

Key Issues

Throughout the stakeholder meetings, participants along with the Connecting Nevada team identified key trends, issues, and opportunities for consideration when planning Nevada's transportation network. The primary concepts identified here and in the key priorities on the preceding page comprise the Connecting Nevada plan (summaries of the stakeholder meetings can be found on the Connecting Nevada web page: www.connectingnevada.org).

Animal Crossings

Across the nation, traffic crashes involving wildlife cause an estimated \$5 to \$8 billion in damage each year. In addition, roads fragment and decrease habitat and prevent wildlife from accessing natural resources and isolate wildlife populations into smaller and more vulnerable subpopulations.

One of the tools to address this issue is wildlife crossings (a type of safety crossing), which have been demonstrated to be successful at reducing both vehicle-animal collisions and wildlife impacts caused by roads. The Nevada Department of Transportation has partnered with the Federal Highway Administration, U.S. Fish and Wildlife Service and Nevada Department of Wildlife to install safety crossings.

Economic Development

Throughout the outreach activities, the role of transportation planning decisions in supporting economic diversification, growth, and expansion in key sectors came up repeatedly. In Las Vegas, economic development discussions also focused on the need to limit reliance on the tourism sector despite its anticipated growth and to establish transportation policies that promote economic sustainability. In Reno, discussions focused on future economic opportunities, mineral expansion, and economic outlooks that emphasized expanding distribution sectors; these opportunities were also discussed during the rural workshops.

In the spring of 2011, the state of Nevada and the Metropolitan Policy Program at Brookings, Brookings Mountain West, and SRI International developed an analytic report and policy background for the state's planning.

Environmental Considerations

Throughout the workshops, stakeholders repeatedly identified major environmental and conservation issues as an important topic relating to the state's transportation system. Topics raised included water availability and quality, and how this resource will influence projected growth, and threatened and endangered species (with the desert tortoise being the focus in the Las Vegas area and the potential designation of the Greater sage grouse as a protected species being a key concern in the northern part of the state). A related topic was the recognition of Nevada as a state of great environmental diversity and beauty and the importance of the developing tourism market based on this fact. Specific examples cited include: Tule Springs National Monument,

Lake Mead, Spring Mountain Area, Death Valley, Mt. Charleston, Red Rock, Lake Tahoe, and Northeast Nevada.

National Environmental Policy Act (NEPA)

One of the major topics identified through the stakeholder outreach was dissatisfaction with the time required to bring a project from concept to completion. For projects that have a federal nexus (either affecting federal resources or requiring federal funding), National Environmental Policy Act (NEPA) requirements are triggered. Projects will often take a decade or longer to go through the necessary environmental clearance required under NEPA.

In response to this and the Federal Highway Administration's Every Day Counts initiative, NDOT has developed policy guidance referred to as Planning and Environmental Linkages (PEL). PEL seeks to engage stakeholders earlier and incorporate environmental data collection and issues earlier in the planning process. The goal is to take advantage of the planning effort when a project reaches the environmental clearance phase. The PEL process is described in more detail later in this document.

Partnership Development

During outreach efforts conducted as part of Connecting Nevada, stakeholders indicated a need for better coordination between agencies. Whether manifested in concerns about coordination during construction of a roadway project, or interagency coordination to take advantage of opportunities in siting a new linear facility (a roadway or utility corridor), stakeholders expressed an interest in seeing agencies work together to solve complex problems—especially when there is a potential for shared benefits or opportunities. Participants acknowledged the importance of implementing more public-private partnerships as a way to expand transportation infrastructure opportunities for the state.

Regional Connections and Accessibility

Nevadans see themselves as part of a greater region, with connections to neighboring California, Arizona, and Utah being critical to the state's economic development. As emphasized by the multiagency I-15 Mobility Alliance (see www.i15alliance.org), operational enhancements are critical for this link to the markets of southern California and states to the east. Dedicated truck lanes and urban bypass routes were discussed as potential solutions to congestion experienced throughout the Las Vegas region. Expanded airport capacity was discussed, with the proposed Ivanpah Valley Airport specifically cited (this airport is located near Primm and is a planned reliever airport for McCarran International Airport serving the Las Vegas area).

Time and again, the Connecting Nevada team heard stakeholders express the desire for enhanced passenger and freight rail in the state. NDOT updated the Nevada State Rail Plan in 2012. Oftentimes, rail was seen as the in-state connection between the major metropolitan areas of Reno and Las Vegas and as the regional connection to Salt Lake City, Denver, Phoenix, Los Angeles, and Sacramento/San Francisco. The opportu-

nity to connect more rural areas of the state with major population centers and beyond was also discussed.

Nevada is rich in resources (minerals, oil and gas, and renewable energy). Freight rail was recognized by many as key to encouraging a diversified economy and, in some instances (such as Interstate 15 [I-15]), to relieving the high demand for freight services on the interstate highway system.

Multimodal Opportunities

Transit was mentioned a number of times during the stakeholder outreach in both Southern and Northern Nevada. Services mentioned ranged from rural transit services to interregional rail service (for more information on rural Nevada transit needs refer to the Technical memorandum, Transit Propensity, found on the Connecting Nevada website Project Documents page). Recommendations contained in the Nevada State Rail Plan capture many of the ideas expressed by participants in Connecting Nevada. Additional concepts included an extension of the Las Vegas monorail to McCarran International Airport and intercity rail service in the Reno and Las Vegas areas.

During the Las Vegas workshops, transit mode discussions emphasized the importance of expanding multimodal opportunities whenever possible by creating shared corridors, planning for increased freight traffic generated by “inland ports,” and expanding rail to enhance freight capacity. In Reno, freight rail was also mentioned frequently in terms of additional needs, along with increased multimodal opportunities in the areas of light rail or other passenger rail options. During rural workshops, rail and expanded multimodal planning opportunities were also mentioned frequently.

Las Vegas participants focused on improving transportation options between Las Vegas and Reno and on specific connections between Las Vegas and outlying areas in Southern Nevada. In Reno, the input received was focused on connections between Northern Nevada communities and on challenges associated with the distance between urban and rural population centers. Rural participants generally focused on opportunities to connect Northern and Southern Nevada communities and on access between rural areas and major population centers.

Better bicycle and pedestrian networks were discussed frequently in both Reno and Las Vegas. Many participants felt that planning should focus on opportunities to encourage more walkable and bicycle-friendly communities by expanding sidewalks, pedestrian walkways, and bicycle routes. Although not a regional connectivity issue, any improvements in the state should consider how nonmotorized modes are accommodated.

Dedicated Truck Lanes

One suggestion for addressing high percentage of truck traffic and congestion on I-15 through the Las Vegas area was the institution of dedicated truck only lanes. The increased percentage of trucks on U.S. highways coupled with truck related fatalities have mobilized regional governments and research agencies to investigate the possibility of dedicated truck lanes on inter-state highways. Dedicated truck lanes would be located

on the inside of existing freeways and separated by a jersey barrier from existing vehicle traffic. Designated truck lanes would be placed on interstate highway corridors that have a high percentage of long haul trucking.

I-11 is intended to be a new high-capacity, multimodal transportation facility connecting the metropolitan areas of Las Vegas and Phoenix (see www.i11study.com). If extended north of Las Vegas and south of Phoenix, this corridor has the potential to become a major multimodal north-south transcontinental corridor through the Intermountain West. The Corridor would connect major cities, existing and future trade hubs, existing and future domestic and international deep-water ports, intersecting Interstate highways, and railroads. The corridor is proposed to include an upgraded highway facility, but could be paired with rail and other major infrastructure components—such as energy and telecommunications—to serve the nation’s needs from Mexico to Canada.

Livability

According to the FHWA, livability is about tying the quality and location of transportation facilities to broader opportunities such as access to good jobs, affordable housing, quality schools, and safe streets. This includes addressing safety and capacity issues on all roads through better planning and design, maximizing and expanding new technologies such as ITS and the use of quiet pavements, using Travel Demand Management approaches to system planning and operations, etc.

Issues associated with livability came up at all of the stakeholder meetings. Topics included incorporating complete streets policies (making accommodations for all modes on the state’s highways) and strengthening the relationship between land use and transportation.

Safety

Adding capacity to Interstate 80 (I-80) or I-15 without addressing the issue of truck volumes would not improve safety on the corridors. To optimize safety on the corridors, some degree of separation between trucks and cars needs to be considered. Dedicated truck lanes provide a reliable through route for truckers and benefits passenger vehicles by separating trucks.

Transportation Trends

Participants in all regions agreed that NDOT should stay abreast of technology trends and improvements that will affect our transportation system. Of note, all regions identified Intelligent Transportation Systems (ITS) as a key area for expansion and further use. The use of electric vehicles will require unique infrastructure to meet their needs. Enhanced communication technology will play a significant role in transportation planning, such as the use of mobile devices and applications that improve safety, support trip planning, and increase awareness of transportation issues.

Automated/Intelligent Transportation Systems

This topic concerns the development of information and communication technology (ICT) to improve the speed, efficiency, safety, and reliability of traffic movements. ICT relies on complete or partial automation of the vehicle, transshipment, and control. These ICT systems could involve improving existing modes (for example, automated highway systems) or creating new modes and new transshipment systems (for example, automated terminals for public transit and freight transportation). Such initiatives aim to more efficiently use existing infrastructure through ICT.

Driverless cars were discussed at our Southern Nevada stakeholder outreach meetings. In June 2011, Nevada passed a law concerning the operation of driverless cars in the state. The Nevada Department of Motor Vehicles is now responsible for setting safety and performance standards and for designating areas where driverless cars may be tested. Until such time that the regulations are adopted, the legality of operating a driverless car system in Nevada is uncertain, but Nevadans recognize change is inevitable and are working toward taking advantage of these emerging technologies.

Alternative Modes

A range of modes could potentially replace—but more likely complement—existing modes, particularly for passenger rail transportation. Once such technology is maglev, short for magnetic levitation, which can reach operational speeds of 300 to 400 miles per hour. This represents an alternative for passengers and freight land movements greater than 50 miles. A maglev project currently being studied for Las Vegas to Los Angeles was mentioned during the stakeholder outreach effort.

Alternative Fuels

Alternative fuels pertain to existing modes of travel where the sources of fuel or the engine technology are modified. For instance, hybrid vehicles involve the use of two types of motor technologies, commonly an internal combustion engine and an electric motor. Gasoline is the most prevalent fuel choice; however, diesel has a high potential for increased use because it can be made from coal or organic fuels. Other alternative fuels discussed at the stakeholder outreach meetings include biofuels (impacts on food production must be assessed); fuel cells, which involve an electrical generator using the catalytic conversion of hydrogen and oxygen; and all-electric vehicles. Each of these alternatives has specific needs with regard to supporting infrastructure. For example, in Nevada there is an effort to provide a distributed system of electric vehicle charging stations throughout the state to support the expanded use of electric vehicles.

Connecting Nevada Mission, Principles, and Goals

Early in the Connecting Nevada process principles and goals were established to help guide the process. These goals were developed through stakeholder input and refined by the TAC and SC.

Principles and Goals

Health and Safety

The transportation system should be planned, designed and operated in a way that protects the health and safety of people and enhances the quality of life in communities.

Goals

- Create safe transportation choices for travel throughout the state.
- Maintain the interstate system at a high level of service.
- Continue to work with local, regional, and state jurisdictions to provide transportation facilities that comply with the Americans with Disabilities Act of 1990 (ADA).
- Assist the state in developing a transportation system that will minimize conflicts between modes, particularly between automobiles, freight and transit vehicles, pedestrians, and bicycles.
- Anticipate and address transportation system deficiencies that threaten the safety of users.

Access

People are entitled to reasonable access to other people, places, goods, and services. Mobility, safety, and access all must be balanced.

Goals

- The transportation system should serve the unique needs of both rural and urbanized areas of the state.

Connected Land Use

Transportation investments should be supportive of and integrated with land use planning.

Goals

- Ensure the identified functional class, right-of-way, design, capacity, and level of service of the transportation system support existing and future land use and development patterns.

The mission of the Connecting Nevada plan is ...

To provide a transportation system that delivers mobility solutions for residents and the traveling public of Nevada. Enhancing the system's safety, improving access throughout the state, promoting environmental stewardship, and strengthening partnerships with MPOs and local governments will position Nevada for effective transportation choices for future generations. Investments in transportation infrastructure, coordinated land uses, and diverse economic opportunities will connect Nevada's communities, residents, and commerce to ensure sustainable growth for Nevada's transportation system.

- Where appropriate, recommend higher intensity, mixed-use land development (that locates housing, jobs, and shopping close together) that supports transit, bicycling, and walking to reduce dependence on automobiles.

Environmental Responsibility

Transportation needs should be met without threatening public health, climate, biological diversity, or the integrity of essential ecological processes.

Goals

- Develop and improve the transportation system while minimizing impacts on the natural environment, including sensitive land.

Partnership with Local Governments

We are committed to the principle of partnership with local governments. We appreciate the vital role of local government decision-making and delivery of transportation services that improve mobility in our cities, counties, and throughout the state. NDOT has processes in place that foster communication and collaboration with the MPOs. These processes help ensure that the transportation network in the MPO areas is fully functioning with the NDOT transportation network.

Goals

- Support MPO transportation plans.
- Maintain regular communication with local governments and MPOs to keep them apprised of projects and obtain feedback for development of decisions and ideas.
- Ensure attendance of local government representatives on the Technical Advisory Committee for continuous feedback.

Support Economic Growth

Provide a seamless mix of transportation options to ensure Nevada's economic vitality and future growth opportunities to move people and goods throughout the state.

Goals

- Expand the current transportation system to support current and emerging economic opportunities.
- Provide connections that accommodate movements between air, rail, and highway travel to foster enhanced economic activity.
- Link regional and local activity and employment centers through multimodal transportation options.

Give the Public a Place in the Process

Provide members of the public with complete information and opportunities for full participation in the transportation decision-making process.

Goals

- Provide a process for public comment on transportation elements, programs, policies, and scopes of work for transportation studies.
- Coordinate with major stakeholders and partner agencies on a multilevel approach.

Statewide Transportation Framework

Roadway Network Today

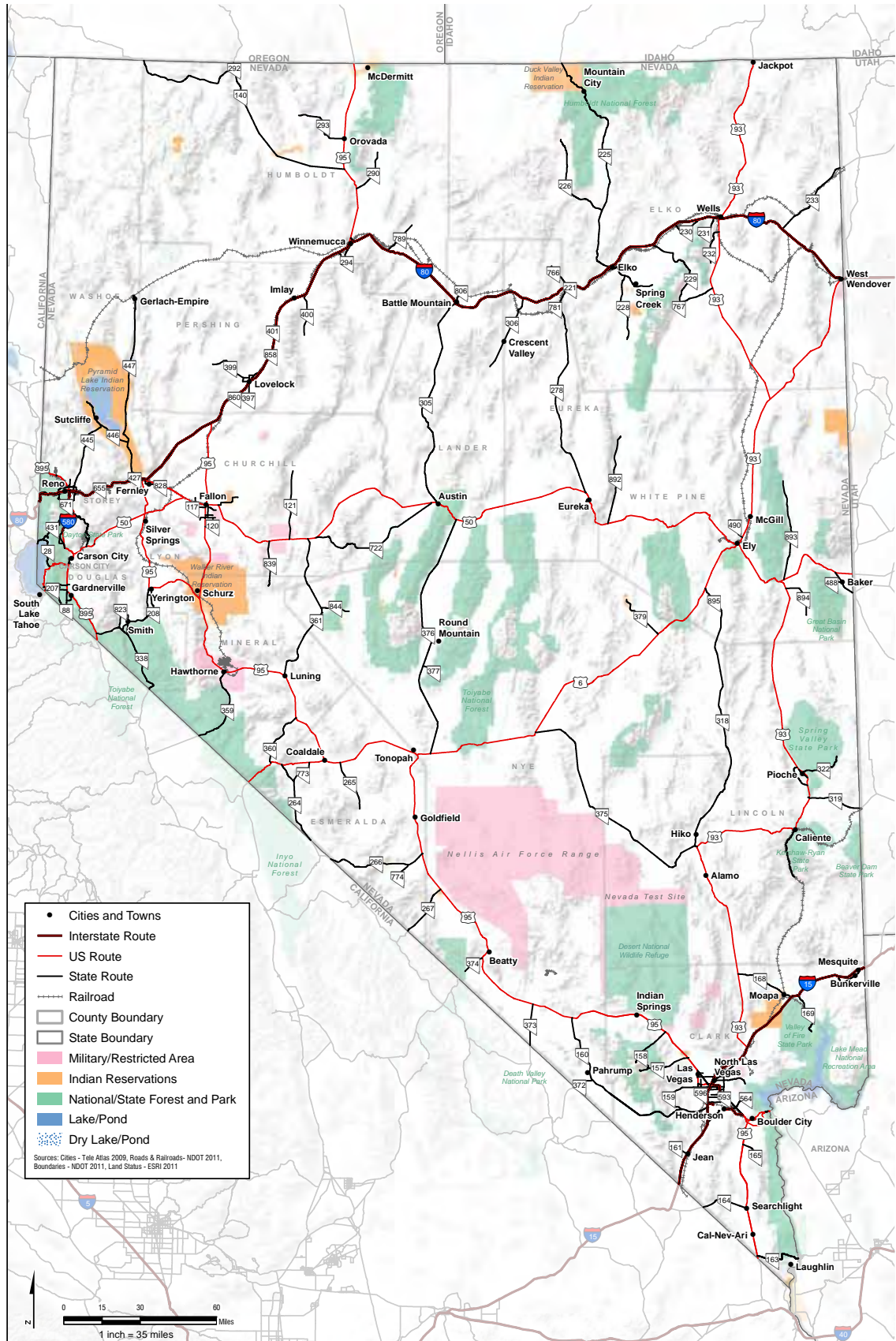
Nevada's state highway system includes over 5,400 miles of highways. Two interstate highways provide east-to-west access across the northern and southern portions of the state. The remainder of the state is crisscrossed with a system of federal, state, and county roadways—providing access to some of the most remote locations in the continental United States.

The base roadway network is shown in Figure 2. This network includes the primary federal, state, and county roadways that provide access throughout the state. It displays routes included in the evaluation and modeled as part of the statewide travel demand model (discussed in subsequent sections of this plan). The base map also shows military and restricted-access areas, Native American reservations, and national and state forests and parks—all areas that would require special consideration in the development of future transportation corridors.

The roadway network reaches most areas of the state, but it is sparse, reflecting the largely rural development pattern. In Nevada, 8 of the 17 counties have populations of less than 10,000 people. Two counties, Clark and Washoe, represent nearly 90 percent of the state's overall population. These facts put in perspective the challenge of providing for the transportation needs of the seventh-largest state in the nation (geographically) with the ninth-smallest population.

Major components of the transportation system are described starting on page 21.

Figure 2. Connecting Nevada Base Roadway Network



Interstate 80

I-80 is a major economic freight and traveler corridor that stretches from the East Coast (New York City) to the West Coast (San Francisco) of the United States. In Nevada, I-80 is the major east-to-west route across the northern portion of the state, covering some 411 miles. Regionally, it connects Sacramento, California, to Salt Lake City, Utah, and is a particularly popular route between Sacramento and Reno. From Fernley to Winnemucca, I-80 is coincident with US 95. At times it follows either the Truckee River or Humboldt River, and it parallels the railroad for most of its length.

During winter, especially in Nevada and neighboring California, poor travel reliability and increased delay seriously affect commerce and goods movement along this major route, where numerous mountain passes must be navigated. During severe winter weather (including snow and ice), portions of I-80 are often closed because of safety hazards related to freight and other vehicles trying to navigate extreme elevations.

Concerns and suggestions expressed by stakeholders at the public workshops included building a shared-use path paralleling the highway from Vista Boulevard to Lockwood, improving the interchange with US 50, improving freight capability and interchange ramps, and providing more rest stops. NDOT has initiated the I-80 Corridor System Master Plan, additional information is available at www.i80vision.org.



Interstate 15



I-15, running through southern Nevada (covering 124 miles), connects San Diego, California, to Canada, at the Montana border. In 2007, I-15 was designated by the U.S. Department of Transportation as a Corridor of the Future between the southern terminus in San Diego to Northern Utah because of its regional significance for transportation of goods and people.

North of Las Vegas, I-15 is coincident with US 93 for several miles until US 93 continues north. This portion of I-15 shared with US 93 is a segment of the CANAMEX corridor, a multistate route meant to stimulate investment and economic growth in the region and enhance safety and efficiency. I-15 crosses through the Mohave Desert, and the prevalent vegetation type is Southern Desert Shrub and Creosote/Bursage.

The Departments of Transportation (DOTs) in California, Nevada, Arizona, and Utah have formed a cooperative alliance (I-15 Mobility Alliance) to develop a long-range multimodal transportation system master plan that will address current and future mobility needs along the I-15 corridor from Southern California to Northern Utah.

Concerns and suggestions expressed by stakeholders at the public workshops included building an east side bypass in Las Vegas from I-15 to I-15 at Lamb Boulevard, widening interchanges, and addressing operational deficiencies in the Las Vegas area.



U.S. Highway 95

US 95 is a federal highway that connects Mexico, at San Luis, Arizona, to Canada, at the Idaho border. When driving north, US 95 enters Nevada near Laughlin. Outside of Boulder City, it is coincident with US 93 north through Las Vegas, then separates from US 93 and heads north and west. As noted earlier, it is coincident with I-80 for several miles before continuing north to the Oregon border. It is a predominantly rural highway, the primary route connecting Las Vegas with Reno. The southern portion crosses the Mohave Desert, characterized by Joshua trees, rocks, sagebrush. It passes near Death Valley, California, and is Nevada's gateway to that national park. The section that is coincident with I-80 passes through barren salt flats where not even sagebrush will grow.

Concerns and suggestions expressed by stakeholders at the public workshops included building an interchange with the Las Vegas Beltway, providing grade separations, increasing the number of travel lanes, and providing more rest stops, passing lanes, turning lanes, and turnouts on the section between Las Vegas and Reno.



U.S. Highway 93



US 93 is a federal highway that connects Phoenix, Arizona, on the south to the Canadian border, in Montana, on the north, by way of Las Vegas. It is the main tourist route between Phoenix and Las Vegas and between Las Vegas and Great Basin National Park. The highway used to cross the Nevada-Arizona border on the Hoover Dam. However, given security concerns following the September 11 terrorist attacks, the dam road was closed to truck traffic and trucks were rerouted out of their way through Laughlin. In 2010, the Mike O'Callaghan-Pat Tilman Memorial Bridge was completed, reopening the shorter route to Las Vegas, making the trip safer and quicker for all travelers. US 93 traverses almost the entire length of the eastern border of Nevada and is one of the original highways in the 1926 US Highway system. From its junction with State Route 318 to its connection with US 50, US 93 is part of the Nevada Great Basin Scenic Byway.

The portion of US 93 from Hoover Dam north to Las Vegas and then east (where it is coincident with I-15) is part of the CANAMEX corridor. The corridor is a multistate route intended to stimulate investment and economic growth in the region and enhance safety and efficiency. This segment is also one of the routes being considered for Interstate 11 (I-11), a new interstate highway linking Phoenix and Las Vegas, the two largest proximate metropolitan areas not linked by an interstate.

Concerns and suggestions expressed by stakeholders at the public workshops included widening the shoulders and adding truck climbing lanes and turnouts.



U.S. Highway 50

US 50, nicknamed the “Loneliest Road in America,” is a federal highway that traverses the middle of the state. On a national scale, it connects Sacramento to Ocean City, Maryland. It enters the state on the west near Lake Tahoe and exits the eastern border with Utah near Great Basin National Park. US 50 is located in a transition zone between ecological communities—the Great Basin to the north and the Mojave Desert to the south. Sagebrush is the most prevalent type of vegetation at both the lower and higher elevations, with the species of sagebrush varying with the climb in elevation.

Two sections of US 50 are parts of Nevada scenic byways. On the east, it is part of the Great Basin Scenic Byway and on the west it is part of the Lake Tahoe National Scenic Byway.

Concerns and suggestions expressed by stakeholders at the public workshops included building a shared-use path paralleling the highway, increasing the bike lane width, building a parallel route to US 50A through Fernley, and adding parking and school crosswalks at Zephyr Cove.

US 50 is a popular destination for excursion bicyclists participating in multiday tours of the state.

