines for the compatibility assessment of bicycle and pedestrian facilities along a corridor. The table is organized into two primary elements and the following subcategories:

1. **Demand and Need**
   a. Land Use Context
   b. Safety
   c. Mobility
2. **Compatibility**
   a. Roadway Design
   b. Connectivity

Table 3-2: Evaluation Criteria

EVALUATION FACTOR	RATING DESCRIPTION	CRITERIA					
DEMAND AND NEED							
D&N1) LAND USE CONTEXT 	• - Low: Not supportive land use •• - Below average supportive land use ••• - Average supportive land use •••• - Above average supportive land use ••••• - High supportive land use	**RESIDENTIAL DENSITY** Low – Low density housing Medium – Medium density housing High – High density housing	**COMMERCIAL DENSITY** Low – Low density commercial Medium – Medium density commercial High – High density commercial	**OTHER ATTRACTORS** SCHOOLS/PARKS/REC CENTERS/GOLF COURSES/TRAILS Low – Low number of locations Medium – Medium number of locations High – High number of locations	**TRAFFIC (AADT)** Low – Low count Medium – Medium count High – High count	**TRAFFIC (Bike and Ped Counts)** Low – Low count Medium – Medium count High – High count	**TRANSIT RIDERSHIP** Low – Low ridership Medium – Medium ridership High – High ridership
D&N2) SAFETY 	• - Few incidents •• - Below average number of incidents ••• - Average number of incidents •••• - Above average number of incidents ••••• - High number of incidents	**CONFLICT POINTS / SAFETY AUDITS** Low – Low safety concerns Medium – Medium safety concerns High – High safety concerns	**CRASH HISTORY** Low – Low crash history Medium – Medium crash history High – High crash history	**SECURITY** Low – Low security concerns Medium – Medium security concerns High – High security concerns			
D&N3) MOBILITY 	• - Low mobility (few modes accommodated/needed) •• - Below average mobility ••• - Average mobility •••• - Above average mobility ••••• - High mobility (most modes accommodated/needed)	**MASTER PLANS** Low – minimal modes included in plans Medium – some modes included in plans High – all modes included in plans	**BIKE & PED** (Gap in facilities) Low – Enhanced/ADA compliant facilities Medium – Basic facility access High – No facility access	**TRANSIT** (existing or planned, along or crossing corridor) Low – low number of transit routes Medium – medium number of transit routes High – high number of transit routes			
COMPATIBILITY							
C1) ROADWAY DESIGN 	• - Low accommodations for treatments •• - Below average accommodations for treatments ••• - Average accommodations for treatments •••• - Above average accommodations for treatments ••••• - High accommodations for treatments	**ROW Constraints** Low – No additional ROW available High – additional ROW available or ROW purchase easily obtained	**TRAFFIC LANES** Low – Arterial with 5+ lanes Medium – Collector with 3+ lanes or major arterial with 5+ lanes High – 2 lanes or major collector with 3+ lanes	**TRAFFIC (AADT)** Low – More than 25,000 High – Less than 25,000	**POSTED SPEED LIMITS** Low – Over 40 mph Medium – 31-40 mph High – Up to 30 mph	**VOLUME/CAPACITY RATIOS** *(Projected 2035 Peak)* Low – V/C ratio more than 0.67 Medium – V/C ratio between 0.33 and 0.67 High – V/C ratio less than 0.33	
C2) CONNECTIVITY 	• - Low connectivity •• - Below average connectivity ••• - Average connectivity •••• - Above average connectivity ••••• - High connectivity	**CORRIDOR CONNECTIVITY AND ACCESSIBILITY** Low – low appropriate connectivity Medium – medium appropriate connectivity High – high appropriate connectivity	**SYSTEM CONNECTIVITY AND CAPACITY** Low – low alternate system capacity Medium – medium alternate system capacity High – high alternate system capacity	**REGIONAL CONNECTIVITY** Low – low regional connectivity Medium – medium regional connectivity High – high regional connectivity			

Top Scoring Route Connections

The study team held a stakeholder meeting to weigh criteria according to priorities and scored each of the Grouped Route Connections. Table 3-3 presents a summary of the scoring and ranking for each grouped routes. For details on the scoring spreadsheets and how these were tabulated, please see the Appendix.

The ranking provides an indication of which groupings may provide the best connection. It's important to note that this scoring methodology was used as a guideline and discussion platform, not as a definitive determination.

1. From the West to:
   - Museum: Route 2, and Routes 1 to 6.
   - Downtown: Routes 2 to 7 to 9, Routes 1 to 7 to 9, and Routes 2 to 6 to 9.
2. From the Northeast to:
   - Museum: Routes 3 and 4.
   - Downtown: Routes 4 to 9, Routes 3 to 4 to 9, and Routes 10 to 9.

Table 3-3: Scoring of Grouped Route Connections

Connecting from RMLT to Destinations	Grouped Route Connections	Weighted Score	Rank within Group
From the West to Nevada State Railroad Museum from the West	Route 2	40.7	1
	Route 1 to 6	37.0	2
	Route 5 to 2	33.8	3
From the West to Downtown Boulder City	Route 2 to 7 to 9	43.8	1
	Route 1 to 7 to 9	41.9	2
	Route 2 to 6 to 9	41.8	3
	Route 1 to 6 to 9	39.8	4
	Route 5 to 2 to 7 to 9	39.6	5
	Route 5 to 3 to 9	36.8	6
	Route 2 to 5 to 4 to 8	34.1	7
From the Northeast to Nevada State Railroad Museum	Route 3	38.1	1
	Route 4	37.4	2
	Route 10 to 9	34.4	3
	Route 4 to 5 to 3	34.1	4
From the Northeast to Downtown Boulder City	Route 4 to 9	41.4	1
	Route 3 to 4 to 9	40.3	2
	Route 10 to 9	34.4	3
	Route 4 to 8	34.4	4
	Route 3 to 5 to 4 to 8	33.5	5
	Route 10	23.4	6

Priority Routes Recommended for Advancement

Based on existing and previously planned facilities, stakeholder comments, and constraints it was determined that the following routes did not need further development:

- Route 3 is not preferred for enhancement per stakeholder input.
- Route 6 has completed vision and design plans per the proposed Museum linear park and railway trail.
- Route 7 has completed vision and design plans per US93 Complete Streets Project.
- Route 8 is constrained to minimal improvements.
- Route 9 corridor is essentially complete.
- Route 10 does not meet the goal of accessibility to the Museum.

As a result, of stakeholder discussion the routes recommended for refinement through community outreach are:

Route 1 (Veterans Memorial Drive / Veterans Drive) extends from River Mountains Loop Trail in the west to Boulder City Parkway. The route would link the future Railway Trail, the US93 Complete Street Project and to existing facilities south of the Boulder City Parkway.

Route 2 (Yucca Street) connects River Mountains Loop Trail to Boulder City Parkway in the central portion of the study area. The route will link to the future Railway Trail and US93 Complete Street Project.

Route 4 (US93 Great Basin Highway) connects River Mountains Loop Trail from the northeast to the Nevada Way intersection along US93/Boulder City Parkway. The route would connect existing facilities to provide access to the proposed Nevada State Rail Road Museum and downtown Boulder City.

While other routes are designated as lower priority, they are not necessarily eliminated; these routes could be evaluated for lower levels of enhancement or general system improvements.

Figure 3-2 displays a flow chart that summarizes the route evaluation process and Figure 3-3 shows a map with the routes selected for further development. The following portion of this report section discusses the preliminary concepts that were developed for Routes 1, 2 and 4.

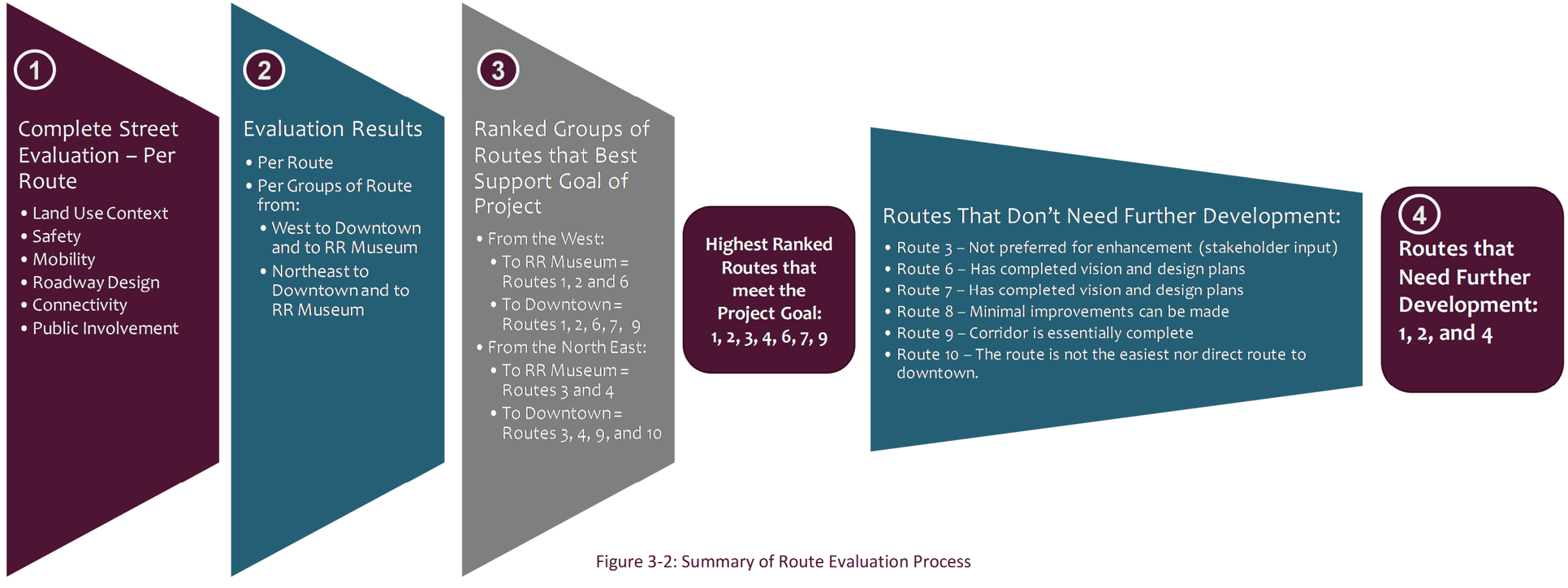


Figure 3-2: Summary of Route Evaluation Process

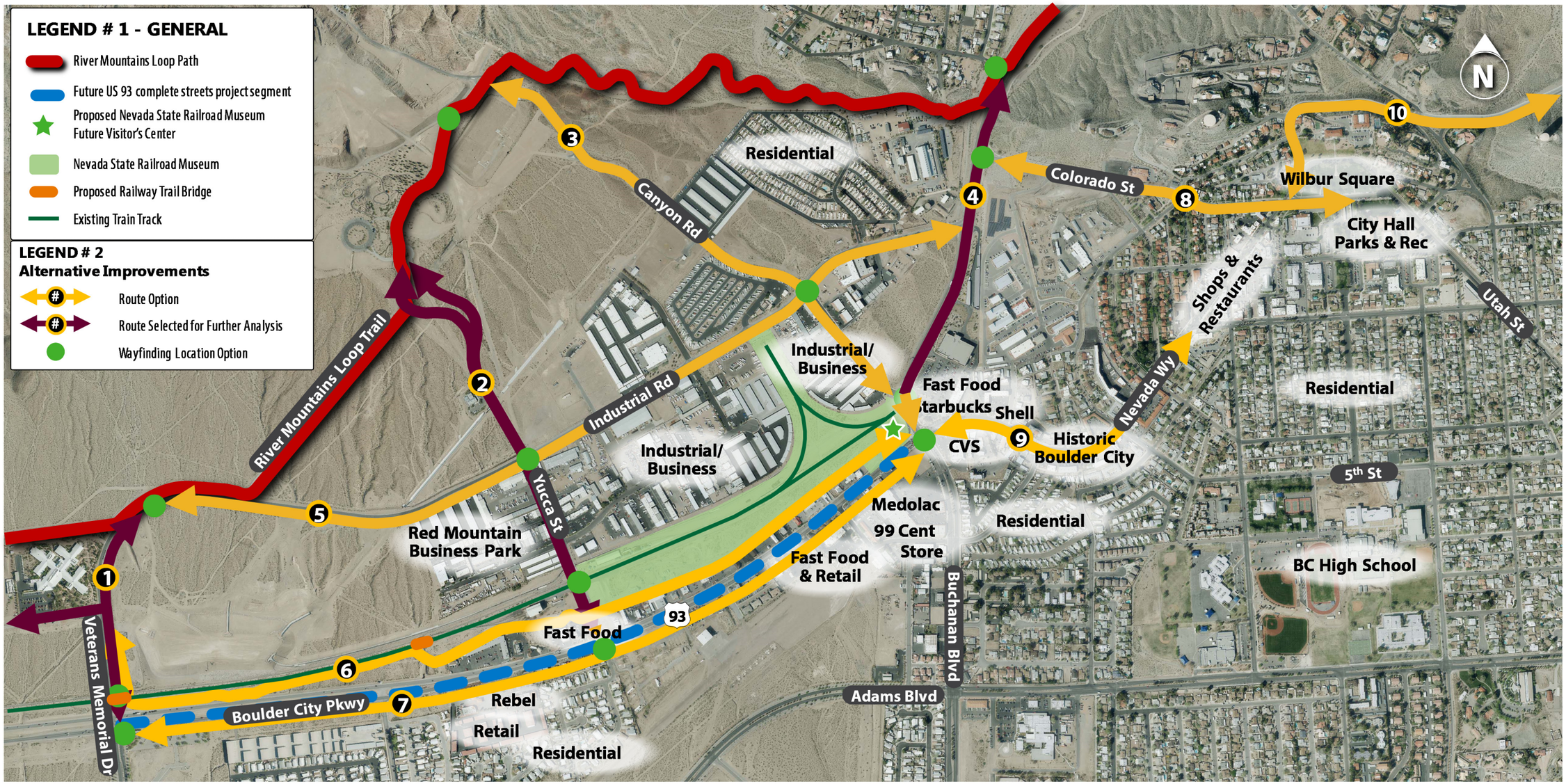


Figure 3-3: Routes Selected for Further Development

3.3 Preliminary Concepts

With the System Analysis completed, the study team proceeded to prepare preliminary concepts for the routes selected for advancement. From this point forward in the report, the selected routes will be termed Enhanced Connections. All options would include trail system wayfinding and kiosks, landscaping for aesthetics and shading, rest areas and possibly public art.

Enhanced Connection 1 (*formerly Route 1*)

Veterans Memorial Drive between River Mountains Loop to the Proposed Railway Trail and Boulder City Parkway.

This option proposes adding a new twelve-foot wide shared use path along both sides of Veterans Memorial Drive from the existing River Mountains Loop Trail. The trail could also extend along Veterans Drive to meet the existing trail. The path along the east side of Veterans Memorial Drive would be separated from the roadway and sloped upwards to cross the railroad and bridge so users could continue east along the proposed Boulder City Railway Trail. This option also includes improved pedestrian crossings at a couple locations and a bike box at the intersection with Boulder City Parkway.

Enhanced Connection 2 (*formerly Route 2*)

Yucca Street between River Mountains Loop to Boulder City Pkwy.

This option proposes adding a new twelve-foot wide shared use path along the west side of Yucca Street from the existing River Mountains Loop Trail to Industrial Road. South of Industrial Road, the option recommends narrowing vehicle lanes to 11-12 ft, removing parking, and adding in protected bike lanes and sidewalks. This option also includes improved pedestrian crossings at a several locations and an improved intersection with pedestrian bulbouts.

Enhanced Connection 3 (*formerly Route 4*)

US93 between River Mountains Loop to Boulder City Parkway.

This option proposes utilizing the shared use path currently existing up to Industrial Road and adding a new twelve-foot wide shared use path to extend this connection to the intersection at Boulder City Parkway. This option also includes improved pedestrian crossings at a couple locations.

Enhanced Connection 4 (*formerly Route 9*)

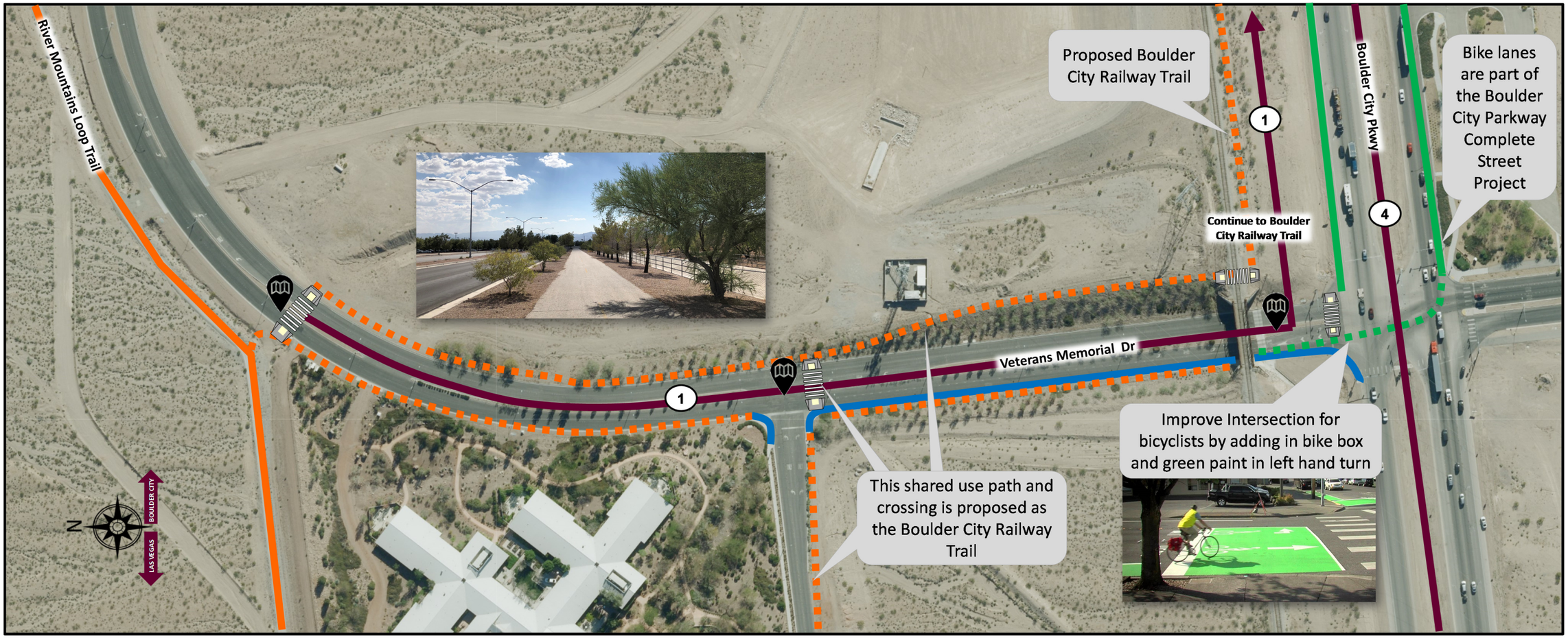
Boulder City Parkway to Nevada Way and Downtown.

The west portion of this connection includes the complete streets improvements already underway for Boulder City Parkway as a separate project.

The east portion includes Nevada Way into downtown and the intersection gateway. Further analysis at this intersection is needed to address pedestrian and bicycle movements, which could include leading pedestrian signals, additional bike signals, paint, shade, and physical improvements.

Nevada Way into downtown is already fairly pedestrian and bicycle friendly. However, this option could consider using color-marked bike lanes and widened sidewalks where possible. Additionally, the option would consider placing bike racks at key locations along entire route and a major bike hub near New Mexico or Wyoming Street.

Each of the preliminary concepts are shown in the figures on the following pages.



LEGEND

Approximate Scale: 150 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Figure 3-4: Enhanced Connection 1: Veterans Memorial Drive to Proposed Railway Trail (north segment)

River Mountains Loop Trail Improvements Study

Shown for information only.

Recommendations are part of a separate project.

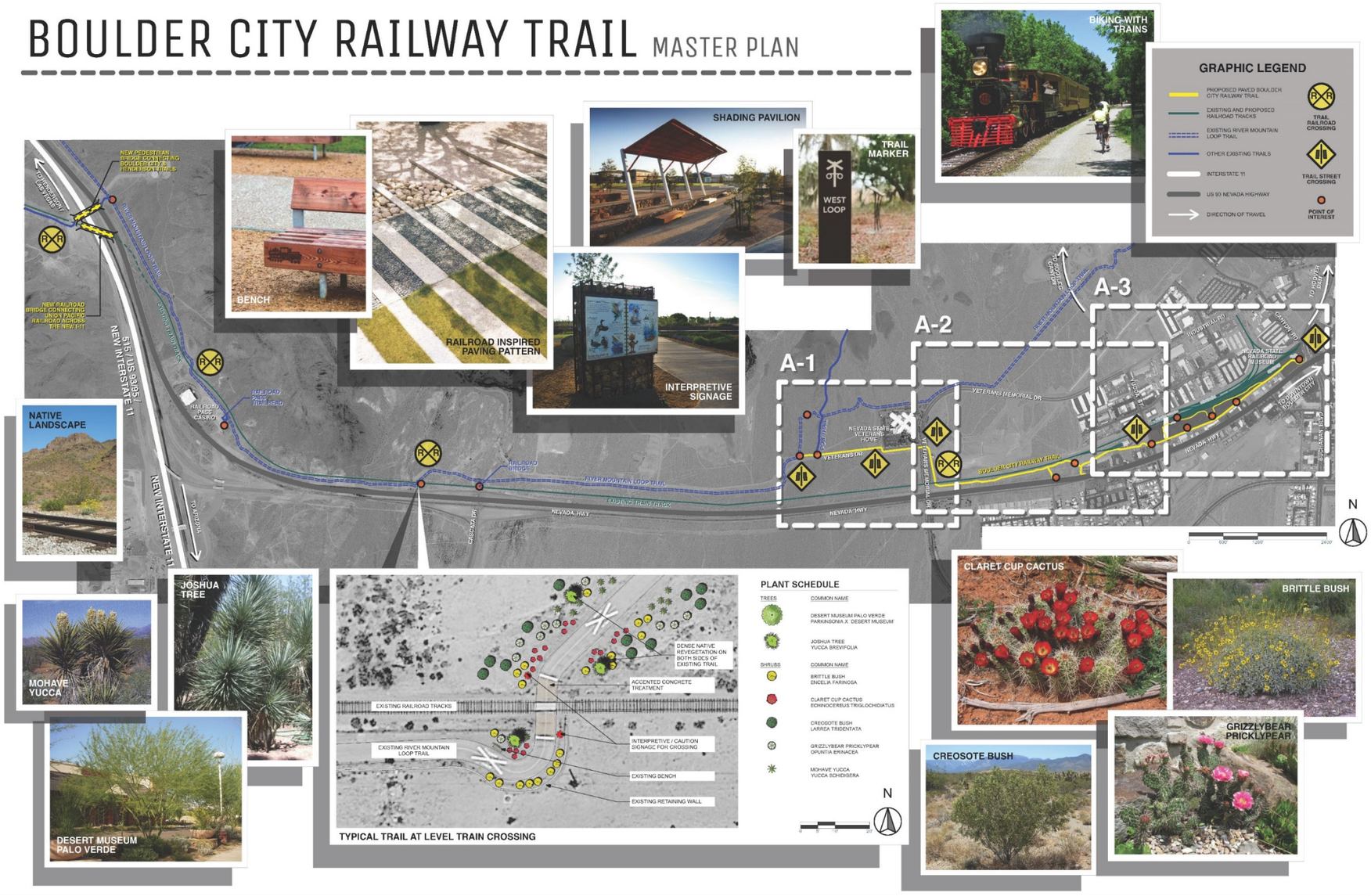
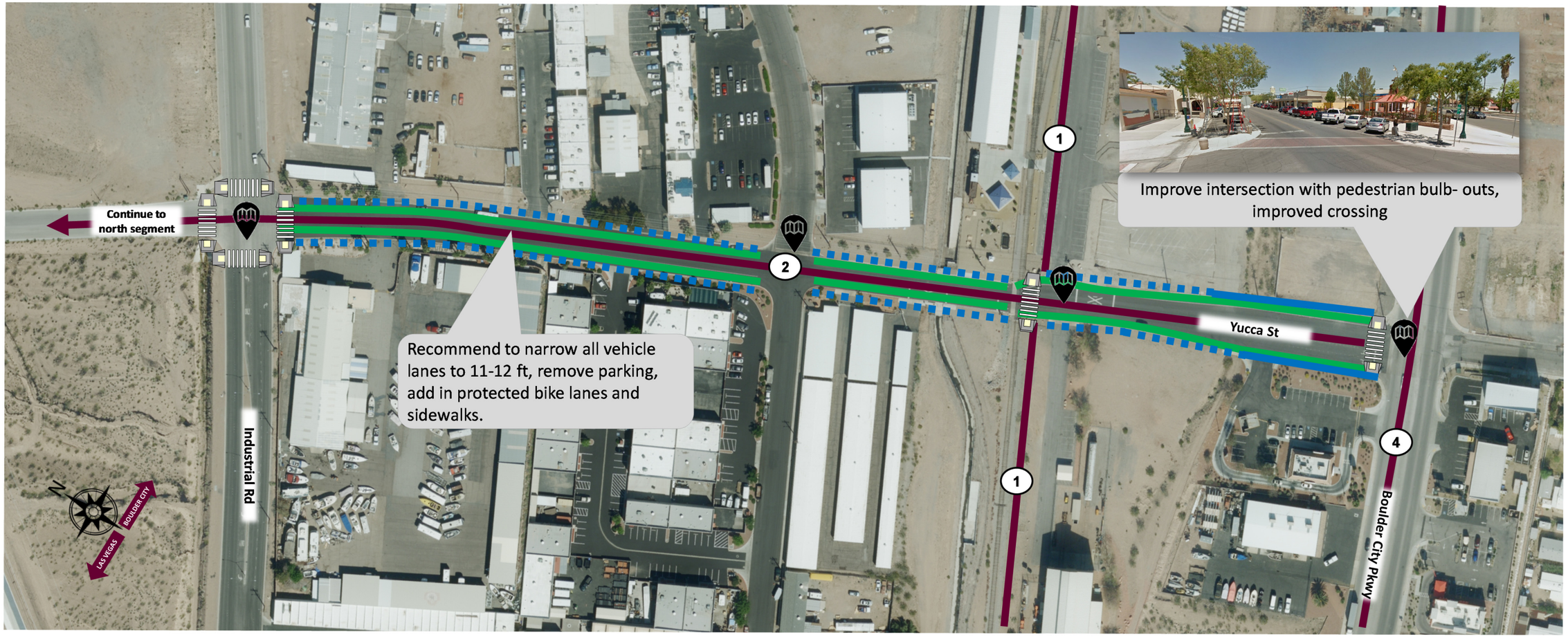


Figure 3-5: Enhanced Connection 1 - Connects to Boulder City Railway Trail

River Mountains Loop Trail Improvements Study



Figure 3-6: Enhanced Connection 2 - Yucca St: River Mountains Loop to Boulder City Pkwy (north segment)



LEGEND

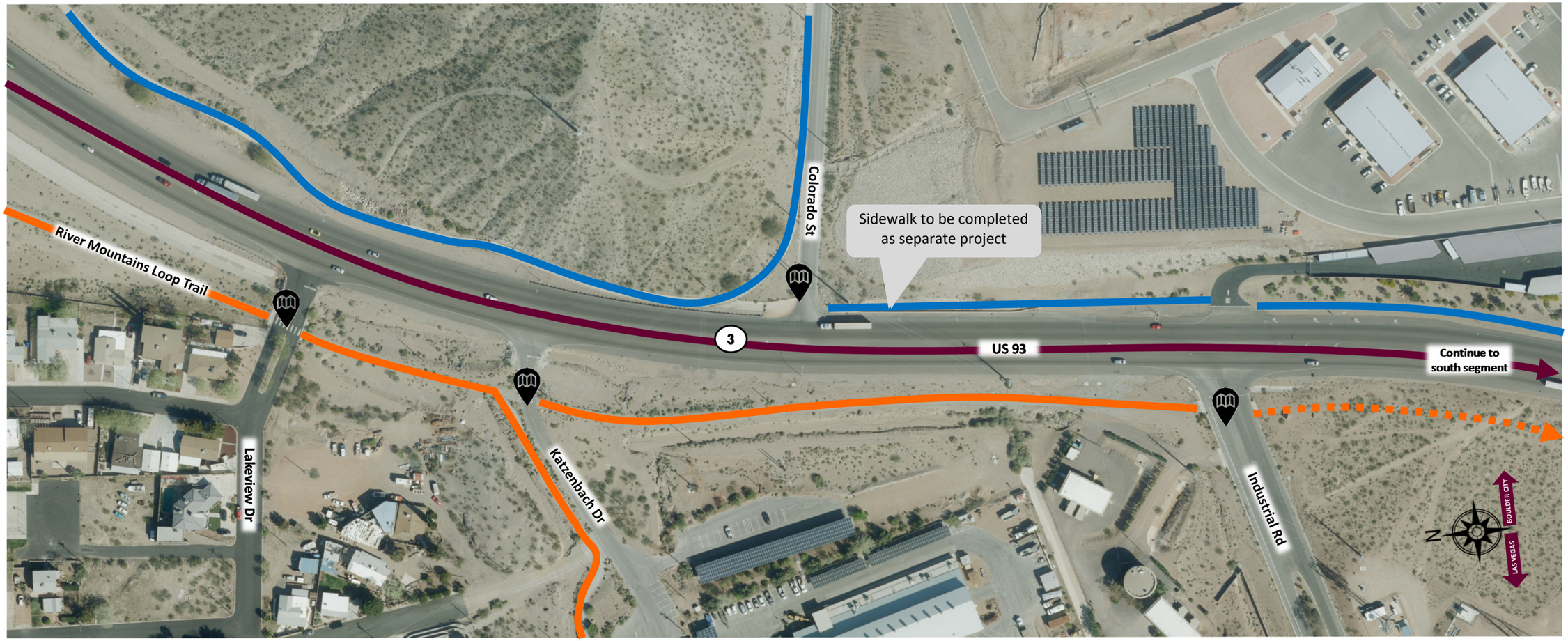
Approximate Scale: 130 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Figure 3-7: Enhanced Connection 2 - Yucca St: River Mountains Loop to Boulder City Pkwy (south segment)



LEGEND

Approximate Scale: 150 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Figure 3-8: Enhanced Connection 3 - US93: River Mountains Loop to Boulder City Pkwy (north segment)



LEGEND

Approximate Scale
130 ft

Enhanced Connections #
Existing Sidewalk
Proposed Sidewalk

Existing Shared Use Path
Proposed Shared Use Path

Existing Bike Lane/Route
Proposed Bike Lane/Facility
Improved Pedestrian Crossing

Amenity Opportunities
Wayfinding/Kiosk
Shade/Rest Area
Public Art

Figure 3-9: Enhanced Connection 3 - US93: River Mountains Loop to Boulder City Pkwy (south segment)



LEGEND

Approximate Scale: 300 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

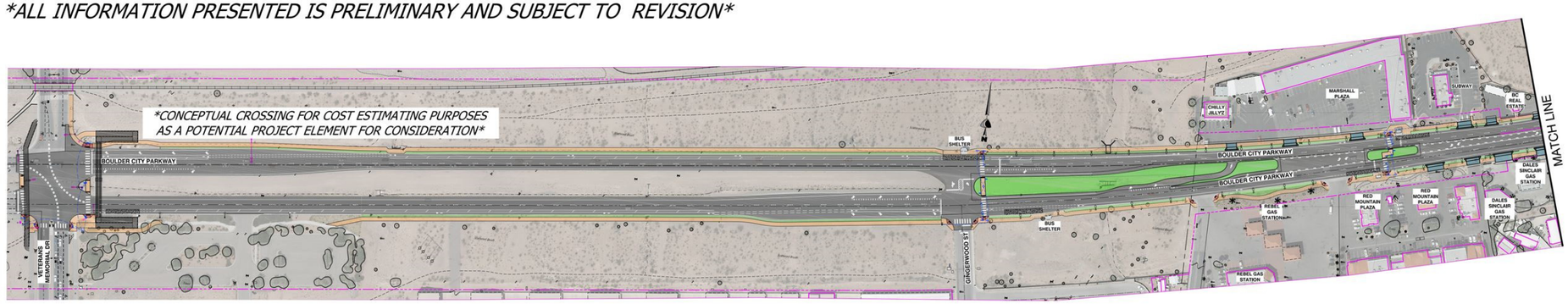
Amenity Opportunities

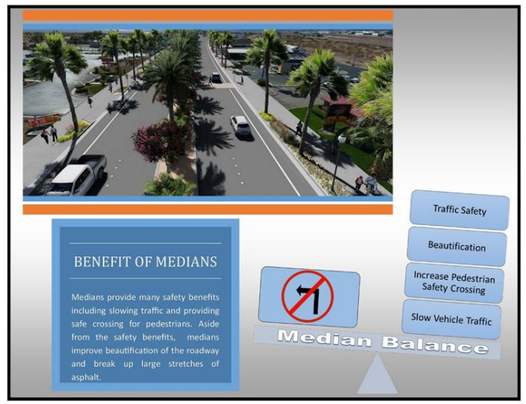
- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Figure 3-10: Enhanced Connection 4 - Nevada Way to Downtown (east segment)

River Mountains Loop Trail Improvements Study

ALL INFORMATION PRESENTED IS PRELIMINARY AND SUBJECT TO REVISION





Project Schedule

PROJECT PHASE	2017 W	2017 SP	2017 S	2017 F	2018 W	2018 SP	2018 S	2018 F	2019 W	2019 SP	2019 S	2019 F
Community Involvement	ONGOING				ONGOING				ONGOING			
Complete 100% Design												
Bidding												
*Construction												
In-Service												

*Construction of the improvements is contingent upon securing funding. Staff is pursuing funding from the Regional Transportation Commission of Southern Nevada and the Nevada Department of Transportation.

W - Winter
SP - Spring
S - Summer
F - Fall

Boulder City Parkway

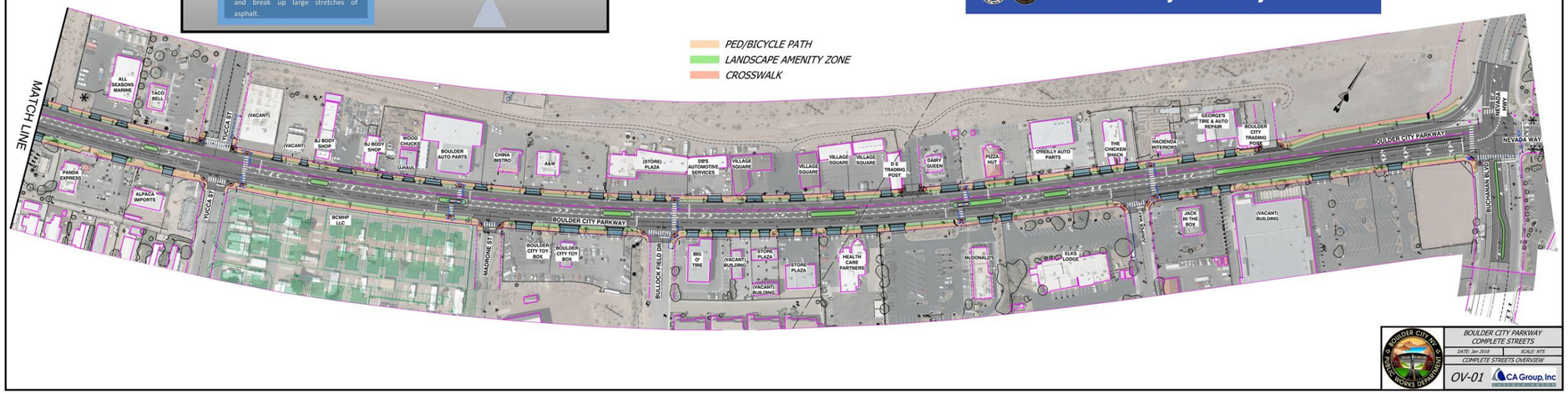


Figure 3-11: Enhanced Connection 4 - Boulder City Parkway to Nevada Way

Shown for information only.

Recommendations are part of a separate project.

3.4 Community Outreach and Input

The study team compiled information prepared as part of the Phase 2 development and presented this to the community for feedback. Because there was much more community interaction with the pop-up event strategy during Phase 1 outreach, the team decided to participate in two pop-up events for this phase. It was decided by the team to not have a formal Public Meeting.

For both pop-up events, an overview handout was provided and all four preliminary concepts were presented on boards with the opportunity to vote on preferred options using stickers. However, since Enhanced Connection 4 was determined essential for the project by stakeholders, the voting was limited to options 1-3.

Pop Up Event #2 - September 15, 2018, 6 am-10 am

Location: 3 Feet for Pete Bike Ride

13175 Las Vegas Blvd., S., Las Vegas, NV

The 3 Feet for Pete Bike Ride is an annual event to raise awareness for bicycle safety. A welcome table was set up to explain the process and the facilitators explained the project and why we were attending their event. Water and snacks were provided. Boards were placed in a semi-circle under a tent and guests visited each board. Public unfamiliar with the project were informed of the goals, process and timeline for the project. Community members were then asked to proceed to the voting boards. Anyone with additional comments were asked to fill out the comment cards.

The bike riders began arriving promptly at 6:30 AM. Over 400 bicyclists attended the event and approximately 50 came to the booth and reviewed the information.





Pop-Up Event #3 - September 29 , 2018, 11 am - 2 PM

Location: Wurst Festival

Bicentennial Park

401 California Street, Boulder City, Nevada 89005

The team attended the Wurst Festival and located in a tent where visitors could stop by and learn about the project. The tent area was set up with a welcome table with sign in sheets, take away flier, and comment cards. In addition, water and snacks were provided for the public. The team also included the same boards as utilized for the previous Pop-Up event. Approximately 30 people attended the booth.





Summary of Feedback

After completion of both outreach events, the team tallied the votes for Enhanced Connections 1, 2 and 3 and a summary is shown in the table below. There was a strong preference for option 1, medium preference for option 3 and low preference for option 2. This is likely reflecting the fact that if users choose to visit Boulder City, they will make this choice at the east or west ends of the area in order to avoid the steep elevation change that would be necessary if continuing to Yucca Street.

Table 3-4: Summary of Community Votes on Enhanced Connections

Enhanced Connection	Percentage
#1 - Veterans Memorial Drive	61%
#2 - Yucca Street	9%
#3 - US93	30%

Additionally, it is important to note there was strong support for separated facilities again during this outreach phase. In fact, many participants responded very positively to including cycle tracks or facilities that separated pedestrians from cyclists as well.

SECTION 4:
PHASE 3 DEVELOPMENT

4.1 Alternative Refinement

As part of Phase 3 Development, the team further developed the preferred options. For the final concepts. the selected options were renamed as Enhanced Connection A (Veterans Drive/Veterans Memorial Drive route), Enhanced Connection B (US93/Boulder City Parkway route) and Enhanced Connection C (gateway intersection and Nevada Way route). The System Plan was also updated accordingly and included General Improvements for other network connections of the system. Conceptual plan sheets and renderings were developed and final concepts are shown in Section 4.3.

4.2 Community Outreach and Input

The study team compiled information prepared as part of the Phase 3 development and presented this to the community. The purpose for outreach at this stage was just to present final concepts that were based on feedback already received during the previous two phases. Stakeholders decided to have the team conduct this outreach through the following methods:

1. Updated project website with final concepts
2. Participation in one pop-up event
3. Focused outreach to businesses along Enhanced Connections
4. Presentations to Boulder City and RTC.

Pop Up Event #4 - February 16th, 2019, 3:00pm to 6:00pm

River Mountains Loop & Boulder City Bike Ride & Social

Since there were no pop-up events planned during the timeline of this outreach stage, the team collaborated with the Southern Nevada Bicycle Coalition (SNVBC) and organized one specifically for this study. A flyer was prepared and distributed by social media and email. Additionally, SNVBC, who has more than 1500 Facebook followers, assisted by posting the event information on their Facebook page.

A welcome table was set up to explain the process. The team led a bike ride that started in downtown Boulder City and completed a full loop around the study area eventually returning to the starting point. The ride included three staging areas where the group stopped. At these points the study team/ride leader pointed out existing conditions and then described each of the Enhanced Connection proposed features at their respective locations.



After returning, the social began at the Boulder Dam Brewery giving participants an opportunity to view materials and provide feedback. The materials presented at the event included a handout showing the proposed System Plan with its included features and amenities. Additionally, there were boards displaying final concepts using plan views and renderings to visually represent proposed improvements. Approximately 25 individuals joined the event and participants were very supportive and excited by the proposed concepts.

Business Focused Outreach – May 2019

The study team decided to do additional outreach to businesses that were specifically along Enhanced Connections with significant improvements. This included an on-site, face-to-face meeting with the Nevada State Veterans Home. The team met with representatives there, presented final concepts and requested feedback. They brought it to the team's attention that there is potentially a new adult care facility being planned nearby, although they did not have any documentation for this yet. Their primary concern was that there is typically an overflow of daily parking at their facility. This especially occurs during events. The team included the recommendation in this report that the designer of Enhanced Connection A be required to coordinate with the State Home to ensure parking for their facility is accommodated. With this inclusion, the State Home staff were very supportive for the concepts being proposed. The study team also distributed an informational flyer for businesses along Enhanced Connection B. This included an overview of the proposed recommendations, a list of features and benefits, the link to the project website and information to contact the study team directly with any questions or comments. The flyers were mailed out to businesses and parcel owners, however no comments were received. The proposed improvements do not require acquisition of additional right-of-way and do not have any apparent negative impacts to

businesses, so outreach to these businesses was intended to provide updated information on the project.

Agency Presentations – June 2019

The team presented an overview of the study process and final recommendation to both Boulder City and the RTC. The study and its recommendations were very well received, and no additional changes were requested for the report.

4.3 Final Recommendations

System Plan

The System Plan shows the study area and an overview of the proposed improvements for the full system. It identifies the routes included in the network. All of these would receive General Improvements, which consist of trail system signage, sidewalk and pedestrian ramp upgrades, marked bike lanes where possible and a bike share system. Routes to receive these basic improvements include Industrial Road, Yucca Street, Canyon Road, Colorado Street and Nevada Way. Additionally, the plan identifies Enhanced Connections A, B and C which would include protected paths or buffered bike lanes, enhanced crossings, shading and rest areas with bike parking and public art. The System Plan also demonstrated how the recommendations of this study could tie in with other projects in the area, such as the Boulder City Railway Trail, the proposed State Railroad Museum and Linear Park and the complete streets improvements of Boulder City Parkway. The System Plan and its elements are shown in Figure 4-1 and Figure 4-2.

Enhanced Connection A

After a supplemental stakeholder meeting with City of Henderson, RTC and Boulder City staff, the study team eliminated the northern segment of Veterans Memorial Drive and moved forward with a shared use path along Veterans Drive as the connection to the existing trail. This option mitigates an additional road crossing and potential safety concern with sight distance due to curvature of the road. Plus, this option ties in nicely with the alignment and trailhead proposed by the Boulder City Railway Trail already vetted by the public in a separate study. As can be seen in Figure 4-3, there are two options for the alignment along Veterans Drive. One option provides members of the State Home access to the trail with a crossing immediately to the west of the facility. A second option shows the full alignment to the south of the roadway with the trailhead location being relocated. Option 2 maintains full accessibility for State Home staff and visitors to park in the graded area north of the roadway without impacting the trail.

Figure 4-4 shows proposed enhancements for segment 2 along Veterans Memorial Drive. The primary difference on this segment from Phase 2 is that it included buffered bike lanes. This was the preferred option recommended by the City of Henderson for cyclists that prefer riding on the roadway. The option still includes the completely separated, off-road shared-use path that connects to the proposed Railway Trail into the Museum for casual trail users. A comparison of existing conditions and a rendering of Enhanced Connection A are shown in Figure 4-5 and Figure 4-6 (location indicated by blue arrow on Figure 4-4 plan sheet).

Enhanced Connection B

Figure 4-7 and Figure 4-8 show proposed improvements for Enhanced Connection B. There were a few important refinements to this option. Based on feedback from Phase 2 Development, the study team included a shared use path for pedestrians and casual cyclists as well as a separate cycle track for cyclists wishing to travel at higher speeds.

Although Colorado Street did not advance as an Enhanced Connection option, it will likely attract users due to its access to downtown and is identified to receive General Improvements. The study also highly recommends a safe crossing be provided at this location off from Enhanced Connection B. However, several stakeholders expressed concerns with a crossing under current traffic conditions. Therefore, implementation of this crossing should be accompanied with a redesign of the roadway cross section including sufficient traffic calming measures to slow traffic down to safe speeds.

A comparison of existing conditions and a rendering of Enhanced Connection B are shown in Figure 4-9 and Figure 4-10 (location indicated by blue arrow on Figure 4-8 plan sheet).

Trailheads

The trailheads for this system will be a very important factor in attracting users to continue their journey into Boulder City. They should be branded in a way that is consistent with the River Mountains Loop Trail, but also unique to Boulder City. Both above Enhanced Connections include a proposed trailhead at key decision points of the system. They include a kiosk, shaded rest area and drinking water – some key items preferred by the community.

River Mountains Loop Trail Improvements Study

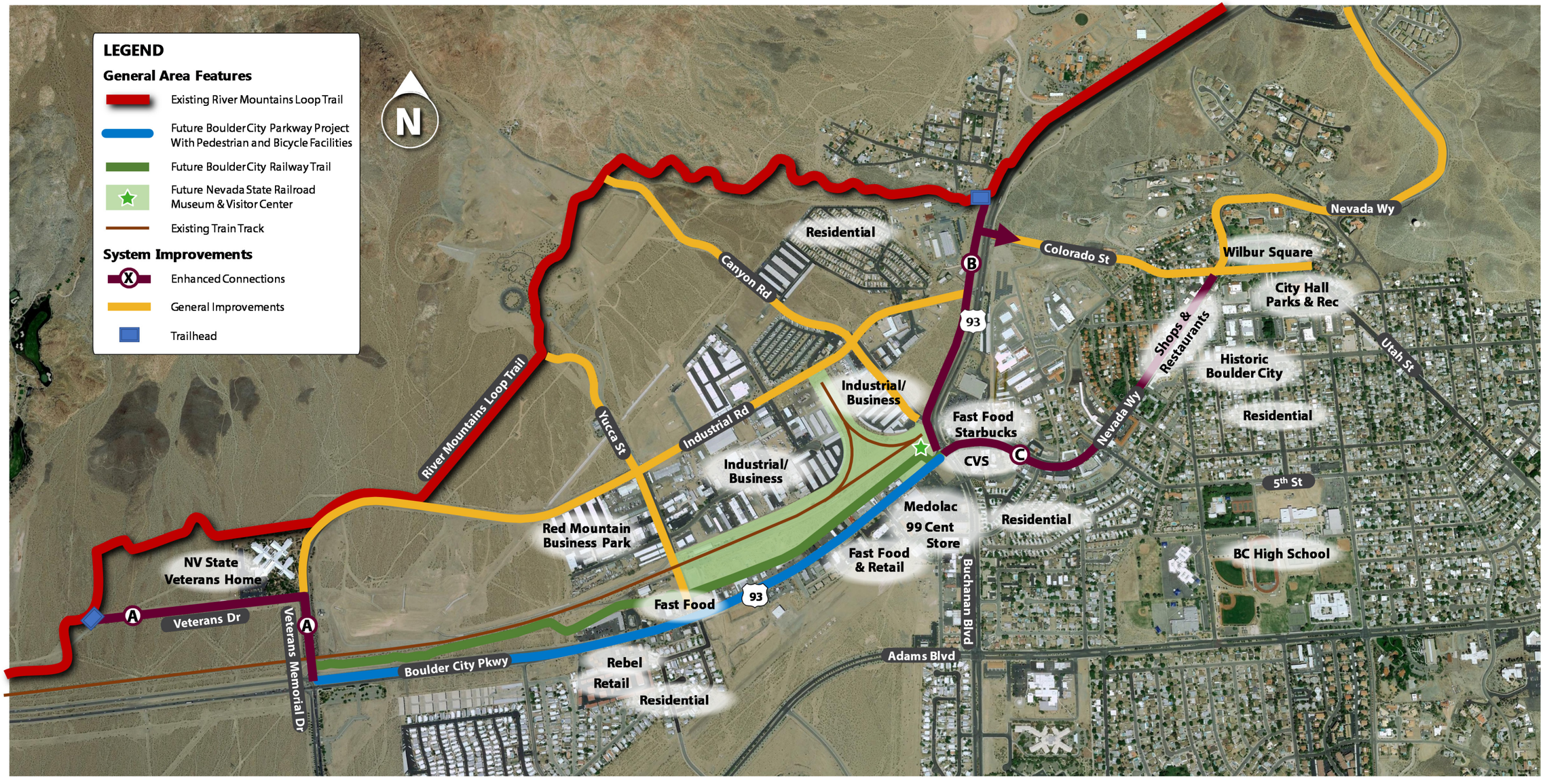


Figure 4-1: Final System Plan Map

ENHANCED CONNECTIONS

PROTECTED PATH OR BUFFERED BIKE LANE



ENHANCED CROSSING



SHADING & REST AREA WITH BIKE PARKING



PUBLIC ART



GENERAL IMPROVEMENTS

(APPLIES TO ALL CONNECTIONS)

TRAIL SYSTEM SIGNAGE



SIDEWALK AND RAMP UPGRADES



MARKED BIKE LANES



BIKE SHARE SYSTEM



Figure 4-2: System Plan Elements



Figure 4-3: Enhanced Connection A – Segment 1

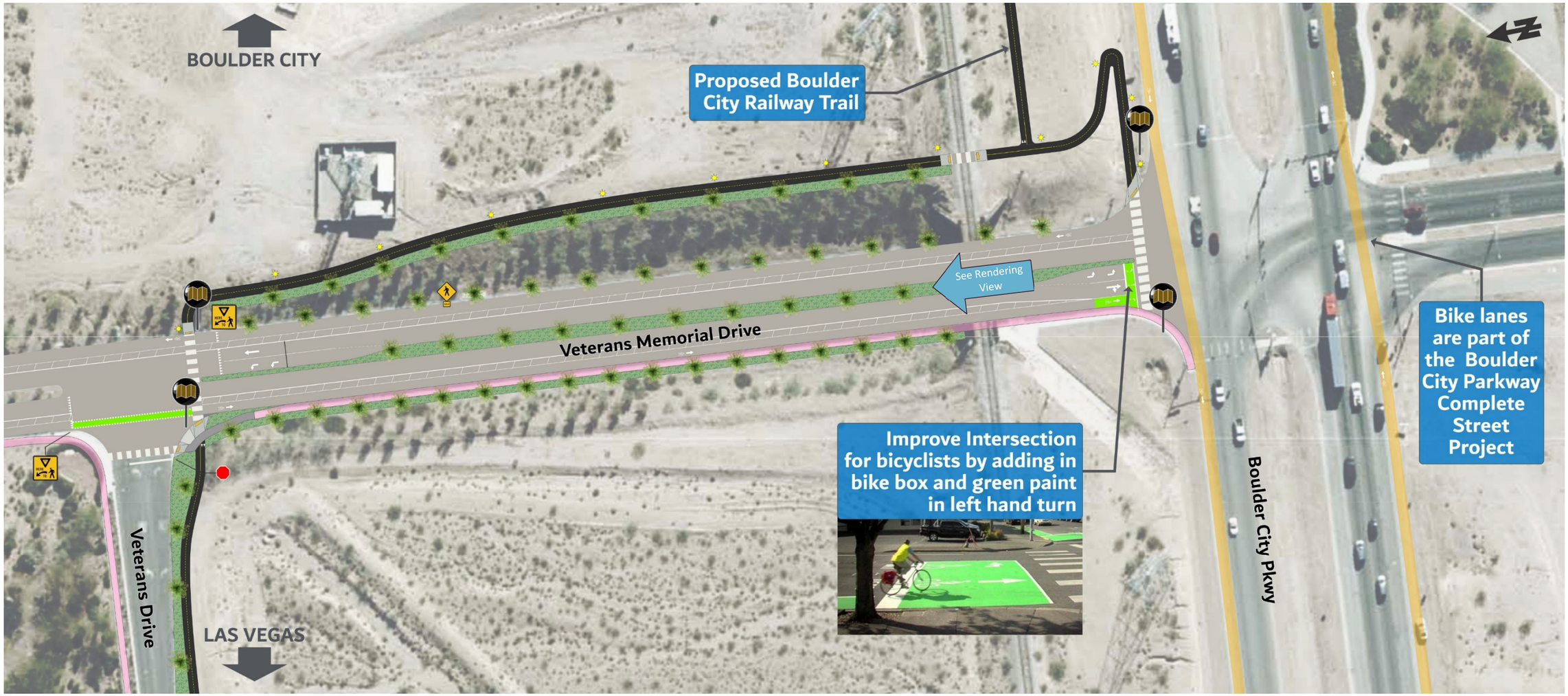


Figure 4-4: Enhanced Connection A – Segment 2



Figure 4-5: Enhanced Connection A – Existing Conditions



Figure 4-6: Enhanced Connection A – Proposed Improvements

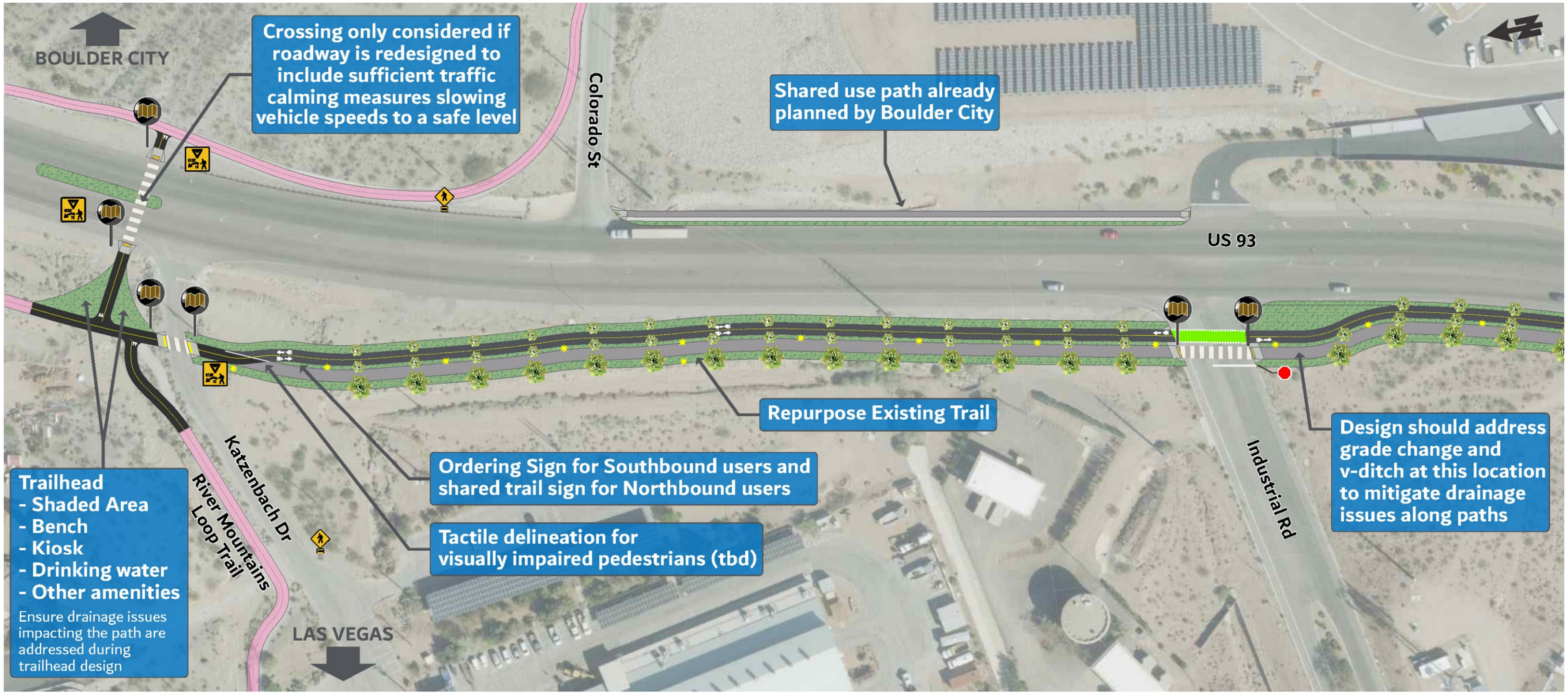


Figure 4-7: Enhanced Connection B – Segment 1



Figure 4-8: Enhanced Connection B – Segment 2



Figure 4-9: Enhanced Connection B – Existing Conditions



Figure 4-10: Enhanced Connection B – Proposed Improvements

Enhanced Connection C

Boulder City Parkway and Nevada Way

Improvements into Downtown

As discussed previously, the west portion of this connection includes the complete streets improvements already underway for Boulder City Parkway as a separate project. The east portion includes Nevada Way into downtown and the intersection gateway. Some recommendations are described below, however, further outreach and analysis at this intersection is needed to address pedestrian and bicycle movements, which could include leading pedestrian signals, additional bike signals, paint, shade, and physical improvements. Nevada Way into downtown is already fairly pedestrian and bicycle friendly. However, this option could consider using color-marked bike lanes and widened sidewalks where possible. Additionally, the option would consider placing bike racks at key locations along entire route and a major bike hub near New Mexico or Wyoming Street.

Multimodal intersection improvements

The intersection at Boulder City Parkway, Nevada Way and Buchanan Boulevard is key to the success of the system. It is a converging point for trail users coming from the east, coming from the west, connecting to the museum and the primary entrance into Historic Downtown Boulder City. With the opening of I-11 and the reduction in traffic volumes and large trucks, there is a great opportunity to make significant enhancements that will attract more pedestrians and cyclists between these destinations. This section offers four concepts for improving the intersection. Each concept could also be completed as a sequential phase in the following order shown.

Intersection Concept 1 (Phase 1)

This concept shown in Figure 4-11 introduces several measures to improve pedestrian and cyclist safety that can be implemented at a modest cost. A raised pedestrian crossing is added to the northwest quadrant, and a yield-to-pedestrians sign is added. This enhancement would need to be designed to accommodate emergency vehicles, but the benefits are twofold. Ramps can be calibrated to the target vehicle speed, allowing vehicles to easily pass over at that speed. Crossing over the ramp will become increasingly uncomfortable if vehicles exceed the target speed, helping to control vehicular speeds in conjunction with the raised crossing's visual impact. The raised crossing also elevates pedestrians and cyclists, making them more visible to approaching drivers. This concept also adds a pop-out and an advanced stop bar for cyclists to the southwest quadrant. The pop-out narrows the roadway, helping to reduce the speeds of southbound vehicles and reducing the length of the crosswalk across the south leg of the intersection. The tighter radius on the pop-out also helps to control the speed of right turning vehicles. The advanced stop bar for cyclists makes these vulnerable users more visible to stopped cars, reducing the risk of right-hook collisions.

Intersection Concept 2 (Phase 2)

Concept 2 shown in Figure 4-12 builds on Concept 1 by converting the free-flow right turn channel to a slip lane. This further reduces vehicular speeds at the crossing, as vehicles must slow down for the yield condition. The reduced right turn radius helps to reinforce this, and the sharper angle of approach improves the sightlines of right turning drivers to approaching westbound vehicles. This concept has the added benefit of providing additional space for the trail heading west along the north side of Boulder City Parkway.

Intersection Concept 3 (Phase 3)

This concept shown in Figure 4-13 removes the channelized right turn entirely. This removes a major conflict point between pedestrians/cyclists and vehicles, enhancing safety for vulnerable users. It also reduces total crossing distance. The reduced radius for right turning vehicles helps to reduce the speeds of vehicles making this movement. If desired, signal phasing can be modified as well to further reduce conflicts between pedestrians/cyclists and vehicles. This concept has the added benefit of providing additional space for the trail heading west along the north side of Boulder City Parkway and the bikeway and sidewalk heading north along US 93.

Intersection Concept 4 (Phase 4)

This concept shown in Figure 4-14 converts the intersection to a fully protected one. Protected intersections are widely considered to be the gold standard for cyclist safety. The radii are reduced on all four quadrants and crossing distances are reduced across all four legs. Cyclists are provided with facilities for all potential movements, complete with safe waiting areas behind the curbs. As with Concept 3, this concept has the added benefit of providing additional space for the trail heading west along the north side of Boulder City Parkway and the bikeway and sidewalk heading north along US 93. A fully protected intersection as shown in this concept would be recognized by tourists from numerous countries around the world and would help to highlight Boulder City as a cyclist-friendly destination.

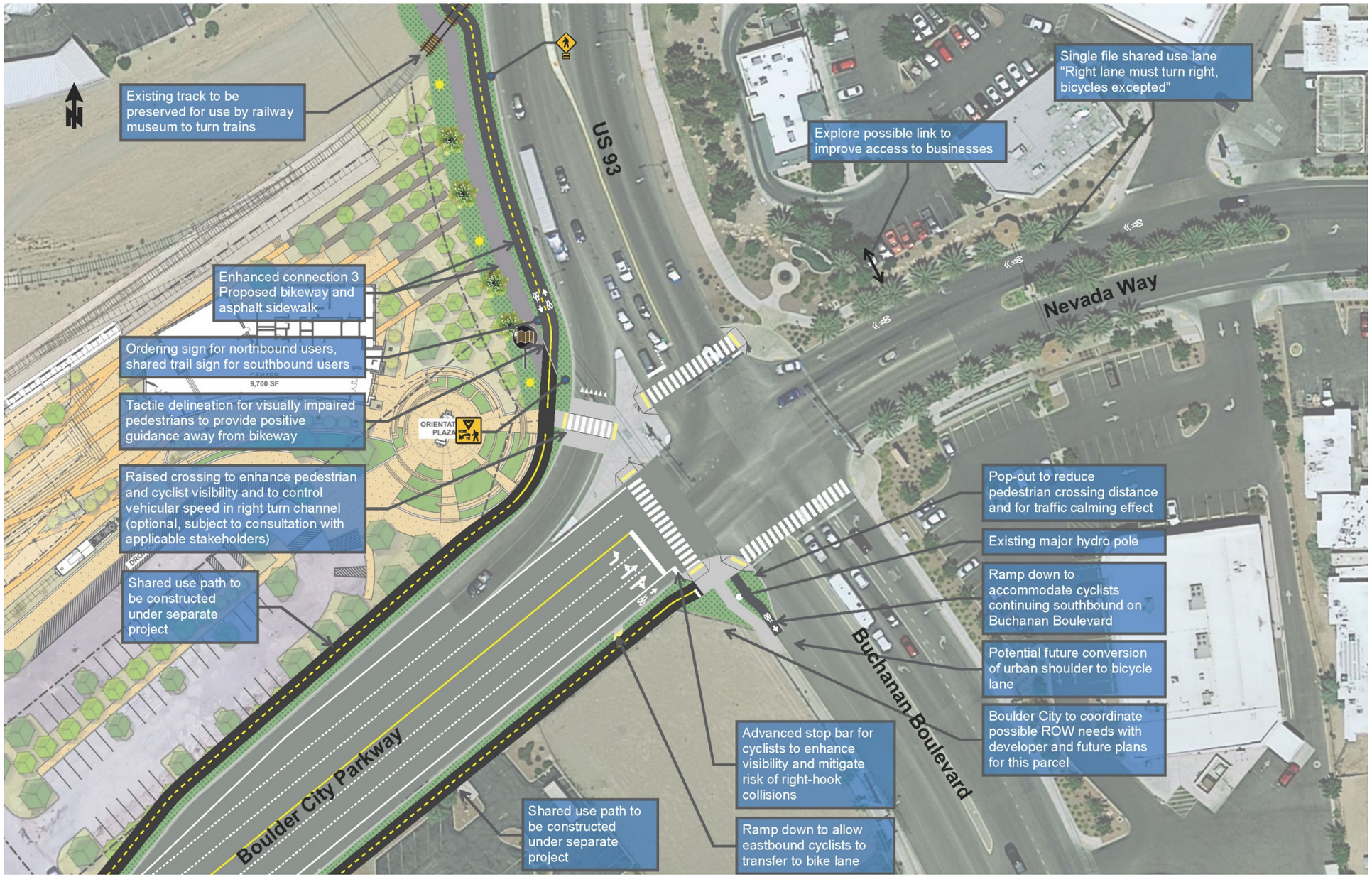


Figure 4-11: Enhanced Connection C – Intersection Improvements (Concept 1/Phase 1)

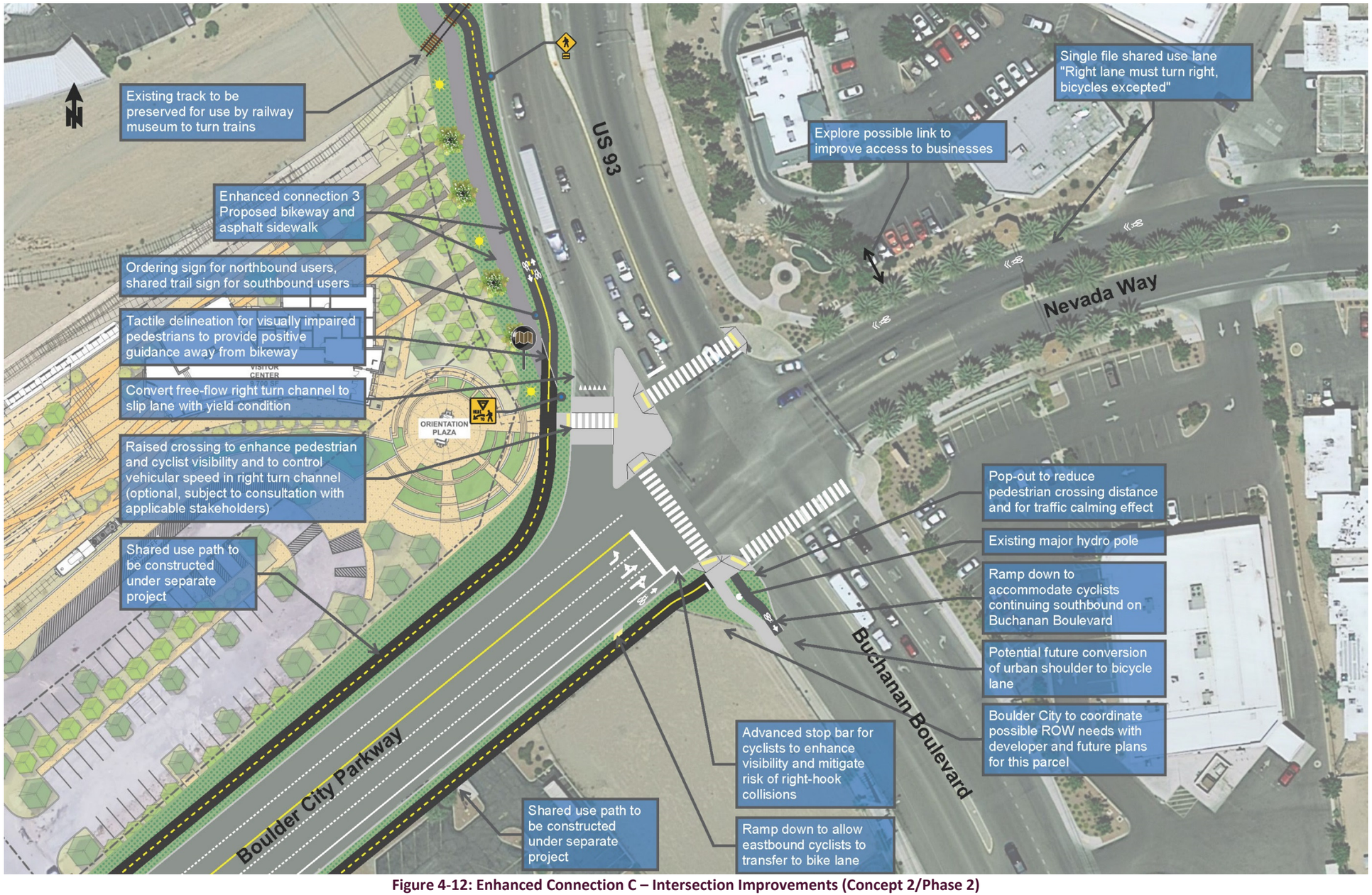


Figure 4-12: Enhanced Connection C – Intersection Improvements (Concept 2/Phase 2)

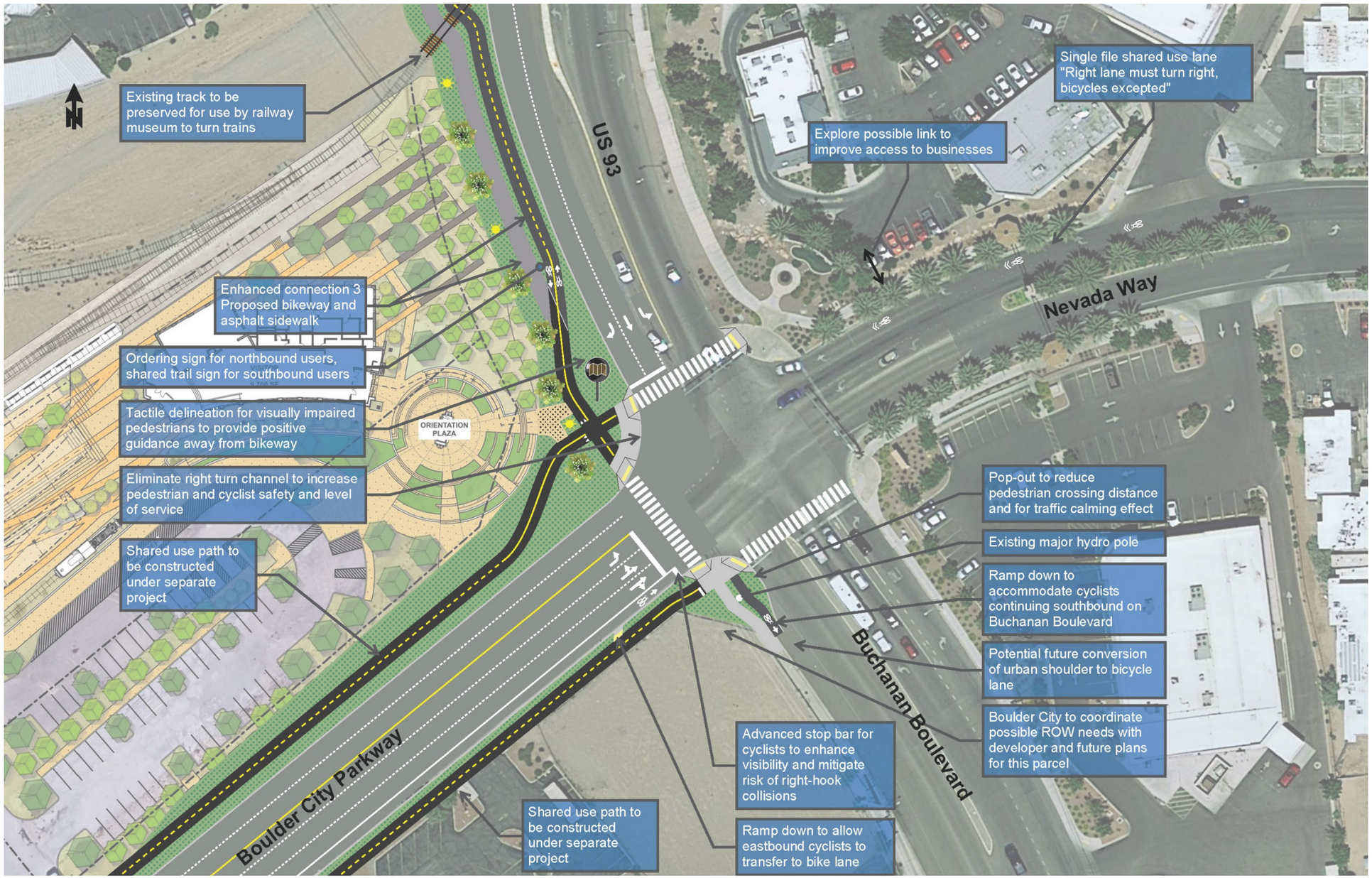


Figure 4-13: Enhanced Connection C – Intersection Improvements (Concept 3/Phase 3)

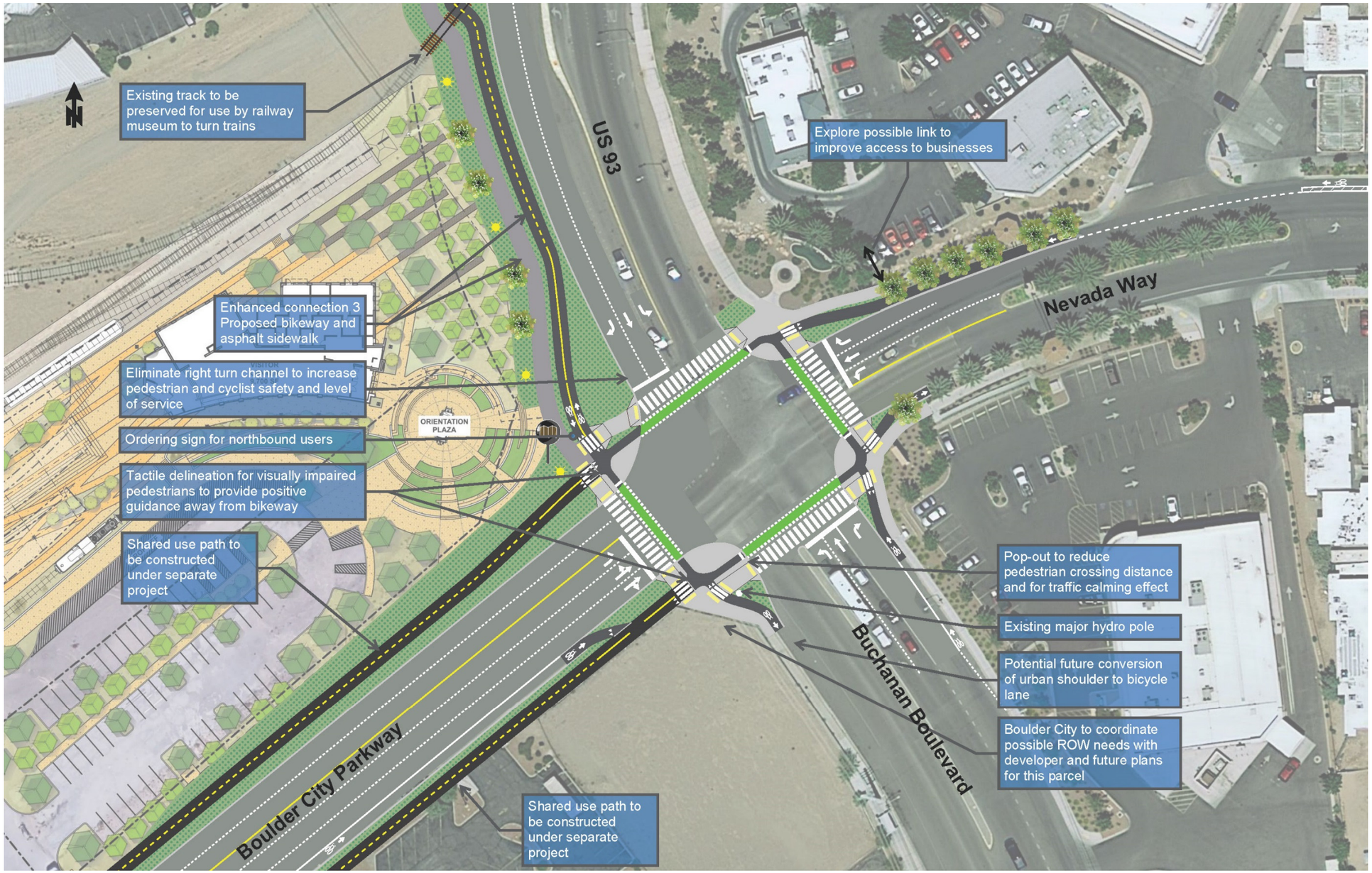


Figure 4-14: Enhanced Connection C – Intersection Improvements (Concept 4/Phase 4)

SECTION 5: IMPLEMENTATION

5.1 Project Costs and Phasing

Assumptions

Cost estimates for the project were developed with the general assumptions that the type of new surfaces would be asphalt pavement, with painted striping and typical sign costs. Pedestrian crossings will meet PROWAG requirements. Asphalt pavement for trail or shared use path thickness will be 4" on 6" of aggregate base. Pedestrian lighting levels are expected to be provided via trail lighting, similar to that used on other projects in the region. All corridors were estimated to include a general urban style clearing and grubbing to ensure a clean and finished look at project completion.

Corridor Assumptions

The following specific assumptions were used to develop and/or limit corridor costs:

- Enhanced Connection A – Veterans Drive and Veterans Memorial Drive
  - Retaining walls may be needed where existing slopes are 3:1 to stay within ROW.
  - Existing median and landscaping would remain, except any removal needed for sight distance visibility of the crossings.
- Enhanced Connection B – US93
  - The existing shared use path will remain.
  - Sidewalk shown on the east side of US93 in the exhibits will be constructed by a separate project.
  - The existing sidewalk between Canyon and Nevada Way will be removed and replaced by shared use path and a bicycle cycle track.
- Enhanced Connection C – Nevada Way (US93 to Downtown)
  - Includes the Concept 4 intersection improvement.
  - The existing bike lane length (approx. 2250LF) in the corridor will remain.
  - Amenity locations are to be determined.
  - No major disruptive improvements are expected through the developed downtown area.
- General Improvement Corridors – Industrial, Canyon, Colorado, Yucca, Nevada Way
  - General Improvement corridors will include signing, striping revisions, bike lanes, and pedestrian crossing enhancements.
  - Signing locations were assumed to be on 500-foot spacing and exact locations would be determined in final design.

Estimating Procedure

Quantities were generated based on each of the proposed corridor lengths and number of amenities assumed by the planning team, accounting for enhancing existing physical features (curbs, medians, etc.) and general corridor improvement items. The quantities were then multiplied by low and high price ranges from recent and historical construction bid tabulations from similar projects and types of work. Engineering judgement was used to determine additional factors applied to each item to account for current trending prices of specific items such as asphalt (oil). Finally, cost items were summed to determine the estimated total cost for each corridor.

Contingency and Variances

A 20% contingency factor was used to increase the anticipated corridor costs to account for unknown and incidental cost elements of the proposed improvements. The cost ranges established by engineering judgement and known low and high bid costs for the items evaluated do not include variances. Cost variances for specialty items including kiosks, artwork, and aesthetic enhancements have the potential to exceed the projected high cost range and should be evaluated again during preliminary and final design to provide the desired visual impact and conform to the City's plans.

Estimated Project Costs

The following is a summary of planning-level costs for construction of the project. The costs are broken out by each enhanced connection, the general improvements and the total costs. There are numerous variables to consider which influence the range of costs, so the table indicates a low and high range. Design costs would approximately be an additional 15-20% of construction costs shown below. For more details on these estimates, please see the Appendix.

Table 5-1: Planning-Level Cost Estimates

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Dr and Veterans Dr	$ 1,100,000	$ 1,500,000
Enhanced Connection B - US93 / Boulder City Pkwy	$ 1,100,000	$ 1,500,000
Enhanced Connection C - Nevada Way to Downtown	$ 1,500,000	$ 2,200,000
System General Improvements	$ 350,000	$ 600,000
TOTAL	**$ 4,050,000**	**$ 5,800,000**

Project Phasing

Recommendations in this study may be implemented in phases, depending on available funding and the justification based on an increase of trail system users. It is also important to note that, although these improvements were coordinated to tie in with other planned projects in Boulder City, improvements from this study may be implemented independently of other projects. The key is that there is much flexibility to how different elements of this study can be constructed and there are numerous ways to phase the project.

Below is a table showing one example of implementing the project in three phases. Phase 1 includes construction of all the General Improvements for the System Plan and some low-cost improvements for each of the Enhanced Connections (A, B and C). These generally include adding minimal infrastructure and signage to complete the connections. Phase 2 adds moderate cost improvements and Phase 3 would complete all elements of the ultimate project for the System. This includes higher-costing features such as drinking water, restrooms, full landscaping and trail lighting. It also includes the additional separated path along Enhanced Connection B and the fully improved intersection as a gateway into Boulder City.

Table 5-2: Example Phasing Costs

Example Phasing Costs	Low Range	High Range
Phase 1 - Includes System General Improvements plus low-cost improvements on Enhanced Connections A, B and C	$ 1,000,000	$ 1,500,000
Phase 2 - Includes moderate improvements on Enhanced Connections A, B and C, plus 15% remobilization costs	$ 2,000,000	$ 3,000,000
Phase 3 - - Includes ultimate improvements on Enhanced Connections A, B and C, plus 15% remobilization costs	$ 1,400,000	$ 2,000,000
TOTAL	**$ 4,400,000**	**$ 6,500,000**

The advantage to phasing the project is that it allows Boulder City to identify and allocate funding over time. Also, the goal is that with completion of each phase, the number of trail system users could increase and provide justification for additional investments to advance to the next phase. On the other hand, the disadvantage is that it takes longer for completion of the full project and each phase typically requires additional costs for remobilization.

5.2 Programmatic Recommendations

Enhance Economic Vitality of Boulder City

The following are some programmatic recommendations to consider. These could be implemented along with infrastructure improvements to encourage new users on the trail system and visitors into the museum and downtown.

- Apply for Bicycle Friendly Community status through the League of American Bicyclists
- Maps and directions created just for trail users and Boulder City connections
- Digital interaction with mobile devices for marketing and attractions
- Community group focused on attracting users from the trail into Boulder City
- Partnering with local businesses for trail upkeep and sponsorships
- Commute buddy program that pairs experienced bike commuters with newbies
- Offer free classes or bike citation diversion classes for cyclists who get ticketed
- Bike repair clinics
- Organize a cycling team
- FIY bike fix-it stations and bike pumps along the trail
- Bike share program
- Enhanced bike parking options within Boulder City
- Provide e-bike charging stations
- Public art along the trail

5.3 Funding Options

The following is a list of potential funding options presented in the Regional Bicycle and Pedestrian Plan for Southern Nevada (updated for this study).

State & Federal Funding

- Highway Safety Improvement Program (HSIP)
- FAST Act Safety Program
- Transportation Alternatives Program (TAP)
- Surface Transportation Block Grant Program (STBGP)
- Nevada Recreational Trails Grant Program (RTP)
- Better Utilizing Investments to Leverage Development (BUILD)

Regional Funding

- RTC Streets & Highways
- Southern Nevada Public Land Management Act (SNPLMA)

River Mountains Loop Trail Improvements Study

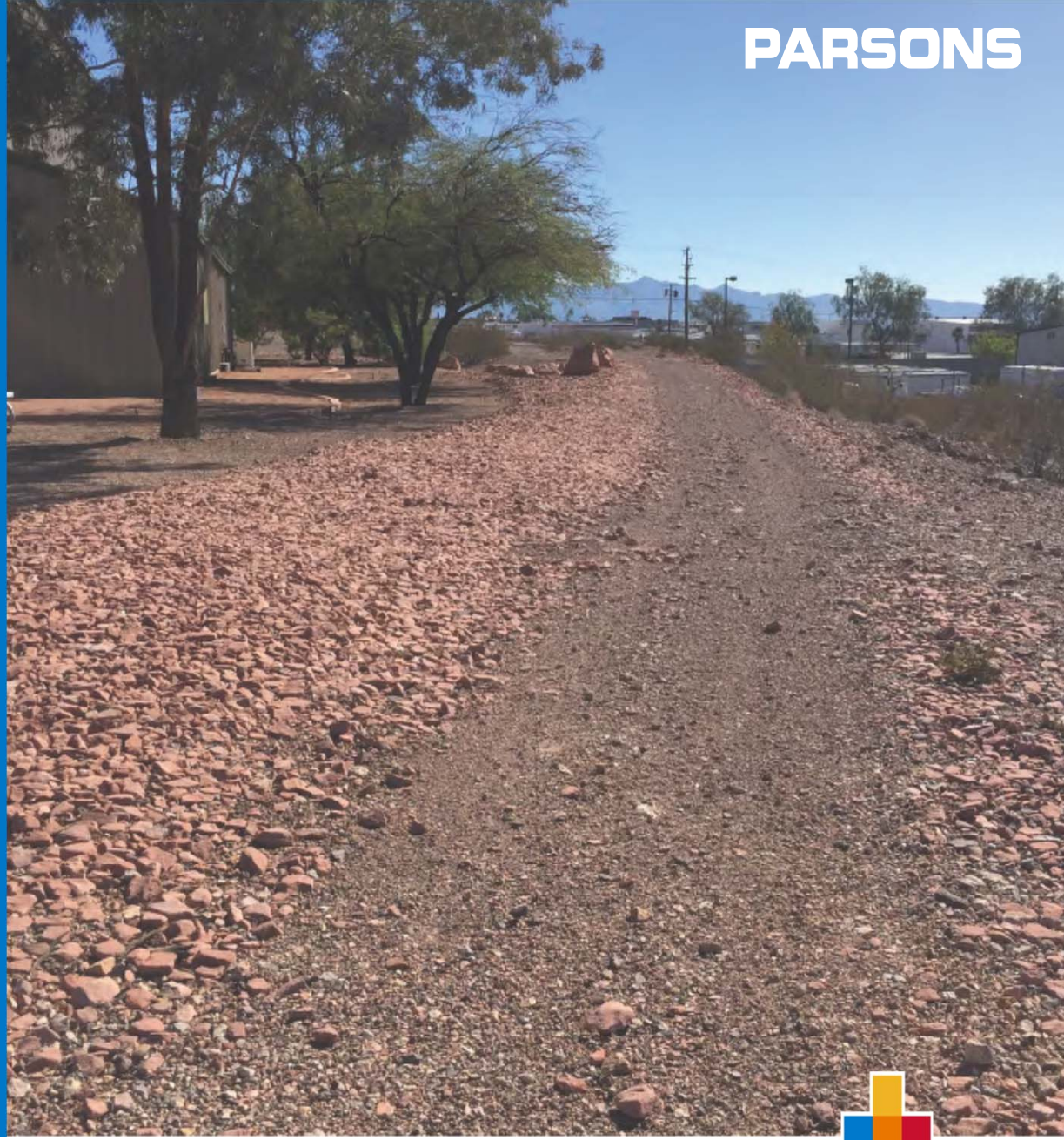
APPENDICES

APPENDIX A

KICK-OFF MEETING PRESENTATION

River Mountains Loop Trail Improvements Study

Kick-Off Meeting



12/14/2017

delivering a better world

Project Team

Consultant Team Legend
1 - PARSONS
2 - LGA
3 - CA GROUP
4 - SILVER STATE TRAFFIC (DBE)

RTC
Project Manager
Andrew Kjellman
Assistant Project Manager
Cathy Halka

PARTICIPATING AGENCIES
RTC
City of Boulder City
River Mountains Trail Partnership
Advisory Council
Nevada State Railroad Museum

STAKEHOLDER WORKING GROUP
(as listed in the RFP)



TASK 1
PROJECT MANAGER
J.P. Woyton, PE[1]



TASK 2
OUTREACH

Stakeholder Outreach
J.P. Woyton, PE[1]

Public Outreach
Craig Galati, AIA[2]
Jason Jorjorian, LEED AP[2]

Business Liaison
Roger Tobler[3]



TASKS 3–6
ALTERNATIVE DEVELOPMENT

Multimodal Alternatives
J.P. Woyton, PE[1]
Skye Gentile, PE[1]
Jim Caviola, PE, PTOE[3]
Steve Wyszomirski, EI[3]

Multimodal Network Analysis
J.P. Woyton, PE[1]
Bob Scales, PE[1]
Eric Coumou[1]

Data Collection
Skye Gentile, PE[1]
Susan Thomason[4]
Steve Wyszomirski, EI[3]

Pedestrian Bridges
Yinan Wunsch, PE, LEED AP[1]

Safety Analysis
J.P. Woyton, PE[1]
Skye Gentile, PE[1]
Pat Gallagher[1]



Trail Design and Aesthetic Enhancements
J.P. Woyton, PE[1]
Jeff Lormand, RLA[1]
Paul Nikolai, RLA[1]



Implementation (Prioritization/Costs)
J.P. Woyton, PE[1]
Skye Gentile, PE[1]

General Project Advisors
Craig Galati, AIA[2]
Jason Jorjorian, LEED AP[2]

Stakeholders & Coordination



PARTICIPATING AGENCIES

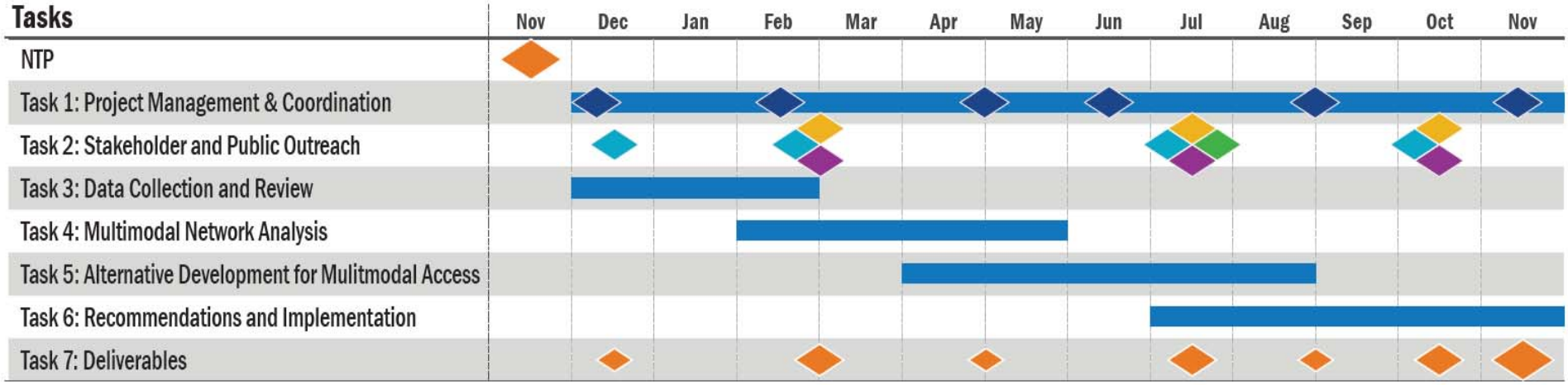
STAKEHOLDER WORKING GROUP



WORK PLAN

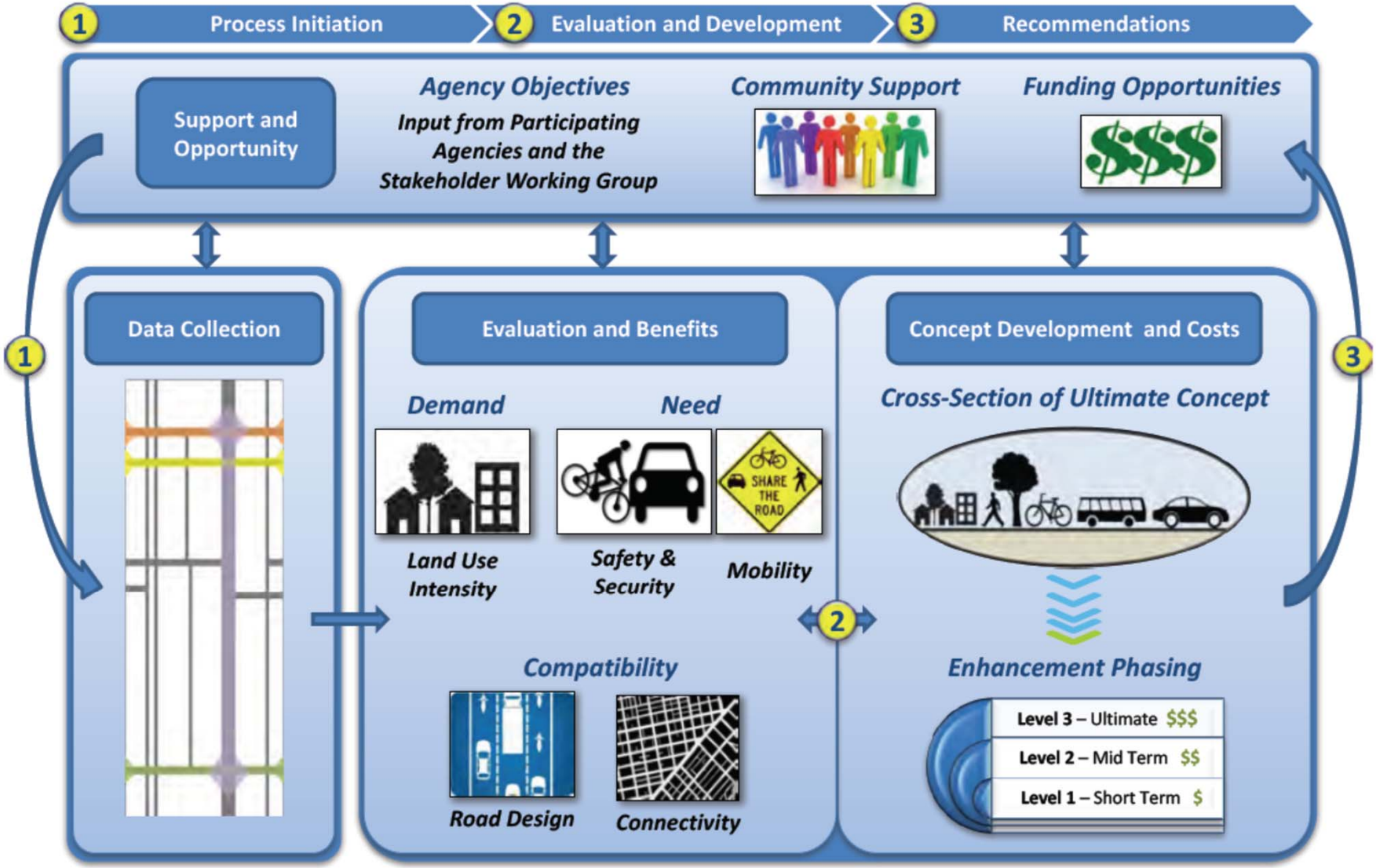
Task 1: Project Management & Coordination

Proposed Plan and Schedule (in response to RFP C5.3)



Task 1: Project Management & Coordination

Complete Streets Evaluation Process



Task 2: Stakeholder and Public Outreach



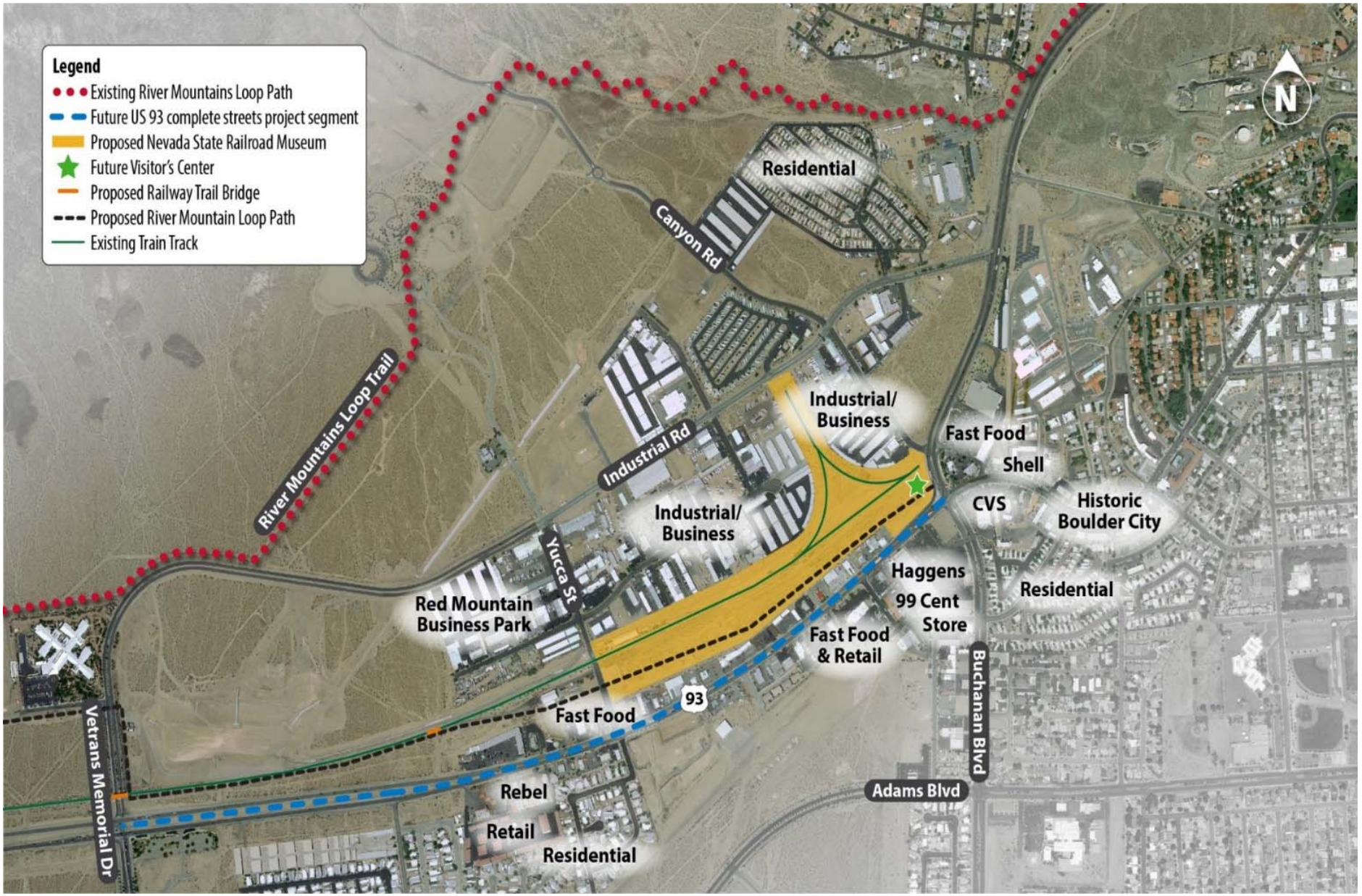




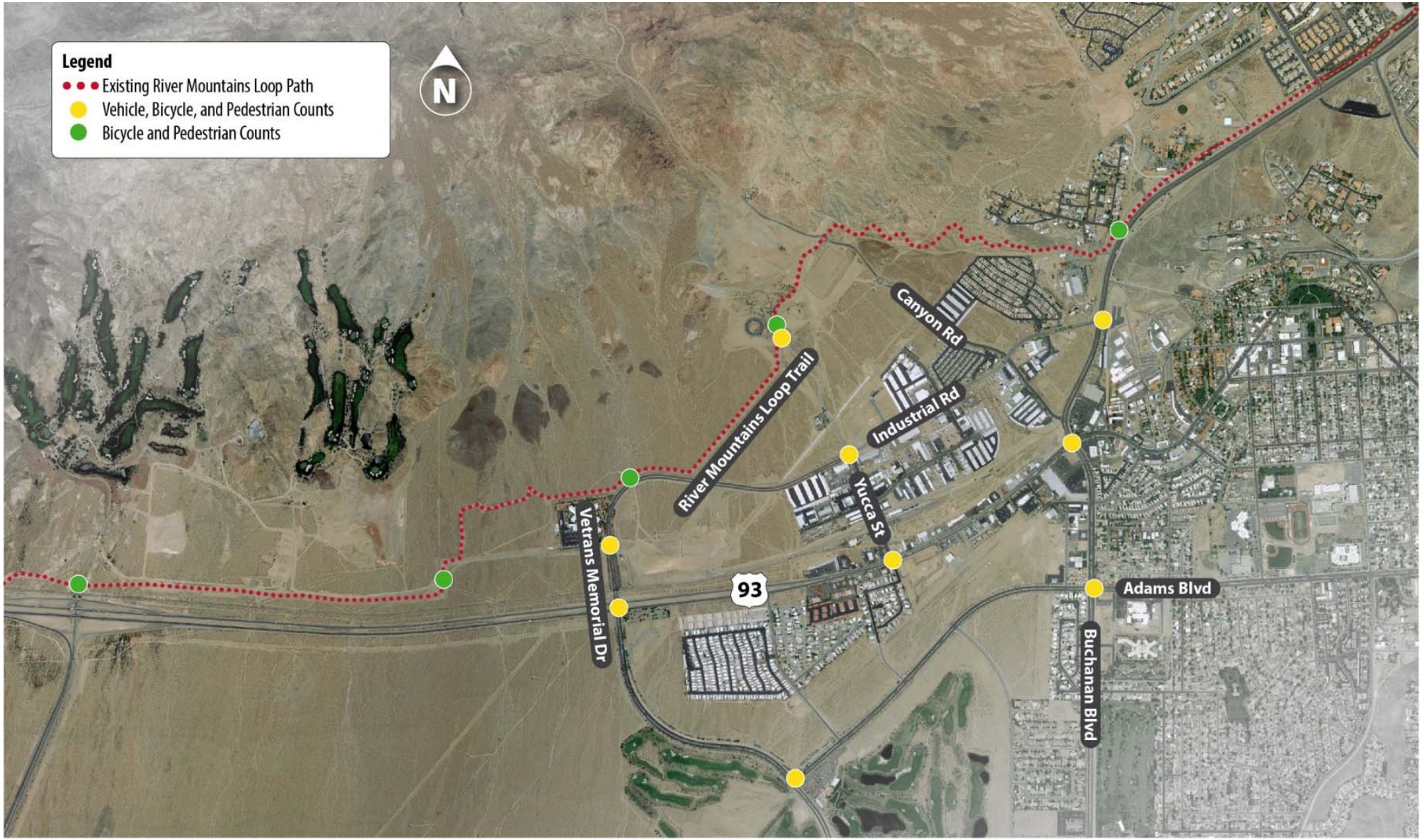




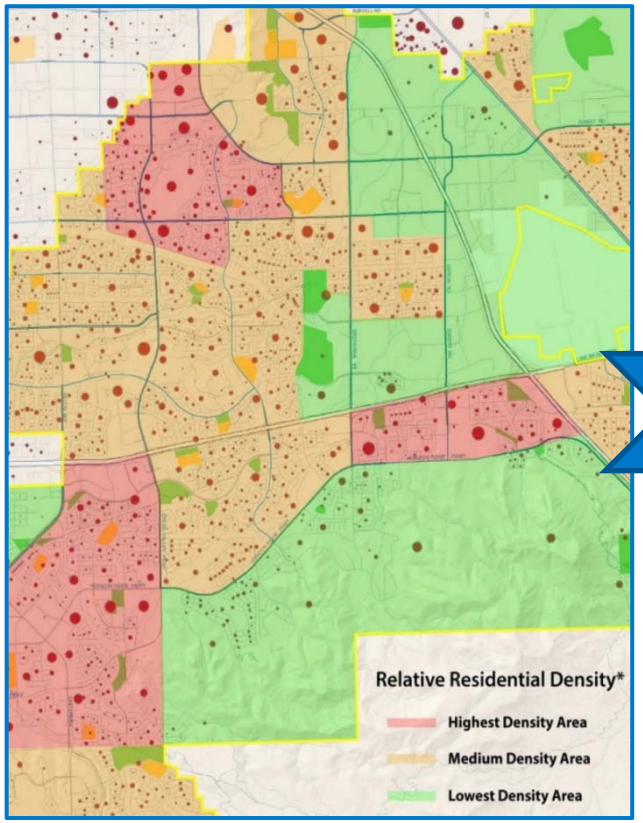
Task 3: Data Collection and Review



Task 3: Data Collection and Review



Task 4: Multimodal Network Analysis



COMPILE D DATA

Evaluation and Benefits

Demand



Land Use Intensity

- Residential Density
- Commercial Density
- Other Attractors Density
- Traffic : Auto, Bicycle and Pedestrian Counts
- Transit Ridership

Need



Safety & Security

- Conflict Points / Road Safety Audits
- Crash History
- Security



Mobility

- Master Plans
- Mode Gap Analysis
- Transit Routes
- ADA Requirements and Enhancements

Compatibility



Road Design

- ROW Constraints
- Traffic Lanes
- Traffic (AADT)
- Posted Speed Limits
- Volume/Capacity Ratios



Connectivity

- Corridor Connectivity and Accessibility
- System Connectivity and Capacity
- Regional Connectivity

WORK PLAN Task 5: Develop Alternatives for Improving Multimodal Access

Identify Connections → Evaluate Applicable Modes and Facility Options → Evaluate Options for Enhancement → Develop Concepts → Propose Programmatic Strategies → Present and Refine



CPTED
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

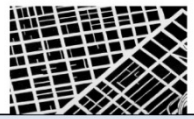








Task 6: Recommended Alternatives and Implementation Plan

EVALUATION FACTOR	RATING DESCRIPTION	CRITERIA					
DEMAND AND NEED							
D&N1) LAND USE CONTEXT 	• - Low: Not supportive land use •• - Below average supportive land use ••• - Average supportive land use •••• - Above average supportive land use ••••• - High supportive land use	**RESIDENTIAL DENSITY** Low – Low density housing Medium – Medium density housing High – High density housing	**COMMERCIAL DENSITY** Low – Low density commercial Medium – Medium density commercial High – High density commercial	**OTHER ATTRACTORS** SCHOOLS/PARKS/REC CENTERS/GOLF COURSES/TRAILS Low – Low number of locations Medium – Medium number of locations High – High number of locations	**TRAFFIC (AADT)** Low – Low count Medium – Medium count High – High count	**TRAFFIC (Bike and Ped Counts)** Low – Low count Medium – Medium count High – High count	**TRANSIT RIDERSHIP** Low – Low ridership Medium – Medium ridership High – High ridership
D&N2) SAFETY 	• - Few accidents •• - Below average number of accidents ••• - Average number of accidents •••• - Above average number of accidents ••••• - High number of accidents	**CONFLICT POINTS / SAFETY AUDITS** Low – Low safety concerns Medium – Medium safety concerns High – High safety concerns	**CRASH HISTORY** Low – Low crash history Medium – Medium crash history High – High crash history	**SECURITY** Low – Low security concerns Medium – Medium security concerns High – High security concerns			
D&N3) MOBILITY 	• - Low mobility (few modes accommodated/needed) •• - Below average mobility ••• - Average mobility •••• - Above average mobility ••••• - High mobility (most modes accommodated/needed)	**MASTER PLANS** Low – minimal modes included in plans Medium – some modes included in plans High – all modes included in plans	**BIKE & PED** (Gap in facilities) Low – Enhanced/ADA compliant facilities Medium – Basic facility access High – No facility access	**TRANSIT** (existing or planned, along or crossing corridor) Low – low number of transit routes Medium – medium number of transit routes High – high number of transit routes			
COMPATIBILITY							
C1) ROADWAY DESIGN 	• - Low accommodations for treatments •• - Below average accommodations for treatments ••• - Average accommodations for treatments •••• - Above average accommodations for treatments ••••• - High accommodations for treatments	**ROW Constraints** Low – No additional ROW available High – additional ROW available or ROW purchase easily obtained	**TRAFFIC LANES** Low – Arterial with 5+ lanes Medium – Collector with 3+ lanes or major arterial with 5+ lanes High – 2 lanes or major collector with 3+ lanes	**TRAFFIC (AADT)** Low – More than 25,000 High – Less than 25,000	**POSTED SPEED LIMITS** Low – Over 40 mph Medium – 31-40 mph High – Up to 30 mph	**VOLUME/CAPACITY RATIOS** *(Projected 2035 Peak)* Low – V/C ratio more than 0.67 Medium – V/C ratio between 0.33 and 0.67 High – V/C ratio less than 0.33	
C2) CONNECTIVITY 	• - Low connectivity •• - Below average connectivity ••• - Average connectivity •••• - Above average connectivity ••••• - High connectivity	**CORRIDOR CONNECTIVITY AND ACCESSIBILITY** Low – low appropriate connectivity Medium – medium appropriate connectivity High – high appropriate connectivity	**SYSTEM CONNECTIVITY AND CAPACITY** Low – low alternate system capacity Medium – medium alternate system capacity High – high alternate system capacity	**REGIONAL CONNECTIVITY** Low – low regional connectivity Medium – medium regional connectivity High – high regional connectivity			
OVERALL RANKING							
OVERALL RANKING	• - Low CS compatibility rank (5 to 11 points) ••• - Medium CS compatibility (12 to 18 points) ••••• - High CS compatibility rank (19 to 25 points)	**ALL CATEGORIES** • - Low score (1 points) •• - Below average score (2 points) ••• - Average score (3 points) •••• - Above average score (4 points) ••••• - High score (5 points)	**SUB CATEGORIES** • - Low score (1 points) ••• - Medium score (2 points) ••••• - High score (3 points)	**OVERALL** **Score D&N1 : LAND USE CONTEXT** (1 to 5 points) **Score D&N2 : SAFETY** (1 to 5 points) **Score D&N3 : MOBILITY** (1 to 5 points) **Score C1 : ROADWAY DESIGN** (1 to 5 points) **Score C2 : CONNECTIVITY** (1 to 5 points) **TOTAL POINTS** (5 TO 25 points)			

Task 6: Recommended Alternatives and Implementation Plan

Support and Opportunity

Agency Objectives

Input from Participating Agencies and the Stakeholder Working Group

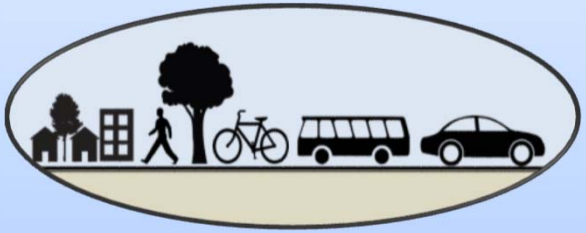
Community Support



Funding Opportunities



Prioritization & Packaging

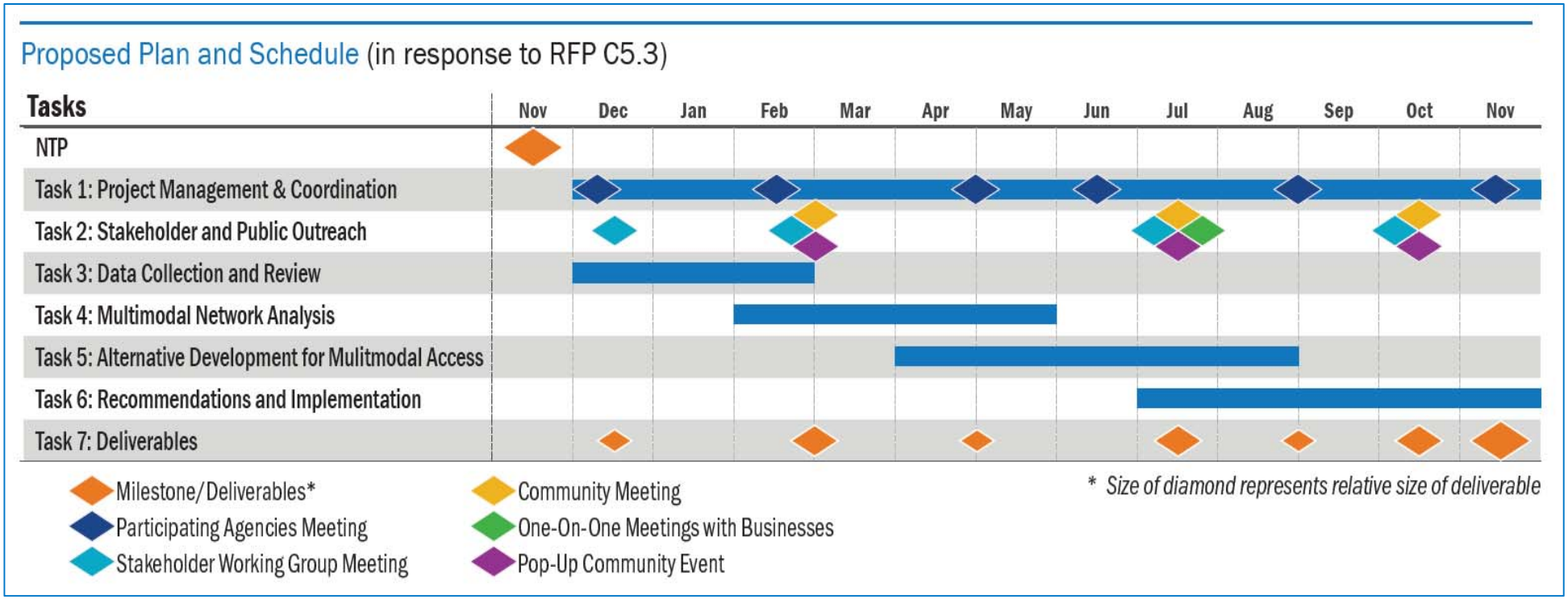


Level 3 – Ultimate $$$

Level 2 – Mid Term $$

Level 1 – Short Term $

WORK PLAN Task 7: Deliverables



QUESTIONS & ANSWERS

APPENDIX B

PHASE 1 DEVELOPMENT

River Mountains Loop Trail Improvements Study

Stakeholder Meeting #2



AGENDA

- Work Plan Overview
- Data Collection Summary
- Next Steps
- Upcoming Outreach
- Other Discussion

March 15, 2018

delivering a better world SM

RTC

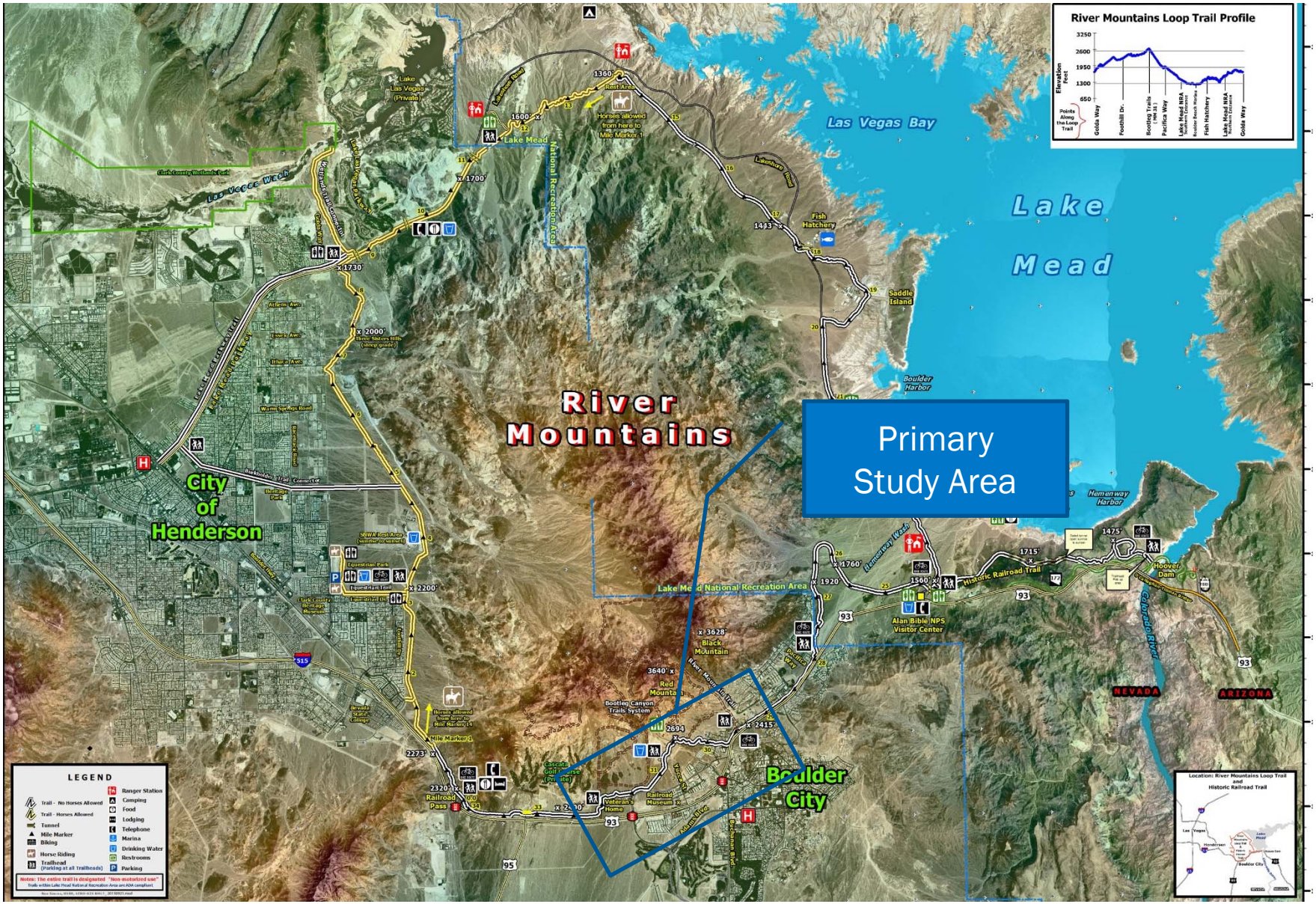
BOULDER CITY NV PUBLIC WORKS DEPARTMENT

BOULDER CITY CHAMBER OF COMMERCE

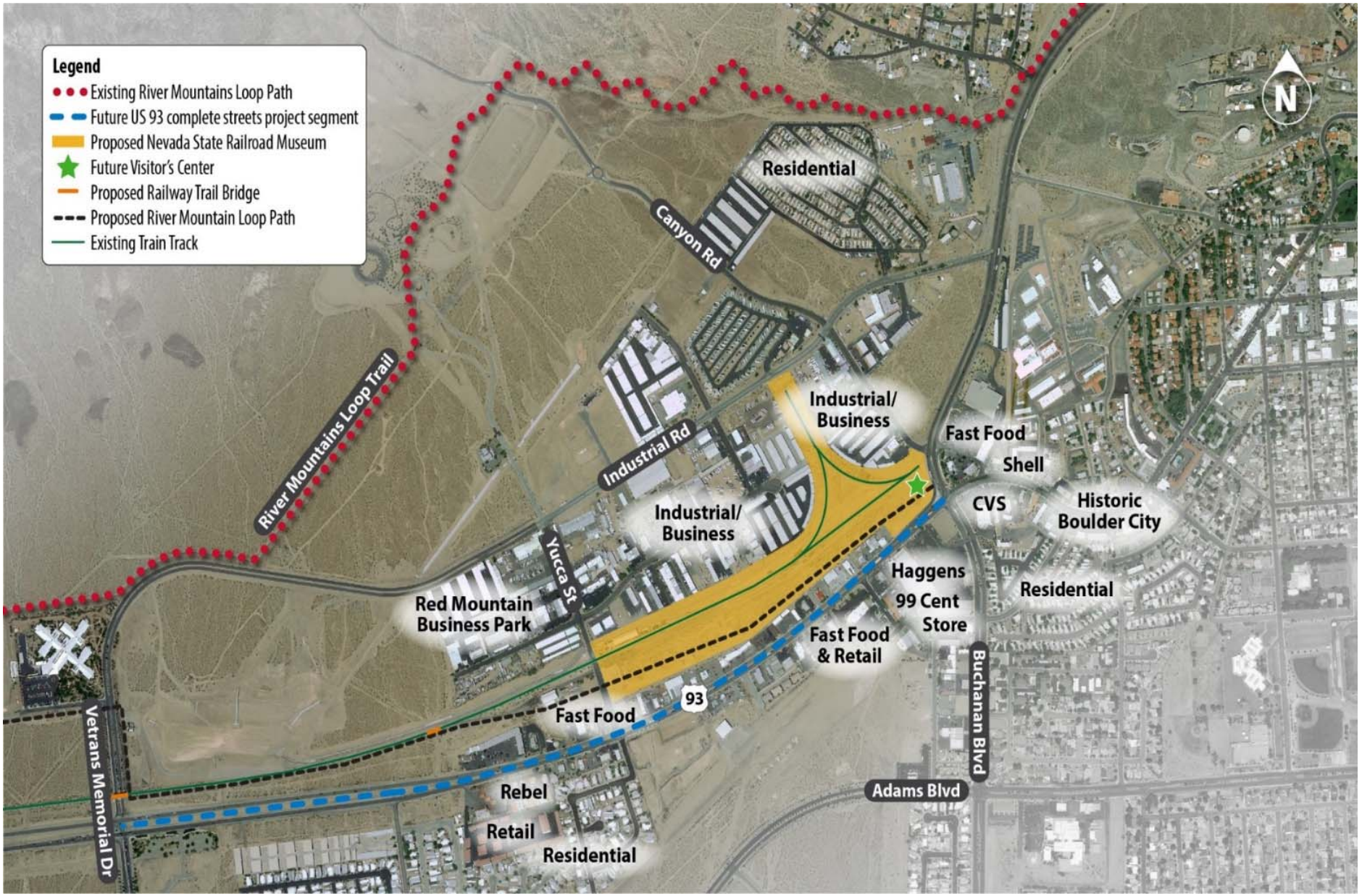
PARSONS

Task 3: Data Collection and Review

STUDY AREA



STUDY AREA


Legend
Existing River Mountains Loop Path
Future US 93 complete streets project segment
Proposed Nevada State Railroad Museum
Future Visitor's Center
Proposed Railway Trail Bridge
Proposed River Mountain Loop Path
Existing Train Track
N
Residential
Canyon Rd
River Mountains Loop Trail
Industrial/
Business
Industrial Rd
Fast Food
Shell
CVS
Historic
Boulder City
Industrial/
Business
Yucca St
Red Mountain
Business Park
Haggens
99 Cent
Store
Residential
Fast Food
& Retail
Buchanan Blvd
93
Fast Food
Vetrans Memorial Dr
Rebel
Retail
Residential
Adams Blvd

BIKE FACILITIES



Existing Facilities
- Separated Bike Lane
- Buffered Bike Lane
- Bike Lane
- Bus/Bike Lane
- Shared-use Path

Proposed Facilities
(New or Previously Planned)
- Enhanced Bicycle Facility (Separated or Buffered Bike Lane)
- Bike Lane
- Bicycle Boulevard
- Shared-use Path

- Park/Nat'l Area
- School
- College
- Municipality
- Southern Nevada Public Land Management Act Boundary

ROADWAY NETWORK

Street Name	Speed Limits	Right of Way	# of lanes	Utilities (Lighting, or other observed)	Street Facilities (Sidewalks, Medians, On-Street Parking)	Landmarks
Veterans Memorial Dr (North)	35 MPH	90’	4	Lighting	Sidewalks, Medians	- Nevada State Veterans Home - River Mountains Loop Trail
Veterans Memorial Dr (South)	45 MPH	120’-136’	4	Lighting, Overhead Power	Sidewalks, Medians	- Boulder Creek Golf Club - Veterans Memorial Park - Boulder City Airport - Southern Nevada Veterans Memorial Cemetery
Industrial Rd	35 MPH	60’	3	Lighting	On-Street Parking, Bike lanes	
Canyon Rd	25 MPH	60’	2	Lighting, Overhead Power	Sidewalks, Bike lanes, On-Street Parking	
Boulder City Pkwy	45 MPH	100’	5	Lighting, Overhead Power	Sidewalks, Medians, Crosswalks	- Historic Boulder City
Adams Blvd	45 MPH	120’-136’	2	Lighting	Multiuse Paths, Medians	- Boulder Creek Golf Club
Gingerwood St	25 MPH	60’	2	Lighting	Sidewalks, On-Street Parking	
Aspen Dr	25 MPH	60’	2	Lighting	Sidewalks, On-Street Parking	
Cedar Dr	25 MPH	60’	2	Lighting	Sidewalks, On-Street Parking	
Yucca St	25 MPH	60’-90’	2	Lighting	Sidewalks near developments, On-Street Parking, Bike lanes	
Foothill Dr	25 MPH	60’	2	Lighting	On-Street Parking	
Wells Rd	25 MPH	60’	2	Lighting	On-Street Parking	
Nevada Way	25 MPH	92’	3	Lighting	Sidewalks, Medians	- Historic Boulder City
Buchanan Blvd	35 MPH	120’	4	Lighting, Overhead Power	Sidewalks, Medians	- Boulder City Golf Course
Great Basin Hwy	45 MPH	120’	4	Lighting	Sidewalks, Medians	

Forecasted Congestion



2015 PEAK V/C Ratios



2040 PEAK V/C Ratios

Volume/Capacity Ratios

Route/Location	Functional Classification (NDOT)	V/C Ratio (2015 AM Peak)	V/C Ratio (2015 PM Peak)	V/C Ratio (2040 AM Peak)	V/C Ratio (2040 PM Peak)	Opportunity for Road Diet *
Nevada Way, 0.1 mi S. of Fifth Street	Minor Arterial	0.33	0.33	N/A	N/A	Medium
US93, 0.2 mi S. of Industrial Rd in Boulder City	Other Principal Arterial	0.50	0.64	0.23	N/A	Medium
Industrial Rd, 300 ft E. of Yucca Street	Minor Arterial	0.02	0.31	N/A	N/A	High
Buchanan Bl, 150 ft S. of US-93 (NV Hwy)	Minor Arterial	0.05	0.07	0.05	0.07	High
Yucca St, Between the Nevada Hwy and the RR tracks	Minor Collector	0.07	0.07	0.09	N/A	High
US93, 0.3 mi S. of Buchanan Bl	Other Principal Arterial	0.66	0.75	N/A	N/A	Low
Canyon Rd, W. of US-93	Minor Collector	N/A	N/A	N/A	N/A	N/A
Adams Bl, E. of Bristlecone Dr.	Minor Arterial	0.21	0.29	N/A	N/A	High

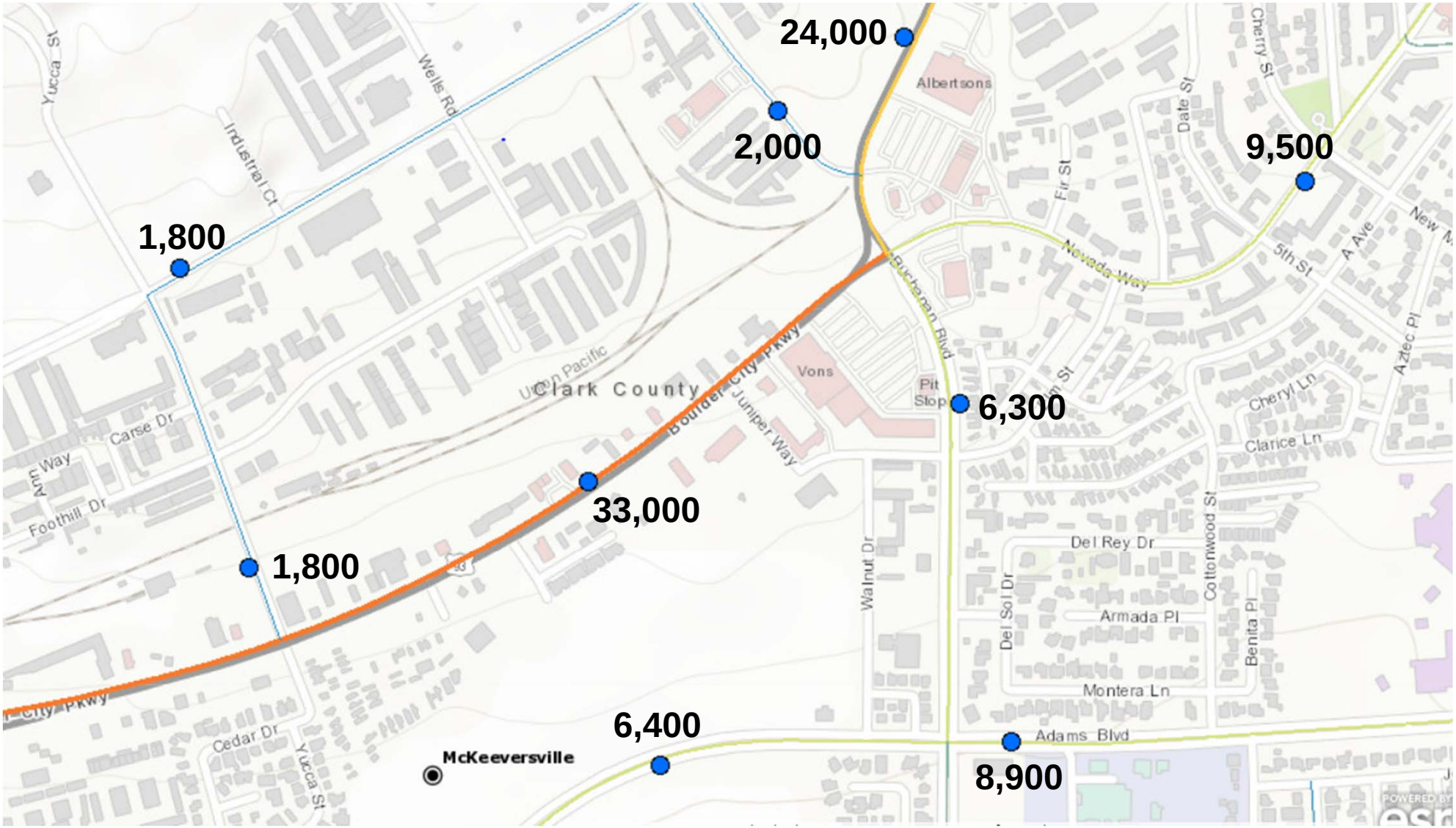
* Low – V/C ratio more than 0.67
Medium – V/C ratio between 0.33 and 0.67
High – V/C ratio less than 0.33

Historic Traffic Counts on Roadways

Route/Location	Functional Classification (NDOT)	2007 AADT	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT	Traffic Increase (Decrease)	Average Increase (Decrease) per year
Nevada Way, 0.1 mi S. of Fifth Street	Minor Arterial	14,000	14,000	12,000	10,000	10,000	10,000	10,500	9,200	9,650	9,500	-32%	-4%
US93, 0.2 mi S. of Industrial Rd in Boulder City	Other Principal Arterial	17,000	18,000	19,000	18,000	20,000	22,500	20,500	24,500	36,500	24,000	41%	5%
Industrial Rd, 300 ft E. of Yucca Street	Minor Arterial	1,700	1,700	1,600	1,500	1,700	1,600	1,700	1,400	1,700	1,800	6%	1%
Buchanan Bl, 150 ft S. of US-93 (NV Hwy)	Minor Arterial	7,600	7,400	7,300	7,400	6,500	6,600	6,300	6,400	6,700	6,300	-17%	-2%
Yucca St, Between the Nevada Hwy and the RR tracks	Minor Collector								1,700	1,900	1,800	6%	3%
US93, 0.3 mi S. of Buchanan Bl	Other Principal Arterial	30,000	28,000	28,000	28,000	27,000	26,500	30,000	31,500	34,500	33,000	10%	1%
Canyon Rd, W. of US-93	Minor Collector							2,100	1,900	2,000	2,000	-5%	-2%
Adams Bl, E. of Bristlecone Dr.	Minor Arterial							6,100	6,000	6,300	6,400	5%	2%

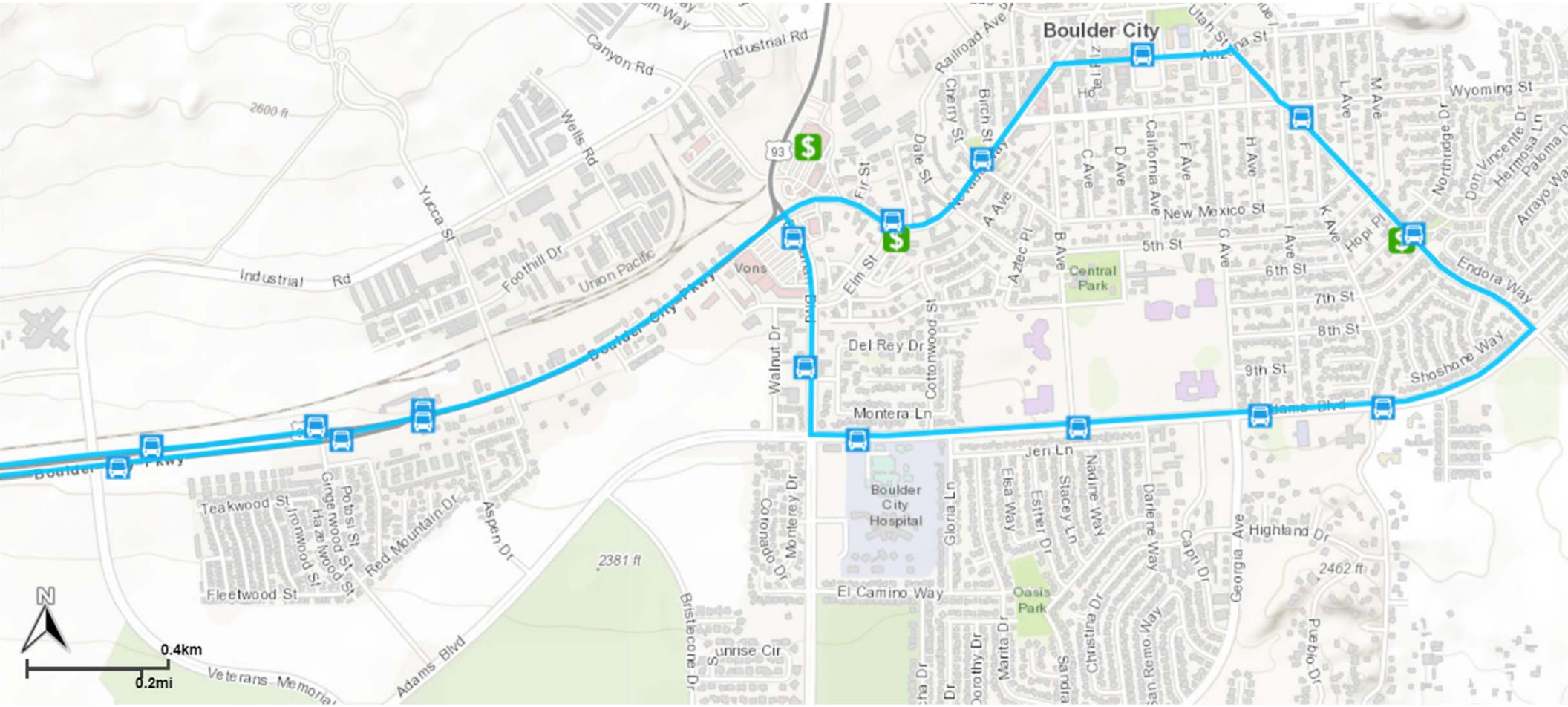
TRAFFIC DATA

Historic Traffic Counts on Roadways



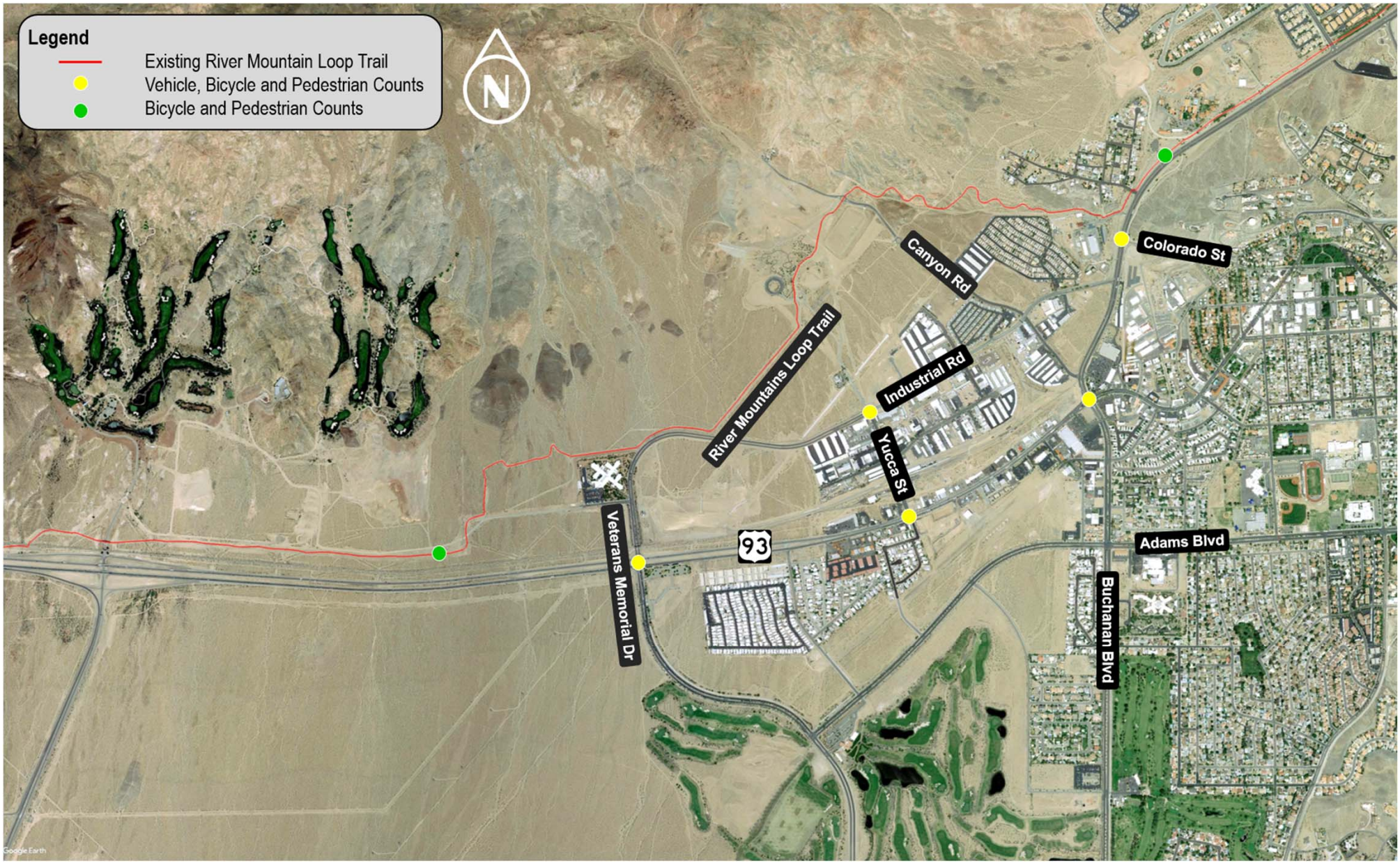
X,XXX – 2016 AADT

RTC Transit Routes and Stops



TRAFFIC DATA

New Traffic Counts



Pedestrian and Bike Counts on RML Trail
February 2018

Location	Count Type	Weekday		Weekend Day	
		AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period
Location #1 (West of Veterans Memorial Dr)	Bicyclists	12	3	17	2
	Pedestrians	2	0	1	0
Location #2 (East of Colorado St)	Bicyclists	11	2	16	5
	Pedestrians	0	0	0	0

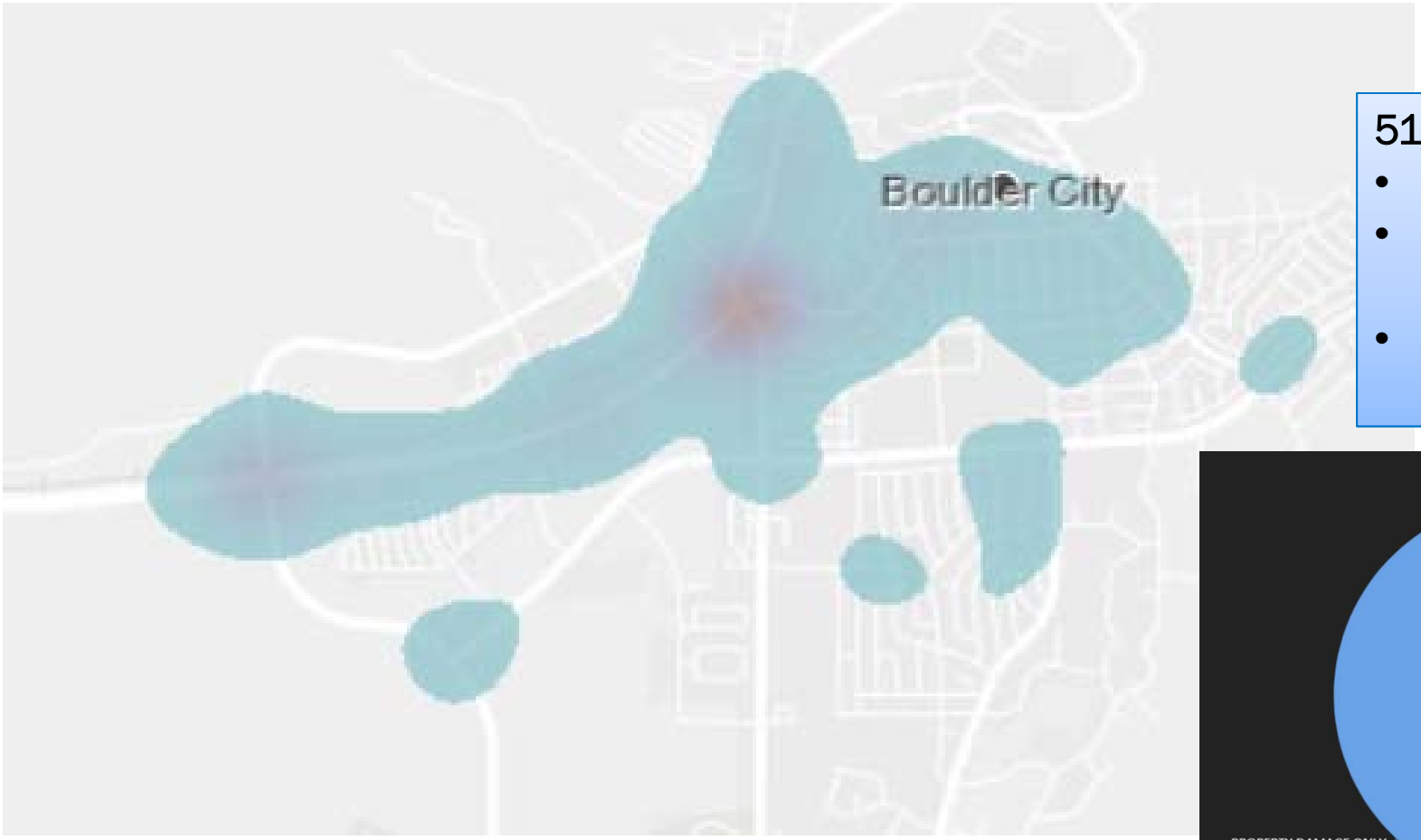
** AM Peak Period - 10:00AM to 12:00PM*

PM Peak Period - 5:00pm to 7:00 PM

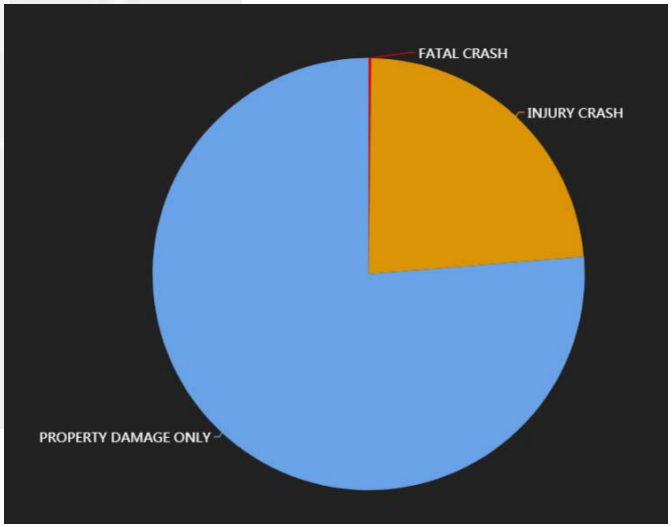
Location	Count Type	Weekday ADT*	Weekend Day ADT*
Location #1 (West of Veterans Memorial Dr)	Bicyclists	60	85
	Pedestrians	10	5
Location #2 (East of Colorado St)	Bicyclists	55	80
	Pedestrians	0	0

** Assume K factor of 10%*

Crash Summary and Heat Map
(2014-2016 data)

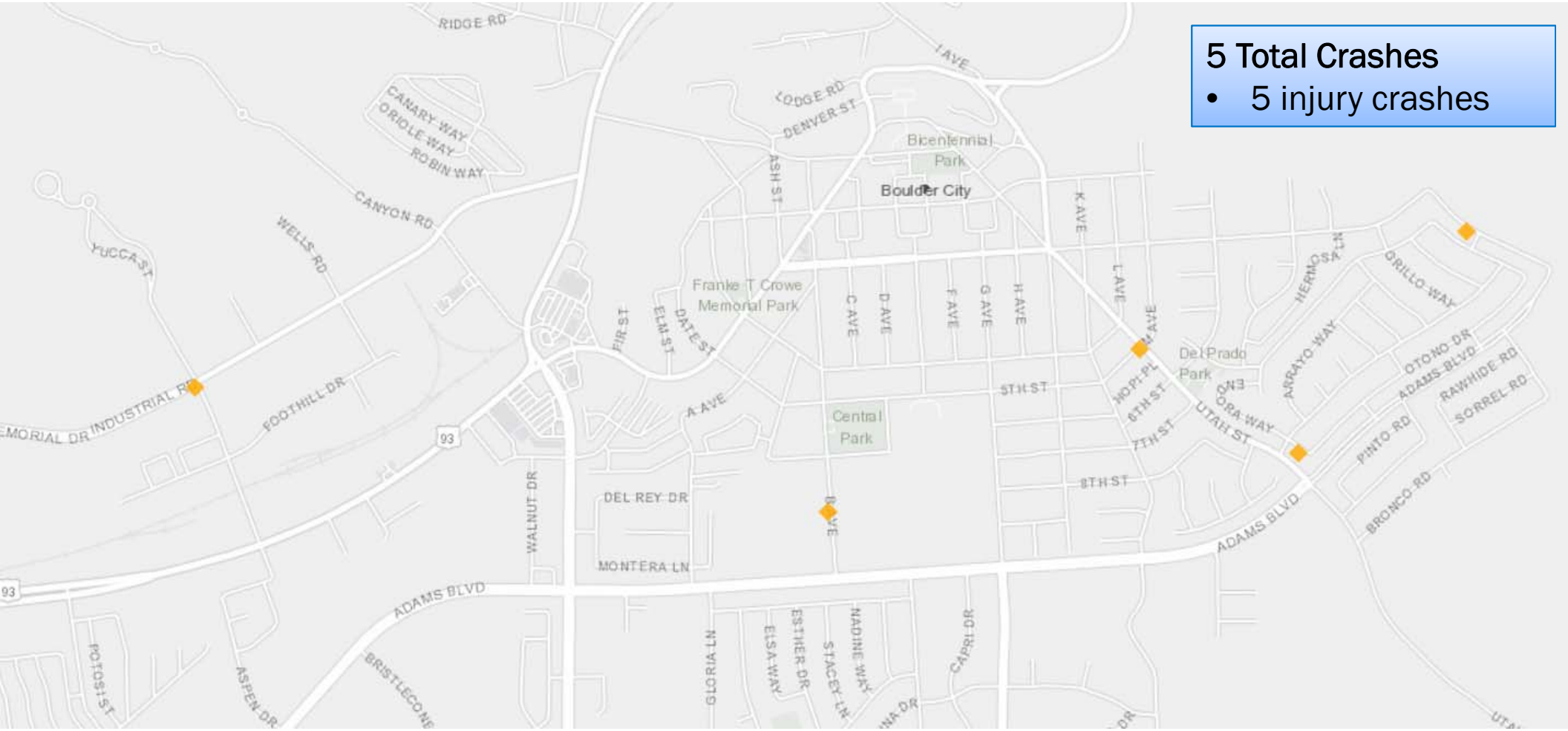


510 Total Crashes
- 120 injury crashes
- 389 property damage only
- 1 fatality



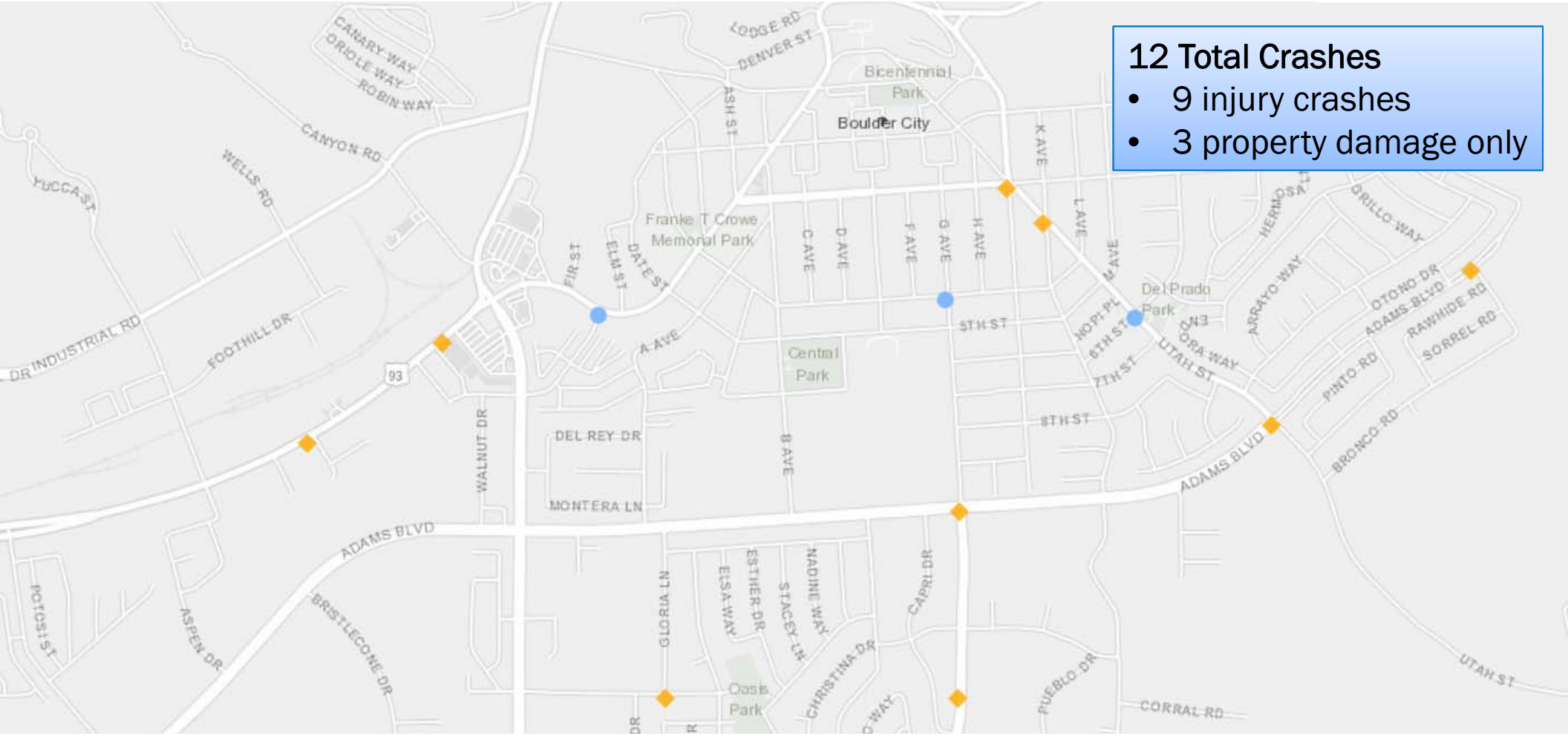
PEDESTRIAN

Crash Summary and Spot Map

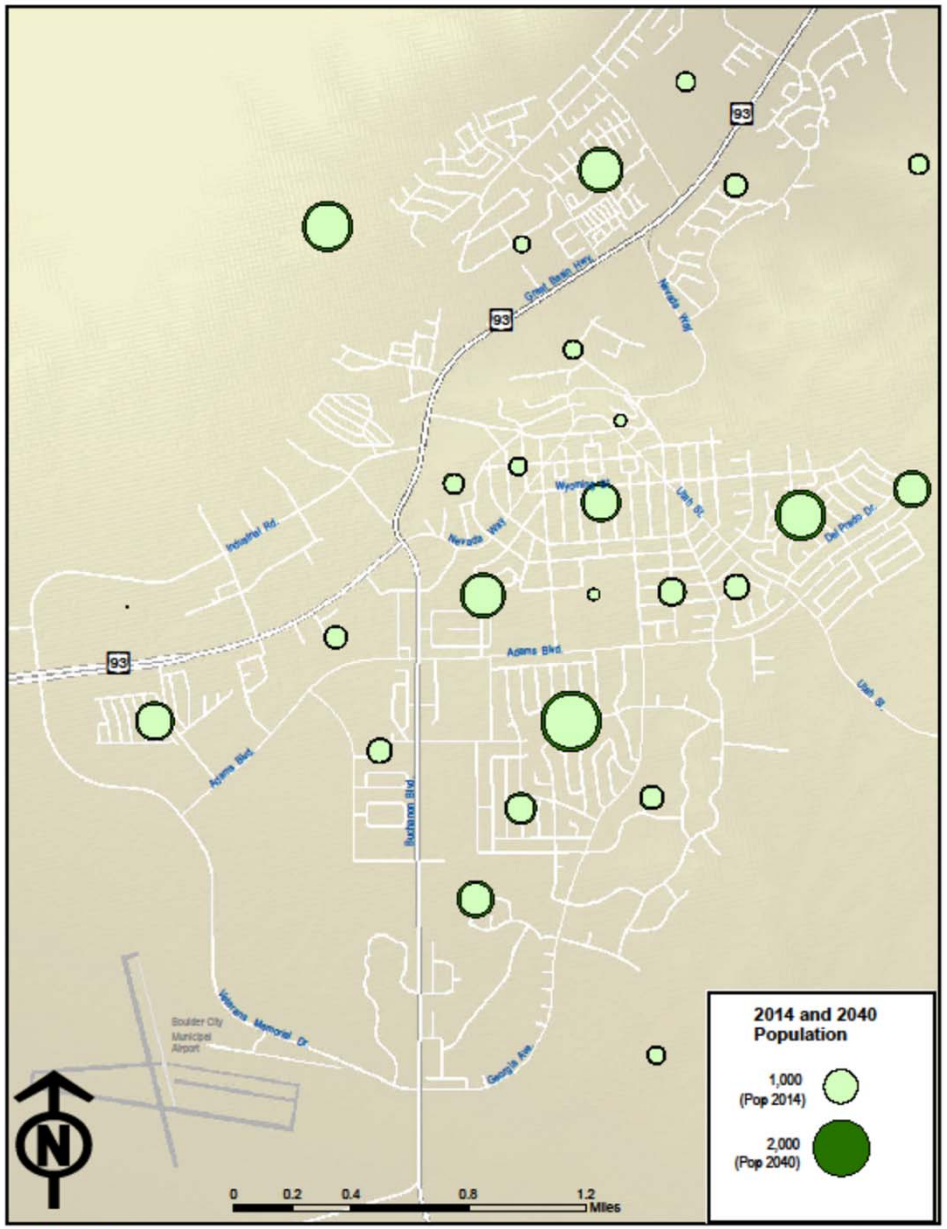


BICYCLIST

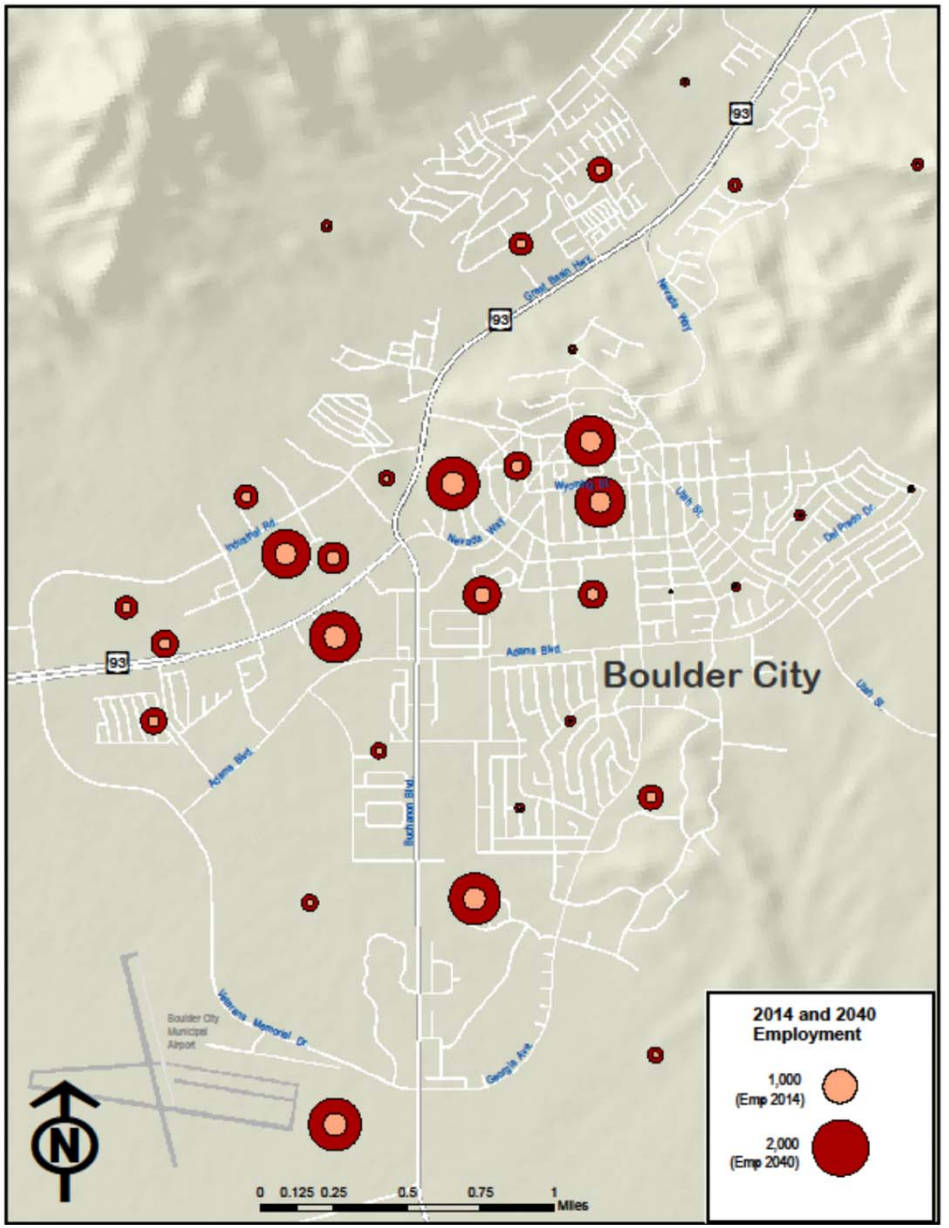
Crash Summary and Spot Map



ORIGINS & DESTINATIONS



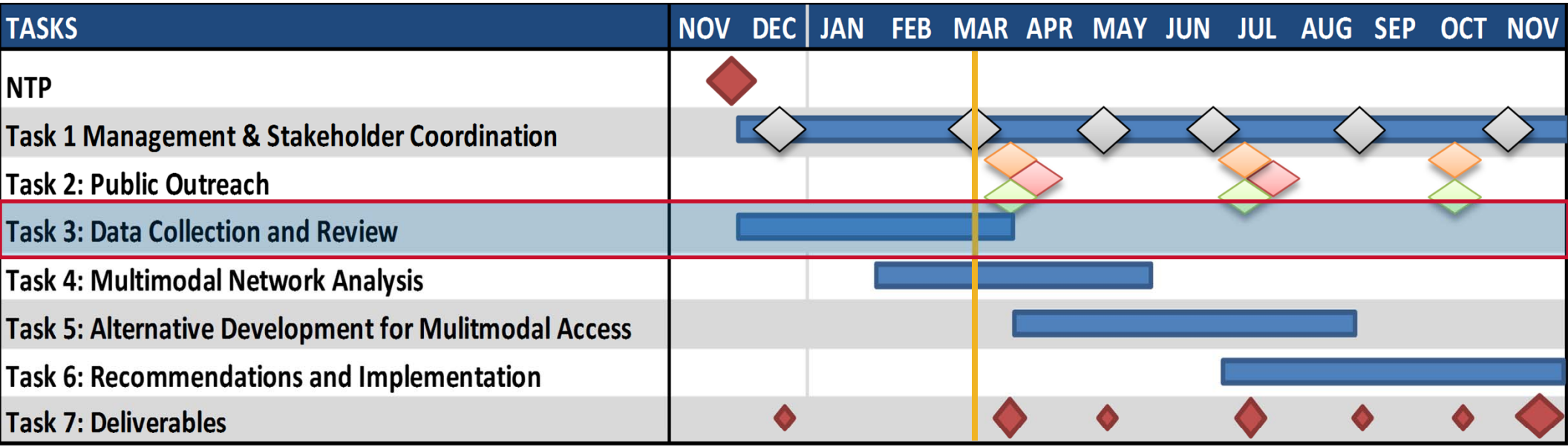
Population Density



Employment Density

Task 1: Project Management & Coordination

Next Steps



Milestone/Deliverables*

Stakeholder Meeting

** Size of diamond represents relative size of deliverable*

Community Meeting

One-On-One Meetings with Businesses

Pop-Up Community Event

Task 2: Outreach



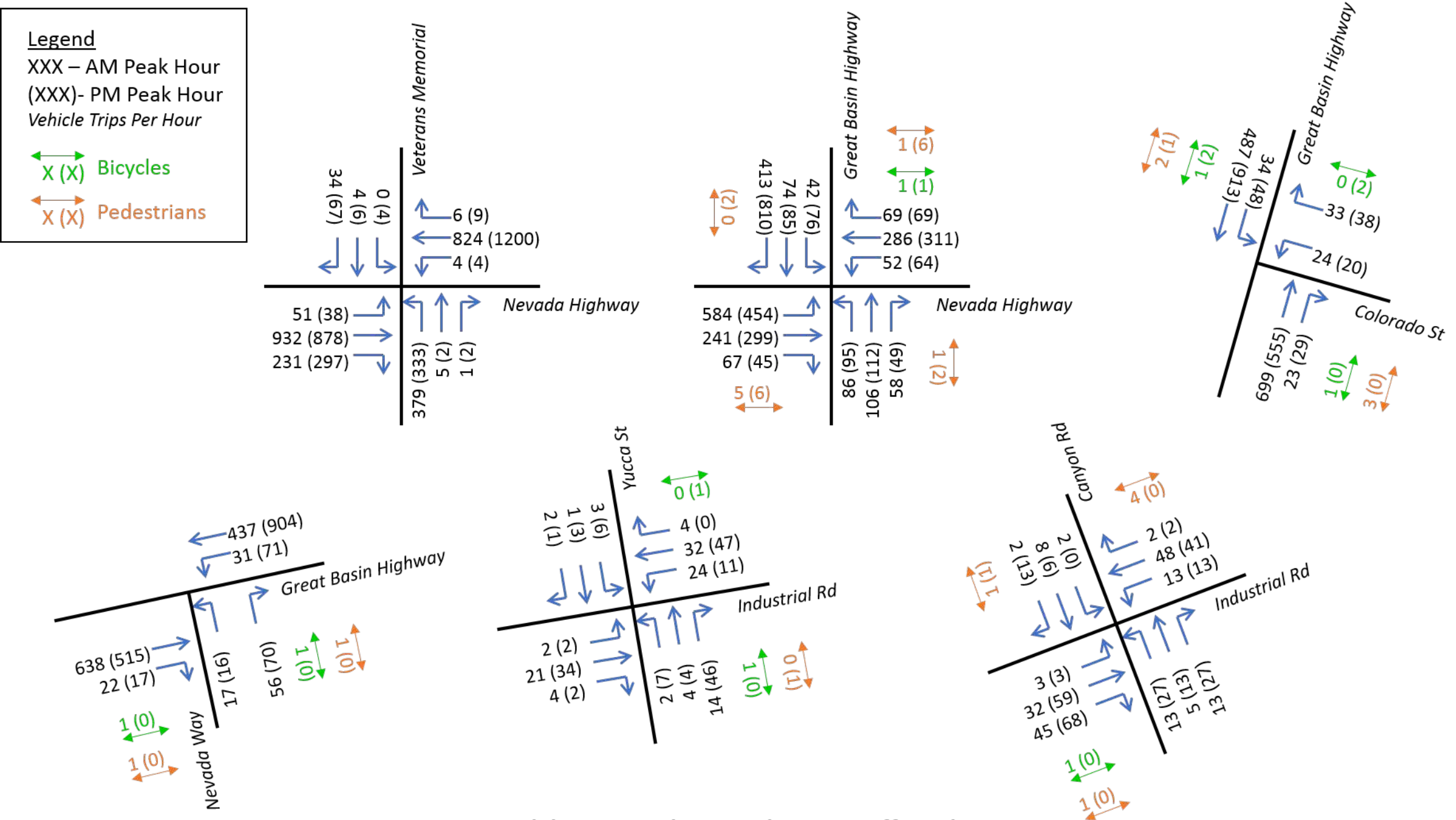


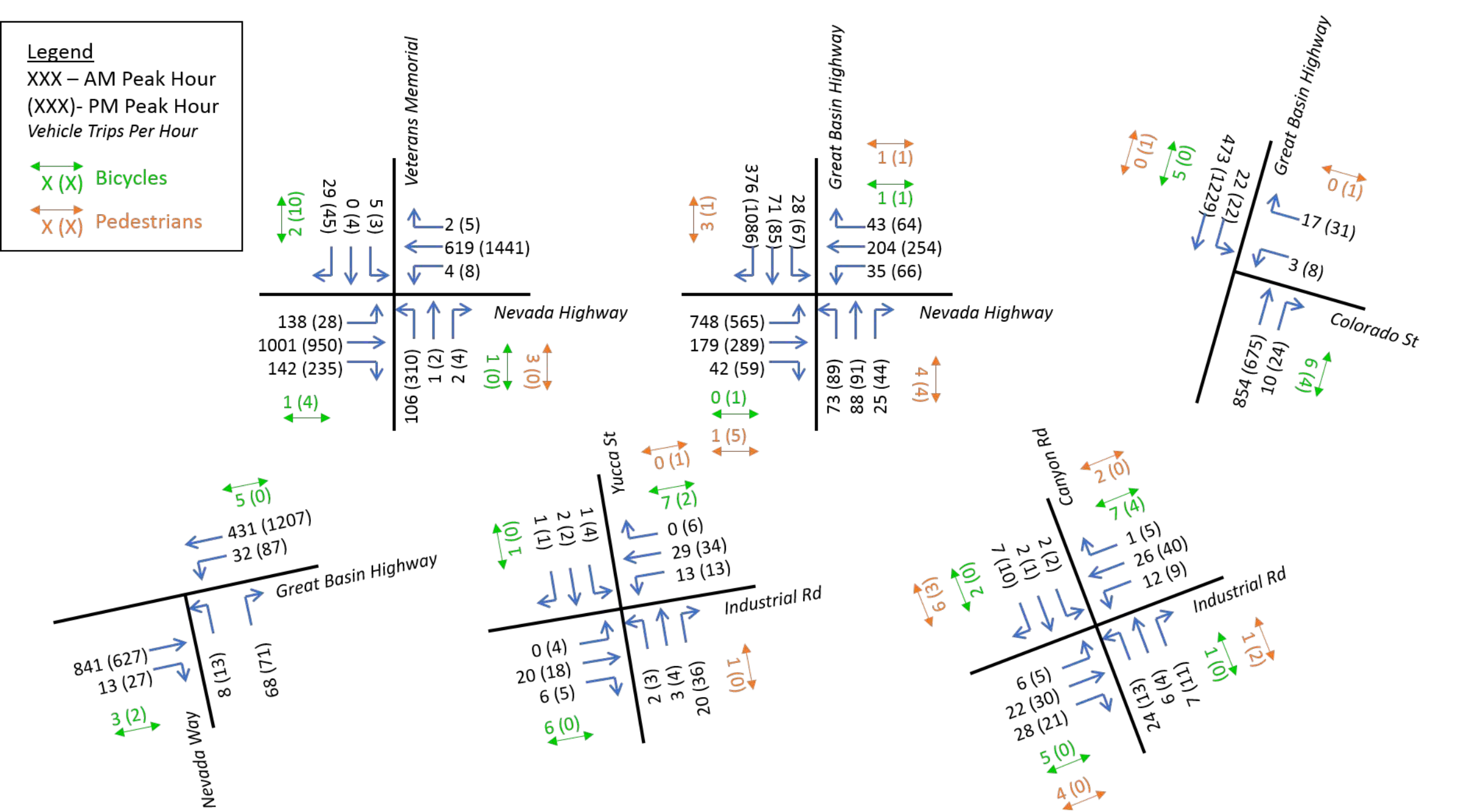




QUESTIONS & ANSWERS

http://www.rtcsnv.com/planning-engineering/transportation-planning/planning-studies-projects/river-mountain-loop-trail-improvements-study/


Legend
XXX – AM Peak Hour
(XXX)- PM Peak Hour
Vehicle Trips Per Hour
X (X) Bicycles
X (X) Pedestrians
Veterans Memorial
Nevada Highway
Great Basin Highway
Nevada Highway
Great Basin Highway
Colorado St
Great Basin Highway
Nevada Way
Yucca St
Industrial Rd
Canyon Rd
Industrial Rd
Weekday AM and PM Peak Hour Traffic Volumes



Weekend Day AM and PM Peak Hour Traffic Volumes

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Colorado - Bikes
Site Code : 00000777
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

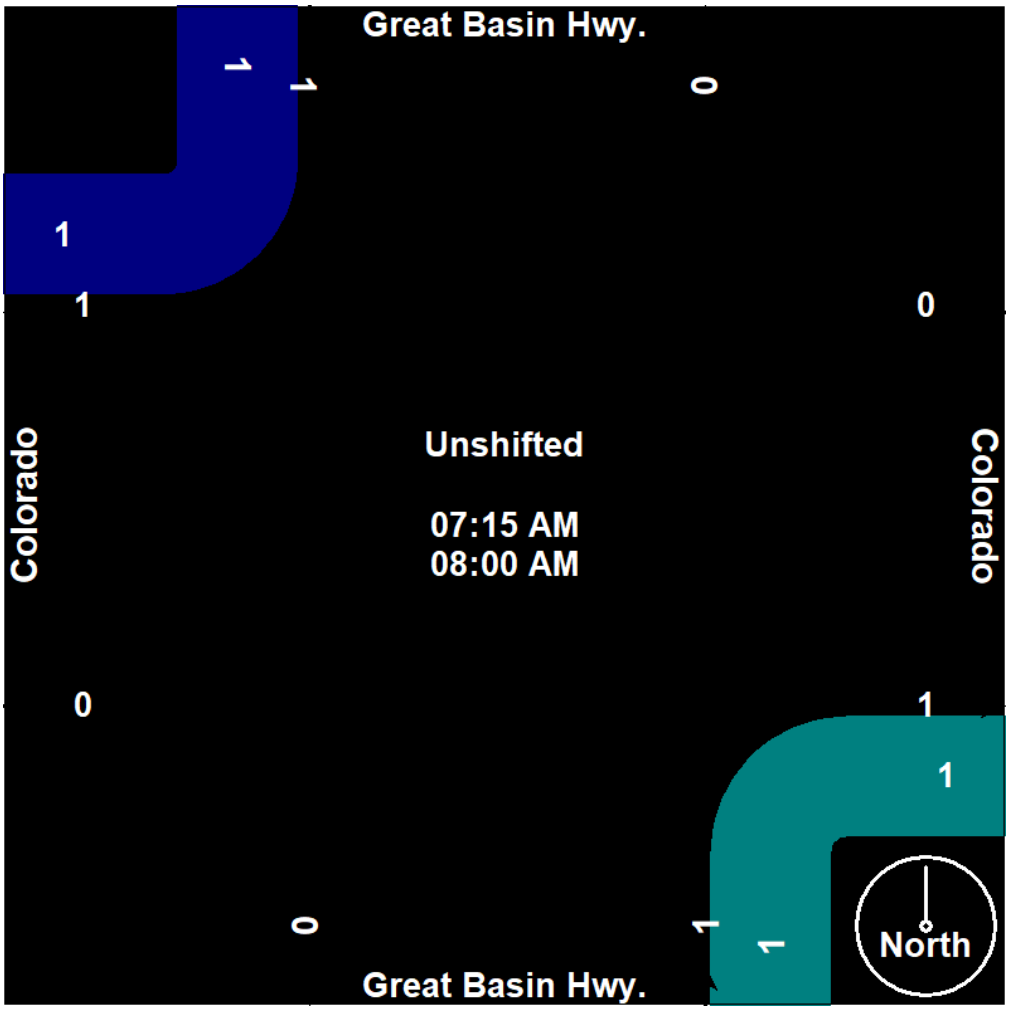
	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				Colorado Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
08:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
*** BREAK ***																	
04:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4
*** BREAK ***																	
Total	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4
*** BREAK ***																	
Grand Total	4	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	7
Apprch %	100	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0	
Total %	57.1	0	0	0	0	0	0	0	14.3	0	0	0	28.6	0	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Colorado - Bikes
Site Code : 00000777
Start Date : 4/11/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
% App. Total	100	0	0	0		0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.500



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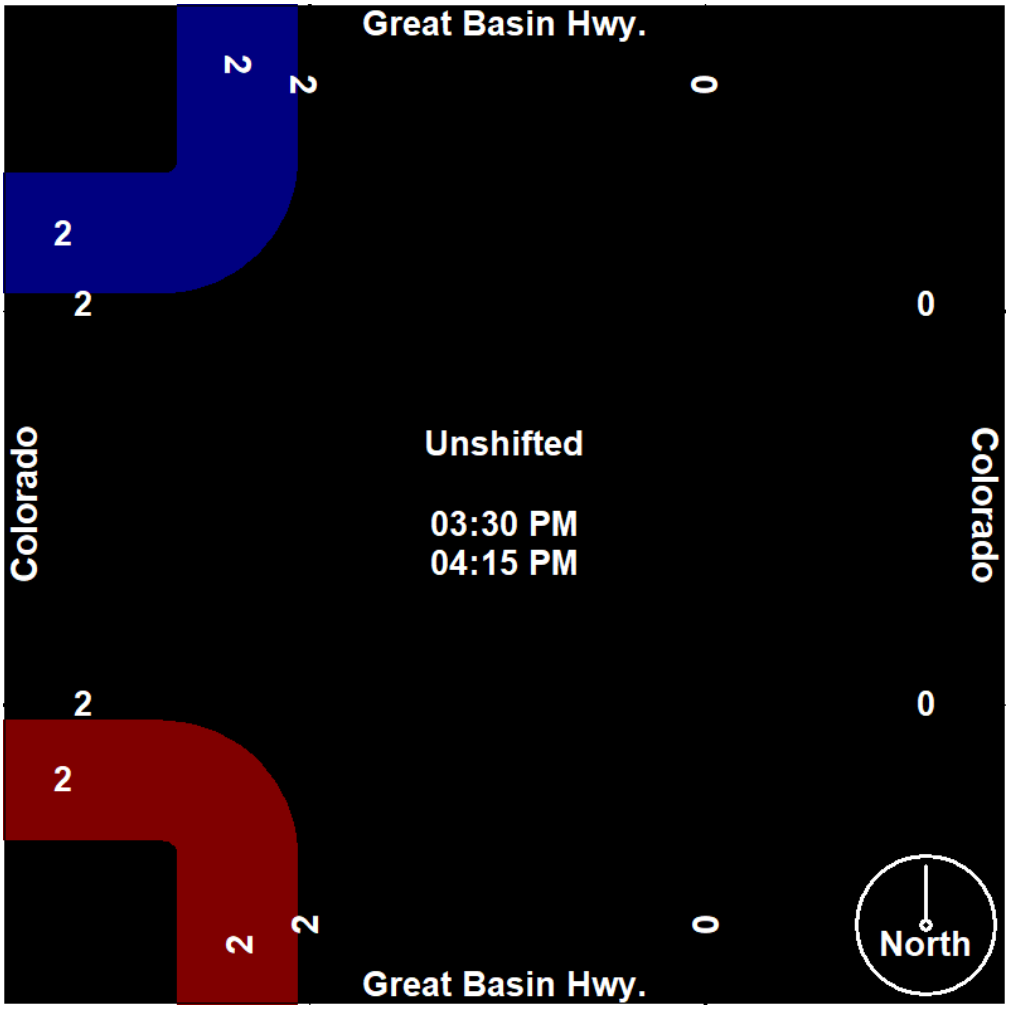
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250



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1819 Quarley Place
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702-217-1968
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File Name : Great Basin Highway-Colorado - Peds
Site Code : 00000777
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				Colorado Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:45 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Total	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	5
*** BREAK ***																	
05:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	4	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	8
Apprch %	100	0	0	0	0	0	0	0	25	0	75	0	0	0	0	0	
Total %	50	0	0	0	0	0	0	0	12.5	0	37.5	0	0	0	0	0	

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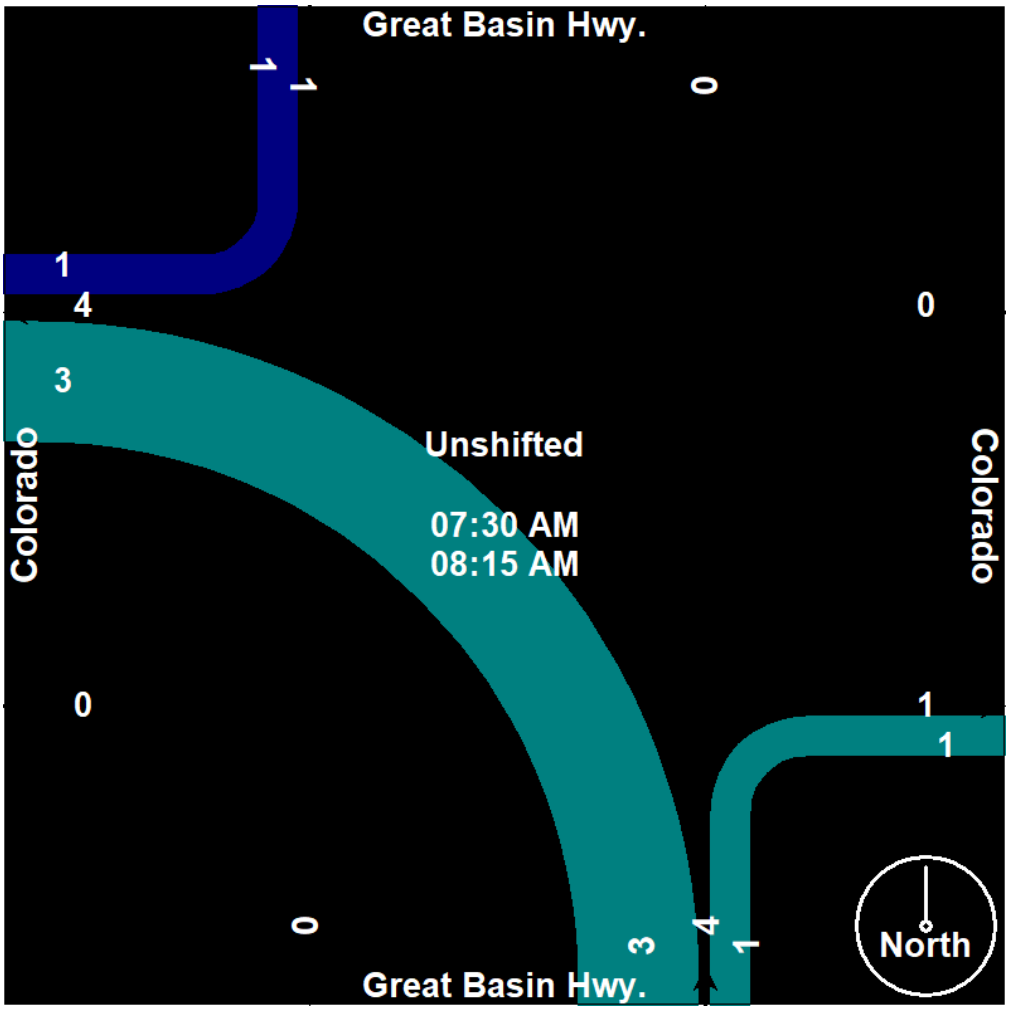
Start Date : 4/11/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	1	0	0	0	1	0	0	0	0	0	1	0	3	0	4	0	0	0	0	0	5
% App. Total	100	0	0	0		0	0	0	0		25	0	75	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.375	.000	.500	.000	.000	.000	.000	.000	.625



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File Name : Great Basin Highway-Colorado - Peds
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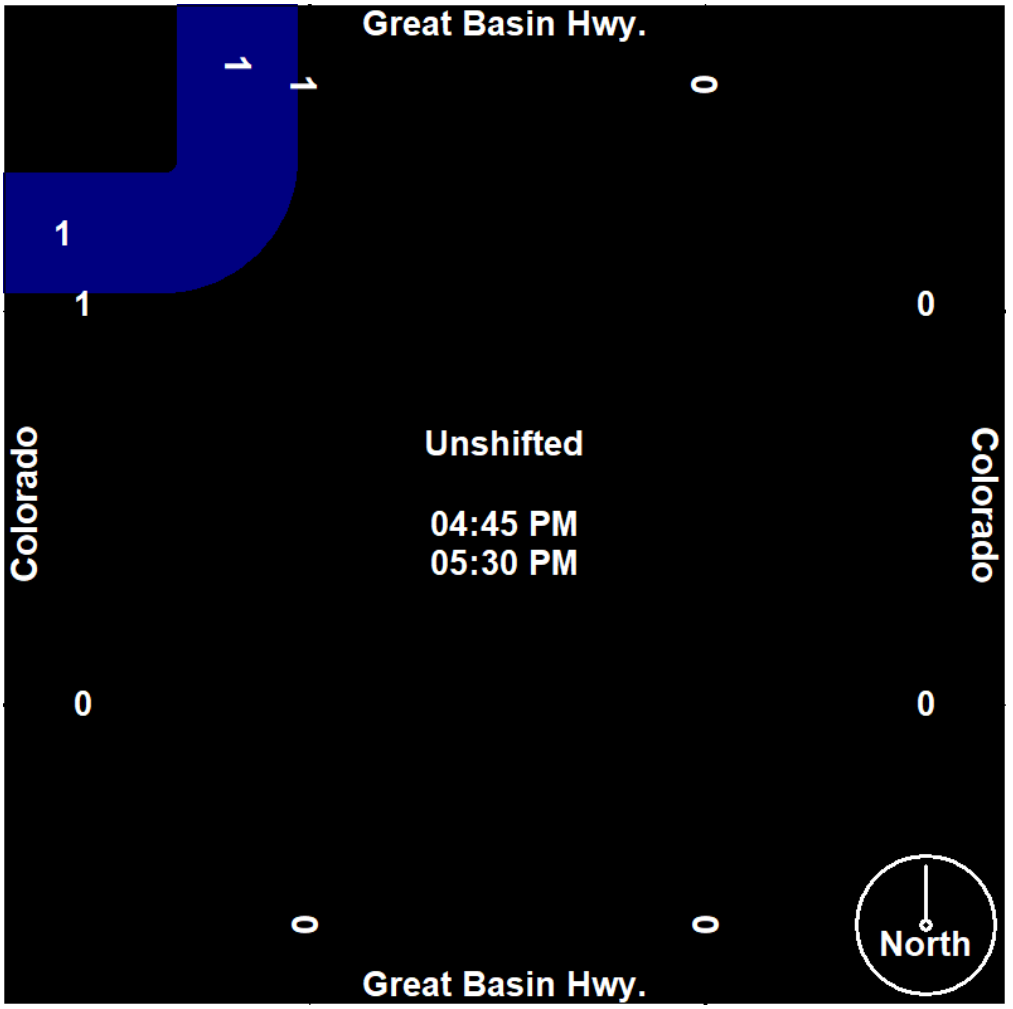
	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



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1819 Quarley Place
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File Name : Great Basin Highway-Colorado
Site Code : 00000777
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	88	7	0	4	0	2	0	6	112	0	0	219
07:15 AM	0	92	8	0	8	0	3	0	5	130	0	0	246
07:30 AM	0	109	13	0	9	0	7	0	10	136	0	0	284
07:45 AM	0	92	17	0	9	0	1	0	4	156	0	0	279
Total	0	381	45	0	30	0	13	0	25	534	0	0	1028
08:00 AM	0	120	14	0	4	0	7	0	0	180	0	0	325
08:15 AM	0	119	7	0	14	0	7	0	10	154	0	0	311
08:30 AM	0	110	1	0	9	0	4	0	6	187	0	0	317
08:45 AM	0	138	12	0	6	0	6	0	7	178	0	0	347
Total	0	487	34	0	33	0	24	0	23	699	0	0	1300
*** BREAK ***													
04:00 PM	0	255	16	0	13	0	5	0	3	161	0	0	453
04:15 PM	0	226	11	0	4	0	4	0	9	132	0	0	386
04:30 PM	0	205	15	0	12	0	7	0	10	128	0	0	377
04:45 PM	0	227	6	0	9	0	4	0	7	134	0	0	387
Total	0	913	48	0	38	0	20	0	29	555	0	0	1603
05:00 PM	0	255	7	0	5	0	4	0	7	139	0	0	417
05:15 PM	0	220	12	0	2	0	5	0	4	131	0	0	374
05:30 PM	0	172	12	0	8	0	1	0	13	116	0	0	322
05:45 PM	0	193	6	0	4	0	2	0	4	143	0	0	352
Total	0	840	37	0	19	0	12	0	28	529	0	0	1465
Grand Total	0	2621	164	0	120	0	69	0	105	2317	0	0	5396
Apprch %	0	94.1	5.9	0	63.5	0	36.5	0	4.3	95.7	0	0	
Total %	0	48.6	3	0	2.2	0	1.3	0	1.9	42.9	0	0	

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File Name : Great Basin Highway-Colorado
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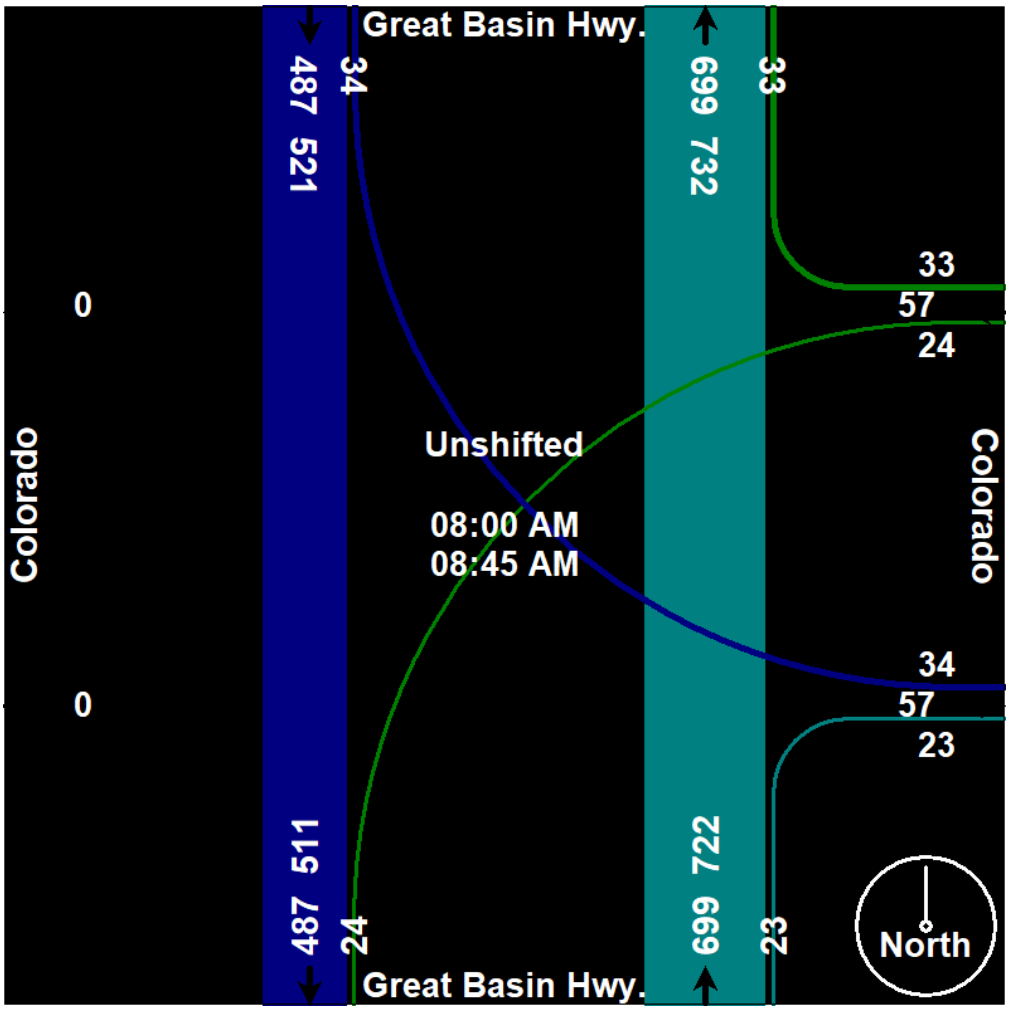
Start Date : 4/11/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	120	14	0	134	4	0	7	0	11	0	180	0	0	180	0	325
08:15 AM	0	119	7	0	126	14	0	7	0	21	10	154	0	0	164	0	311
08:30 AM	0	110	1	0	111	9	0	4	0	13	6	187	0	0	193	0	317
08:45 AM	0	138	12	0	150	6	0	6	0	12	7	178	0	0	185	0	347
Total Volume	0	487	34	0	521	33	0	24	0	57	23	699	0	0	722	0	1300
% App. Total	0	93.5	6.5	0		57.9	0	42.1	0		3.2	96.8	0	0			
PHF	.000	.882	.607	.000	.868	.589	.000	.857	.000	.679	.575	.934	.000	.000	.935	.000	.937



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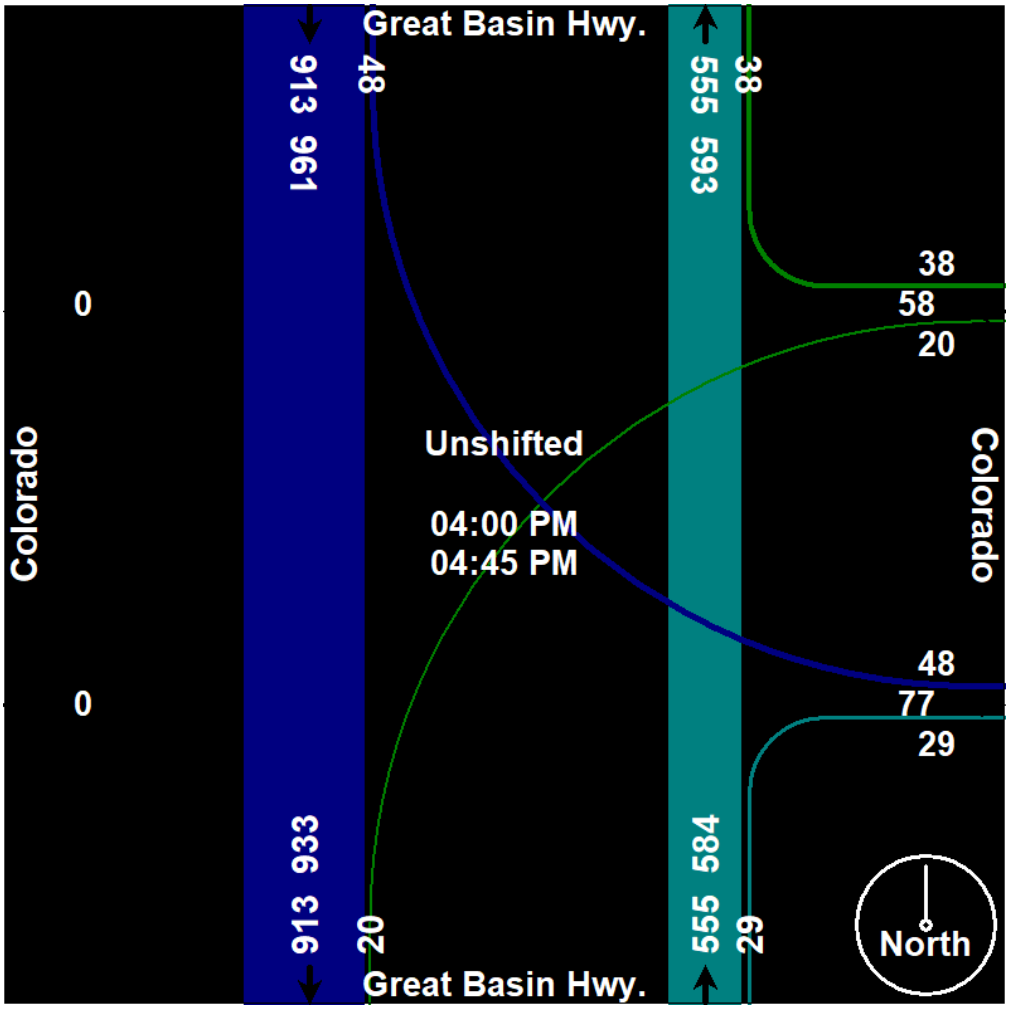
File Name : Great Basin Highway-Colorado
Site Code : 00000777
Start Date : 4/11/2018
Page No : 3

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	255	16	0	271	13	0	5	0	18	3	161	0	0	164	0	453
04:15 PM	0	226	11	0	237	4	0	4	0	8	9	132	0	0	141	0	386
04:30 PM	0	205	15	0	220	12	0	7	0	19	10	128	0	0	138	0	377
04:45 PM	0	227	6	0	233	9	0	4	0	13	7	134	0	0	141	0	387
Total Volume	0	913	48	0	961	38	0	20	0	58	29	555	0	0	584	0	1603
% App. Total	0	95	5	0		65.5	0	34.5	0		5	95	0	0			
PHF	.000	.895	.750	.000	.887	.731	.000	.714	.000	.763	.725	.862	.000	.000	.890	.000	.885



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Highway Southbound				Nevada Way Westbound				Great Basin Highway Northbound				Nevada Way Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																	
Total	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	3	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	5
Apprch %	100	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	
Total %	60	0	0	0	20	0	0	0	20	0	0	0	0	0	0	0	

Silver State Traffic Data Collection, LLC

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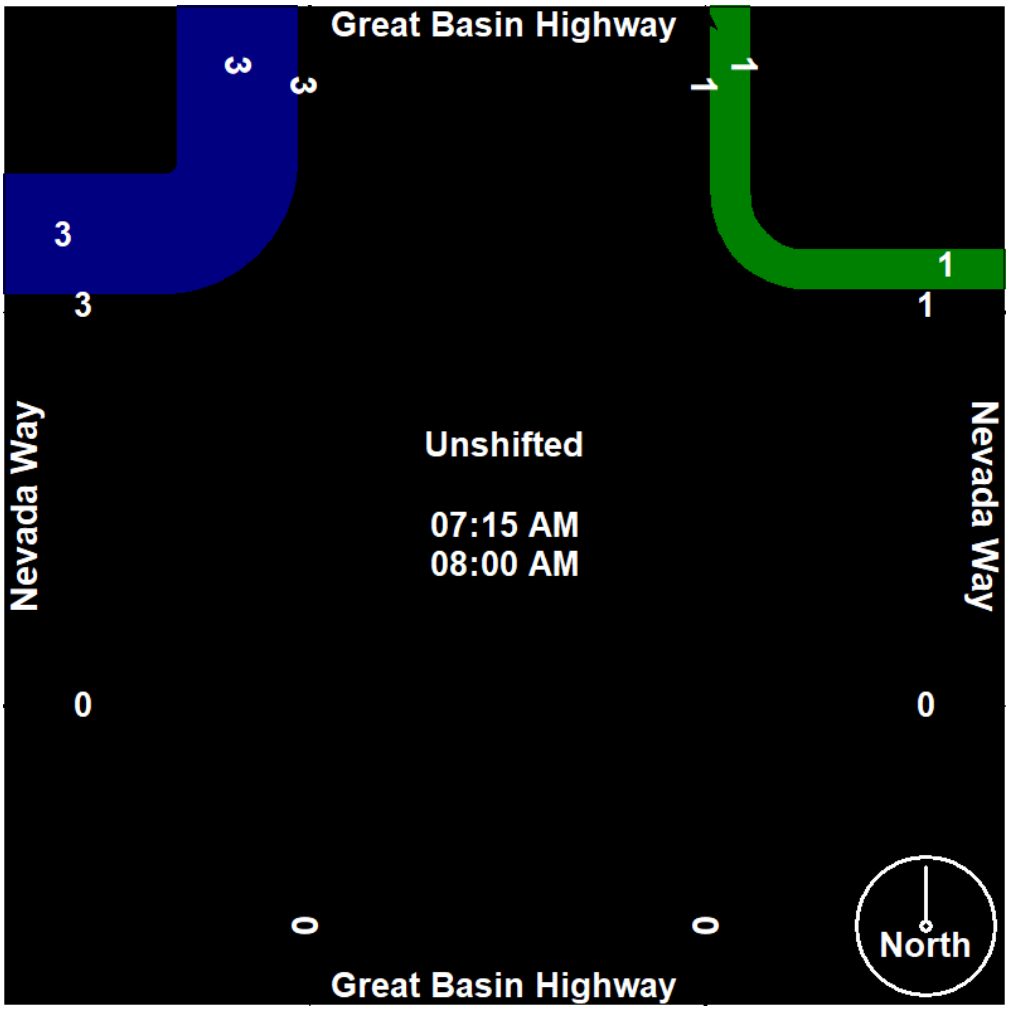
File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	3	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
% App. Total	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333



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File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : Great Basin Highway-Nevada Way - Peds
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Page No : 1

Groups Printed- Unshifted

	Great Basin Highway Southbound				Nevada Way Westbound				Great Basin Highway Northbound				Nevada Way Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***																	
Total	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	5
Apprch %	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	
Total %	0	0	0	0	80	0	0	0	20	0	0	0	0	0	0	0	

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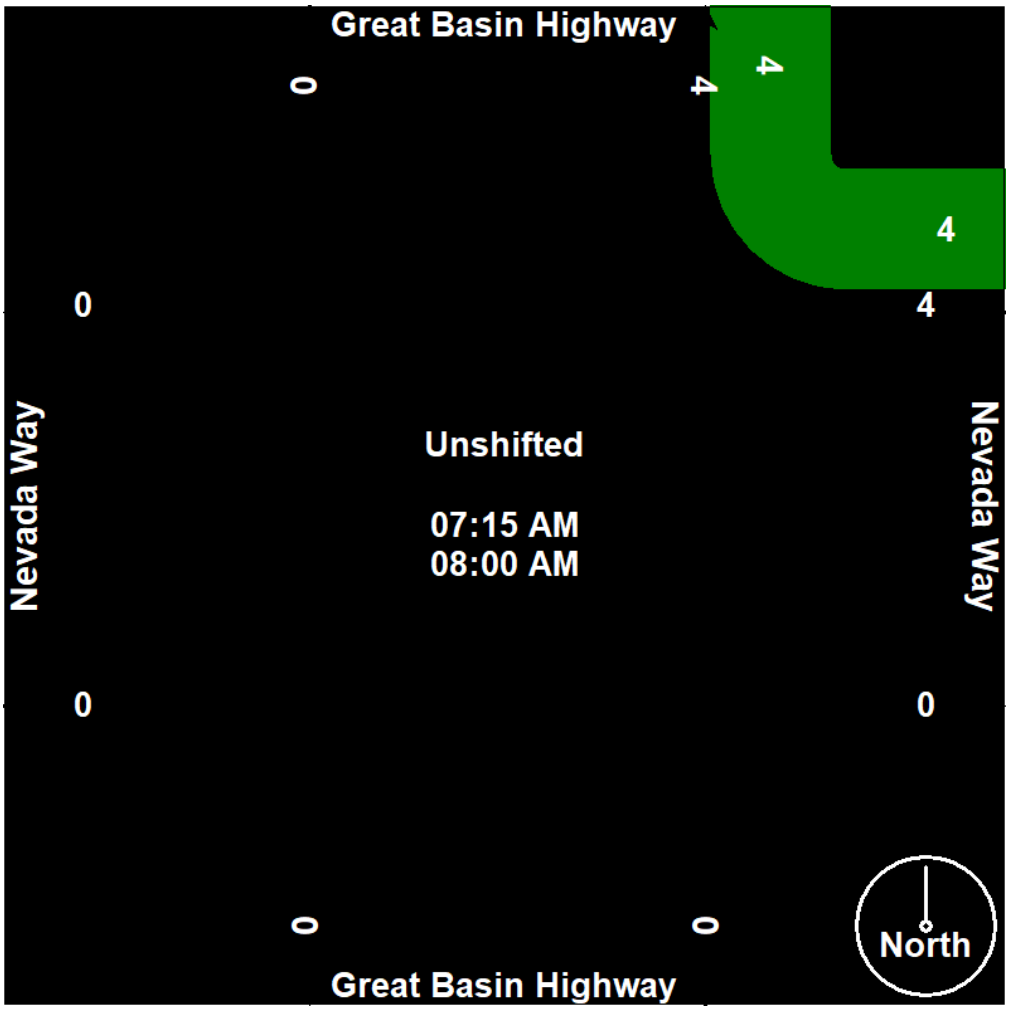
	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.333	.000	.000	.000	.333	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333



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File Name : Great Basin Highway-Nevada Way - Peds
Site Code : 00000000
Start Date : 4/11/2018
Page No : 3

	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

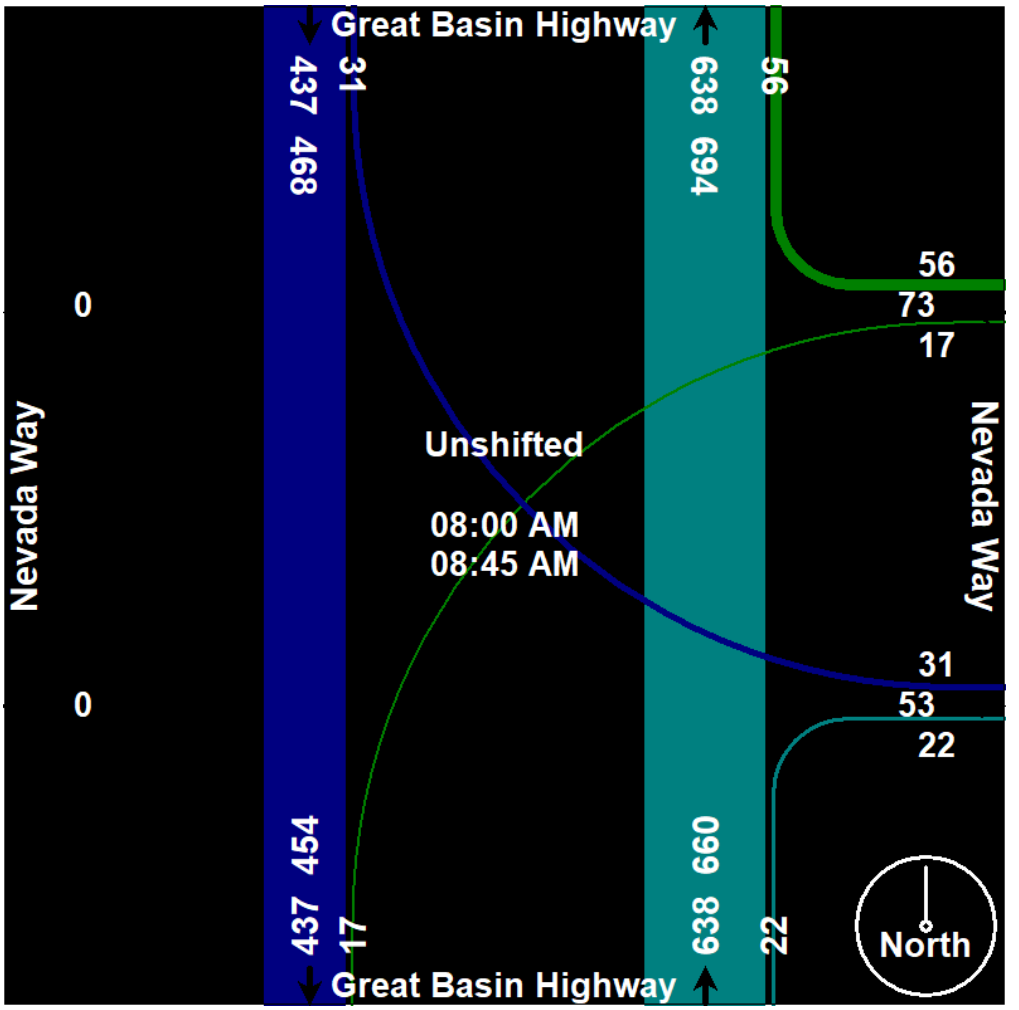
	Great Basin Highway Southbound				Nevada Way Westbound				Great Basin Highway Northbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	78	10	0	10	0	7	0	1	103	0	0	209
07:15 AM	0	86	14	0	9	0	3	0	1	120	0	0	233
07:30 AM	0	104	16	0	9	0	1	0	5	134	0	0	269
07:45 AM	0	98	32	0	20	0	3	0	9	151	0	0	313
Total	0	366	72	0	48	0	14	0	16	508	0	0	1024
08:00 AM	0	112	10	0	10	0	6	0	3	149	0	0	290
08:15 AM	0	100	7	0	22	0	5	0	6	146	0	0	286
08:30 AM	0	102	4	0	10	0	1	0	4	171	0	0	292
08:45 AM	0	123	10	0	14	0	5	0	9	172	0	0	333
Total	0	437	31	0	56	0	17	0	22	638	0	0	1201
*** BREAK ***													
04:00 PM	0	256	17	0	22	0	4	0	0	161	0	0	460
04:15 PM	0	224	15	0	23	0	2	0	6	119	0	0	389
04:30 PM	0	211	23	0	15	0	7	0	5	114	0	0	375
04:45 PM	0	213	16	0	10	0	3	0	6	121	0	0	369
Total	0	904	71	0	70	0	16	0	17	515	0	0	1593
05:00 PM	0	243	21	0	17	0	3	0	2	125	0	0	411
05:15 PM	0	221	19	0	14	0	1	0	9	108	0	0	372
05:30 PM	0	178	11	0	11	0	1	0	9	119	0	0	329
05:45 PM	0	168	11	0	6	0	2	0	7	126	0	0	320
Total	0	810	62	0	48	0	7	0	27	478	0	0	1432
Grand Total	0	2517	236	0	222	0	54	0	82	2139	0	0	5250
Apprch %	0	91.4	8.6	0	80.4	0	19.6	0	3.7	96.3	0	0	
Total %	0	47.9	4.5	0	4.2	0	1	0	1.6	40.7	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	112	10	0	122	10	0	6	0	16	3	149	0	0	152	0	290
08:15 AM	0	100	7	0	107	22	0	5	0	27	6	146	0	0	152	0	286
08:30 AM	0	102	4	0	106	10	0	1	0	11	4	171	0	0	175	0	292
08:45 AM	0	123	10	0	133	14	0	5	0	19	9	172	0	0	181	0	333
Total Volume	0	437	31	0	468	56	0	17	0	73	22	638	0	0	660	0	1201
% App. Total	0	93.4	6.6	0		76.7	0	23.3	0		3.3	96.7	0	0			
PHF	.000	.888	.775	.000	.880	.636	.000	.708	.000	.676	.611	.927	.000	.000	.912	.000	.902



Silver State Traffic Data Collection, LLC

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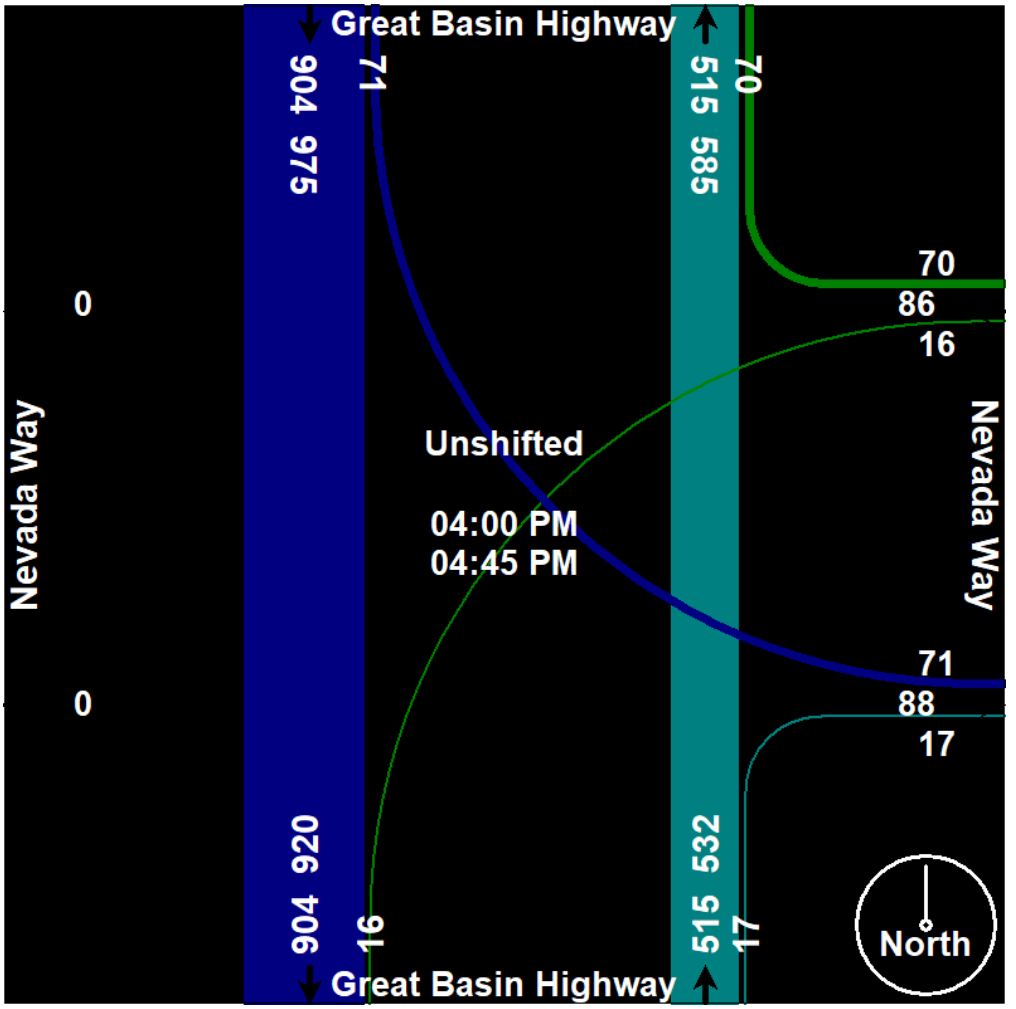
File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Great Basin Highway Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	256	17	0	273	22	0	4	0	26	0	161	0	0	161	0	460
04:15 PM	0	224	15	0	239	23	0	2	0	25	6	119	0	0	125	0	389
04:30 PM	0	211	23	0	234	15	0	7	0	22	5	114	0	0	119	0	375
04:45 PM	0	213	16	0	229	10	0	3	0	13	6	121	0	0	127	0	369
Total Volume	0	904	71	0	975	70	0	16	0	86	17	515	0	0	532	0	1593
% App. Total	0	92.7	7.3	0		81.4	0	18.6	0		3.2	96.8	0	0			
PHF	.000	.883	.772	.000	.893	.761	.000	.571	.000	.827	.708	.800	.000	.000	.826	.000	.866



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Industrial-Canyon - Bikes
Site Code : 00000333
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***																	
Grand Total	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	3
Apprch %	0	0	100	0	0	0	100	0	0	0	0	0	100	0	0	0	
Total %	0	0	33.3	0	0	0	33.3	0	0	0	0	0	33.3	0	0	0	

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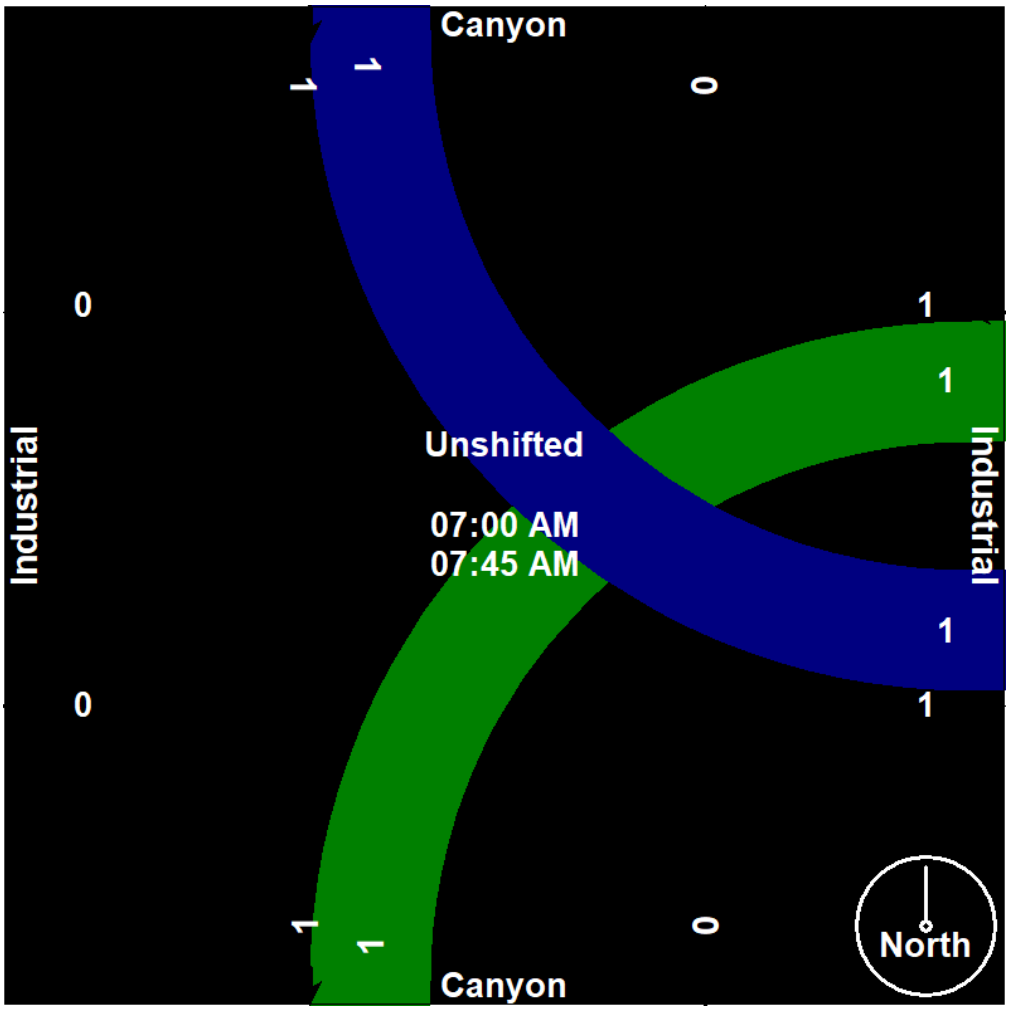
File Name : Industrial-Canyon - Bikes
Site Code : 00000333
Start Date : 4/11/2018

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	100	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.250	.000	.250	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



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File Name : Industrial-Canyon - Bikes
Site Code : 00000333
Start Date : 4/11/2018
Page No : 3

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : Industrial-Canyon - Peds
Site Code : 00000333
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
07:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	3
08:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:30 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	5
*** BREAK ***																	
Total	0	0	1	0	0	0	4	0	0	0	0	0	0	0	1	0	6
*** BREAK ***																	
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
Grand Total	1	0	2	0	2	0	4	0	1	0	0	0	0	0	2	0	12
Apprch %	33.3	0	66.7	0	33.3	0	66.7	0	100	0	0	0	0	0	100	0	
Total %	8.3	0	16.7	0	16.7	0	33.3	0	8.3	0	0	0	0	0	16.7	0	

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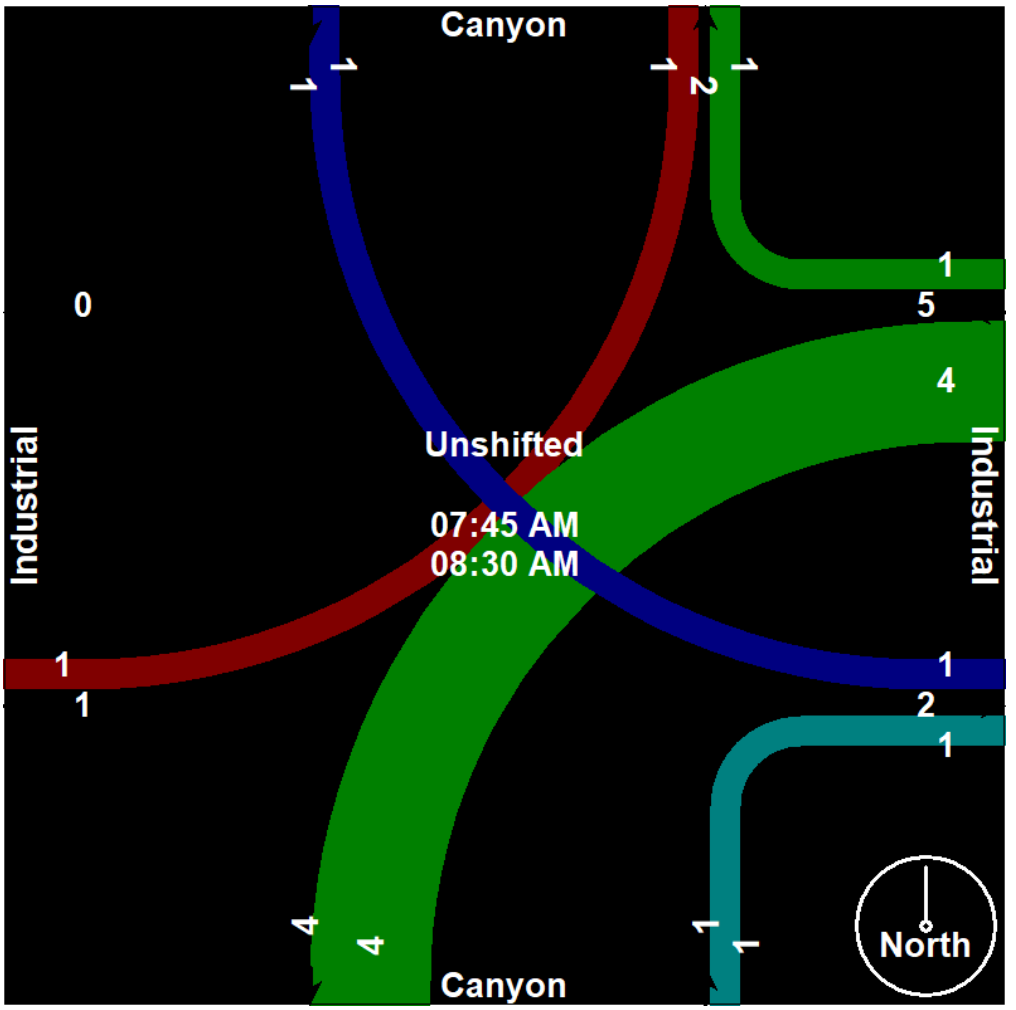
File Name : Industrial-Canyon - Peds
Site Code : 00000333
Start Date : 4/11/2018

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	1	0	1	5
Total Volume	0	0	1	0	1	1	0	4	0	5	1	0	0	0	1	0	0	1	0	1	8
% App. Total	0	0	100	0		20	0	80	0		100	0	0	0		0	0	100	0		
PHF	.000	.000	.250	.000	.250	.250	.000	.250	.000	.313	.250	.000	.000	.000	.250	.000	.000	.250	.000	.250	.400



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File Name : Industrial-Canyon - Peds
Site Code : 00000333
Start Date : 4/11/2018
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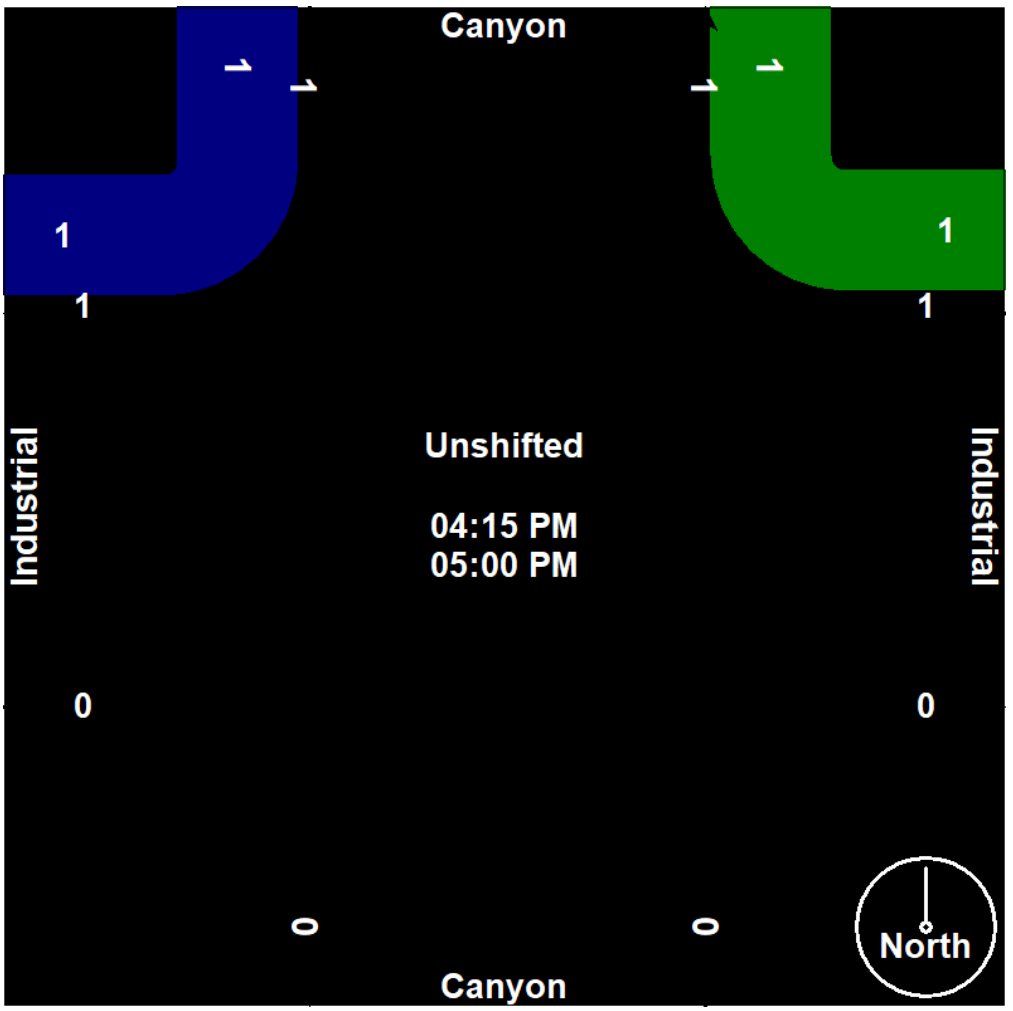
	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500



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Henderson, Nevada 89014
702-217-1968
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File Name : Industrial-Canyon
Site Code : 00000333
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	1	8	0	0	1	0	11	0	5	4	0	0	30
07:15 AM	0	0	1	0	0	10	4	0	4	0	2	0	9	6	0	0	36
07:30 AM	0	0	0	0	0	11	7	0	4	2	6	0	8	10	0	0	48
07:45 AM	1	0	0	0	1	11	5	0	5	0	16	0	9	3	0	0	51
Total	1	0	1	0	2	40	16	0	14	2	35	0	31	23	0	0	165
08:00 AM	0	2	0	0	0	13	5	0	2	2	12	0	10	10	1	0	57
08:15 AM	0	3	1	0	1	12	2	0	2	0	4	0	14	5	1	0	45
08:30 AM	2	0	0	0	0	14	3	0	6	1	8	0	8	7	0	0	49
08:45 AM	0	3	1	0	1	9	3	0	3	2	8	0	13	10	1	0	54
Total	2	8	2	0	2	48	13	0	13	5	32	0	45	32	3	0	205
*** BREAK ***																	
04:00 PM	0	0	0	0	0	10	4	0	9	1	6	0	31	15	0	0	76
04:15 PM	3	0	0	0	1	11	7	0	7	1	8	0	11	23	0	0	72
04:30 PM	10	5	0	0	1	8	1	0	3	9	11	0	12	9	2	0	71
04:45 PM	0	1	0	0	0	12	1	0	8	2	5	0	14	12	1	0	56
Total	13	6	0	0	2	41	13	0	27	13	30	0	68	59	3	0	275
05:00 PM	1	1	0	0	0	14	3	0	4	2	8	0	16	9	2	0	60
05:15 PM	0	0	0	0	0	12	1	0	5	0	10	0	15	9	1	0	53
05:30 PM	1	0	2	0	1	10	1	0	2	0	7	0	12	10	3	0	49
05:45 PM	1	0	0	0	0	1	2	0	2	1	4	0	3	4	1	0	19
Total	3	1	2	0	1	37	7	0	13	3	29	0	46	32	7	0	181
Grand Total	19	15	5	0	7	166	49	0	67	23	126	0	190	146	13	0	826
Apprch %	48.7	38.5	12.8	0	3.2	74.8	22.1	0	31	10.6	58.3	0	54.4	41.8	3.7	0	
Total %	2.3	1.8	0.6	0	0.8	20.1	5.9	0	8.1	2.8	15.3	0	23	17.7	1.6	0	

Silver State Traffic Data Collection, LLC

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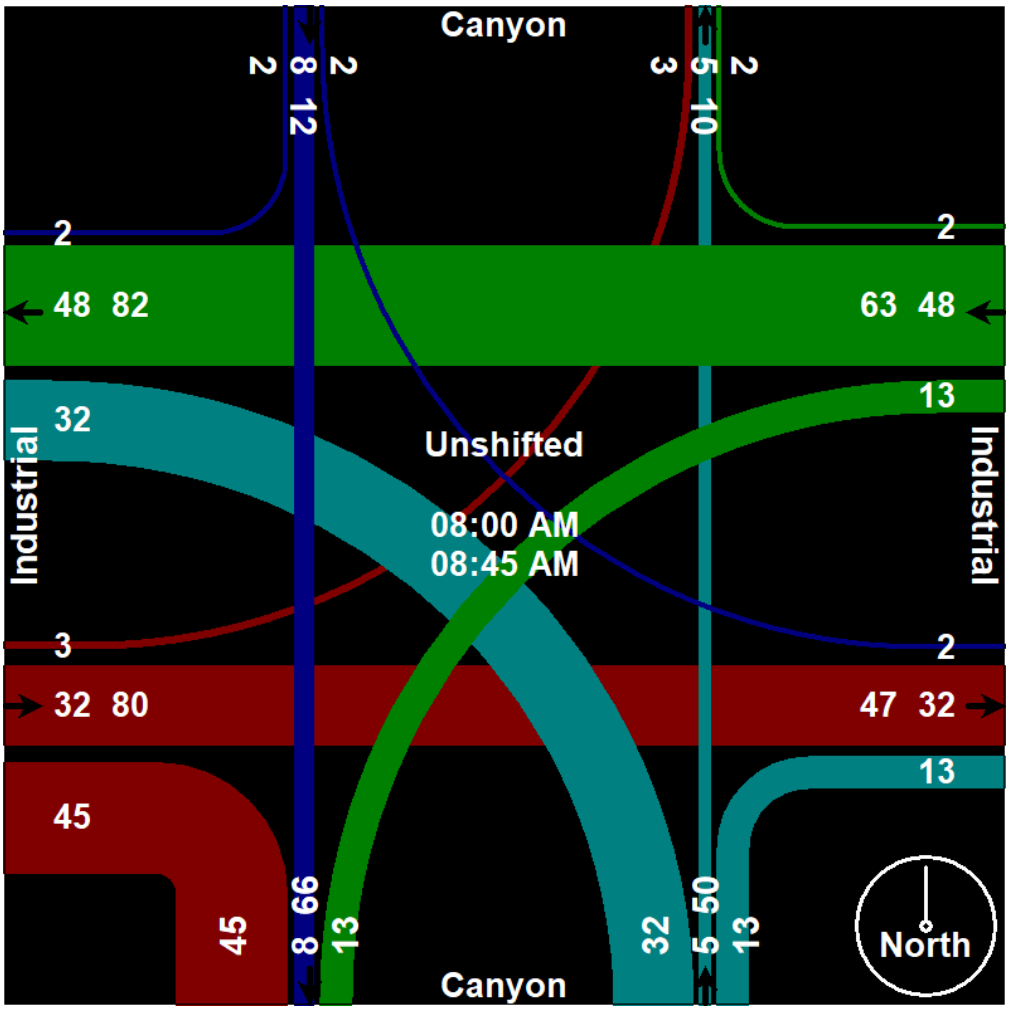
File Name : Industrial-Canyon
Site Code : 00000333
Start Date : 4/11/2018

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	2	0	0	2	0	13	5	0	18	2	2	12	0	16	10	10	1	0	21	57
08:15 AM	0	3	1	0	4	1	12	2	0	15	2	0	4	0	6	14	5	1	0	20	45
08:30 AM	2	0	0	0	2	0	14	3	0	17	6	1	8	0	15	8	7	0	0	15	49
08:45 AM	0	3	1	0	4	1	9	3	0	13	3	2	8	0	13	13	10	1	0	24	54
Total Volume	2	8	2	0	12	2	48	13	0	63	13	5	32	0	50	45	32	3	0	80	205
% App. Total	16.7	66.7	16.7	0		3.2	76.2	20.6	0		26	10	64	0		56.2	40	3.8	0		
PHF	.250	.667	.500	.000	.750	.500	.857	.650	.000	.875	.542	.625	.667	.000	.781	.804	.800	.750	.000	.833	.899



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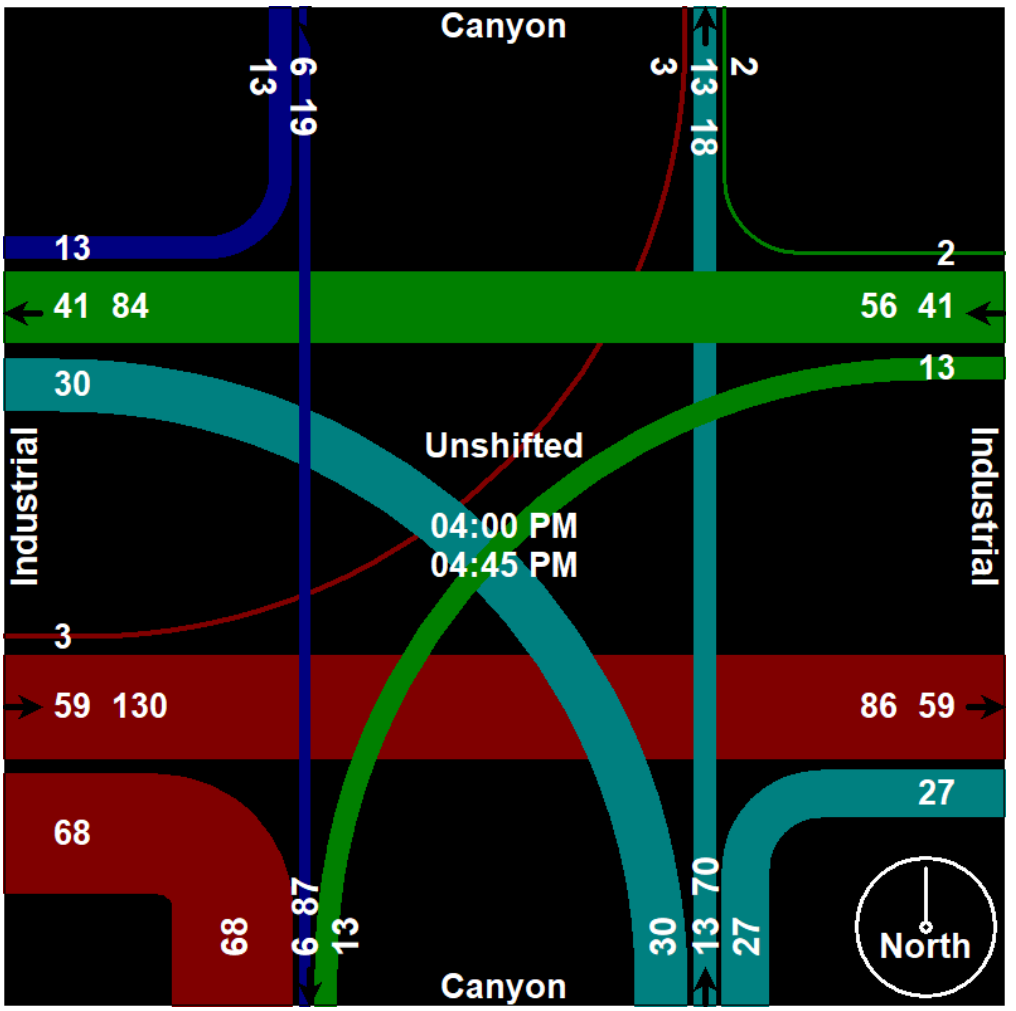
File Name : Industrial-Canyon
Site Code : 00000333
Start Date : 4/11/2018
Page No : 3

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	10	4	0	14	9	1	6	0	16	31	15	0	0	46	76
04:15 PM	3	0	0	0	3	1	11	7	0	19	7	1	8	0	16	11	23	0	0	34	72
04:30 PM	10	5	0	0	15	1	8	1	0	10	3	9	11	0	23	12	9	2	0	23	71
04:45 PM	0	1	0	0	1	0	12	1	0	13	8	2	5	0	15	14	12	1	0	27	56
Total Volume	13	6	0	0	19	2	41	13	0	56	27	13	30	0	70	68	59	3	0	130	275
% App. Total	68.4	31.6	0	0		3.6	73.2	23.2	0		38.6	18.6	42.9	0		52.3	45.4	2.3	0		
PHF	.325	.300	.000	.000	.317	.500	.854	.464	.000	.737	.750	.361	.682	.000	.761	.548	.641	.375	.000	.707	.905



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
05:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
Apprch %	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	
Total %	0	0	0	0	50	0	0	0	0	0	50	0	0	0	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
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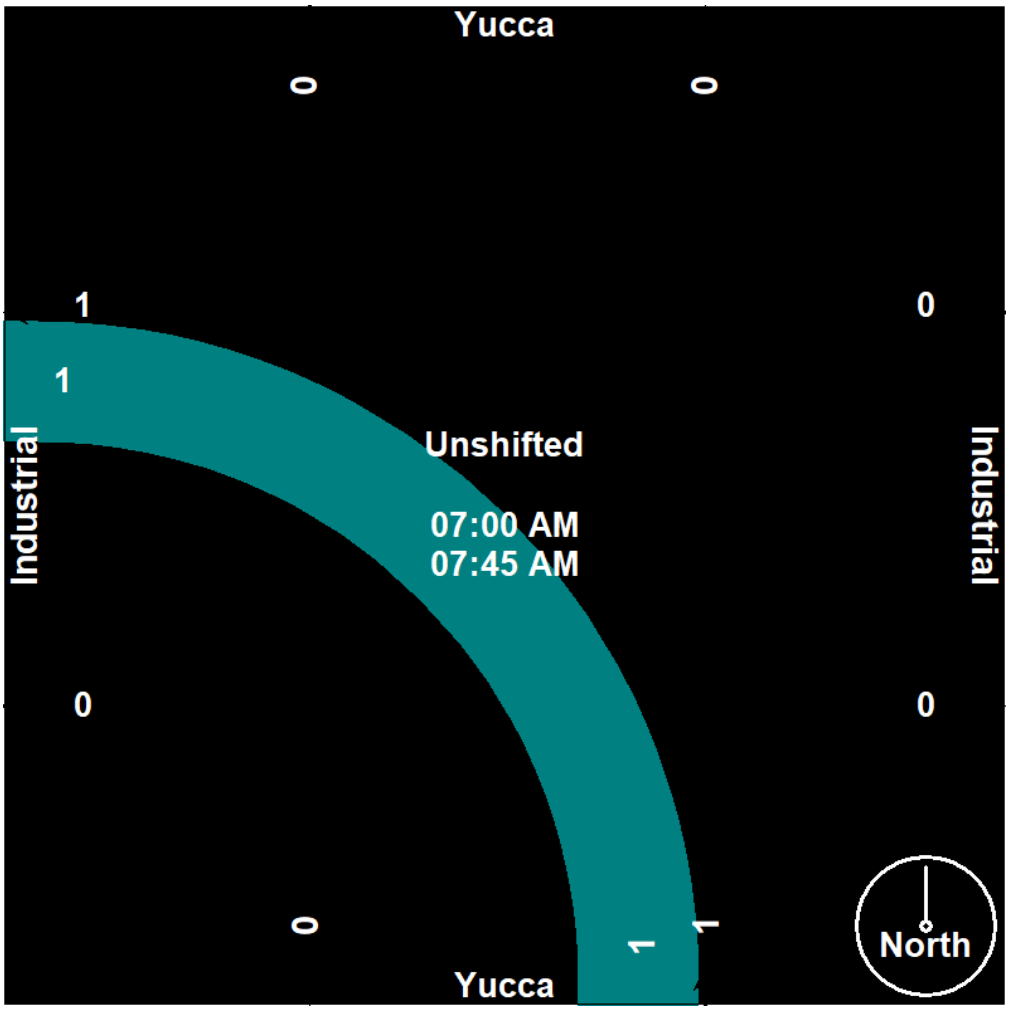
File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/11/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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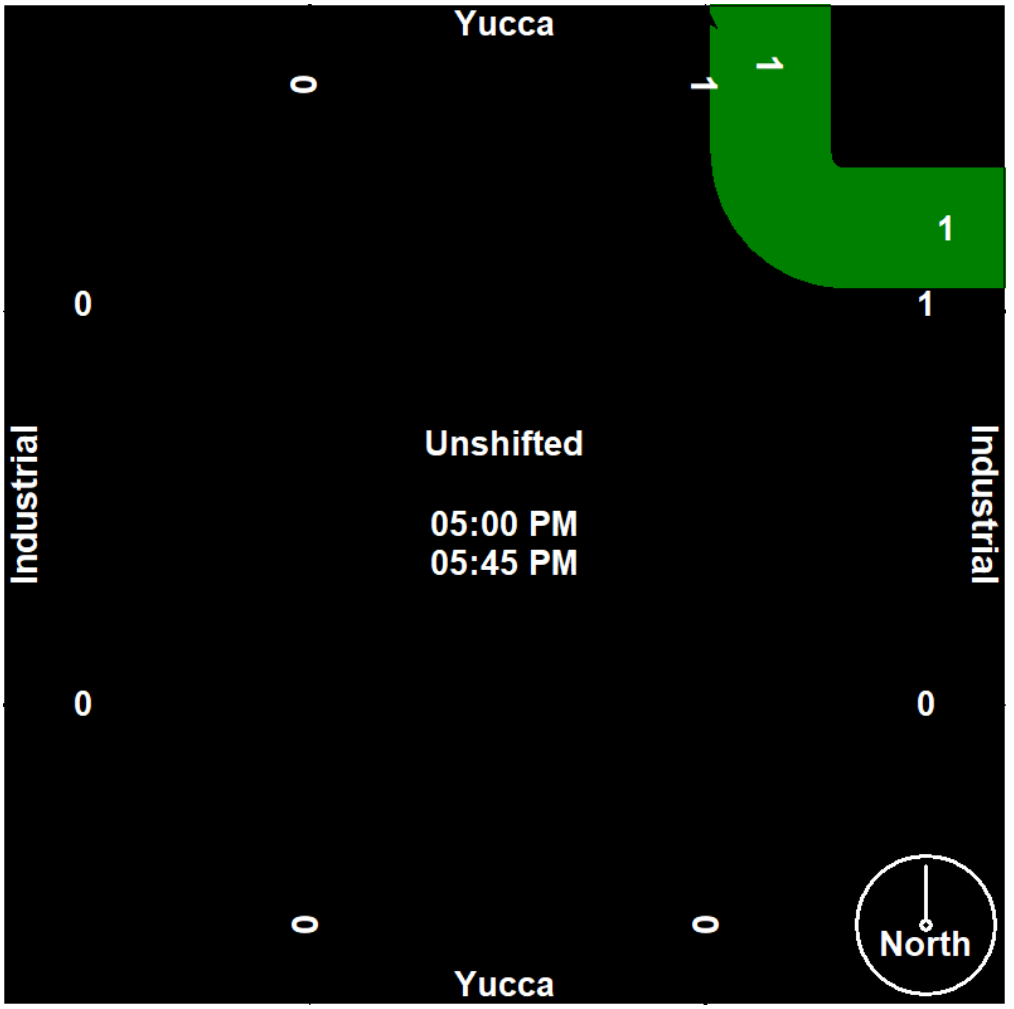
File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/11/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	

Silver State Traffic Data Collection, LLC

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File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/11/2018
Page No : 2

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Silver State Traffic Data Collection, LLC

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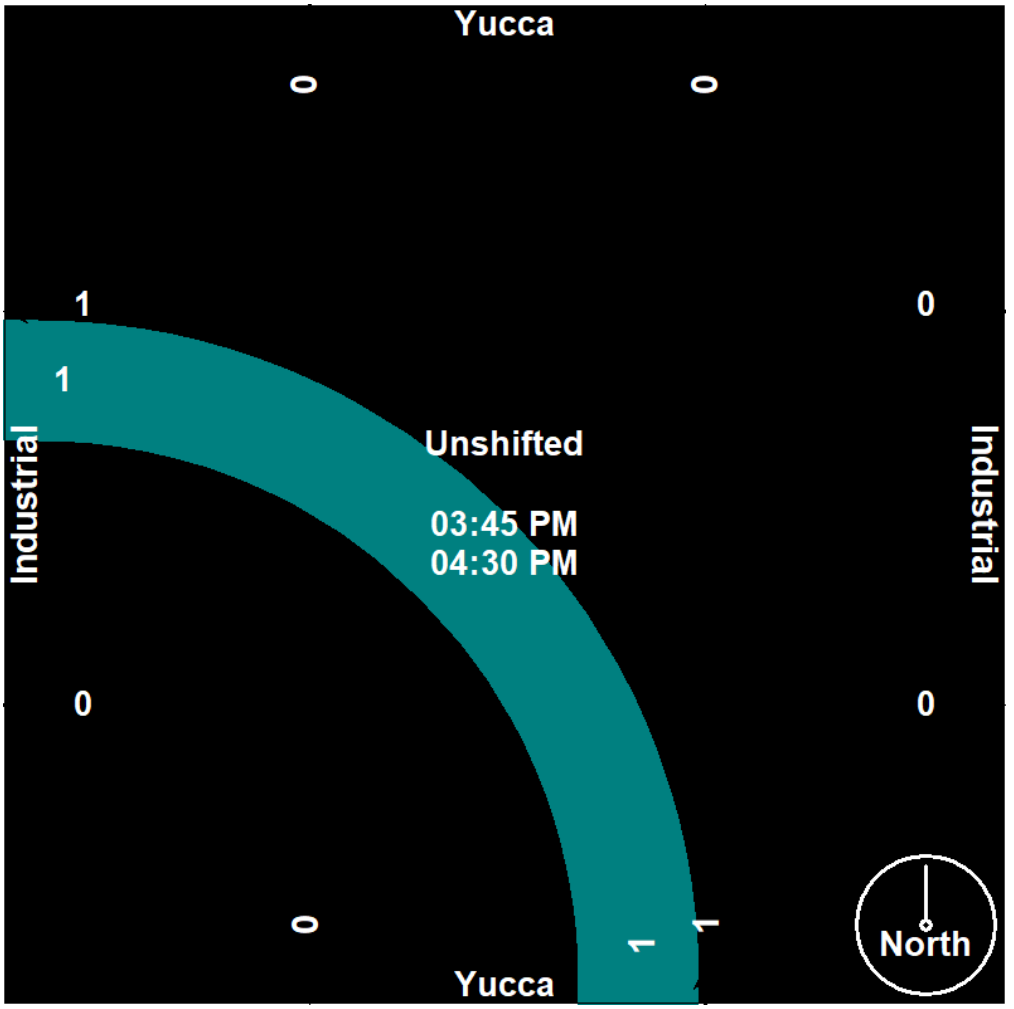
File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/11/2018
Page No : 3

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	0	0	0	0	8	4	0	3	4	0	0	0	3	1	0	24
07:15 AM	1	1	2	0	1	4	4	0	4	0	0	0	1	4	1	0	23
07:30 AM	0	0	1	0	1	5	8	0	3	0	1	0	2	8	0	0	29
07:45 AM	0	0	0	0	2	15	8	0	4	0	1	0	1	6	0	0	37
Total	2	1	3	0	4	32	24	0	14	4	2	0	4	21	2	0	113
08:00 AM	0	1	1	0	0	6	7	0	11	0	0	0	0	8	1	0	35
08:15 AM	0	0	0	0	0	9	4	0	8	1	2	0	0	2	1	0	27
08:30 AM	0	0	0	0	0	7	5	0	5	0	1	0	2	4	0	0	24
08:45 AM	0	0	2	0	0	3	7	0	5	0	0	0	0	6	1	0	24
Total	0	1	3	0	0	25	23	0	29	1	3	0	2	20	3	0	110
*** BREAK ***																	
04:00 PM	0	0	1	0	0	7	3	0	12	0	1	0	2	6	0	0	32
04:15 PM	1	1	0	0	1	7	4	0	14	2	2	0	2	5	0	0	39
04:30 PM	0	0	0	0	0	15	5	0	8	0	4	0	3	13	0	0	48
04:45 PM	0	1	1	0	0	6	2	0	5	0	1	0	0	6	0	0	22
Total	1	2	2	0	1	35	14	0	39	2	8	0	7	30	0	0	141
05:00 PM	1	0	2	0	0	13	5	0	14	1	3	0	2	15	1	0	57
05:15 PM	0	2	2	0	0	13	1	0	7	2	1	0	0	8	1	0	37
05:30 PM	0	0	1	0	0	13	2	0	20	1	0	0	0	3	0	0	40
05:45 PM	0	1	1	0	0	8	3	0	5	0	3	0	0	8	0	0	29
Total	1	3	6	0	0	47	11	0	46	4	7	0	2	34	2	0	163
Grand Total	4	7	14	0	5	139	72	0	128	11	20	0	15	105	7	0	527
Apprch %	16	28	56	0	2.3	64.4	33.3	0	80.5	6.9	12.6	0	11.8	82.7	5.5	0	
Total %	0.8	1.3	2.7	0	0.9	26.4	13.7	0	24.3	2.1	3.8	0	2.8	19.9	1.3	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
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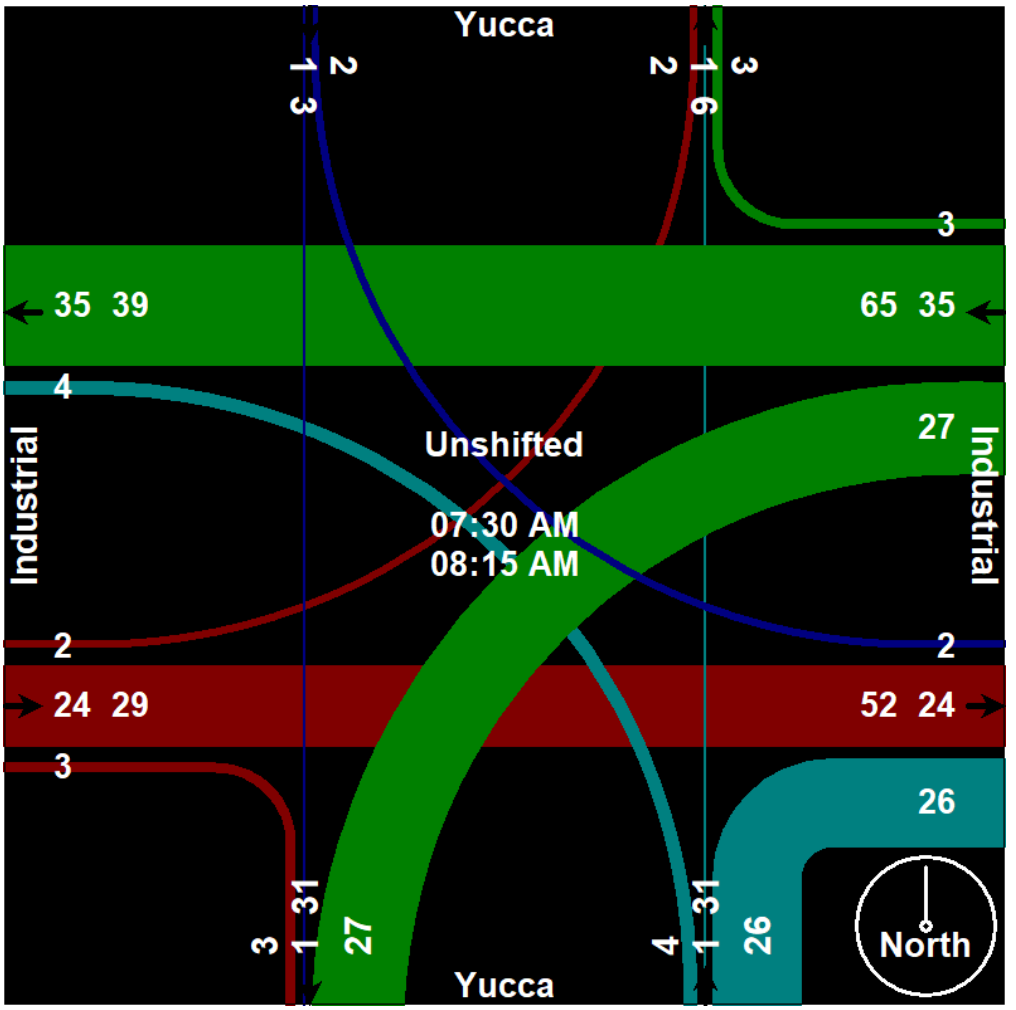
File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/11/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	1	0	1	1	5	8	0	14	3	0	1	0	4	2	8	0	0	10	29
07:45 AM	0	0	0	0	0	2	15	8	0	25	4	0	1	0	5	1	6	0	0	7	37
08:00 AM	0	1	1	0	2	0	6	7	0	13	11	0	0	0	11	0	8	1	0	9	35
08:15 AM	0	0	0	0	0	0	9	4	0	13	8	1	2	0	11	0	2	1	0	3	27
Total Volume	0	1	2	0	3	3	35	27	0	65	26	1	4	0	31	3	24	2	0	29	128
% App. Total	0	33.3	66.7	0		4.6	53.8	41.5	0		83.9	3.2	12.9	0		10.3	82.8	6.9	0		
PHF	.000	.250	.500	.000	.375	.375	.583	.844	.000	.650	.591	.250	.500	.000	.705	.375	.750	.500	.000	.725	.865



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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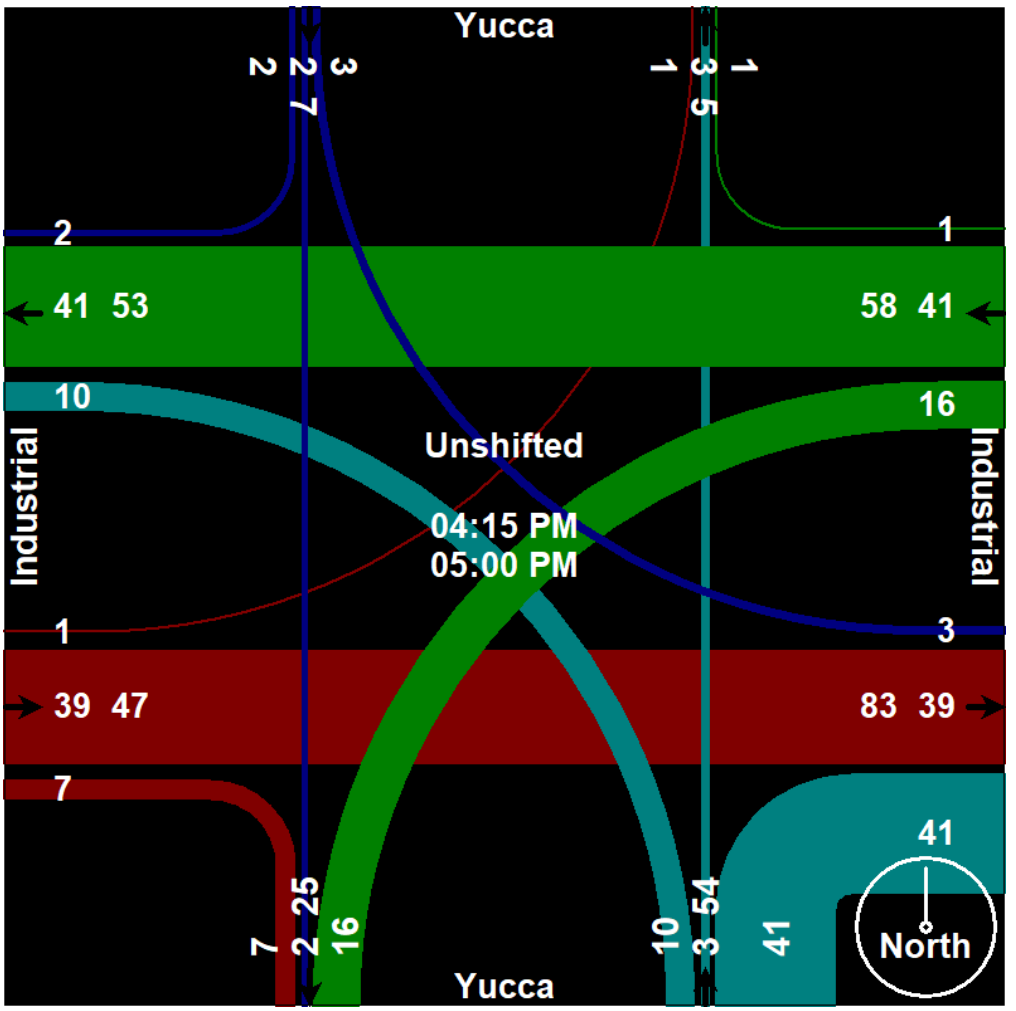
File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/11/2018
Page No : 3

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	1	0	0	2	1	7	4	0	12	14	2	2	0	18	2	5	0	0	7	39
04:30 PM	0	0	0	0	0	0	15	5	0	20	8	0	4	0	12	3	13	0	0	16	48
04:45 PM	0	1	1	0	2	0	6	2	0	8	5	0	1	0	6	0	6	0	0	6	22
05:00 PM	1	0	2	0	3	0	13	5	0	18	14	1	3	0	18	2	15	1	0	18	57
Total Volume	2	2	3	0	7	1	41	16	0	58	41	3	10	0	54	7	39	1	0	47	166
% App. Total	28.6	28.6	42.9	0		1.7	70.7	27.6	0		75.9	5.6	18.5	0		14.9	83	2.1	0		
PHF	.500	.500	.375	.000	.583	.250	.683	.800	.000	.725	.732	.375	.625	.000	.750	.583	.650	.250	.000	.653	.728



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00000044
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

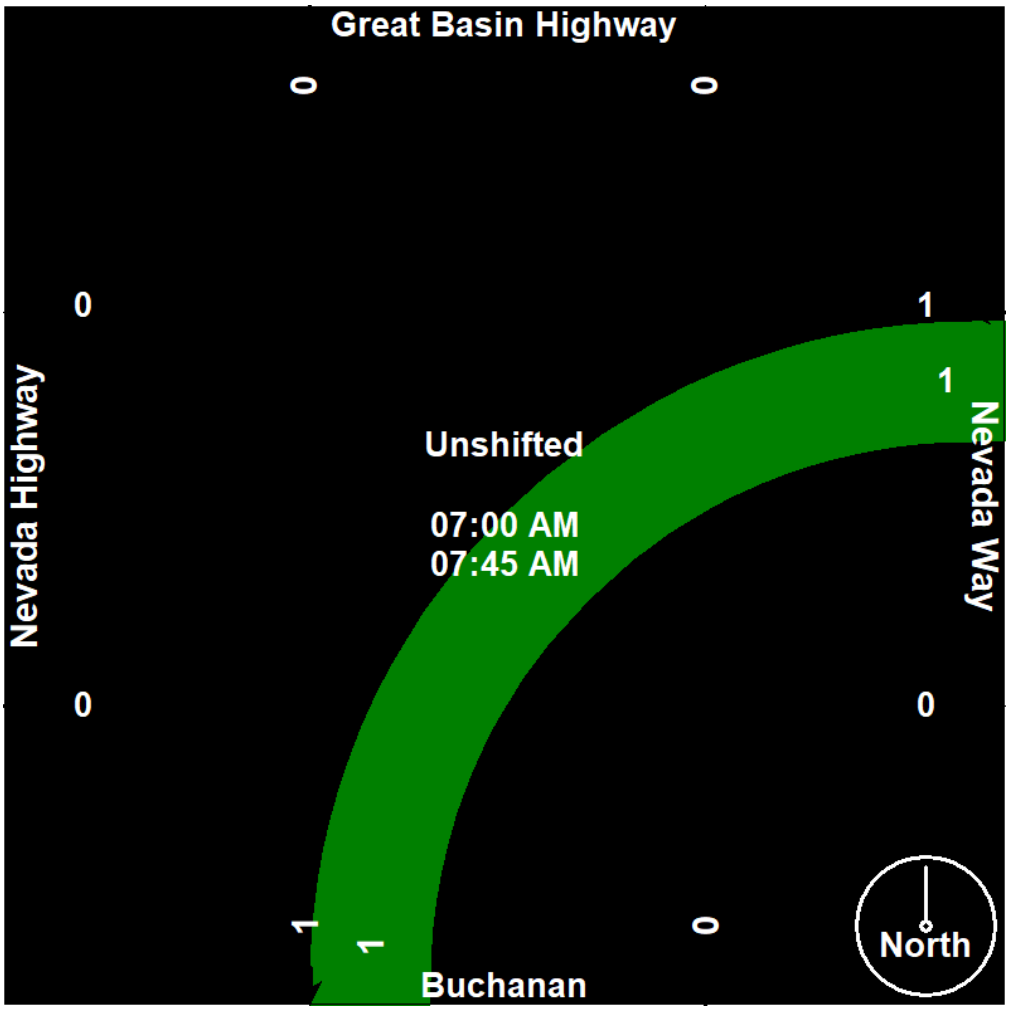
	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Highway Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Eastside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4
Apprch %	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00000044
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Eastside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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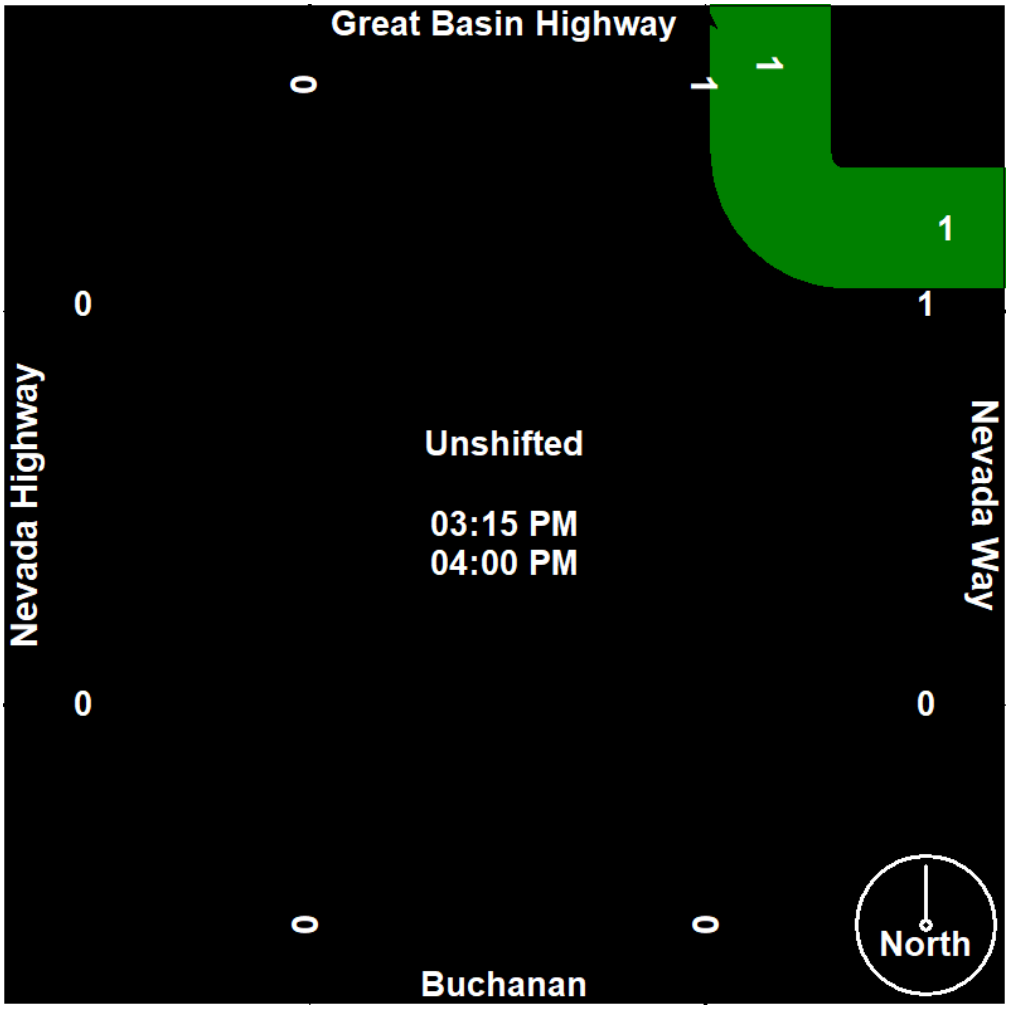
702-217-1968
sstraffic@msn.com

File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00000044
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Eastside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Nevada Highway-Great Basin Highway - Peds
Site Code : 00000044
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Highway Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Eastside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	1	0	1	0	1	0	0	0	2	0	0	0	5
07:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	2	0	0	0	2	0	1	0	0	0	0	0	5
Total	0	0	0	0	4	0	2	0	3	0	1	0	2	0	0	0	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
*** BREAK ***																	
08:30 AM	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	0	0	0	0	1	0	0	0	1	0	0	0	5	0	0	0	7
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
04:15 PM	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	4
04:30 PM	0	0	0	0	1	0	2	0	2	0	0	0	1	0	0	0	6
04:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	3	0	1	0	5
Total	1	0	1	0	2	0	4	0	2	0	0	0	5	0	1	0	16
*** BREAK ***																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
05:45 PM	3	0	2	0	2	0	1	0	1	0	1	0	2	0	0	0	12
Total	3	0	2	0	2	0	1	0	1	0	3	0	3	0	0	0	15
Grand Total	4	0	3	0	9	0	7	0	7	0	4	0	15	0	1	0	50
Apprch %	57.1	0	42.9	0	56.2	0	43.8	0	63.6	0	36.4	0	93.8	0	6.2	0	
Total %	8	0	6	0	18	0	14	0	14	0	8	0	30	0	2	0	

Silver State Traffic Data Collection, LLC

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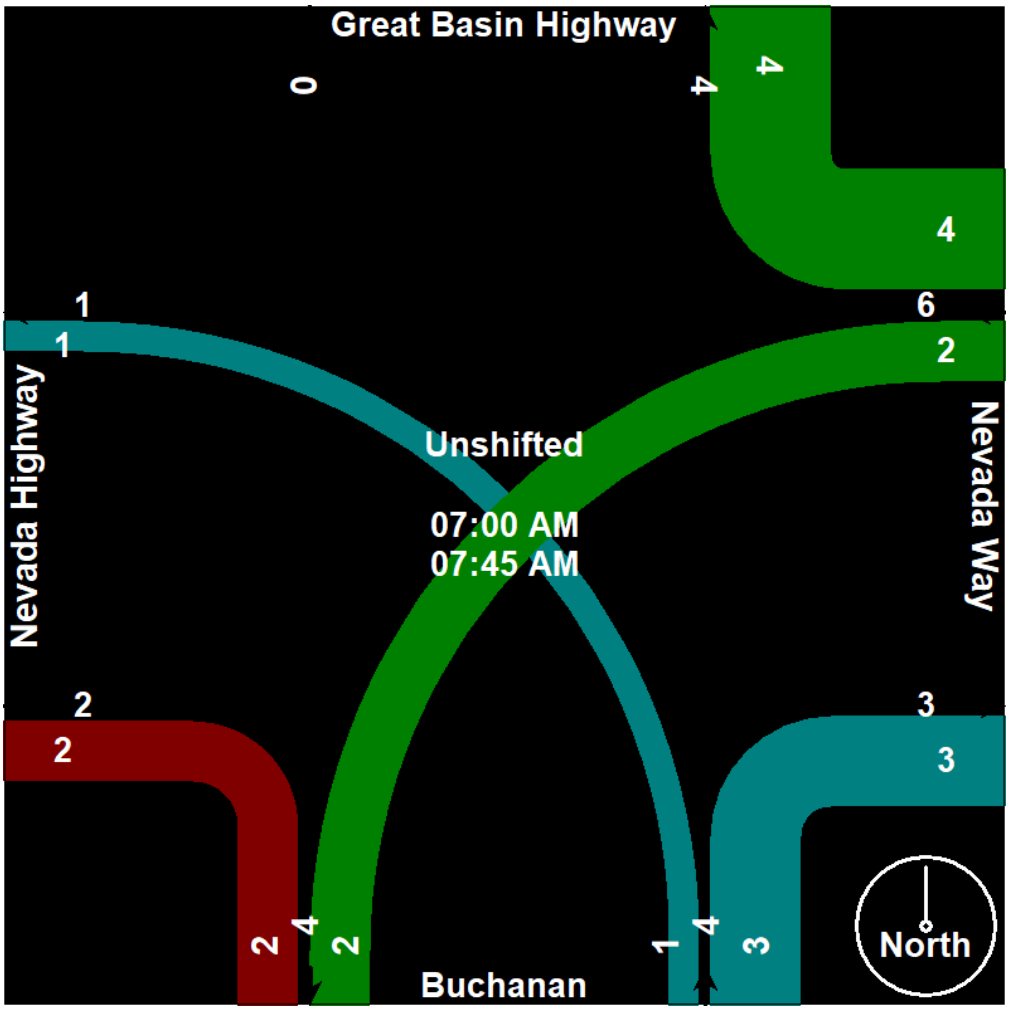
File Name : Nevada Highway-Great Basin Highway - Peds
Site Code : 00000044
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Eastside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	1	0	1	0	2	1	0	0	0	1	2	0	0	0	2	5
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	2	0	0	0	2	2	0	1	0	3	0	0	0	0	0	5
Total Volume	0	0	0	0	0	4	0	2	0	6	3	0	1	0	4	2	0	0	0	2	12
% App. Total	0	0	0	0		66.7	0	33.3	0		75	0	25	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.750	.375	.000	.250	.000	.333	.250	.000	.000	.000	.250	.600



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File Name : Nevada Highway-Great Basin Highway - Peds
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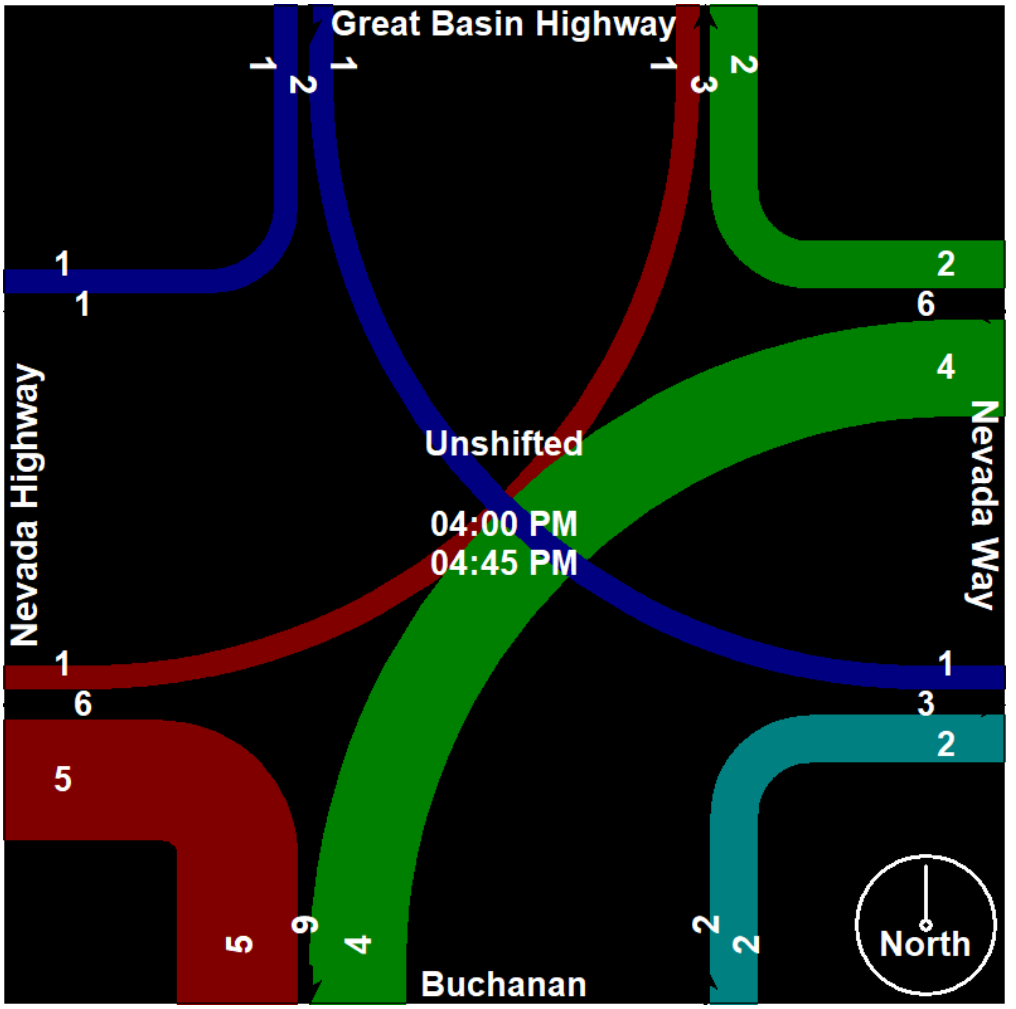
Start Date : 4/11/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Eastside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	1	0	0	0	1	1	0	1	0	2	0	0	0	0	0	1	0	0	0	1	4
04:30 PM	0	0	0	0	0	1	0	2	0	3	2	0	0	0	2	1	0	0	0	1	6
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3	0	1	0	4	5
Total Volume	1	0	1	0	2	2	0	4	0	6	2	0	0	0	2	5	0	1	0	6	16
% App. Total	50	0	50	0		33.3	0	66.7	0		100	0	0	0		83.3	0	16.7	0		
PHF	.250	.000	.250	.000	.500	.500	.000	.500	.000	.500	.250	.000	.000	.000	.250	.417	.000	.250	.000	.375	.667



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File Name : Nevada Highway-Great Basin Highway
Site Code : 00000044
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Highway Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	87	12	5	0	7	73	1	0	6	19	17	0	13	42	98	0	380
07:15 AM	81	11	4	0	8	53	4	0	5	18	19	0	11	103	120	0	437
07:30 AM	94	19	11	0	13	76	8	0	15	23	19	0	16	72	117	0	483
07:45 AM	84	20	5	0	16	78	8	0	11	31	28	0	10	74	136	0	501
Total	346	62	25	0	44	280	21	0	37	91	83	0	50	291	471	0	1801
08:00 AM	91	18	18	0	17	72	16	0	22	31	26	0	22	49	140	0	522
08:15 AM	110	21	5	0	16	82	13	0	10	24	19	0	12	69	121	0	502
08:30 AM	99	17	7	0	24	75	14	0	9	26	18	0	19	62	165	0	535
08:45 AM	113	18	12	0	12	57	9	0	17	25	23	0	14	61	158	0	519
Total	413	74	42	0	69	286	52	0	58	106	86	0	67	241	584	0	2078
*** BREAK ***																	
04:00 PM	222	24	21	0	21	91	14	0	13	28	28	0	13	73	128	0	676
04:15 PM	205	19	14	0	21	76	14	0	11	29	26	0	10	78	107	0	610
04:30 PM	189	17	20	0	14	86	22	0	14	27	21	0	12	66	102	0	590
04:45 PM	194	25	21	0	13	58	14	0	11	28	20	0	10	82	117	0	593
Total	810	85	76	0	69	311	64	0	49	112	95	0	45	299	454	0	2469
05:00 PM	228	26	16	0	18	79	15	0	16	33	24	0	18	74	108	0	655
05:15 PM	199	25	12	0	9	71	16	0	6	29	26	0	16	85	118	0	612
05:30 PM	154	21	7	0	8	65	17	0	14	17	24	0	20	80	88	0	515
05:45 PM	171	22	7	0	11	56	13	0	15	17	22	0	18	96	118	0	566
Total	752	94	42	0	46	271	61	0	51	96	96	0	72	335	432	0	2348
Grand Total	2321	315	185	0	228	1148	198	0	195	405	360	0	234	1166	1941	0	8696
Apprch %	82.3	11.2	6.6	0	14.5	72.9	12.6	0	20.3	42.2	37.5	0	7	34.9	58.1	0	
Total %	26.7	3.6	2.1	0	2.6	13.2	2.3	0	2.2	4.7	4.1	0	2.7	13.4	22.3	0	

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File Name : Nevada Highway-Great Basin Highway
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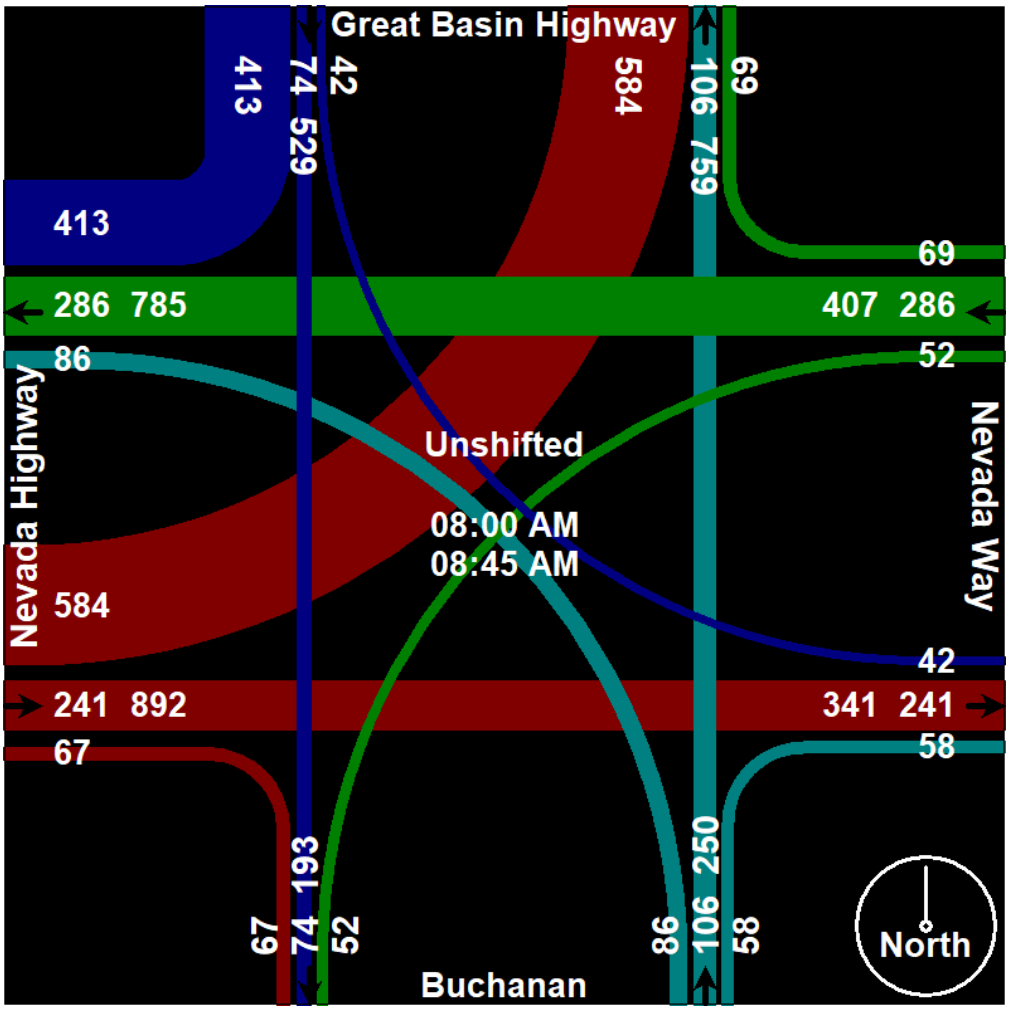
	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	91	18	18	0	127	17	72	16	0	105	22	31	26	0	79	22	49	140	0	211	522
08:15 AM	110	21	5	0	136	16	82	13	0	111	10	24	19	0	53	12	69	121	0	202	502
08:30 AM	99	17	7	0	123	24	75	14	0	113	9	26	18	0	53	19	62	165	0	246	535
08:45 AM	113	18	12	0	143	12	57	9	0	78	17	25	23	0	65	14	61	158	0	233	519
Total Volume	413	74	42	0	529	69	286	52	0	407	58	106	86	0	250	67	241	584	0	892	2078
% App. Total	78.1	14	7.9	0		17	70.3	12.8	0		23.2	42.4	34.4	0		7.5	27	65.5	0		
PHF	.914	.881	.583	.000	.925	.719	.872	.813	.000	.900	.659	.855	.827	.000	.791	.761	.873	.885	.000	.907	.971



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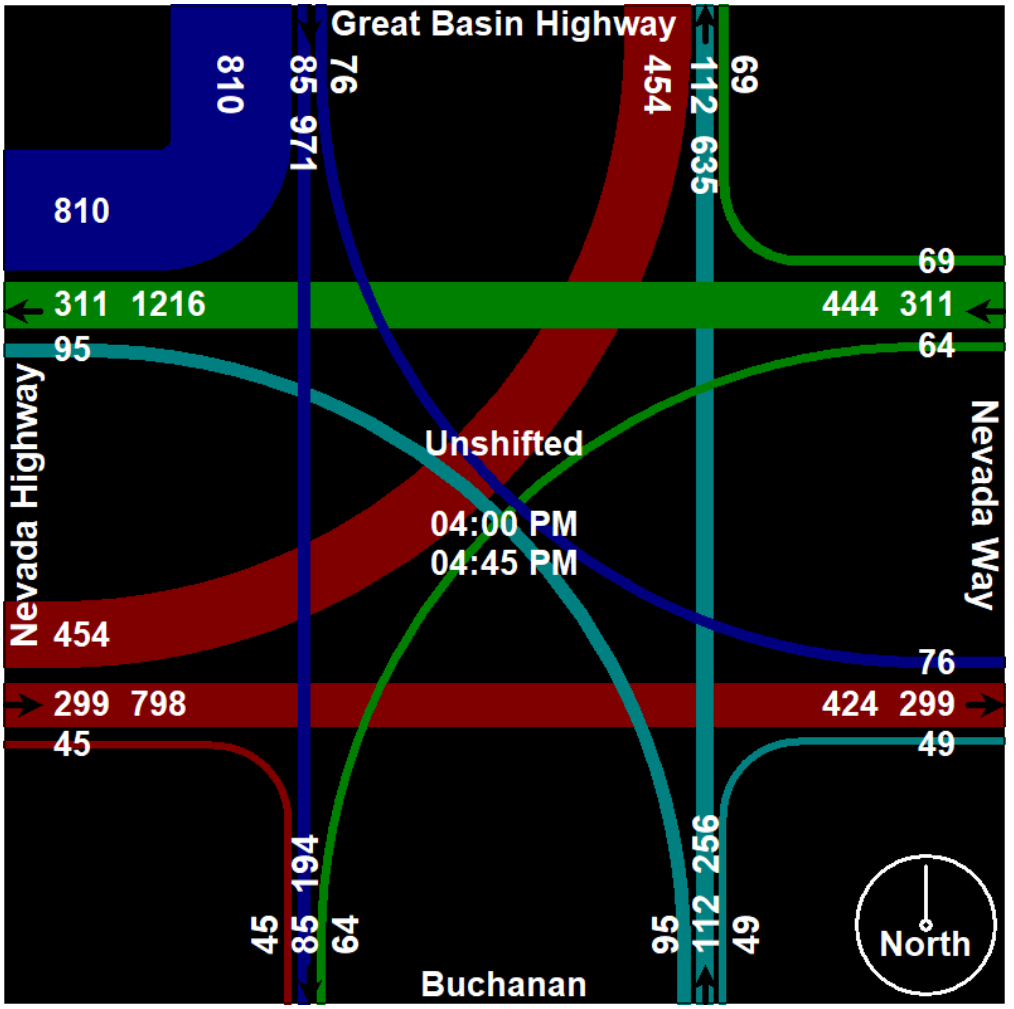
File Name : Nevada Highway-Great Basin Highway
Site Code : 00000044
Start Date : 4/11/2018
Page No : 3

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	222	24	21	0	267	21	91	14	0	126	13	28	28	0	69	13	73	128	0	214	676
04:15 PM	205	19	14	0	238	21	76	14	0	111	11	29	26	0	66	10	78	107	0	195	610
04:30 PM	189	17	20	0	226	14	86	22	0	122	14	27	21	0	62	12	66	102	0	180	590
04:45 PM	194	25	21	0	240	13	58	14	0	85	11	28	20	0	59	10	82	117	0	209	593
Total Volume	810	85	76	0	971	69	311	64	0	444	49	112	95	0	256	45	299	454	0	798	2469
% App. Total	83.4	8.8	7.8	0		15.5	70	14.4	0		19.1	43.8	37.1	0		5.6	37.5	56.9	0		
PHF	.912	.850	.905	.000	.909	.821	.854	.727	.000	.881	.875	.966	.848	.000	.928	.865	.912	.887	.000	.932	.913



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Veterans Memorial-Nevada Highway
Site Code : 00000222
Start Date : 4/11/2018
Page No : 1

Groups Printed- Unshifted

	Veteran's Memorial Southbound				Nevada Highway Westbound				Veteran's Memorial Northbound				Nevada Highway Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	13	2	3	0	0	193	0	0	2	1	93	0	41	178	5	0	531
07:15 AM	7	2	0	0	0	177	1	0	2	1	98	0	60	240	6	0	594
07:30 AM	5	1	0	0	0	211	0	0	2	2	100	0	73	233	12	0	639
07:45 AM	4	2	2	0	2	192	1	0	1	2	123	0	56	243	22	0	650
Total	29	7	5	0	2	773	2	0	7	6	414	0	230	894	45	0	2414
08:00 AM	6	1	0	0	4	198	0	0	0	2	113	0	48	221	12	0	605
08:15 AM	9	2	0	0	0	225	0	0	0	1	113	0	52	219	15	0	636
08:30 AM	9	0	0	0	1	193	2	0	1	1	82	0	67	261	10	0	627
08:45 AM	10	1	0	0	1	208	2	0	0	1	71	0	64	231	14	0	603
Total	34	4	0	0	6	824	4	0	1	5	379	0	231	932	51	0	2471
*** BREAK ***																	
04:00 PM	24	1	2	0	6	345	1	0	0	0	61	0	59	215	12	0	726
04:15 PM	13	1	0	0	2	289	0	0	0	0	99	0	67	227	6	0	704
04:30 PM	18	4	1	0	0	311	2	0	2	1	106	0	75	207	15	0	742
04:45 PM	12	0	1	0	1	255	1	0	0	1	67	0	96	229	5	0	668
Total	67	6	4	0	9	1200	4	0	2	2	333	0	297	878	38	0	2840
05:00 PM	19	1	1	0	3	347	0	0	2	1	88	0	98	220	9	0	789
05:15 PM	15	0	1	0	1	302	0	0	3	0	65	0	103	227	6	0	723
05:30 PM	10	1	1	0	3	259	2	0	0	0	100	0	68	218	2	0	664
05:45 PM	5	0	2	0	1	209	2	0	1	0	79	0	87	245	2	0	633
Total	49	2	5	0	8	1117	4	0	6	1	332	0	356	910	19	0	2809
Grand Total	179	19	14	0	25	3914	14	0	16	14	1458	0	1114	3614	153	0	10534
Apprch %	84.4	9	6.6	0	0.6	99	0.4	0	1.1	0.9	98	0	22.8	74	3.1	0	
Total %	1.7	0.2	0.1	0	0.2	37.2	0.1	0	0.2	0.1	13.8	0	10.6	34.3	1.5	0	

Silver State Traffic Data Collection, LLC

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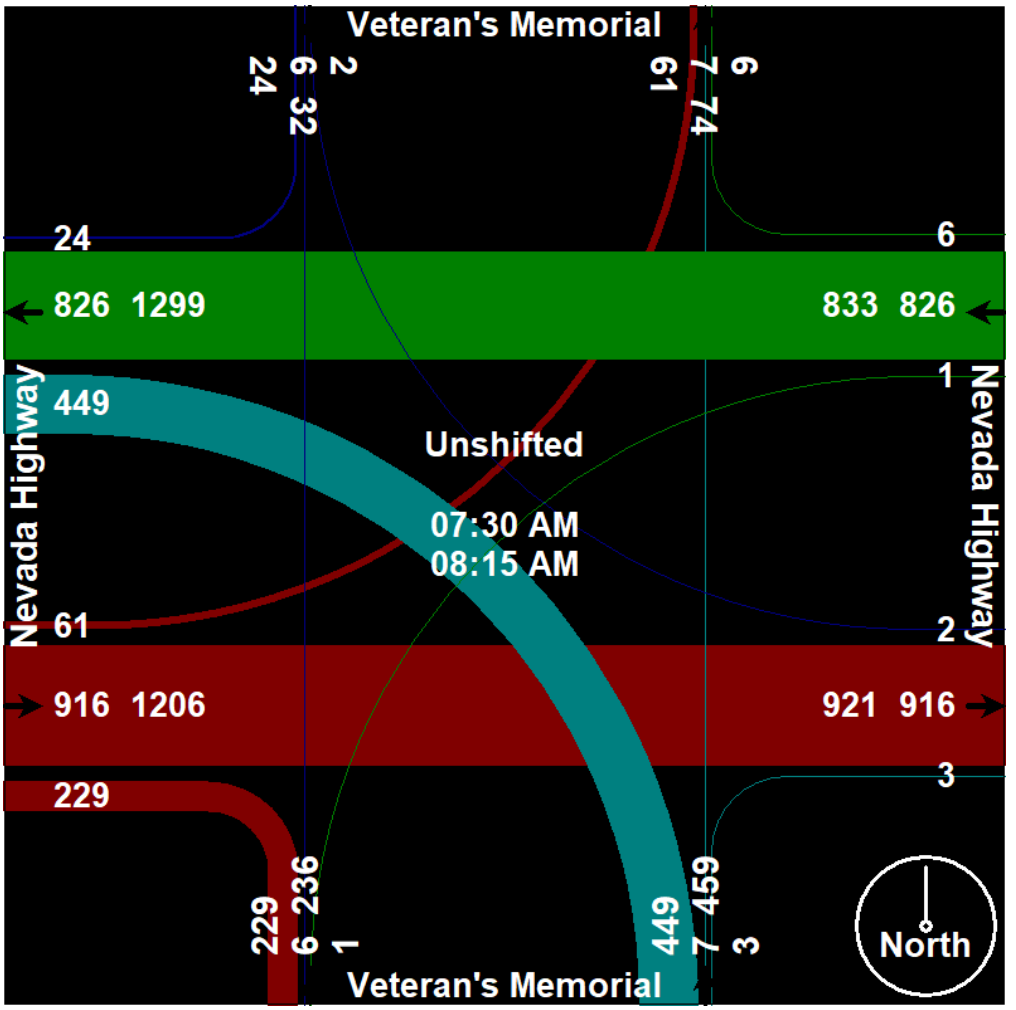
File Name : Veterans Memorial-Nevada Highway
Site Code : 00000222
Start Date : 4/11/2018

	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	5	1	0	0	6	0	211	0	0	211	2	2	100	0	104	73	233	12	0	318	639
07:45 AM	4	2	2	0	8	2	192	1	0	195	1	2	123	0	126	56	243	22	0	321	650
08:00 AM	6	1	0	0	7	4	198	0	0	202	0	2	113	0	115	48	221	12	0	281	605
08:15 AM	9	2	0	0	11	0	225	0	0	225	0	1	113	0	114	52	219	15	0	286	636
Total Volume	24	6	2	0	32	6	826	1	0	833	3	7	449	0	459	229	916	61	0	1206	2530
% App. Total	75	18.8	6.2	0		0.7	99.2	0.1	0		0.7	1.5	97.8	0		19	76	5.1	0		
PHF	.667	.750	.250	.000	.727	.375	.918	.250	.000	.926	.375	.875	.913	.000	.911	.784	.942	.693	.000	.939	.973



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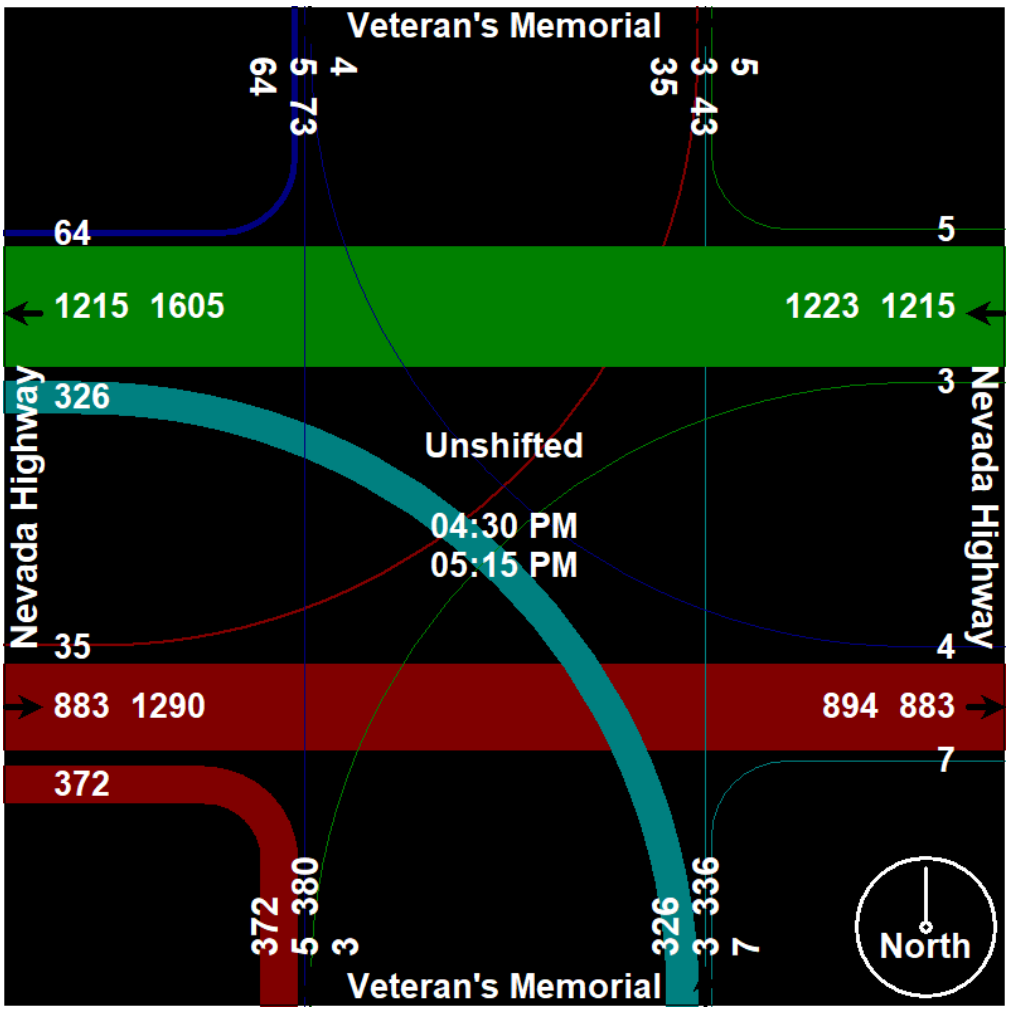
File Name : Veterans Memorial-Nevada Highway
Site Code : 00000222
Start Date : 4/11/2018
Page No : 3

	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	18	4	1	0	23	0	311	2	0	313	2	1	106	0	109	75	207	15	0	297	742
04:45 PM	12	0	1	0	13	1	255	1	0	257	0	1	67	0	68	96	229	5	0	330	668
05:00 PM	19	1	1	0	21	3	347	0	0	350	2	1	88	0	91	98	220	9	0	327	789
05:15 PM	15	0	1	0	16	1	302	0	0	303	3	0	65	0	68	103	227	6	0	336	723
Total Volume	64	5	4	0	73	5	1215	3	0	1223	7	3	326	0	336	372	883	35	0	1290	2922
% App. Total	87.7	6.8	5.5	0		0.4	99.3	0.2	0		2.1	0.9	97	0		28.8	68.4	2.7	0		
PHF	.842	.313	1.00	.000	.793	.417	.875	.375	.000	.874	.583	.750	.769	.000	.771	.903	.964	.583	.000	.960	.926



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1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Colorado - Bikes
Site Code : 00000777
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				Colorado Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	1	0	2	0	1	0	0	0	1	0	2	0	0	0	0	0	7
08:00 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	1	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	6
*** BREAK ***																	
08:45 AM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3
Total	4	0	1	0	0	0	0	0	4	0	2	0	0	0	0	0	11
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
*** BREAK ***																	
04:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
*** BREAK ***																	
05:30 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	8	0	3	0	1	0	0	0	9	0	4	0	0	0	0	0	25
Apprch %	72.7	0	27.3	0	100	0	0	0	69.2	0	30.8	0	0	0	0	0	
Total %	32	0	12	0	4	0	0	0	36	0	16	0	0	0	0	0	

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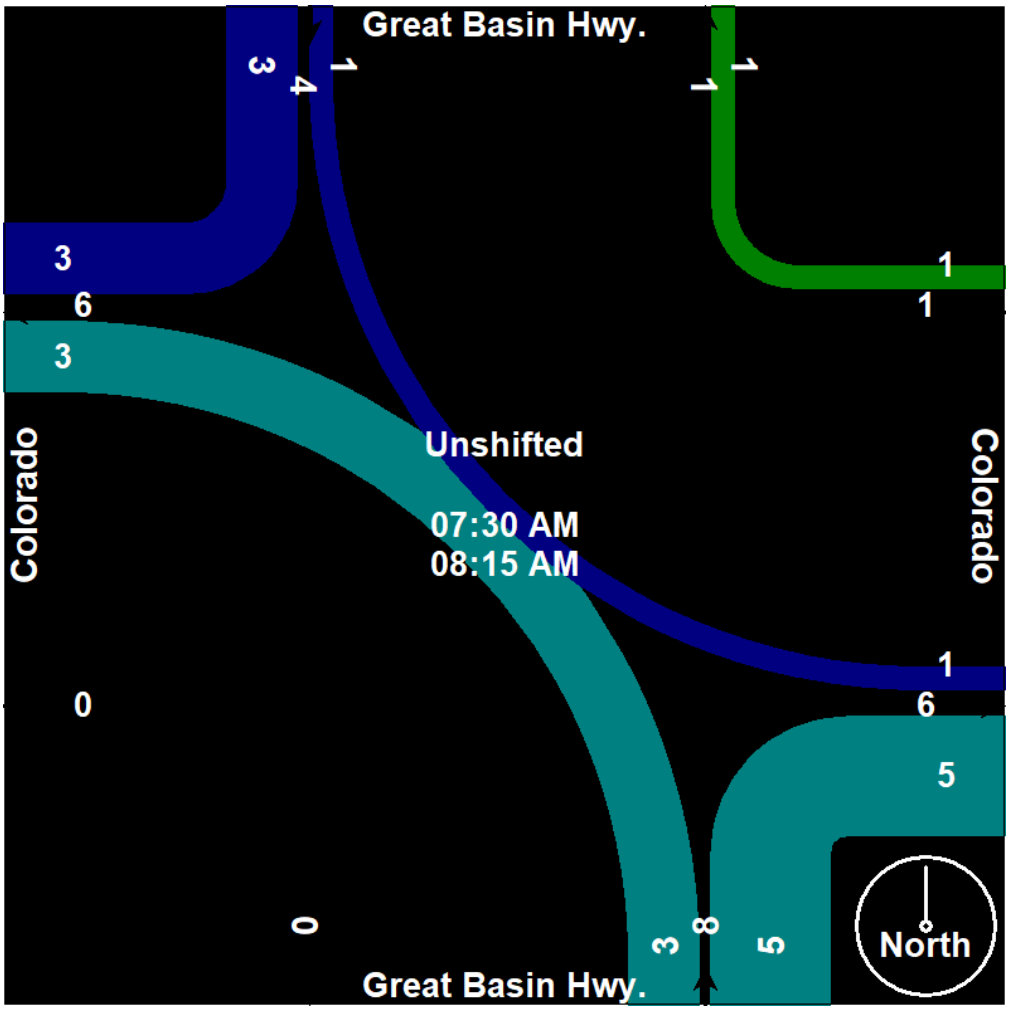
File Name : Great Basin Highway-Colorado - Bikes
Site Code : 00000777
Start Date : 4/14/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	1	0	1	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
08:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	1	0	0	0	1	0	0	0	0	0	4	0	1	0	5	0	0	0	0	0	6
Total Volume	3	0	1	0	4	1	0	0	0	1	5	0	3	0	8	0	0	0	0	0	13
% App. Total	75	0	25	0		100	0	0	0		62.5	0	37.5	0		0	0	0	0		
PHF	.375	.000	.250	.000	.500	.250	.000	.000	.000	.250	.313	.000	.375	.000	.400	.000	.000	.000	.000	.000	.542



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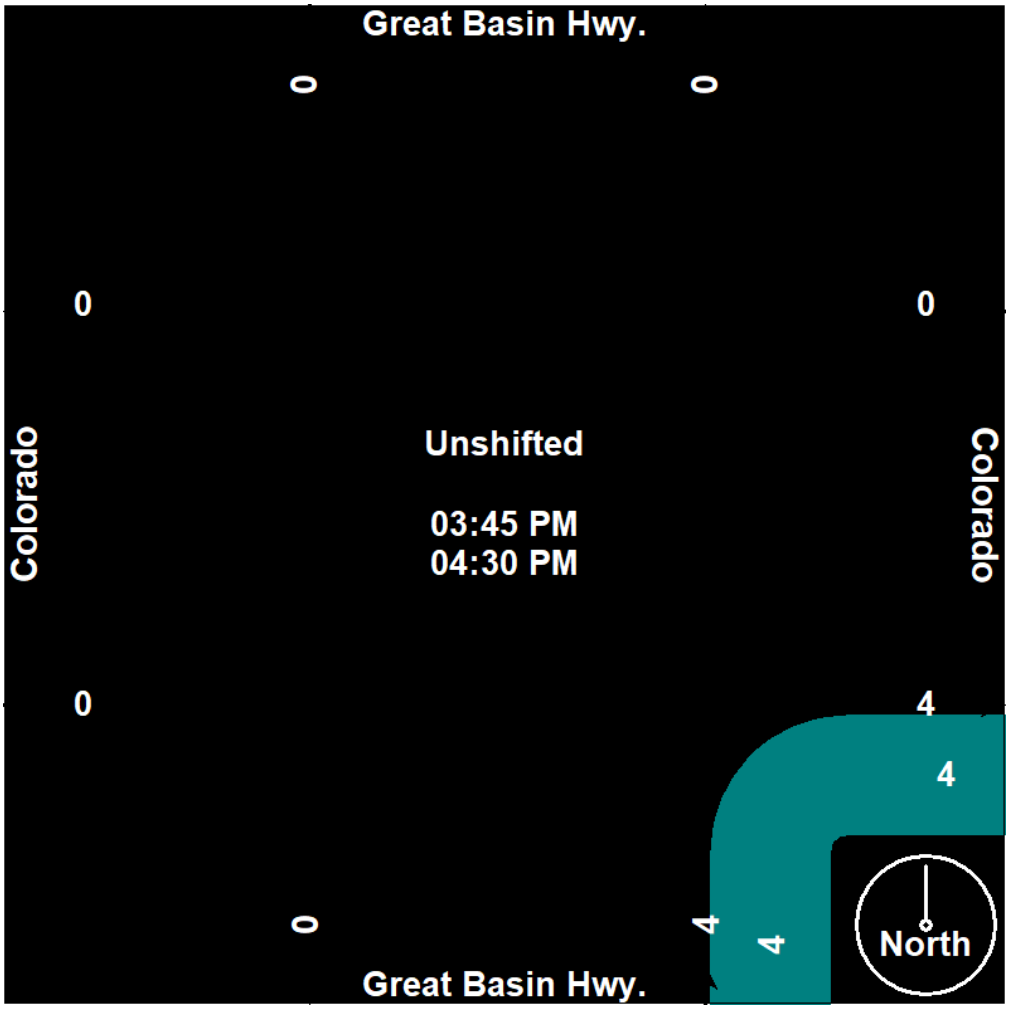
File Name : Great Basin Highway-Colorado - Bikes
Site Code : 00000777
Start Date : 4/14/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
% App. Total	0	0	0	0		0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.500



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File Name : Great Basin Highway-Colorado - Peds
Site Code : 00000777
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				Colorado Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
*** BREAK ***																	
Grand Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Apprch %	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	
Total %	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	

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File Name : Great Basin Highway-Colorado - Peds
Site Code : 00000777
Start Date : 4/14/2018
Page No : 2

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : Great Basin Highway-Colorado - Peds
Site Code : 00000777
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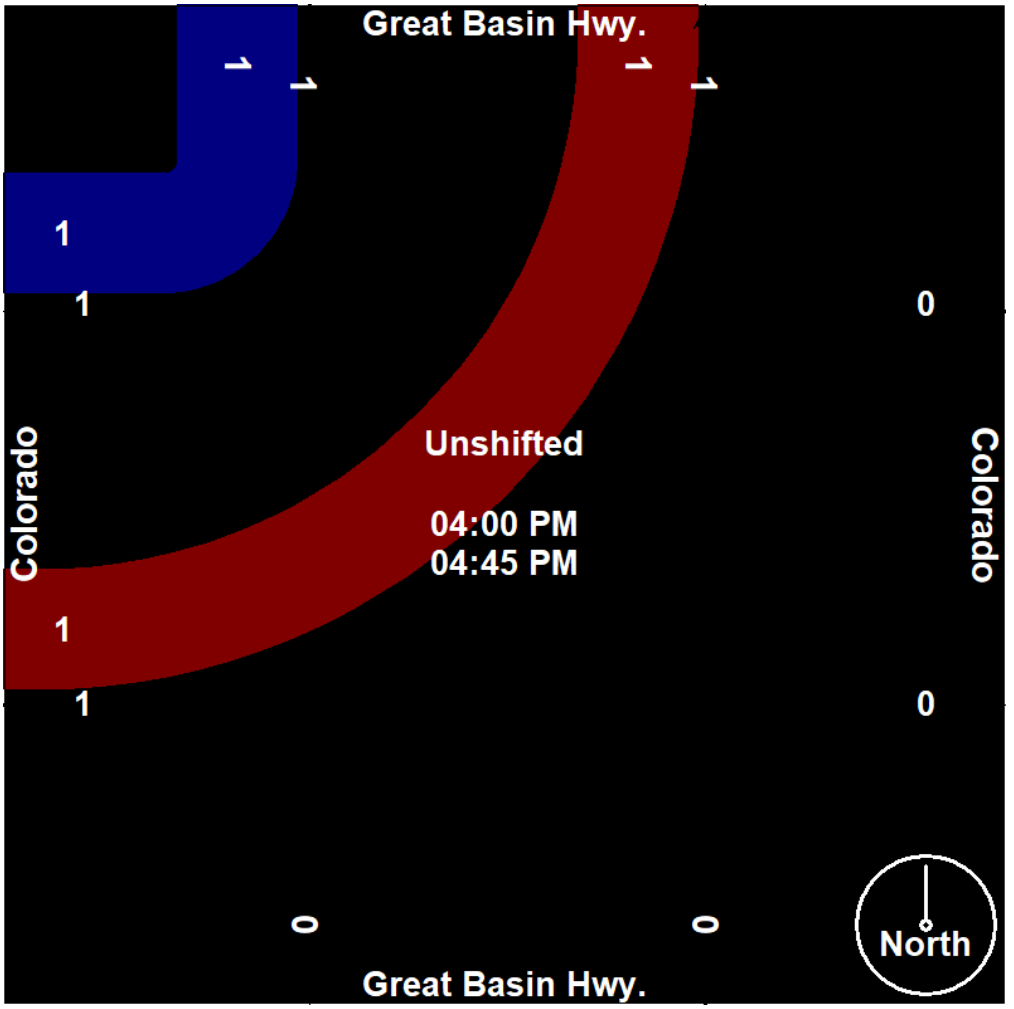
	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Colorado Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	100	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250



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File Name : Great Basin Highway-Colorado
Site Code : 00000777
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Hwy. Southbound				Colorado Westbound				Great Basin Hwy. Northbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	75	5	0	2	0	0	0	1	131	0	0	214
07:15 AM	0	63	3	0	4	0	3	0	1	166	0	0	240
07:30 AM	0	62	3	0	4	0	0	0	3	167	0	0	239
07:45 AM	0	75	7	0	8	0	0	0	2	180	0	0	272
Total	0	275	18	0	18	0	3	0	7	644	0	0	965
08:00 AM	0	85	5	0	5	0	1	0	3	210	0	0	309
08:15 AM	0	134	6	0	6	0	0	0	5	156	0	0	307
08:30 AM	0	123	2	0	3	0	1	0	0	241	0	0	370
08:45 AM	0	131	9	0	3	0	1	0	2	247	0	0	393
Total	0	473	22	0	17	0	3	0	10	854	0	0	1379
*** BREAK ***													
04:00 PM	0	295	8	0	9	0	4	0	5	185	0	0	506
04:15 PM	0	317	5	0	7	0	1	0	4	185	0	0	519
04:30 PM	0	305	3	0	3	0	2	0	6	159	0	0	478
04:45 PM	0	312	6	0	12	0	1	0	9	146	0	0	486
Total	0	1229	22	0	31	0	8	0	24	675	0	0	1989
05:00 PM	0	287	2	0	10	0	3	0	5	163	0	0	470
05:15 PM	0	254	6	0	2	0	2	0	4	145	0	0	413
05:30 PM	0	267	2	0	6	0	2	0	4	123	0	0	404
05:45 PM	0	252	7	0	5	0	2	0	3	132	0	0	401
Total	0	1060	17	0	23	0	9	0	16	563	0	0	1688
Grand Total	0	3037	79	0	89	0	23	0	57	2736	0	0	6021
Apprch %	0	97.5	2.5	0	79.5	0	20.5	0	2	98	0	0	
Total %	0	50.4	1.3	0	1.5	0	0.4	0	0.9	45.4	0	0	

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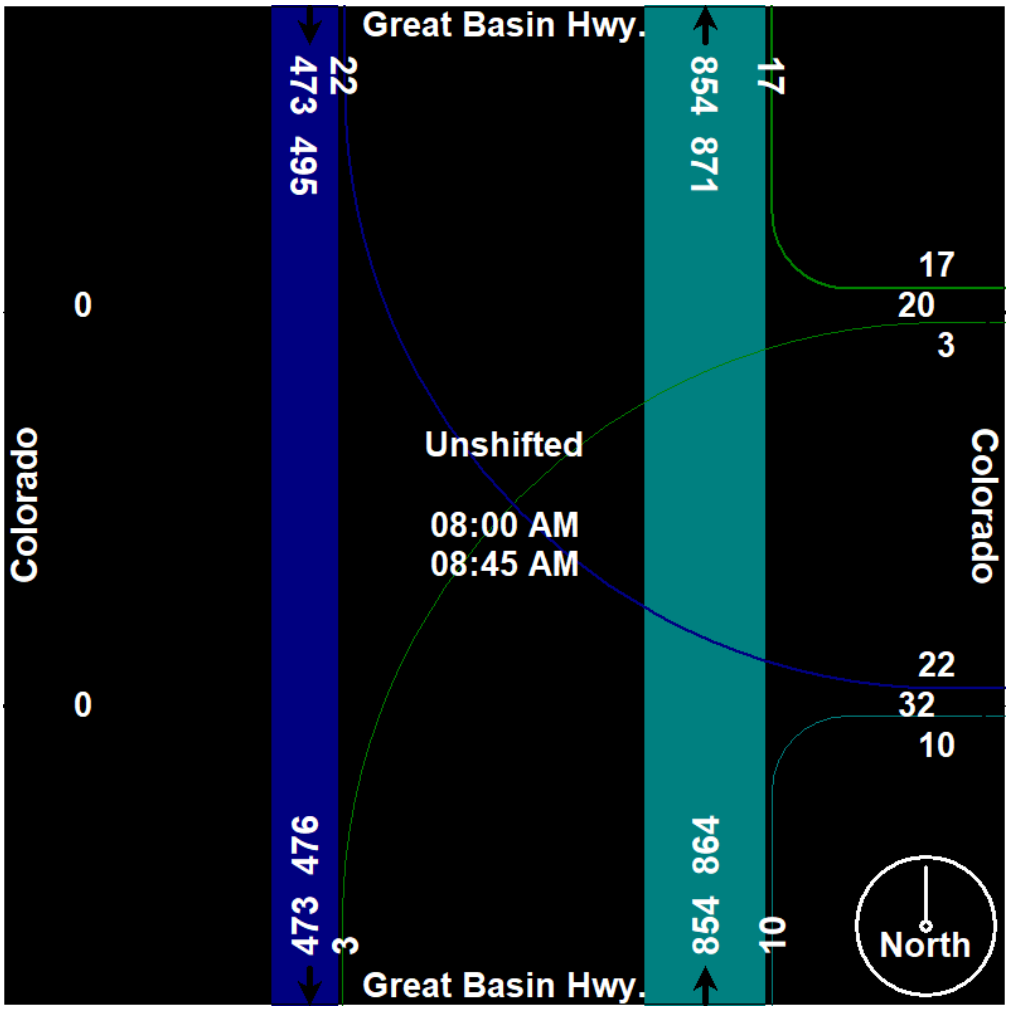
File Name : Great Basin Highway-Colorado
Site Code : 00000777
Start Date : 4/14/2018

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	85	5	0	90	5	0	1	0	6	3	210	0	0	213	0	309
08:15 AM	0	134	6	0	140	6	0	0	0	6	5	156	0	0	161	0	307
08:30 AM	0	123	2	0	125	3	0	1	0	4	0	241	0	0	241	0	370
08:45 AM	0	131	9	0	140	3	0	1	0	4	2	247	0	0	249	0	393
Total Volume	0	473	22	0	495	17	0	3	0	20	10	854	0	0	864	0	1379
% App. Total	0	95.6	4.4	0		85	0	15	0		1.2	98.8	0	0			
PHF	.000	.882	.611	.000	.884	.708	.000	.750	.000	.833	.500	.864	.000	.000	.867	.000	.877



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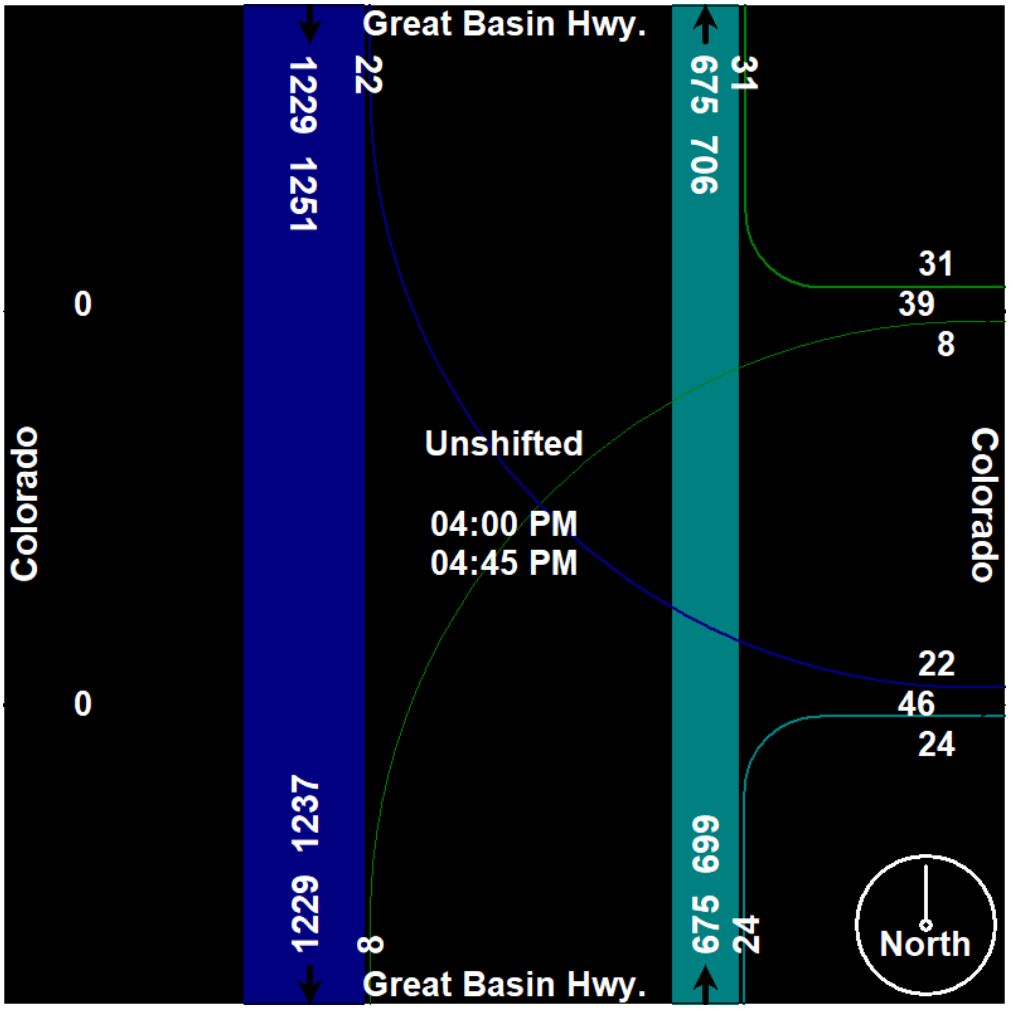
File Name : Great Basin Highway-Colorado
Site Code : 00000777
Start Date : 4/14/2018
Page No : 3

	Great Basin Hwy. Southbound					Colorado Westbound					Great Basin Hwy. Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	295	8	0	303	9	0	4	0	13	5	185	0	0	190	0	506
04:15 PM	0	317	5	0	322	7	0	1	0	8	4	185	0	0	189	0	519
04:30 PM	0	305	3	0	308	3	0	2	0	5	6	159	0	0	165	0	478
04:45 PM	0	312	6	0	318	12	0	1	0	13	9	146	0	0	155	0	486
Total Volume	0	1229	22	0	1251	31	0	8	0	39	24	675	0	0	699	0	1989
% App. Total	0	98.2	1.8	0		79.5	0	20.5	0		3.4	96.6	0	0			
PHF	.000	.969	.688	.000	.971	.646	.000	.500	.000	.750	.667	.912	.000	.000	.920	.000	.958



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File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Way Southbound				Nevada Way Westbound				Great Basin Way Northbound				Nevada Way Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
07:45 AM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	4
08:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
08:15 AM	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4
08:30 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	5	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	8
*** BREAK ***																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
*** BREAK ***																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Grand Total	5	0	1	0	1	0	0	0	2	0	6	0	0	0	0	0	15
Apprch %	83.3	0	16.7	0	100	0	0	0	25	0	75	0	0	0	0	0	
Total %	33.3	0	6.7	0	6.7	0	0	0	13.3	0	40	0	0	0	0	0	

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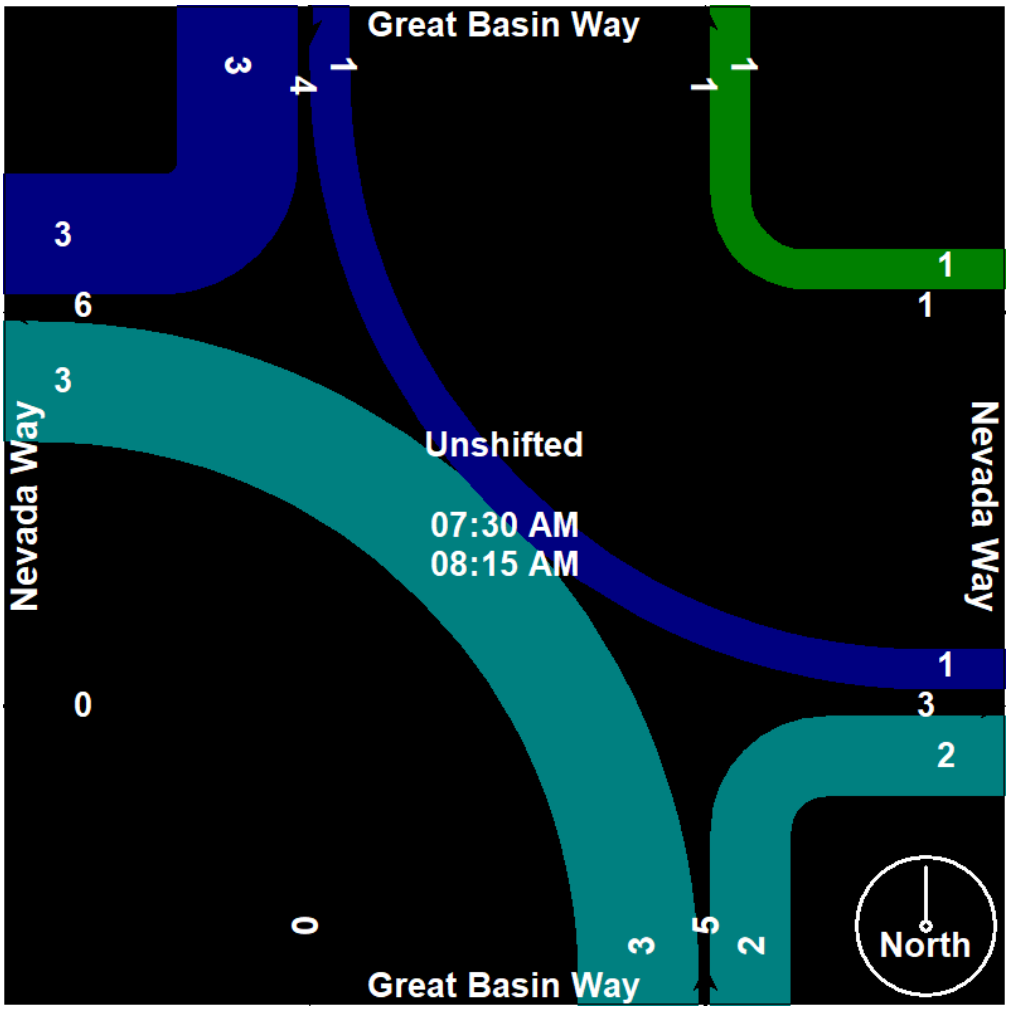
File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/14/2018

	Great Basin Way Southbound					Nevada Way Westbound					Great Basin Way Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	2
07:45 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
08:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
08:15 AM	2	0	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	4
Total Volume	3	0	1	0	4	1	0	0	0	1	2	0	3	0	5	0	0	0	0	0	10
% App. Total	75	0	25	0		100	0	0	0		40	0	60	0		0	0	0	0		
PHF	.375	.000	.250	.000	.500	.250	.000	.000	.000	.250	.500	.000	.375	.000	.625	.000	.000	.000	.000	.000	.625



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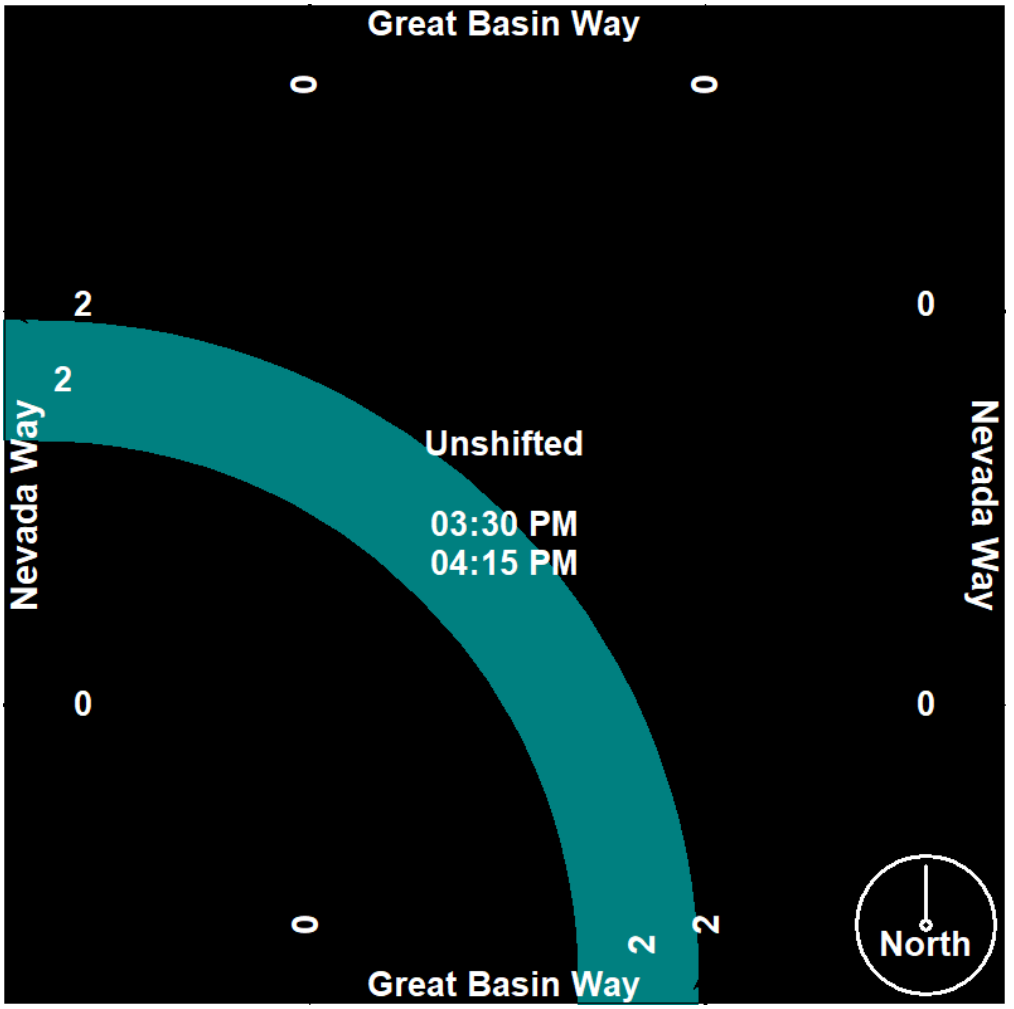
File Name : Great Basin Highway-Nevada Way - Bikes
Site Code : 00000000
Start Date : 4/14/2018

	Great Basin Way Southbound					Nevada Way Westbound					Great Basin Way Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

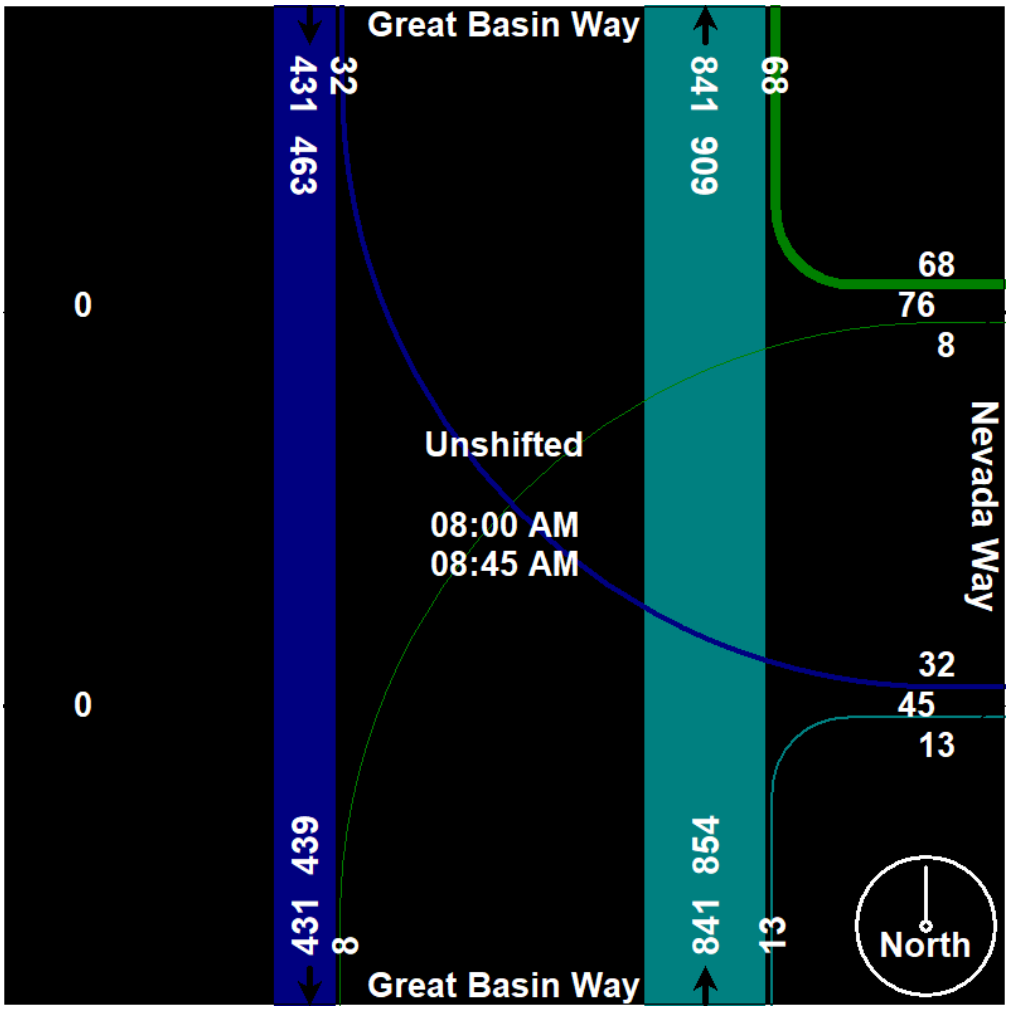
	Great Basin Way Southbound				Nevada Way Westbound				Great Basin Way Northbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	66	2	0	12	0	1	0	0	113	0	0	194
07:15 AM	0	56	11	0	8	0	0	0	3	173	0	0	251
07:30 AM	0	50	3	0	12	0	2	0	4	156	0	0	227
07:45 AM	0	74	7	0	10	0	1	0	3	170	0	0	265
Total	0	246	23	0	42	0	4	0	10	612	0	0	937
08:00 AM	0	75	3	0	12	0	1	0	2	197	0	0	290
08:15 AM	0	116	12	0	14	0	6	0	4	167	0	0	319
08:30 AM	0	117	10	0	18	0	0	0	3	236	0	0	384
08:45 AM	0	123	7	0	24	0	1	0	4	241	0	0	400
Total	0	431	32	0	68	0	8	0	13	841	0	0	1393
*** BREAK ***													
04:00 PM	0	313	16	0	12	0	2	0	4	175	0	0	522
04:15 PM	0	311	25	0	28	0	8	0	10	164	0	0	546
04:30 PM	0	284	31	0	14	0	2	0	6	146	0	0	483
04:45 PM	0	299	15	0	17	0	1	0	7	142	0	0	481
Total	0	1207	87	0	71	0	13	0	27	627	0	0	2032
05:00 PM	0	267	14	0	14	0	2	0	5	150	0	0	452
05:15 PM	0	256	14	0	14	0	1	0	6	110	0	0	401
05:30 PM	0	247	10	0	6	0	3	0	10	110	0	0	386
05:45 PM	0	244	19	0	13	0	7	0	5	115	0	0	403
Total	0	1014	57	0	47	0	13	0	26	485	0	0	1642
Grand Total	0	2898	199	0	228	0	38	0	76	2565	0	0	6004
Apprch %	0	93.6	6.4	0	85.7	0	14.3	0	2.9	97.1	0	0	
Total %	0	48.3	3.3	0	3.8	0	0.6	0	1.3	42.7	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/14/2018

	Great Basin Way Southbound					Nevada Way Westbound					Great Basin Way Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	75	3	0	78	12	0	1	0	13	2	197	0	0	199	0	290
08:15 AM	0	116	12	0	128	14	0	6	0	20	4	167	0	0	171	0	319
08:30 AM	0	117	10	0	127	18	0	0	0	18	3	236	0	0	239	0	384
08:45 AM	0	123	7	0	130	24	0	1	0	25	4	241	0	0	245	0	400
Total Volume	0	431	32	0	463	68	0	8	0	76	13	841	0	0	854	0	1393
% App. Total	0	93.1	6.9	0		89.5	0	10.5	0		1.5	98.5	0	0			
PHF	.000	.876	.667	.000	.890	.708	.000	.333	.000	.760	.813	.872	.000	.000	.871	.000	.871

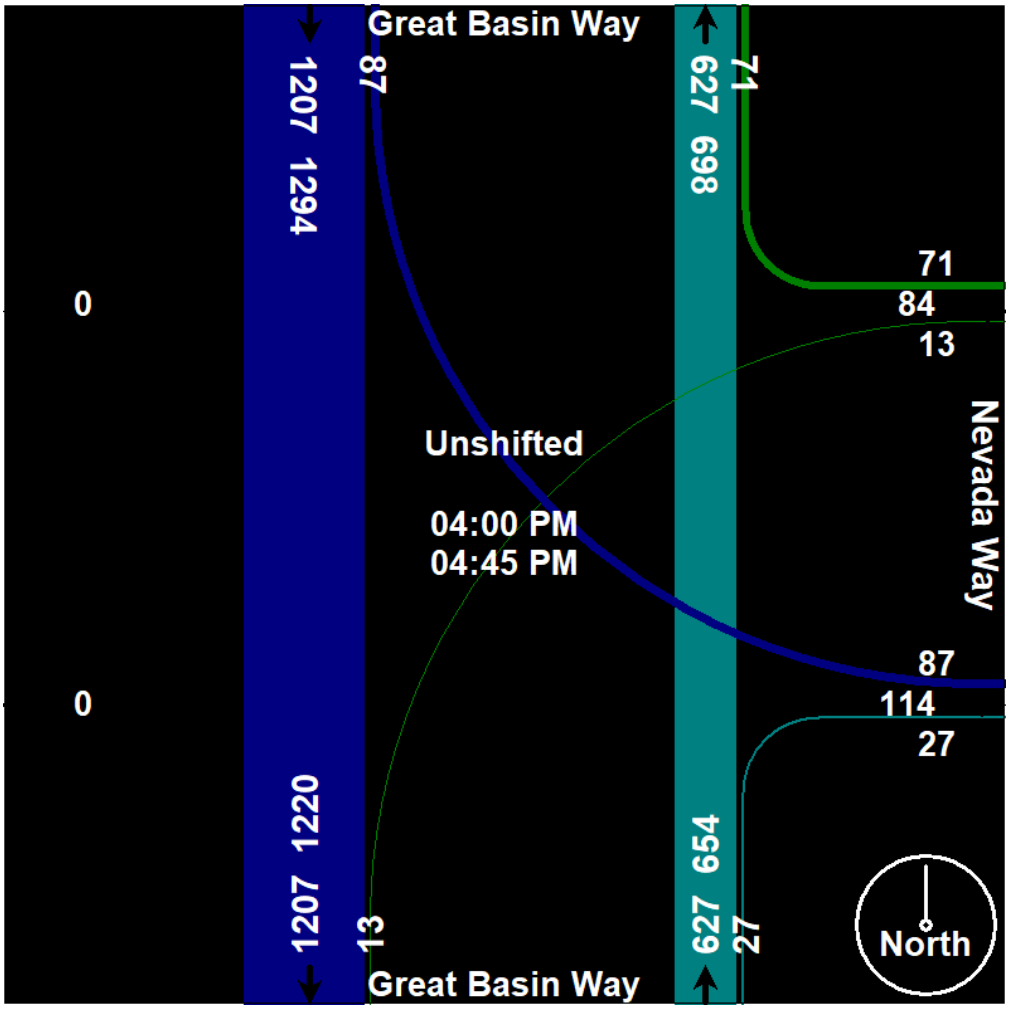


Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Great Basin Highway-Nevada Way
Site Code : 00000000
Start Date : 4/14/2018

	Great Basin Way Southbound					Nevada Way Westbound					Great Basin Way Northbound					Eastbound	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	313	16	0	329	12	0	2	0	14	4	175	0	0	179	0	522
04:15 PM	0	311	25	0	336	28	0	8	0	36	10	164	0	0	174	0	546
04:30 PM	0	284	31	0	315	14	0	2	0	16	6	146	0	0	152	0	483
04:45 PM	0	299	15	0	314	17	0	1	0	18	7	142	0	0	149	0	481
Total Volume	0	1207	87	0	1294	71	0	13	0	84	27	627	0	0	654	0	2032
% App. Total	0	93.3	6.7	0		84.5	0	15.5	0		4.1	95.9	0	0			
PHF	.000	.964	.702	.000	.963	.634	.000	.406	.000	.583	.675	.896	.000	.000	.913	.000	.930



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Industrial-Canyon - Bikes
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:30 AM	0	0	0	0	2	0	0	0	1	0	1	0	1	0	0	0	5
07:45 AM	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	4
Total	0	0	0	0	4	0	0	0	2	0	1	0	2	0	0	0	9
08:00 AM	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	4
08:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0	6
08:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	2	0	7	0	0	0	1	0	0	0	5	0	0	0	15
*** BREAK ***																	
04:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
04:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
*** BREAK ***																	
05:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	1	0	2	0	15	0	0	0	3	0	1	0	7	0	0	0	29
Apprch %	33.3	0	66.7	0	100	0	0	0	75	0	25	0	100	0	0	0	
Total %	3.4	0	6.9	0	51.7	0	0	0	10.3	0	3.4	0	24.1	0	0	0	

Silver State Traffic Data Collection, LLC

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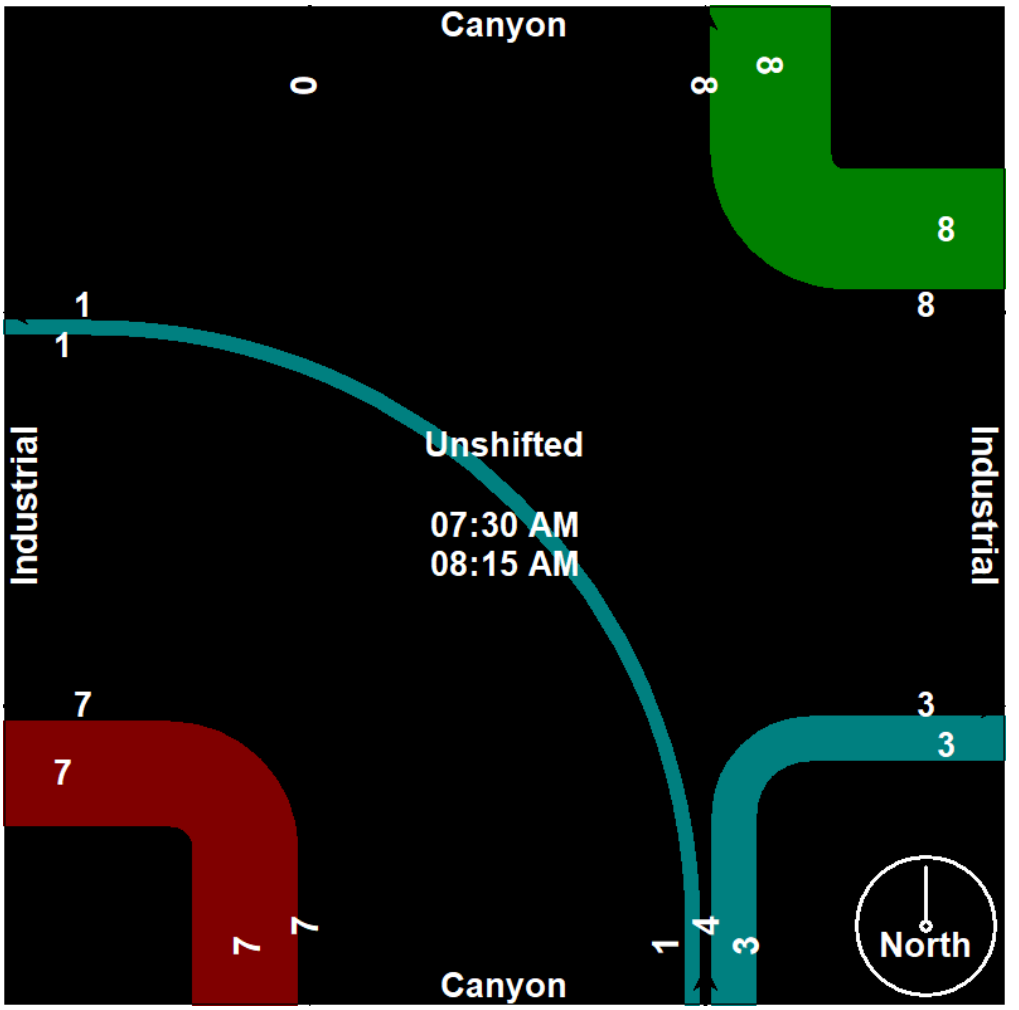
File Name : Industrial-Canyon - Bikes
Site Code : 00000000
Start Date : 4/14/2018

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	2	0	0	0	2	1	0	1	0	2	1	0	0	0	1	5
07:45 AM	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1	4
08:00 AM	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1	4
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	0	0	0	4	6
Total Volume	0	0	0	0	0	8	0	0	0	8	3	0	1	0	4	7	0	0	0	7	19
% App. Total	0	0	0	0		100	0	0	0		75	0	25	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	1.00	.000	.000	.000	1.00	.750	.000	.250	.000	.500	.438	.000	.000	.000	.438	.792



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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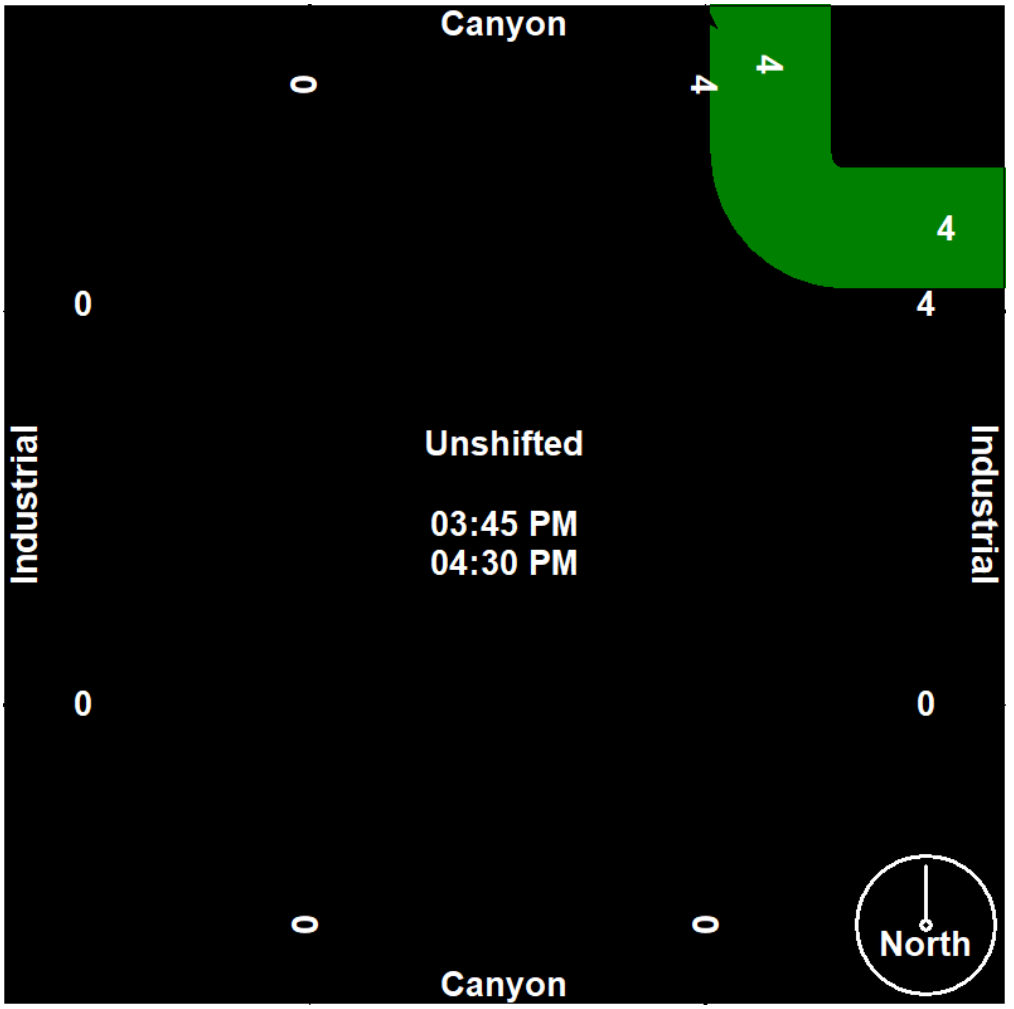
File Name : Industrial-Canyon - Bikes
Site Code : 00000000
Start Date : 4/14/2018
Page No : 3

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Industrial-Canyon - Peds
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

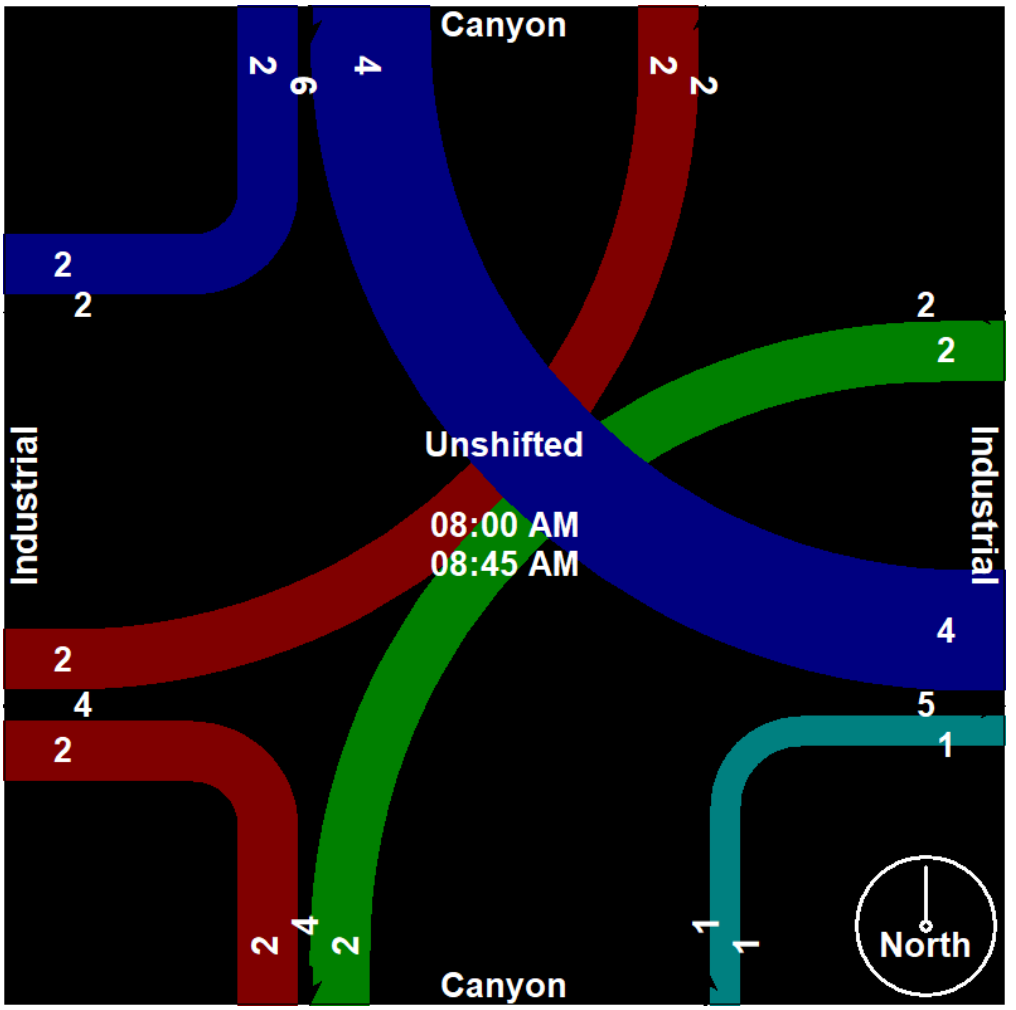
	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
08:00 AM	0	0	2	0	0	0	0	0	1	0	0	0	0	0	2	0	5
08:15 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Total	2	0	4	0	0	0	2	0	1	0	0	0	2	0	2	0	13
*** BREAK ***																	
04:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	5
05:00 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3
Grand Total	6	0	4	0	0	0	2	0	2	0	4	0	2	0	2	0	22
Apprch %	60	0	40	0	0	0	100	0	33.3	0	66.7	0	50	0	50	0	
Total %	27.3	0	18.2	0	0	0	9.1	0	9.1	0	18.2	0	9.1	0	9.1	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Industrial-Canyon - Peds
Site Code : 00000000
Start Date : 4/14/2018

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	5
08:15 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Total Volume	2	0	4	0	6	0	0	2	0	2	1	0	0	0	1	2	0	2	0	4	13
% App. Total	33.3	0	66.7	0		0	0	100	0		100	0	0	0		50	0	50	0		
PHF	.250	.000	.500	.000	.750	.000	.000	.250	.000	.250	.250	.000	.000	.000	.250	.250	.000	.250	.000	.500	.650



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
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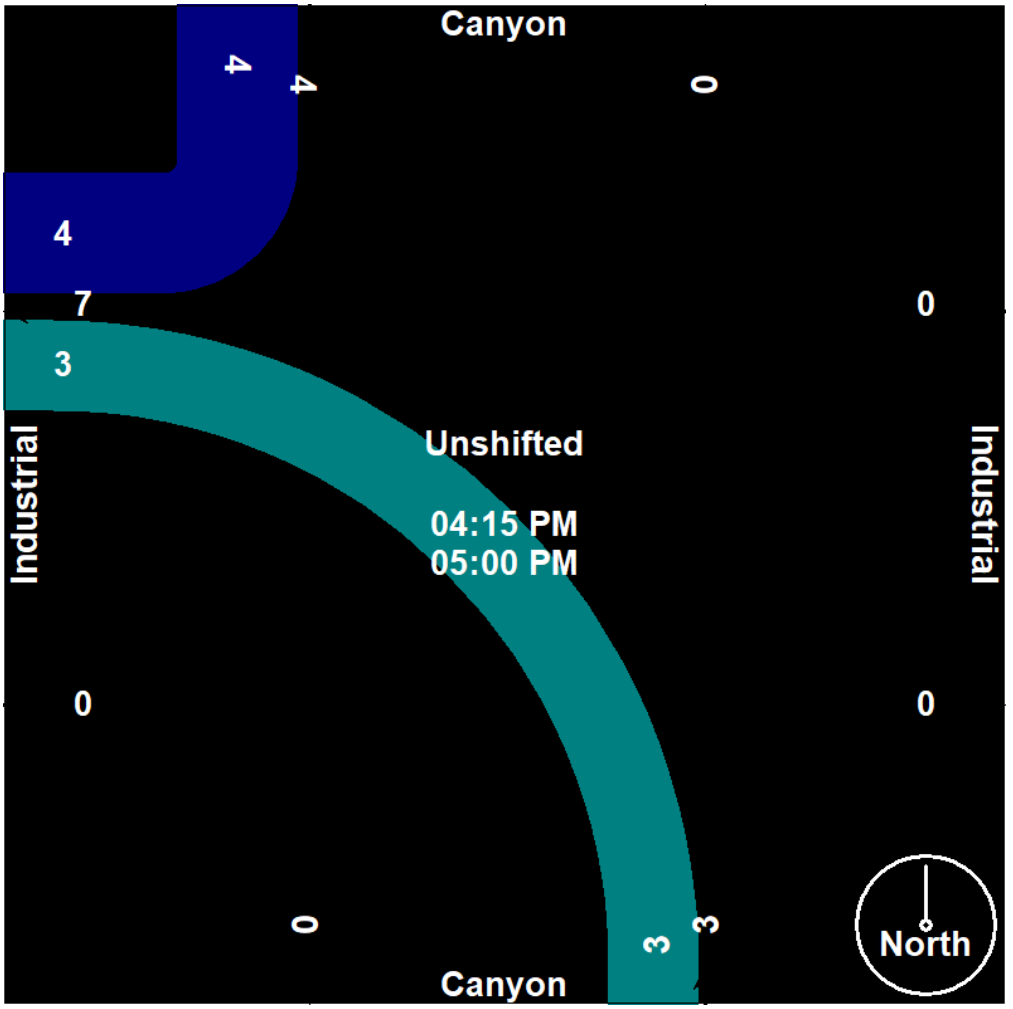
File Name : Industrial-Canyon - Peds
Site Code : 00000000
Start Date : 4/14/2018
Page No : 3

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Total Volume	4	0	0	0	4	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	7
% App. Total	100	0	0	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.875



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
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File Name : Industrial-Canyon
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Canyon Southbound				Industrial Westbound				Canyon Northbound				Industrial Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	2	0	0	2	0	2	0	4	5	1	0	16
07:15 AM	0	0	0	0	1	5	2	0	0	0	1	0	1	1	2	0	13
07:30 AM	0	0	1	0	1	2	4	0	3	0	2	0	5	3	1	0	22
07:45 AM	2	0	0	0	0	8	1	0	0	1	0	0	6	4	0	0	22
Total	2	0	1	0	2	17	7	0	5	1	5	0	16	13	4	0	73
08:00 AM	0	0	0	0	0	7	2	0	0	0	5	0	2	5	1	0	22
08:15 AM	0	0	1	0	0	5	3	0	1	3	5	0	12	5	2	0	37
08:30 AM	5	2	0	0	1	7	1	0	2	0	10	0	9	6	3	0	46
08:45 AM	2	0	1	0	0	7	6	0	4	3	4	0	5	6	0	0	38
Total	7	2	2	0	1	26	12	0	7	6	24	0	28	22	6	0	143
*** BREAK ***																	
04:00 PM	3	1	1	0	2	10	1	0	4	2	3	0	8	13	1	0	49
04:15 PM	0	0	1	0	2	16	1	0	2	0	3	0	5	6	2	0	38
04:30 PM	2	0	0	0	0	9	3	0	3	0	4	0	6	7	2	0	36
04:45 PM	5	0	0	0	1	5	4	0	2	2	3	0	2	4	0	0	28
Total	10	1	2	0	5	40	9	0	11	4	13	0	21	30	5	0	151
05:00 PM	2	2	1	0	0	9	1	0	1	1	3	0	7	10	0	0	37
05:15 PM	0	1	2	0	0	10	2	0	4	1	4	0	4	3	2	0	33
05:30 PM	0	1	0	0	0	6	2	0	3	0	4	0	8	4	1	0	29
05:45 PM	0	1	0	0	1	7	2	0	0	0	3	0	6	8	1	0	29
Total	2	5	3	0	1	32	7	0	8	2	14	0	25	25	4	0	128
Grand Total	21	8	8	0	9	115	35	0	31	13	56	0	90	90	19	0	495
Apprch %	56.8	21.6	21.6	0	5.7	72.3	22	0	31	13	56	0	45.2	45.2	9.5	0	
Total %	4.2	1.6	1.6	0	1.8	23.2	7.1	0	6.3	2.6	11.3	0	18.2	18.2	3.8	0	

Silver State Traffic Data Collection, LLC

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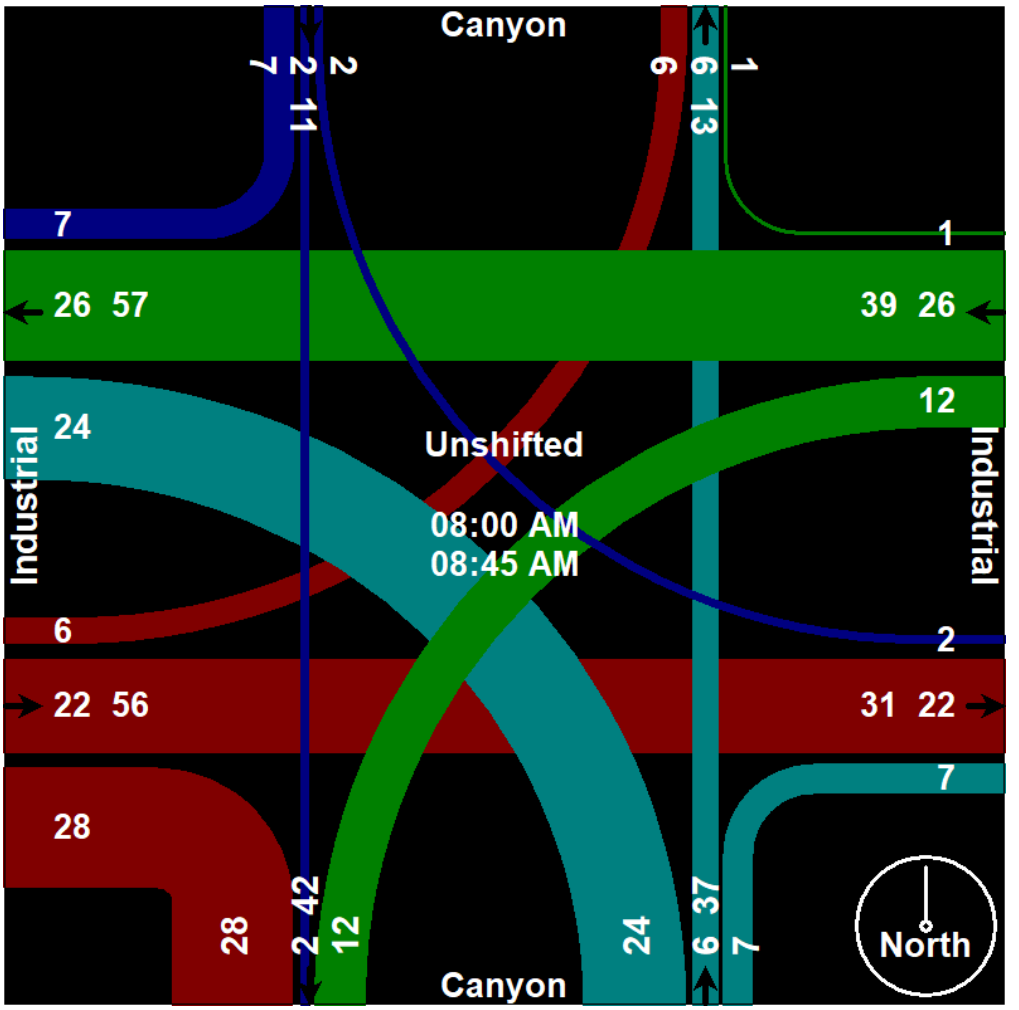
File Name : Industrial-Canyon
Site Code : 00000000
Start Date : 4/14/2018
Page No : 2

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	7	2	0	9	0	0	5	0	5	2	5	1	0	8	22
08:15 AM	0	0	1	0	1	0	5	3	0	8	1	3	5	0	9	12	5	2	0	19	37
08:30 AM	5	2	0	0	7	1	7	1	0	9	2	0	10	0	12	9	6	3	0	18	46
08:45 AM	2	0	1	0	3	0	7	6	0	13	4	3	4	0	11	5	6	0	0	11	38
Total Volume	7	2	2	0	11	1	26	12	0	39	7	6	24	0	37	28	22	6	0	56	143
% App. Total	63.6	18.2	18.2	0		2.6	66.7	30.8	0		18.9	16.2	64.9	0		50	39.3	10.7	0		
PHF	.350	.250	.500	.000	.393	.250	.929	.500	.000	.750	.438	.500	.600	.000	.771	.583	.917	.500	.000	.737	.777



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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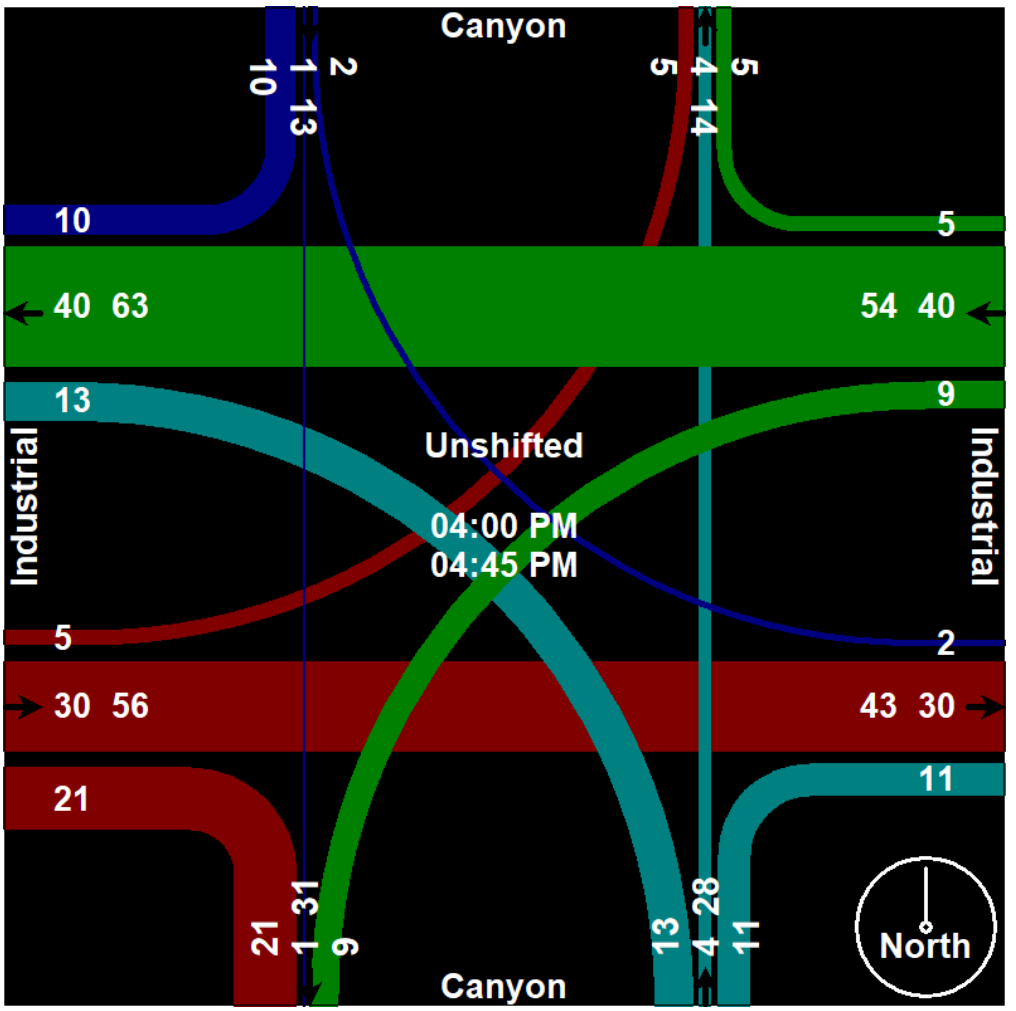
File Name : Industrial-Canyon
Site Code : 00000000
Start Date : 4/14/2018
Page No : 3

	Canyon Southbound					Industrial Westbound					Canyon Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	3	1	1	0	5	2	10	1	0	13	4	2	3	0	9	8	13	1	0	22	49
04:15 PM	0	0	1	0	1	2	16	1	0	19	2	0	3	0	5	5	6	2	0	13	38
04:30 PM	2	0	0	0	2	0	9	3	0	12	3	0	4	0	7	6	7	2	0	15	36
04:45 PM	5	0	0	0	5	1	5	4	0	10	2	2	3	0	7	2	4	0	0	6	28
Total Volume	10	1	2	0	13	5	40	9	0	54	11	4	13	0	28	21	30	5	0	56	151
% App. Total	76.9	7.7	15.4	0		9.3	74.1	16.7	0		39.3	14.3	46.4	0		37.5	53.6	8.9	0		
PHF	.500	.250	.500	.000	.650	.625	.625	.563	.000	.711	.688	.500	.813	.000	.778	.656	.577	.625	.000	.636	.770



Silver State Traffic Data Collection, LLC

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File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3
07:45 AM	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	4
Total	0	0	0	0	6	0	0	0	1	0	1	0	2	0	0	0	10
08:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4
08:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	5
08:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
Total	1	0	0	0	7	0	0	0	0	0	0	0	6	0	0	0	14
*** BREAK ***																	
04:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Grand Total	1	0	0	0	15	0	0	0	1	0	1	0	8	0	0	0	26
Apprch %	100	0	0	0	100	0	0	0	50	0	50	0	100	0	0	0	
Total %	3.8	0	0	0	57.7	0	0	0	3.8	0	3.8	0	30.8	0	0	0	

Silver State Traffic Data Collection, LLC

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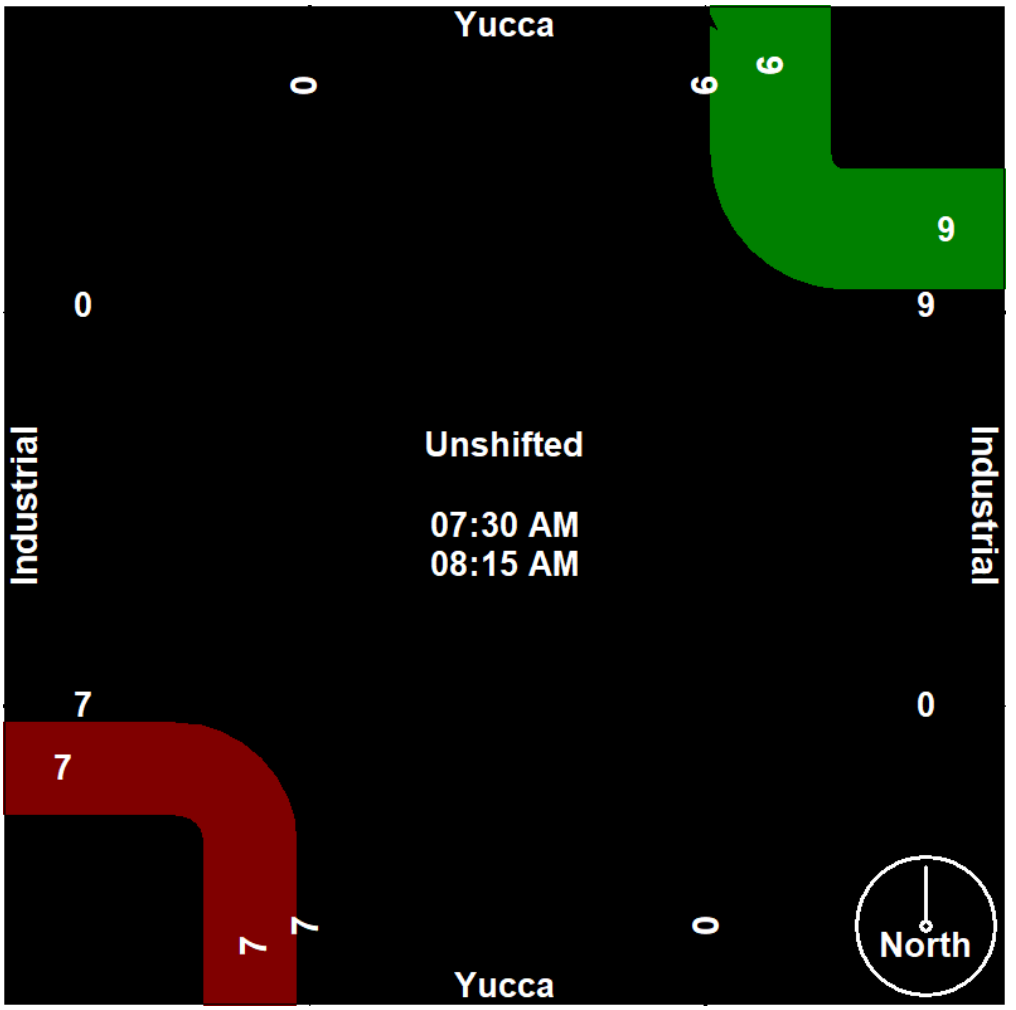
File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/14/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
07:45 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	4
08:00 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	5
Total Volume	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	7	0	0	0	7	16
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.583	.000	.000	.000	.583	.800



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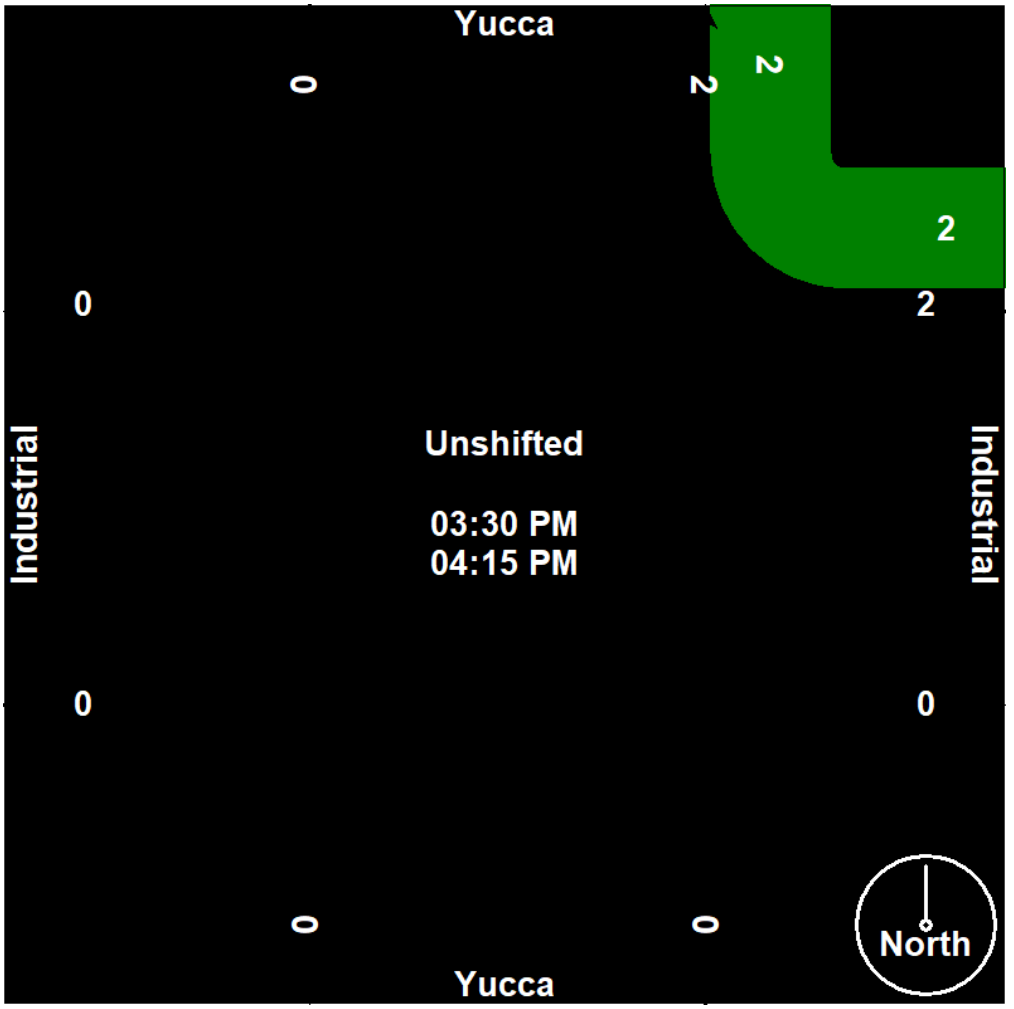
File Name : Industrial-Yucca - Bikes
Site Code : 00000000
Start Date : 4/14/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

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File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***																	
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
04:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Grand Total	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	3
Apprch %	0	0	0	0	0	0	100	0	0	0	100	0	100	0	0	0	
Total %	0	0	0	0	0	0	33.3	0	0	0	33.3	0	33.3	0	0	0	

Silver State Traffic Data Collection, LLC

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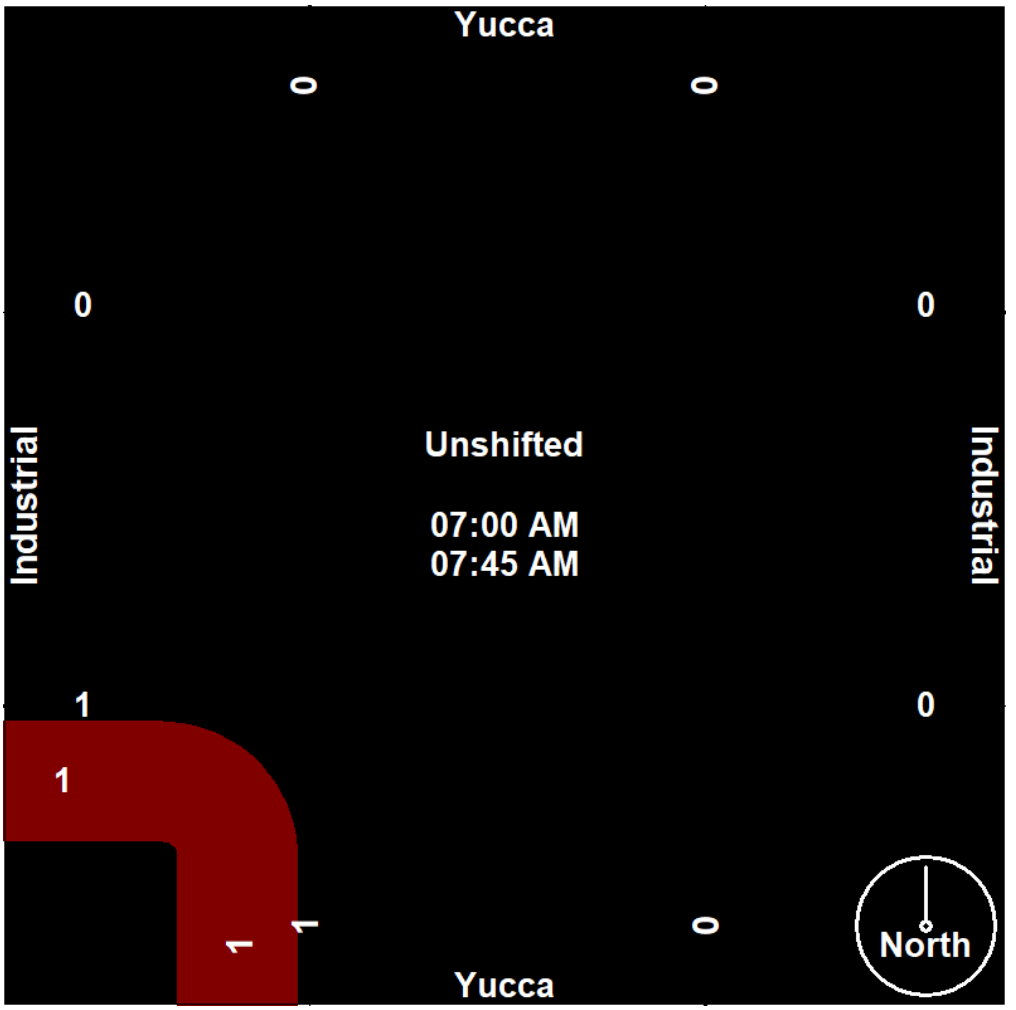
File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/14/2018
Page No : 2

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250



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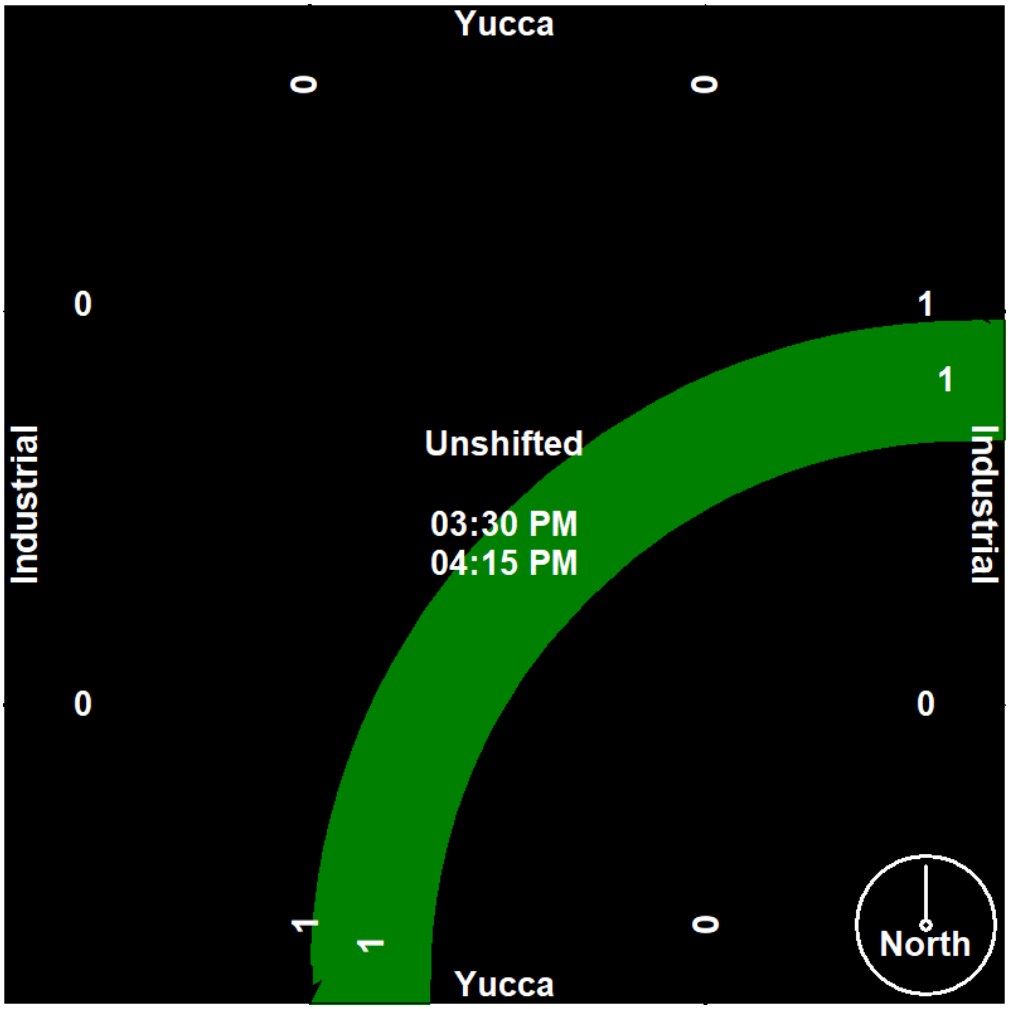
File Name : Industrial-Yucca - Peds
Site Code : 00000000
Start Date : 4/14/2018
Page No : 3

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Yucca Southbound				Industrial Westbound				Yucca Northbound				Industrial Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	3	3	0	6	0	1	0	1	2	1	0	17
07:15 AM	0	0	0	0	1	1	2	0	3	0	0	0	1	2	0	0	10
07:30 AM	0	0	0	0	0	6	4	0	7	0	1	0	0	3	0	0	21
07:45 AM	1	0	0	0	1	6	3	0	5	0	0	0	1	2	0	0	19
Total	1	0	0	0	2	16	12	0	21	0	2	0	3	9	1	0	67
08:00 AM	0	0	1	0	0	7	2	0	5	0	0	0	2	4	0	0	21
08:15 AM	1	1	0	0	0	6	2	0	8	3	0	0	0	4	0	0	25
08:30 AM	0	0	0	0	0	9	6	0	6	0	0	0	3	8	0	0	32
08:45 AM	0	1	0	0	0	7	3	0	1	0	2	0	1	4	0	0	19
Total	1	2	1	0	0	29	13	0	20	3	2	0	6	20	0	0	97
*** BREAK ***																	
04:00 PM	1	1	2	0	3	7	3	0	11	3	1	0	2	5	0	0	39
04:15 PM	0	0	0	0	2	5	3	0	9	1	2	0	1	5	1	0	29
04:30 PM	0	1	1	0	1	13	6	0	10	0	0	0	2	7	1	0	42
04:45 PM	0	0	1	0	0	9	1	0	6	0	0	0	0	1	2	0	20
Total	1	2	4	0	6	34	13	0	36	4	3	0	5	18	4	0	130
05:00 PM	1	1	2	0	0	10	3	0	10	2	1	0	0	6	1	0	37
05:15 PM	0	0	0	0	0	6	4	0	9	0	0	0	0	3	0	0	22
05:30 PM	0	0	0	0	1	3	1	0	6	0	0	0	0	4	0	0	15
05:45 PM	1	0	0	0	0	4	5	0	6	2	0	0	2	8	0	0	28
Total	2	1	2	0	1	23	13	0	31	4	1	0	2	21	1	0	102
Grand Total	5	5	7	0	9	102	51	0	108	11	8	0	16	68	6	0	396
Apprch %	29.4	29.4	41.2	0	5.6	63	31.5	0	85	8.7	6.3	0	17.8	75.6	6.7	0	
Total %	1.3	1.3	1.8	0	2.3	25.8	12.9	0	27.3	2.8	2	0	4	17.2	1.5	0	

Silver State Traffic Data Collection, LLC

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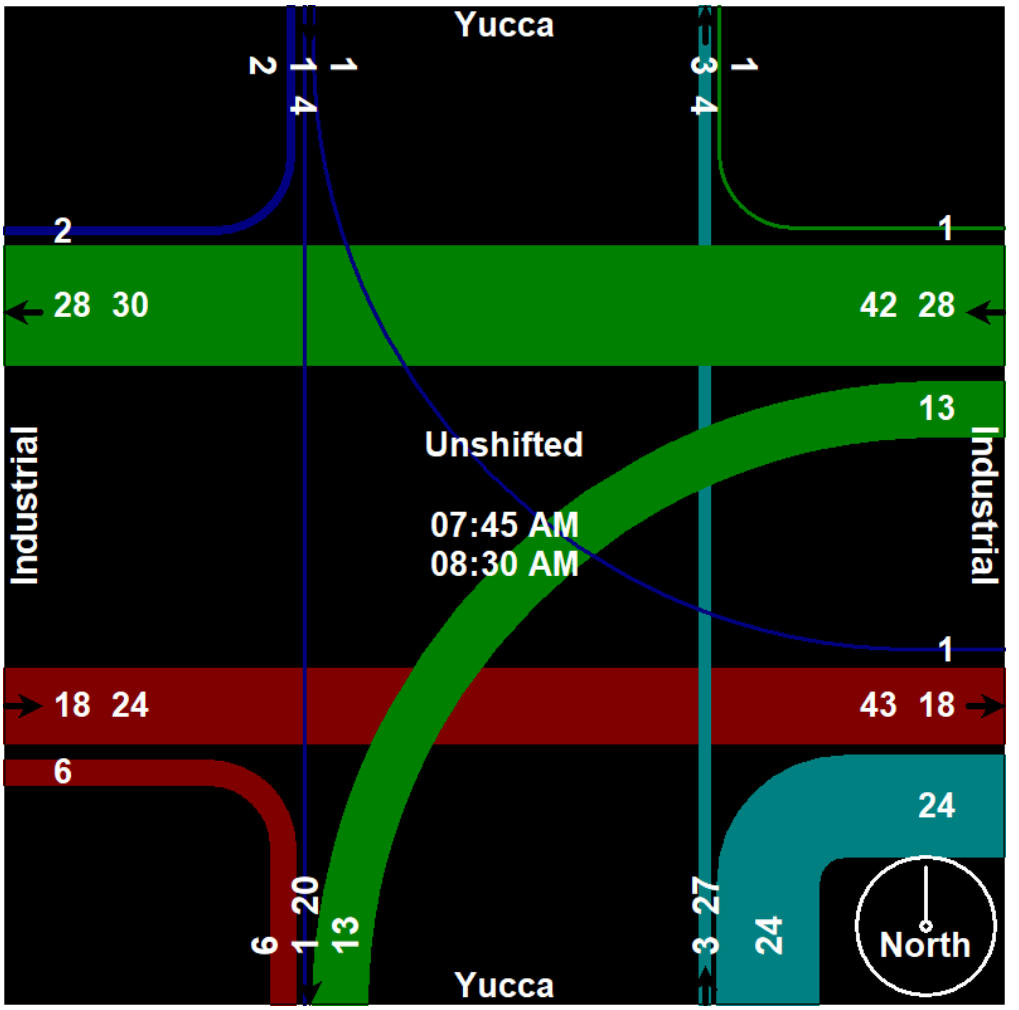
File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/14/2018

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	0	0	0	1	1	6	3	0	10	5	0	0	0	5	1	2	0	0	3	19
08:00 AM	0	0	1	0	1	0	7	2	0	9	5	0	0	0	5	2	4	0	0	6	21
08:15 AM	1	1	0	0	2	0	6	2	0	8	8	3	0	0	11	0	4	0	0	4	25
08:30 AM	0	0	0	0	0	0	9	6	0	15	6	0	0	0	6	3	8	0	0	11	32
Total Volume	2	1	1	0	4	1	28	13	0	42	24	3	0	0	27	6	18	0	0	24	97
% App. Total	50	25	25	0		2.4	66.7	31	0		88.9	11.1	0	0		25	75	0	0		
PHF	.500	.250	.250	.000	.500	.250	.778	.542	.000	.700	.750	.250	.000	.000	.614	.500	.563	.000	.000	.545	.758



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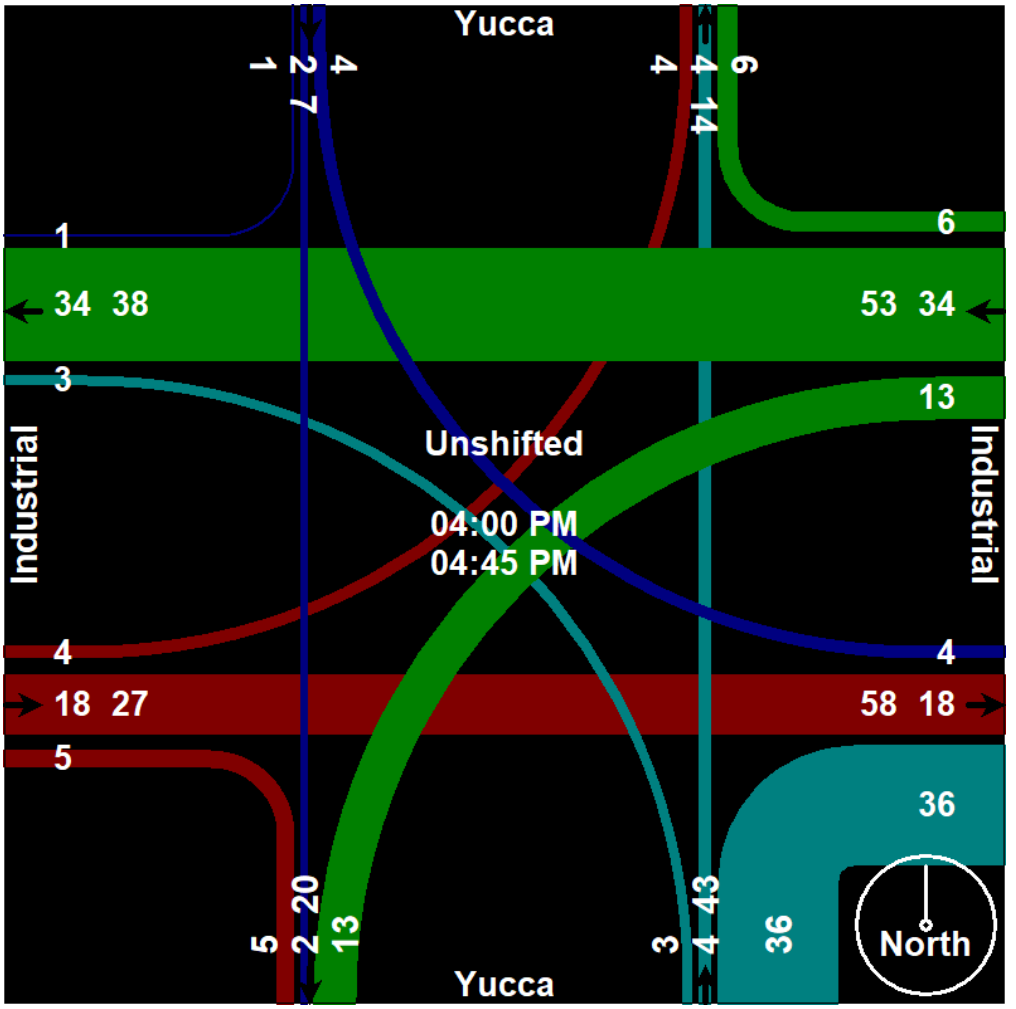
File Name : Industrial-Yucca
Site Code : 00000000
Start Date : 4/14/2018
Page No : 3

	Yucca Southbound					Industrial Westbound					Yucca Northbound					Industrial Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	1	2	0	4	3	7	3	0	13	11	3	1	0	15	2	5	0	0	7	39
04:15 PM	0	0	0	0	0	2	5	3	0	10	9	1	2	0	12	1	5	1	0	7	29
04:30 PM	0	1	1	0	2	1	13	6	0	20	10	0	0	0	10	2	7	1	0	10	42
04:45 PM	0	0	1	0	1	0	9	1	0	10	6	0	0	0	6	0	1	2	0	3	20
Total Volume	1	2	4	0	7	6	34	13	0	53	36	4	3	0	43	5	18	4	0	27	130
% App. Total	14.3	28.6	57.1	0		11.3	64.2	24.5	0		83.7	9.3	7	0		18.5	66.7	14.8	0		
PHF	.250	.500	.500	.000	.438	.500	.654	.542	.000	.663	.818	.333	.375	.000	.717	.625	.643	.500	.000	.675	.774



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File Name : Nevada Highway-Great Basin Highway
Site Code : 00004444
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

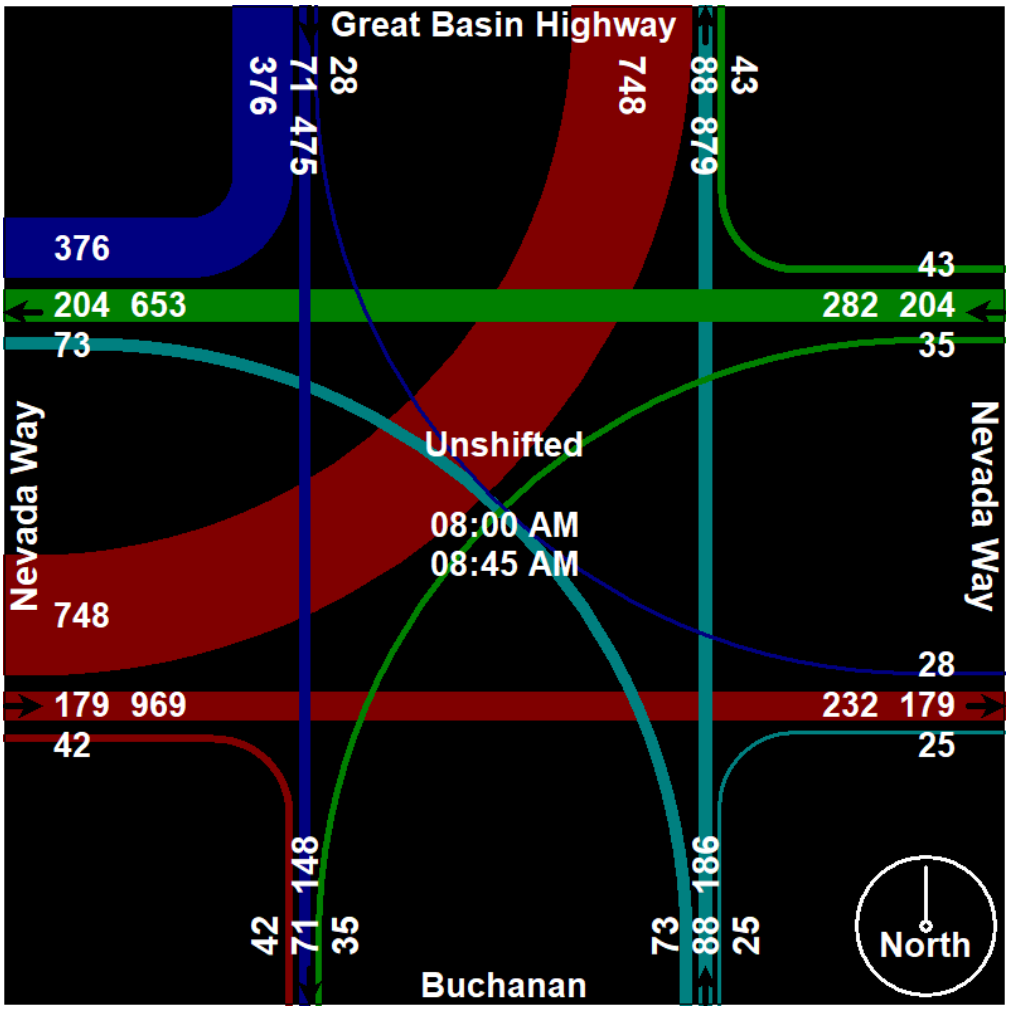
	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Way Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	64	5	6	0	6	27	8	0	2	12	8	0	8	21	123	0	290
07:15 AM	49	7	2	0	8	39	10	0	8	9	9	0	5	20	146	0	312
07:30 AM	61	1	4	0	12	38	8	0	5	13	12	0	9	29	158	0	350
07:45 AM	70	4	7	0	7	43	6	0	3	12	8	0	8	28	183	0	379
Total	244	17	19	0	33	147	32	0	18	46	37	0	30	98	610	0	1331
08:00 AM	61	16	3	0	11	36	9	0	6	21	17	0	7	46	167	0	400
08:15 AM	105	26	8	0	8	53	13	0	9	13	14	0	11	38	152	0	450
08:30 AM	114	15	11	0	11	58	4	0	5	26	19	0	12	37	208	0	520
08:45 AM	96	14	6	0	13	57	9	0	5	28	23	0	12	58	221	0	542
Total	376	71	28	0	43	204	35	0	25	88	73	0	42	179	748	0	1912
*** BREAK ***																	
04:00 PM	270	23	16	0	13	65	13	0	9	22	21	0	9	82	171	0	714
04:15 PM	261	20	11	0	24	68	22	0	10	29	18	0	11	60	131	0	665
04:30 PM	281	25	21	0	8	54	13	0	11	28	21	0	21	63	122	0	668
04:45 PM	274	17	19	0	19	67	18	0	14	12	29	0	18	84	141	0	712
Total	1086	85	67	0	64	254	66	0	44	91	89	0	59	289	565	0	2759
05:00 PM	246	21	16	0	8	75	18	0	26	13	25	0	13	49	130	0	640
05:15 PM	248	17	13	0	10	71	18	0	16	13	28	0	14	76	117	0	641
05:30 PM	245	16	16	0	8	54	16	0	11	14	22	0	16	48	100	0	566
05:45 PM	230	18	10	0	7	49	19	0	17	19	28	0	7	48	113	0	565
Total	969	72	55	0	33	249	71	0	70	59	103	0	50	221	460	0	2412
Grand Total	2675	245	169	0	173	854	204	0	157	284	302	0	181	787	2383	0	8414
Apprch %	86.6	7.9	5.5	0	14.1	69.4	16.6	0	21.1	38.2	40.6	0	5.4	23.5	71.1	0	
Total %	31.8	2.9	2	0	2.1	10.1	2.4	0	1.9	3.4	3.6	0	2.2	9.4	28.3	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Nevada Highway-Great Basin Highway
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	61	16	3	0	80	11	36	9	0	56	6	21	17	0	44	7	46	167	0	220	400
08:15 AM	105	26	8	0	139	8	53	13	0	74	9	13	14	0	36	11	38	152	0	201	450
08:30 AM	114	15	11	0	140	11	58	4	0	73	5	26	19	0	50	12	37	208	0	257	520
08:45 AM	96	14	6	0	116	13	57	9	0	79	5	28	23	0	56	12	58	221	0	291	542
Total Volume	376	71	28	0	475	43	204	35	0	282	25	88	73	0	186	42	179	748	0	969	1912
% App. Total	79.2	14.9	5.9	0		15.2	72.3	12.4	0		13.4	47.3	39.2	0		4.3	18.5	77.2	0		
PHF	.825	.683	.636	.000	.848	.827	.879	.673	.000	.892	.694	.786	.793	.000	.830	.875	.772	.846	.000	.832	.882



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
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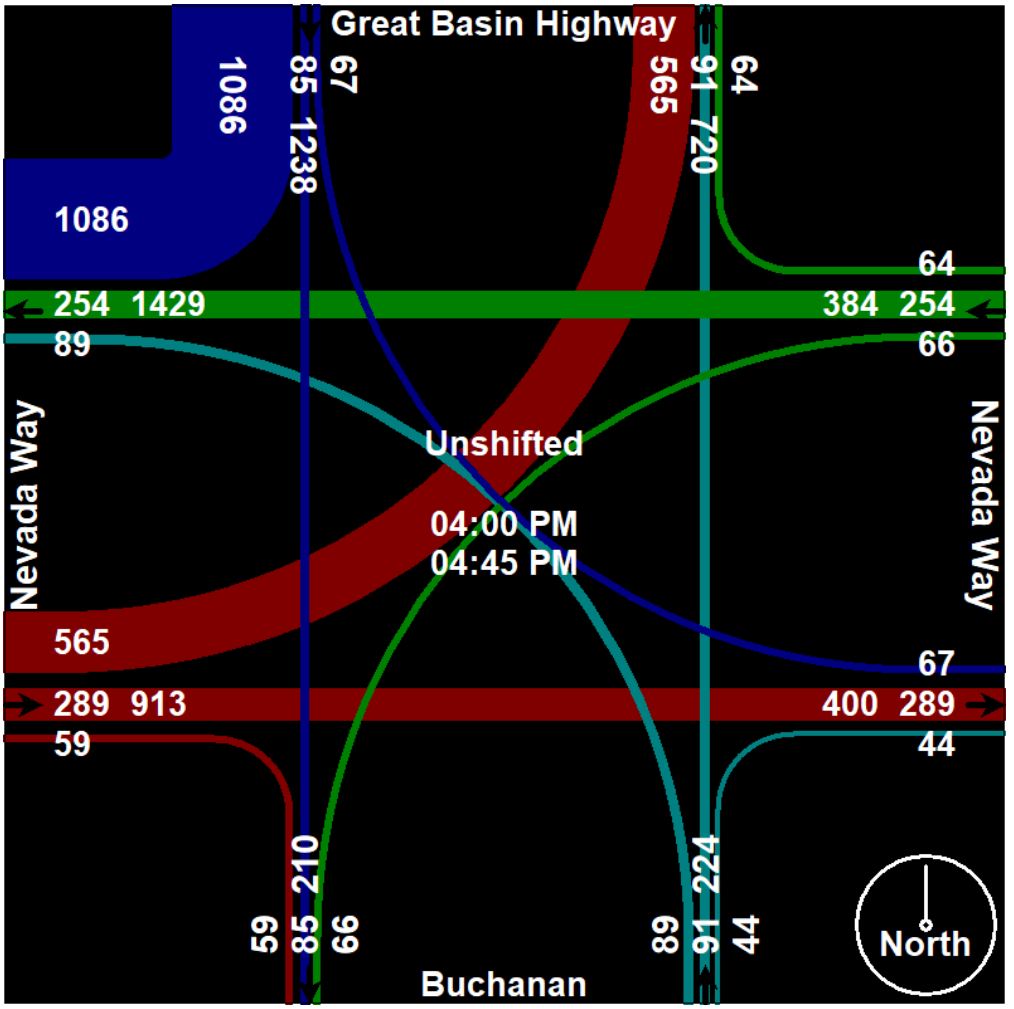
File Name : Nevada Highway-Great Basin Highway
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	270	23	16	0	309	13	65	13	0	91	9	22	21	0	52	9	82	171	0	262	714
04:15 PM	261	20	11	0	292	24	68	22	0	114	10	29	18	0	57	11	60	131	0	202	665
04:30 PM	281	25	21	0	327	8	54	13	0	75	11	28	21	0	60	21	63	122	0	206	668
04:45 PM	274	17	19	0	310	19	67	18	0	104	14	12	29	0	55	18	84	141	0	243	712
Total Volume	1086	85	67	0	1238	64	254	66	0	384	44	91	89	0	224	59	289	565	0	913	2759
% App. Total	87.7	6.9	5.4	0		16.7	66.1	17.2	0		19.6	40.6	39.7	0		6.5	31.7	61.9	0		
PHF	.966	.850	.798	.000	.946	.667	.934	.750	.000	.842	.786	.784	.767	.000	.933	.702	.860	.826	.000	.871	.966



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00004444
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Way Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
*** BREAK ***																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
05:30 PM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
*** BREAK ***																	
Total	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	5
Grand Total	0	0	0	0	6	0	1	0	0	0	0	0	1	0	1	0	9
Apprch %	0	0	0	0	85.7	0	14.3	0	0	0	0	0	50	0	50	0	
Total %	0	0	0	0	66.7	0	11.1	0	0	0	0	0	11.1	0	11.1	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
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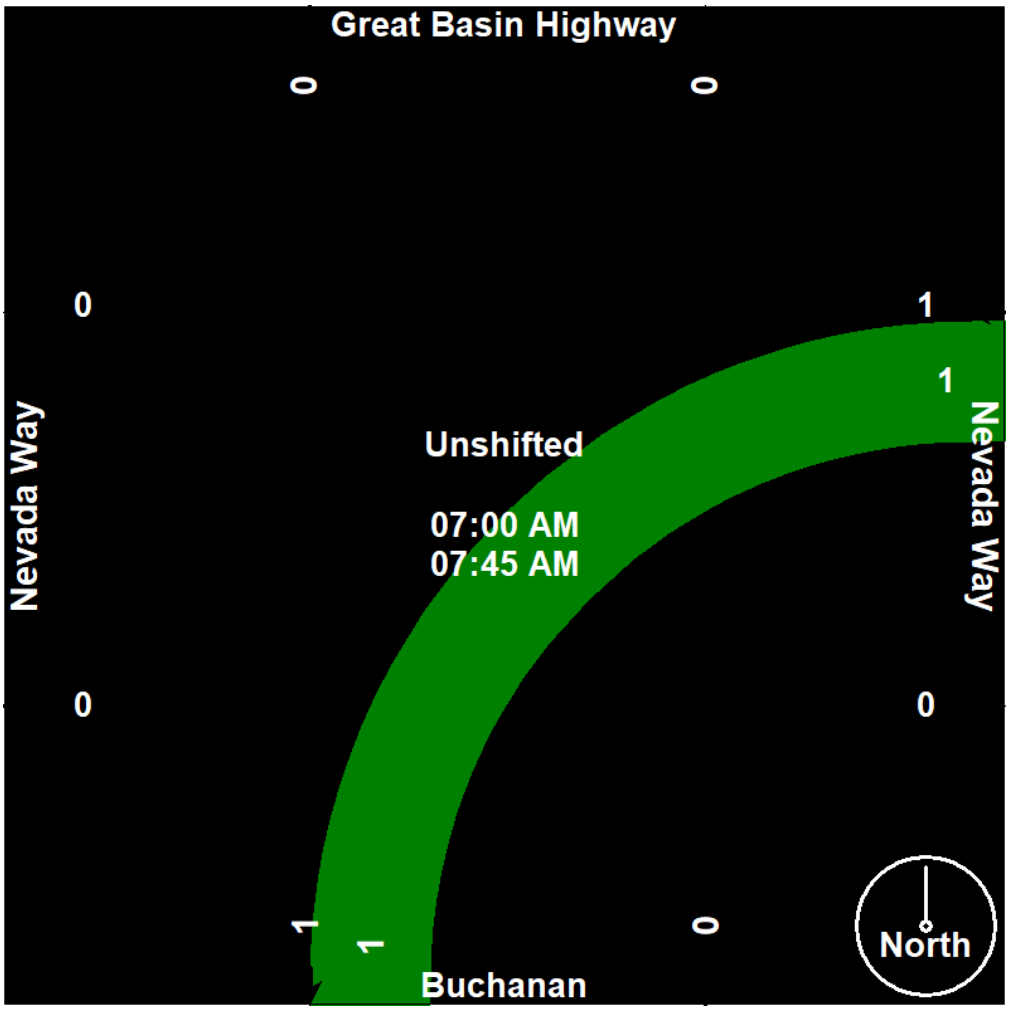
File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	100	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



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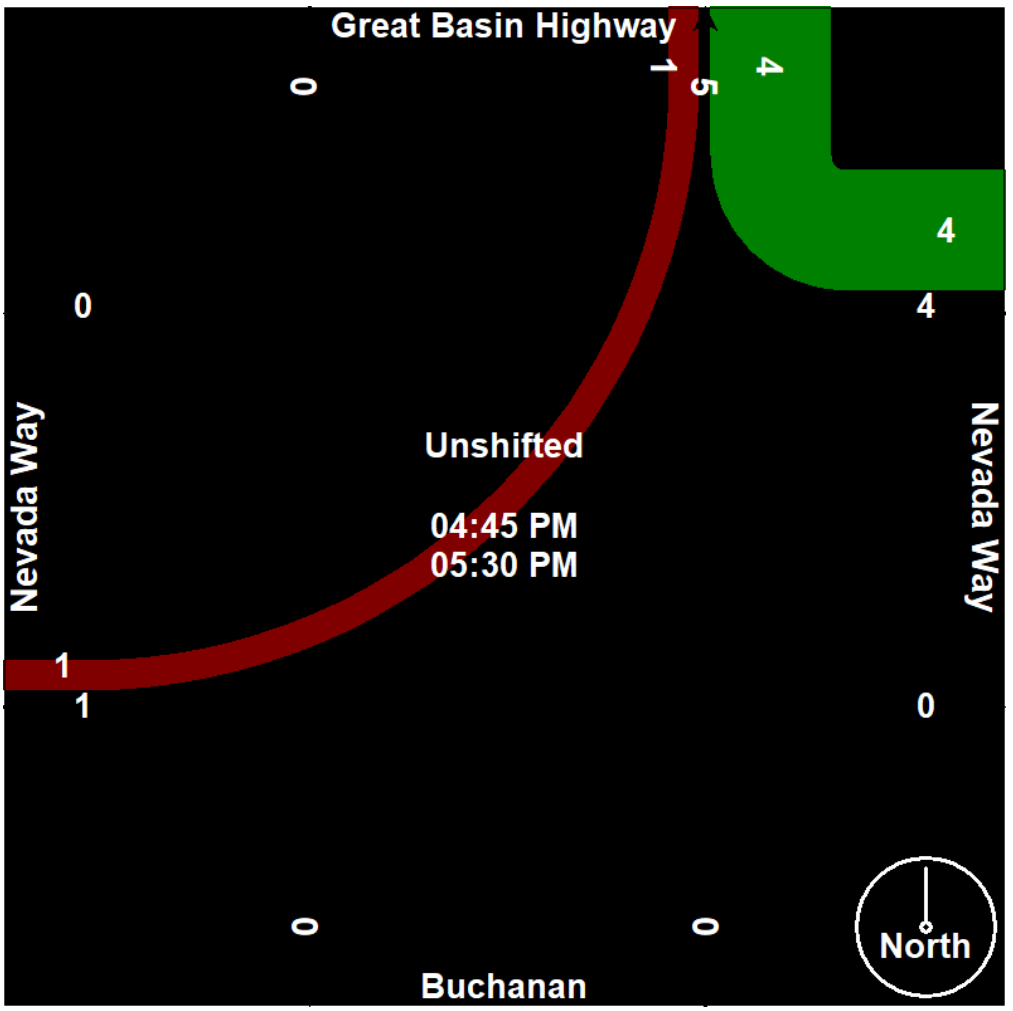
File Name : Nevada Highway-Great Basin Highway - Bikes
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	1	0	1	5
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.313



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File Name : Nevada Highway-Great Basin Highway - Peds
Site Code : 00004444
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

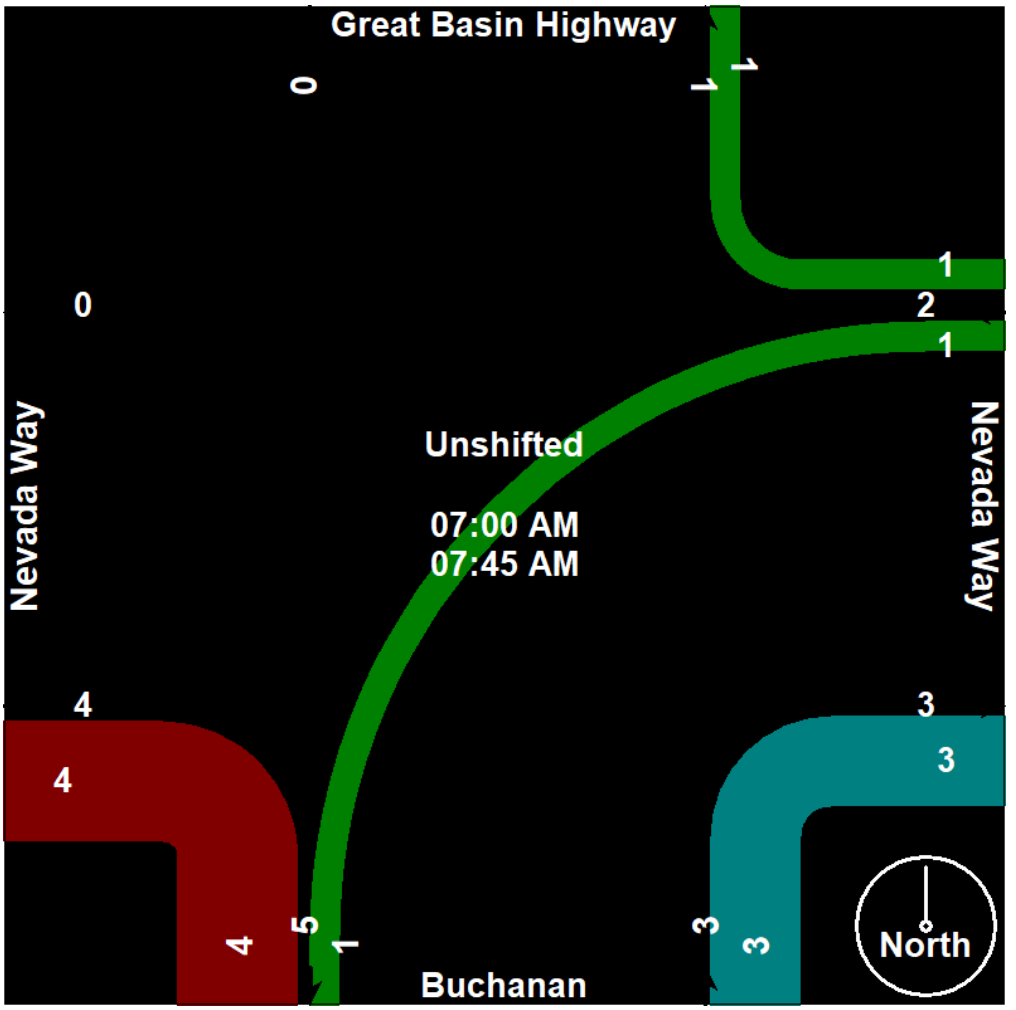
	Great Basin Highway Southbound				Nevada Way Westbound				Buchanan Northbound				Nevada Way Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
07:30 AM	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4
*** BREAK ***																	
Total	0	0	0	0	1	0	1	0	3	0	0	0	4	0	0	0	9
*** BREAK ***																	
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
08:30 AM	0	0	2	0	0	0	0	0	3	0	0	0	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	1	0	2	0	1	0	0	0	3	0	1	0	1	0	0	0	9
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	5
04:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	1	0	2	0	0	0	1	0	1	0	5
*** BREAK ***																	
Total	0	0	1	0	0	0	1	0	4	0	0	0	3	0	2	0	11
05:00 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5
05:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
05:30 PM	1	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	5
*** BREAK ***																	
Total	1	0	1	0	1	0	7	0	2	0	0	0	1	0	0	0	13
Grand Total	2	0	4	0	3	0	9	0	12	0	1	0	9	0	2	0	42
Apprch %	33.3	0	66.7	0	25	0	75	0	92.3	0	7.7	0	81.8	0	18.2	0	
Total %	4.8	0	9.5	0	7.1	0	21.4	0	28.6	0	2.4	0	21.4	0	4.8	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Nevada Highway-Great Basin Highway - Peds
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	0	0	2	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2
07:30 AM	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	1	0	0	0	1	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	2	3	0	0	0	3	4	0	0	0	4	9
% App. Total	0	0	0	0		50	0	50	0		100	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.500	.375	.000	.000	.000	.375	.500	.000	.000	.000	.500	.563



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1819 Quarley Place
Henderson, Nevada 89014
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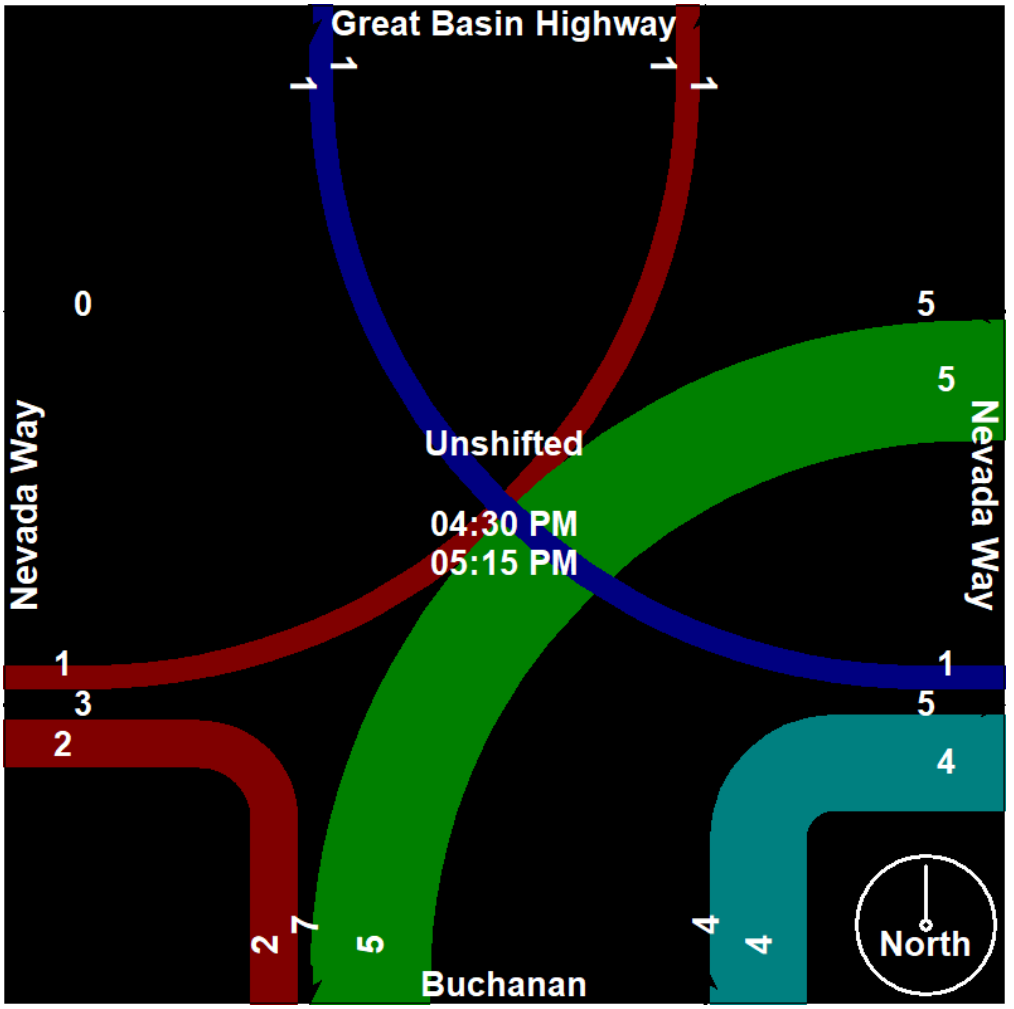
File Name : Nevada Highway-Great Basin Highway - Peds
Site Code : 00004444
Start Date : 4/14/2018

	Great Basin Highway Southbound					Nevada Way Westbound					Buchanan Northbound					Nevada Way Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	1	0	1	0	2	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	1	0	1	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	3
Total Volume	0	0	1	0	1	0	0	5	0	5	4	0	0	0	4	2	0	1	0	3	13
% App. Total	0	0	100	0		0	0	100	0		100	0	0	0		66.7	0	33.3	0		
PHF	.000	.000	.250	.000	.250	.000	.000	.313	.000	.313	.500	.000	.000	.000	.500	.500	.000	.250	.000	.375	.650



Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
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File Name : Veterans Memorial-Nevada Highway - Bikes
Site Code : 00000890
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Veteran's Memorial Southbound				Nevada Highway Westbound				Veteran's Memorial Northbound				Nevada Highway Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																	
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4
*** BREAK ***																	
08:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
08:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																	
Total	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	4
*** BREAK ***																	
04:00 PM	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	8
04:15 PM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																	
Total	10	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	14
*** BREAK ***																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	4
Grand Total	14	0	0	0	0	0	0	0	0	0	5	0	7	0	0	0	26
Apprch %	100	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	
Total %	53.8	0	0	0	0	0	0	0	0	0	19.2	0	26.9	0	0	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
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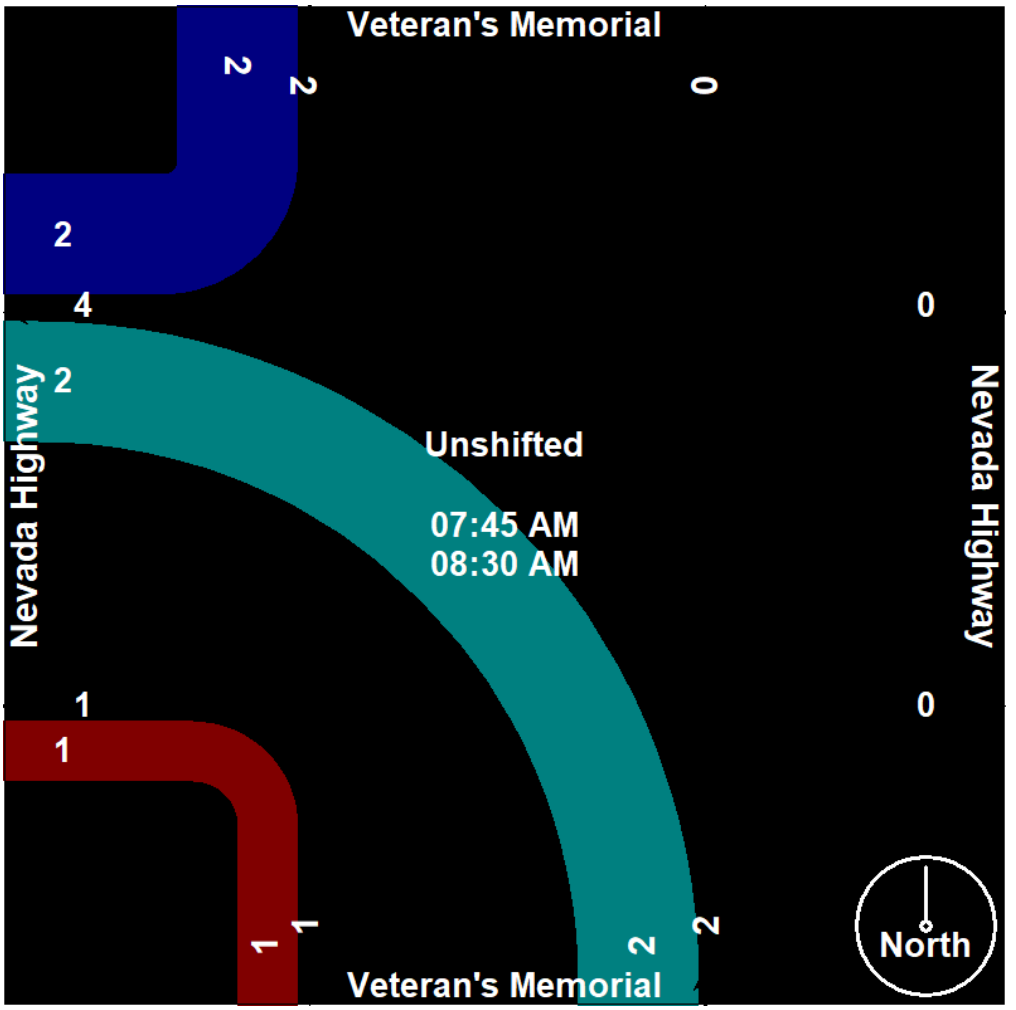
File Name : Veterans Memorial-Nevada Highway - Bikes
Site Code : 00000890
Start Date : 4/14/2018

	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
08:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	5
% App. Total	100	0	0	0		0	0	0	0		0	0	100	0		100	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.000	.250	.625

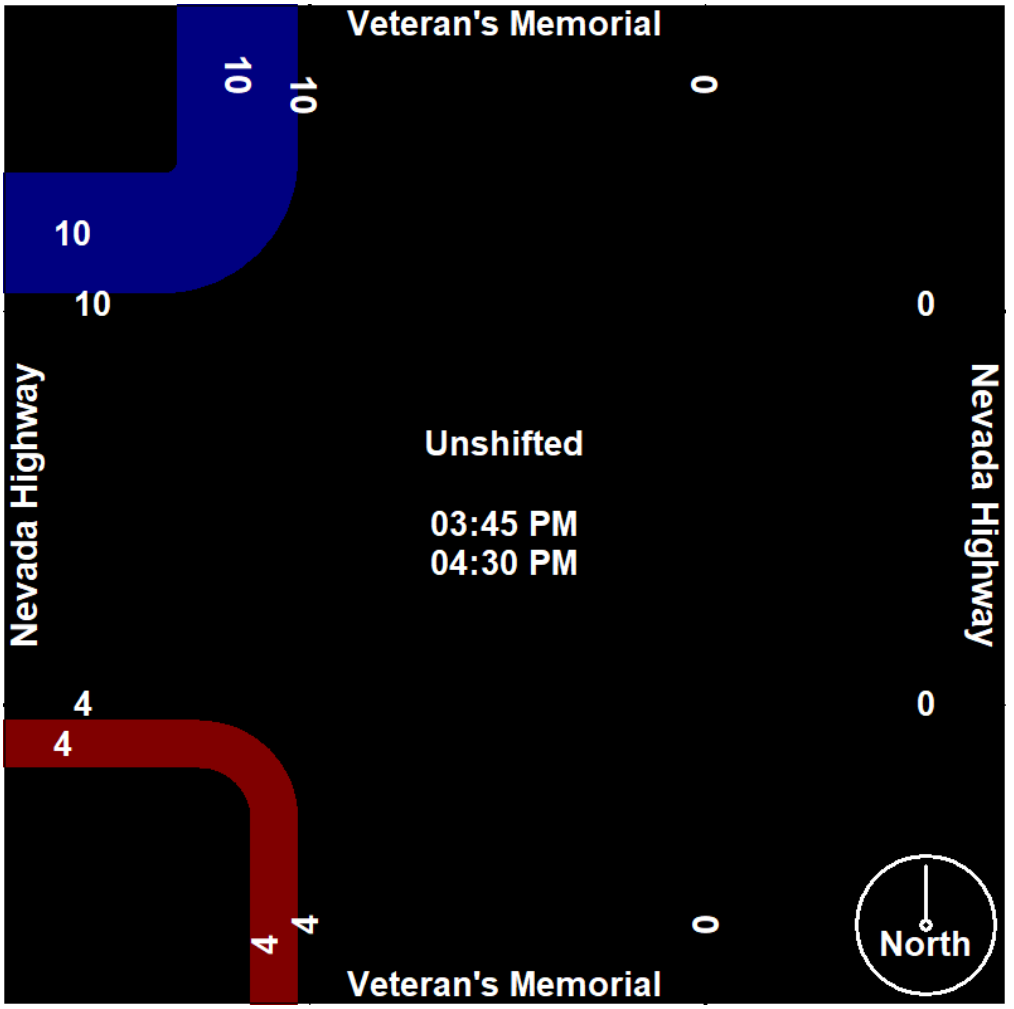


Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Veterans Memorial-Nevada Highway - Bikes
Site Code : 00000890
Start Date : 4/14/2018
Page No : 3

	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	8
04:15 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	14
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		100	0	0	0		
PHF	.625	.000	.000	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.438



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702-217-1968
sstraffic@msn.com

File Name : Veterans Memorial-Nevada Highway - Peds
Site Code : 00000890
Start Date : 4/14/2018
Page No : 1

Groups Printed- Unshifted

	Veteran's Memorial Southbound				Nevada Highway Westbound				Veteran's Memorial Northbound				Nevada Highway Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3
*** BREAK ***																	
Grand Total	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3
Apprch %	0	0	0	0	0	0	0	0	66.7	0	33.3	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	66.7	0	33.3	0	0	0	0	0	

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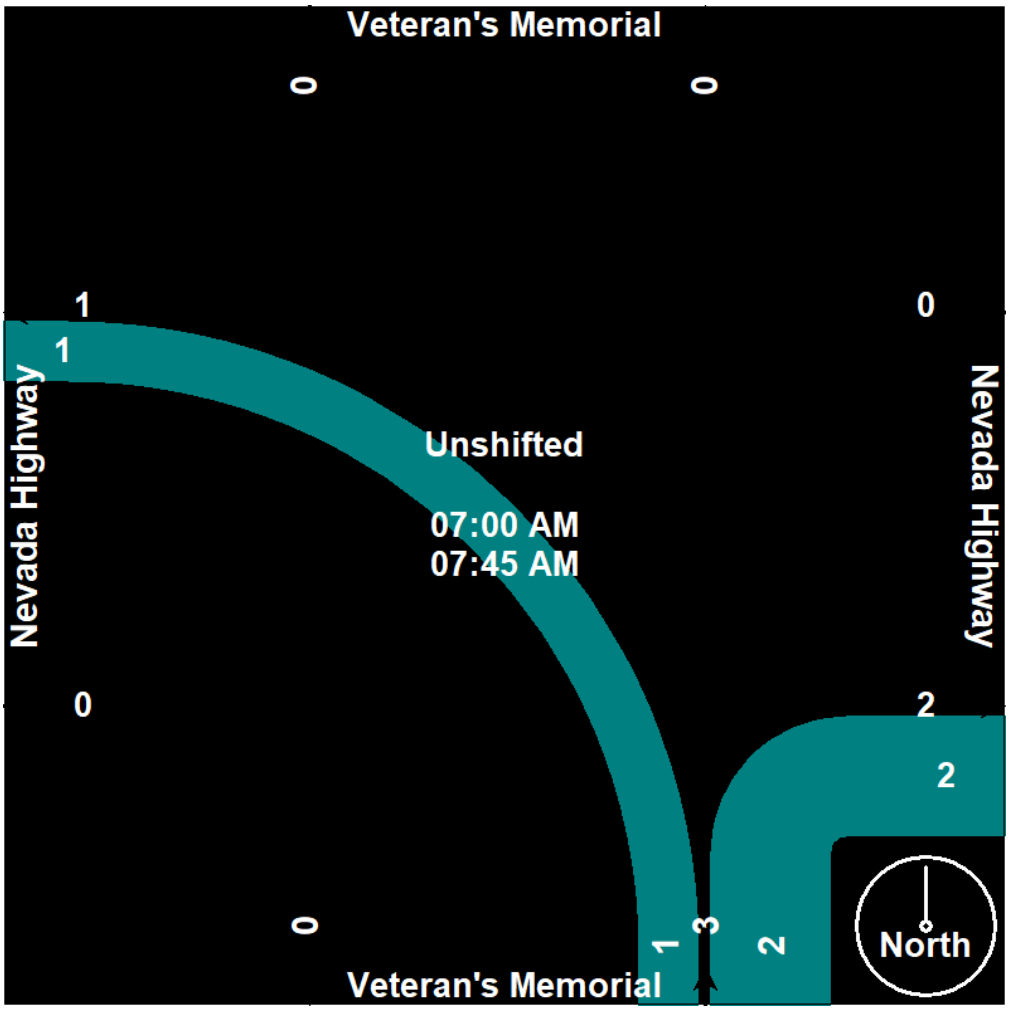
	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	3
% App. Total	0	0	0	0		0	0	0	0		66.7	0	33.3	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.375	.000	.000	.000	.000	.000	.375



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	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : Veterans Memorial-Nevada Highway
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Page No : 1

Groups Printed- Unshifted

	Veteran's Memorial Southbound				Nevada Highway Westbound				Veteran's Memorial Northbound				Nevada Highway Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	3	0	0	0	0	111	0	0	2	2	37	0	20	167	4	0	346
07:15 AM	0	0	0	0	0	92	0	0	0	0	36	0	29	189	3	0	349
07:30 AM	4	1	0	0	0	127	0	0	1	0	44	0	35	202	5	0	419
07:45 AM	7	1	0	0	1	128	1	0	0	2	30	0	41	233	7	0	451
Total	14	2	0	0	1	458	1	0	3	4	147	0	125	791	19	0	1565
08:00 AM	10	0	0	0	1	119	0	0	2	1	34	0	27	201	10	0	405
08:15 AM	5	0	1	0	0	144	2	0	0	0	51	0	39	221	15	0	478
08:30 AM	8	0	3	0	1	203	0	0	0	0	8	0	39	268	66	0	596
08:45 AM	6	0	1	0	0	153	2	0	0	0	13	0	37	311	47	0	570
Total	29	0	5	0	2	619	4	0	2	1	106	0	142	1001	138	0	2049
*** BREAK ***																	
04:00 PM	7	3	0	0	2	382	1	0	1	0	74	0	55	278	9	0	812
04:15 PM	11	0	1	0	1	343	2	0	1	1	61	0	67	205	7	0	700
04:30 PM	18	0	1	0	2	373	4	0	0	1	92	0	64	230	6	0	791
04:45 PM	9	1	1	0	0	343	1	0	2	0	83	0	49	237	6	0	732
Total	45	4	3	0	5	1441	8	0	4	2	310	0	235	950	28	0	3035
05:00 PM	12	1	0	0	0	316	3	0	1	1	68	0	42	203	7	0	654
05:15 PM	11	0	0	0	0	345	0	0	2	0	67	0	44	185	5	0	659
05:30 PM	7	0	0	0	0	302	0	0	3	0	64	0	46	159	10	0	591
05:45 PM	6	2	2	0	1	298	3	0	0	0	84	0	41	178	12	0	627
Total	36	3	2	0	1	1261	6	0	6	1	283	0	173	725	34	0	2531
Grand Total	124	9	10	0	9	3779	19	0	15	8	846	0	675	3467	219	0	9180
Apprch %	86.7	6.3	7	0	0.2	99.3	0.5	0	1.7	0.9	97.4	0	15.5	79.5	5	0	
Total %	1.4	0.1	0.1	0	0.1	41.2	0.2	0	0.2	0.1	9.2	0	7.4	37.8	2.4	0	

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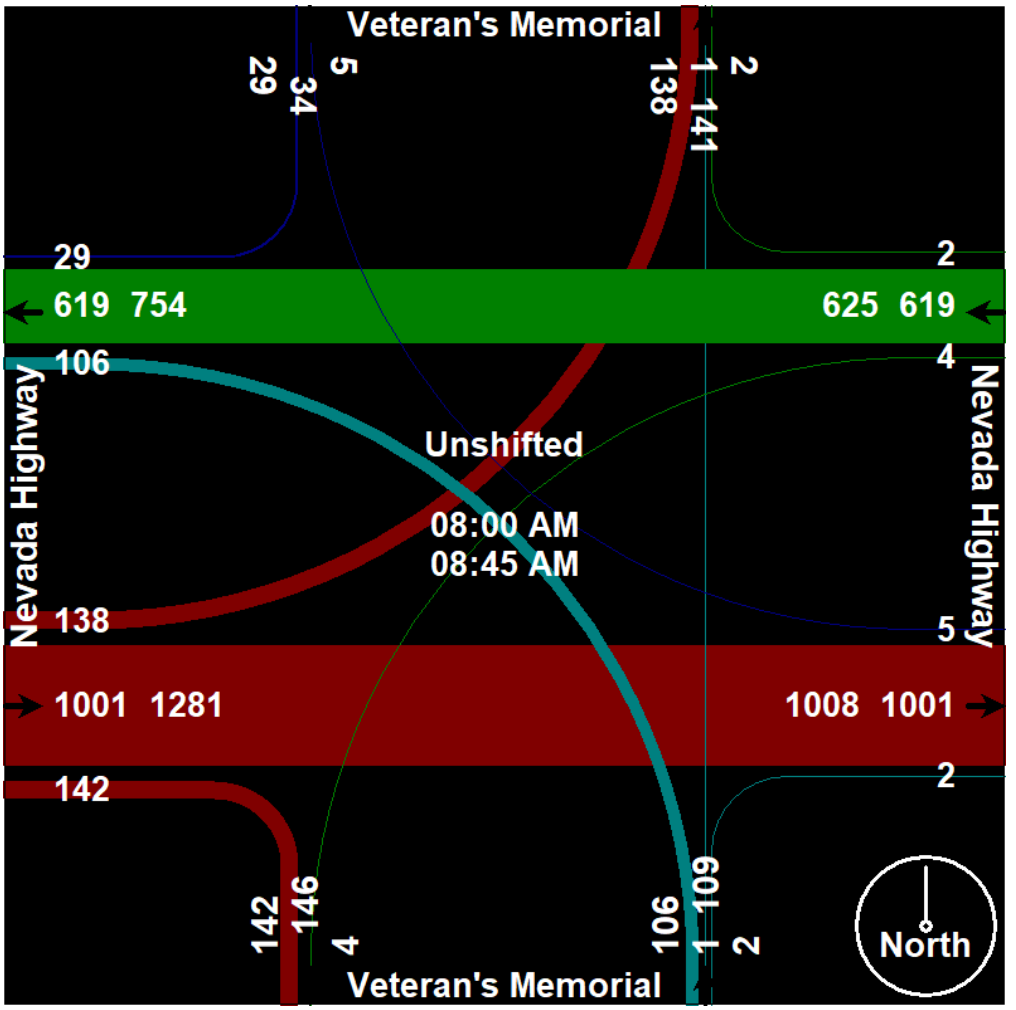
	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	10	0	0	0	10	1	119	0	0	120	2	1	34	0	37	27	201	10	0	238	405
08:15 AM	5	0	1	0	6	0	144	2	0	146	0	0	51	0	51	39	221	15	0	275	478
08:30 AM	8	0	3	0	11	1	203	0	0	204	0	0	8	0	8	39	268	66	0	373	596
08:45 AM	6	0	1	0	7	0	153	2	0	155	0	0	13	0	13	37	311	47	0	395	570
Total Volume	29	0	5	0	34	2	619	4	0	625	2	1	106	0	109	142	1001	138	0	1281	2049
% App. Total	85.3	0	14.7	0		0.3	99	0.6	0		1.8	0.9	97.2	0		11.1	78.1	10.8	0		
PHF	.725	.000	.417	.000	.773	.500	.762	.500	.000	.766	.250	.250	.520	.000	.534	.910	.805	.523	.000	.811	.859



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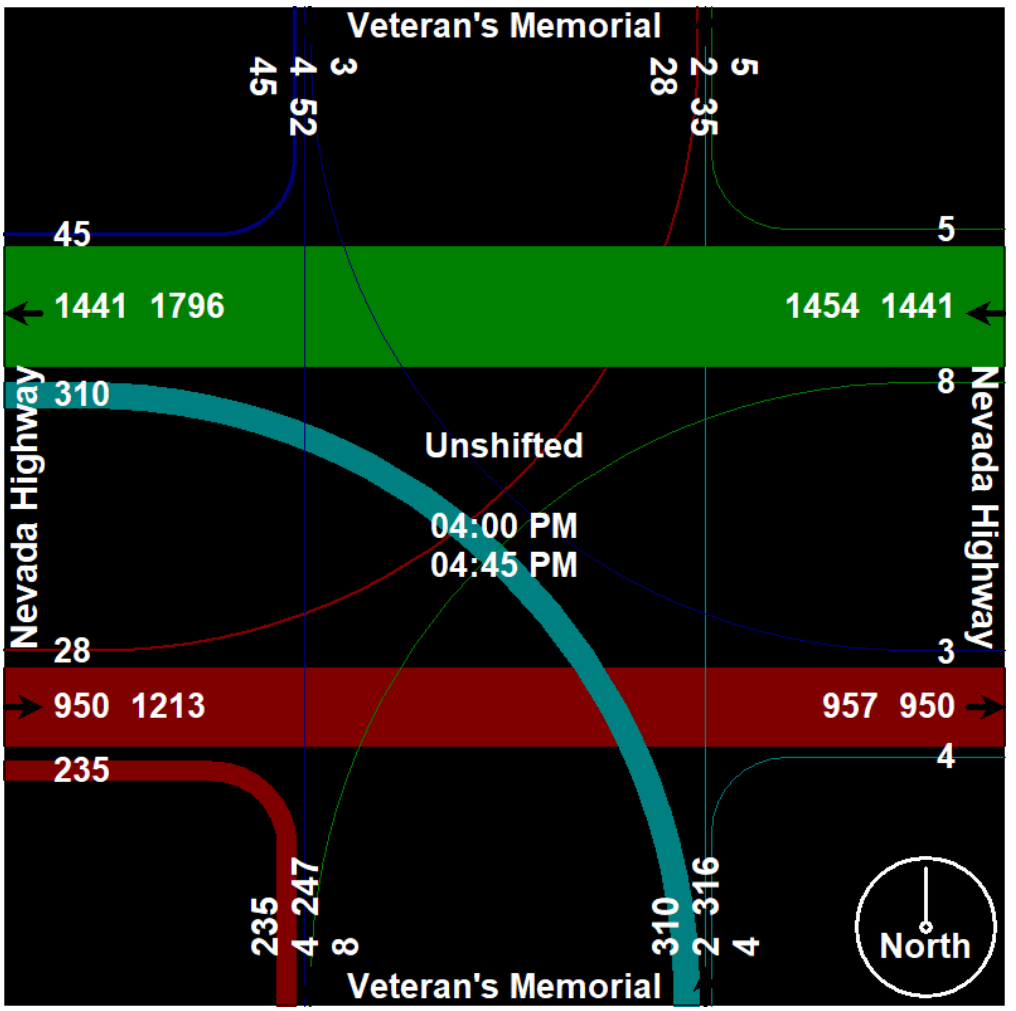
Page No : 3

	Veteran's Memorial Southbound					Nevada Highway Westbound					Veteran's Memorial Northbound					Nevada Highway Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	7	3	0	0	10	2	382	1	0	385	1	0	74	0	75	55	278	9	0	342	812
04:15 PM	11	0	1	0	12	1	343	2	0	346	1	1	61	0	63	67	205	7	0	279	700
04:30 PM	18	0	1	0	19	2	373	4	0	379	0	1	92	0	93	64	230	6	0	300	791
04:45 PM	9	1	1	0	11	0	343	1	0	344	2	0	83	0	85	49	237	6	0	292	732
Total Volume	45	4	3	0	52	5	1441	8	0	1454	4	2	310	0	316	235	950	28	0	1213	3035
% App. Total	86.5	7.7	5.8	0		0.3	99.1	0.6	0		1.3	0.6	98.1	0		19.4	78.3	2.3	0		
PHF	.625	.333	.750	.000	.684	.625	.943	.500	.000	.944	.500	.500	.842	.000	.849	.877	.854	.778	.000	.887	.934



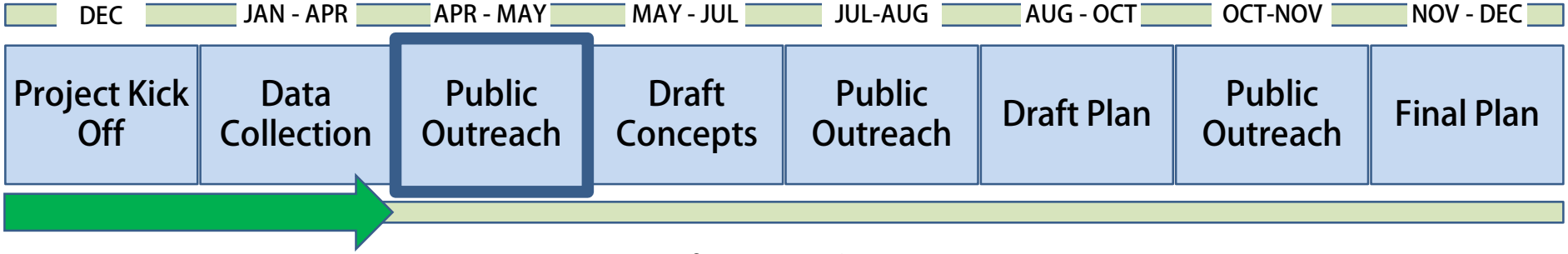
RIVER MOUNTAINS LOOP TRAIL IMPROVEMENTS STUDY



WELCOME TO THE COMMUNITY OPEN HOUSE

Boulder City is collaborating with the Regional Transportation Commission of Southern Nevada to develop a plan that connects the existing River Mountains Loop Trail to the proposed new Nevada State Railroad Museum and to Downtown Boulder City. The study will identify routes, design features, amenities, planning costs, and phasing that will improve access, connectivity, and safety for people walking and biking. The improvements are part of Boulder City's plans to provide additional multimodal options for local residents and to attract visitors to Boulder City.

2018 STUDY SCHEDULE



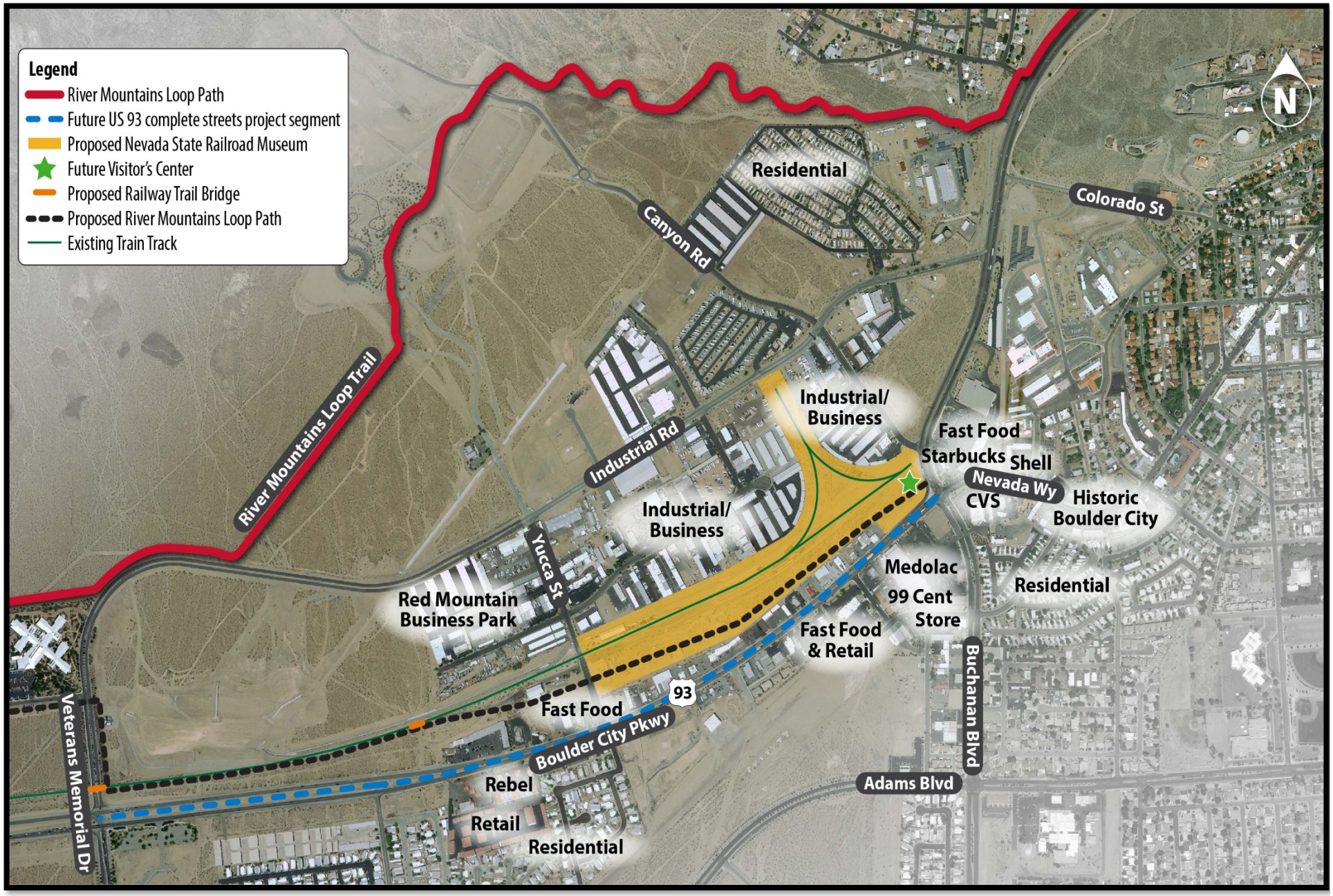
For more information please contact:

Monika Bertaki: (702) 676-1749; email: bertakim@rtcsnv.com

Or Visit:

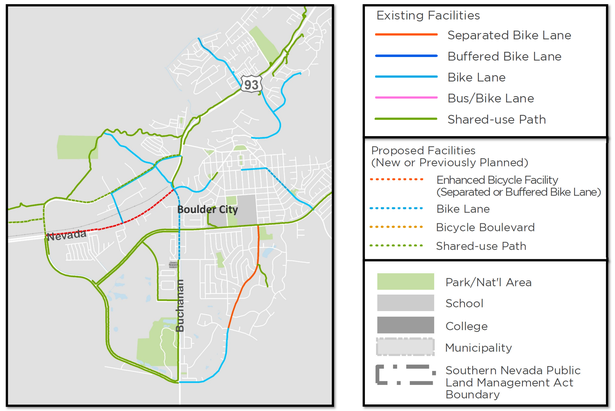
https://www.rtcsnv.com/planning-engineering/transportation-planning/planning-studies-projects/river-mountain-loop-trail-improvements-study

STUDY AREA MAP



STUDY AREA EXISTING CONDITIONS

BIKE FACILITIES

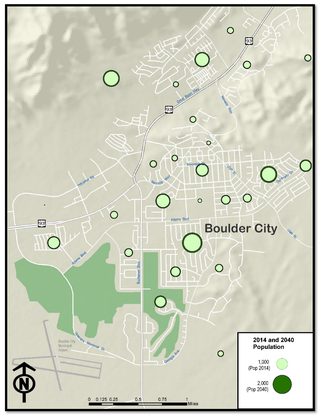


Existing Facilities
- Separated Bike Lane
- Buffered Bike Lane
- Bike Lane
- Bus/Bike Lane
- Shared-use Path

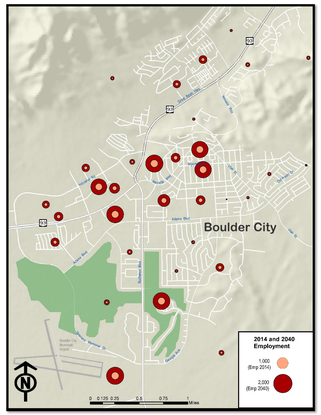
Proposed Facilities (New or Previously Planned)
- Enhanced Bicycle Facility (Separated or Buffered Bike Lane)
- Bike Lane
- Bicycle Boulevard
- Shared-use Path

- Park/Nat'l Area
- School
- College
- Municipality
- Southern Nevada Public Land Management Act Boundary

ORIGINS & DESTINATIONS

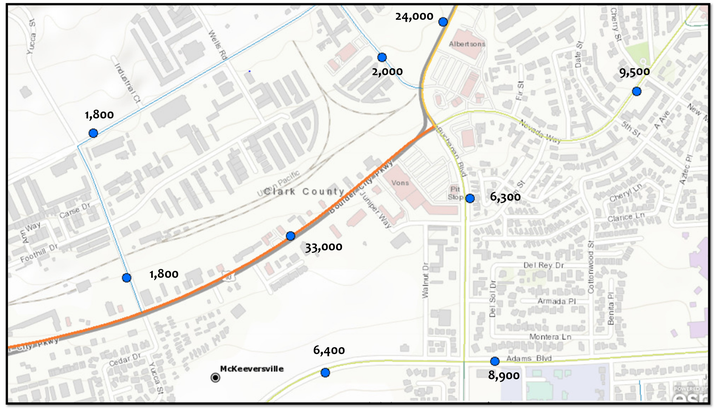


POPULATION DENSITY



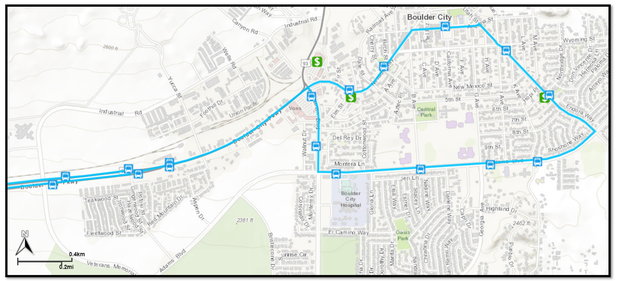
EMPLOYMENT DENSITY

ROADWAY TRAFFIC COUNTS

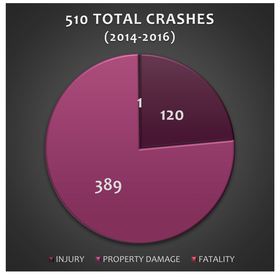


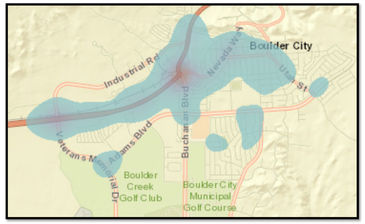
2016 AVERAGE DAILY TRAFFIC

HENDERSON DOWNTOWN EXPRESS



CRASH SUMMARY AND HEAT MAP





FORECASTED REDUCTION IN CONGESTION



2015 VOLUME/CAPACITY RATIOS



2040 VOLUME/CAPACITY RATIOS

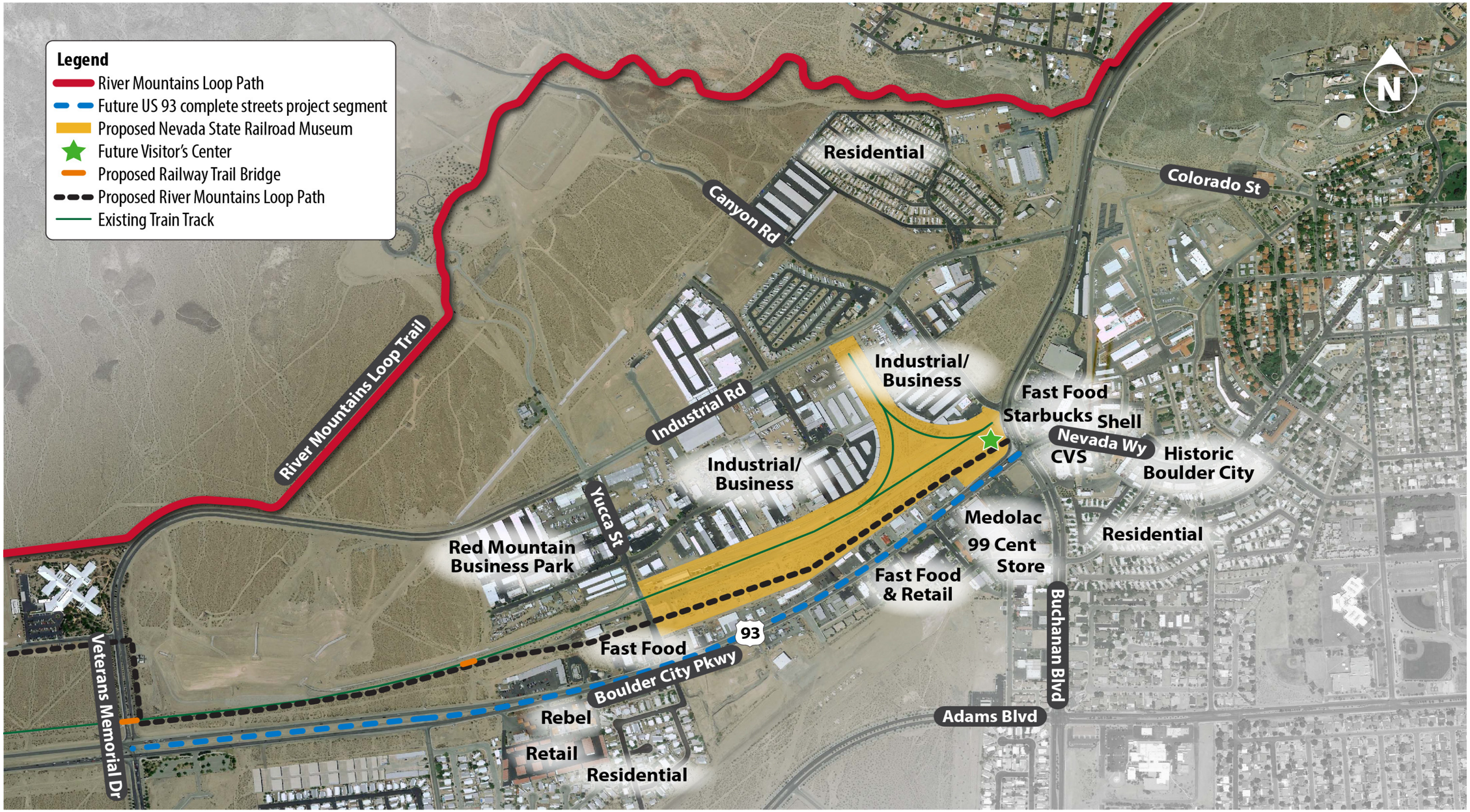
APPROXIMATE 38% REDUCTION IN TRAFFIC CREATES OPPORTUNITIES FOR MULTI-MODAL ACCESS

RIVER MOUNTAINS LOOP TRAIL IMPROVEMENTS STUDY

WELCOME

COMMUNITY OPEN HOUSE

STUDY AREA MAP



DESTINATIONS VOTING BOARD

Legend

- River Mountains Loop Path
- Future US 93 complete streets project segment
- Proposed Nevada State Railroad Museum
- Future Visitor's Center
- Proposed Railway Trail Bridge
- Proposed River Mountains Loop Path
- Existing Train Track

N

Residential
Canyon Rd
Colorado St
Wilbur Square
City Hall
Parks & Rec
Shops & Restaurants
Utah St
Wyoming St
Residential
Nevada Wy
Industrial/ Business
Fast Food
Starbucks
Shell
Industrial Rd
CVS
Historic Boulder City
5th St
Industrial/ Business
Medolac
99 Cent Store
Residential
Red Mountain Business Park
Yucca St
Fast Food & Retail
BC High School
Buchanan Blvd
93
Fast Food
Boulder City Pkwy
Veterans Memorial Dr
Rebel
Retail
Residential
Adams Blvd
River Mountains Loop Trail

COMMUNITY PRIORITIES VOTING BOARD

WIDER PATHS OR PATHS SEPARATED FROM VEHICLES



LANDSCAPING



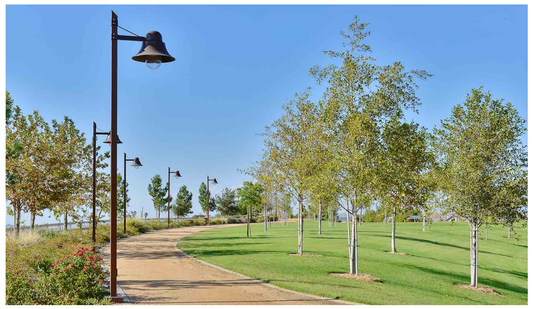
DRINKING WATER



EFFECTIVE SIGNAGE



LIGHTING



SHADING / REST AREAS



ART AND AESTHETICS



PROTECTED BIKE LANES ALONG ROADWAY



ENHANCED WALKABILITY



TRAFFIC CONTROL/SIGNALS



ENHANCED BIKE PARKING OPTIONS



BIKE SHARE SYSTEM



APPENDIX C

PHASE 2 DEVELOPMENT

River Mountains Loop Trail Improvements Study

Stakeholder Workshop
July 12, 2018



Agenda & Mission

Goals of Today's Meeting

1. **Project Status & Update**
2. **Analysis of Study Area Connection Options (Package #1)**
   - **Review Criteria and Weighting Options**
   - **Individual Routes**
   - **Groups of Routes to access the RR Museum and Historic Downtown**
3. **Preliminary Concept Development (Package #2)**
4. **Next Steps/Other Discussion**

Project Mission Statement:
Create optimal connections and improvements to connect existing River Mountains Loop Trail to Historic Downtown Boulder and the Nevada State Rail Road Museum to enhance the economic vitality of Boulder.



Updated Schedule

TASKS	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
NTP																
Task 1 Management & Stakeholder Coordination																
Task 2: Public Outreach																
Task 3: Data Collection and Review																
Task 4: Multimodal Network Analysis																
Task 5: Alternative Development for Mulitmodal Access																
Task 6: Recommendations and Implementation																
Task 7: Deliverables																

Milestone/Deliverables*

Stakeholder Meeting/Workshop

** Size of diamond represents relative size of deliverable*

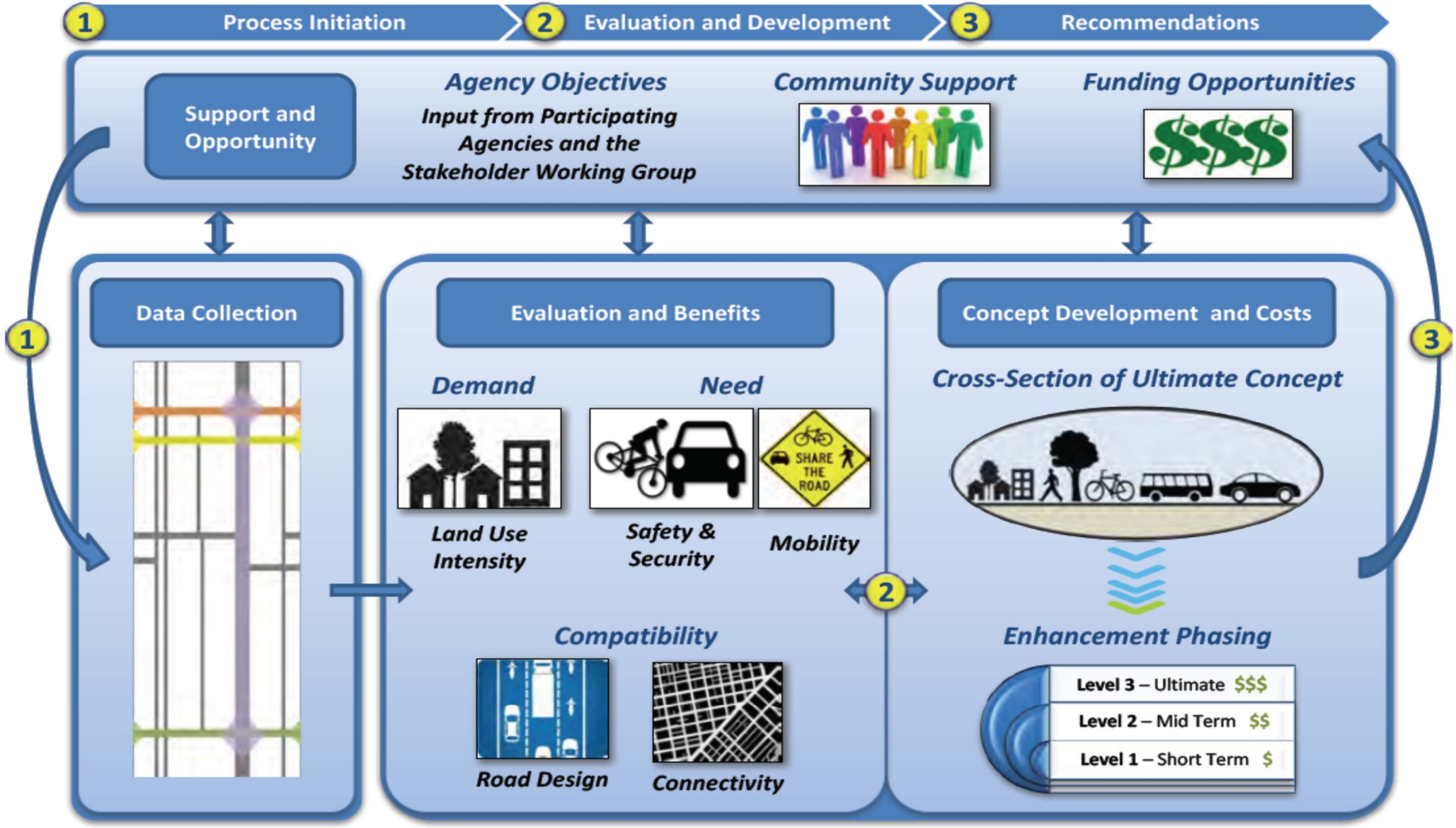
Community Meeting

Business Outreach

Pop-Up Event or Online Survey

Complete Streets Evaluation Process





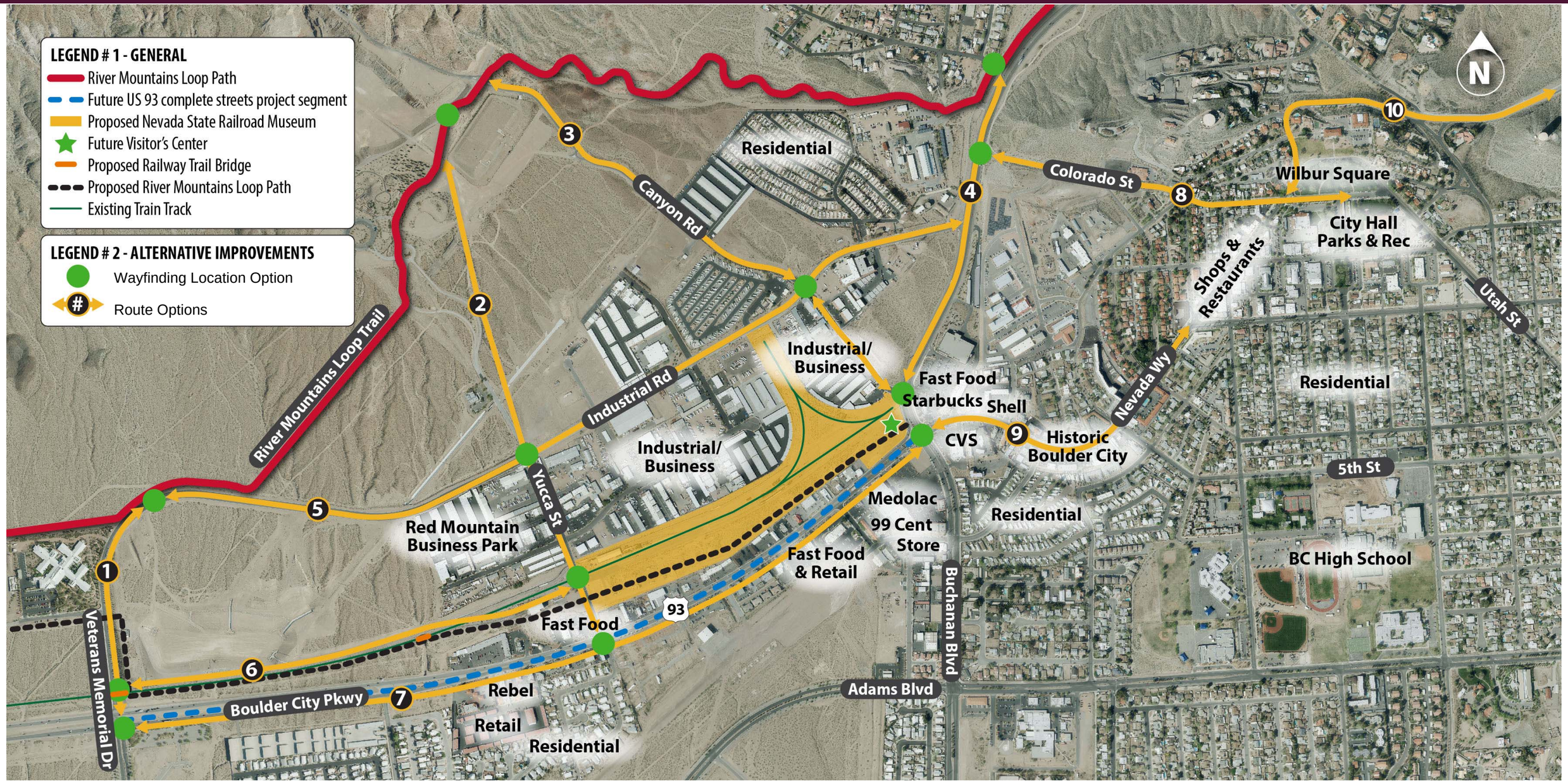
Study Area & Route Map

LEGEND # 1 - GENERAL

- River Mountains Loop Path
- Future US 93 complete streets project segment
- Proposed Nevada State Railroad Museum
- Future Visitor's Center
- Proposed Railway Trail Bridge
- Proposed River Mountains Loop Path
- Existing Train Track

LEGEND # 2 - ALTERNATIVE IMPROVEMENTS

- Wayfinding Location Option
- # Route Options

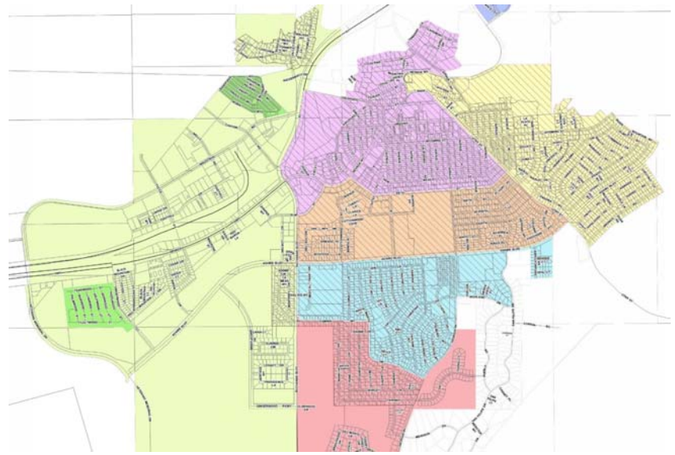




Notes

- Not including costs as a criteria. This will be done in one of the next steps.
- Measurements of existing conditions are not 100% accurate, these are DRAFT.
- Measurements are NOT right of way. Understanding ROW will be done in a future phase related to prioritization and phasing.
- The proposed ideas need your input. These are DRAFT concepts. What works for Boulder?
- Thanks to Streetmix.com!

No	DESCRIPTION	Unit Rate (IDR)	Quantity	Total Cost (IDR)	Total Cost
I	**DELINEATION STUDY**				
1	**Contractor Project Management**			249,876,200	
2	**Survey Works**				
	Hand Auger	238000	287	68,306,000	
3	**Laboratorium Testing**				
	TPH Analysis	1785000	287	512,295,000	
	Sample shipment	315350	250	78,837,500	
4	**Contractor Accomodation**			108,290,000	
II	**MOBILISASI & SITE OFFICE**			595,000,000	
III	**KONSTRUKSI**				
1	**Earthworks**				
a	Earthwork Fill from Compang Designated Location (Haul and Compacted), Basic unit rate 0.5-15 KM Hauling Distance	91,480	13103	1,198,662,440	100,727.94
b	Earthwork Cut/Excavation	12,020	19126	229,894,520	-
2	**Concrete Works for On Plot**				
a	Supply and Install Sand Bedding	328,440	274	89,992,560	7,562.40
b	Supply and Install Lean Concrete	1,342,590	274	367,869,660	30,913.42
a	Supply and pouring concrete - K250	1,549,560	781	1,210,206,360	101,639.01
c	Supply, fabricate, and install concrete reinforce steel bar	13,690	16783	229,759,270	19,307.50
d	Concrete Formwork	1,085,660	1590	1,726,199,400	145,058.77
e	Supply and Install HDPE Geomembran	73,010	7870	574,588,700	48,284.76
3	**Steel Works**				
	Supply and Install Steel Guard Rails	1,270,550	530	673,391,500	
4	**Environmental Works**				
	Environmental Works - Oil Contaminated Waste Hauling Distance 10-15 km (using KLH/BLHs certified truck)	91,310	19126	1,746,395,060	
5	**Soil & Civil Testing**				
	Field Testing				
a	Soil Investigation by Auger Boring include Standard Penetration Test < 30M, ASTM D1452	444,590	3	1,333,770	112.08
b	Field In Situ Sand Cone Test, ASTM D1556	629,230	3	1,887,690	158.63
	Laboratory Testing for Soil Properties				-
a	Natural Moisture Content, ASTM D2216	889,160	3	2,667,480	224.16
b	Liquid Limit, Plastic Limit, and Plasticity Index Test, ASTM D431	889,160	3	2,667,480	224.16
c	Specific Gravity, ASTM D854	889,160	3	2,667,480	224.16
d	Bulk Density Test, ASTM D7263	889,160	3	2,667,480	224.16
e	Particle-Size Analysis for Cohessive Soils ASTM D422 and DI	889,160	3	2,667,480	224.16
f	Sieve Analysis of Fine and Coarse Aggregates, ASTM C136	889,160	3	2,667,480	224.16
	Total			9,678,790,510	813,344





ANALYSIS OF STUDY AREA CONNECTION OPTIONS (PACKAGE #1)



PACKAGE #1

EVALUATION AND BENEFITS

COMPONENT 1 - EVALUATION AND BENEFITS

1. EVALUATE POTENTIAL BENEFITS FOR THE CORRIDOR
2. SUMMARIZE EVALUATION

Evaluation Options	Example Resources/Tools	Applied? (Y/N)	Weight (1 to 3)
Potential Demand			
Land Use Intensity			**1**
Residential Density	Housing density maps	Yes	
Commercial Density	Employment density maps	Yes	
Other Attractors Density	Maps of schools, parks, trails and other destinations	Yes	
Traffic : Auto, Bicycle and Pedestrian Counts	Existing database from NDOT or previous projects Collect new data	Yes	
Transit Ridership	RTC database	No	
Potential Need			
Safety & Security			**1**
Conflict Points	Existing audits or perform new review	Yes	
Crash History (or potential for reduction)	Existing database or new evaluation using Highway Safety Manual	Yes	
Security	Review of existing reports and conditions	No	
Mobility			1
Master Plans & Mode Gap Analysis	Master Plans	Yes	
Transit Routes	RTC Transit Maps	Yes	
Compatibility			
Road Design			**1**
ROW Constraints	ROW maps, Master Plans, utility maps	Yes	
Traffic Lanes	Existing conditions and Master Plans	Yes	
Traffic (AADT)	Existing database from NDOT or previous projects Collect new data	Yes	
Posted Speed Limits	Existing conditions and Master Plans	Yes	
Volume/Capacity Ratios	V/C Maps on existing or forecasted conditions	Yes	
Connectivity			**1**
Corridor Connectivity and Accessibility	Street maps for visual review	No	
System Connectivity and Capacity	Street maps for visual review Master Plans V/C Maps on existing or forecasted conditions for parallel corridors	Yes	
Regional Connectivity	Regional maps and plans	No	

Evaluation Summary

Route#	Street Name or Description	From	To	Weighted Score	Rank
2	Yucca Street	River Mountains Loop Trail	Boulder City Parkway	18.3	2
1	Veteran's Memorial Way	Nevada State Veterans Home	Boulder City Parkway	15.8	3
7	Boulder City Parkway	Veterans Memorial Dr	US93 Great Basin Highway	18.7	1
6	Railroad Right of Way	Veterans Memorial Dr	US93 Great Basin Highway	15.0	6
8	Colorado Street	US93 Great Basin Highway	California Ave	15.3	5
4	US93 Great Basin Highway	Katzenback Dr	Canyon Rd	14.6	7
9	Nevada Way South	US93 Great Basin Highway	Wyoming St	14.2	8
3	Canyon Road	River Mountains Loop Trail	US93 Great Basin Highway	15.5	4
5	Veterans Memorial Dr./Industrial Rd.	Nevada State Veterans Home	US93 Great Basin Highway	12.0	9
10	Nevada Way North	Park St	US93 Great Basin Highway	10.5	10

Evaluation Summary of Groups

Connecting from RMLT to Destinations	Route Options	Weighted Score Normalized*	Rank within the RMLT to Destination
West to RR	Route 1 to 6	15.4	1
	Route 5 to 2	15.1	2
West to HD	Route 5 to 3 to 9	13.9	2
	Route 5 to 2 to 7 to 9	15.8	1
Mid to RR	Route 2	18.3	1
	Route 3	15.5	2
Mid to HD	Route 2 to 7 to 9	17.0	1
	Route 3 to 4 to 9	14.8	3
	Route 2 to 5 to 4 to 8	15.0	2
	Route 3 to 5 to 4 to 8	14.3	4
Northeast to RR	Route 4	14.6	1
	Route 4 to 5 to 3	14.0	2
	Route 10 to 9	12.3	3
Northeast to HD	Route 10 to 9	12.3	3
	Route 4 to 8	14.9	1
	Route 4 to 9	14.4	2

*Route scores added then divided by # of routes

ROUTE#	**1**	**Veteran's Memorial Way**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
1.6	1.6	0.5	1	1	0	N/A	N/A	2.5	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
3.1	3.1	1	1.5	N/A	N/A	N/A	N/A	2.5	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
4.6	4.6	2	1.5	2	N/A	N/A	N/A	5.5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
4.0	4.0	2	1	2	1	2	N/A	8	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
15.8	15.8								

ROUTE# **2** **Yucca Street**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
3.1	3.1	1	2	2	0	N/A	N/A	5	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
3.1	3.1	2	0.5	N/A	N/A	N/A	N/A	2.5	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
2.5	2.5	1	1	1	N/A	N/A	N/A	3	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
4.5	4.5	1	2	2	2	2	N/A	9	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
5.0	5.0	N/A	2	N/A	N/A	N/A	N/A	2	2
OVERALL									
18.3	18.3								

ROUTE# **3** **Canyon Road**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
0.6	0.6	0	1	0	0	N/A	N/A	1	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
3.8	3.8	1	2	N/A	N/A	N/A	N/A	3	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
1.7	1.7	1	1	0	N/A	N/A	N/A	2	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
4.5	4.5	0	2	2	2	3	N/A	9	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
5.0	5.0	N/A	2	N/A	N/A	N/A	N/A	2	2
OVERALL									
15.5	15.5								

Notes

D&N 1) Land Use	No population from population density map. Employment density showed a small circle for both 2015 and 2040. There is one park located near north end of route.. AADT was found to be 2000 in 2015 and 1100 in 2040
D&N 2) Safety	Conflict points calculated to be 3 (1 major + 1 minor). Crash heat map was found to be an average of 2+0=1.
D&N 3) Mobility	Master Plans showed that route has sidewalks and bike lanes. No other facilities planned. No transit routes or stops along length of route
C1) Roadway Design	ROW is measured to be 60' using Google Earth which is same as max ROW listed. 25 MPH speed limit on 2 lane street. 2000 ADT in 2015 and 1100 in 2040. V/C ratio calculated to be 0.04 (2040) and 0.04 (2015)
C2) Connectivity	Route does not connect well to corridor. Route connects parts of area to system. Route is not crucial to connecting to entire region.

ROUTE# **4** **US93 Great Basin Highway**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
2.5	2.5	1	2	0	1	N/A	N/A	4	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
5.0	5.0	2	2	N/A	N/A	N/A	N/A	4	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
2.1	2.1	2	0.5	0	N/A	N/A	N/A	2.5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
2.5	2.5	2	0	0	0	3	N/A	5	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
14.6	14.6								

D&N 1) Land Use

Along route there are 2 different residential areas. The employment density map also shows a large circle showing a high employment density. There are little to no attractor areas. AADT along route is 8,322 (2040)

D&N 2) Safety

Conflict points calculated to be 8 (4 major). Crash history is 2 along route

D&N 3) Mobility

Route has shared use paths with sidewalks on one side. There are no RTC Transit routes or stops.

C 1) Roadway Design

Route appears to have ROW on either side between sidewalk and route that can be utilized. Route has 5 lanes and a 45 MPH speed limit. V/C ratio found to be 0.22 (2040) and 0.715 (20125)

C 2) Connectivity

		Veterans Memorial
ROUTE#	**5**	**Dr./Industrial Rd.**

PRIMARY FACTOR SCORE		**SUBFACTOR SCORES**							
	Weight	**DEMAND & NEED**							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
1.9	1.9	0	2	1	0	N/A	N/A	3	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
1.9	1.9	1	0.5	N/A	N/A	N/A	N/A	1.5	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
2.5	2.5	2	1	0	N/A	N/A	N/A	3	6
	Weight	**COMPATIBILITY**							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
3.3	3.3	0	1.5	2	1	2	N/A	6.5	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
12.0	12.0								

D&N 1) Land Use	No Residential population near route. Many commercial areas near route. Red Mountain Business Park near route. AADT= 290 (2040) and 1000 (2015)
D&N 2) Safety	Conflict Points calculated to be 3 (3 minors). Almost entire route is 0 on crash history map, besides eastern portion.
D&N 3) Mobility	Shared path usage is listed on the plans for the route. There are no sidewalks along the route, but half of the route has bike lanes. There are no RTC transit routes or stops.
C 1) Roadway Design	Unable to clearly see where ROW starts and ends on Parcel Maps. For half of the route, the roadway has 5 lanes. For the other half, the road has 3 lanes. V/C ratios calculated to be 0.03 (2040) and 0.13 (2015) for the first half and 0.35 (2015) for the second half.
C 2) Connectivity	

ROUTE# **6** **Railroad Right of Way**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
2.5	2.5	0	2	2	0	N/A	N/A	4	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
2.5	2.5	1	1	N/A	N/A	N/A	N/A	2	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
2.5	2.5	1	2	0	N/A	N/A	N/A	3	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
5.0	5.0	2	2	2	2	2	N/A	10	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
15.0	15.0								

D&N 1) Land Use	Route also passes through the heart of the industrial area in region. The railroad leads directly to the museum and passes by the Red Mountain Business Park. AADT is 0.
D&N 2) Safety	Conflict point was calculated to be 3 (1 major, 1 minor). Crash map shows that the area is between 1 or 2. 1 was chosen because the railroad will only crash at 2 intersections.
D&N 3) Mobility	There are no modes of transportation included in the plans. There are no facilities and no transit routes along route.
C 1) Roadway Design	There are ROW on either side of the track that could potentially be acquired. Traffic lanes, speed limits, and V/C ratios were estimated to be high compatibility based upon the nature of the railroad.
C 2) Connectivity	

ROUTE# **7** **Boulder City Parkway**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
4.1	4.1	1.5	2	2	1	N/A	N/A	6.5	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
5.0	5.0	2	2	N/A	N/A	N/A	N/A	4	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
4.2	4.2	2	1	2	N/A	N/A	N/A	5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
0.5	0.5	0	0	0	0	1	N/A	1	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
5.0	5.0	N/A	2	N/A	N/A	N/A	N/A	2	2
OVERALL									
18.7	18.7								

D&N 1) Land Use	Route passes by large residential area. Route also passes through the heart of the industrial area in region. The route leads directly to the museum and passes by the Red Mountain Business Park. AADT is 12,762
D&N 2) Safety	Conflict points calculated to be 10 (3 major, 4 minor). Along the route, the crash map is mostly 2.
D&N 3) Mobility	Master plans show a plan for enhanced bicycle facility. There are sidewalks on both side of the street and crosswalks.
C 1) Roadway Design	There are properties on each side of the street so there are no readily available ROW opportunity. There are 5 traffic lanes and the speed limit is 45 MPH. AADT is 12,762 (2040) and 23,151 (2015). V/C ratio is calculated to be 0.41 (2040) and 0.76 (2015)
C 2) Connectivity	

ROUTE# **8** **Colorado Street**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
3.8	3.8	1.5	1.5	2	1	N/A	N/A	6	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
3.8	3.8	2	1	N/A	N/A	N/A	N/A	3	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
1.3	1.3	0	1.5	0	N/A	N/A	N/A	1.5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
4.0	4.0	0	2	2	2	2	N/A	8	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
15.3	15.3								

D&N 1) Land Use	The route goes through a dense neighborhood as well as the town square. Bicentennial Park is also located along route. AADT found to be 648 (2040) and 572 (2015).
D&N 2) Safety	Conflict points calculated to be 11 (2 major, 7 minor). Crash map shows the route to be on the outer edge of crashes.
D&N 3) Mobility	There are no additional modes listed in the master plans and half of the route only has sidewalks on one side. There is not transit on this route.
C 1) Roadway Design	The ROW on this route seems to be own by private owners or is maxed out in neighborhood areas. There is 2 travel lanes with a posted 25 MPH speed limit. The V/C was calculated to be 0.05 (2040) and 0.04 (2015).
C 2) Connectivity	

ROUTE# **9** **Nevada Way South**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
4.4	4.4	2	2	2	1	N/A	N/A	7	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
4.4	4.4	2	1.5	N/A	N/A	N/A	N/A	3.5	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
0.4	0.4	0	0.5	0	N/A	N/A	N/A	0.5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
2.5	2.5	0	2	0	2	1	N/A	5	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
14.2	14.2								

D&N 1) Land Use	Along route there is various residences and commercial areas. Also along this route is Historic Boulder City. AADT is 8302 (2040) and 10,877 (2015).
D&N 2) Safety	Conflict points calculated to be 9 (2 major, 5 minor). Crash heat map along route is either 2 or 1, with most of route close to 2.
D&N 3) Mobility	Master plans show that there are bike lanes and sidewalks throughout the whole route. There is also a portion that has a shared-use path. There are also a lot of transit stops and routes.
C 1) Roadway Design	Along the route there are residences and shops, so there is not too many opportunities for more ROW. There are 2 lanes and a 25 MPH speed limit. The AADT is less than 25,00. The V/C was calculated to be 0.41 (2040) and 0.30 (2015).
C 2) Connectivity	

ROUTE# **10** **Nevada Way North**

PRIMARY FACTOR SCORE		SUBFACTOR SCORES							
	Weight	DEMAND & NEED							
D&N1) LAND USE	1	Residential Density	Commercial Density	Other Attractors	Traffic (AADT)	Transit Ridership	Other	Total	Max
2.5	2.5	1	2	1	0	N/A	N/A	4	8
D&N2) SAFETY	1	Conflict Points	Crash History	Other	Other	Other	Other	Total	Max
1.3	1.3	1	0	N/A	N/A	N/A	N/A	1	4
D&N3) MOBILITY	1	Master Plans	Gaps for Bike & Ped	Transit Routes	Other	Other	Other	Total	Max
1.3	1.3	1	0.5	0	N/A	N/A	N/A	1.5	6
	Weight	COMPATIBILITY							
C1) ROADWAY DESIGN	1	ROW Constraints	Traffic Lanes	Traffic (AADT)	Speed Limit	VC Ratio	Other	Total	Max
3.0	3.0	0	2	0	2	2	N/A	6	10
C2) CONNECTIVITY	1	Other	System	Other	Other	Other	Other	Total	Max
2.5	2.5	N/A	1	N/A	N/A	N/A	N/A	1	2
OVERALL									
10.5	10.5								

D&N 1) Land Use

Route goes through some residential areas and through commercial areas as well. Bicentennial Park is also located nearby. AADT is 725 (2040) and 856 (2015).

D&N 2) Safety

Conflict Point calculated to be 5 (5 minor). Crash map indicates that the route has low crash history.

D&N 3) Mobility

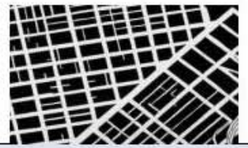
There are sidewalks on both side on a portion of the route. There are only bike lanes on a portion of the route. There are no transit routes.

C 1) Roadway Design

The route is located on a hill so there is no available ROW. There are 2 to 3 lanes on the route and the speed limit is 15 MPH. The V/C was calculated to be 0.04 (2040) and 0.05 (2015).

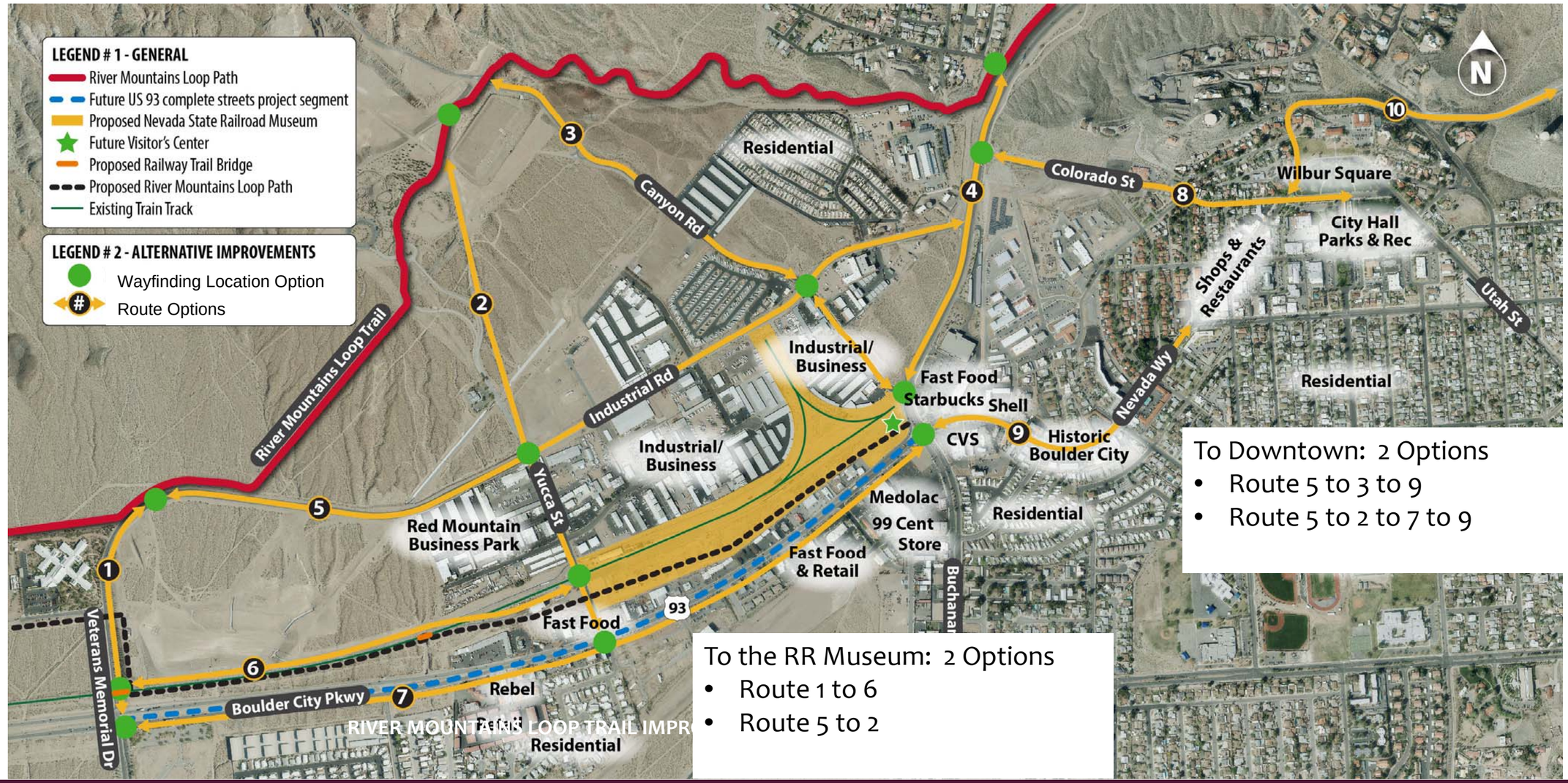
C 2) Connectivity

Evaluation Components, Rating, and Criteria Explanation

EVALUATION FACTOR	RATING DESCRIPTION	CRITERIA					
DEMAND AND NEED							
D&N1) LAND USE CONTEXT 	• - Low: Not supportive land use •• - Below average supportive land use ••• - Average supportive land use •••• - Above average supportive land use ••••• - High supportive land use	**RESIDENTIAL DENSITY** Low – Low density housing Medium – Medium density housing High – High density housing	**COMMERCIAL DENSITY** Low – Low density commercial Medium – Medium density commercial High – High density commercial	**OTHER ATTRACTORS** SCHOOLS/PARKS/REC CENTERS/GOLF COURSES/TRAILS Low – Low number of locations Medium – Medium number of locations High – High number of locations	**TRAFFIC (AADT)** Low – Low count Medium – Medium count High – High count	**TRAFFIC (Bike and Ped Counts)** Low – Low count Medium – Medium count High – High count	**TRANSIT RIDERSHIP** Low – Low ridership Medium – Medium ridership High – High ridership
D&N2) SAFETY 	• - Few accidents •• - Below average number of accidents ••• - Average number of accidents •••• - Above average number of accidents ••••• - High number of accidents	**CONFLICT POINTS / SAFETY AUDITS** Low – Low safety concerns Medium – Medium safety concerns High – High safety concerns	**CRASH HISTORY** Low – Low crash history Medium – Medium crash history High – High crash history	**SECURITY** Low – Low security concerns Medium – Medium security concerns High – High security concerns			
D&N3) MOBILITY 	• - Low mobility (few modes accommodated/needed) •• - Below average mobility ••• - Average mobility •••• - Above average mobility ••••• - High mobility (most modes accommodated/needed)	**MASTER PLANS** Low – minimal modes included in plans Medium – some modes included in plans High – all modes included in plans	**BIKE & PED** (Gap in facilities) Low – Enhanced/ADA compliant facilities Medium – Basic facility access High – No facility access	**TRANSIT** (existing or planned, along or crossing corridor) Low – low number of transit routes Medium – medium number of transit routes High – high number of transit routes			
COMPATIBILITY							
C1) ROADWAY DESIGN 	• - Low accommodations for treatments •• - Below average accommodations for treatments ••• - Average accommodations for treatments •••• - Above average accommodations for treatments ••••• - High accommodations for treatments	**ROW Constraints** Low – No additional ROW available High – additional ROW available or ROW purchase easily obtained	**TRAFFIC LANES** Low – Arterial with 5+ lanes Medium – Collector with 3+ lanes or major arterial with 5+ lanes High – 2 lanes or major collector with 3+ lanes	**TRAFFIC (AADT)** Low – More than 25,000 High – Less than 25,000	**POSTED SPEED LIMITS** Low – Over 40 mph Medium – 31-40 mph High – Up to 30 mph	**VOLUME/CAPACITY RATIOS** *(Projected 2035 Peak)* Low – V/C ratio more than 0.67 Medium – V/C ratio between 0.33 and 0.67 High – V/C ratio less than 0.33	
C2) CONNECTIVITY 	• - Low connectivity •• - Below average connectivity ••• - Average connectivity •••• - Above average connectivity ••••• - High connectivity	**CORRIDOR CONNECTIVITY AND ACCESSIBILITY** Low – low appropriate connectivity Medium – medium appropriate connectivity High – high appropriate connectivity	**SYSTEM CONNECTIVITY AND CAPACITY** Low – low alternate system capacity Medium – medium alternate system capacity High – high alternate system capacity	**REGIONAL CONNECTIVITY** Low – low regional connectivity Medium – medium regional connectivity High – high regional connectivity			
OVERALL RANKING							
OVERALL RANKING	• - Low CS compatibility rank (5 to 11 points) ••• - Medium CS compatibility (12 to 18 points) ••••• - High CS compatibility rank (19 to 25 points)	**ALL CATEGORIES** • - Low score (1 points) •• - Below average score (2 points) ••• - Average score (3 points) •••• - Above average score (4 points) ••••• - High score (5 points)	**SUB CATEGORIES** • - Low score (1 points) ••• - Medium score (2 points) ••••• - High score (3 points)	**OVERALL** **Score D&N1 : LAND USE CONTEXT** (1 to 5 points) **Score D&N2 : SAFETY** (1 to 5 points) **Score D&N3 : MOBILITY** (1 to 5 points) **Score C1 : ROADWAY DESIGN** (1 to 5 points) **Score C2 : CONNECTIVITY** (1 to 5 points) **TOTAL POINTS** (5 TO 25 points)			



Route Options from the West to RR Museum
Route Options from the West to Historic Downtown

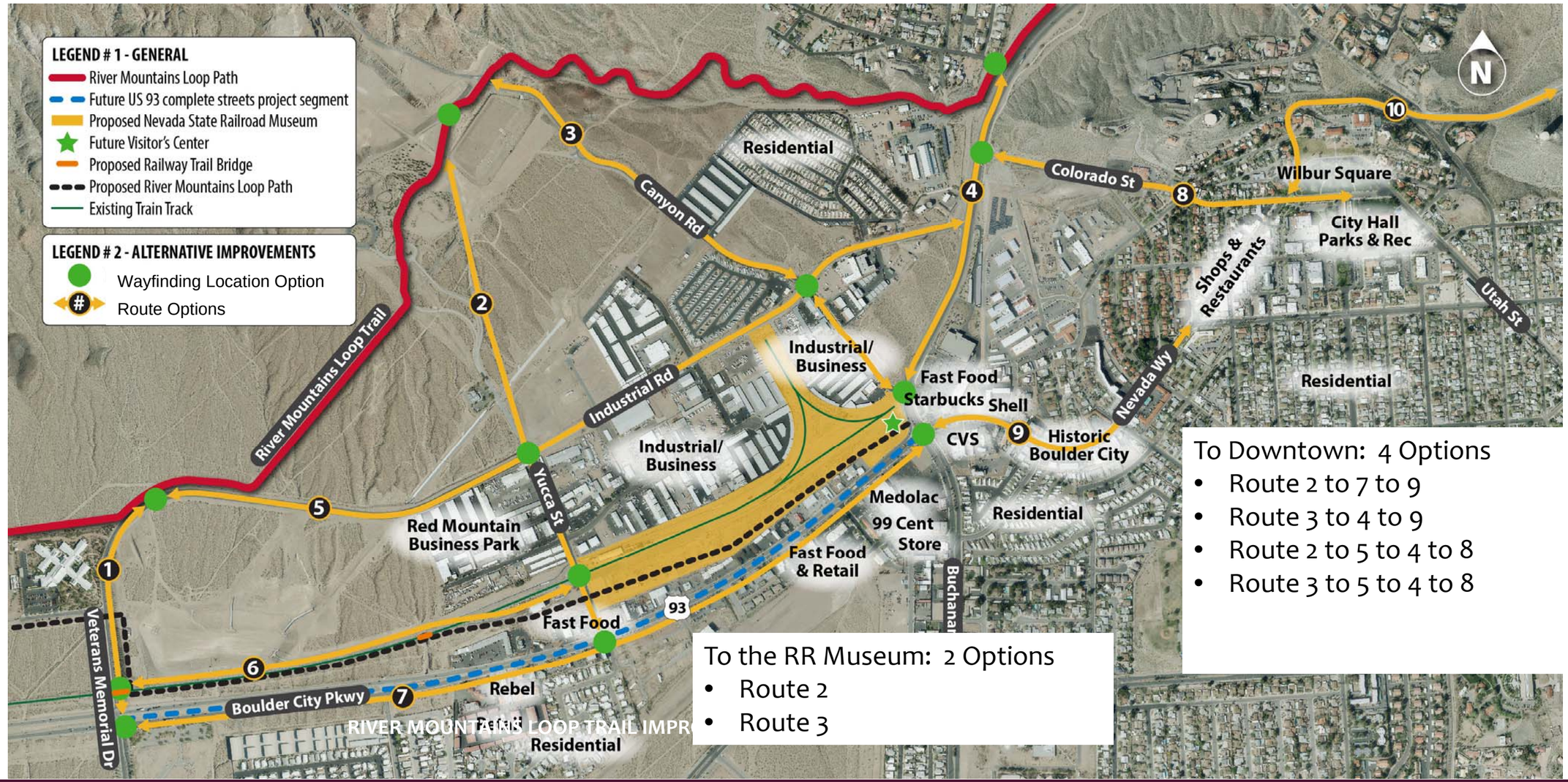


To Downtown: 2 Options
- Route 5 to 3 to 9
- Route 5 to 2 to 7 to 9

To the RR Museum: 2 Options
- Route 1 to 6
- Route 5 to 2



Route Options from the Middle to RR Museum
Route Options from the Middle to Historic Downtown

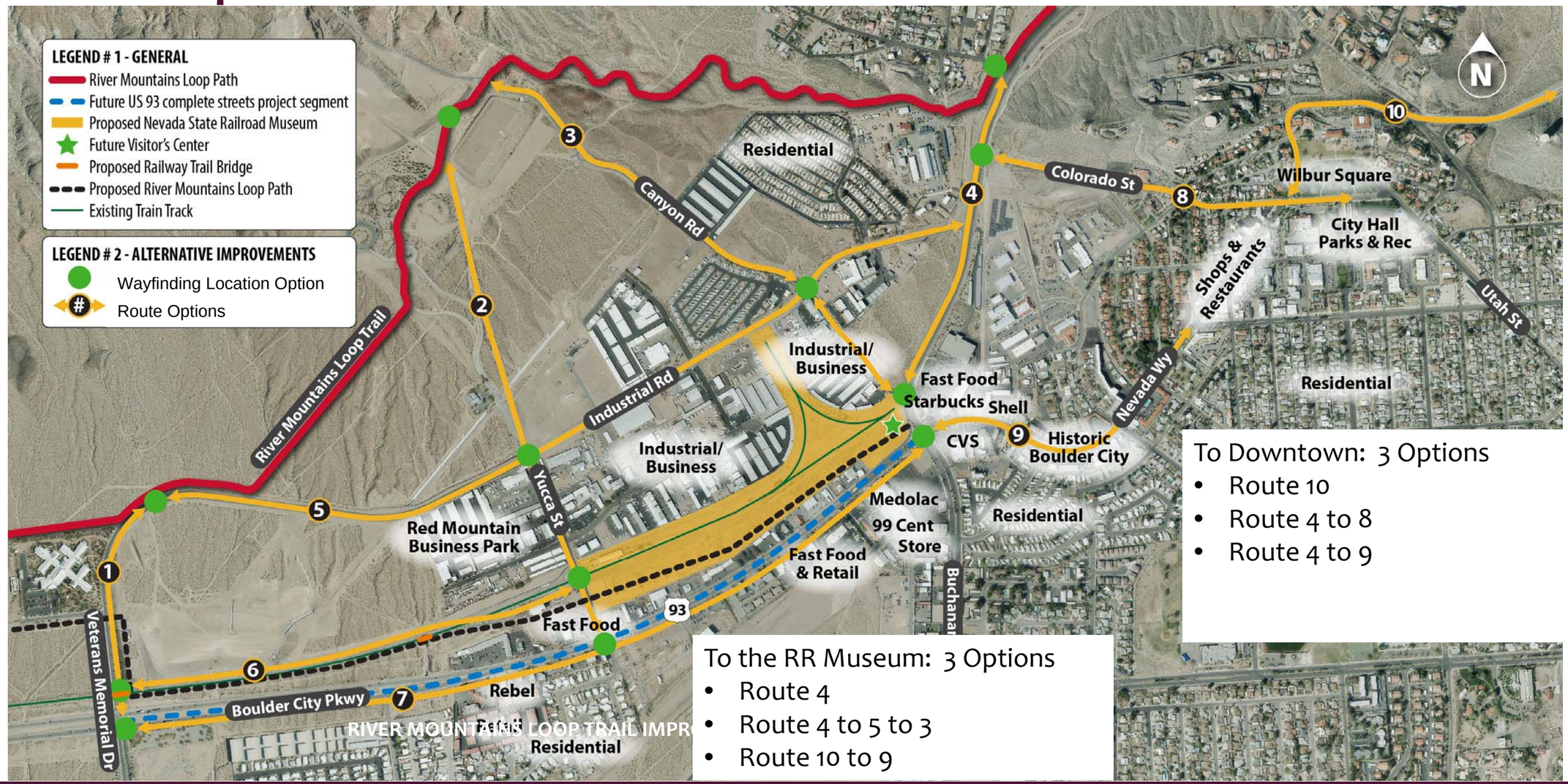


To Downtown: 4 Options
- Route 2 to 7 to 9
- Route 3 to 4 to 9
- Route 2 to 5 to 4 to 8
- Route 3 to 5 to 4 to 8

To the RR Museum: 2 Options
- Route 2
- Route 3



Route Options from the Northeast to RR Museum
Route Options from the Northeast to Historic Downtown



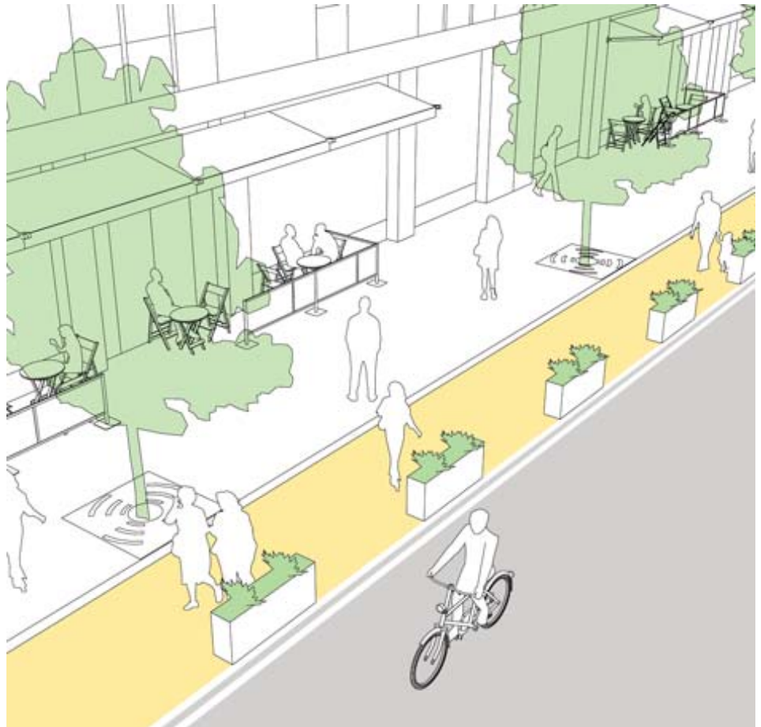
To Downtown: 3 Options
- Route 10
- Route 4 to 8
- Route 4 to 9

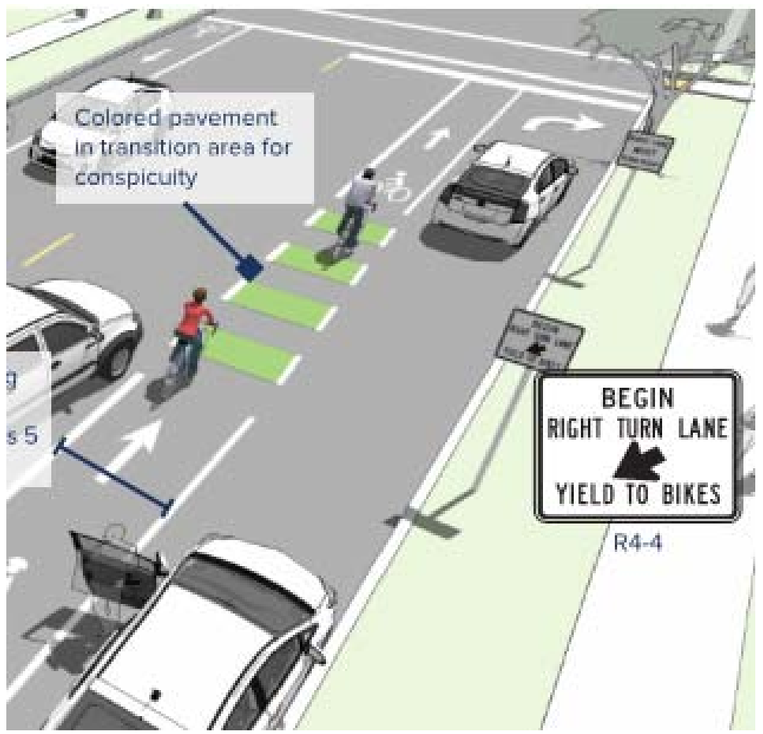
To the RR Museum: 3 Options
- Route 4
- Route 4 to 5 to 3
- Route 10 to 9

PRELIMINARY CONCEPT DEVELOPMENT (PACKAGE #2)

Concept Ideas to address gaps in the pedestrian and bicycle networks, utilize pavement to complete connections, and include pedestrians and bicyclists into a safe transportation network.

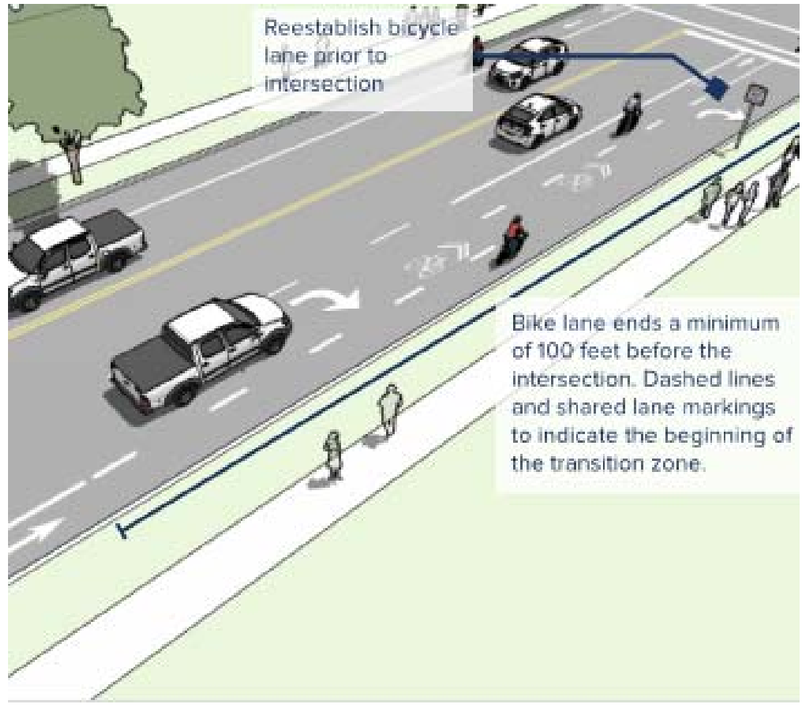
(Images from NACTO and RTC)





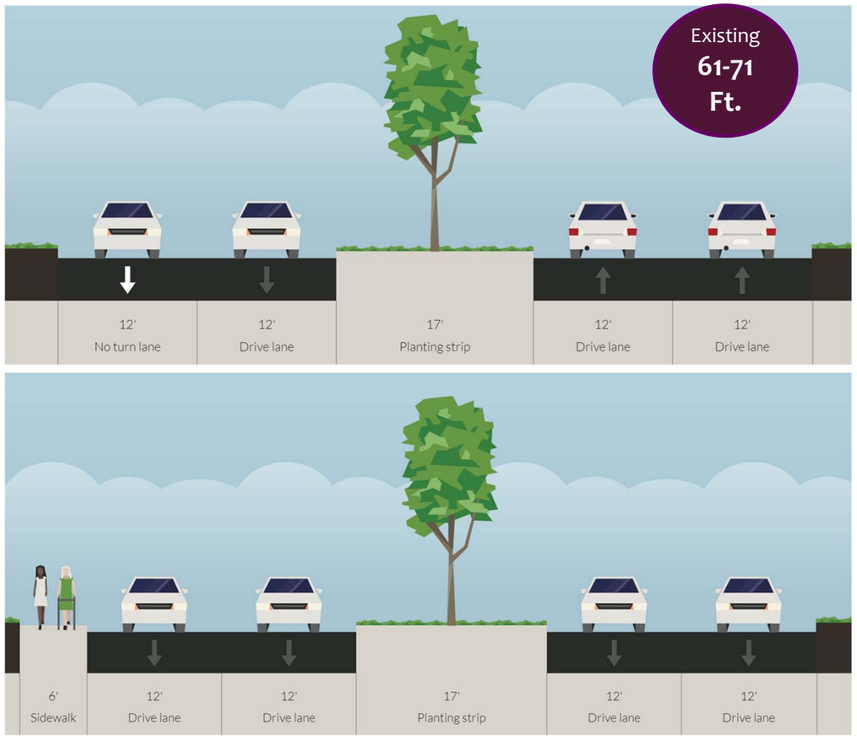






Route 1 - Veterans Memorial Drive: Boulder City Parkway to Nevada State Veterans Home

Existing Conditions: Median is between 17 and 13 ft wide with turn lanes at some locations, and there is a sidewalk along a portion of the roadway.

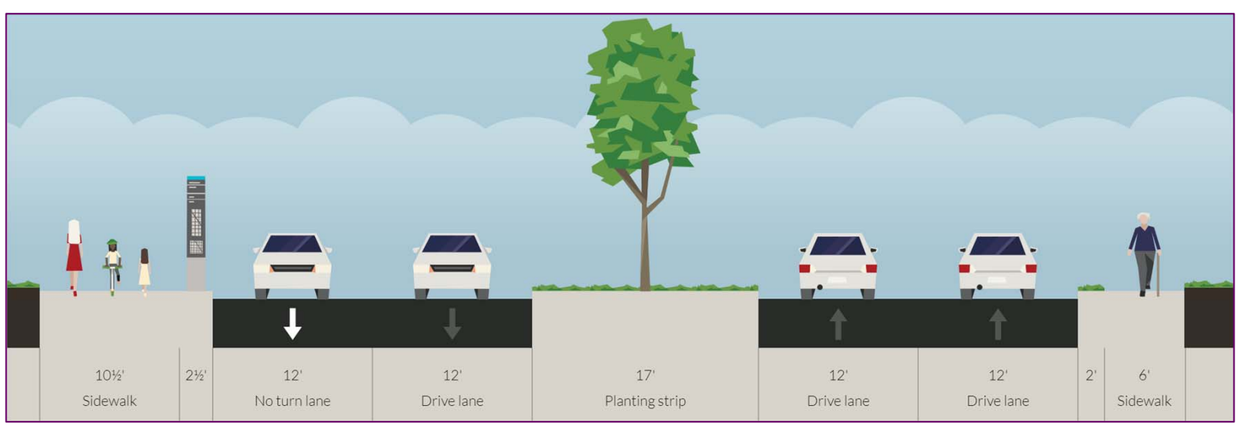


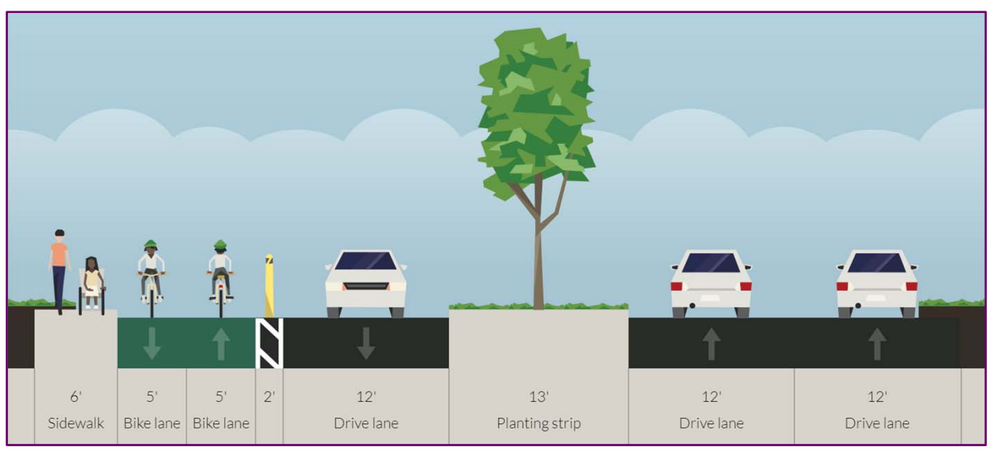
Multi-modal Improvement Considerations					
Veterans Memorial Drive: Boulder City Parkway to Nevada State Veterans Home					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	-Assess ROW for sidewalk and shared use path improvements for the corridor (8 to 12 feet) wide on west/north side and a detached sidewalk on east/south side. This would be outside of existing pavement. -Create new pathway connections to the River Mountain Loop Trail north of the Nevada State Veterans Home to access both south and east. -Consider: change of one vehicle lane on west side to restripe 1 southbound vehicle lane to a two-way separated bike lanes.	Sidewalk	EJ	-Create new pathway connections to the River Mountain Loop Trail by the 'curve' to head south and east. - Consider adding/stipulating sidewalk on east side of roadway
Bike Route	X		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	Y	
Protected Bicycle Lane (2 Way Separated Bike Lanes)	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	EJ		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements

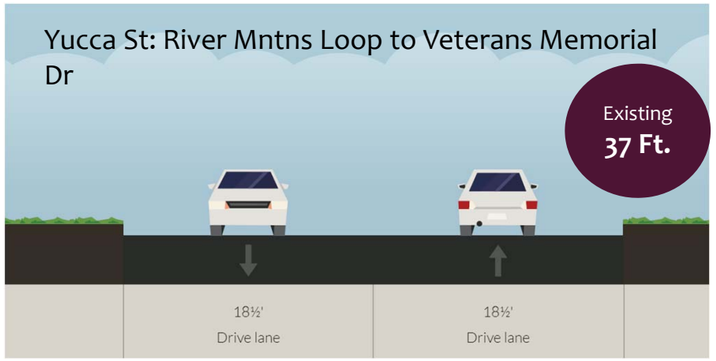
Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking, and wayfinding.

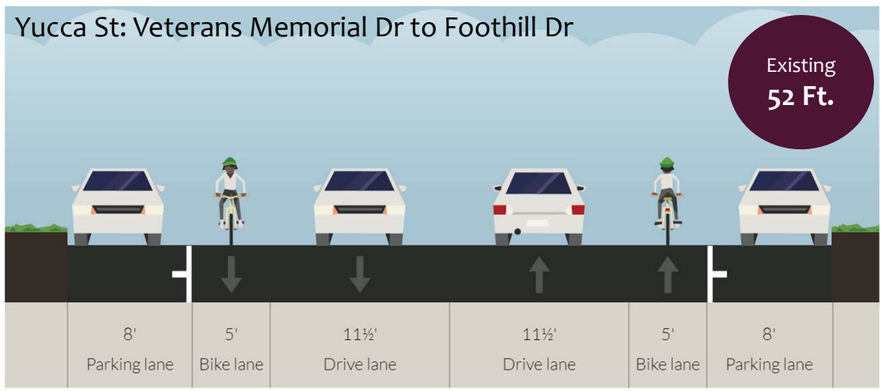


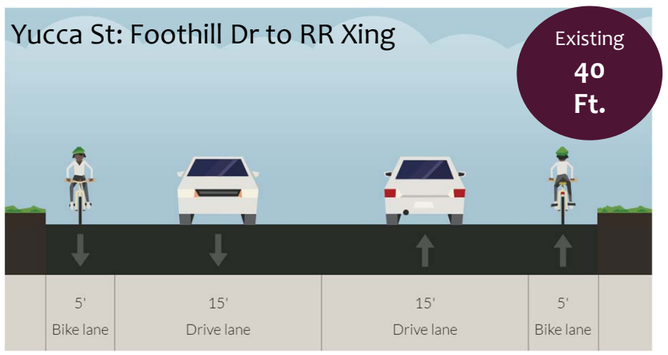


Route 2 - Yucca St: River Mountains Loop To Boulder City Parkway

Existing Conditions







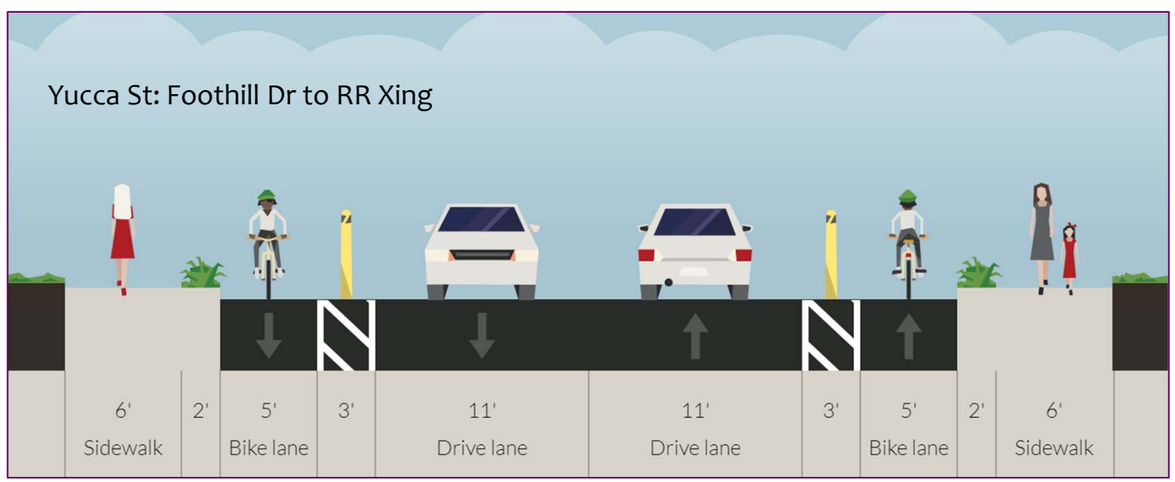


Multi-modal Improvement Considerations					
Yucca St: River Mntns Loop to Boulder City Parkway					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	Narrow all vehicle travel lanes down to 11 feet, use extra ROW for buffered bicycle and protection. - Add bike symbols with green paint background. - Stripe bike lanes (and any buffer) along all of corridor and to the intersections. - Adding protection to bicycle lanes can be a long term improvement depending on usage. -Interim improvement at Yucca and Boulder City Parkway is to stripe bikelane with right turn lane. Review Regional Bicycle & Pedestrian Plan for S. Nevada for design options.	Sidewalk	Y	- Assess ROW for detached 6 ft. sidewalk improvements with landscaping for the corridor; consider a crushed granite pathway closer to River Mntn Loop Trail. - Taper vehicle lanes at Boulder City Parkway and do a protected intersection/curb extenstion with bike lane protection (NACTO).
Bike Route	X		Curb Extensions	Y	
Bike Lane	Y		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	Y		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

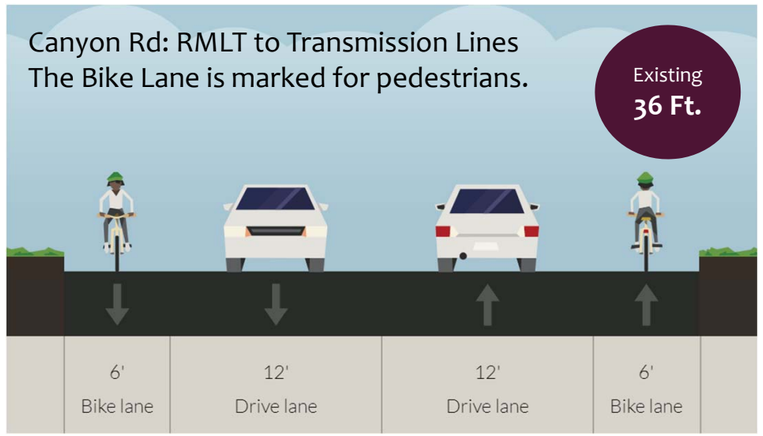
Proposed Improvements

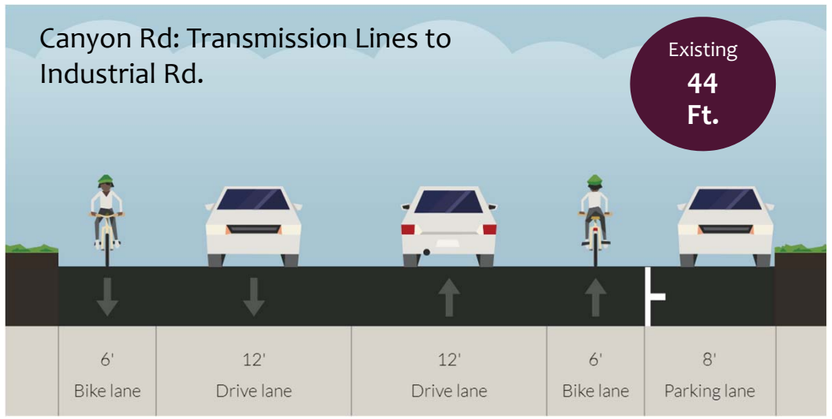
Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.

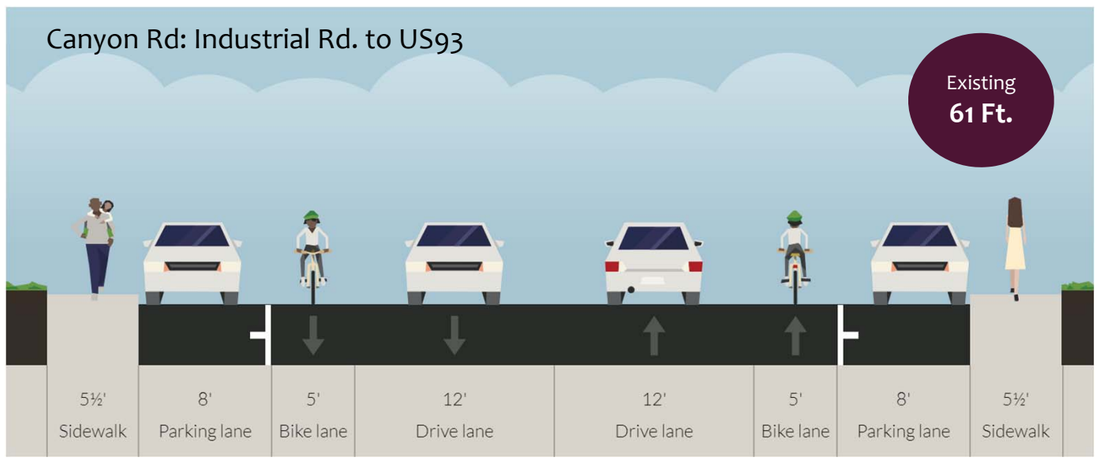


Route 3 - Canyon Rd: RMLT To US93

Existing Conditions



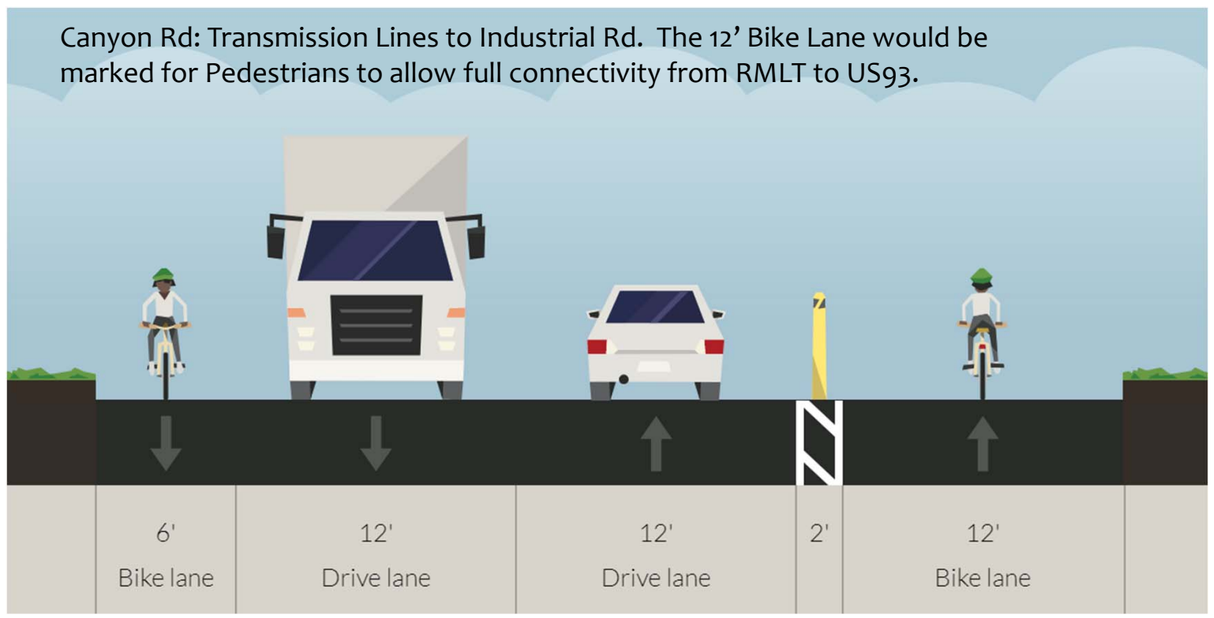




Multi-modal Improvement Considerations					
Canyon Rd: RMLT to US93					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Instersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard/Shared Roadway	X	When traffic circles are re-striped, widen bicycle/pedestrian lanes and add green paint.	Sidewalk	Y	- Add/stipulate sidewalks as development occurs. Pedestrians do not have a safe environment along this road between RMLT and Industrial Road - Consider removing the parking lane between the transmission lines and Industrial Rd, and then using the roadway pavement to include pedestrians and bicyclists. Include protection between the vehicles. - At the US93 intersection, it is almost 70 ft wide. Consider narrowing Canyon Road with pedestrian/sidewalk extension. - At the US93 intersection, add in a bicycle lane on US93 to intersection and add to right turn lane.
Bike Route	X		Curb Extensions	EJ	
Bike Lane	Y		Marked/ Improved Crosswalks	EJ	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	Y		PELICAN Signal	X	

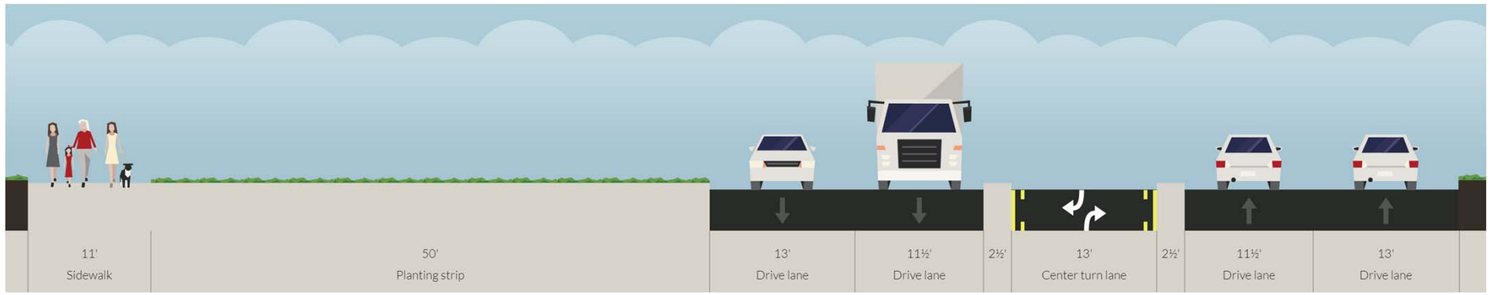
Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements: Overarching recommendations Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking, and wayfinding.



Route 4 - US93: Katzenbach Dr To Canyon Rd

Existing Conditions



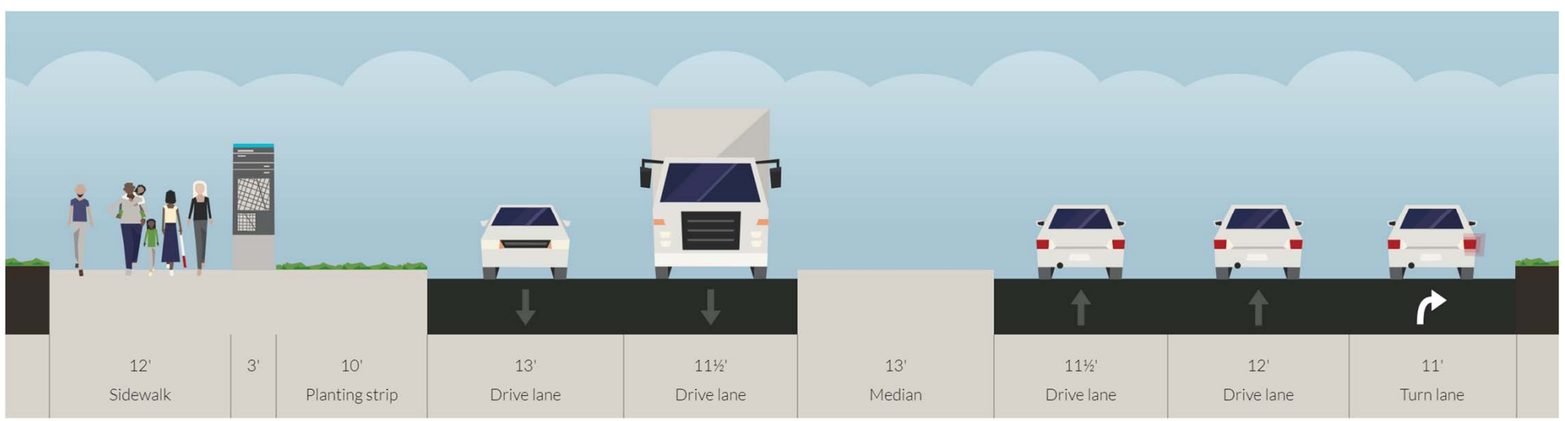


Multi-modal Improvement Considerations					
US93: Katzenbach Dr to Canyon Rd					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard/Shared Roadway	X	Continue shared use path along US93 to connect to RR Museum and Boulder City Parkway. Add wayfinding signs.	Sidewalk	X	Consider Curb Extensions or raised table at right hand turn lane onto Boulder City Parkway to slow speeds down as it intersects the future shared use path. Create shared use path connections to existing sidewalks, RMLT and bicycle lanes.
Bike Route	X		Curb Extensions	EJ	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	Y	
Protected Bicycle Lane	X		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

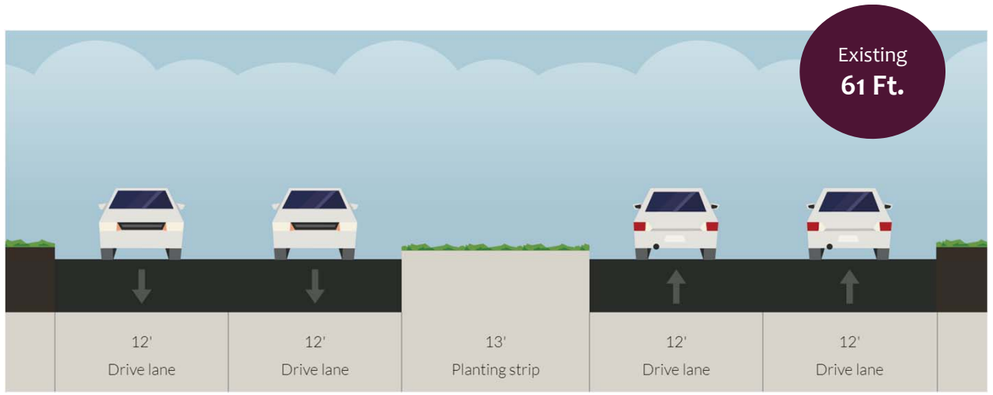
Proposed Improvements

Overarching recommendations: Improve/add signs for wayfinding..



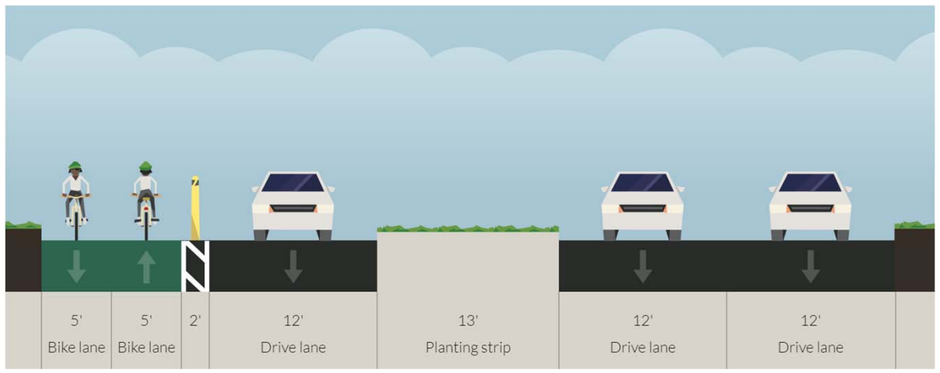
Route 5A - Veteran's Memorial Drive/Industrial Rd: Nevada State Veterans Home To Yucca St

Existing Conditions



Proposed Improvements

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.





Multi-modal Improvement Considerations

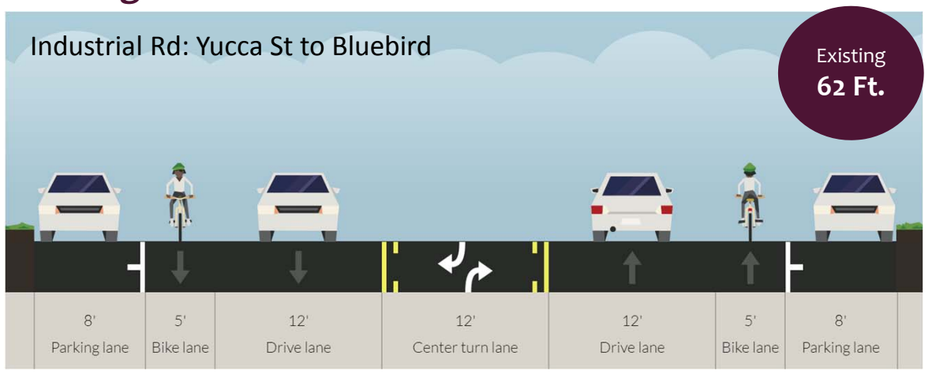
Veterans Memorial Drive: Nevada State Veterans Home to Yucca St

Bicycle Facility	Evaluation	Comments	Pedestrian/ Instersection/ Crossing	Evaluation	Comments
Bicycle Boulevard	X	Assess ROW for sidewalk and shared use path improvements for the corridor (8 to 12 feet) wide on west/north side and a detached sidewalk on east/south side. This would be outside of existing pavement. Create new pathway connections to the River Mountain Loop Trail north of the Nevada State Veterans Home to access both south and east. Consider: change of one vehicle lane on west side to restripe 1 southbound vehicle lane to a 2-way separated bike lanes. If the 2-way separated bike lanes move forward, a 2-stage turn box will need to be included at Yucca and Veterans Memorial Drive. Consider Traffic Circle with bicycle/pedestrian access points at Yucca Intersection as development occurs.	Sidewalk	EJ	Create new pathway connections to the River Mountain Loop Trail by the 'curve' to head south and east. Consider adding/stipulating sidewalk on east side of roadway
Bike Route	X		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	Y	
Protected Bicycle Lane (2-Way Separated Bike Lanes)	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	EJ		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Route 5B - Industrial Rd: Yucca St to US93

Existing Conditions



Industrial Rd: Bluebird to US93

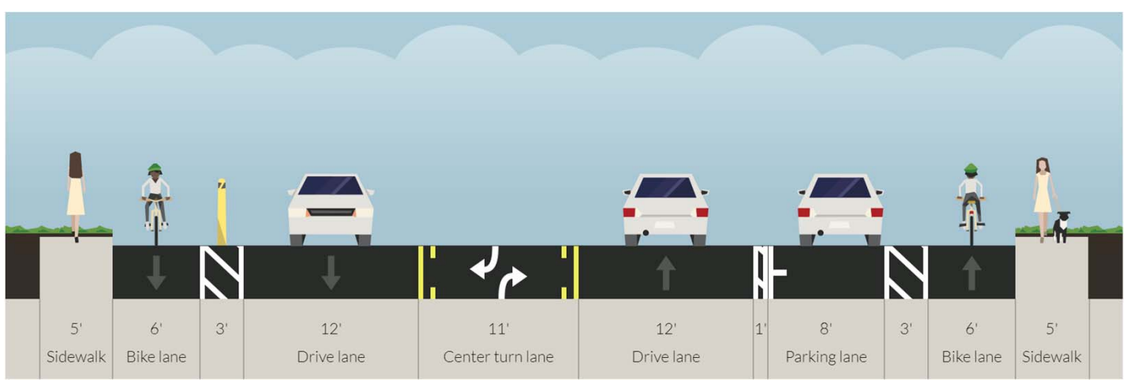


Multi-modal Improvement Considerations					
Industrial Rd: Yucca St to US93					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Instersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	Consider removing a parking lane on northside to widen bike lanes on both sides, and add in buffer and protection. Consider flipping parking south side of street to be closest to vehicle traffic. When re-striping, narrow vehicle lanes from 14 to 12' and add in a 2 ft buffer.	Sidewalk	EJ	Assess ROW for sidewalk improvements and a detached sidewalk on east/south side. This would be outside of existing pavement. Consider adding/stipulating sidewalk improvements as development occurs.
Bike Route	X		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	EJ		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane (2-Way Separated Bike Lanes)	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	X		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.





Route 6 - Railroad Corridor: Veteran's Memorial Dr To US93

Existing Conditions - UP Henderson Spur

Need to understand the ROW ownership and requirements for any bicycle/pedestrian improvements in the corridor.

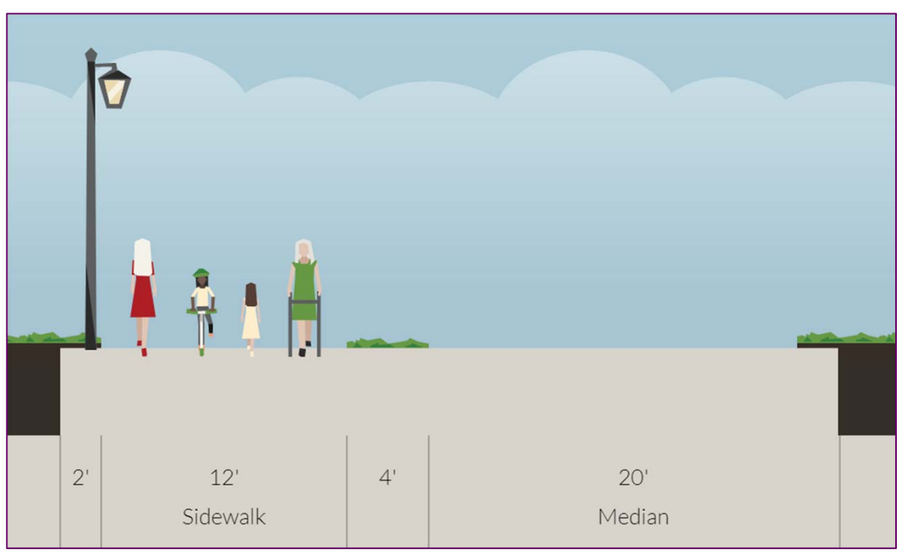


Multi-modal Improvement Considerations					
Railroad Corridor: Veterans Memorial Drive to US 93					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Instersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	-Assess ROW for sidewalk and shared use path improvements for the corridor (8 to 12 feet) wide on west/north side and a detached sidewalk on east/south side. -Include lighting, if possible, into project.	Sidewalk	X	-Create 2 new shared use path connections at Veterans Memorial Drive and the US93. Connection at Veterans Memorial Drive will need to meet ADA compliance.
Bike Route	X		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Bike Through Lanes at Right Turns	X	
Protected Bicycle Lane	X		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	Y		Shared Use Path Connections	Y	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements

Overarching recommendations: Consider adding lighting to this corridor if it moves forward, and appropriate signing, striping and wayfinding.



Route 7 - Boulder City Parkway: Veteran's Memorial Dr To US93

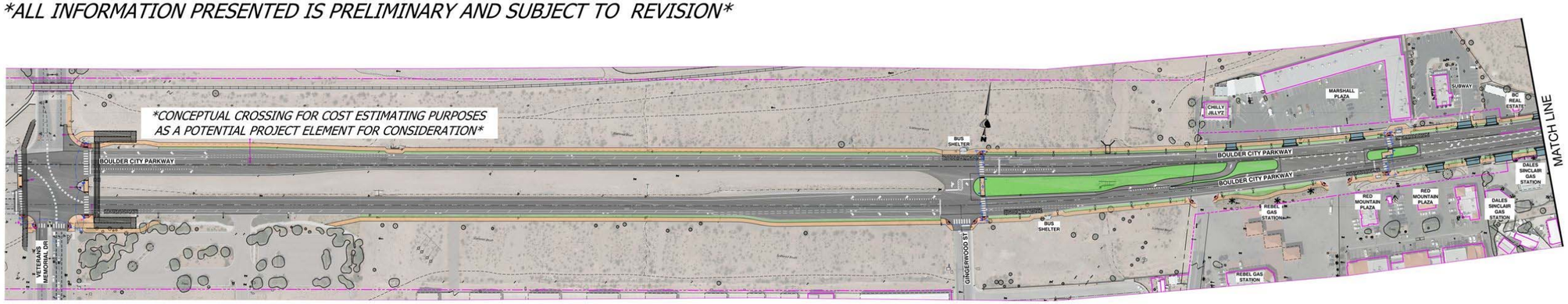
Proposed Improvements

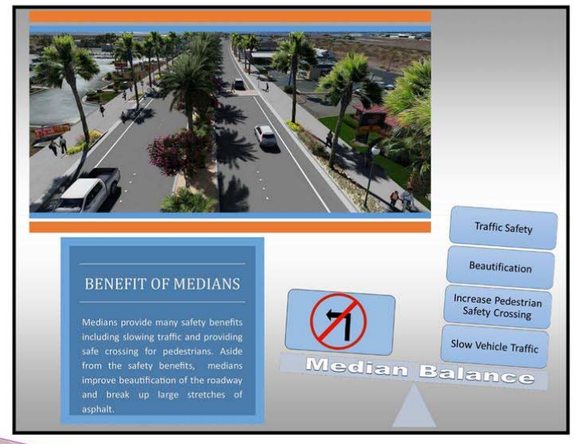
- Overarching recommendations: Improve/add signs along corridor: Share the path, parking/no parking, and wayfinding.

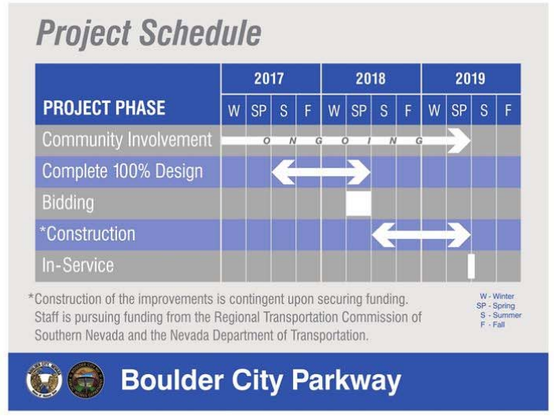
- Re-look @ Yucca and Boulder City Parkway intersection for further improvements. Taper vehicle lanes on Yucca St down to 11 feet at Boulder City Parkway and do a protected intersection/curb extension with bike lane protection (NACTO).

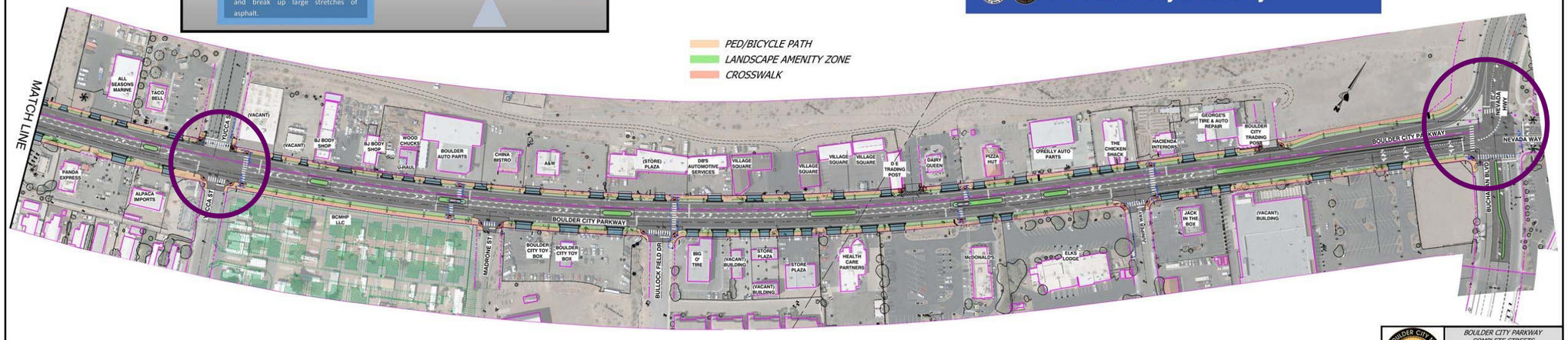
- Re-look @ the Boulder City Parkway/Buchanan Blvd/US93/Nevada Way to add bike lanes on southbound US93 to connect from Canyon Blvd to Boulder Boulder City Parkway via a right turn improvement with a bike lane, and consider a bike lane through to Buchanan Blvd.

ALL INFORMATION PRESENTED IS PRELIMINARY AND SUBJECT TO REVISION





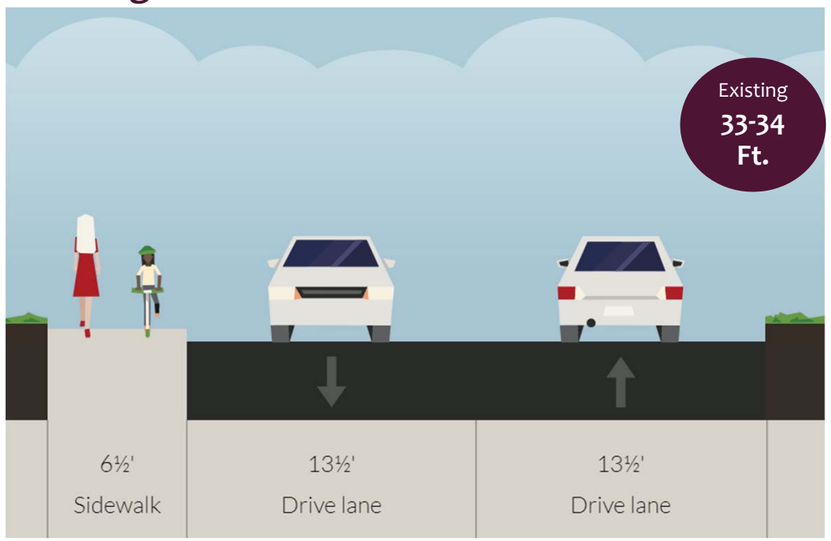




BOULDER CITY PARKWAY COMPLETE STREETS
DATE: Jan 2018 | SCALE: NTS
COMPLETE STREETS OVERVIEW
OV-01
CA Group, Inc

Route 8 - Colorado St: US93 To California Ave

Existing Conditions

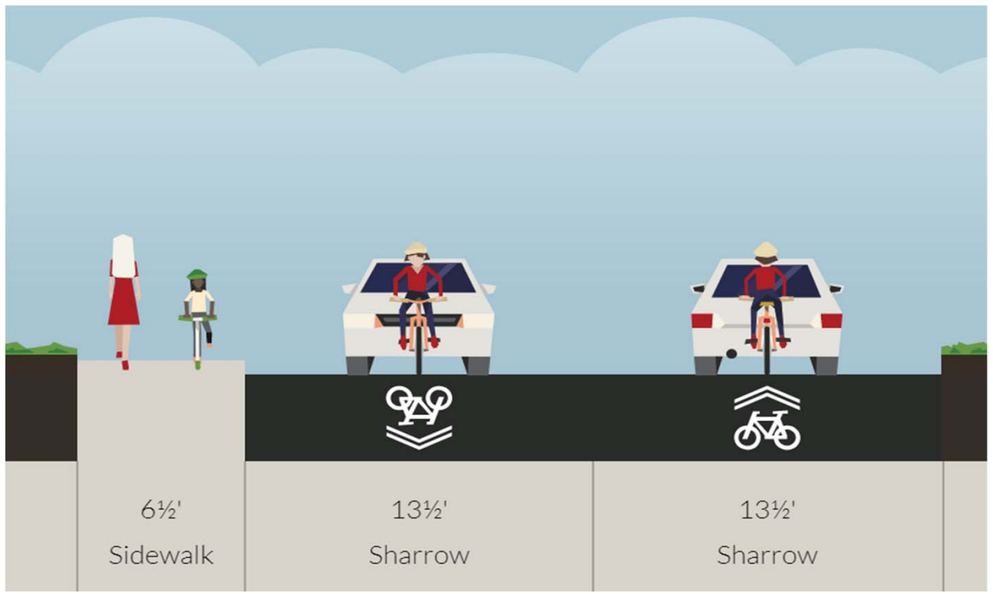


Multi-modal Improvement Considerations					
Colorado St: US93 to California Ave					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Instersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard/Shared Roadway	EJ	-Consider adding additional signs -Consider adding sharrow markings.	Sidewalk	EJ	-Review sidewalks for ADA compliance -Considered bike/pedestrian bridge over US93 at Colorado, but utilities poles are a constraint and there is a parking lot and a safe crossing 1,200-1,300 ft north from the RMLT across US93, to Colorado.
Bike Route	EJ		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Bike Through Lanes at Right Turns	Y	
Protected Bicycle Lane	X		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	X		Shared Use Path Connections	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

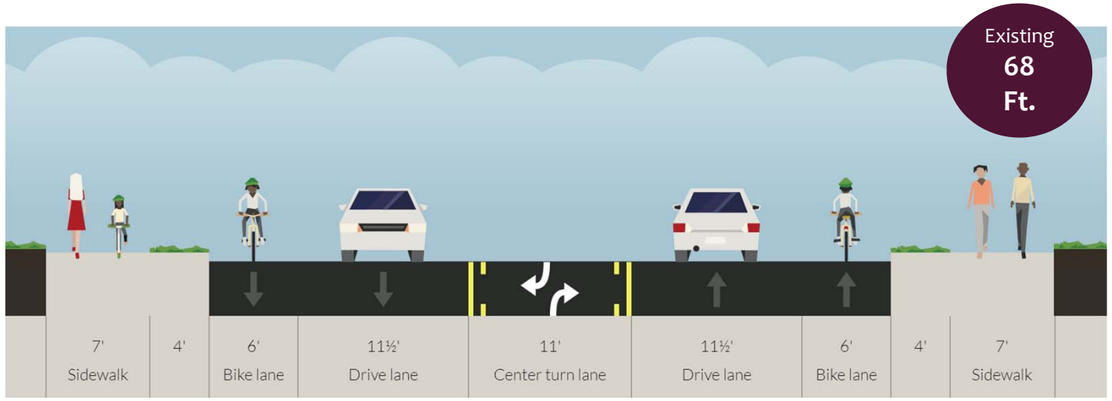
Proposed Improvements

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding. Consider adding sharrows.



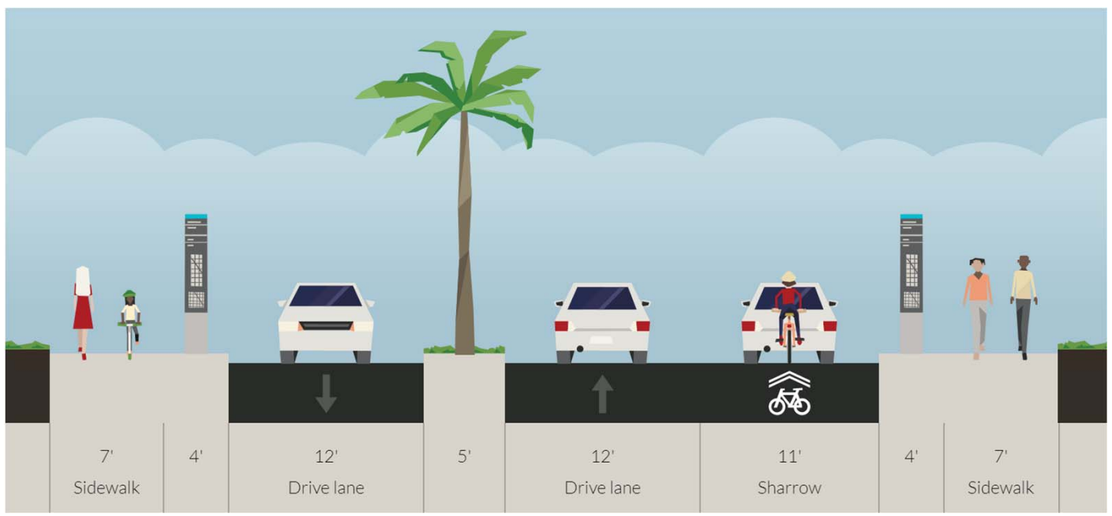
Route 9 - Nevada Way South: US93 To Wyoming

Existing Conditions



Proposed Improvements @ Wyoming

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.



Multi-modal Improvement Considerations

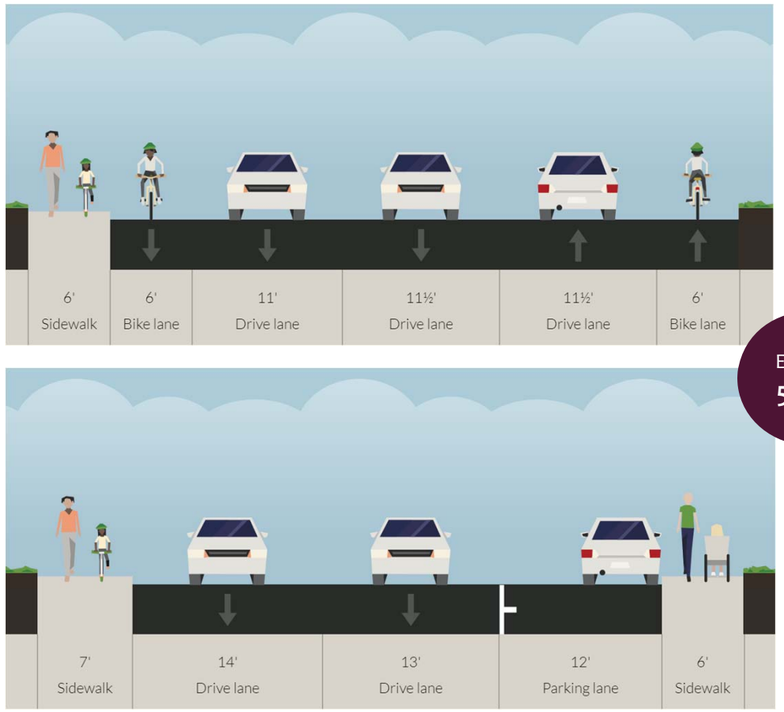
Nevada Way South: US93 to Wyoming

Bicycle Facility	Evaluation	Comments	Pedestrian/ Instersection/ Crossing	Evaluation	Comments
Bicycle Boulevard/Shared Roadway	X	-Extend bike lanes to intersections. -Interim improvement at Nevada Way/US93/Buchanan/Boulder City Parkway intersection is to stripe through bike lane with right turn lane. Review Regional Bicycle & Pedestrian Plan for S. Nevada for design options. -May need a bike box westbound with Right hand turn at Nevada Way/US93/Buchanan/Boulder City Parkway intersection. -Consider adding a buffer and protected bike lane east bound from intersection to address lane drop and bicycle lane. -Recommend adding green paint, small markings and signage when bike lane moves to sidewalk NE of New Mexico St. OR, stripe bicycle lane with large buffer/protection, and then stripe through bike lane with right turn lane. Review Regional Bicycle & Pedestrian Plan for S. Nevada for design options.	Sidewalk	X	-At intersection of Nevada Way/US93/Buchanan/Boulder City Parkway, consider Public Art to address lack of shade at intersection. -Consider a raised crosswalk at the right turn heading south east
Bike Route	X		Curb Extensions	X	
Bike Lane	Y		Marked/ Improved Crosswalks	EJ	
Buffered Bicycle Lane	EJ		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Route 10 - Nevada Way NORTH: Park St To Us93

Existing Conditions: Near Park St, the roadway tapers down to two 13 ft lanes



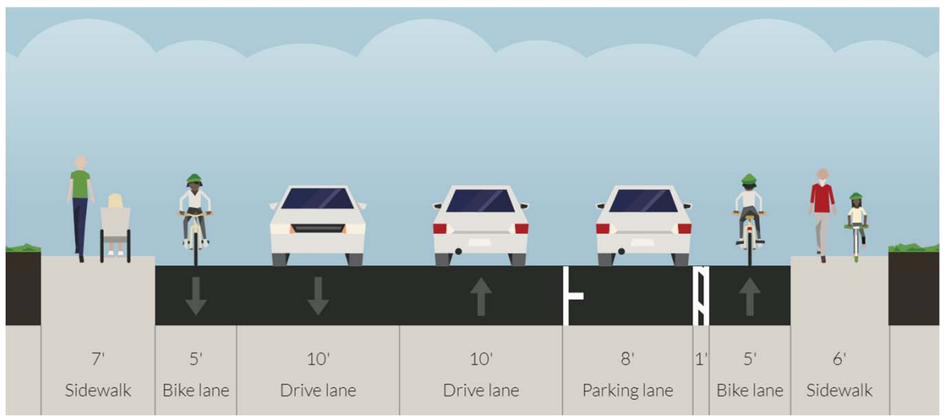
Existing
52 Ft.

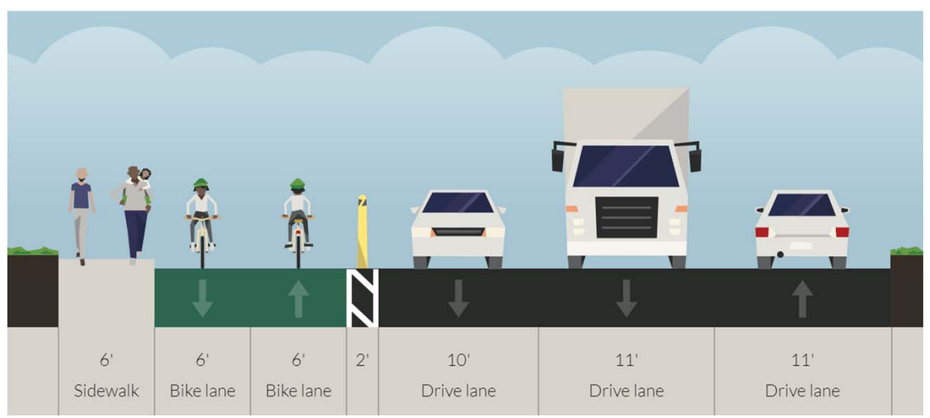
Multi-modal Improvement Considerations					
Nevada Way South: Parks St to US93					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Instersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard/Shared Roadway	Y/EJ	Where the road has a 12' parking lane, consider narrowing vehicle and parking lanes to 10' and 8' and include 5' bicycle lanes, and shifting the parking to be closest to the vehicle lane. Add sharrow markings as Nevada Way approaches Park St. Consider removing a lane and adding in a 2-Way Separated Bike Lanes.	Sidewalk	X	Recommend striping crosswalks and putting in active warning beacons to allow pedestrians to cross the road safely to the other side of the street for sidewalk access in select locations.
Bike Route	X		Curb Extensions	X	
Bike Lane	EJ		Marked/ Improved Crosswalks	EJ	
Buffered Bicycle Lane	EJ		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane (2-Way Separated Bike Lanes)	EJ		Active Warning Beacon	EJ	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	X		PELICAN Signal	X	

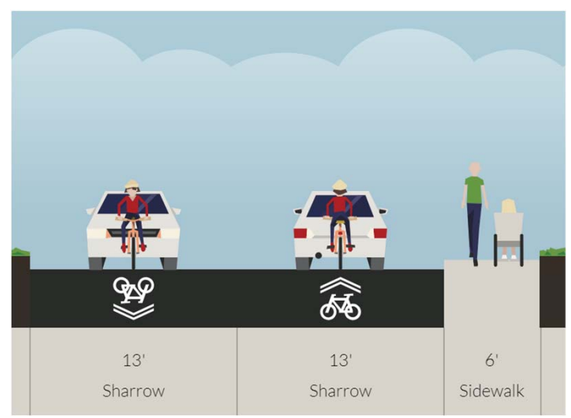
Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.







River Mountains Loop Trail Improvements Study

Stakeholder Meeting
August 15, 2018

AGENDA & GOALS

Goals of today's meeting

1. Introductions (5 min)
2. Project status & update (5 min)
3. Network analysis (package #1) (15 min)
4. Concept development (package #2) (15 min)
5. Outreach strategy (10 min)
6. Next steps/other discussion (5 min)

Project Mission Statement:

Create optimal connections and improvements to connect existing River Mountains Loop Trail to Historic Downtown Boulder and the Nevada State Rail Road Museum to enhance the economic vitality of Boulder City.

River Mountains Loop Trail Improvements Study

Project Status & Update



SCHEDULE

TASKS	KICK-OFF	PHASE 1				PHASE 2				PHASE 3			FINAL	
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
NTP	◆															
Task 1 Management & Stakeholder Coordination		KO1			2					3				4		5
Task 2: Public Outreach						◆					◆			◆		
Task 3: Data Collection and Review			■	■	■	■	■									
Task 4: Multimodal Network Analysis					■	■	■	■	■							
Task 5: Alternative Development for Mulitmodal Access								■	■	■	■	■	■	■		
Task 6: Recommendations and Implementation														■	■	■
Task 7: Deliverables		◆			◆		◆			◆			◆	◆	◆	◆

◆ Milestone/Deliverables*

◇ Stakeholder Meeting/Workshop

** Size of diamond represents relative size of deliverable*

◆ Community Meeting

◆ Business Outreach

◆ Pop-Up Event or Online Survey

Evaluation Process



1 Process Initiation → **2 Evaluation and Development** → **3 Recommendations**

Support and Opportunity

Agency Objectives

Input from Participating Agencies and the Stakeholder Working Group

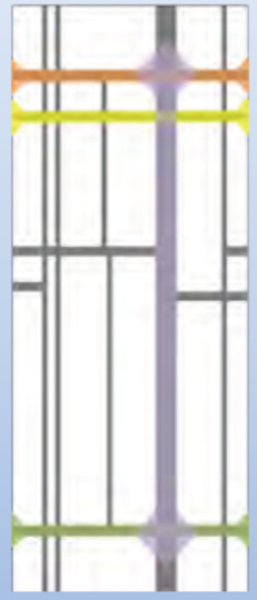
Community Support



Funding Opportunities



1 Data Collection



Evaluation and Benefits

Demand



Land Use Intensity

Need



Safety & Security

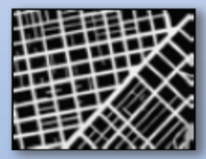


Mobility

Compatibility



Road Design



Connectivity

2

Concept Development and Costs

Cross-Section of Ultimate Concept



Enhancement Phasing



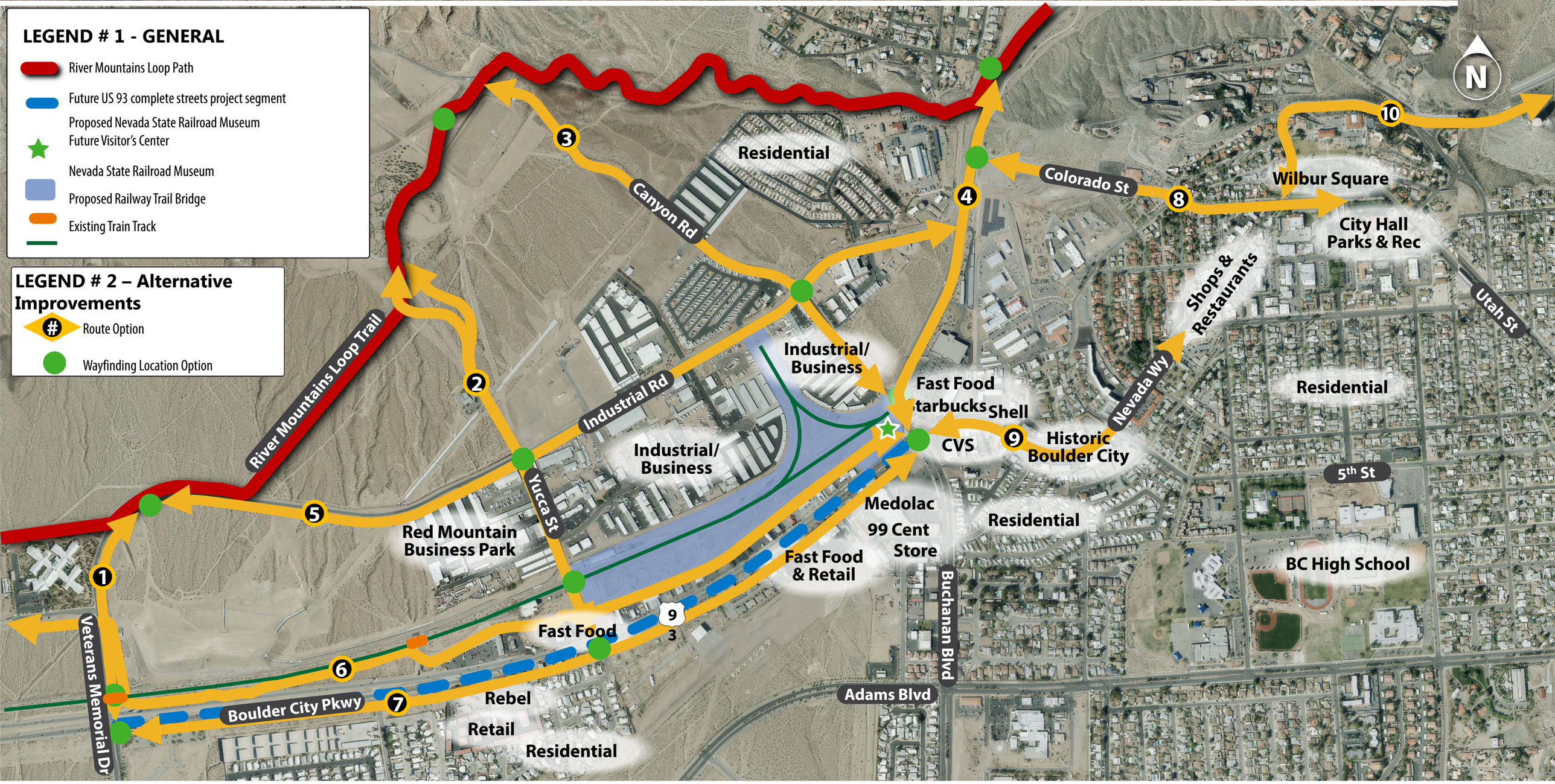
3

River Mountains Loop Trail Improvements Study

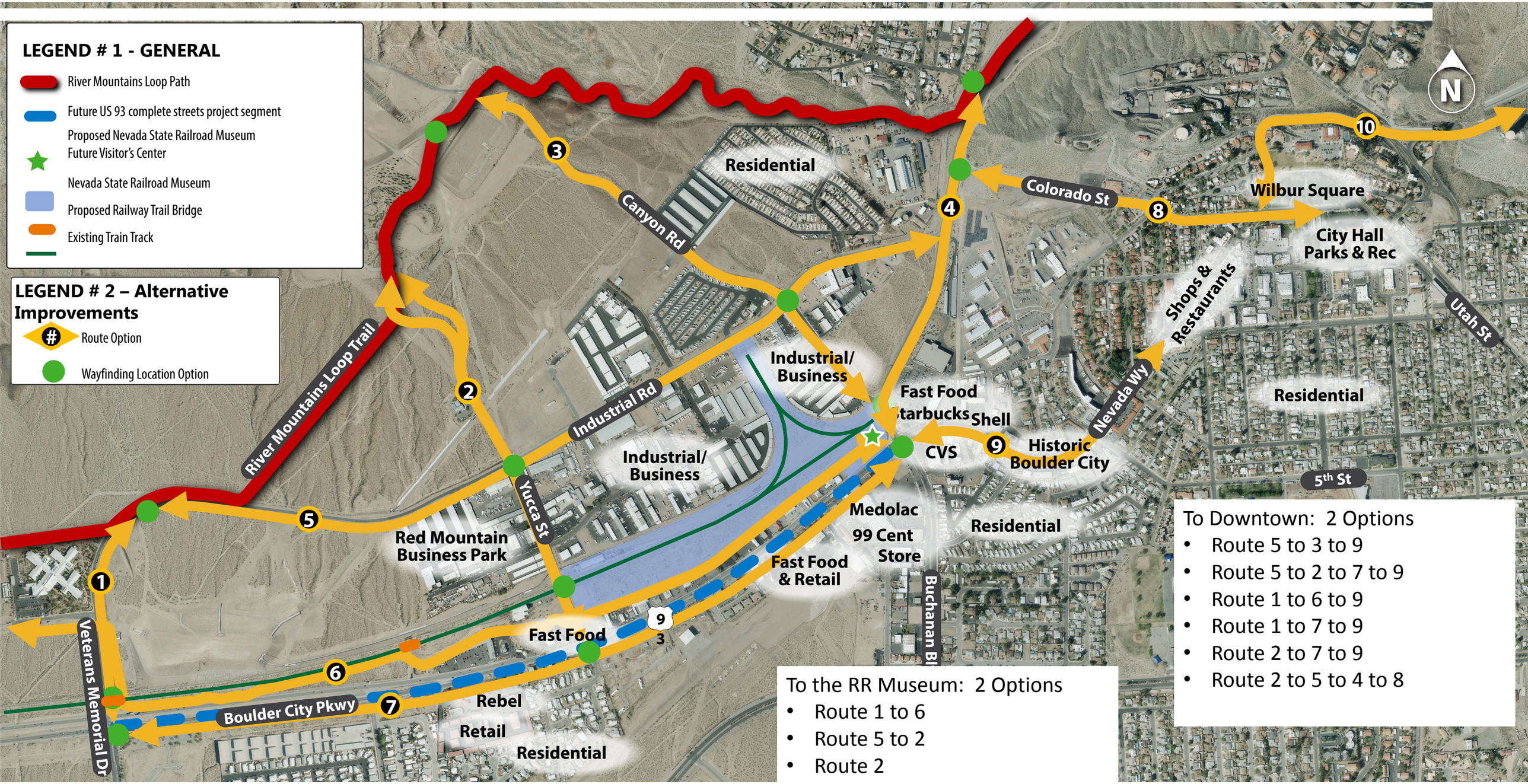
Network Analysis
Study Area Connection Options
(Package #1)

Study Area & Route Map





Route Options from the West to RR Museum
Route Options from the West to Historic Downtown



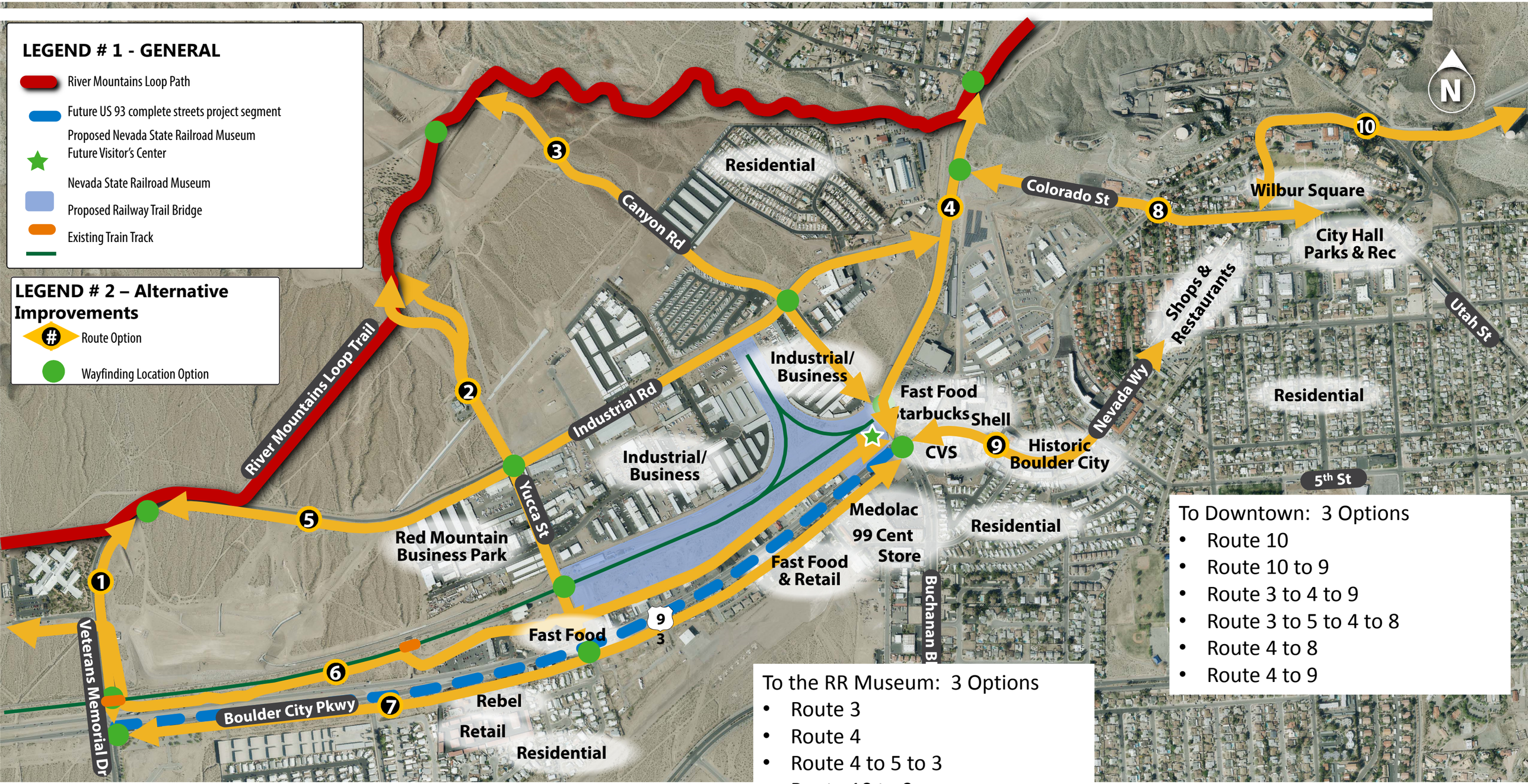
To the RR Museum: 2 Options

- Route 1 to 6
- Route 5 to 2
- Route 2

To Downtown: 2 Options

- Route 5 to 3 to 9
- Route 5 to 2 to 7 to 9
- Route 1 to 6 to 9
- Route 1 to 7 to 9
- Route 2 to 7 to 9
- Route 2 to 5 to 4 to 8

Route Options from the Northeast to RR Museum
Route Options from the Northeast to Historic Downtown



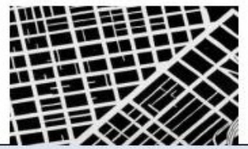
To the RR Museum: 3 Options

- Route 3
- Route 4
- Route 4 to 5 to 3
- Route 10 to 9

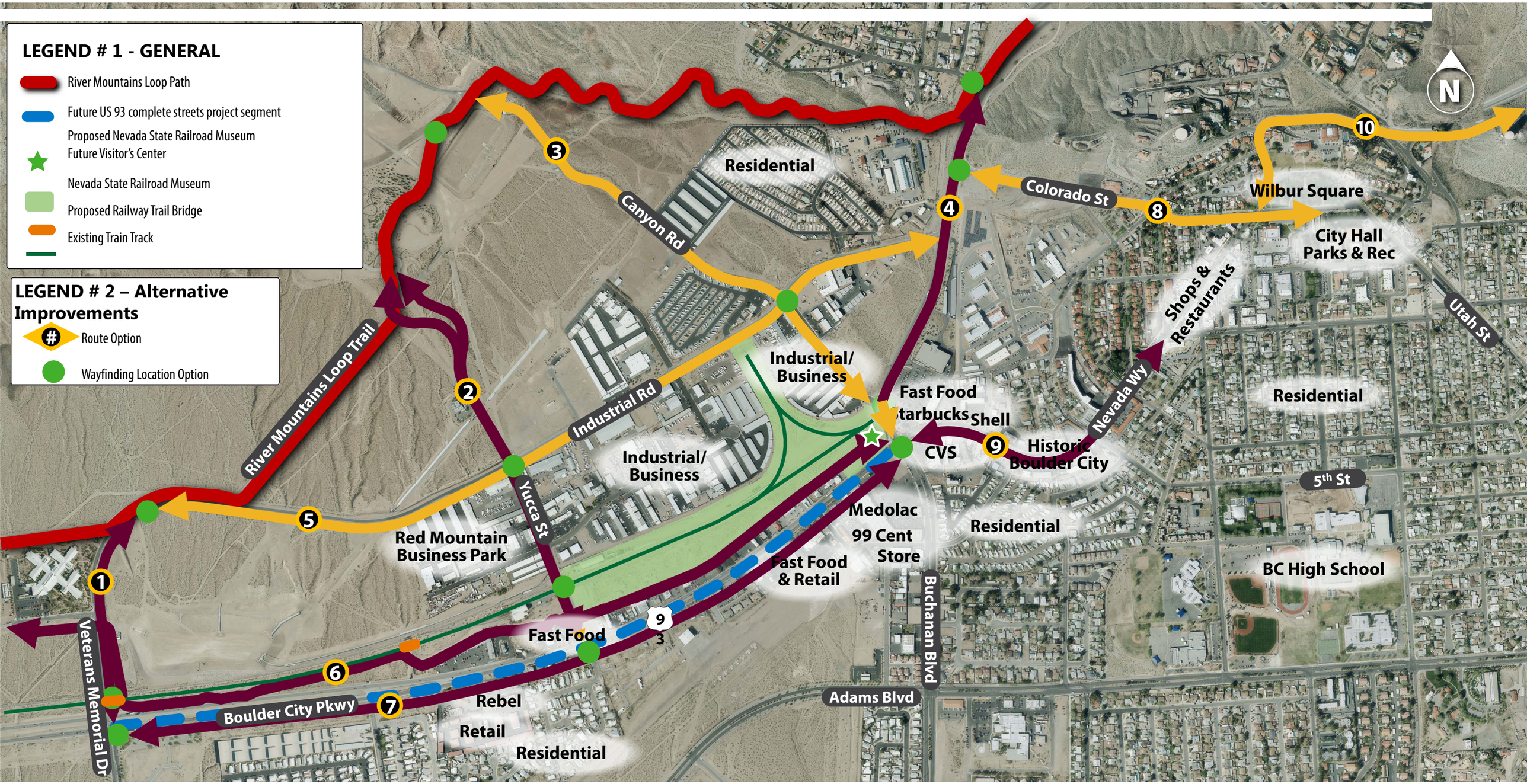
To Downtown: 3 Options

- Route 10
- Route 10 to 9
- Route 3 to 4 to 9
- Route 3 to 5 to 4 to 8
- Route 4 to 8
- Route 4 to 9

Evaluation Components and Criteria Explanation

EVALUATION FACTOR	RATING DESCRIPTION	CRITERIA					
DEMAND AND NEED							
D&N1) LAND USE CONTEXT 	• - Low: Not supportive land use •• - Below average supportive land use ••• - Average supportive land use •••• - Above average supportive land use ••••• - High supportive land use	**RESIDENTIAL DENSITY** Low – Low density housing Medium – Medium density housing High – High density housing	**COMMERCIAL DENSITY** Low – Low density commercial Medium – Medium density commercial High – High density commercial	**OTHER ATTRACTORS** SCHOOLS/PARKS/REC CENTERS/GOLF COURSES/TRAILS Low – Low number of locations Medium – Medium number of locations High – High number of locations	**TRAFFIC (AADT)** Low – Low count Medium – Medium count High – High count	**TRAFFIC (Bike and Ped Counts)** Low – Low count Medium – Medium count High – High count	**TRANSIT RIDERSHIP** Low – Low ridership Medium – Medium ridership High – High ridership
D&N2) SAFETY 	• - Few accidents •• - Below average number of accidents ••• - Average number of accidents •••• - Above average number of accidents ••••• - High number of accidents	**CONFLICT POINTS / SAFETY AUDITS** Low – Low safety concerns Medium – Medium safety concerns High – High safety concerns	**CRASH HISTORY** Low – Low crash history Medium – Medium crash history High – High crash history	**SECURITY** Low – Low security concerns Medium – Medium security concerns High – High security concerns			
D&N3) MOBILITY 	• - Low mobility (few modes accommodated/needed) •• - Below average mobility ••• - Average mobility •••• - Above average mobility ••••• - High mobility (most modes accommodated/needed)	**MASTER PLANS** Low – minimal modes included in plans Medium – some modes included in plans High – all modes included in plans	**BIKE & PED** (Gap in facilities) Low – Enhanced/ADA compliant facilities Medium – Basic facility access High – No facility access	**TRANSIT** (existing or planned, along or crossing corridor) Low – low number of transit routes Medium – medium number of transit routes High – high number of transit routes			
COMPATIBILITY							
C1) ROADWAY DESIGN 	• - Low accommodations for treatments •• - Below average accommodations for treatments ••• - Average accommodations for treatments •••• - Above average accommodations for treatments ••••• - High accommodations for treatments	**ROW Constraints** Low – No additional ROW available High – additional ROW available or ROW purchase easily obtained	**TRAFFIC LANES** Low – Arterial with 5+ lanes Medium – Collector with 3+ lanes or major arterial with 5+ lanes High – 2 lanes or major collector with 3+ lanes	**TRAFFIC (AADT)** Low – More than 25,000 High – Less than 25,000	**POSTED SPEED LIMITS** Low – Over 40 mph Medium – 31-40 mph High – Up to 30 mph	**VOLUME/CAPACITY RATIOS** *(Projected 2035 Peak)* Low – V/C ratio more than 0.67 Medium – V/C ratio between 0.33 and 0.67 High – V/C ratio less than 0.33	
C2) CONNECTIVITY 	• - Low connectivity •• - Below average connectivity ••• - Average connectivity •••• - Above average connectivity ••••• - High connectivity	**CORRIDOR CONNECTIVITY AND ACCESSIBILITY** Low – low appropriate connectivity Medium – medium appropriate connectivity High – high appropriate connectivity	**SYSTEM CONNECTIVITY AND CAPACITY** Low – low alternate system capacity Medium – medium alternate system capacity High – high alternate system capacity	**REGIONAL CONNECTIVITY** Low – low regional connectivity Medium – medium regional connectivity High – high regional connectivity			
OVERALL RANKING							
OVERALL RANKING	• - Low CS compatibility rank (5 to 11 points) ••• - Medium CS compatibility (12 to 18 points) ••••• - High CS compatibility rank (19 to 25 points)	**ALL CATEGORIES** • - Low score (1 points) •• - Below average score (2 points) ••• - Average score (3 points) •••• - Above average score (4 points) ••••• - High score (5 points)	**SUB CATEGORIES** • - Low score (1 points) ••• - Medium score (2 points) ••••• - High score (3 points)	**OVERALL** **Score D&N1 : LAND USE CONTEXT** (1 to 5 points) **Score D&N2 : SAFETY** (1 to 5 points) **Score D&N3 : MOBILITY** (1 to 5 points) **Score C1 : ROADWAY DESIGN** (1 to 5 points) **Score C2 : CONNECTIVITY** (1 to 5 points) **TOTAL POINTS** (5 TO 25 points)			

Highest Ranked Routes that meet the Project Goal: 1, 2, 3, 4, 6, 7, and 9



Route 6 - Railroad Corridor: Veteran's Memorial Dr To US93



Route 7 - Boulder City Parkway: Veteran's Memorial Dr To US93

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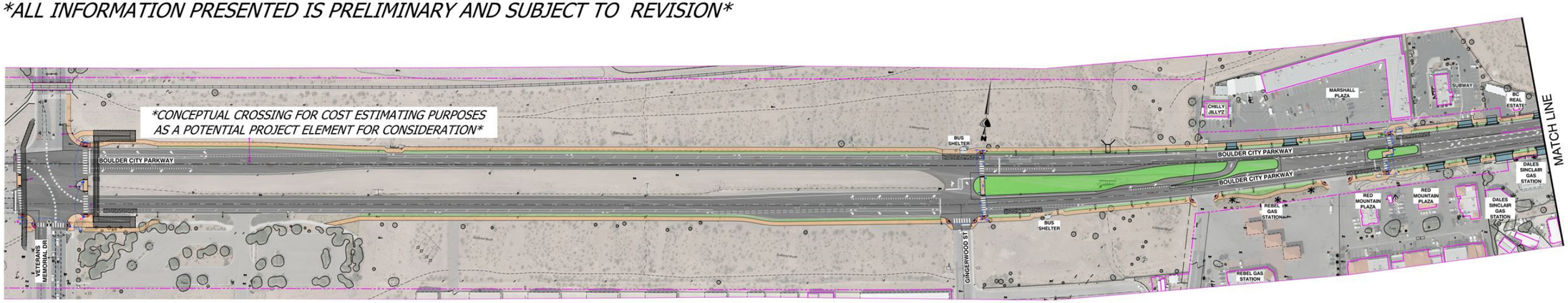
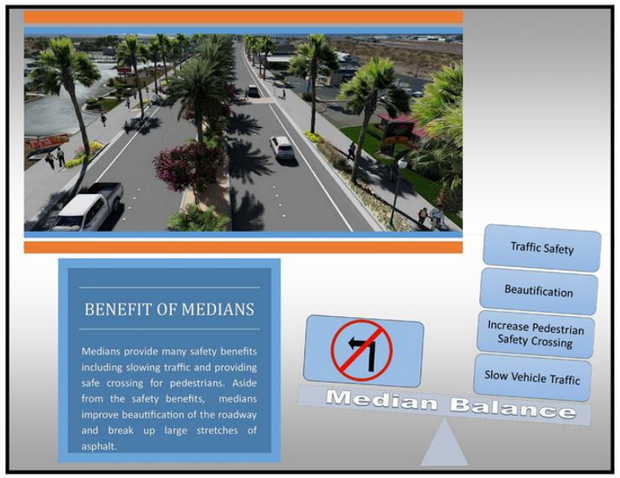




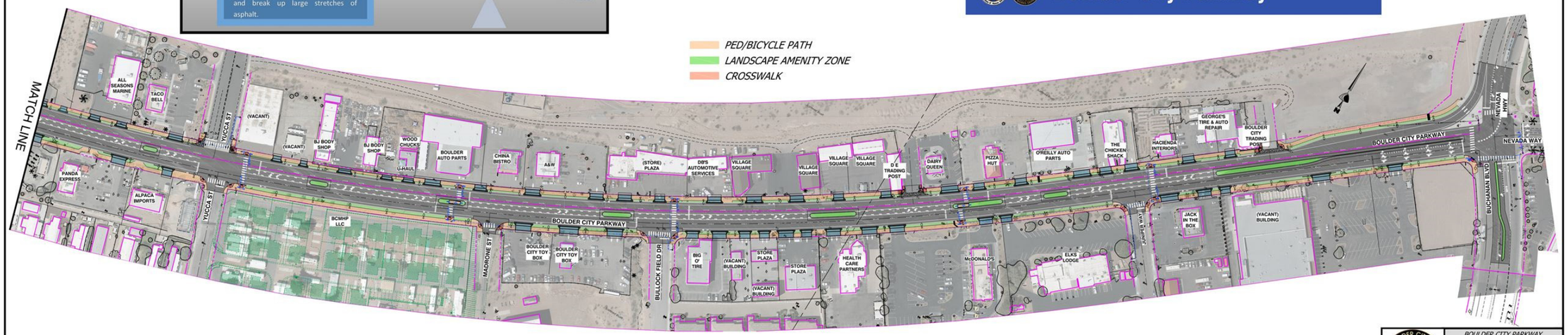
Project Schedule

PROJECT PHASE	2017				2018				2019			
	W	SP	S	F	W	SP	S	F	W	SP	S	F
Community Involvement	O	N	G	O	I	N	G	→				
Complete 100% Design	←											
Bidding												
*Construction									←			
In-Service												

*Construction of the improvements is contingent upon securing funding. Staff is pursuing funding from the Regional Transportation Commission of Southern Nevada and the Nevada Department of Transportation.

W - Winter
SP - Spring
S - Summer
F - Fall

Boulder City Parkway



BOULDER CITY NV PUBLIC WORKS DEPARTMENT

BOULDER CITY PARKWAY COMPLETE STREETS

DATE: Jan 2018 | SCALE: NTS

COMPLETE STREETS OVERVIEW

OV-01

CA Group, Inc

Evaluation Process for Route Selection – DRAFT Recommendation



1

Complete Street Evaluation – Per Route

- Land Use Context
- Safety
- Mobility
- Roadway Design
- Connectivity
- Public Involvement

2

Evaluation Results

- Per Route
- Per Groups of Route from:
  - West to Downtown and to RR Museum
  - Northeast to Downtown and to RR Museum

3

Ranked Groups of Routes that Best Support Goal of Project

- From the West:
  - To RR Museum = Routes 1, 2 and 6
  - To Downtown = Routes 1, 2, 6, 7, 9
- From the North East:
  - To RR Museum = Routes 3 and 4
  - To Downtown = Routes 3, 4, 9, and 10

Highest Ranked Routes that meet the Project Goal: 1, 2, 3, 4, 6, 7, 9

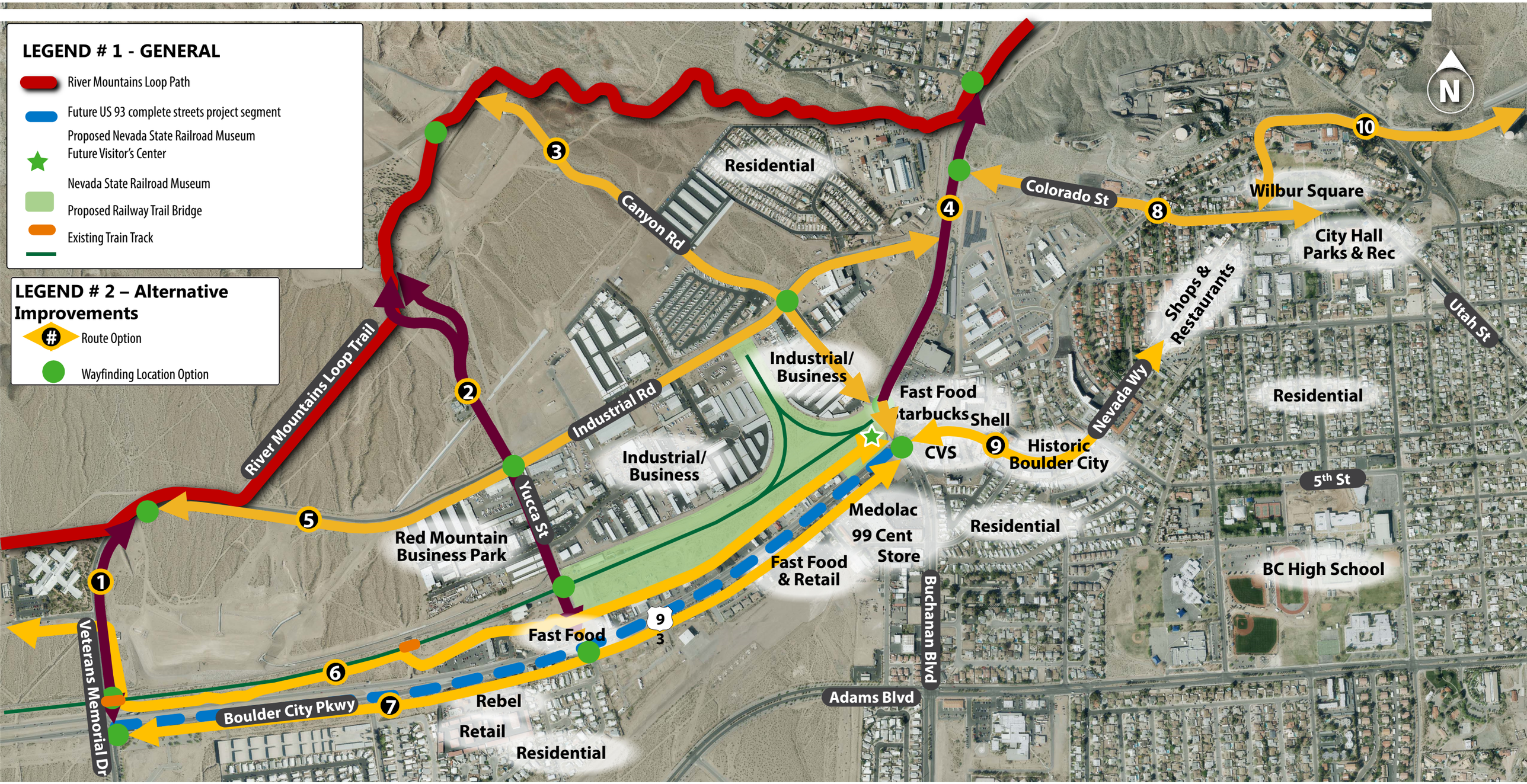
Routes That Don't Need Further Development:

- Route 3 – Not preferred for enhancement (stakeholder input)
- Route 6 – has completed vision and design plans
- Route 7 – has completed vision and design plans
- Route 8 – Minimal improvements can be made
- Route 9 – corridor is essentially complete
- Route 10 – The route is not the easiest nor direct route to downtown.

4

Routes that Need Further Development: 1, 2, and 4

Routes That Need Further Development: 1, 2, and 4



River Mountains Loop Trail Improvements Study

Concept Development
(Package #2)

PROGRAMMATIC RECOMMENDATIONS

ENHANCE THE ECONOMIC VITALITY OF BOULDER CITY

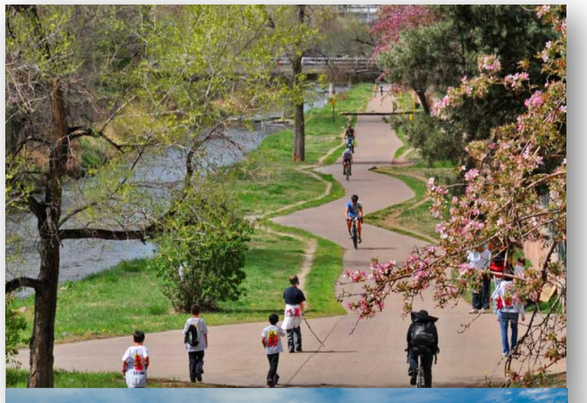
1. Submit for Bicycle Friendly Community
2. Kiosks and wayfinding at key locations.
3. Maps and directions created just for trail users and Boulder City connections.
4. Digital interaction with mobile devices for marketing and attractions.
5. RMLT community group focused on attracting users from the trail into BC.
6. Partnering with local businesses for trail upkeep and sponsorships.
7. Commute buddy program that pairs experienced bike commuters with newbies.
8. Offer free classes or bike citation diversion classes for cyclists who get ticketed.
9. Bike repair clinics.
10. Cycling team.
11. FIY bike fix-it stations and bike pumps along the trail.
12. Bike share program.
13. Bike parking options within Boulder City.
14. Provide e-bike charging stations.
15. Public art along the trail.

Branded Trails and Shared Use Paths Systems encourage an alternative mode of transportation that provides a low stress, experiential, and seem less system that encourages tourists, residents, businesses, and all users to connect to places, events and businesses

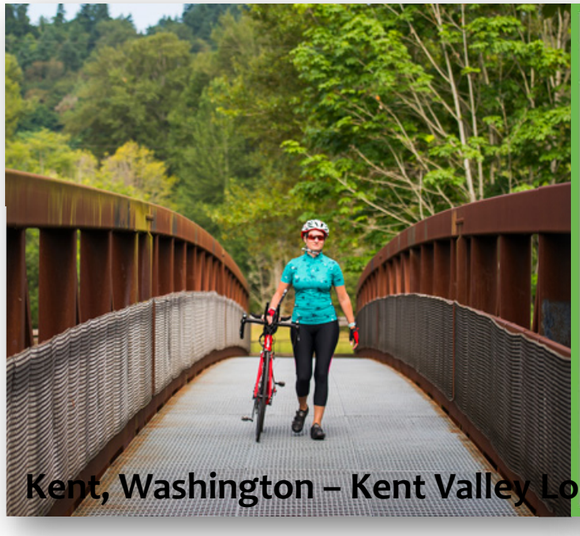

Detroit, Michigan - Riverfront


Indianapolis, Indiana – Cultural Trail






Denver, Colorado – Cherry Creek Trail


Kent, Washington – Kent Valley Loop Trails




Tucson, Arizona – The Loop



Amenities & Connective Placemaking



Public Art

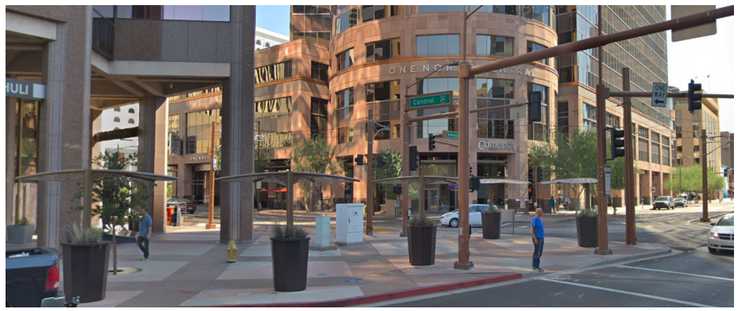


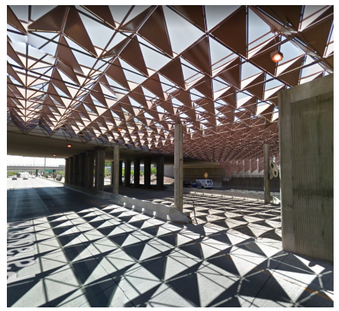






Shade







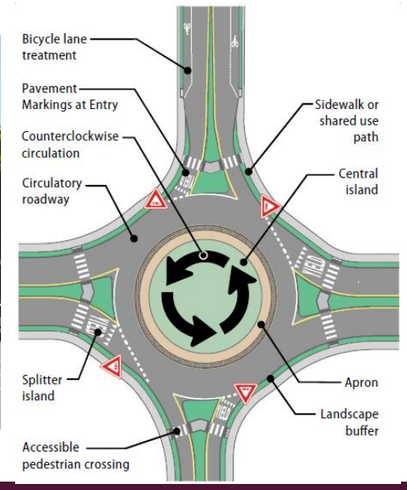


Safe Crossings





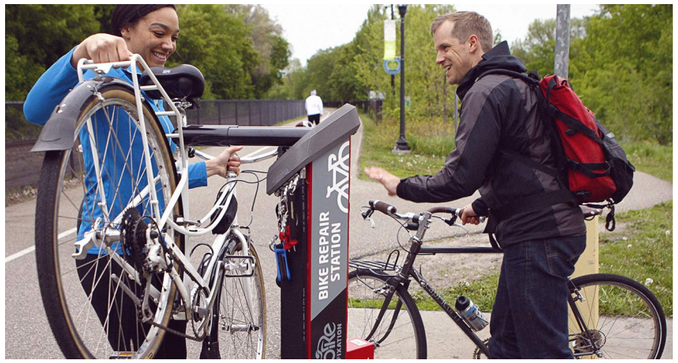




Amenities & Connective Placemaking



Bicycle Amenities









Pedestrian Amenities







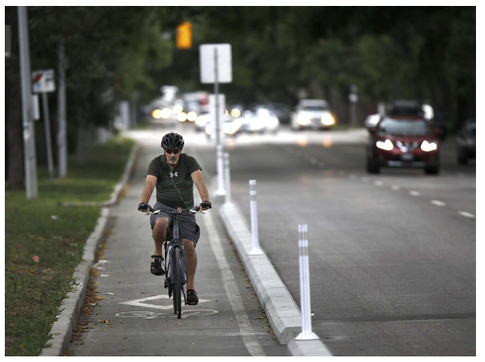


Bicycle Protection



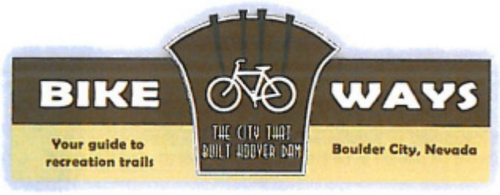






Wayfinding & Information Kiosks





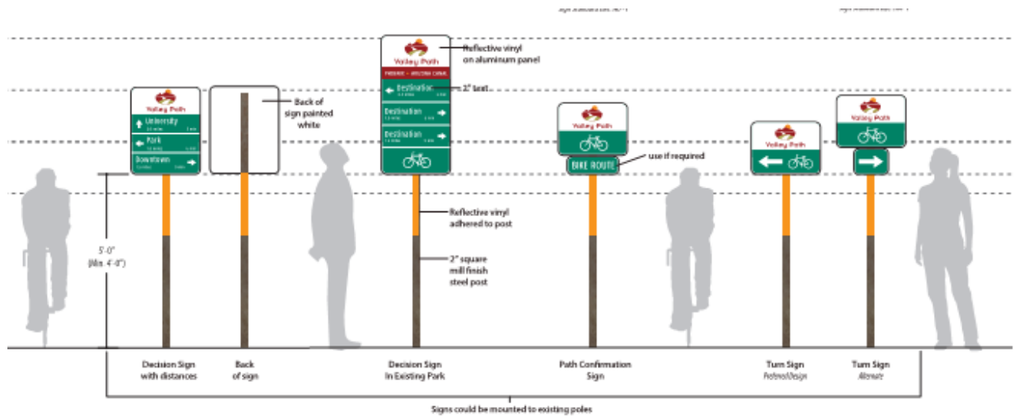




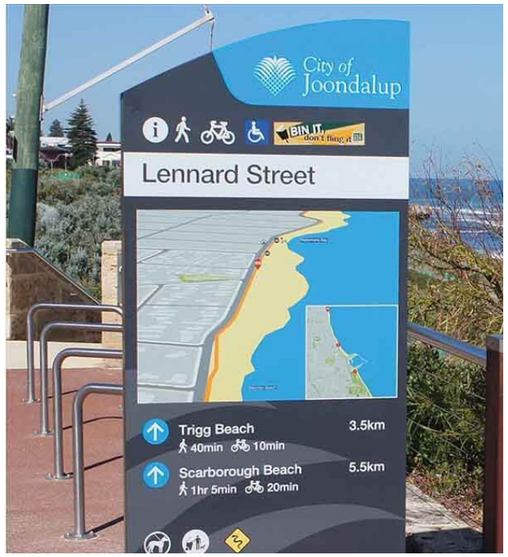


Move to include:
A) places,
B)distance,
and C)time for
people walking and biking.

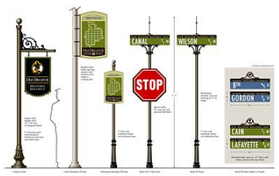












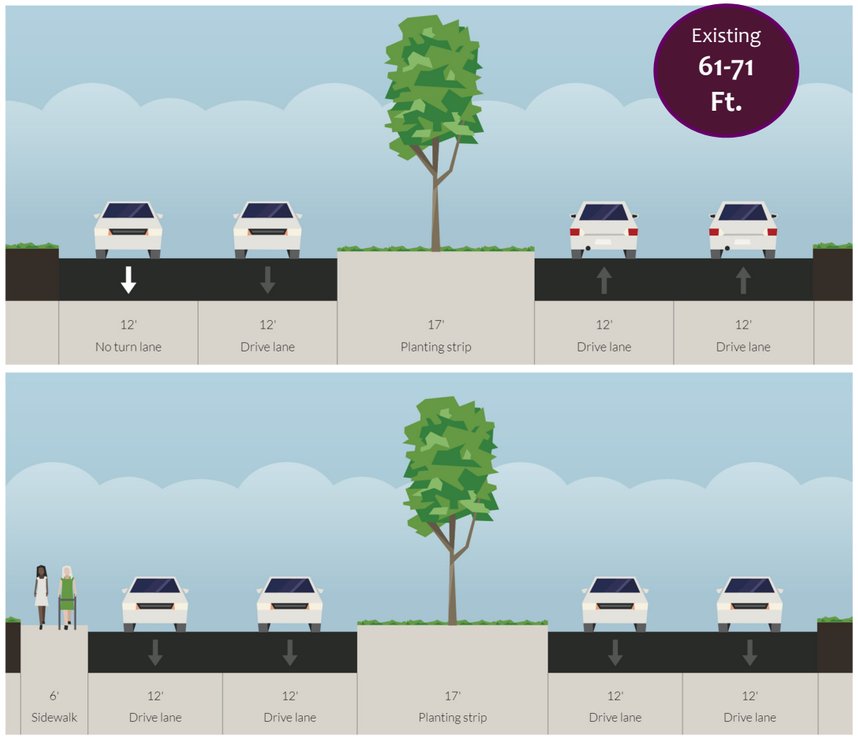






Route 1 - Veterans Memorial Drive: Boulder City Parkway to Nevada State Veterans Home

Existing Conditions: Median is between 17 and 13 ft wide with turn lanes at some locations, and there is a sidewalk along a portion of the roadway.

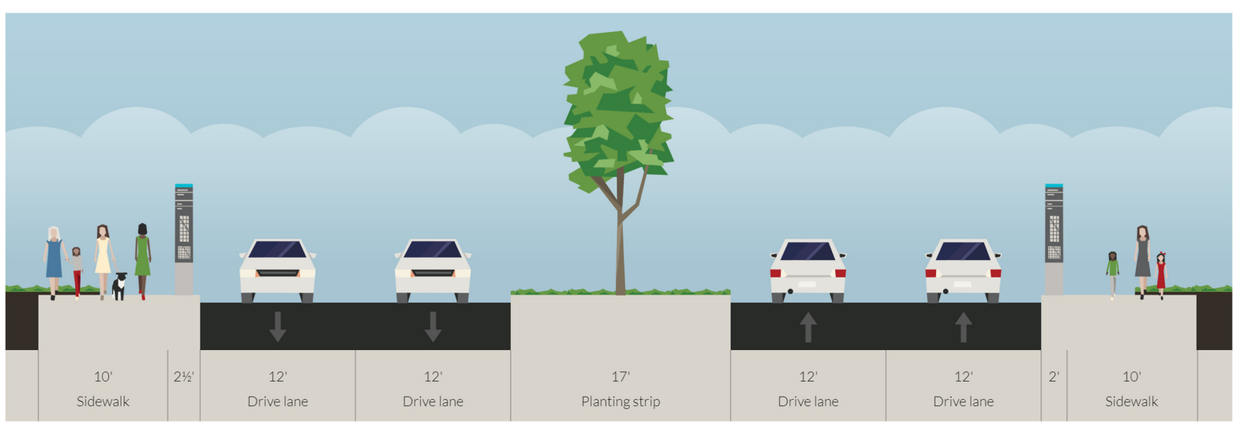


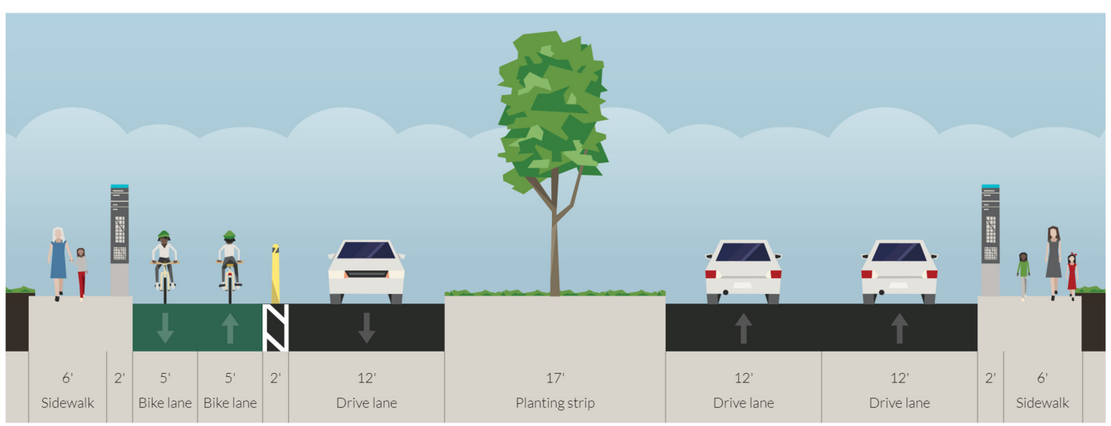
Multi-modal Improvement Considerations					
Veterans Memorial Drive: Boulder City Parkway to Nevada State Veterans Home					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	-Assess ROW for sidewalk and shared use path improvements for the corridor (8 to 12 feet) wide on west/north side and a detached sidewalk on east/south side. This would be outside of existing pavement. -Create new pathway connections to the River Mountain Loop Trail north of the Nevada State Veterans Home to access both south and east. -Consider: change of one vehicle lane on west side to restripe 1 southbound vehicle lane to a two-way separated bike lanes.	Sidewalk	EJ	-Create new pathway connections to the River Mountain Loop Trail by the 'curve' to head south and east. - Consider adding/stipulating sidewalk on east side of roadway
Bike Route	X		Curb Extensions	X	
Bike Lane	X		Marked/ Improved Crosswalks	Y	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	Y	
Protected Bicycle Lane (2 Way Separated Bike Lanes)	EJ		Active Warning Beacon	EJ	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	EJ	
Shared Use Path	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

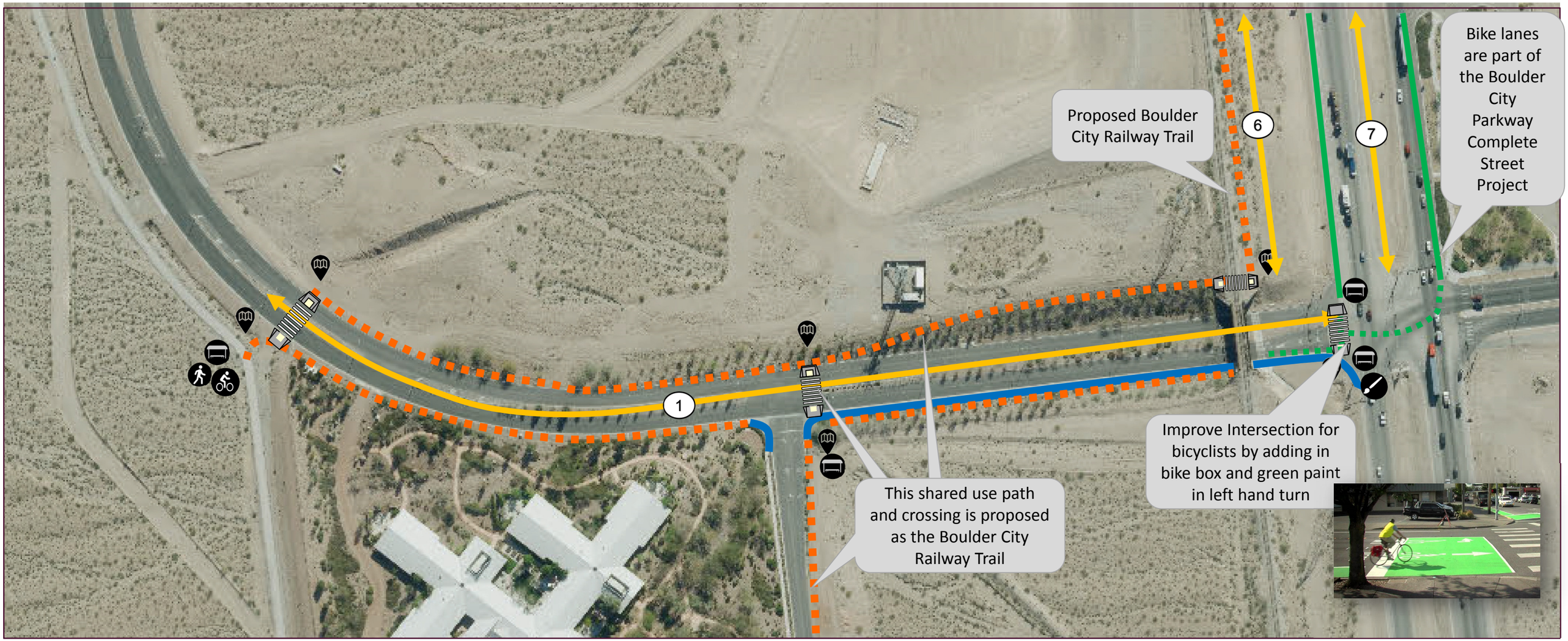
Proposed Improvements – Alternative 1 and 2

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking, and wayfinding.





Advanced Route 1 - Veterans Memorial Drive: Boulder City Parkway to Nevada State Veterans Home



LEGEND

Approximate 100 ft

- Route
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Landscaping

Amenity Opportunities

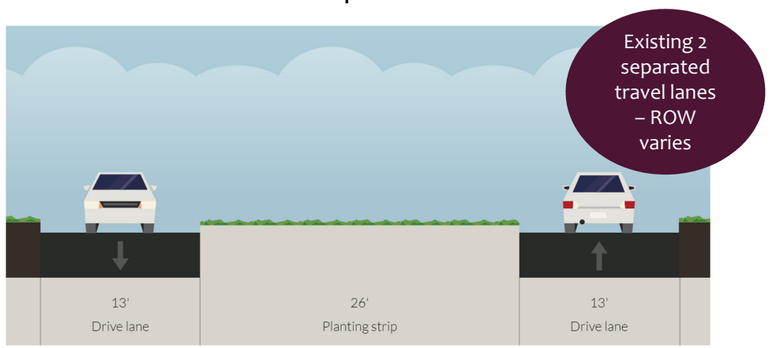
- Public Art
- Shade
- Ped. Amenity
- Bicycle Amenity
- Wayfinding/Kiosk
- Bike Protection

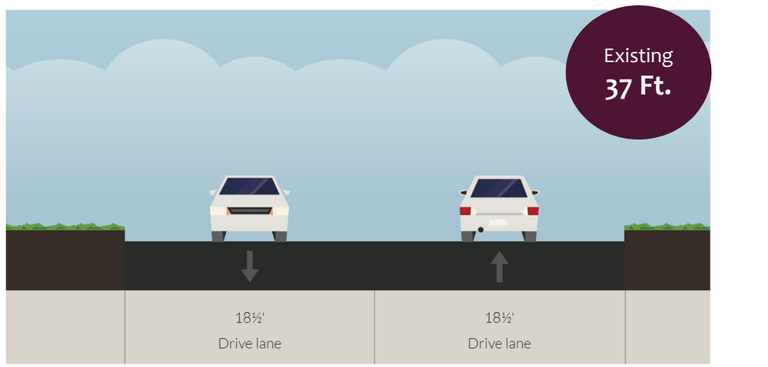
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Route 2A - Yucca St: River Mountains Loop To Boulder City Parkway

Existing Conditions

Yucca St: River Mntns Loop to Veterans Memorial Dr



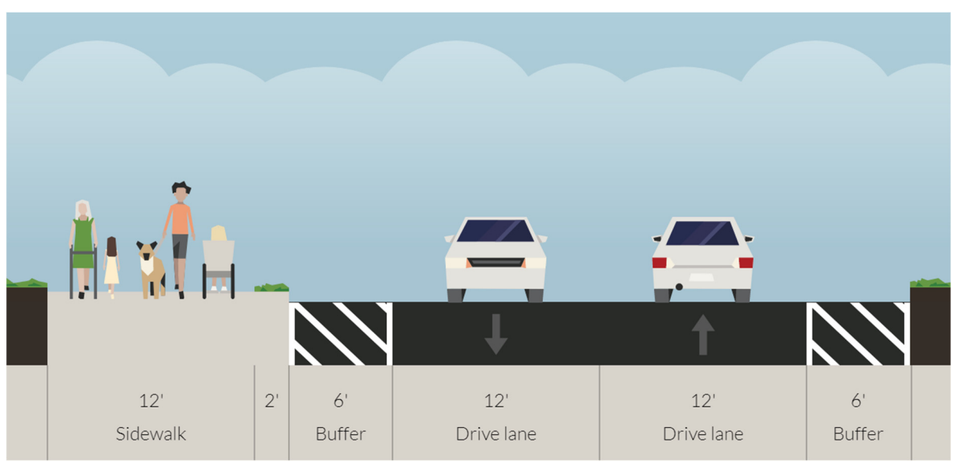


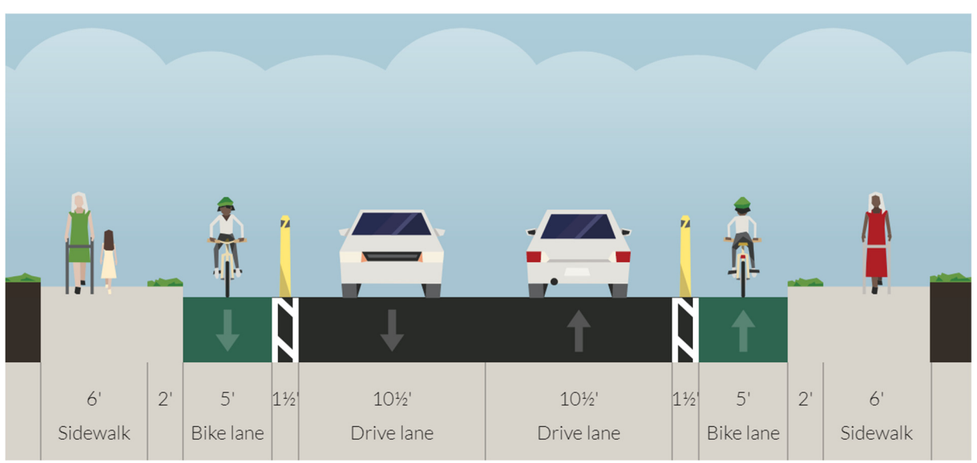
Multi-modal Improvement Considerations					
Yucca St: River Mntns Loop to Boulder City Parkway					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	Narrow all vehicle travel lanes down to 11 to 12 feet, use extra ROW for buffered bicycle and protection. - Add bike symbols with green paint background as needed. - Stripe bike lanes (and any buffer) along all of corridor and to the intersections.	Sidewalk	Y	- Assess ROW for detached 6 ft. sidewalk improvements with landscaping for the corridor; consider a crushed granite pathway closer to River Mntn Loop Trail. - Taper vehicle lanes at Boulder City Parkway and do a protected intersection/curb extenstion with bike lane protection (NACTO).
Bike Route	X		Curb Extensions	Y	
Bike Lane	Y		Marked/ Improved Crosswalks	Y	
Buffered Bicycle Lane	Y		Shared Use Path	X	
Protected Bicycle Lane	EJ		Active Warning Beacon	EJ	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements: Alternative 1 and 2

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.





Advanced Route 2A - Yucca St: River Mountains Loop to Veterans Memorial Dr.



Intersection needs to be improved for safe bike/ped. crossings. Consider a traffic circle/ roundabout like Canyon Rd.

2

LEGEND

N

Approximate 100 ft

Route

Existing Sidewalk

Proposed Sidewalk

Existing Shared Use Path

Proposed Shared Use Path

Landscaping

Amenity Opportunities

Public Art

Shade

Ped. Amenity

Bicycle Amenity

Wayfinding/Kiosk

Bike Protection

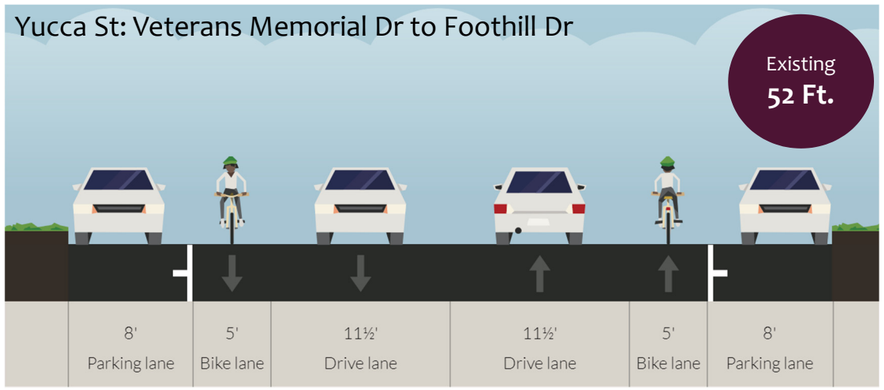
Existing Bike Lane/Route

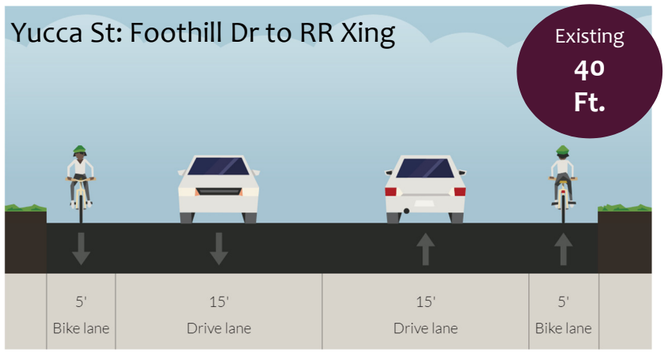
Proposed Bike Lane/Facility

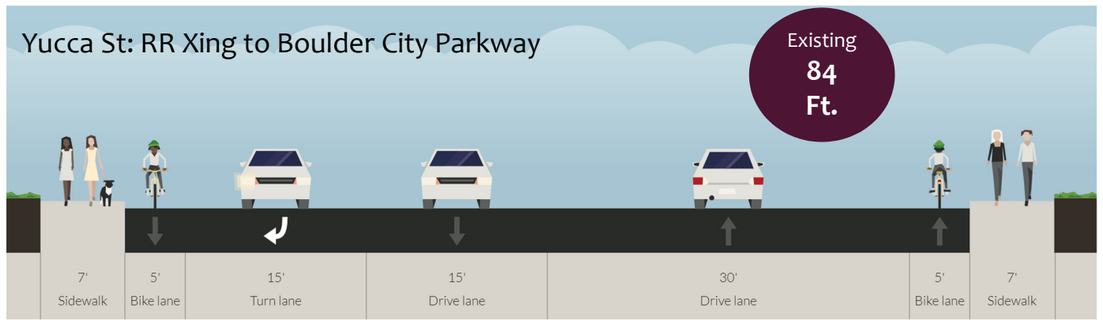
Improved Pedestrian Crossing

Route 2B - Yucca St: River Mountains Loop To Boulder City Parkway

Existing Conditions





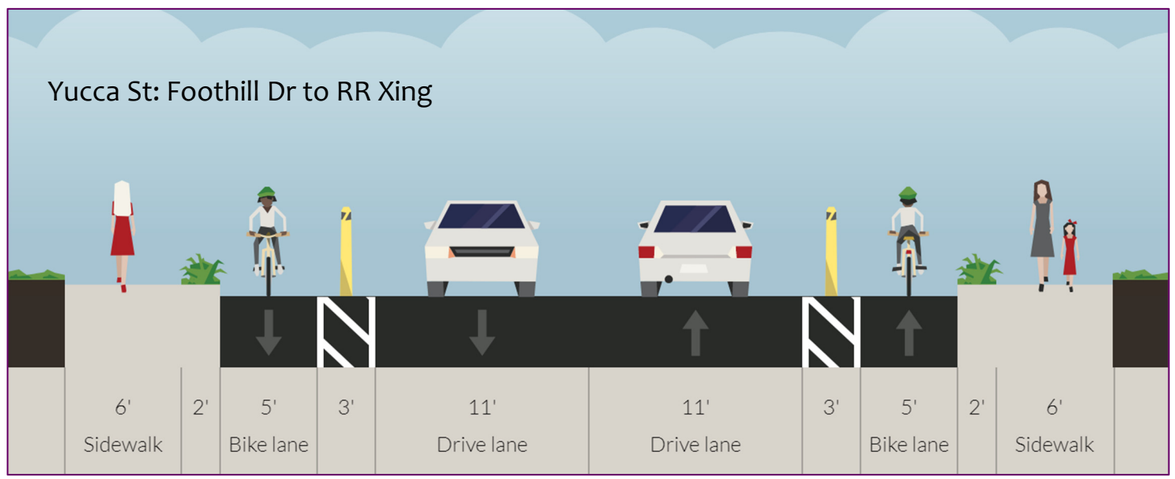


Multi-modal Improvement Considerations					
Yucca St: River Mntns Loop to Boulder City Parkway					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard	X	Narrow all vehicle travel lanes down to 11 feet, use extra ROW for buffered bicycle and protection. - Add bike symbols with green paint background. - Stripe bike lanes (and any buffer) along all of corridor and to the intersections. - Adding protection to bicycle lanes can be a long term improvement depending on usage. -Interim improvement at Yucca and Boulder City Parkway is to stripe bikelane with right turn lane. Review Regional Bicycle & Pedestrian Plan for S. Nevada for design options.	Sidewalk	Y	- Assess ROW for detached 6 ft. sidewalk improvements with landscaping for the corridor; consider a crushed granite pathway closer to River Mntn Loop Trail. - Taper vehicle lanes at Boulder City Parkway and do a protected intersection/curb extenstion with bike lane protection (NACTO).
Bike Route	X		Curb Extensions	Y	
Bike Lane	Y		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	Y		Trail or Shared Use Path Connections	X	
Protected Bicycle Lane	EJ		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Bike Through Lanes at Right Turns	Y		PELICAN Signal	X	

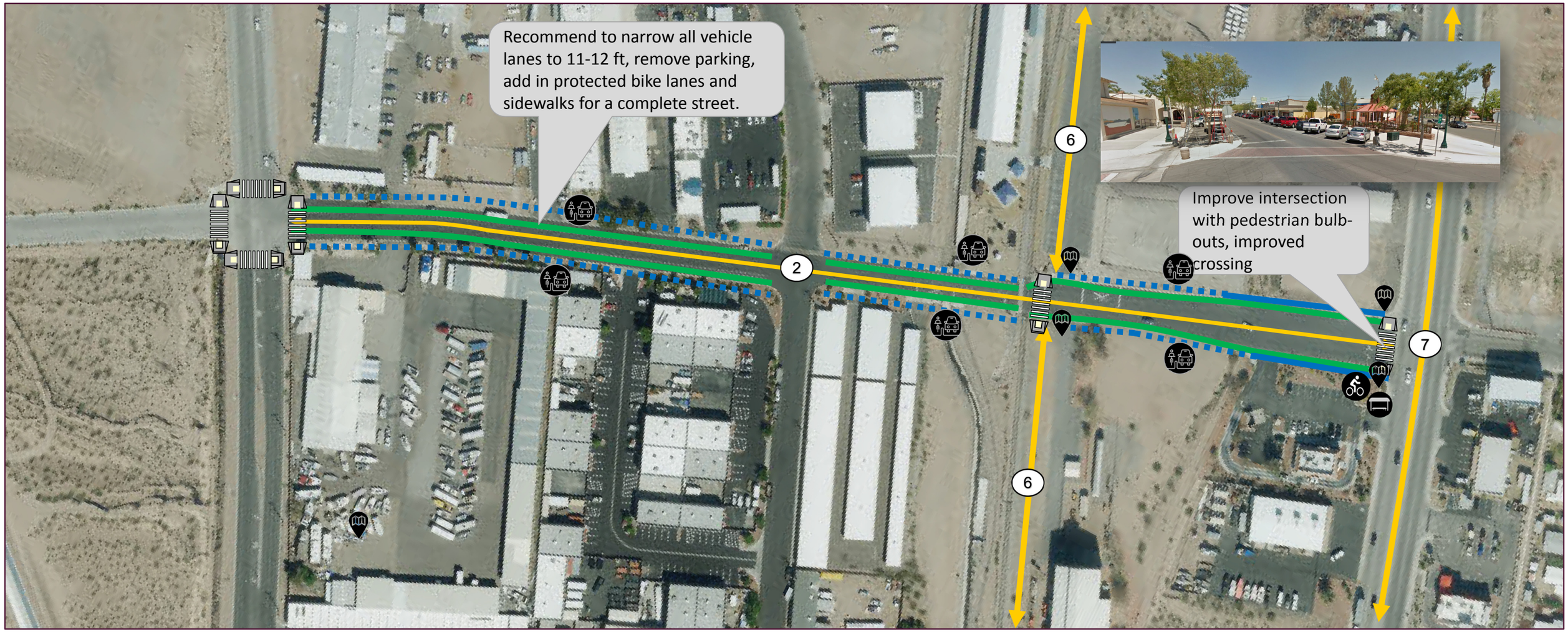
Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Proposed Improvements

Overarching recommendations: Improve/add signs, striping, green paint, and symbology along corridor to indicate use of facility (shared, bicycle, pedestrians on street), parking/no parking (cars are parking in what seems to be the bike lane), and wayfinding.



Advanced Route 2B - Yucca St: Veterans Memorial Dr. To Boulder City Parkway



LEGEND

Approximate 100 ft

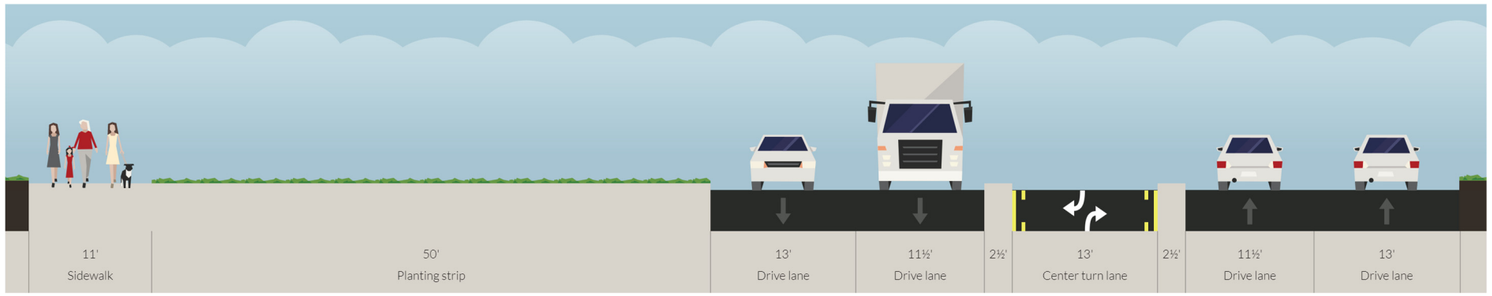
Route		Existing Shared Use Path		Existing Bike Lane/Route	
Existing Sidewalk		Proposed Shared Use Path		Proposed Bike Lane/Facility	
Proposed Sidewalk		Landscaping		Improved Pedestrian Crossing	

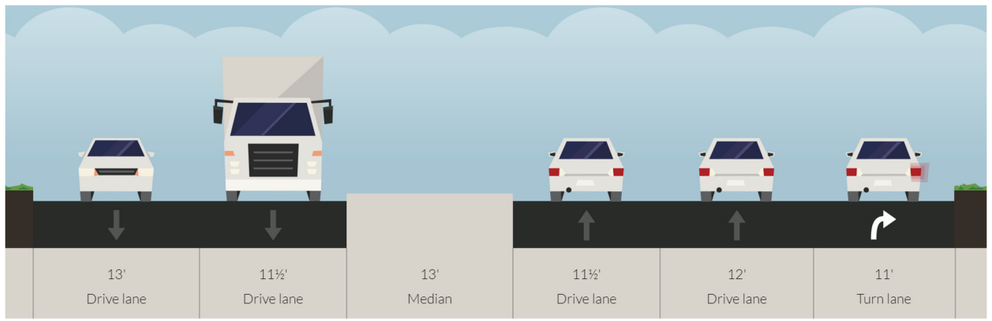
Amenity Opportunities

Public Art		Bicycle Amenity	
Shade		Wayfinding/Kiosk	
Ped. Amenity		Bike Protection	

Route 4 - US93: Katzenbach Dr To Canyon Rd

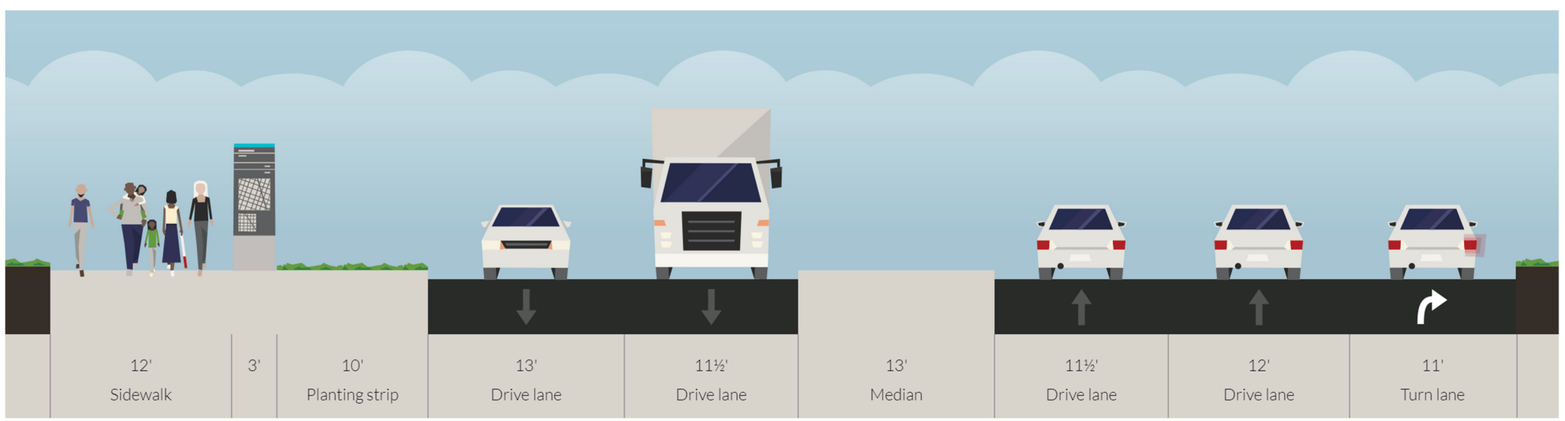
Existing Conditions





Proposed Improvements

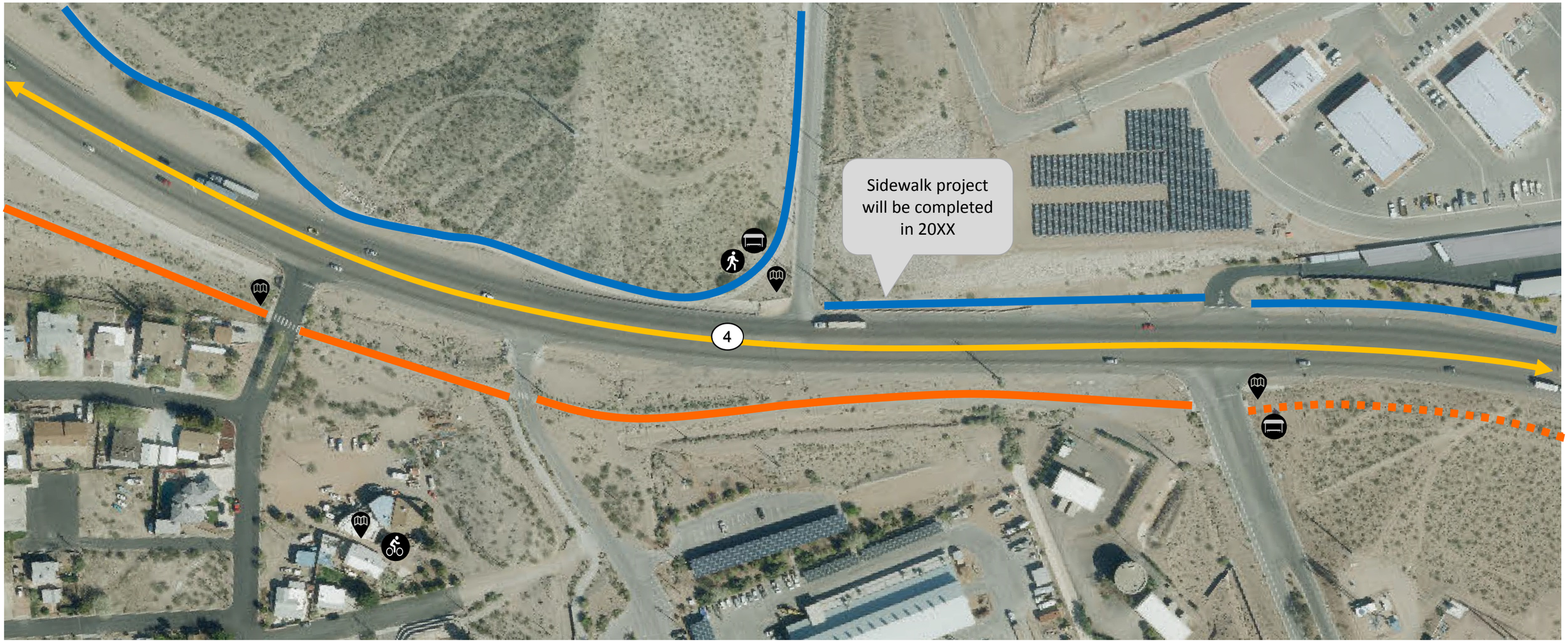
Overarching recommendations: Improve/add signs for wayfinding and address intersection at US93, Boulder City Parkway, Buchanan Rd, and Nevada Way; and connection at the intersection with the RR Museum.



Multi-modal Improvement Considerations					
US93: Katzenbach Dr to Canyon Rd					
Bicycle Facility	**Evaluation**	**Comments**	**Pedestrian/ Intersection/ Crossing**	**Evaluation**	**Comments**
Bicycle Boulevard/Shared Roadway	X	Continue shared use path along US93 to connect to RR Museum and Boulder City Parkway. Add wayfinding signs.	Sidewalk	X	Consider Curb Extensions or raised table at right hand turn lane onto Boulder City Parkway to slow speeds down as it intersects the future shared use path. Create shared use path connections to existing sidewalks, RMLT and bicycle lanes.
Bike Route	X		Curb Extensions	EJ	
Bike Lane	X		Marked/ Improved Crosswalks	X	
Buffered Bicycle Lane	X		Trail or Shared Use Path Connections	Y	
Protected Bicycle Lane	X		Active Warning Beacon	X	
Separated Bicycle Lane	X		Pedestrian Hybrid Beacon	X	
Shared Use Path	Y		PELICAN Signal	X	

Y = Most Desirable EJ = Engineering Judgement X = Not Preferred

Advanced Route 4A - US93: Katzenbach Dr To Canyon Rd



LEGEND

Approximate 100 ft

Route

Existing Sidewalk

Proposed Sidewalk

Existing Shared Use Path

Proposed Shared Use Path

Landscaping

Amenity Opportunities

Public Art

Shade

Ped. Amenity

Bicycle Amenity

Wayfinding/Kiosk

Bike Protection

Existing Bike Lane/Route

Proposed Bike Lane/Facility

Improved Pedestrian Crossing

Advanced Route 4B - US93: Katzenbach Dr To Canyon Rd



LEGEND

N

Approximate 100 ft

Route

Existing Sidewalk

Proposed Sidewalk

Existing Shared Use Path

Proposed Shared Use Path

Landscaping

Amenity Opportunities

Public Art

Shade

Ped. Amenity

Bicycle Amenity

Wayfinding/Kiosk

Bike Protection

Existing Bike Lane/Route

Proposed Bike Lane/Facility

Improved Pedestrian Crossing

River Mountains Loop Trail Improvements Study

Outreach Strategy

OUTREACH STRATEGY



- **Community Open House**
  - ❑ Suggested Timeframe: Sept 8-16
  - ❑ Locations:
    - Train Ride
    - Bike Shop
    - Rec Center Or Library

- **Business Outreach (1-on-1 Meetings)**
  - ❑ Held In Unison With Open House
  - ❑ Facilitated By Roger Tobler
  - ❑ How To Target Businesses?

- **Pop-up Event OR On-line Survey?**
  - ❑ Event Options
    - Wurstfest (Sept 29)
    - Art Fest (Oct 6)
    - Other Options?
  - ❑ On-line Survey

- **Promoting**
  - ❑ BC Digital Sign
  - ❑ Event Flyer And Distribution (Draft Attached)
    - Email Lists
    - Social Media
    - Mailing/Utility Bill

River Mountains Loop Trail Improvements Study

Next Steps/Other Discussion

NEXT STEPS

TASKS	KICK-OFF	PHASE 1					PHASE 2				PHASE 3			FINAL	
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
NTP																
Task 1 Management & Stakeholder Coordination		KO1			2					3			4		5	
Task 2: Public Outreach																
Task 3: Data Collection and Review																
Task 4: Multimodal Network Analysis																
Task 5: Alternative Development for Mulitmodal Access																
Task 6: Recommendations and Implementation																
Task 7: Deliverables																

Milestone/Deliverables*

Stakeholder Meeting/Workshop

** Size of diamond represents relative size of deliverable*

Community Meeting

Business Outreach

Pop-Up Event or Online Survey

NEXT STEPS

- COMMENTS BY TUES 8/21
- PHASE 2 OUTREACH
- ALTERNATIVE REFINEMENT & RENDERINGS
- IMPLEMENTATION PLAN
- STAKEHOLDER MEETING #4

RIVER MOUNTAINS LOOP TRAIL IMPROVEMENTS STUDY

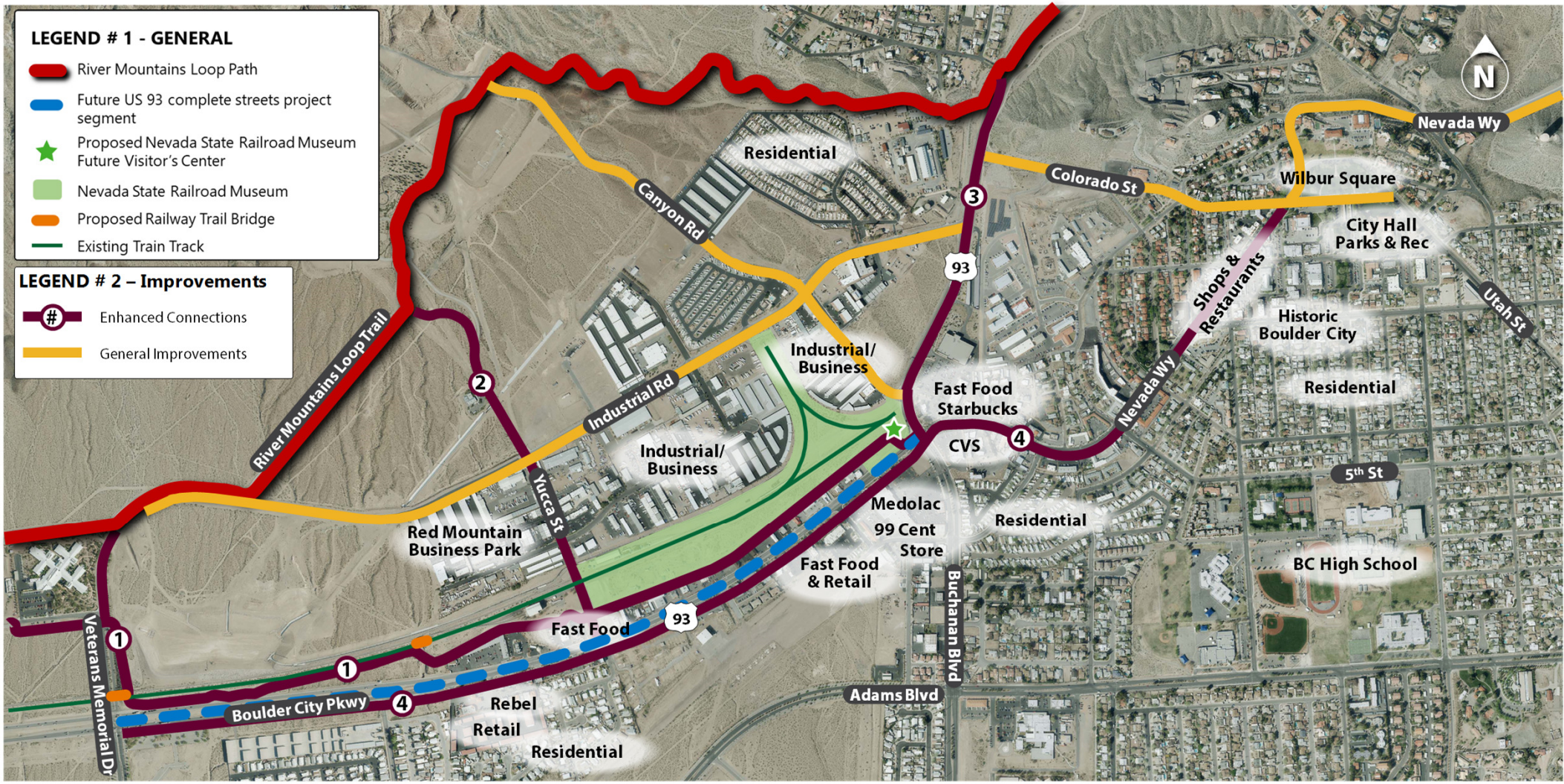
COMMUNITY OUTREACH



Project Mission Statement:

Create optimal connections and improvements to connect the River Mountains Loop Trail to Historic Downtown and the Nevada State Rail Road Museum to enhance the economic vitality of Boulder City.

SYSTEM MAP


LEGEND # 1 - GENERAL
River Mountains Loop Path
Future US 93 complete streets project segment
Proposed Nevada State Railroad Museum Future Visitor's Center
Nevada State Railroad Museum
Proposed Railway Trail Bridge
Existing Train Track
LEGEND # 2 – Improvements
Enhanced Connections
General Improvements
N
Residential
Canyon Rd
Colorado St
Nevada Wy
Wilbur Square
City Hall
Parks & Rec
Shops & Restaurants
Historic Boulder City
Utah St
Residential
Industrial/ Business
Industrial Rd
Fast Food
Starbucks
CVS
Nevada Wy
5th St
River Mountains Loop Trail
Yucca St
Industrial/ Business
Red Mountain Business Park
Medolac
99 Cent Store
Residential
Fast Food & Retail
BC High School
Buchanan Blvd
Fast Food
Veterans Memorial Dr
Boulder City Pkwy
Rebel
Retail
Residential
Adams Blvd
93
1
2
3
4

ENHANCEMENTS & AMENITIES

ENHANCED CONNECTIONS

PROTECTED PATH OR BIKE LANE *(WHERE POSSIBLE)*






ENHANCED CROSSING





SHADING & REST AREA WITH BIKE PARKING



Interactive!




PUBLIC ART



Interactive!




GENERAL IMPROVEMENTS

(APPLIES TO ALL CONNECTIONS)

EFFECTIVE SIGNAGE



SIDEWALK AND RAMP UPGRADES



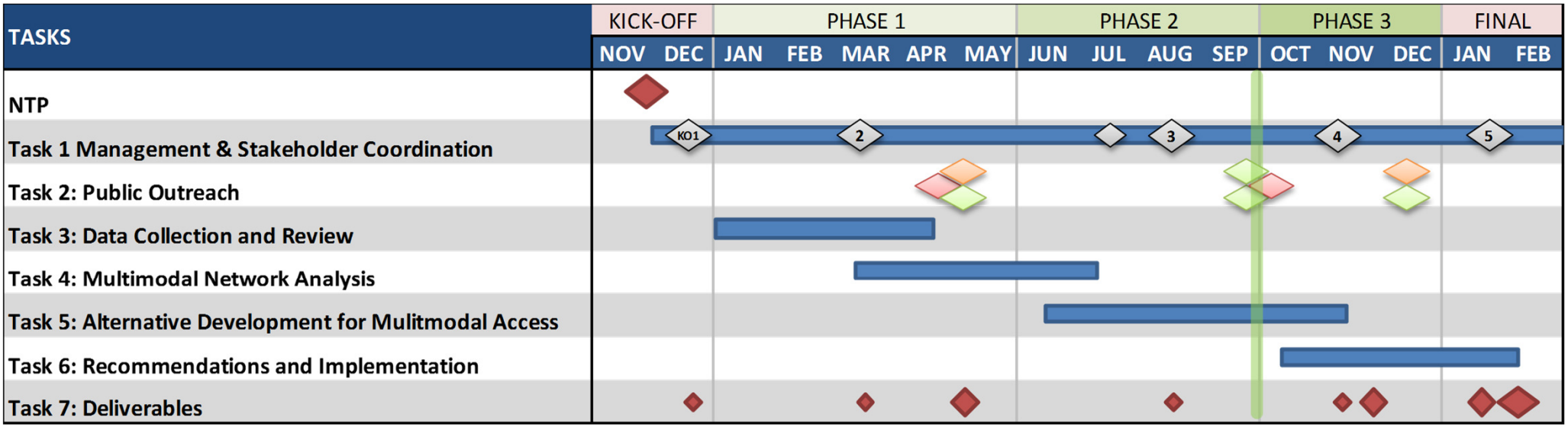
MARKED BIKE LANES



BIKE SHARE SYSTEM



STUDY SCHEDULE



Milestone/Deliverables*
Stakeholder Meeting/Workshop
** Size of diamond represents relative size of deliverable*

Community Meeting
Business Outreach
Pop-Up Events

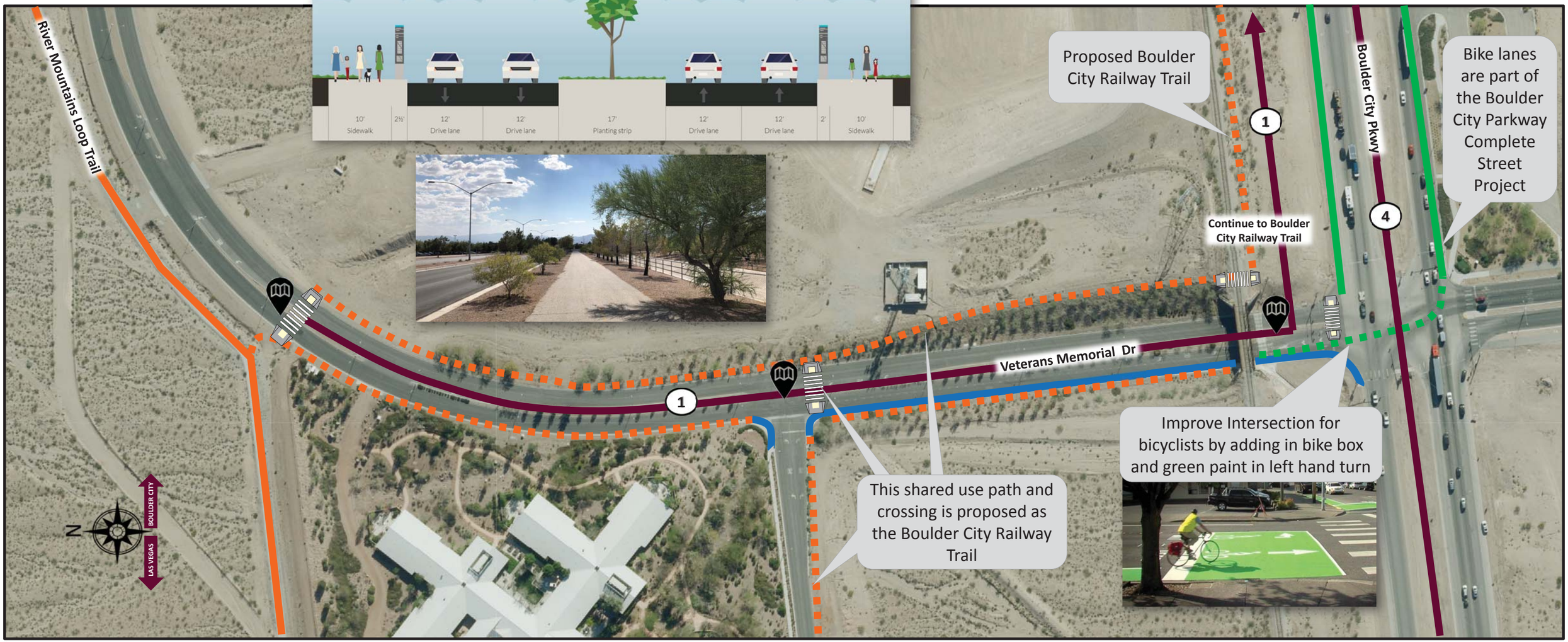
For more information please visit:
https://www.rtcsnv.com/planning-engineering/transportation-planning/planning-studies-projects/river-mountain-loop-trail-improvements-study

Or contact
Monika Bertaki: (702) 676-1749 bertakim@rtcsnv.com

Enhanced Connection 1

Veterans Memorial Drive to Proposed Railway Trail (north segment)

VOTING BOX (Place sticker here if this is your preferred connection)



LEGEND

Approximate Scale: 150 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

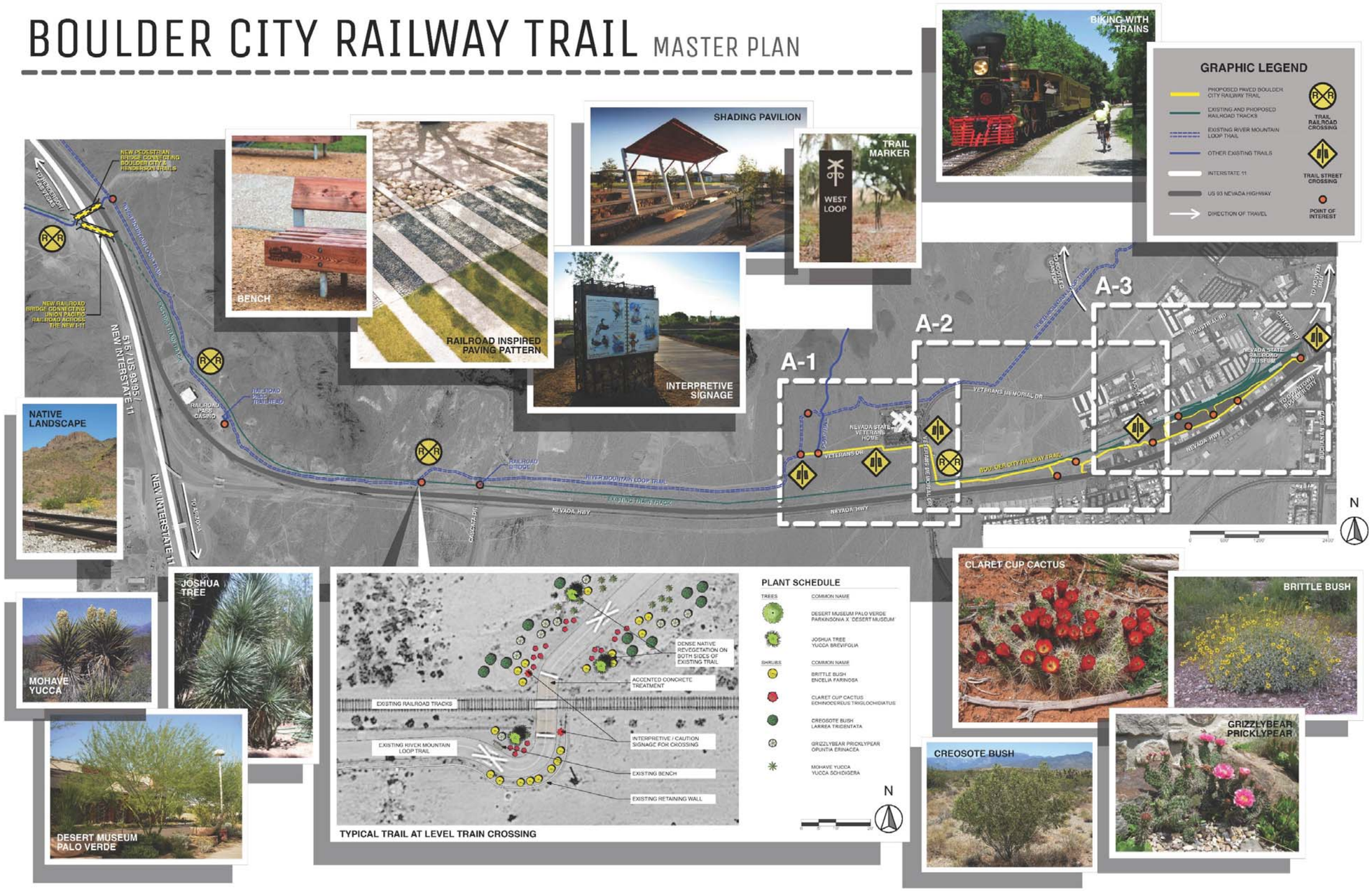
Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 1 - *Connects to Boulder City Railway Trail*

Shown for information only. Recommendations are part of a separate project.

BOULDER CITY RAILWAY TRAIL MASTER PLAN



LGA people process place
241 W Charleston, Suite 107
Las Vegas, Nevada 89102
702.263.7111
www.lgainc.com

southwick LANDSCAPE ARCHITECTS

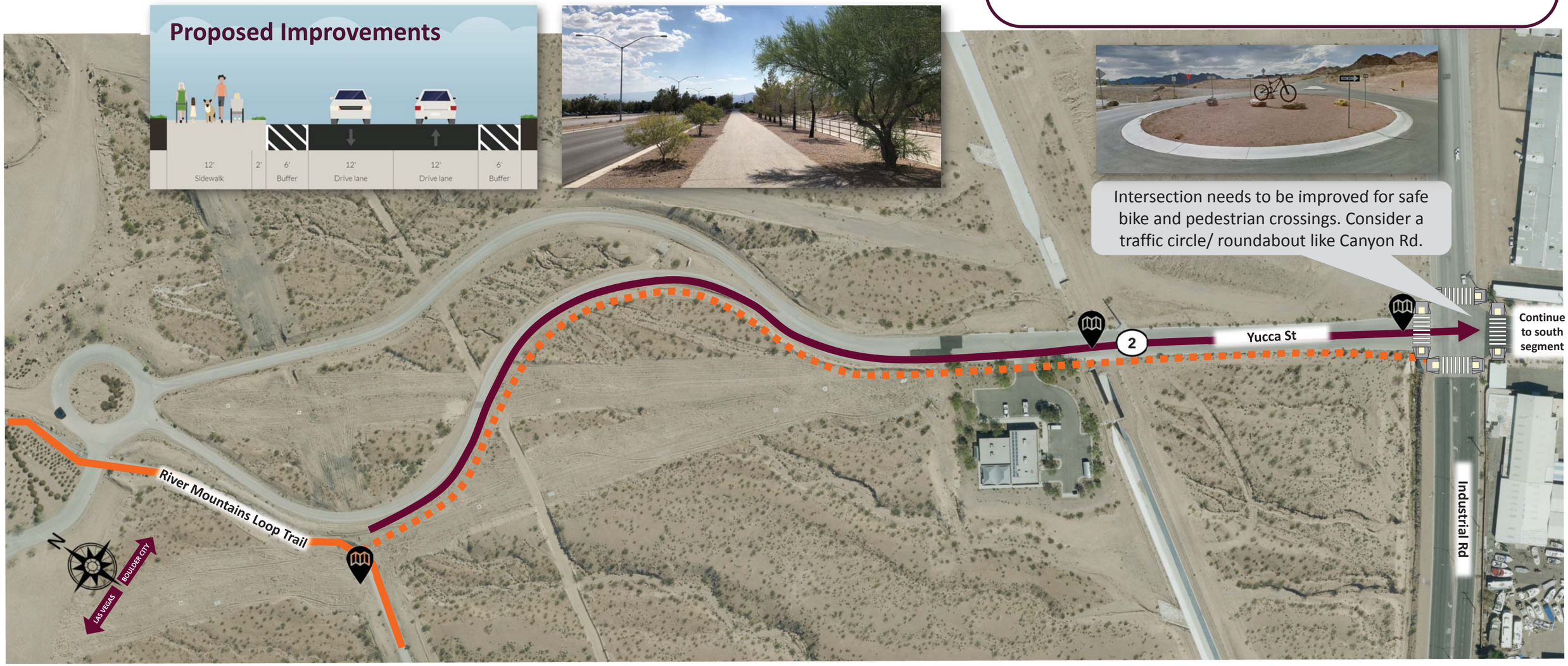
BOULDER CITY RAILWAY TRAIL AND LINEAR PARK
in BOULDER CITY, NEVADA
for BOULDER CITY ECONOMIC VITALITY COMMISSION

OVERALL TRAIL MASTER PLAN
A-0
9/26/17

Enhanced Connection 2

Yucca St: River Mountains Loop to Boulder City Pkwy (north segment)

VOTING BOX (Place sticker here if this is your preferred connection)



LEGEND

Approximate Scale: 150 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

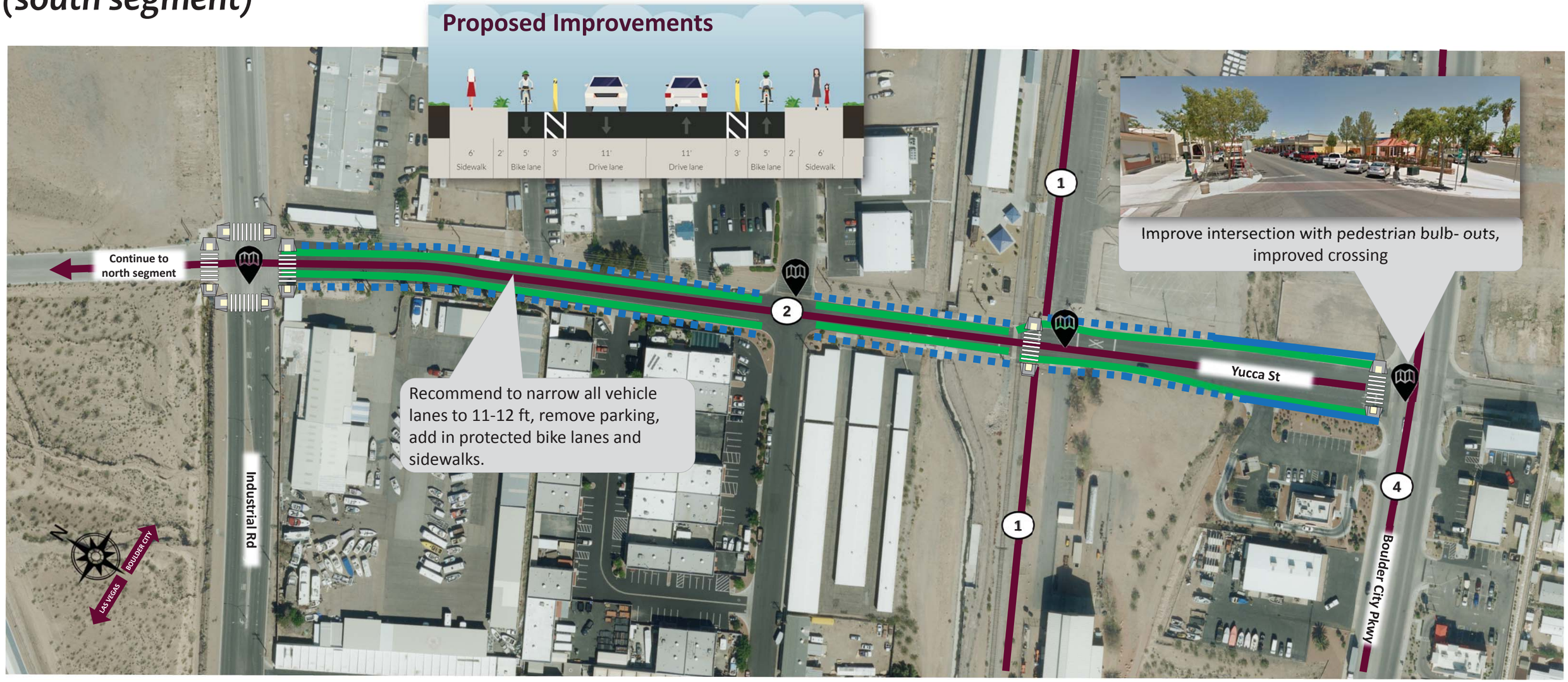
Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 2

Yucca St: River Mountains Loop to Boulder City Pkwy (south segment)

To vote for this connection, place sticker on reverse side.



LEGEND

Approximate Scale: 130 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

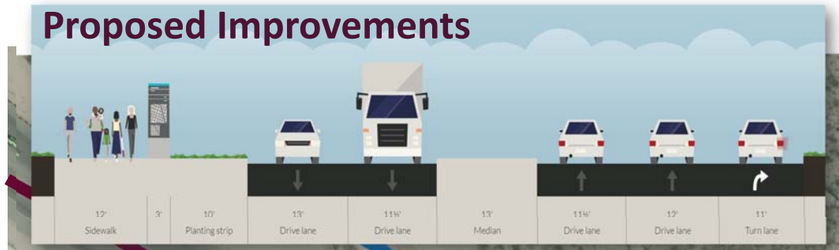
Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 3

US93: River Mountains Loop to Boulder City Pkwy (north segment)

VOTING BOX (Place sticker here if this is your preferred connection)





LEGEND

Approximate Scale: 150 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 3

US93: River Mountains Loop to Boulder City Pkwy (south segment)

To vote for this connection, place sticker on reverse side.



LEGEND

Approximate Scale: 130 ft

- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 4

Nevada Way to Downtown (east segment)

This option is the recommended connection into Downtown *(no voting required)*

Further analysis at this intersection is needed to address pedestrian and bicycle movements, which could include leading pedestrian signals, additional bike signals, paint, shade, and physical improvements.

Consider major bike hub near New Mexico or Wyoming St. Place bike racks at key location along entire route.





Continue to west segment: Boulder City Parkway



Consider using color-marked bike lanes and widened sidewalks where possible.

LEGEND

Approximate Scale: 300 ft

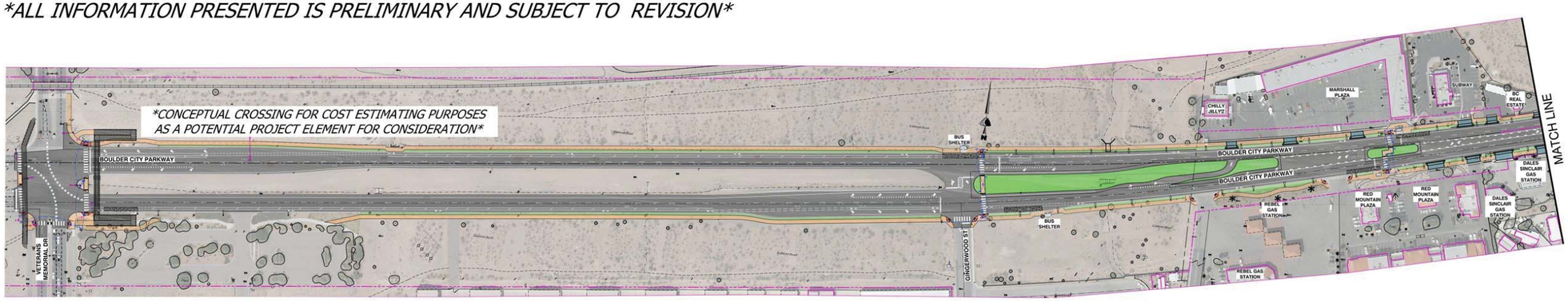
- Enhanced Connections (#)
- Existing Sidewalk
- Proposed Sidewalk
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Bike Lane/Route
- Proposed Bike Lane/Facility
- Improved Pedestrian Crossing

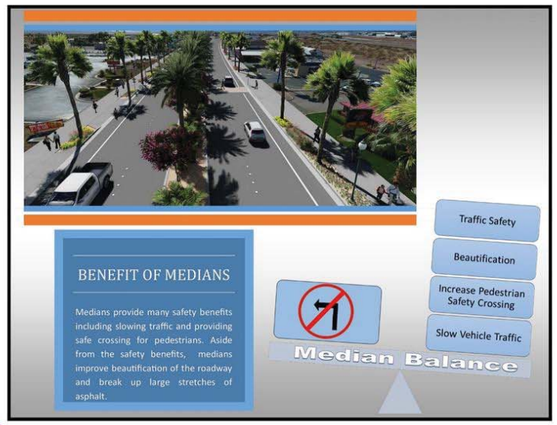
Amenity Opportunities

- Wayfinding/Kiosk
- Shade/Rest Area
- Public Art

Enhanced Connection 4 - *Boulder City Parkway to Nevada Way*

ALL INFORMATION PRESENTED IS PRELIMINARY AND SUBJECT TO REVISION





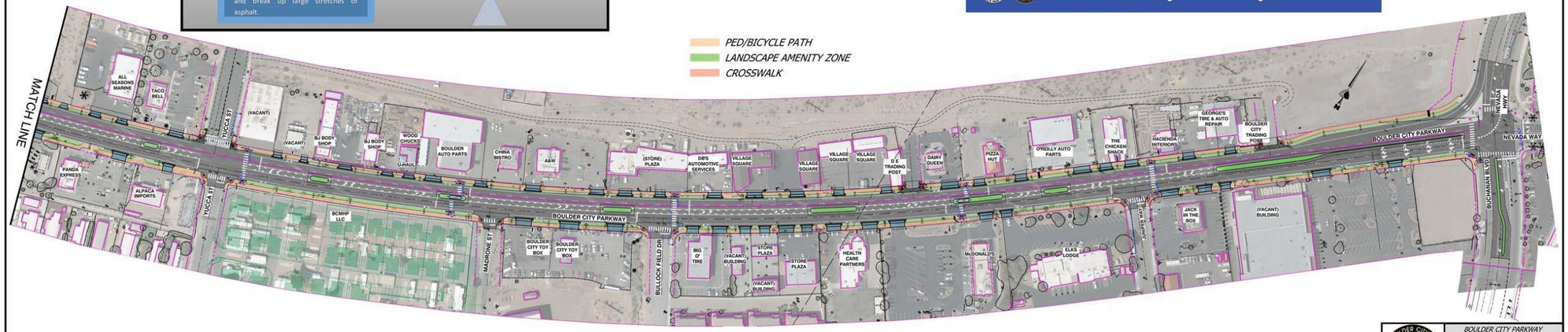
Project Schedule

PROJECT PHASE	2017				2018				2019			
	W	SP	S	F	W	SP	S	F	W	SP	S	F
Community Involvement	ONGOING →											
Complete 100% Design			↔									
Bidding						■						
*Construction							↔					
In-Service												■

*Construction of the improvements is contingent upon securing funding. Staff is pursuing funding from the Regional Transportation Commission of Southern Nevada and the Nevada Department of Transportation.

W - Winter
SP - Spring
S - Summer
F - Fall

Boulder City Parkway



BOULDER CITY PARKWAY COMPLETE STREETS
DATE: Jan 2018 | SCALE: NTS
COMPLETE STREETS OVERVIEW
OV-01 | CA Group, Inc

Shown for information only. Recommendations are part of a separate project.

APPENDIX D

PHASE 3 DEVELOPMENT

River Mountains Loop Trail Improvements Study

Stakeholder Meeting #4
December 17, 2018

AGENDA & GOALS

Goals of today's meeting

1. Introductions (5 min)
2. Project Recap & Status (5 min)
3. Public Outreach Summary (20 min)
4. Alternative Recommendations & Preliminary Costs (30 min)
5. Next steps/other discussion (15 min)

Project Mission Statement:

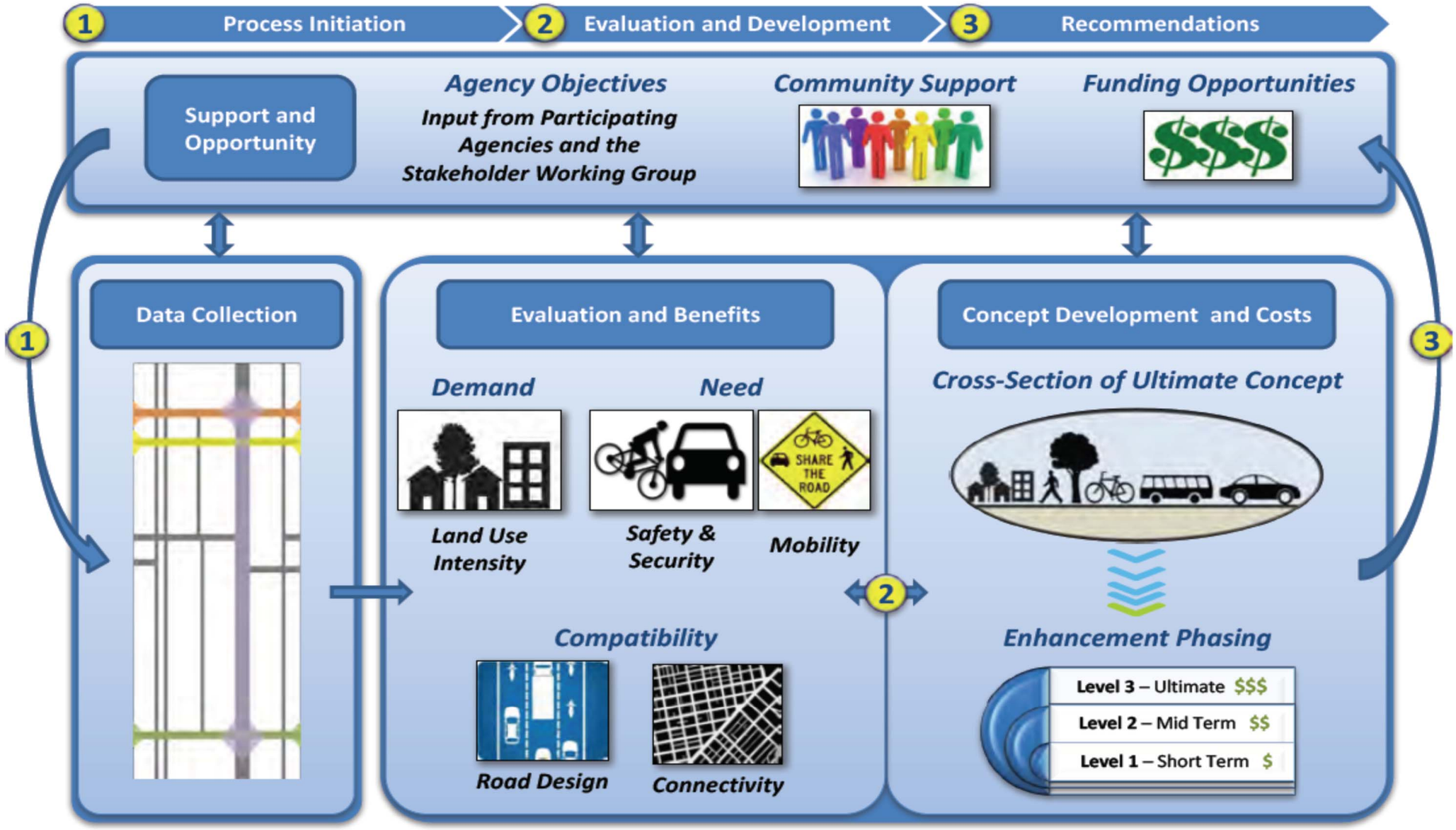
Create optimal connections and improvements to connect existing River Mountains Loop Trail to Historic Downtown Boulder and the Nevada State Rail Road Museum to enhance the economic vitality of Boulder City.

River Mountains Loop Trail Improvements Study

Project Recap & Status

Evaluation Process







SCHEDULE

TASKS	KICK-OFF	PHASE 1					PHASE 2					PHASE 3				FINAL
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
NTP	◆																
Task 1 Management & Stakeholder Coordination		KO1			2					3				4			5
Task 2: Public Outreach						◆					◆					◆	
Task 3: Data Collection and Review			▬	▬	▬	▬											
Task 4: Multimodal Network Analysis						▬	▬	▬	▬								
Task 5: Alternative Development for Mulitmodal Access									▬	▬	▬	▬	▬				
Task 6: Recommendations and Implementation													▬	▬	▬	▬	
Task 7: Deliverables		◆			◆		◆			◆	◆			◆		◆	◆

Milestone/Deliverables*

Stakeholder Meeting/Workshop

Community Meeting

Business Outreach

Pop-Up Events

** Size of diamond represents relative size of deliverable*

Study Area & Route Map



LEGEND # 1 - GENERAL

- River Mountains Loop Path
- Future US 93 complete streets project segment
- Proposed Nevada State Railroad Museum Future Visitor's Center
- Nevada State Railroad Museum
- Proposed Railway Trail Bridge
- Existing Train Track

LEGEND # 2 – Alternative Improvements

- # Route Option
- Wayfinding Location Option

N

River Mountains Loop Trail

Veterans Memorial Dr

Boulder City Pkwy

Industrial Rd

Yucca St

Canyon Rd

Colorado St

Nevada Wy

Buchanan Blvd

Adams Blvd

Utah St

5th St

1 Red Mountain Business Park

2 Industrial/ Business

3 Residential

4 Industrial/ Business

5 Fast Food & Retail

6 Rebel Retail Residential

7 Fast Food

8 Wilbur Square

City Hall Parks & Rec

Shops & Restaurants

9 Historic Boulder City

Fast Food Starbucks Shell CVS

Medolac 99 Cent Store

Residential

10 Residential

BC High School

93

Evaluation Process for Route Selection – DRAFT Recommendation



1

Complete Street Evaluation – Per Route

- Land Use Context
- Safety
- Mobility
- Roadway Design
- Connectivity
- Public Involvement

2

Evaluation Results

- Per Route
- Per Groups of Route from:
  - West to Downtown and to RR Museum
  - Northeast to Downtown and to RR Museum

3

Ranked Groups of Routes that Best Support Goal of Project

- From the West:
  - To RR Museum = Routes 1, 2 and 6
  - To Downtown = Routes 1, 2, 6, 7, 9
- From the North East:
  - To RR Museum = Routes 3 and 4
  - To Downtown = Routes 3, 4, 9, and 10

Highest Ranked Routes that meet the Project Goal: 1, 2, 3, 4, 6, 7, 9

Routes That Don't Need Further Development:

- Route 3 – Not preferred for enhancement (stakeholder input)
- Route 6 – has completed vision and design plans
- Route 7 – has completed vision and design plans
- Route 8 – Minimal improvements can be made
- Route 9 – corridor is essentially complete
- Route 10 – The route is not the easiest nor direct route to downtown.

4

Routes that Need Further Development: 1, 2, and 4

Routes That Need Further Development: 1, 2, and 4

X

LEGEND # 1 - GENERAL

- River Mountains Loop Path
- Future US 93 complete streets project segment
- Proposed Nevada State Railroad Museum Future Visitor's Center
- Nevada State Railroad Museum
- Proposed Railway Trail Bridge
- Existing Train Track

LEGEND # 2 – Alternative Improvements

- # Route Option
- Wayfinding Location Option

N

River Mountains Loop Trail

Veterans Memorial Dr

Boulder City Pkwy

Canyon Rd

Industrial Rd

Yucca St

Colorado St

Nevada Wy

Buchanan Blvd

Adams Blvd

Utah St

5th St

93

1 2 3 4 5 6 7 8 9 10

Residential

Industrial/ Business

Industrial/ Business

Red Mountain Business Park

Fast Food

Rebel

Retail

Residential

Fast Food & Retail

Medolac

99 Cent Store

Residential

Fast Food

tarbucks

Shell

CVS

Historic Boulder City

Wilbur Square

City Hall Parks & Rec

Shops & Restaurants

Residential

BC High School

River Mountains Loop Trail Improvements Study

PHASE 2
Public Outreach Summary

Pop-Up Event #1

3 FEET FOR PETE BIKE RIDE

SEPTEMBER 15, 2018, 6 AM-10 AM

- OVER 400 BICYCLISTS WERE IN ATTENDANCE AT THE EVENT
- APPROXIMATELY 50 CAME TO OUR BOOTH AND REVIEWED INFORMATION









PUBLIC OUTREACH SUMMARY

Pop-Up Event #2

WURST FESTIVAL

SEPTEMBER 29 , 2018, 11 AM - 2 PM

- SEVERAL HUNDRED WERE IN ATTENDANCE AT THE EVENT
- APPROXIMATELY 30 CAME TO OUR BOOTH AND REVIEWED INFORMATION









PUBLIC OUTREACH SUMMARY

Summary of Feedback

Enhanced Connection	Percentage
#1 - Veterans Memorial Drive	61%
#2 - Yucca Street	9%
#3 - US93	30%

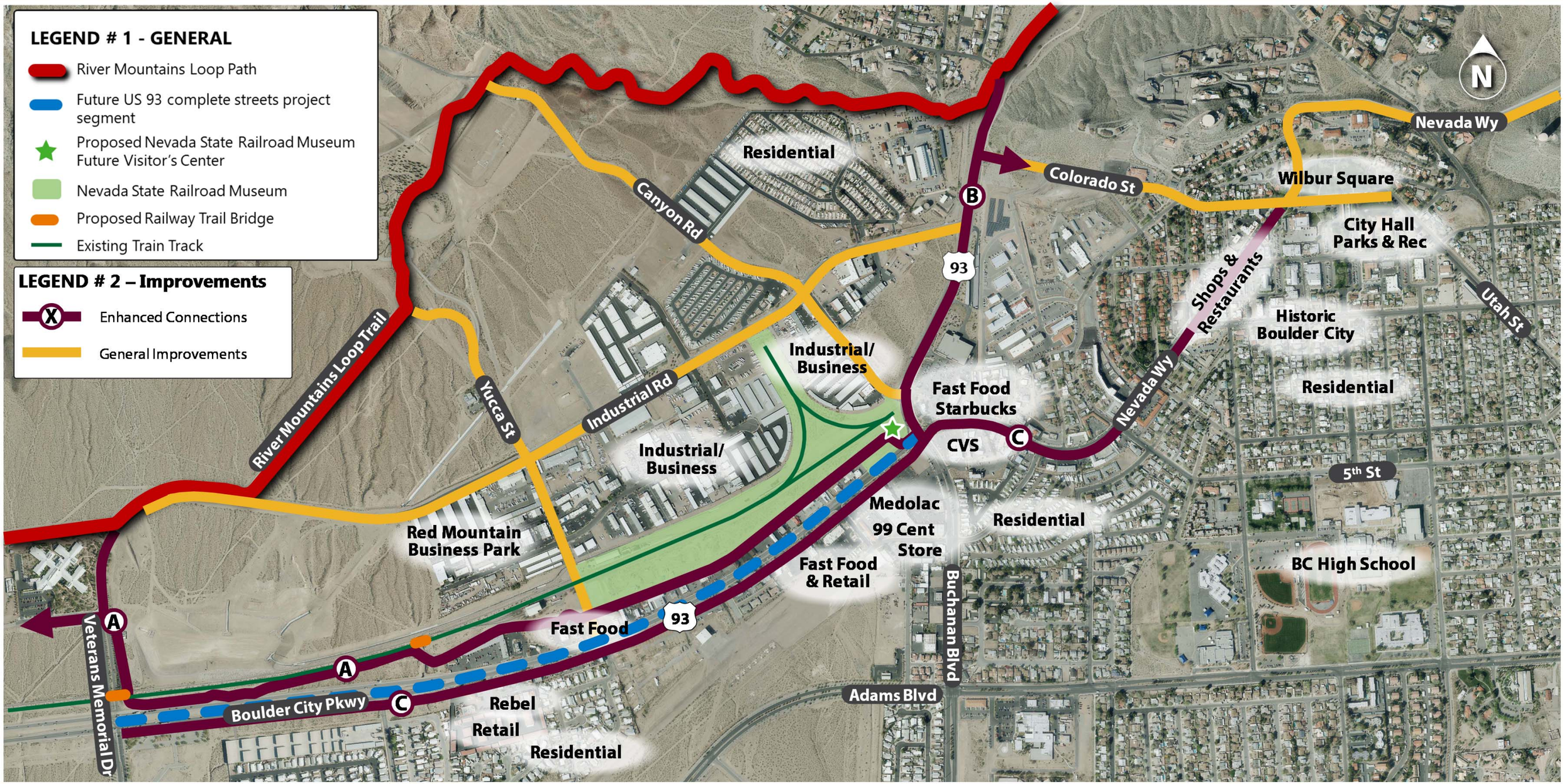
STRONG SUPPORT FOR SEPARATED FACILITIES AGAIN

River Mountains Loop Trail Improvements Study

Alternative Recommendations

ALTERNATIVE RECOMMENDATIONS

Updated System Plan



Enhanced Connection A – Proposed Typical Section

Veterans Memorial Drive (90-foot Right-of-Way)



ALTERNATIVE RECOMMENDATIONS

Enhanced Connection A – Segment 1

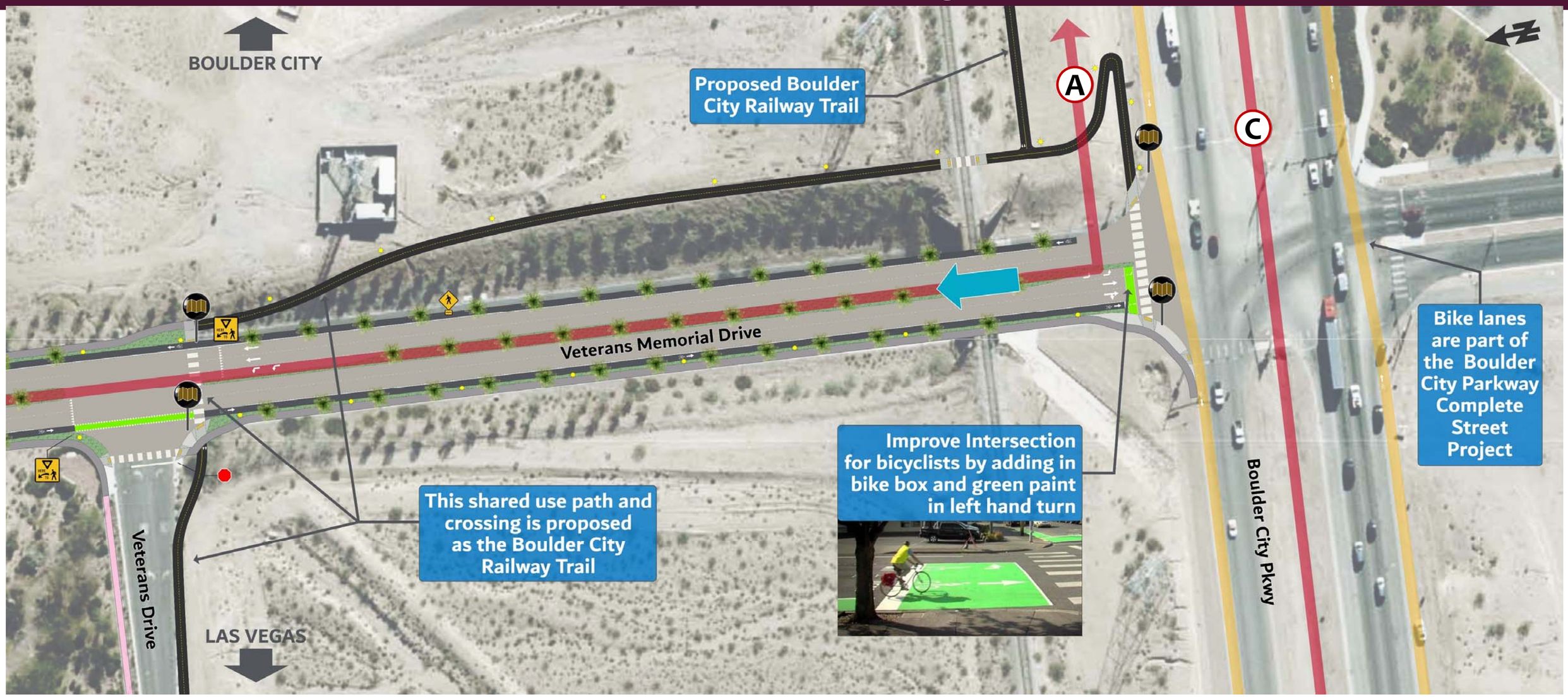


Existing
- Sidewalk
- Shared Use Trail
- Bike Lanes

Proposed
- Enhanced Connections
- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
- Elevated Cycle Track
- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

ALTERNATIVE RECOMMENDATIONS

Enhanced Connection A – Segment 2



Existing
- Sidewalk
- Shared Use Trail
- Bike Lanes

Proposed
- Enhanced Connections
- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
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- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

ALTERNATIVE RECOMMENDATIONS

Enhanced Connection A – Existing Conditions



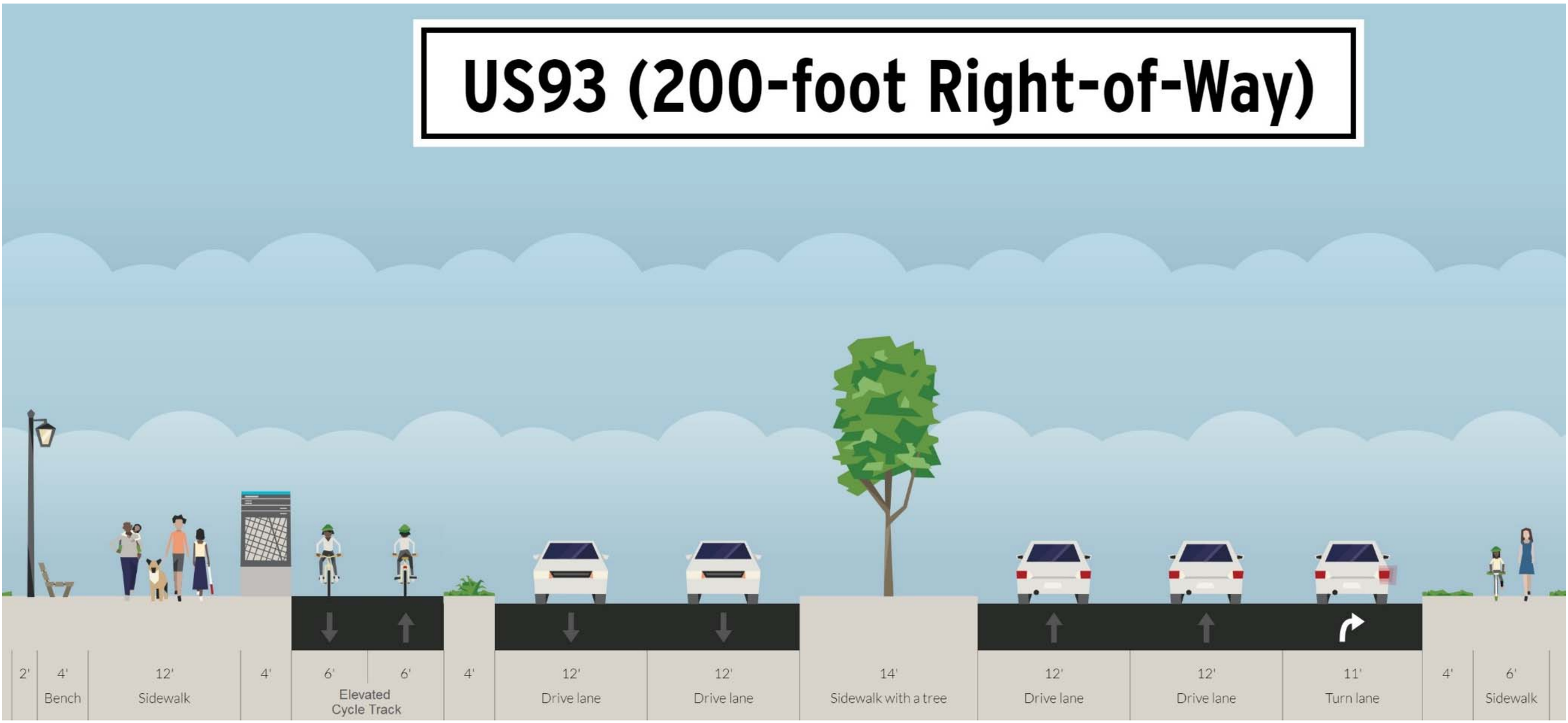
ALTERNATIVE RECOMMENDATIONS

Enhanced Connection A – Proposed Improvements



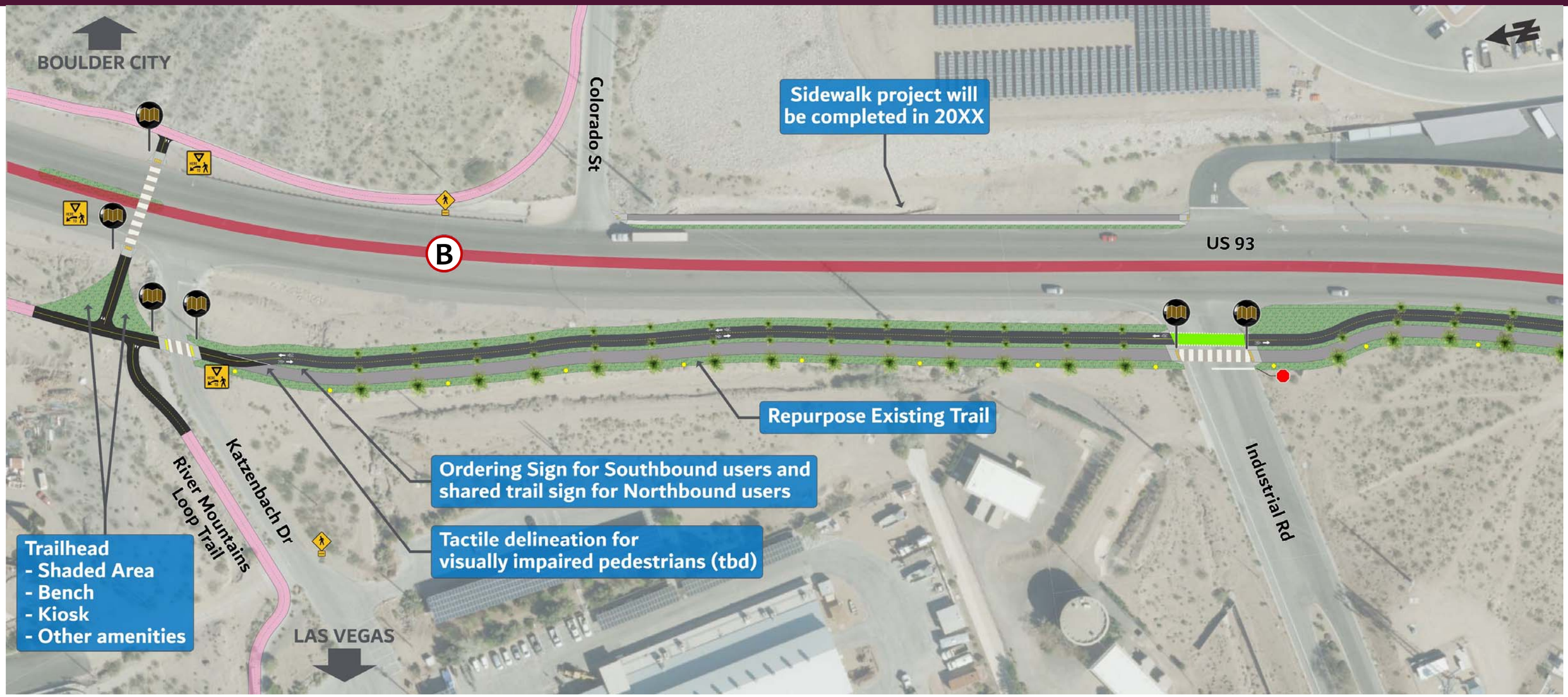
Enhanced Connection B – Proposed Typical Section

US93 (200-foot Right-of-Way)



ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B – Segment 1



Existing
- Sidewalk
- Shared Use Trail
- Bike Lanes

Proposed
- Enhanced Connections
- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
- Elevated Cycle Track
- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B – Segment 2



Existing
- Sidewalk
- Shared Use Trail
- Bike Lanes

Proposed
- Enhanced Connections
- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
- Elevated Cycle Track
- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B – Existing Conditions



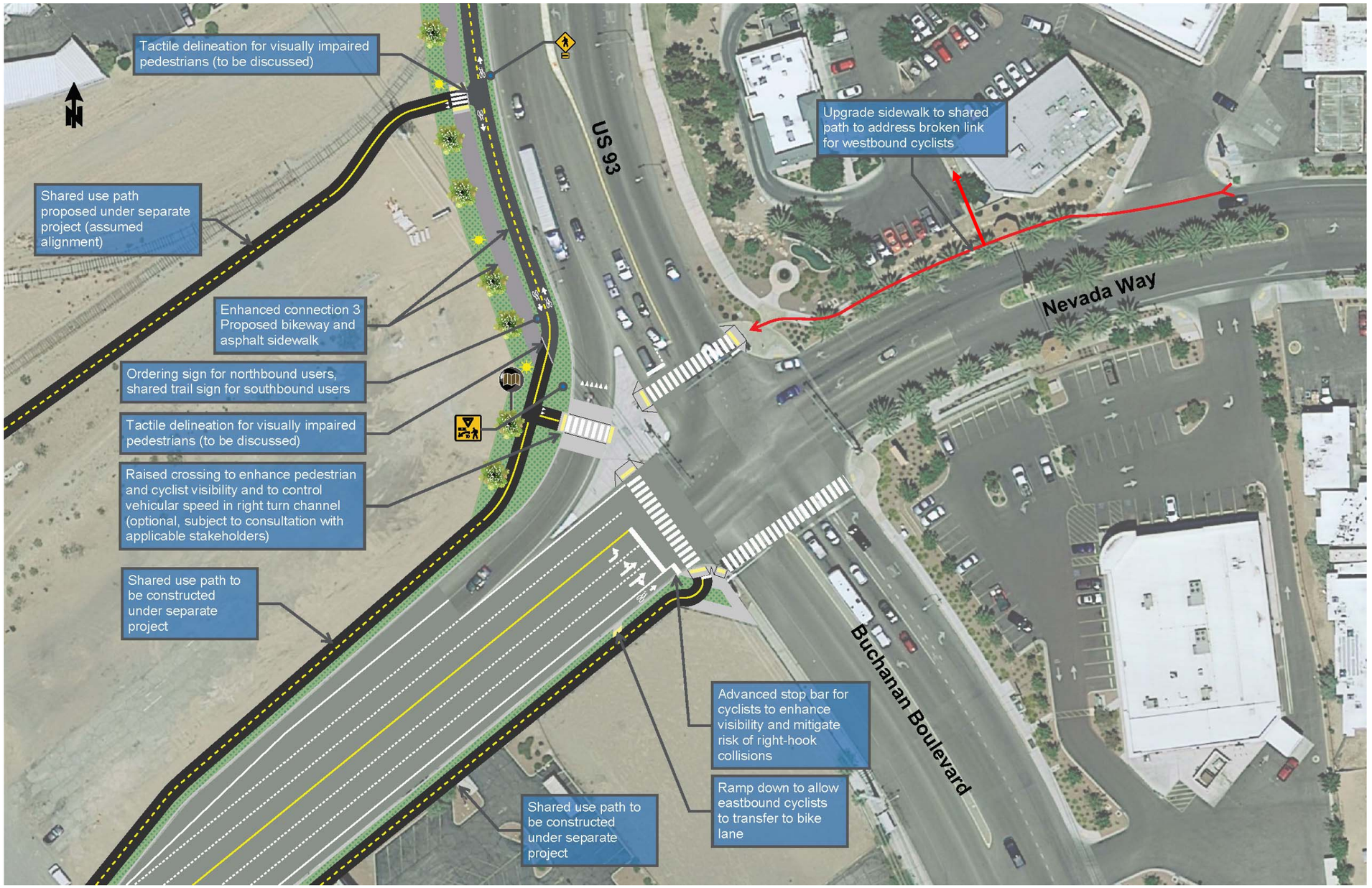
ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B – Proposed Improvements



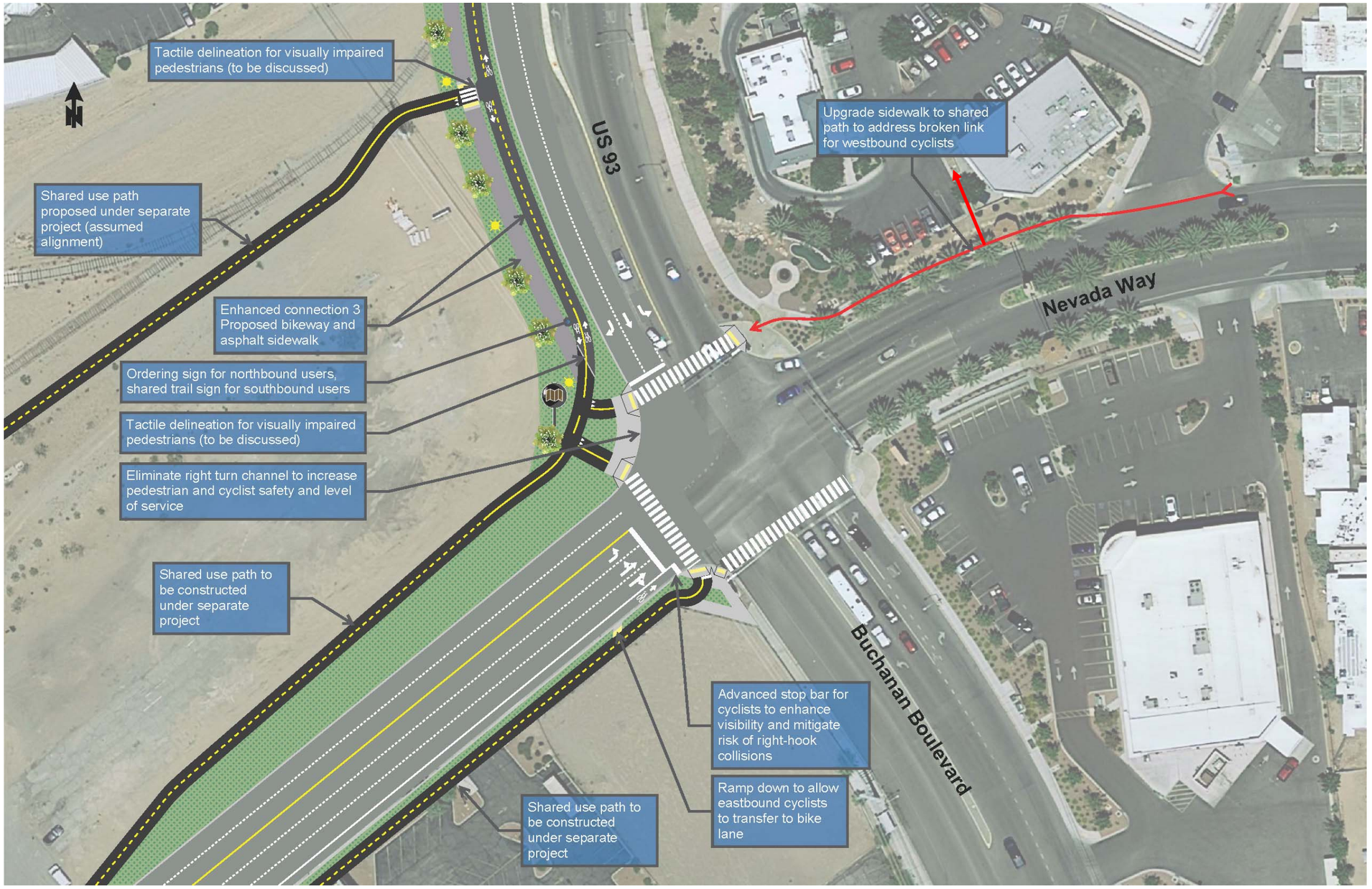
ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B & C - Intersection Concept 1



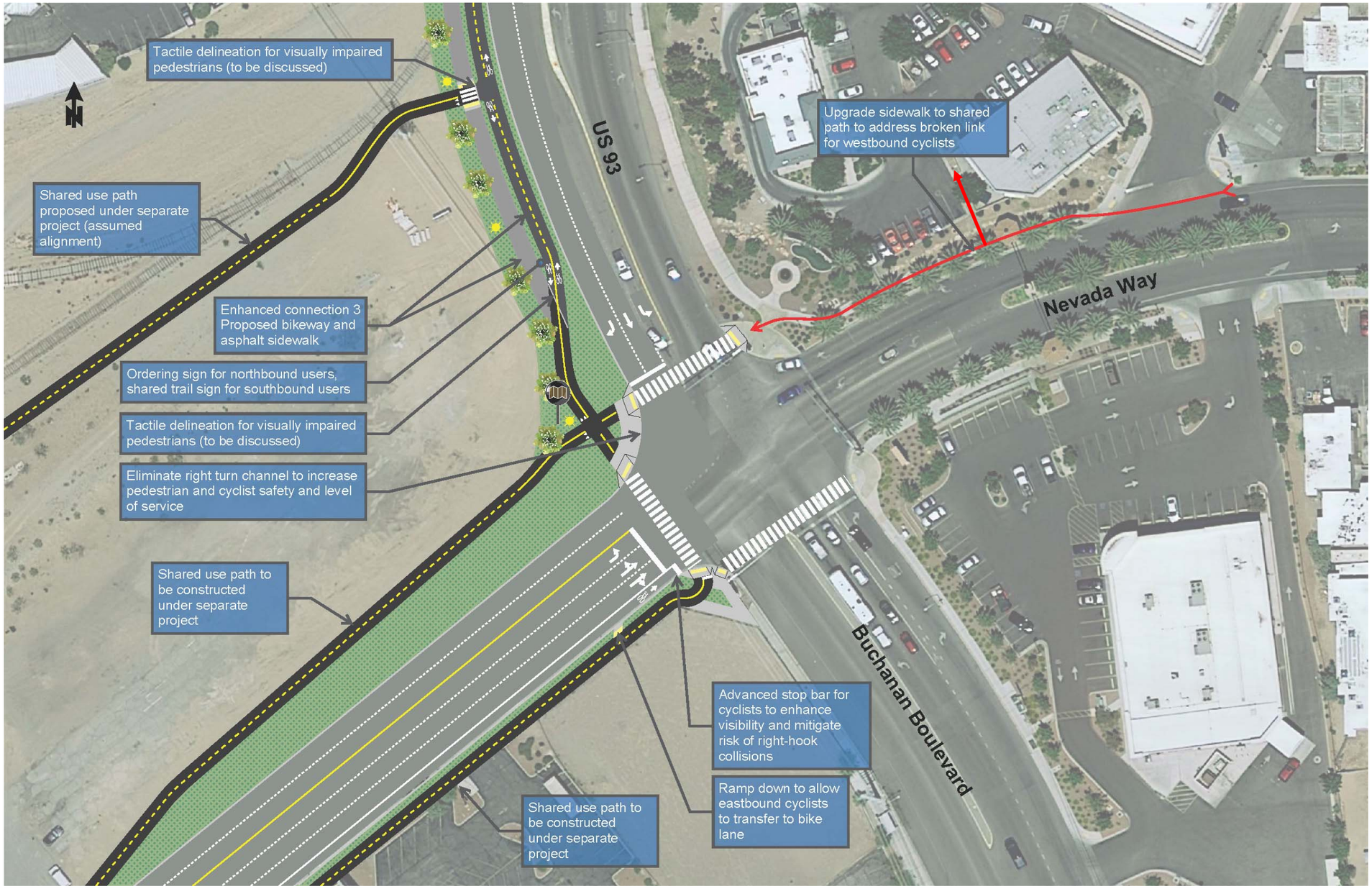
ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B & C - Intersection Concept 2A



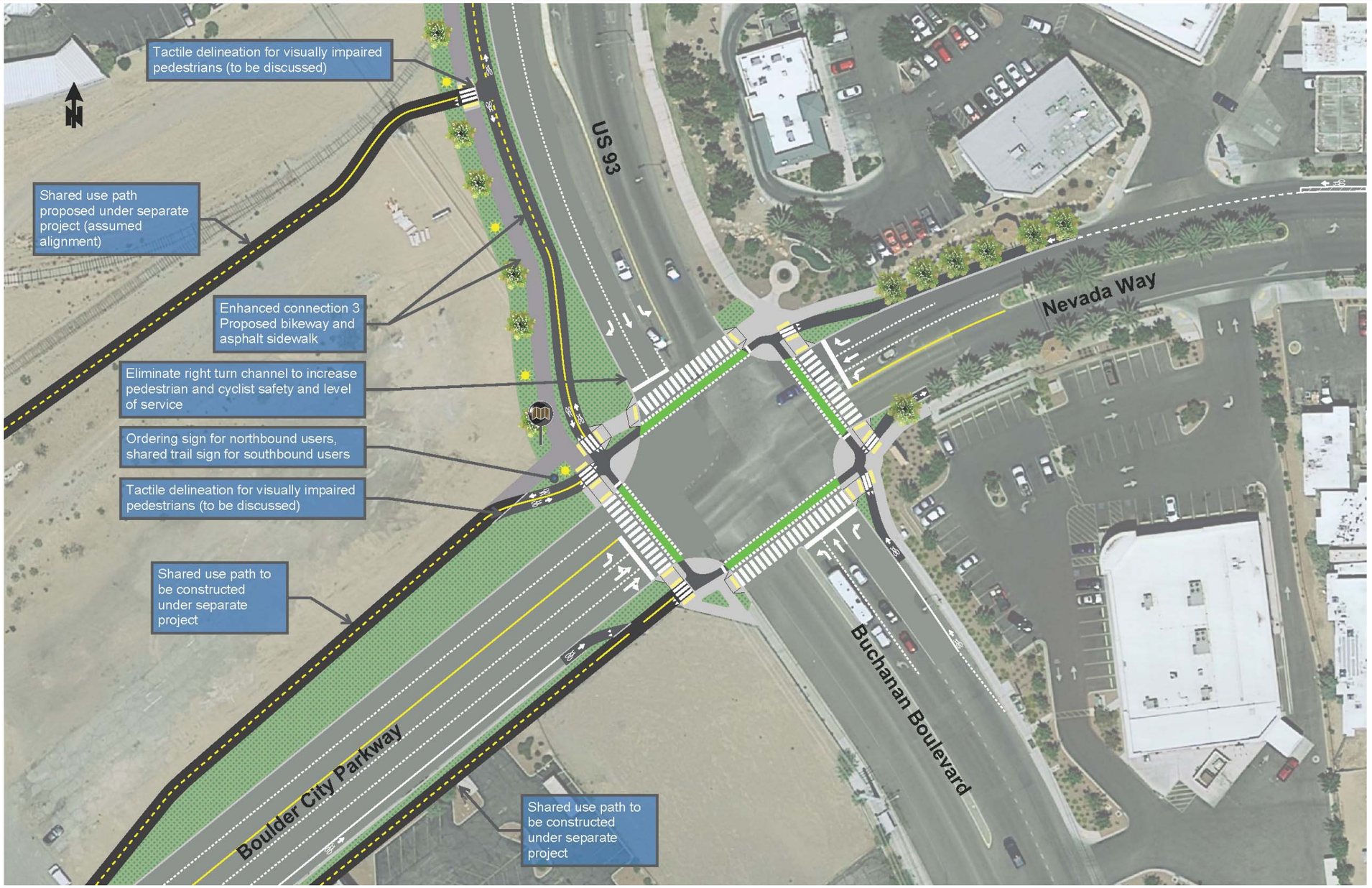
ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B & C - Intersection Concept 2B



ALTERNATIVE RECOMMENDATIONS

Enhanced Connection B & C - Intersection Concept 3



Amenities & Connective Placemaking



Public Art

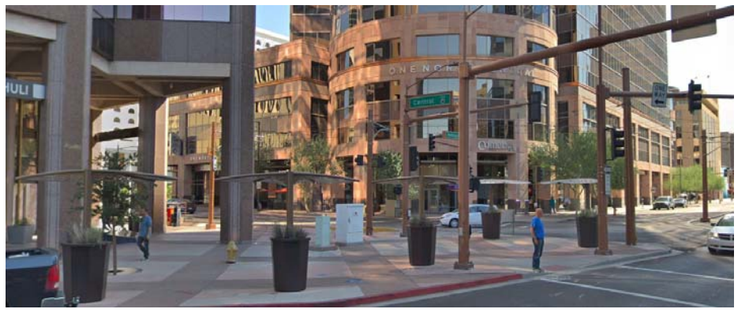








Shade









Safe Crossings







Amenities & Connective Placemaking



Bicycle Amenities









Pedestrian Amenities







Bicycle Protection





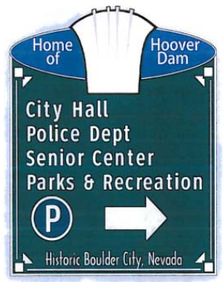


Wayfinding & Information Kiosks





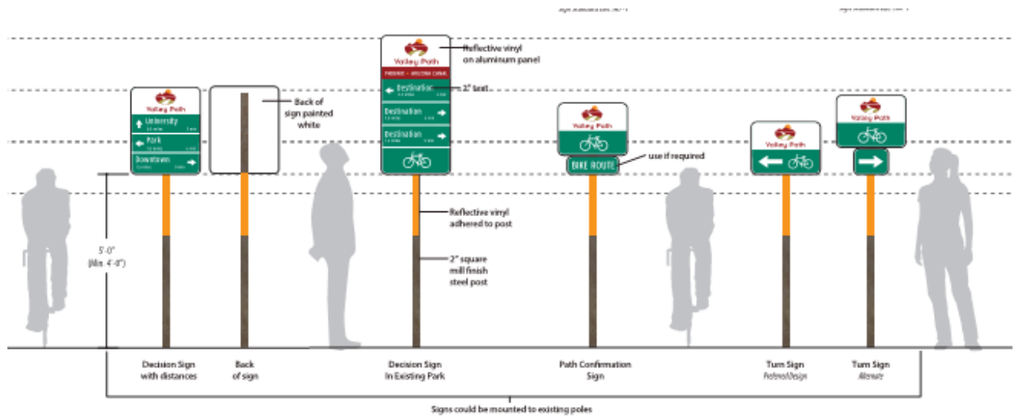




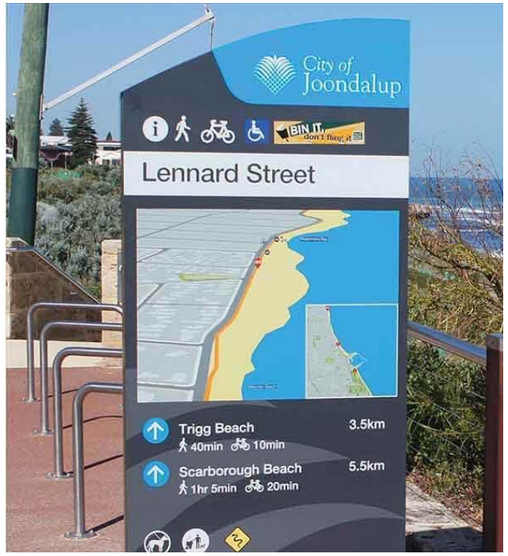


Move to include:
A) places,
B)distance,
and C)time for
people walking and biking.

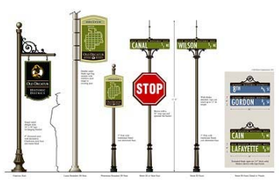


















ALTERNATIVE RECOMMENDATIONS

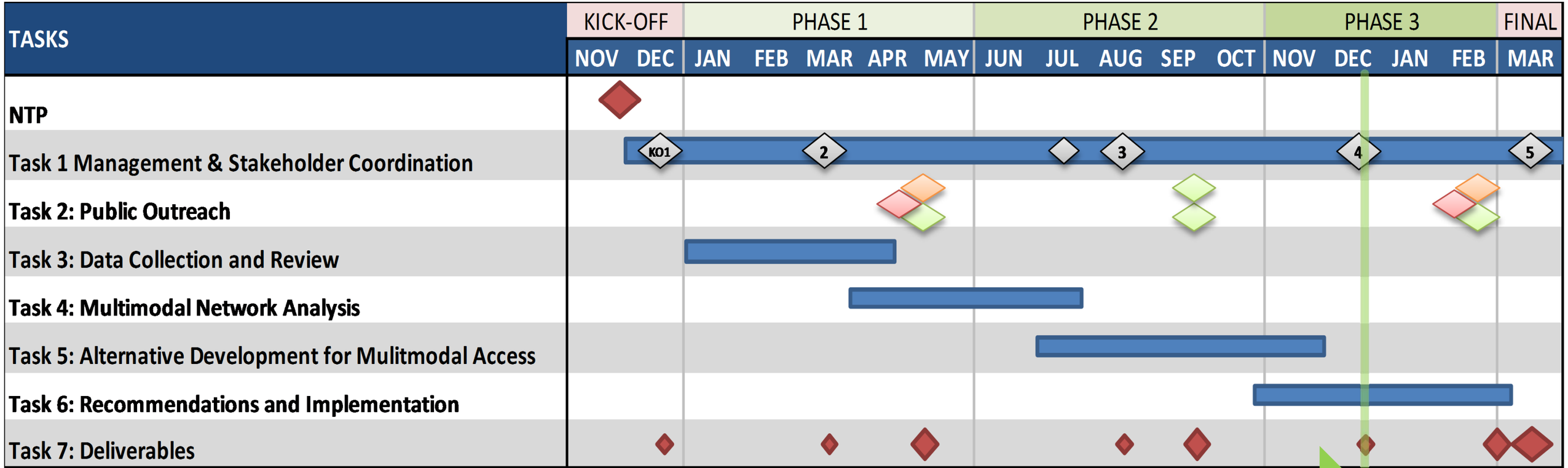
PRELIMINARY COSTS

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Drive	$ 900,000	$ 1,200,000
Enhanced Connection B - US93	$ 900,000	$ 1,200,000
Enhanced Connection C - Nevada Way to Downtown	$ 500,000	$ 2,500,000
General Improvements	$ 360,000	$ 550,000
Industrial	$ 100,000	$ 150,000
Canyon	$ 60,000	$ 100,000
Colorado	$ 90,000	$ 130,000
Yucca	$ 60,000	$ 90,000
Nevada Way (north of Downtown BC)	$ 50,000	$ 80,000
TOTAL	**$ 2,660,000**	**$ 5,450,000**

River Mountains Loop Trail Improvements Study

Next Steps/Other Discussion

NEXT STEPS



Milestone/Deliverables*

Stakeholder Meeting/Workshop

** Size of diamond represents relative size of deliverable*

Community Meeting

Business Outreach

Pop-Up Events

NEXT STEPS

- COMMENTS BY FRI 12/21
- PHASE 3 OUTREACH
- FINAL RECS, IMPLEMENTATION AND FINAL REPORT
- FINAL PRESENTATIONS



BEERS & GEARS!

River Mountains Loop & Boulder City Bike Ride & Social

Saturday February 16th, 2019

3:00pm to 7:00pm

FREE EVENT

Join the Southern Nevada Bicycle Coalition for our next Beers and Gears event!

3:00 pm Meet outside of Boulder Dam Brewing Co.
453 Nevada Hwy, Boulder City, NV 89005
On-Street Parking is Available in surrounding area
- *Must sign waivers to join the event*

3:30pm Bike Ride around Boulder City and the River Mountains Loop Trail

5:00pm Food & Drink Social at Boulder Dam Brewing Co
Opportunity to provide community comments on the River Mountains Loop Improvements Study

The event is open for everyone to join.
It will be a casual ride for all levels and bike types, including kids.

Appetizers will be sponsored by Parsons.
Boulder City Chamber of Commerce is sponsoring a raffle prize for 2 free tickets to the next Wine Walk.
Boulder Dam Brewing is offering Happy Hour drink prices to participants.
Drinks may be purchased at the social by attendees who are 21 and older.

Brought to you by:

SOUTHERN NEVADA BICYCLE COALITION

RTC

PARSONS

BOULDER CITY CHAMBER OF COMMERCE

BOULDER DAM BREWING CO. Boulder City, NV

RSVP on Facebook as "Going" by Wednesday February 13th and be entered in a free raffle for prizes!

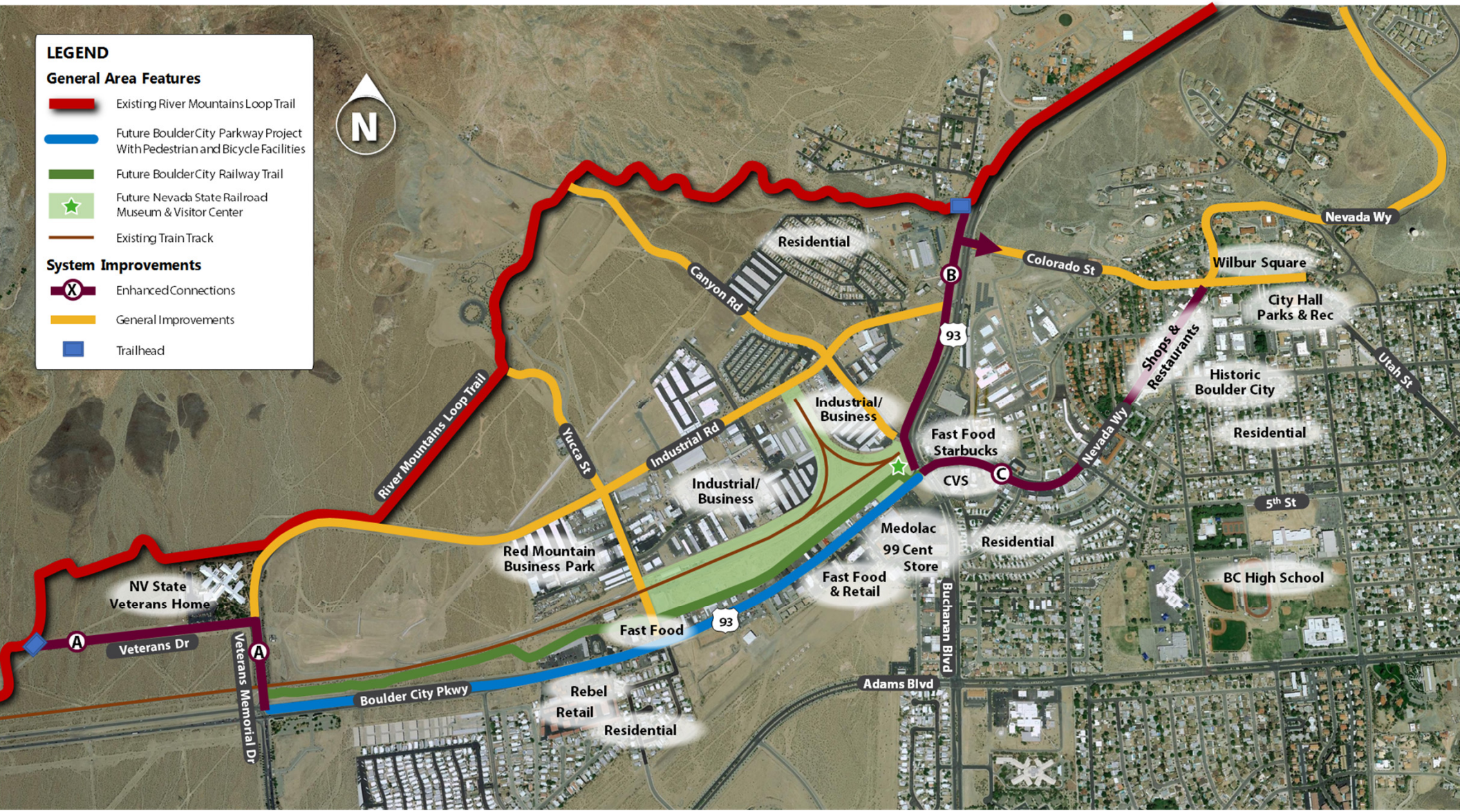
https://www.facebook.com/events/624935164607805/

SNVBC 2019 Spring Beers & Gears - Boulder City Bike Ride

ROUTE MAP AND STAGING AREAS



SYSTEM MAP



LEGEND
General Area Features
Existing River Mountains Loop Trail
Future Boulder City Parkway Project With Pedestrian and Bicycle Facilities
Future Boulder City Railway Trail
Future Nevada State Railroad Museum & Visitor Center
Existing Train Track
System Improvements
Enhanced Connections
General Improvements
Trailhead
N
Residential
Canyon Rd
Colorado St
Nevada Wy
Wilbur Square
City Hall Parks & Rec
Shops & Restaurants
Historic Boulder City
Utah St
Residential
93
Industrial/ Business
Fast Food Starbucks
CVS
Nevada Wy
5th St
Industrial Rd
Industrial/ Business
River Mountains Loop Trail
Yucca St
Red Mountain Business Park
Medolac 99 Cent Store
Residential
Fast Food & Retail
BC High School
NV State Veterans Home
Veterans Dr
Veterans Memorial Dr
Fast Food
93
Buchanan Blvd
Adams Blvd
Boulder City Pkwy
Rebel
Retail
Residential

ENHANCEMENTS & AMENITIES

ENHANCED CONNECTIONS

PROTECTED PATH OR BIKE LANE *(WHERE POSSIBLE)*






ENHANCED CROSSING





SHADING & REST AREA WITH BIKE PARKING





PUBLIC ART





GENERAL IMPROVEMENTS

(APPLIES TO ALL CONNECTIONS)

EFFECTIVE SIGNAGE



SIDEWALK AND RAMP UPGRADES



MARKED BIKE LANES



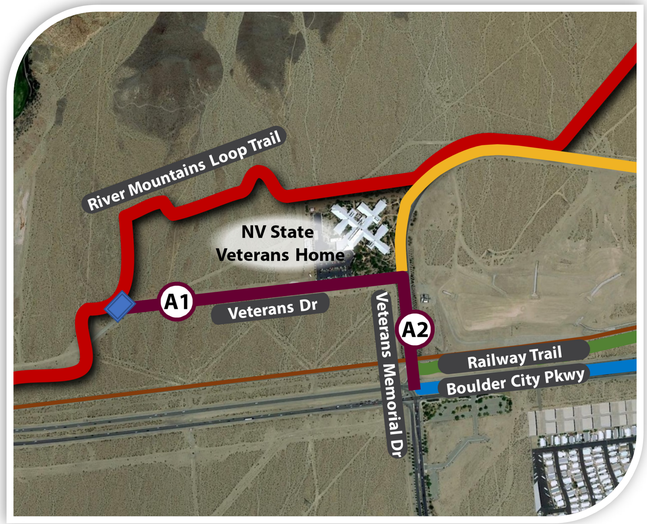
BIKE SHARE SYSTEM



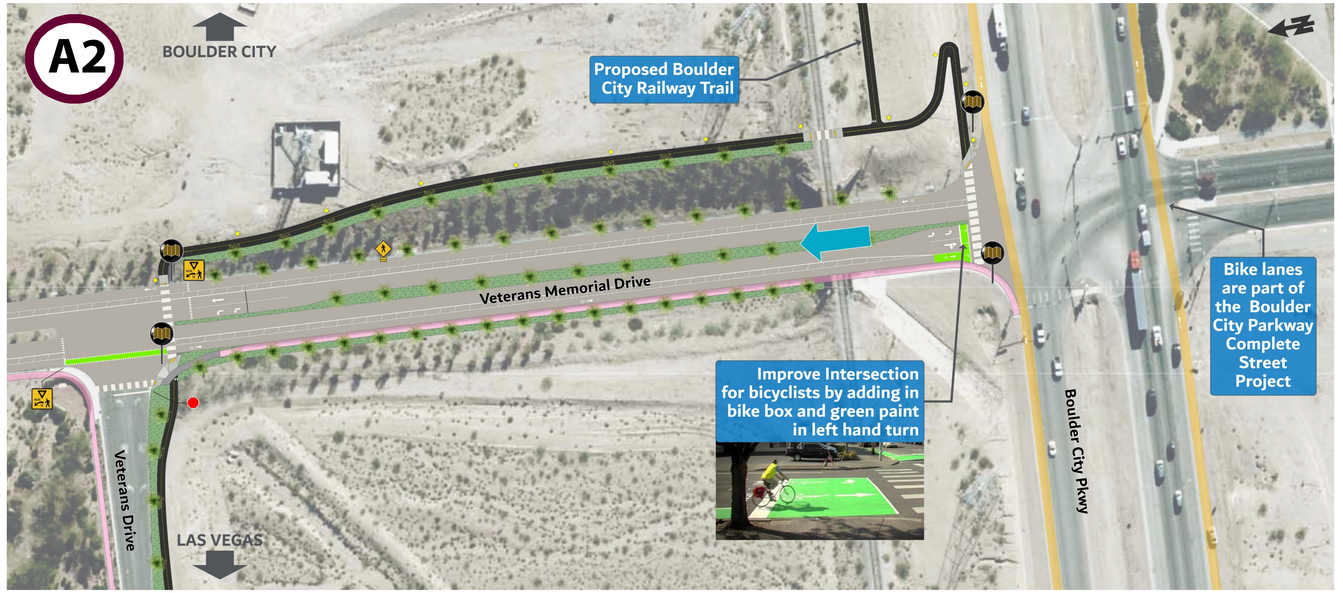
Enhanced Connection A

Veterans Drive and Veterans Memorial Drive to Future Railway Trail and Boulder City Parkway





OVERVIEW MAP



LEGEND

Approximate Scale
150 ft

Existing
- Sidewalk
- Shared Use Trail
- Bike Lanes

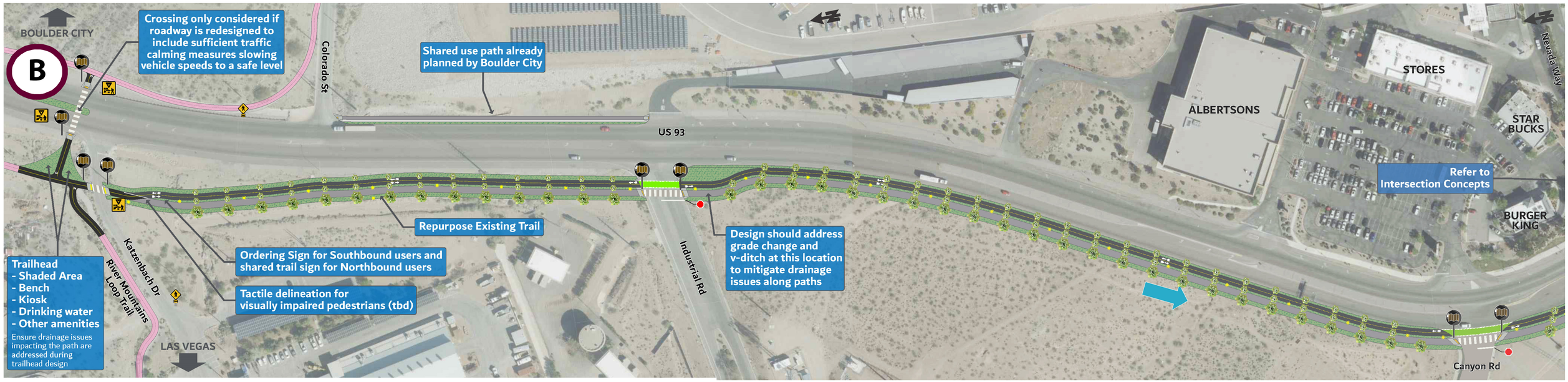
Proposed
- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
- Elevated Cycle Track
- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

Enhanced Connection B

US93: River Mountains Loop to Boulder City Parkway



OVERVIEW MAP



LEGEND

Approximate Scale

150 ft

Existing

- Sidewalk
- Shared Use Trail
- Bike Lanes

Proposed

- Pedestrian Only Trail/Sidewalk
- Shared Use Trail
- Elevated Cycle Track
- Cross-ride
- Cross-ride with Conflict Paint
- Improved Pedestrian Crossing
- Planting/Amenity Areas
- Wayfinding/Signage
- Pedestrian Crossing Sign
- Trail Lighting
- Rendering Viewpoint
- Stop Sign

Enhanced Connection A

RENDERINGS



EXISTING CONDITIONS



PROPOSED IMPROVEMENTS

Enhanced Connection B

RENDERINGS



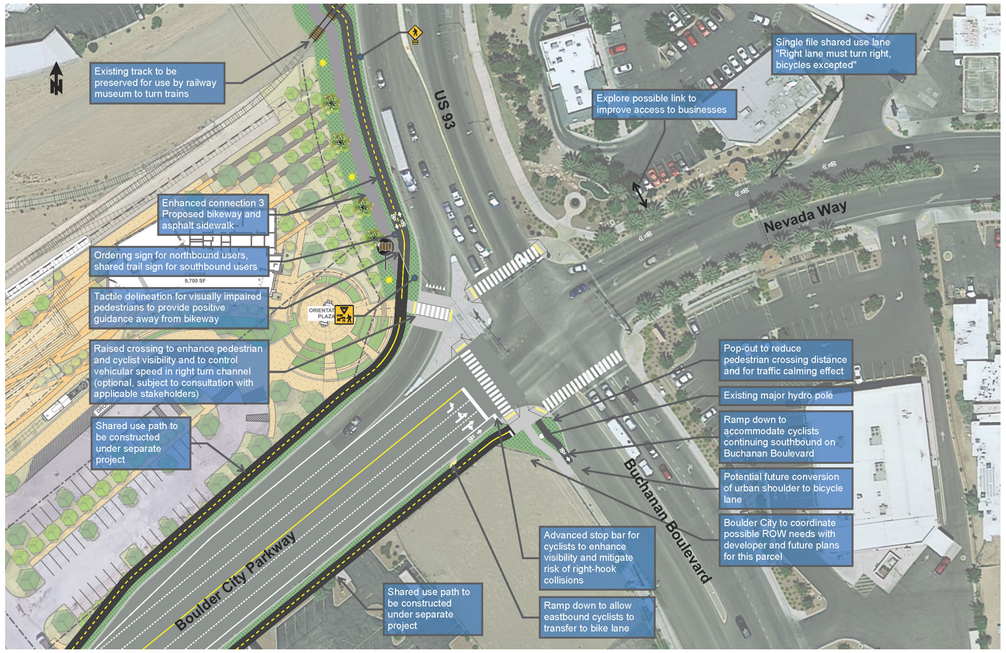
EXISTING CONDITIONS



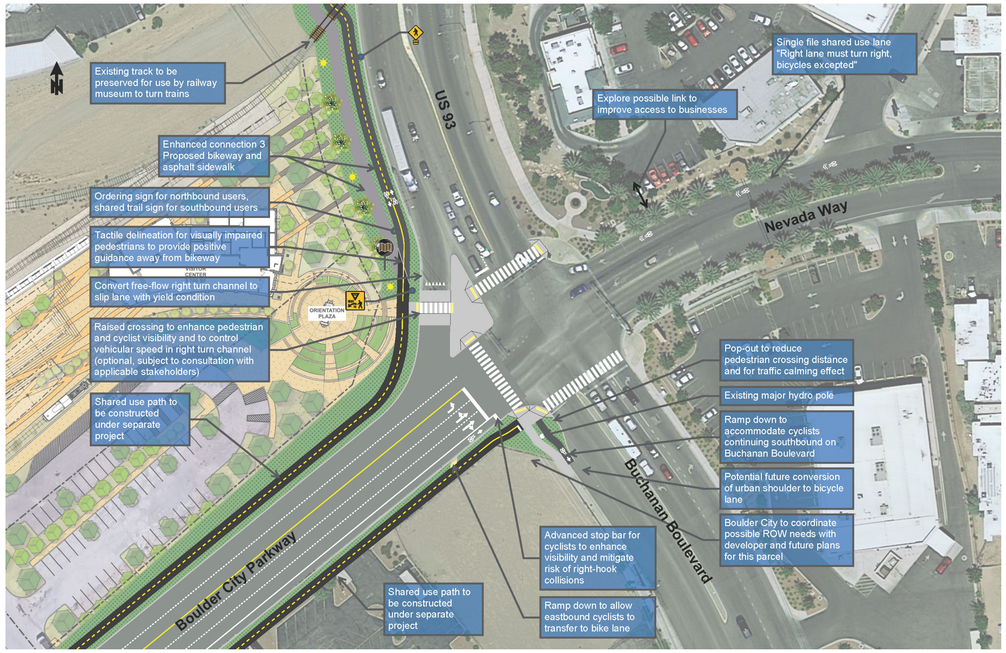
PROPOSED IMPROVEMENTS

Enhanced Intersection Concepts into Downtown

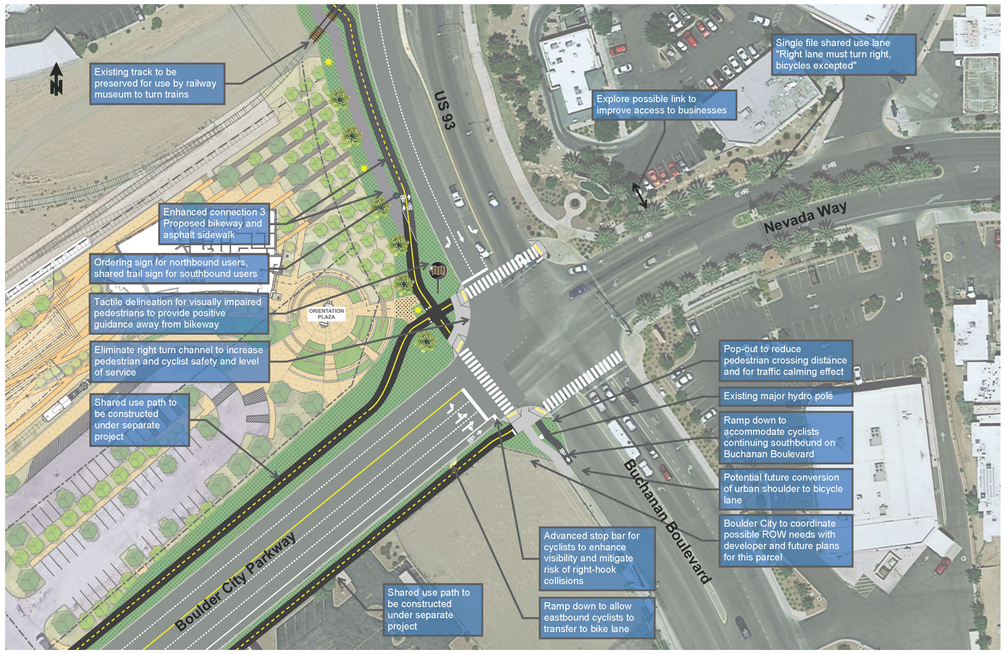
Boulder City Parkway / Nevada Way / Buchanan Boulevard



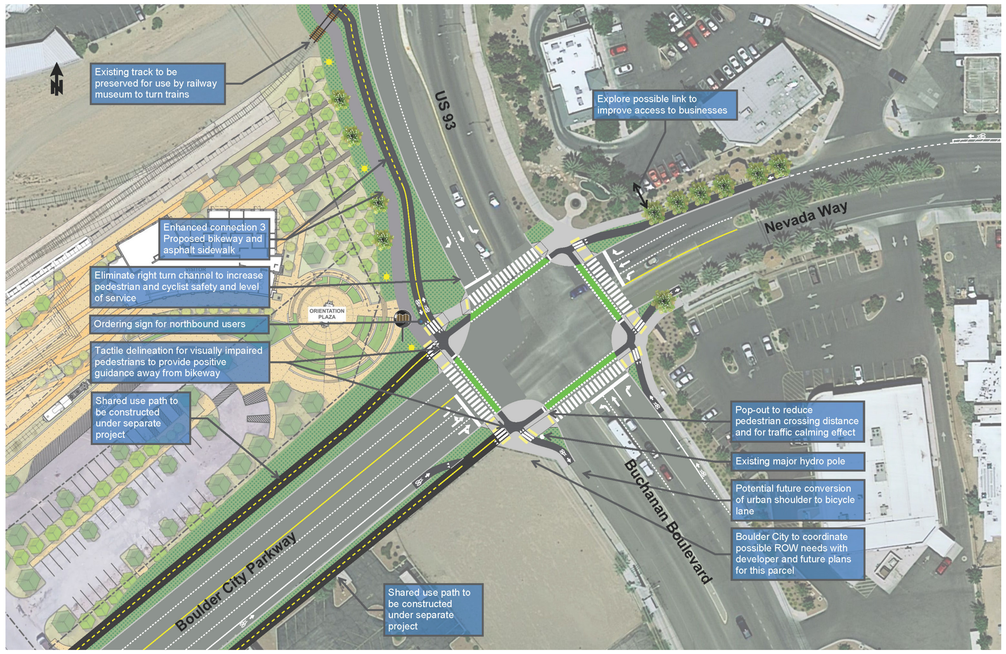
Phase 1



Phase 2



Phase 3



Phase 4

APPENDIX E

IMPLEMENTATION
COST ESTIMATE AND PHASING SPREADSHEETS

River Mountains Loop Trail Improvements Study

Total Costs - Summary for Report

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Dr and Veterans Dr	$ 1,100,000	$ 1,500,000
Enhanced Connection B - US93 / Boulder City Pkwy	$ 1,100,000	$ 1,500,000
Enhanced Connection C - Nevada Way to Downtown	$ 1,500,000	$ 2,200,000
General Improvements	$ 350,000	$ 600,000
TOTAL	**$ 4,050,000**	**$ 5,800,000**

River Mountains Loop Trail Improvements Study

Total Costs - Direct Calcs

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Drive and Veterans Drive	$ 1,121,913.75	$ 1,489,672.22
Enhanced Connection B - US93 (River Mountains Loop Trail to Industrial Rd.)	$ 643,772.87	$ 822,604.44
Enhanced Connection B - US93 (Industrial Rd. to Nevada Way)	$ 541,041.22	$ 655,818.65
Enhanced Connection C - Nevada Way to Downtown	$ 1,516,443.24	$ 2,158,842.17
Industrial	$ 100,559.01	$ 132,706.12
Canyon	$ 68,234.38	$ 89,601.32
Colorado	$ 94,945.06	$ 125,614.81
Yucca	$ 64,185.65	$ 84,487.14
Nevada Way (north of Downtown BC)	$ 57,829.22	$ 75,321.12
	$ 4,208,924.41	$ 5,634,667.99

$ 1,184,814.10 $ 1,478,423.09

River Mountains Loop Trail Improvements Study

Enhanced Connection A - Veterans Memorial Drive and Veterans Drive

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor

Plantmix Surface (PBS)/ Sidewalk (PC) inches	4	
Aggregate Base (AB) inches	6	

Cost Assumptions

	2	TON/CY PB
	141	LB/CF AB
	75	$/TON PBS
	15	$/TON AB
	20.37037	$/SY PCC

Corridor properties

Length	3000	LF
Path width	7	FT
Median/Roadway revision	0	FT reduction of median
Trail PBS/PCC	14000.00	CF
AB	21000	CF
Walls	1400	SF
Railing (fall prevention)	280	LF

Walls where needed	$ 60.00	$/SF
Railing on walls	$ 25.00	$/LF
Clear and Grub	$ 1,200.00	$/AC
Relandscape	1	$/SF
Kiosk	$ 8,000.00	$ EA
Pedestrian Crossings	$ 15,000.00	$ EA
Remove Curb	$ 3.00	$/LF
New Median Curb	$ 13.00	$/LF
Green Bicycle Lane & Markings	$ 10.00	$/SF
Trail Lighting (one side)	$ 400,000.00	$/mile
	$ 350,000.00	
	$ 450,000.00	

Trail Head Items and costs Assumptions

1 bike rack	$ 200.00	
Art	$ 12,000.00	
Shade Structure	$ 25,000.00	
Bench	$ 5,000.00	Stamped with City Logo
Water (1" Meter)	$ 35,000.00	Assume water pipe available in adjacent roadway, fountain, service to restroom
Sewer	$ 25,000.00	Assume sewer pipe available in adjacent roadway
Restroom	$ 110,000.00	Assume single user/unisex unit 90k 115 to 140k for non-unisex (Publicrestroomcc
Pavement	$ 30,000.00	assume minimal pavement needed, costs for parking area included here
Lighting	$ 15,151.52	
Misc	$ 51,470.30	Assume 20% of above costs
Total	$ 310,000.00	

Corridor Notes:

Slopes adjacent to Memorial Drive are approx 3:1

Median is already improved

Lighting along trail

Walls needed along NB/EB for 280 LF (assume 5' height)

Assumes restriping on Veterans Memorial Drive from BCP to Yucca 3500 more feet

Assumes refreshing existing striping from Yucca to US93 4000 feet

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 3,305.79		$ 3,140.50	$ 3,636.36
Remove Median Curb	$ -	Leave Median	$ -	$ -
SUP PBS	$ 77,777.78		$ 73,888.89	$ 85,555.56
SUP PCC			$ -	$ -
SUP AB	$ 22,207.50		$ 21,097.13	$ 24,428.25
Roadway PBS (6")	$ -	Leave roadway	$ -	$ -
Roadway AB (8")	$ -	Leave roadway	$ -	$ -
SUP Walls	$ 84,000.00		$ 79,800.00	$ 92,400.00
Railing	$ 7,000.00		$ 5,600.00	$ 7,700.00
RELandscape	$ 120,000.00		$ 60,000.00	$ 132,000.00
Kiosks	$ 24,000.00		$ 22,800.00	$ 26,400.00
Pedestrian Crossings	$ 60,000.00	4 total	$ 54,000.00	$ 66,000.00
New Curb	$ -	Leave roadway	$ -	$ -
Signs	$ 5,500.00	11 new signs	$ 5,225.00	$ 6,050.00
Green Bicycle Lane	$ -	Removed	$ -	$ -
SUP Lighting	$ 227,272.73		$ 198,863.64	$ 255,681.82
Trail Head	$ 310,000.00		$ 294,500.00	$ 387,500.00
Sub total	$ 941,063.79		$ 818,915.15	$ 1,087,351.99
Drainage considerations	$ 18,821.28	2%	$ 16,378.30	$ 21,747.04
Traffic/Re-stripe	$ 141,159.57	15%	$ 122,837.27	$ 163,102.80
Incidentals/Contingency	$ 188,212.76	20%	$ 163,783.03	$ 217,470.40
Total	$ 1,289,257.39		$ 1,121,913.75	$ 1,489,672.22

Striping check

10500 11.9318182 119318.2

Solid line Striping - one line $10k/mile per line
assume 6 lines
Broken line striping - one line $1500/mile per line
assume 0 lines

River Mountains Loop Trail Improvements Study

Enhanced Connection B - US93 (River Mountains Loop Trail to Industrial Rd.)

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor

Plantmix Surface (PBS)/ Sidewalk (PC) inches	4	
Aggregate Base (AB) inches	6	

Cost Assumptions

2	TON/CY PB	75	$/TON PB	20.37037	$/SY PCC
141	LB/CF AB	15	$/TON AB		

Corridor properties

Length	1000	LF
Path width	12	FT
Median/Roadway revision	0	FT new raised median
Trail PBS/PCC	10666.67	CF
AB	16000	CF
Walls	0	SF
Railing (fall prevention)	0	LF

Walls where needed	$ 60.00	$/SF
Railing on walls	$ 25.00	$/LF
Clear and Grub	$ 1,200.00	$/AC
Relandscape	1	$/SF
Kiosk	$ 8,000.00	$ EA
Pedestrian Crossings	$ 15,000.00	$ EA
Roadway Ex. (median pavement)	$ 8.00	$/CY
New Median Curb	$ 13.00	$/LF
Green Bicycle Lane & Markings	$ 10.00	$/SF
Trail Lighting (one side)	$ 400,000.00	$/mile
	$ 350,000.00	
	$ 450,000.00	

Corridor Notes:

100 ft of existing median to remain

Existing Shared use path to remain

New Bike path to be added

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 826.45		$ 785.12	$ 909.09
Remove Median pavement (includes curb)	$ -	removed	$ -	$ -
SUP PBS	$ 59,259.26		$ 56,296.30	$ 65,185.19
SUP PCC			$ -	$ -
SUP AB	$ 16,920.00		$ 16,074.00	$ 18,612.00
Roadway PBS (6")	$ -		$ -	$ -
Median AB (8")	$ -	removed	$ -	$ -
SUP Walls	$ -		$ -	$ -
Railing	$ -		$ -	$ -
RELandscape	$ 8,000.00		$ 4,000.00	$ 8,800.00
Kiosks	$ 32,000.00		$ 30,400.00	$ 35,200.00
Pedestrian Crossings	$ 45,000.00		$ 40,500.00	$ 49,500.00
New Curb	$ -	removed	$ -	$ -
Signs	$ 6,500.00		$ 6,175.00	$ 7,150.00
Green Bicycle Lane	$ -	removed	$ -	$ -
SUP Lighting	$ 75,757.58		$ 66,287.88	$ 85,227.27
Trail Head	$ 310,000.00		$ 294,500.00	$ 387,500.00
Sub total	$ 554,263.28		$ 515,018.30	$ 658,083.55
Drainage considerations	$ 11,085.27	2%	$ 10,300.37	$ 13,161.67
Traffic/Re-stripe	$ 16,627.90	3%	$ 15,450.55	$ 19,742.51
Incidentals/Contingency	$ 110,852.66	20%	$ 103,003.66	$ 131,616.71
Total	$ 692,829.10		$ 643,772.87	$ 822,604.44

River Mountains Loop Trail Improvements Study

Enhanced Connection B - US93 (Industrial Rd. to Nevada Way) Does not include intersection improvements

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor

Plantmix Surface (PBS)/ Sidewalk (PC) inch	4	2	TON/CY PB	75	$/TON PBS	20.37037	$/SY PCC
Aggregate Base (AB), account for minor fill inch	12	141	LB/CF AB	15	$/TON AB		

Corridor properties

Length	1720	LF	
Path width	24	FT	
Median/Roadway revision	0	FT	convert/landscape median
Trail PBS/PCC	32106.67	CF	
AB	96320	CF	
Walls	0	SF	
Railing (fall prevention)	0	LF	

Corridor Notes:

Existing median curb to remain

New Bike and Pedestrian paths

Replace existing sidewalk between Canyon and Nevada Way on West

Cost Assumptions

Walls where needed	$	60.00	$/SF
Railing on walls	$	25.00	$/LF
Clear and Grub	$	1,200.00	$/AC
Relandscape		1	$/SF
Kiosk	$	8,000.00	$ EA
Pedestrian Crossings	$	15,000.00	$ EA
Roadway Ex. (median pavement)	$	8.00	$/CF
New Median Curb	$	13.00	$/LF
Green Bicycle Lane & Markings	$	10.00	$/SF
Trail Lighting (one side)	$	400,000.00	$/mile
	$	350,000.00	
	$	450,000.00	

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 1,705.79		$ 1,620.50	$ 1,876.36
Remove Median pavement	$ -	removed	$ -	$ -
SUP PBS	$ 178,370.37		$ 169,451.85	$ 196,207.41
SUP PCC			$ -	$ -
SUP AB	$ 101,858.40		$ 96,765.48	$ 112,044.24
Roadway PBS (6")	$ -		$ -	$ -
Median AB (8")	$ -	removed	$ -	$ -
SUP Walls	$ -		$ -	$ -
Railing	$ -		$ -	$ -
RELandscape	$ 13,760.00		$ 6,880.00	$ 15,136.00
Kiosks	$ 16,000.00		$ 15,200.00	$ 17,600.00
Pedestrian Crossings	$ 30,000.00		$ 27,000.00	$ 33,000.00
New Curb	$ -		$ -	$ -
Signs	$ 2,000.00		$ 1,900.00	$ 2,200.00
Green Bicycle Lane	$ -	removed	$ -	$ -
SUP Lighting	$ 130,303.03		$ 114,015.15	$ 146,590.91
Trail Head	$ -		$ -	$ -
Sub total	$ 343,694.56		$ 432,832.98	$ 524,654.92
Drainage considerations	$ 6,873.89	2%	$ 8,656.66	$ 10,493.10
Traffic/Re-stripe	$ 10,310.84	3%	$ 12,984.99	$ 15,739.65
Incidentals/Contingency	$ 68,738.91	20%	$ 86,566.60	$ 104,930.98
Total	$ 429,618.19		$ 541,041.22	$ 655,818.65

River Mountains Loop Trail Improvements Study

Enhanced Connection C - Nevada Way to Downtown

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor			Cost Assumptions						
Plantmix Surface (PBS)/ Sidewalk (PC) inch	4		2	TON/CY PB	75	$/TON PBS	20.37037	$/SY PCC
Aggregate Base (AB), account for minor fill inch	12		141	LB/CF AB	15	$/TON AB		

Corridor properties							
Length	4100	LF	Walls where needed	$	60.00	$/SF	
Path width	12	FT	Railing on walls	$	25.00	$/LF	
Median/Roadway revision	12	FT convert/landscape median	Clear and Grub (urban)	$	500.00	$/AC	
Trail PBS/PCC	43733.33	CF	Relandscape		1	$/SF	
AB	131200	CF	Kiosk	$	8,000.00	$ EA	
Walls	0	SF	Pedestrian Crossings	$	15,000.00	$ EA	
Railing (fall prevention)	0	LF	Roadway Ex. (median pavement)	$	8.00	$/CF	
			New Median Curb	$	13.00	$/LF	
			Green Bicycle Lane & Markings	$	10.00	$/SF	
			Sidewalk widening and new C&G, 1-side		$250	$/LF, includes removal of existing curb and roadway pavement	
Corridor Notes:			Trail Lighting (one side)	$	400,000.00	$/mile	
2250 LF bicycle lane length in corridor				$	350,000.00		
				$	450,000.00		

Costs	**Base Estimate**		**Low range**	**High Range**
Clear&Grub (urban)	$ 3,294.31		$ 3,129.59	$ 3,623.74
Amenities				
Bike Hub	$ 200,000.00		$ 190,000.00	$ 220,000.00
Bike Racks	$ 1,000.00		$ 950.00	$ 1,100.00
Public Art	$ 150,000.00		$ 75,000.00	$ 165,000.00
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
Kiosks	$ 16,000.00		$ 15,200.00	$ 17,600.00
Pedestrian Crossings	$ -		$ -	$ -
New Curb/SW Widening	$ 462,500.00		$ 439,375.00	$ 508,750.00
Signs	$ 10,000.00		$ 9,500.00	$ 11,000.00
Green Bicycle Lane			$ -	$ -
SUP Lighting			$ -	$ -
Trail Head	$ -		$ -	$ -
Sub total	$ 842,794.31		$ 733,154.59	$ 927,073.74
Drainage considerations	$ 16,855.89	2%	$ 14,663.09	$ 18,541.47
Traffic/Re-stripe	$ 25,283.83	3%	$ 21,994.64	$ 27,812.21
Incidentals/Contingency	$ 168,558.86	20%	$ 146,630.92	$ 185,414.75
Total	$ 1,053,492.88		$ 916,443.24	$ 1,158,842.17

River Mountains Loop Trail Improvements Study

General Improvements

Basis of Estimate Assumptions:

Assumed Items per corridor	**Cost Assumptions**		
Clear and Grub (urban)	$ 500.00	$/AC	
Kiosk	$ 8,000.00	$ EA	(No kiosks included in General Improvements Corridors)
Pedestrian Crossings	$ 15,000.00	$ EA	
Green Bicycle Lane & Markings	$ -	$/SF	(Not part of general improvements)
Signs	$ 500.00	$/EA	

General Improvements				**Costs**								
Corridors	**Length**	**Width (Ave)**	**# Crossings**	**C&G**	**Green Bike Lanes**	**Signs**	**Ped X-ings**	**Re-Stripe**	**Contingency**	**Base Cost**	**Low Range**	**High Range**
Industrial	7200	80	5	$ 6,611.57	$ -	$ 4,000.00	$ 75,000.00	$ 6,545.45	$ 18,431.40	$ 110,588.43	$ 100,559.01	$ 132,706.12
Canyon	4500	80	3	$ 4,132.23	$ -	$ 9,000.00	$ 45,000.00	$ 4,090.91	$ 12,444.63	$ 74,667.77	$ 68,234.38	$ 89,601.32
Colorado	3400	60	5	$ 2,341.60	$ -	$ 6,800.00	$ 75,000.00	$ 3,090.91	$ 17,446.50	$ 104,679.01	$ 94,945.06	$ 125,614.81
Yucca	3800	60	3	$ 2,617.08	$ -	$ 7,600.00	$ 45,000.00	$ 3,454.55	$ 11,734.33	$ 70,405.95	$ 64,185.65	$ 84,487.14
Nevada Way (north of Downtow	6200	60	2	$ 4,269.97	$ -	$ 12,400.00	$ 30,000.00	$ 5,636.36	$ 10,461.27	$ 62,767.60	$ 57,829.22	$ 75,321.12

River Mountains Loop Trail Improvements Study

Corridor Cost Summary with Example Phasing - Summary for Report

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Dr and Veterans Dr	$ 1,100,000	$ 1,500,000
Enhanced Connection B - US93 / Boulder City Pkwy	$ 1,100,000	$ 1,500,000
Enhanced Connection C - Nevada Way to Downtown	$ 1,500,000	$ 2,200,000
System General Improvements	$ 350,000	$ 600,000
TOTAL	**$ 4,050,000**	**$ 5,800,000**

Example Phasing Costs	Low Range	High Range
Phase 1 - Includes System General Improvements plus low-cost improvements on Enhanced Connections A, B and C	$ 1,000,000	$ 1,500,000
Phase 2 - Includes moderate improvements on Enhanced Connections A, B and C, plus 15% remobilization costs	$ 2,000,000	$ 3,000,000
Phase 3 - - Includes ultimate improvements on Enhanced Connections A, B and C, plus 15% remobilization costs	$ 1,400,000	$ 2,000,000
TOTAL	**$ 4,400,000**	**$ 6,500,000**

River Mountains Loop Trail Improvements Study

Total Costs - Direct Calcs

Corridor	Low Range	High Range
Enhanced Connection A - Veterans Memorial Drive and Veterans Drive	$ 254,087.73	$ 360,291.32
Enhanced Connection B - US93 (River Mountains Loop Trail to Industrial Rd.)	$ 203,315.87	$ 260,760.48
Enhanced Connection B - US93 (Industrial Rd. to Nevada Way)	$ 246,405.86	$ 296,445.20
Enhanced Connection C - Nevada Way to Downtown	$ 26,474.49	$ 30,654.67
Industrial	$ 100,559.01	$ 132,706.12
Canyon	$ 68,234.38	$ 89,601.32
Colorado	$ 94,945.06	$ 125,614.81
Yucca	$ 64,185.65	$ 84,487.14
Nevada Way (north of Downtown BC)	$ 57,829.22	$ 75,321.12
	$ 1,116,037.27	$ 1,455,882.19

$ 449,721.73 $ 557,205.69

River Mountains Loop Trail Improvements Study

Enhanced Connection A - Veterans Memorial Drive and Veterans Drive

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor

Plantmix Surface (PBS)/ Sidewalk (PC) inches	4	
Aggregate Base (AB) inches	6	

Cost Assumptions

	2	TON/CY PB	75	$/TON PBS	20.37037 $/SY PCC
	141	LB/CF AB	15	$/TON AB	

Corridor properties

Length	3000	LF
Path width		FT
Median/Roadway revision	0	FT reduction of median
Trail PBS/PCC	0.00	CF
AB	0	CF
Walls		SF
Railing (fall prevention)		LF

Walls where needed	$ 60.00	$/SF
Railing on walls	$ 25.00	$/LF
Clear and Grub	$ 1,200.00	$/AC
Relandscape	1	$/SF
Kiosk	$ 8,000.00	$ EA
Pedestrian Crossings	$ 15,000.00	$ EA
Remove Curb	$ 3.00	$/LF
New Median Curb	$ 13.00	$/LF
Green Bicycle Lane & Markings	$ 10.00	$/SF
Trail Lighting (one side)		$/mile
	$ -	
	$ -	

Corridor Notes:

Slopes adjacent to Memorial Drive are approx 3:1

Median is already improved

Lighting along trail

Walls needed along NB/EB for 280 LF (assume 5' height)

Assumes restriping on Veterans Memorial Drive from BCP to Yucca 3500 more feet

Assumes refreshing existing striping from Yucca to US93 4000 feet

Trail Head Items and costs Assumptions

1 bike rack	$	200.00	
Art	$	12,000.00	
Shade Structure	$	25,000.00	
Bench	$	5,000.00	Stamped with City Logo
Water (1" Meter)			Assume water pipe available in adjacent roadway, fountain, service to restroom
Sewer			Assume sewer pipe available in adjacent roadway
Restroom			Assume single user/unisex unit 90k 115 to 140k for non-unisex (Publicrestroomcc
Pavement	$	30,000.00	assume minimal pavement needed, costs for parking area included here
Lighting	$	-	
Misc	$	14,440.00	Assume 20% of above costs
Total	$	90,000.00	

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 3,305.79		$ 3,140.50	$ 3,636.36
Remove Median Curb	$ -	Leave Median	$ -	$ -
SUP PBS	$ -		$ -	$ -
SUP PCC			$ -	$ -
SUP AB	$ -		$ -	$ -
Roadway PBS (6")	$ -	Leave roadway	$ -	$ -
Roadway AB (8")	$ -	Leave roadway	$ -	$ -
SUP Walls	$ -		$ -	$ -
Railing	$ -		$ -	$ -
RELandscape	$ 60,000.00		$ 30,000.00	$ 66,000.00
Kiosks	$ 8,000.00		$ 7,600.00	$ 8,800.00
Pedestrian Crossings	$ 60,000.00	4 total	$ 54,000.00	$ 66,000.00
New Curb	$ -	Leave roadway	$ -	$ -
Signs	$ 5,500.00	11 new signs	$ 5,225.00	$ 6,050.00
Green Bicycle Lane	$ -	Removed	$ -	$ -
SUP Lighting	$ -		$ -	$ -
Trail Head	$ 90,000.00		$ 85,500.00	$ 112,500.00
Sub total	$ 226,805.79		$ 185,465.50	$ 262,986.36
Drainage considerations	$ 4,536.12	2%	$ 3,709.31	$ 5,259.73
Traffic/Re-stripe	$ 34,020.87	15%	$ 27,819.82	$ 39,447.95
Incidentals/Contingency	$ 45,361.16	20%	$ 37,093.10	$ 52,597.27
Total	$ 310,723.93		$ 254,087.73	$ 360,291.32

Striping check

10500 11.9318182 119318.2

Solid line Striping - one line $10k/mile per line
assume 6 lines
Broken line striping - one line $1500/mile per line
assume 0 lines

River Mountains Loop Trail Improvements Study

Enhanced Connection B - US93 (River Mountains Loop Trail to Industrial Rd.)

Basis of Estimate Assumptions:

Shared use path section:		**Assumed items in Corridor**		Cost Assumptions						
		Plantmix Surface (PBS)/ Sidewalk (PC) inches	4	2	TON/CY PB	75	$$/TON PB	20.37037	$/SY PCC	
		Aggregate Base (AB) inches	6	141	LB/CF AB	15	$$/TON AB			
Corridor properties			Walls where needed	$ 60.00	$/SF					
Length	1000	LF	Railing on walls	$ 25.00	$/LF					
Path width	0	FT	Clear and Grub	$ 1,200.00	$/AC					
Median/Roadway revision	0	FT new raised median	Relandscape	1	$/SF					
Trail PBS/PCC	2666.67	CF	Kiosk	$ 8,000.00	$ EA					
AB	4000	CF	Pedestrian Crossings	$ 15,000.00	$ EA					
Walls	0	SF	Roadway Ex. (median pavement)	$ 8.00	$/CY					
Railing (fall prevention)	0	LF	New Median Curb	$ 13.00	$/LF					
			Green Bicycle Lane & Markings	$ 10.00	$/SF					
Corridor Notes:			Trail Lighting (one side)	$ 400,000.00	$/mile					
100 ft of existing median to remain				$ 350,000.00						
Existing Shared use path to remain				$ 450,000.00						
New Bike path to be added										

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 826.45		$ 785.12	$ 909.09
Remove Median pavement (includes curb)	$ -	removed	$ -	$ -
SUP PBS	$ 14,814.81		$ 14,074.07	$ 16,296.30
SUP PCC			$ -	$ -
SUP AB	$ 4,230.00		$ 4,018.50	$ 4,653.00
Roadway PBS (6")	$ -		$ -	$ -
Median AB (8")	$ -	removed	$ -	$ -
SUP Walls	$ -		$ -	$ -
Railing	$ -		$ -	$ -
RELandscape	$ 8,000.00		$ 4,000.00	$ 8,800.00
Kiosks	$ 8,000.00		$ 7,600.00	$ 8,800.00
Pedestrian Crossings	$ 45,000.00		$ 40,500.00	$ 49,500.00
New Curb	$ -	removed	$ -	$ -
Signs	$ 6,500.00		$ 6,175.00	$ 7,150.00
Green Bicycle Lane	$ -	removed	$ -	$ -
SUP Lighting			$ -	$ -
Trail Head	$ 90,000.00		$ 85,500.00	$ 112,500.00
Sub total	$ 177,371.26		$ 162,652.70	$ 208,608.39
Drainage considerations	$ 3,547.43	2%	$ 3,253.05	$ 4,172.17
Traffic/Re-stripe	$ 5,321.14	3%	$ 4,879.58	$ 6,258.25
Incidentals/Contingency	$ 35,474.25	20%	$ 32,530.54	$ 41,721.68
Total	$ 221,714.08		$ 203,315.87	$ 260,760.48

River Mountains Loop Trail Improvements Study

Enhanced Connection B - US93 (Industrial Rd. to Nevada Way) Does not include intersection improvements

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor

Plantmix Surface (PBS)/ Sidewalk (PC) inch	4	2	TON/CY PB	75	$/TON PBS	20.37037	$/SY PCC
Aggregate Base (AB), account for minor fill inch	12	141	LB/CF AB	15	$/TON AB		

Corridor properties

Length	1720	LF	
Path width	12	FT	
Median/Roadway revision	0	FT	convert/landscape median
Trail PBS/PCC	18346.67	CF	
AB	55040	CF	
Walls	0	SF	
Railing (fall prevention)	0	LF	

Corridor Notes:

Existing median curb to remain

New Bike and Pedestrian paths

Replace existing sidewalk between Canyon and Nevada Way on West

Cost Assumptions

Walls where needed	$	60.00	$/SF
Railing on walls	$	25.00	$/LF
Clear and Grub	$	1,200.00	$/AC
Relandscape		1	$/SF
Kiosk	$	8,000.00	$ EA
Pedestrian Crossings	$	15,000.00	$ EA
Roadway Ex. (median pavement)	$	8.00	$/CF
New Median Curb	$	13.00	$/LF
Green Bicycle Lane & Markings	$	10.00	$/SF
Trail Lighting (one side)	$	400,000.00	$/mile
	$	350,000.00	
	$	450,000.00	

Costs	Base Estimate		Low range	High Range
Clear&Grub	$ 1,705.79		$ 1,620.50	$ 1,876.36
Remove Median pavement	$ -	removed	$ -	$ -
SUP PBS	$ 101,925.93		$ 96,829.63	$ 112,118.52
SUP PCC			$ -	$ -
SUP AB	$ 58,204.80		$ 55,294.56	$ 64,025.28
Roadway PBS (6")	$ -		$ -	$ -
Median AB (8")	$ -	removed	$ -	$ -
SUP Walls	$ -		$ -	$ -
Railing	$ -		$ -	$ -
RELandscape	$ 13,760.00		$ 6,880.00	$ 15,136.00
Kiosks	$ 8,000.00		$ 7,600.00	$ 8,800.00
Pedestrian Crossings	$ 30,000.00		$ 27,000.00	$ 33,000.00
New Curb	$ -		$ -	$ -
Signs	$ 2,000.00		$ 1,900.00	$ 2,200.00
Green Bicycle Lane	$ -	removed	$ -	$ -
SUP Lighting			$ -	$ -
Trail Head	$ -		$ -	$ -
Sub total	$ 215,596.51		$ 197,124.69	$ 237,156.16
Drainage considerations	$ 4,311.93	2%	$ 3,942.49	$ 4,743.12
Traffic/Re-stripe	$ 6,467.90	3%	$ 5,913.74	$ 7,114.68
Incidentals/Contingency	$ 43,119.30	20%	$ 39,424.94	$ 47,431.23
Total	$ 269,495.64		$ 246,405.86	$ 296,445.20

River Mountains Loop Trail Improvements Study

Enhanced Connection C - Nevada Way to Downtown

Basis of Estimate Assumptions:

Shared use path section:

Assumed items in Corridor			Cost Assumptions					
Plantmix Surface (PBS)/ Sidewalk (PC) inch	4		2	TON/CY PB	75	$/TON PBS	20.37037	$/SY PCC
Aggregate Base (AB), account for minor fill inch	12		141	LB/CF AB	15	$/TON AB		

Corridor properties			Walls where needed	$	60.00	$/SF
Length	4100	LF	Railing on walls	$	25.00	$/LF
Path width	12	FT	Clear and Grub (urban)	$	500.00	$/AC
Median/Roadway revision	12	FT convert/landscape median	Relandscape		1	$/SF
Trail PBS/PCC	43733.33	CF	Kiosk	$	8,000.00	$ EA
AB	131200	CF	Pedestrian Crossings	$	15,000.00	$ EA
Walls	0	SF	Roadway Ex. (median pavement)	$	8.00	$/CF
Railing (fall prevention)	0	LF	New Median Curb	$	13.00	$/LF
			Green Bicycle Lane & Markings	$	10.00	$/SF
			Sidewalk widening and new C&G, 1-side		$250	$/LF, includes removal of existing curb and roadway pavement
Corridor Notes:			Trail Lighting (one side)	$	400,000.00	$/mile
2250 LF bicycle lane length in corridor				$	350,000.00	
				$	450,000.00	

Costs	**Base Estimate**		**Low range**	**High Range**
Clear&Grub (urban)	$ 3,294.31		$ 3,129.59	$ 3,623.74
Amenities				
Bike Hub			$ -	$ -
Bike Racks	$ 1,000.00		$ 950.00	$ 1,100.00
Public Art			$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
	$ -		$ -	$ -
Kiosks	$ 8,000.00		$ 7,600.00	$ 8,800.00
Pedestrian Crossings	$ -		$ -	$ -
New Curb/SW Widening			$ -	$ -
Signs	$ 10,000.00		$ 9,500.00	$ 11,000.00
Green Bicycle Lane			$ -	$ -
SUP Lighting			$ -	$ -
Trail Head	$ -		$ -	$ -
Sub total	$ 22,294.31		$ 21,179.59	$ 24,523.74
Drainage considerations	$ 445.89	2%	$ 423.59	$ 490.47
Traffic/Re-stripe	$ 668.83	3%	$ 635.39	$ 735.71
Incidentals/Contingency	$ 4,458.86	20%	$ 4,235.92	$ 4,904.75
Total	$ 27,867.88		$ 26,474.49	$ 30,654.67

River Mountains Loop Trail Improvements Study

General Improvements

Basis of Estimate Assumptions:

Assumed Items per corridor	**Cost Assumptions**		
Clear and Grub (urban)	$ 500.00	$/AC	
Kiosk	$ 8,000.00	$ EA	(No kiosks included in General Improvements Corridors)
Pedestrian Crossings	$ 15,000.00	$ EA	
Green Bicycle Lane & Markings	$ -	$/SF	(Not part of general improvements)
Signs	$ 500.00	$/EA	

General Improvements				**Costs**								
Corridors	**Length**	**Width (Ave)**	**# Crossings**	**C&G**	**Green Bike Lanes**	**Signs**	**Ped X-ings**	**Re-Stripe**	**Contingency**	**Base Cost**	**Low Range**	**High Range**
Industrial	7200	80	5	$ 6,611.57	$ -	$ 4,000.00	$ 75,000.00	$ 6,545.45	$ 18,431.40	$ 110,588.43	$ 100,559.01	$ 132,706.12
Canyon	4500	80	3	$ 4,132.23	$ -	$ 9,000.00	$ 45,000.00	$ 4,090.91	$ 12,444.63	$ 74,667.77	$ 68,234.38	$ 89,601.32
Colorado	3400	60	5	$ 2,341.60	$ -	$ 6,800.00	$ 75,000.00	$ 3,090.91	$ 17,446.50	$ 104,679.01	$ 94,945.06	$ 125,614.81
Yucca	3800	60	3	$ 2,617.08	$ -	$ 7,600.00	$ 45,000.00	$ 3,454.55	$ 11,734.33	$ 70,405.95	$ 64,185.65	$ 84,487.14
Nevada Way (north of Downtow	6200	60	2	$ 4,269.97	$ -	$ 12,400.00	$ 30,000.00	$ 5,636.36	$ 10,461.27	$ 62,767.60	$ 57,829.22	$ 75,321.12