

SR 160 & SR 159 **Corridor Plan** Volume 1 January 2023





PREPARED FOR

Nevada Department of Transportation 1263 S Stewart St Carson City, NV 89712



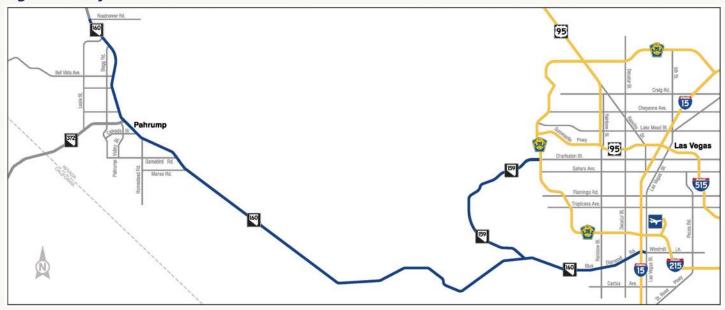
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Introduction

The State Route 160 (SR 160) and State Route 159 (SR 159) corridors are a critical regional link between Pahrump and Las Vegas. In recent years, the corridor has faced increased pressure from new development, increasing speeds, and rising safety concerns. Based on these needs, the Nevada Department of Transportation (NDOT), in collaboration with the City of Las Vegas, Clark County, Nye County, the Regional Transportation Commission of Southern Nevada (RTCSNV), Bureau of Land Management (BLM), Central Federal Lands Highway Division, and the Nevada State Police (NSP) have completed a planning effort to address these needs, establish a long-term vision for the corridor, and determine potential improvement concepts to allow the SR 160/SR 159 corridor to continue to provide a safe and efficient route for all users. The limits of the corridor study are along SR 160 from Las Vegas Boulevard to Roadrunner Road in Pahrump and SR 159 from the SR 160 junction to Clark County 215 (CC-215) in Summerlin (see Figure 1). This Corridor Plan is focused on potential improvement concepts along the SR 160/SR 159 corridor. This corridor transforms from an urban setting on the east to a more suburban and rural feel on the west.

Figure 1: Project Area



CORRIDOR PLAN PURPOSE

The purpose of the corridor study and plan is to:

- Collaborate with local partner agencies and the public to establish a vision to address the top corridor priorities.
- Develop a Corridor Plan, a useful blueprint to guide future development and transportation projects.

Existing Corridor Conditions

This study considered the 64-mile stretch of SR 160 from Las Vegas Boulevard to Roadrunner Road in Pahrump and the 16-mile SR 159 from the SR 160 junction to CC-215 in Summerlin. A comprehensive review of existing conditions along the corridor was conducted to better understand needs and opportunities and inform the development of the corridor vision. Major focus areas included safety, land use (existing and future), multimodal facilities, traffic conditions, and previous study recommendations. To conduct the review, the corridor was divided into regional segments: SR 160 Pahrump (Roadrunner Road to Nye County line), SR 160 Rural (Nye County line to SR 159/SR 160 junction), SR 160 Southwest (SR 159/SR 160 junction to Las Vegas Boulevard), and SR 159.

Table 1.1 Existing Conditions

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	SR 159	SR 160 Pahrump	SR 160 Rural	SR 160 Southwest			
Speed Limit (mph)	45 to 55	45 to 65	35 to 65	45 to 55			
Segment Length (miles)	16.6	36.3	11	15.9			
Number of Lanes	Up to 4 lanes in commercial areas and 2 in residential areas	4 lanes	4 to 6 lanes	4 lanes each direction from S. Las Vegas Blvd to Rainbow Ave and 2 lanes each direction west of Rainbow Blvd			
Bike Lanes	Bike-friendly road	3.5 miles of dedicated bike lane from Homestead Rd. to Boothill Dr.	34.4 miles of dedicated bike lane from Mabes St. to SR 159	Dedicated bike lane entire segment			
More Info	32 fatalaties occurred along the corridor between 2015 and 2019. SR 159 segment is designated a Nevada Scenic Byway.						

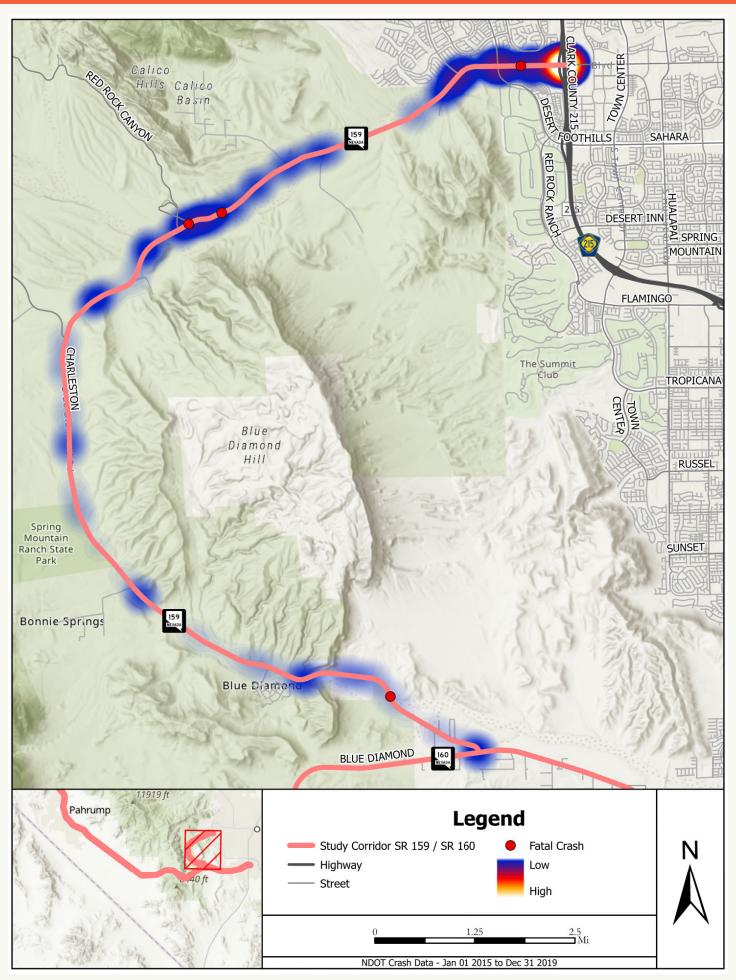
SAFETY OVERVIEW

Safety was a primary concern in the development of the SR 160/SR 159 corridor vision. Many of the comments received and surveys submitted voiced concern for the safety of this corridor. The project team collected five-year crash data to determine focus areas for safety improvements. That data is summarized below.

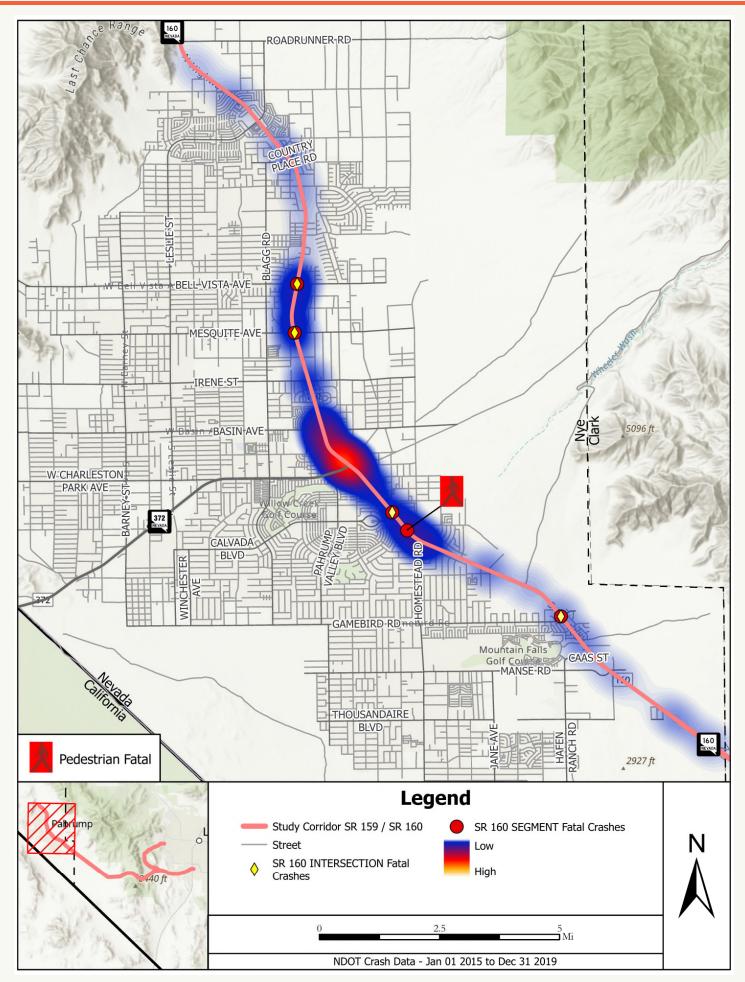
- 32 fatal crashes resulting in 35 fatalities within the crash data timeframe of 2015-2019.
- Eleven of SR 160 28 fatal crashes were within the limits of an intersection.
- The corridor's highest bicyclist crashes occur on SR 159.
- SR 159 crashes are more concentrated near the intersection of the CC 215, followed by the intersections of SR 160, Desert Foothills Drive, and Vista Center Drive/Plaza Centre Drive. The segment's serious injury rate is almost double to triple the statewide average.
- Pahrump SR 160 crashes are more concentrated in the developed areas of the corridor, notably between SR 372/Crawford Way to E. Basin Way and at the intersection of SR 372/Crawford Way.
- Southwest Las Vegas SR 160 crashes are more concentrated in the developed areas of the corridor and the areas where SR 160 intersects with I-15.
- Between 2018 2021 NDOT widened and constructed a median barrier from the west of SR 159 to Mountain Springs to enhance safety along the corridor.

The following figures show the locations of crashes within the SR 160 and SR 159 corridor.

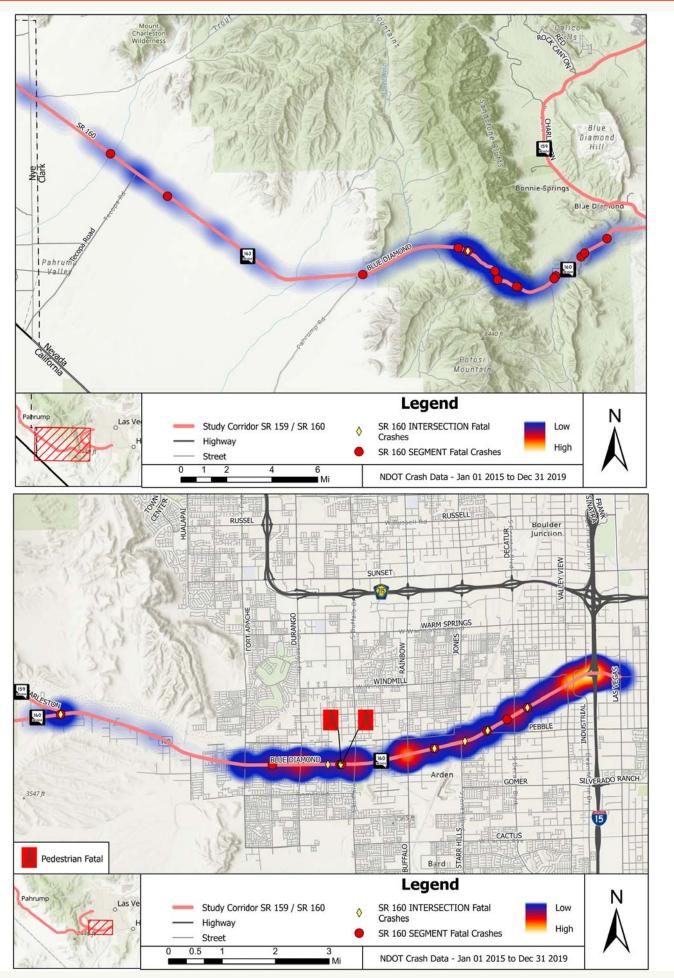














LAND USE

SR 159

Existing land use along the SR 159 corridor varies; however, it is mainly comprised of residential developments and open land. The rural areas of SR 159 are primarily public land dedicated to recreational uses (except for Bonnie Springs and Blue Diamond residential and public facilities). The majority of the residential areas along SR 159 are part of the Summerlin master plan development between Desert Foothill Drive and CC-215. The Bureau of Land Management (BLM) manages the adjacent Red Rock Canyon National Conservation Area. There are numerous trailheads and recreational uses within Red Rock Canyon. The community of Blue Diamond is a Census Designated Place with a population of 268 and is located south of SR 159 near the junction with SR 160.

There are various developments proposed along the SR 159 corridor, including residential developments.

SR 160

Existing land uses along SR 160 consist of clusters of commercial development, residences, industrial development, and open land. Most commercial and office developments are in the dense portions of the corridor, while residential developments and office spaces lie between various commercial developments.

Pahrump is an unincorporated town located at the southern tip of Nye County with a population of nearly 45,000 residents. The rural areas of SR 160 are primarily open, undeveloped land, except for the unincorporated community of Mountain Springs. SR 160 crosses the Spring Mountains National Recreation Area, including Mt. Potosi, and numerous trailheads are located adjacent to the highway.

Near the junction of I-15 and SR 160 are two large commercial centers. Land uses along SR 160 in southwest Las Vegas are a mix of commercial and industrial uses, transitioning to suburban residential areas as you continue west along SR 160.

Two future significant proposed nearby developments include the Brightline West High Speed Rail Terminus station for a new rail line between Las Vegas and Ontario, California. In addition, a significant hotel/casino and sports arena has been proposed near SR 160 and Las Vegas Boulevard; however, details of that development are still being developed.

Proposed development along the corridor aims to maintain the current trends: a mixture of industrial, residential, and commercial in Pahrump, residential and commercial in Southwest Las Vegas, and rural open land in rural SR 160. Expanded development and new commercial/residential development along the corridor could generate additional traffic.

MULTIMODAL FACILITIES

SR 159

SR 159 sees hundreds of cyclists weekly, with cyclists utilizing the shared-use roadway operating primarily on the shoulder. There are numerous recreational trails on SR 159 around Red Rock Canyon National Conservation Area. Most of SR 159 does not have sidewalks; however, sidewalks are provided between Sky Vista Drive to CC-215 on both sides of SR 159 within the Summerlin development.

The Red Rock Legacy Trail is under development by the BLM. Phase 1 of the trail will construct a new trailhead and parking area near the Summerlin boundary and a two-way multi-use trail to the Red Rock Visitor Center. The Red Rock Legacy Trail will eventually connect around SR 159 from Summerlin to SR 160 and Southwest Las Vegas.

SR 160

The provision of bicycle, pedestrian, trail, and transit facilities and crossing opportunities varies along the SR 160.

The rural segment of SR 160 does not provide sidewalks. Within the Southwest Las Vegas area, east of SR 160 and SR 159 junction, there are cross-street intersections approximately ¼ mile from each other, with a major intersection with crosswalks every one to two miles. All intersections have crossings available and provide ramps if a sidewalk is provided.

Some form of bicycle facility is present along much of the corridor, typically in the form of dedicated lanes and bike-accessible roads.

There are numerous recreational trails along SR 160. There are trails around Blue Diamond north

of SR 160 and recreational areas around Mountain Springs south of SR 160.

Several transit routes (101, 103, 120, 217, 221) service SR 160 with limited stops. Pahrump Valley Public Transit is a demand-response service that allows residents to call and schedule a time to be picked up from wherever they are in the valley.



TRAFFIC CONDITIONS

The project traffic analysis limits include 19 intersections throughout the SR 160 and SR 159 corridors. The measures of effectiveness (MOE) that were considered to evaluate the operations include HCM (6th Edition) intersection delay and level of service (LOS).

The 2022 Existing Condition, 2025 No-Action, 2050 No-Action, and 2050 Build scenarios were analyzed to evaluate the traffic operations. Various improvements, such as signal retiming/phasing and adding through and/or turn lanes to the intersection's approaches, were considered for the 2050 Build scenario.

Existing Conditions

The majority of the intersections within the corridor operate at desired LOS D/better. Six intersections operate with LOS E (at capacity) either during AM or PM peak-hour. The intersection at SR 160 and Buffalo Drive operates at considerably higher delays with LOS F (failing) during AM peak-hour. Overall, most intersections operate at an acceptable LOS for the existing year analysis.

2025 No-Action

A majority of the intersections operate at desired LOS D/better. Four intersections operate with LOS E (at capacity) either during AM or PM peak-hour. Three intersections operate at considerably higher delays with LOS F (failing) either during AM or PM peak-hour. As expected, the delays were higher in the 2025 No-Action compared to the 2022 Existing Conditions due to the increase in turning volumes.

2050 No-Action

The 2050 No-Action analysis showed only eight of the nineteen intersections operate at LOS D/

better. Three intersections operate with LOS E (at capacity) either during AM or PM peak-hour. Eight intersections operate with considerably higher delays with LOS F (failing) either during AM or PM peak-hour. Overall, most intersections do not operate at an acceptable LOS in the 2050 No-Action analysis.

2050 Build

The 2050 Build analysis shows that most intersections operate at desired LOS D/better. Five intersections operated with LOS E (at capacity) either during AM or PM peak-hour. The SR 160 corridor between I-15 and Rainbow Boulevard will need additional analysis, as discussed in the Recommendations section.



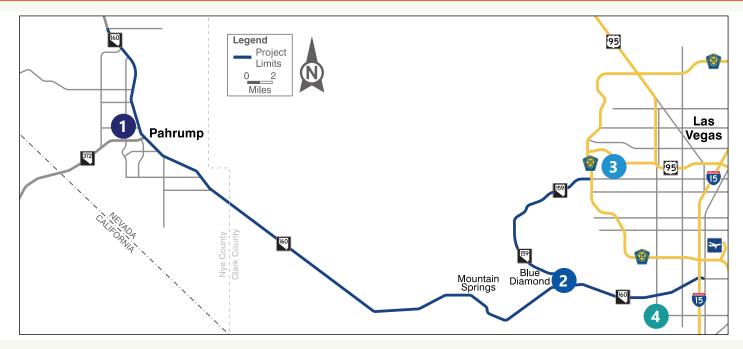
Community Engagement

Community engagement is essential to successful planning studies and a priority to NDOT and other partnering agencies. The SR 160 and SR 159 Corridor Study included two rounds of public information meetings (with four meetings per round), two online surveys, two comment periods, and quarterly meetings with the Technical Advisory Committee (TAC). The data, input, and feedback gathered from these engagement efforts were used to develop a shared vision for the future of the SR 160 and SR 159 corridor.

TAC Meetings

A project kick-off meeting was held in Las Vegas, Nevada in January 2022. It included attendees from NDOT, the Regional Transportation Commission of Southern Nevada, BLM, Central Federal Lands, Clark County, Nye County, the City of Las Vegas, and the consultant team. The study purpose and goals were discussed, and feedback was requested from agency representatives.

Additional TAC meetings were held in March 2022, August 2022, and November 2022. At each meeting, the TAC was updated on the project's status, and information was reviewed prior to the public information meetings.



April Public Information Meetings

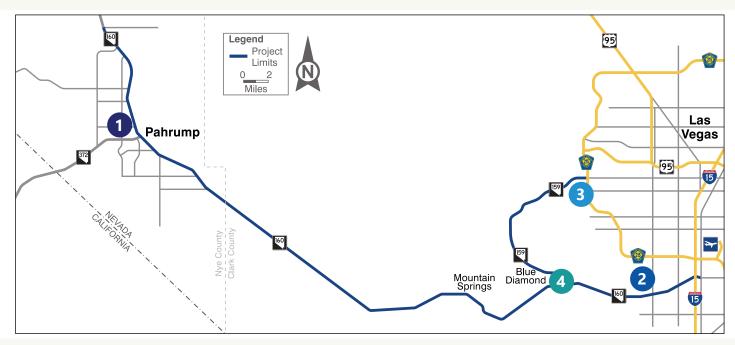
The first public meetings were held in the spring, from April 4th through 7th, 2022, at four locations along the corridor. The meetings were "open house" format from 4:00 p.m. to 7:00 p.m., with a formal presentation at 5:30 p.m. Attendees were given a fact sheet with information about the corridor as well as a comment form and survey to voice their concerns and share their priorities within the study area.

- 1 April 4, 2022 Nye Communities Coalition 1020 E Wilson Rd. Pahrump, NV 89048
- 2 April 5, 2022 Blue Diamond Recreation Center 2 Village Blvd.
 - Blue Diamond, NV 89004
- 3 April 6, 2022 Veterans Memorial Leisure Center 101 S Pavilion Center Dr. Las Vegas, NV 89144
- 4 April 7, 2022 Mountain's Edge Master Association 8015 Blue Diamond Rd., Suite 120 Las Vegas, NV 89178









September Public Information Meetings

The second public meetings were held in the fall, from September 19th through 22nd, 2022, at four locations along the corridor. The meetings were "open house" format from 4:00 p.m. to 7:00 p.m., with a formal presentation at 5:30 p.m. Attendees were given a fact sheet with information about the corridor as well as a comment form and survey to voice their concerns about or share their approval for the presented potential concepts.

- 1 September 19, 2022 Nye Communities Coalition 1020 E Wilson Rd.
 - Pahrump, NV 89048
- 2 September 20, 2022 Windill Library 7060 W. Windmill Ln. Las Vegas, NV 89113
- 3 September 21, 2022 Vistas Community Center 11312 W. Parkside Wy. Las Vegas, NV 89138
- 4 September 22, 2022 Blue Diamond Recreation Center
 - 2 Village Blvd. Blue Diamond, NV 89004

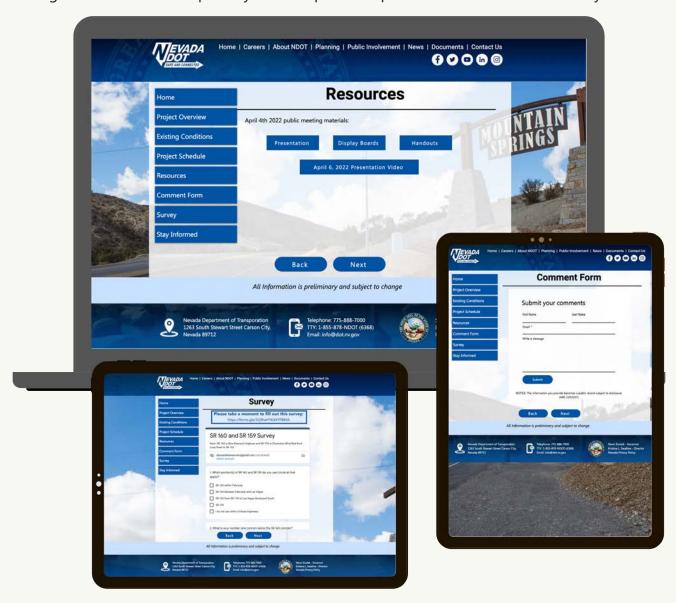






Virtual Meetings

A virtual public information meeting was available to the public 24/7 through the project-specific website at: www.ndotsr160.com. The website offered the opportunity to view the same in-person meeting materials and multiple ways for the public to provide comments to the study team.



April

The project-specific website was live from March 28, 2022, through April 27, 2022. The April 6th public information meeting was live-streamed and then available for viewing and public comment through April 27, 2022.

September

The virtual meeting website was available for review from September 6, 2022 through October 7, 2022. After the close of the public comment period, the information on the website remained available as an informational resource to the public.





Public Information Meeting #1 Summary

A total of 91 people attended the public information meetings. Over 815 people visited the website, with 113 people signing in to the virtual meeting.

A total of 459 comments were collected at inperson meetings (18), over email (12), and through the project-specific website (429). There were eight common themes noted across all mediums of comments and an additional small group of comments that did not fit into the eight established categories. Comments were categorized into the following topics:

Topic	Number
Cyclists and Pedestrians	43
Environment and Wildlife	23
Support Save Red Rock's Proposal	49
Speed and Safety	79
Intersection Control	46
Growing Communities	51
Roadway Widening	142
Oppose Tollbooths and Gates	159
Other (lighting, construction, etc.)	45

In addition to public comments, a 12 question survey was available from the virtual website and printed copies were available at the in-person meetings. A total of 132 survey responses were received. The top concerns for SR 160 were safety and capacity. For SR 159 the top concerns were bicycle safety and parking.

Public Information Meeting #2 Summary

A total of 67 people attended the public information meetings. There were 659 site visits to the website during the 30 day period, with 517 unique site visits.

A total of 72 comments were collected at inperson meetings (25), over email (10), and through the project specific website (37). Comments were categorized into the following topics:

Topic	Number
Cyclists and Pedestrians	13
Environment and Wildlife	14
Speed and Safety	19
Intersection Control	36
Growing Communities	6
Roadway Widening	19
Traffic Concerns	10
Other (lighting, construction, etc.)	21

In addition to public comments, a 9-question survey was available from the virtual website and printed copies were available at the in-person meetings. A total of 68 survey responses were received. The majority of responses supported the roundabouts and bike lanes on SR 159. For the Pahrump area of SR 160, most responses were in favor of widening SR 160, median safety improvements, and moderate support for roundabouts. In the Southwest Las Vegas section of SR 160, most responses supported widening from Rainbow to Fort Apache, grade separation from Decatur to I-15, and conventional widening from Decatur to I-15.





Recommendations: SR 159

The map to the right shows where and what type of improvements are recommended for SR 159.

Roundabouts are proposed at the following intersections:

- Calico Basin
- Red Rock Visitor Center Entrance
- Red Rock Canyon Overlook
- Red Rock Scenic Loop Exit
- Blue Diamond East
- Blue Diamond West

Parking and trailhead improvements are planned by BLM at the following intersections. Potential partnering opportunities with NDOT and BLM on future roadway rehabilitation projects.

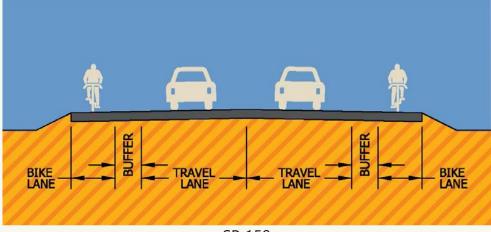
- · Middle Oak Creek Trailhead
- South Oak Creek Trailhead
- First Oak Creek Trailhead

A traffic signal at the Sky Vista intersection is anticipated to be constructed in conjunction with Phase 1 of the Red Rock Legacy Trail in 2023.

A designated bike lane with buffer from the travel lanes in each direction is proposed for SR 159.



Parking 💠 Roundabout 👺 Traffic Signal — Red Rock Legacy Trail



SR 159 Sky Vista to SR 160

Recommendations: SR 160 Pahrump Area



The improvements to the Pahrump area of SR 160 will focus on capacity.

Widening is recommended along SR 160 from:

- Mabes Street to Rainbow Boulevard (east/ south side)
- Lockspur Avenue to Roadrunner Road (north side)

Near/mid-term shoulder widening is recommended along SR 160 from:

Lockspur Avenue to Roadrunner Road

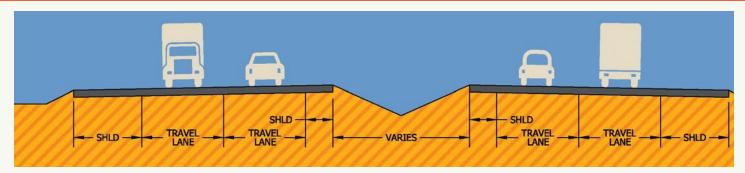
Roundabouts are recommended at

- Silverton Entrance (developer-built)
- Manse (developer-built)
- Calvada Boulevard

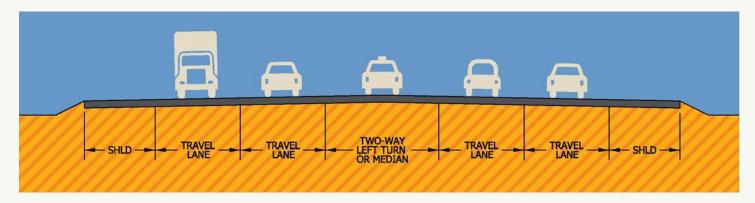
Intersection improvements are recommended for

- SR 372/SR 160
- Homestead Road provide dual lefts
- Basin Avenue
- Mountain Falls

Emergency light installation at the fire station (near Lockspur Avenue) is also recommended.

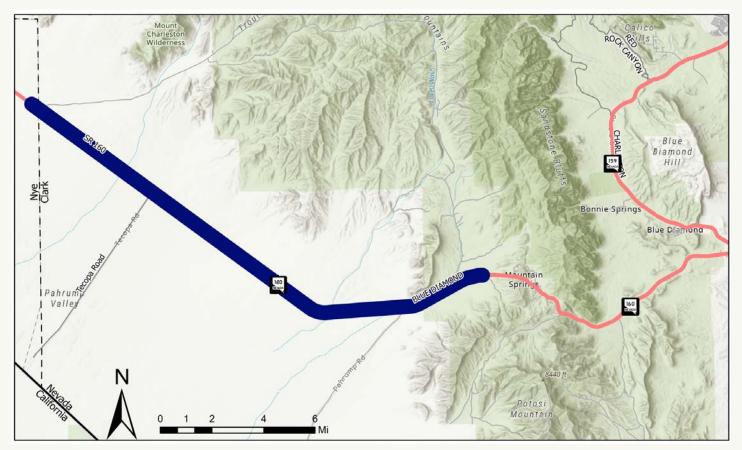


Pahrump Area Mabes St. to Manse Rd.



Pahrump Area Manse Rd. to Rainbow Ave. Lockspur Ave. to Roadrunner Rd.

Recommendations: SR 160 Rural Area



Median Slope Flattening

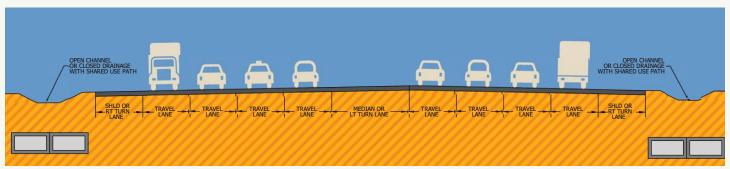
NDOT recently implemented more than \$100 million in roadway enhancements (including roadway widening and the installation of a new median barrier) along SR 160 from SR 159 to Pahrump.

The improvements to the rural area of SR 160 include median safety enhancements (e.g., slope flattening and installation of a new median barrier) and continued monitoring of wildlife crossings (to identify opportunities for additional wildlife crossings if warranted).

Recommendations: SR 160 Urban Area (Roadway Widening)



Improvements to SR 160 in the urban area of Southwest Las Vegas include widening SR 160 from Fort Apache Road to Decatur Boulevard and intersection improvements for the Rainbow Boulevard/SR 160 intersection. The recommendation is for the new corridor to be a four-lane facility (in each direction) with a raised median (similar to the existing Rainbow Boulevard to Decatur Boulevard) from Fort Apache Road to Decatur Boulevard. Drainage, pedestrian, and cyclist facilities will be considered to ensure a safe and balanced corridor. As discussions of these improvements advance, multimodal needs will need to be also discussed. There is sufficient room within the existing right-of-way to provide separated shared-use paths if existing open-channel storm drainage is placed within a closed underground drainage system.



SR 160 Fort Apache Rd. to Decatur Blvd.



Recommendations: SR 160

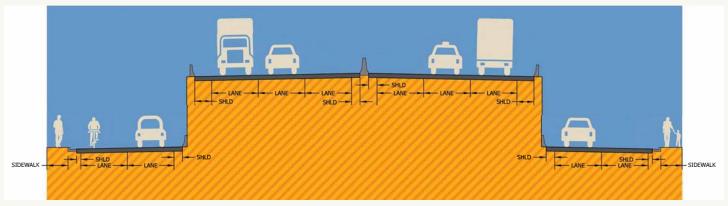
Urban Area (Additional Operational Analysis)



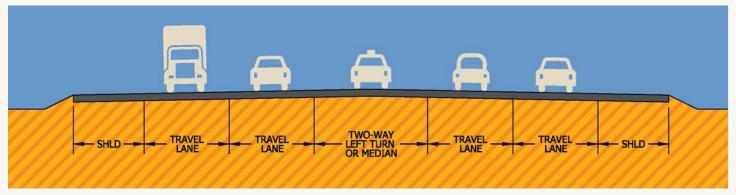
Roadway Widening — Additional Operational Analysis

A higher-level roadway system is needed for Decatur Boulevard to I-15 to accommodate the traffic volumes, limited right-of-way, and existing utilities. This plan recommends additional analysis for the segment of SR 160 from I-15 to Decatur Boulevard, which would include detailed alternatives and operational analyses. Potential alternatives to be evaluated include grade separated intersections and a frontage road system.

The need for additional analysis will require reviewing corridor constraints, potential ineffectiveness of conventional widening, and alternative life-cycle cost benefit. Partnering discussion should also be included to discuss funding and how long-term delays along the Las Vegas valley's arterials are going to be addressed.



Grade Separated Intersection



Standard Roadway Widening

Implementation Plan

The public's primary concern in identifying SR 160 and SR 159 corridor needs is when they will be built. Implementation of the needs identified herein begins with including them within NDOT's OneNevada Plan for statewide prioritization. The beginning of this process also includes an initial consideration of funding opportunities and partnerships. Smaller projects that may not require significant funding, environmental clearances, or right-of-way may be able to identify available funding within the State's short-term planning, also referred to as the State Transportation Improvement Program (STIP). Larger and more complex projects will need to identify funding opportunities through more long-term planning documents such as RTC's Regional Transportation Plan (RTP). Other funding opportunities to continue the needs and project development project may also be discovered through discretionary grant programs. In November 2021, the Infrastructure Investment and Jobs Act (IIJA) was signed into law providing \$1.2 trillion in spending for transportation and infrastructure improvements. A variety of grant programs are funded through this spending bill which can help accelerate project delivery if selected.

SR 160 and 159 are owned and maintained by NDOT, leading NDOT to be the primary agency responsible for implementing the project to address the identified needs. However, partnering opportunities with BLM, Clark County, Nye County, RTC, and private development are also encouraged. Potential need and project refinement along SR 160 from South Las Vegas Boulevard to Decatur Boulevard is a prime example. This area

faces increasing delays and traffic density, similar to many of the major urban arterials through the Las Vegas valley. Partnering amongst local agencies should include developing consistent policies to address concerns in delay and overall traffic volumes, including the breaking point where additional facilities cannot cost-effectively be constructed.

The following table outlines the improvement concepts by potential implementation based on engineering complexity, project readiness, and/or immediacy of need. The project order listed in the table does not reflect any priority or phasing. The following is a definition of the various potential implementation timeframes:

- Near-term needs are typically smaller or easier to implement. They can move through design and environmental clearance quickly and likely do not require a lot of capital expense. While it is envisioned that most of these could be completed in the next five years, they must be evaluated against NDOT's project needs across all of Nevada, so the timing could shift based on priority.
- Mid-term needs generally require additional coordination and engineering work, such as further design, right-of-way acquisition, or environmental review to be completed.
- Long-term needs are either not immediately warranted or have a longer lead time on planning, design, and regulatory reviews.
 Long-term needs also have the potential to be combined or implemented with major rehabilitation projects.

As the projects are prioritized and advanced, details such as lane widths, multimodal design, access management, and final traffic operations will also be refined.

Description	Implementation	Planning Level Cost Range
Pahrump Area		
Widen from Mabes to Rainbow to 2 Lanes Each Direction	Near Term	\$13-15 mil
Shoulder Widening with Striping Maintenance from Lockspur to		
Road Runner Road	Mid Term	\$25-30 mil
Widen from Lockspur to Road Runner to 2 Lanes Each Direction	Long Term	\$65-80 mil
Construct Raised Median Islands for Access Control	Mid Term	\$1-2 mil
Emergency Light at Fire Station	Near Term	<\$1 mil
SR 372/SR 160 Intersection Improvements	Near Term	\$8-10 mil
Homestead - Homestead to 160 N (Left Turn) Double Lefts?	Near Term	<\$1 mil
Silverton Roundabout at Racetrack	Near Term	Developer
Manse Roundabout	Near Term	Developer
Spot Intersection Improvements	Mid Term	<\$1 mil
Calvada potential roundabout	Long Term	\$2-3 mi
Rural Area (Pahrump to SR 159)		
Flatten Median Slopes and new Cable Rail from Mountain		
Springs to Pahrump	Mid Term	\$35-40 mil
Clark County Urban Area (SR 159 to Las Vegas Boulevard)		
Widen from Fort Apache to Buffalo to 3 Lanes Each Direction	Mid Term	\$20 mil
Widen from Buffalo to Rainbow to 4 Lanes Each Direction	Near Term	\$15 mil
Widen from Fort Apache to Buffalo to 4 Lanes Each Direction	Long Term	\$10 mil
Construct Frontage Road Section from Decatur to I-15	Mid Term	>\$100 mil
Rainbow Intersection	Near Term	\$3-5 mil
SR 159		,
Sky Vista Traffic Signal	Near Term	\$800k
Red Rock Trail	Near Term	CFL
Calico Basin Roundabout	Mid Term	\$2-3 mil
Red Rock Loop Entrance Roundabout	Mid Term	\$2-3 mil
Red Rock Overlook Roundabout	Mid Term	\$2-3 mil
Red Rock Exit Roundabout	Mid Term	\$2-3 mil
Castilla Street Roundabout (Blue Diamond)	Mid Term	\$2-3 mil
Arroyo Road Roundabout (Blue Diamond)	Mid Term	\$2-3 mil
Upgrade Trailhead Parking Areas	Mid Term	<\$1 mil
Provide Striped Buffer Bike Lane	Near Term	<\$500k
Designation of SR 159 as a Bike Route/Lane	Near Term	N/A

