DRAFT

PLANNING AND ENVIRONMENTAL LINKAGES STUDY

I-11 LAS VEGAS METROPOLITAN AREA

June 2022

Nevada Department of Transportation

Contents

1 Introduction 1
1.1 What Is the Legislative Foundation For the Corridor? 2
1.2 What Is the Project Background? 3
1.3 Why Are NDOT and FHWA Completing a PEL Study? 5
1.4 What Are the Advantages of Designating an I-11 Corridor in the Las Vegas Valley? 5
2 Purpose and Need 6
2.1 What Is the Need for the I-11 Project? 6
2.2 What Is the Purpose of the I-11 Project? 7
3 Agency Coordination and Public Involvement 10
3.1 Public Engagement Approach 10
3.1.1 Public and Agency Scoping 11
3.1.2 Corridor Alternatives Development 11
3.1.3 Draft PEL Study Report 12
3.2 Stakeholder Working Group Meetings 12
3.3 Public Information Meetings 14
3.3.1 Telephone Town Halls 15
3.3.2 Virtual Public Informational Meetings 15
3.4 Public Comments 16
3.5 How Is NDOT Seeking Input on This PEL? 18
4 Affected Environment 20
4.1 Project Study Area 20
5 Alternatives 21
5.1 Alternatives Under Consideration 21
5.2 Corridor Alternatives Interstate Design Standards 24
6 Evaluation of Corridor Alternatives 28
6.1 Corridor Alternatives Methodology 28
6.1.1 Evaluation Framework 28
6.1.2 Data Review 28
6.1.3 Evaluation Categories and Criteria 29
6.2 Evaluation 31
6.2.1 Environmental 31
6.2.2 Economy 37

6.2.3 Feasibility 38
6.2.4 Access and Connectivity 40
6.2.5 Traffic and Mobility 42
6.2.6 Equity 44
6.3 Evaluation Results 46
6.3.1 Evaluation Categories 46
6.3.1 Summary 47
7 Conclusion and Next Steps 48
7.1 What Are the Conclusions from This Assessment? 48
7.2 What Is the Anticipated NEPA Review Process? 49

Tables

Table 5-1. Central Corridor Alternative 25
Table 5-2. Western Corridor Alternative – Centennial Bowl Option 26
Table 5-3. Western Corridor Alternative – Sheep Mountain Parkway Option 27

Figures

Figure 1-1. I-11 and Intermountain Corridor 1
Figure 1-2. Recommended Corridor Alternatives in the I-11 and IWCS 4
Figure 3-1. Public Engagement Timeline 11
Figure 3-2. Public Information Meeting Results 15
Figure 3-3. Online Comment Map: July to August 2021 Corridor Alternatives Development 17
Figure 3-4. Online Meeting Themes by Corridor: Corridor Alternatives Development 18
Figure 5-1. Corridor Alternatives Under Consideration 22
Figure 5-2. Western Corridor Alternative Options 23
Figure 6-1. Evaluation Categories and Criteria 29

Appendices

Appendix A: Conditions Assessment Report

Appendix B: Alternatives Development Report

Appendix C: Agency Coordination and Public Involvement Summary

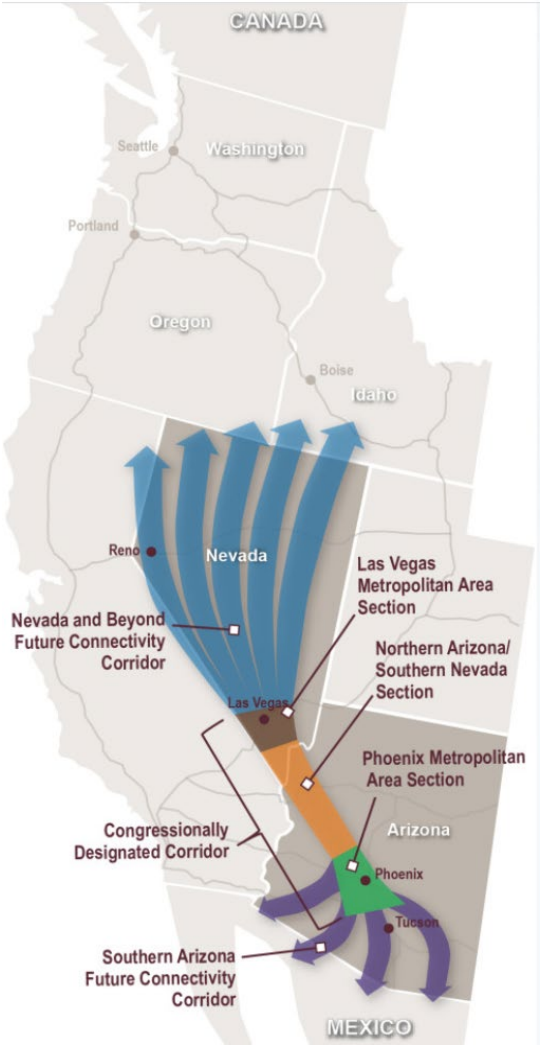
1 INTRODUCTION

The Nevada Department of Transportation (NDOT), in cooperation with the Federal Highway Administration (FHWA), has prepared the Interstate 11 (I-11) Las Vegas Metropolitan Area Planning and Environmental Linkages (PEL) Study. The Congressionally mandated I-11 corridor is envisioned as a new major north-south multimodal corridor that will provide enhanced transportation mobility while creating a foundation for robust economic vitality in the Las Vegas metropolitan area.

WHAT IS A PEL STUDY?

PEL studies are conducted to link transportation planning and the environmental process. Through coordination with local, regional, state, and federal partners, including regulatory agencies and public stakeholders, a PEL recognizes potential risks that may be related to the identified corridor alternatives. By linking the planning and environmental processes the results can be incorporated into future documents prepared in accordance with the National Environmental Policy Act (NEPA) process, and by doing so it thereby promotes efficiency and potentially accelerates project delivery.

Figure 1-1. I-11 and Intermountain Corridor



In 2014, NDOT and the Arizona Department of Transportation (ADOT) jointly completed the *I-11 and Intermountain West Corridor Study* (IWCS) that encompassed a broad study area for the Intermountain West region from Mexico to Canada. The I-11 and Intermountain West Corridor was identified as a critical piece of multimodal infrastructure that would diversify, support, and connect the economies of Arizona and Nevada. The I-11 and Intermountain West Corridor could also be connected to a larger north-south transportation corridor, linking Mexico and Canada. The push for an improved, north-south transportation corridor between Mexico and Canada traces back to the 1993 North American Free Trade Agreement (NAFTA).

In the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA), Congress designated high-priority corridors to be upgraded or constructed and become part of the Interstate Highway System. As amended through the 2015 Fixing America's Surface Transportation (FAST) Act, the high-priority corridors included designation of the I-11 corridor from Nogales, Arizona, at the U.S.-Mexico border, through Phoenix and Las Vegas, to Interstate 80 (I-80). Figure 1-1 provides an overview of the general I-11 corridor, the Congressionally designated portion from Las Vegas through Phoenix, and future connections

north and south. With respect to the alignment of I-11 through the Las Vegas metropolitan area, the FAST Act defines a route that will follow US 93 to the south and US 95 to the north of Las Vegas. No guidance relative to the location of I-11 in the Las Vegas metropolitan area is provided in the legislation.

1.1 What Is the Legislative Foundation For the Corridor?

The following chronology of legislative actions laid the groundwork for the current study:

DEC 1991

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
PUBLIC LAW 102-240

- United States Federal law that posed a major change to transportation planning and policy.
- First U.S. Federal legislation on the subject in the post-Interstate National Highway System (NHS) era of the 1950s.
- Section 1105 of ISTEA identified 21 High Priority Corridors to be part of the NHS and therefore eligible for assistance with funds appropriated through the Highway Trust Fund.

NOV 1995

National Highway Systems Designation Act of 1995 (NHSDA)
PUBLIC LAW 104-59

- Amended Section 1105 of ISTEA to include eight additional High Priority Corridors.
- Corridor 26 (CANAMEX) was identified as extending from "Nogales, Arizona, through Las Vegas, Nevada, to Salt Lake City, Utah, to Idaho Falls, Idaho, to Montana, to the Canadian Border…".
- Subsection (26)(B) of the Act prescribed that in Nevada, "…the CANAMEX Corridor shall follow:
  - "(i) United States Route 93 from the Arizona Border to Las Vegas; and
  - "(ii) I-15 from Las Vegas to the Utah Border."

AUG 2005

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)
PUBLIC LAW 109-59

- Further amended Section 1105 of ISTEA to redefine a number of High Priority Corridors and to add Corridors 46 through 80.
- Corridor 68 in SAFETEA-LU was defined as "The Washoe County corridor, along Interstate Route 580/United States Route 95/United States Route 95A, from Reno, Nevada, to Las Vegas, Nevada".

DEC 2015

High Priority Corridors on National Highway System of Fixing America's Surface Transportation Act of 2014 (FAST)
PUBLIC LAW 114-95

- Amended ISTEA Public Law 102-240 Inserting the following:
  - "(68)(B) for the Intermountain West Corridor, from the vicinity of Las Vegas, Nevada, north along United States Route 95 terminating at Interstate Route 80."
  - "The routes referred to in subparagraphs (A) and (B)(i) of Subsection (c)(26) and in subsection (c)(68)(B) are designated as Interstate Route I-11."

1.2 What Is the Project Background?

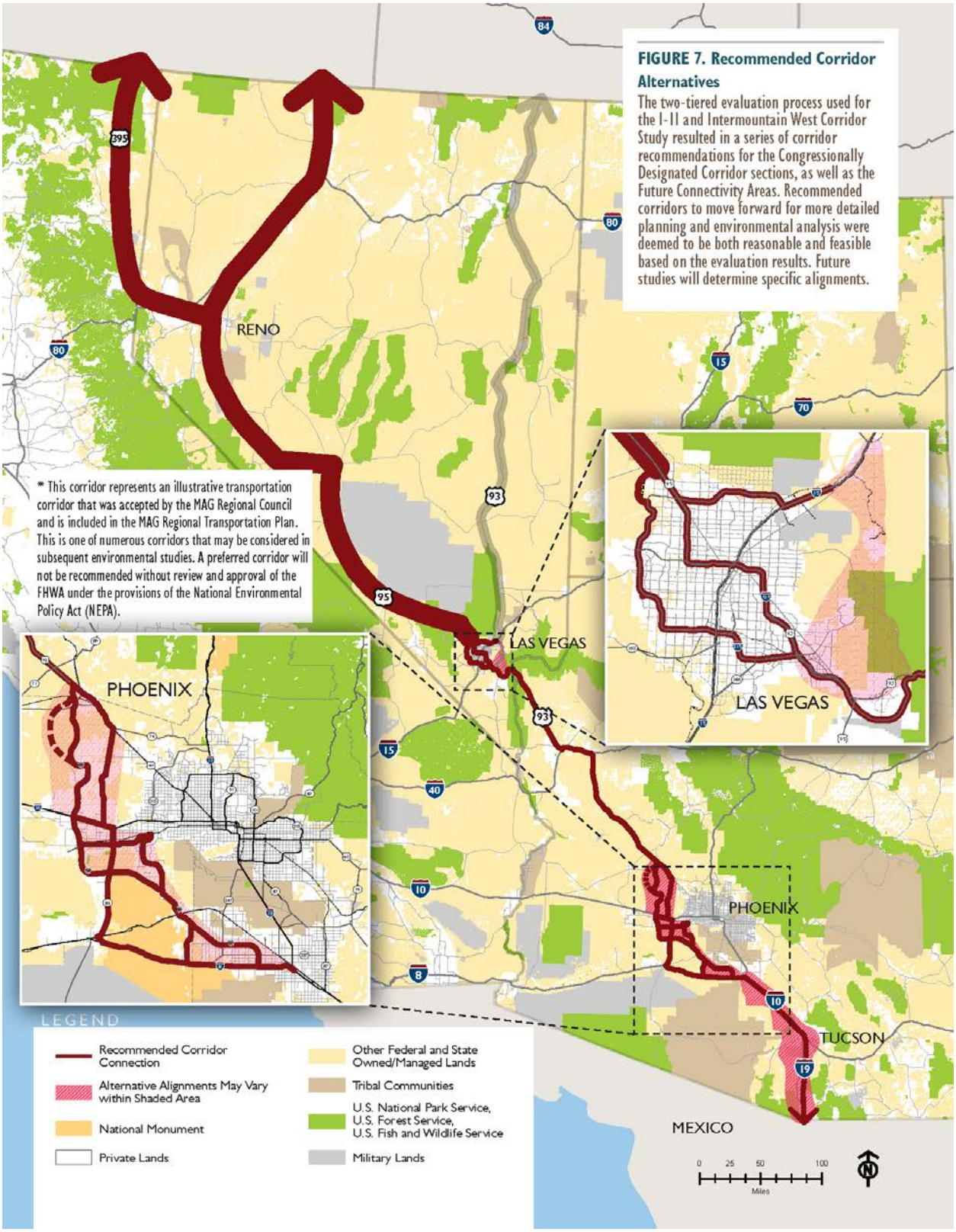
Following the Moving Ahead for Progress in the 21st Century Act (MAP-21) designation of US 93 between Arizona and Nevada as the future I-11, NDOT and ADOT advanced a number of studies and projects to realize the vision of I-11.

From 2012 through 2014, NDOT and ADOT jointly developed the IWCS. On January 15, 2015, FHWA's Nevada Division approved the IWCS, which identified a western corridor and a central corridor through the Las Vegas metropolitan area, as well as a general eastern corridor area. The IWCS concludes that all three alternatives would be reasonable and feasible and should be carried forward for further study.

Figure 1-2 identifies the IWCS corridor recommendations through the Las Vegas metropolitan area and connections north and south of the Las Vegas region. At the completion of the IWCS, ADOT initiated the *I-11 Tier 1 Draft Environmental Impact Statement (Wickenburg to Nogales)* to evaluate potential corridors through the Phoenix metropolitan area and points both north and south. The corridor alternatives through the Phoenix region are also identified in Figure 1-2. The Draft Environmental Impact Statement (EIS) was released for public review in summer 2019 and the Final EIS and Record of Decision were released in November 2021.

Within Nevada, NDOT initiated an alternatives analysis effort for the I-11 corridor between the northwestern edge of Las Vegas and I-80 in western Nevada in 2017. The I-11 Northern Nevada Alternatives Analysis study was completed in December 2018, recommending an I-11 corridor following the existing US 95 between Las Vegas and Tonopah and two corridor alternatives north of Tonopah connecting with I-80, one through Fallon and the other through Fernley.

Figure 1-2. Recommended Corridor Alternatives in the I-11 and IWCS



Source: I-11 and Intermountain West Corridor Study, November 2014

1.3 Why Are NDOT and FHWA Completing a PEL Study?

Initially begun as a Tier 1 EIS in 2019, NDOT and FHWA determined in late 2020 that a PEL study was more appropriate to accomplish the goal of selecting a corridor for I-11 through the Las Vegas metropolitan area—achieving the same objectives more quickly. The PEL study would be used to identify transportation issues and environmental concerns in the proposed corridor alternatives and refine the corridor alternatives. The 2014 IWCS, also a PEL study, was conducted on a larger, more regional scale and did not specifically focus on the Las Vegas metropolitan area. The I-11 Las Vegas Metropolitan Area PEL study considers corridor alternatives through Las Vegas to further the progress beyond the 2014 IWCS. The I-11 PEL study identifies and recommends a single corridor for designation as I-11 through the Las Vegas metropolitan area.

1.4 What Are the Advantages of Designating an I-11 Corridor in the Las Vegas Valley?

The designation of I-11 through the Las Vegas metropolitan area would benefit local, regional, and interstate travelers in the following ways:

- **Improved Wayfinding** – Consistent signage on the designated I-11 corridor within the Las Vegas freeway system would help travelers who are both familiar and unfamiliar with the highway system better navigate the area.
- **Reliability** – The designated I-11 would meet Interstate standards and provide travel reliability because Interstate facilities provide for a minimum four-lane (two travel lanes minimum in each direction) access-controlled highway with an acceptable level of service (LOS).
- **Improved Connectivity** – I-11 through the Las Vegas metropolitan area is one segment of the greater vision for I-11 that would connect Las Vegas to destinations north (for example, Tonopah, Reno, Canada) and south (for example, Kingman, Phoenix, Tucson, and Mexico).

2 PURPOSE AND NEED

The greater I-11 and Intermountain West Corridor would provide a critical north-south transportation corridor, linking Mexico and Canada. The push for an improved north-south transportation corridor is based on the legislative actions discussed in Section 1.1, with the inclusion of I-11 through the Las Vegas metropolitan area.

As part of the collaborative PEL process, understanding the need for the proposed improvements is important in developing criteria to be used to evaluate the corridor options. The sections below summarize the need for the I-11 project and the resulting purpose that directly informs this evaluation, based on the IWCS corridor vision.

2.1 WHAT IS THE NEED FOR THE I-11 PROJECT?

Favorable transportation infrastructure is one key component for attracting and retaining industry and increasing an area's competitiveness and economic vitality. As discussed in the 2014 IWCS, the Intermountain West Corridor is one of the fastest-growing regions in the U.S. Nevada and Arizona want to ensure that infrastructure is in place to support planned growth in the corridor and in the "Southwest Triangle" megapolitan formed by Las Vegas, the Arizona Sun Corridor,[1] and Southern California. More than 160,000 jobs in Nevada and Arizona rely on trade with Mexico.

An analysis of the economic return on investment conducted for the IWCS predicted that I-11 has the potential to make major contributions to the economic well-being of the region's residents, bringing up to an additional 240,000 jobs and $22 billion in economic output to the region over the next 25 years. I-11 would connect regional economies to each other and to global markets, creating opportunities for integrated manufacturing and advancement of the economic development initiatives of Nevada and Arizona.

The Las Vegas metropolitan area consists of separate and distinct activity centers for residents and visitors, such as Downtown Las Vegas, the Las Vegas Strip, Harry Reid International Airport, and the Las Vegas Convention Center, which account for over $57 billion in total annual output, supporting approximately 42 percent of private employment in Southern Nevada and generating over $15 billion in wages and salaries (Las Vegas Economic Impact Series Report, 2019). The disparate locations of these facilities result in a variety of travel patterns during peak and off-peak travel. Major routes through the Las Vegas Valley, including Interstate 215 (I-215), Clark County (CC) 215, Interstate 515 (I-515), US 95, and Interstate 15 (I-15), experience bottlenecks during peak travel periods. Decreased mobility during periods of peak demand is expected to increase through 2040 as a result of planned activity center expansions and other development.

Existing congestion in the Las Vegas Valley hinders access for emergency services and is of concern regarding efficiency for evacuations during natural or human-made disasters, including

[1] The Arizona Sun Corridor is a megaregion in southern Arizona that includes the Phoenix and Tucson metropolitan areas and extends to the U.S.-Mexico border.

flash floods, earthquakes, and wildfires. With Nellis Air Force Base, the premier training facility for the Air Force, located northeast of the city, mobility in support of national defense is also of concern.

2.2 What is the Purpose of the I-11 Project?

This PEL will identify a recommended I-11 corridor through the Las Vegas metropolitan area that would be a part of the overall I-11 as envisioned in the IWCS and the legislation that preceded that study.

With the location of this corridor unknown at the initiation of the PEL, several overall driving purposes of the I-11 were developed in collaboration with agency stakeholders (that is, the Technical Advisory Committee [TAC] and the cooperating and participating agencies). The following describes the six purposes of the project, based on the goals identified in the IWCS, needs discussed above, input from stakeholder agencies, and requirements founded in the Congressional designation of I-11 through the region. The purposes of the project are to:

Provide a high-capacity, access-controlled transportation corridor

Improve access to activity centers within the Las Vegas Valley

Support enhanced regional mobility for people and freight by improving travel time reliability and efficiency.

Enhance opportunities within the Las Vegas Valley for economic development

Facilitate efficient mobility for emergency access, evacuation, and national defense

Provide the Congressional mandated link through the Las Vegas Valley for a continuous I-11 Corridor that connects major metropolitan areas and markets in the Intermountain West Corridor with Mexico and Canada

Each of these study purposes is described more fully below:

- **Provide a high-capacity, access-controlled transportation corridor**

The National System of Interstate and Defense Highways is the most important transportation corridor in the U.S. It carries more traffic per mile than any other comparable national system and includes the roads of greatest significance to the nation's economic welfare and defense. The highways of this system are designed in keeping with their importance as the backbone of the nation's highway systems. To this end, they are designed to ensure safety, permanence, utility, and flexibility to provide for predicted traffic growth.

All Interstate highways should meet minimum American Association of State Highway and Transportation Officials (AASHTO) standards for segments constructed on new right-of-way and segments undergoing complete reconstruction along existing right-of-way. Each section of Interstate highway is designed to safely and efficiently accommodate the volumes of passenger vehicles, buses, trucks (including tractor-trailer and semi-trailer combinations), and corresponding military equipment estimated for the design year. The width of right-of-way should be sufficient to accommodate the roadway cross section elements and requisite appurtenances necessary for an adequate facility in the design year and for known future improvements. Access to the Interstate system should be fully controlled. The Interstate highway is grade-separated at all railroad crossings and selected public crossroads. At-grade intersections are not allowed. The identification of a corridor as an Interstate in the Las Vegas area should indicate that the corridor meets minimum interstate system design standards, is fully access-controlled with a minimum four lanes of traffic (minimum two lanes in each direction) and is designed to meet traffic needs for the design year.

- **Improve access to activity centers within the Las Vegas Valley**

The Las Vegas Valley features separate and distinct activity centers for residents and visitors, including Downtown Las Vegas, the Las Vegas Strip, Harry Reid International Airport, and the Las Vegas Convention Center, which account for over $57 billion in total output, supporting approximately 42 percent of private employment in Southern Nevada, and generating over $15 billion in wages and salaries (Las Vegas Economic Impact Series Report, 2019). The disparate locations of these facilities result in a variety of travel patterns during peak and off-peak travel. Major routes through the Las Vegas Valley, including I-215, CC 215, I-515, US 95, and I-15, experience bottlenecks and failing LOS[2]—LOS E and F—during peak travel periods. Congestion is expected to increase through 2040 independent of a potential I-11 designation as a result of planned activity center expansions and other development. Identification of a unified Interstate corridor would provide access to major activity centers in the Las Vegas area and would connect the northern and southern segments of the existing I-11, encouraging more Interstate travel. The identification of I-11 with improved signage and wayfinding along the corridor would provide Interstate travelers easier access to destinations in the Las Vegas area. Travelers going north or south of the study area would have the assurance of a contiguous four-lane, access-controlled highway.

- **Support enhanced regional mobility for people and freight by improving travel time reliability and efficiency**

Completed traffic analyses documented the modest volume (1 to 2 percent of overall regional demand) of additional traffic trips that would be attracted to a western or central corridor alternative following completion of I-11 improvements north and south of metropolitan Las Vegas in the 2040 horizon year[3]. These analyses also documented that most regional travel demand on the corridor alternatives at the 2040 horizon year is attributable to valley-wide growth resulting from increases in population and development. Unique and consistent

[2] Level of service (LOS) is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety

[3] The Regional Transportation Commission of Southern Nevada model was used to evaluate the project with external trips entering/exiting the region adjusted to reflect improvements to I-11 outside the Las Vegas region.

Interstate signage throughout the Las Vegas area would mitigate potential driver confusion, thereby enhancing mobility and travel time efficiency.

- **Enhance opportunities within the Las Vegas Valley for economic development**

Interstate and other highways influence the growth of the economy by improving mobility for economic and social activities. Benefits of the Interstate system include those received by people while using highways and benefits accruing to people and communities indirectly as a consequence of highway use. The Intermountain West Corridor is one of the fastest-growing regions in the U.S. and, to maintain pace with the region's development, the state needs to have infrastructure in place to support inevitable growth. Identification of an I-11 Interstate corridor in the Las Vegas Valley would connect regional economies to each other and to global markets.

- **Facilitate efficient mobility for emergency access, evacuation, and national defense**

As one of the components of the National Highway System, Interstate highways improve the mobility of military troops to and from airports, seaports, rail terminals, and other military bases. Interstate highways also connect to other roads that are a part of the Strategic Highway Network, a system of roads identified as critical to the U.S. Department of Defense. The system has also been used to facilitate evacuations in the face of natural disasters. The identification of I-11 in Las Vegas with access control, a minimum four-lane highway, and better signage and wayfinding would provide improved access for emergency, evacuation, and national defense purposes.

- **Provide the Congressional mandated link through the Las Vegas Valley for a continuous I-11 corridor that connects major metropolitan areas and markets in the Intermountain West Corridor with Mexico and Canada**

The Congressionally mandated I-11 corridor is envisioned as a new major north-south multimodal corridor that will provide enhanced transportation mobility while creating a foundation for robust economic vitality in the Las Vegas metropolitan area. In 2014, NDOT and ADOT jointly completed the IWCS, which encompassed a broad study area for the Intermountain West region from Mexico to Canada. The I-11 and Intermountain West Corridor was identified as a critical piece of multimodal infrastructure that would diversify, support, and connect the economies of Arizona and Nevada. The I-11 and Intermountain West Corridor could also be connected to a larger north-south transportation corridor, linking Mexico and Canada. The push for an improved, north-south transportation corridor between Mexico and Canada traces back to NAFTA.

Through ISTEA, Congress designated high-priority corridors to be upgraded or constructed and become part of the Interstate Highway System. As amended through the FAST Act, the high-priority corridors included designation of the I-11 corridor from Nogales, Arizona, at the U.S.-Mexico border, through Phoenix and Las Vegas, and continuing along US 95 to I-80.

3 Agency Coordination and Public Involvement

The public involvement efforts for the PEL study were consistent with the NEPA process used by FHWA and NDOT. Planning for the public information meetings and other key outreach events was a collaborative effort between the consultant public involvement team and the NDOT project team.

The agency coordination and public involvement processes below were followed for this PEL study:

- Documented Public Involvement Plan
- Early and continuous public involvement opportunities
- Defined procedures, strategies, and outcomes, such as time for public review and comment at key decision points and making public information available in electronically accessible formats and means
- In-person public meetings held at convenient and accessible locations and times, supplemented by virtual public meeting engagement
- Timely notice and reasonable access to information
- Use of visualization techniques, as appropriate
- Reasonable public access to technical and policy information
- Consideration of and response to input received
- Identification and consideration of the needs of traditionally underserved populations (including low-income and minority households)
- Periodic review of the effectiveness of procedures and strategies to ensure a full and open participation process

3.1 Public Engagement Approach

An open and transparent communication process was followed to gain input throughout the study to develop a transportation solution to meet the study's needs and goals. Figure 3-1 summarizes public outreach for the study and key public comment periods.

Several strategies were employed as part of the public engagement approach:

- Build early awareness of the study through stakeholder, public communication, and public relation tactics
- Inform and involve a diverse group of stakeholders, including residents of potentially affected areas around the corridor alternatives, by connecting with representatives of area businesses and chambers of commerce
- Communicate project information and opportunities in an accessible and transparent public information process; participants to be made aware that all opportunities will be available with bilingual (Spanish/English) options and all materials can be translated upon request if not already completed
- Provide a variety of options to reach the broadest audiences possible
- Respond in a timely manner to all project-related inquiries and comments
- Comply with Title VI of the Civil Rights Act of 1964 and Title II of the Americans with Disabilities Act (ADA)

Figure 3-1. Public Engagement Timeline

Appendix C provides a Public Involvement Summary that presents the details of the multiagency coordination and public outreach completed during development of the PEL. The attachments to Appendix C include all agency and organization groups engaged, dates of meetings, contact lists, outreach materials, and comments received for all public involvement activities throughout the PEL study.

3.1.1 Public and Agency Scoping

November 2019 through December 2020: The initial goal of public engagement was to educate and build awareness for the study and initiate conversations with local agencies and the community regarding the three corridor alternatives under consideration for I-11: the Western Corridor Alternative (I-215 and CC 215), the Central Corridor Alternative (I-515 and US 95), and the Eastern Corridor Alternative. Early collaboration with partner agencies, stakeholders, and the public was a critical study component.

Because of the COVID-19 pandemic and state mandates that restricted the capacity of in-person gatherings, NDOT, FHWA, and the project management team determined that an online meeting and a telephone meeting would be the most effective course of action for public engagement. The online meeting was active for 30 days between July 31 and August 31, 2020, on the study website (i11nv.com) and was available for participants 24/7 from the convenience of their homes or offices. There were no in-person public meetings until the project transitioned to a PEL study in early 2021, when state mandates lifted restrictions on in-person gatherings.

3.1.2 Corridor Alternatives Development

January 2021 through September 2021: Upon completion of the Draft Alternatives Development Report in June 2021 that eliminated the Eastern Corridor Alternative and identified Central and Western Corridor Alternatives to advance in the PEL analysis, NDOT resumed public outreach for the study. Ongoing coordination with stakeholders included regular emails, social media marketing, a telephone town hall, an online public meeting, newspaper advertising, and in-person public meetings. Public engagement materials informed the public of the transition from the Tier 1 EIS to a PEL study and the elimination of the Eastern Corridor Alternative and presented information on the two remaining corridor alternatives. Stakeholders,

agencies, and community members were informed that the current CC 215, US 95, and I-515 routes may require improvements, including potential lane widenings, to support future travel demand. Traffic analysis conducted for this study proved that the I-11 designation would not generate the demand for lane widenings on existing routes. During this phase, the public involvement team continued to respond to community and partner agency concerns.

3.1.3 Draft PEL Study Report

October 2021 through August 2022: The current phase of public engagement allows for completion of the draft PEL study and a public review of the report, with detailed information on the corridor alternatives and the data behind the identification of a corridor to be designated as the future I-11 for the Las Vegas Valley. This phase allows interested parties the opportunity to review the draft PEL study report. Participants may view the study online, view a hard copy, or to speak with a study team member during a telephone town hall. The public can submit feedback throughout the 30-day public review period expected to begin in June 2022 by submitting written comments to the online meeting website (accessible at www.i11nv.com), e-mail to info@i11nv.com, via USPS mail to David Bowers, NDOT Project Manager at 123 E. Washington Avenue, Las Vegas, NV 89101, and by offering verbal comments through the telephone hotline to (702) 472-8018 or as part of a telephone town hall to be scheduled during the 30-day public review period. The goal of this stage of engagement is to gather feedback that will be considered in the analysis and the identification of the recommended corridor in the final PEL study report.

3.2 Stakeholder Working Group Meetings

Three stakeholder working groups were developed and are central to the I-11 PEL process: the Cooperating and Participating Agency Group (Agency) formed in response to invitations provided in April 2020, Technical Advisory Committee (TAC), and Community Working Group (CWG). These groups consist of elected officials, homeowner association and residential representatives, community leaders, civic organizations, community advocacy groups, and the public. Meetings to date are below.

Meeting	Date
TAC Meeting 1	November 20, 2019
TAC Meeting 2	March 12, 2020
Agency Meeting 1	May 12, 2020
CWG Meeting 1	May 28, 2020
Agency Meeting 2	June 16, 2021
TAC Meeting 3	June 24, 2021
CWG Meeting 2	June 29, 2021

Input included:

- Early concerns regarding who owns the land in the eastern study area
- Concerns regarding environmental and recreational resources in the eastern study area
- Concerns regarding existing traffic congestion and whether the new alignment would contribute even more
- Concerns regarding endangered species, particularly the desert tortoise
- Concerns related to the impact on property values surrounding the corridor alternatives
- Concerns regarding air and noise impacts
- Suggestions to be mindful of impacts on water resources for each corridor alternative
- Mentions of the interlocal agreement with the Paiute Tribe to allow development through the reservation to connect Sheep Mountain Parkway between Nu-Wav-Kaiv and the Kyle Canyon interchange
- Concerns regarding displacement and potential environmental justice impacts for all areas

Messaging to stakeholders:

- Resource identification corridors shown during presentations are not representative of rights-of-way that may be required
- The Eastern Corridor Alternative was eliminated from further study
- NDOT requested from all agencies a documented position statement
- The Regional Transportation Plan serves as a broad blueprint for Southern Nevada to address regional growth (e.g. future lane widenings) and ensure the local community has access to goods and services while implementing equitable and safe growth strategies through 2050

The project team also presented to and obtained input into the planning process through Town Advisory Board (TAB) meetings and Citizens Advisory Council (CAC) meetings, as follows:

Meeting	Date
Lower Kyle Canyon CAC	November 9, 2021
Lone Mountain CAC	November 9, 2021
Clark County Commissioner Michael Naft Briefing	November 9, 2021
Enterprise TAB	December 1, 2021
Whitney TAB	December 2, 2021
Paradise TAB	December 14, 2021
Indian Springs TAB	December 16, 2021
Sunrise Manor TAB	December 30, 2021
Winchester TAB	January 11, 2022
Spring Valley TAB	January 25, 2022

Downtown Access Project Public Information Meeting	January 25, 2022

Comment topics included:

- Clarification that the study will include a name change of one of the existing corridors
- Comments in favor of the Central Corridor Alternative; comments mentioned it being the path of least resistance because it is shorter in length
- Comments in favor of the Western Corridor Alternative because it avoids the Spaghetti Bowl, referencing words such as “congestion” and “traffic”
- Mentions of I-515 and US 95 being able to better support truck traffic
- Concerns that I-515 and US 95 cannot handle added freight because of the current state of repair
- Potential concerns that designation of CC 215 as I-11 would result in a negative impact on residential neighborhoods
- Concerns regarding I-515 and US 95 and current traffic flow near the Spaghetti Bowl
- Concerns regarding the future carbon footprint of both corridor alternatives
- Mentions that both corridors need improvements such as added lanes, truck lanes, or high-occupancy vehicle lanes

A detailed summary of comments and minutes from the stakeholder, TAB, and CAC meetings can be found in the attachments to Appendix C.

3.3 Public Information Meetings

An initial NDOT I-11 PEL Study public comment period commenced on August 17, 2021 and closed on September 30, 2021. During this 45-day period, the study team hosted five in-person public information meetings to share project information and solicit public feedback regarding the corridor alternatives. The team continued to foster dialogue with members of the community and further develop project support through transparent communication. Public information meetings were held throughout the Las Vegas Valley at familiar locations including libraries and community centers that are ADA-compliant and easily accessible via local transit routes. Interpretation and materials in Spanish were available at each meeting. The meeting schedule was as follows:

Public Meeting Date	Location
Meeting 1: August 31, 4–7 p.m.	Sahara West Library: 9600 W. Sahara Ave., Las Vegas, NV 89117
Meeting 2: September 1, 4–7 p.m.	Centennial Hills Community Center YMCA: 6601 N. Buffalo Dr., Las Vegas, NV 89131
Meeting 3: September 7, 4–7 p.m.	Lifeguard Arena: 222 S. Water St., Henderson, NV 89015

Meeting 4: September 14, 4–7 p.m.	RTC Southern Nevada: 600 S. Grand Central Pkwy., Las Vegas, NV 89106
Meeting 5: September 16, 2:30–5:30 p.m.	Windmill Library: 7060 W. Windmill Ln., Las Vegas NV 89113

3.3.1 Telephone Town Halls

Bilingual telephone town halls were used to engage the various communities in the Las Vegas metropolitan area, specifically those without access to the Internet.

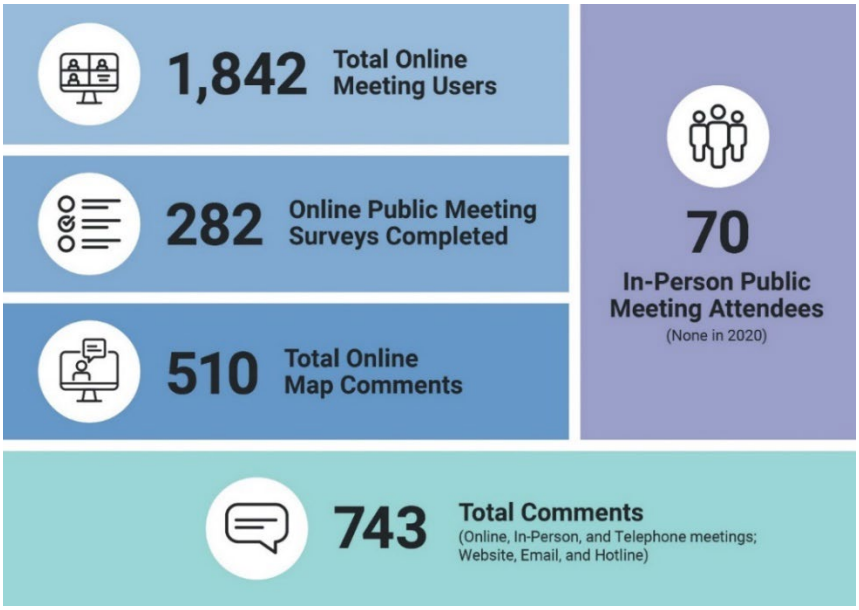
- Bilingual Telephone Town Hall 2020 (August 27, 2020)
- Bilingual Telephone Town Hall 2021 (September 2, 2021)
- Bilingual Telephone Town Hall 2022 (planned for [date tbd])

3.3.2 Virtual Public Informational Meetings

The study team used both in-person and virtual engagement methods to allow for inclusive, accessible, equitable, and convenient dialogue with interested stakeholders and community members. Virtual meetings allow for discussion with traditionally underrepresented groups because low-income groups historically are more likely to spend their time online than any other income population.

An initial online public meeting was launched on August 17, 2021 and was hosted on the project website at i11nv.com. The online public meeting and public comment period were active through September 30, 2021. Figure 3-2 provides results of online and in-person public engagement between 2020 and 2022.

Figure 3-2. Public Information Meeting Results



3.4 PUBLIC COMMENTS

Comments expressed during all public information meetings included those supportive of and opposed to the planning effort, neutral comments, and questions about the corridor alternatives. Most commenters, however, wanted to have their preference noted for one corridor over another. A handful of comments expressed interest in the Eastern Corridor Alternative that had been eliminated from further consideration through the Alternatives Development Report.

Comment topics included:

- Comments in favor of the attraction/expansion of economic opportunities
- Specific mention of the underserved side of town along US 95
- Potential for increased connectivity for goods and freight movement
- Comments in favor of potential future repairs to existing freeway (lane expansions, sound walls, and/or roadway repairs)
- Potential noise impacts
- Potential negative impact on air quality because of increased traffic
- Concern regarding the influx of traffic/volume by way of a designated Interstate
- Negative impacts on residential areas near the corridor
- Additional freight volume and safety concerns
- Added greenhouse gases with increase in traffic volume
- General comments regarding which corridor length and economic feasibility

Both online public meetings held during development of the corridor alternatives included an interactive map of the study area where visitors could leave comments tagged to specific locations. Meeting visitors were also able to view and indicate whether they agreed or disagreed with previously submitted comments. A sample of the comment map with comment locations is shown in Figure 3-3.

In response, the study team incorporated consideration of public comments in developing the Evaluation of Corridor Alternatives presented in Section 6.

Figure 3-4 presents online meeting themes by corridor.

Figure 3-3. Online Comment Map: July to August 2021 Corridor Alternatives Development

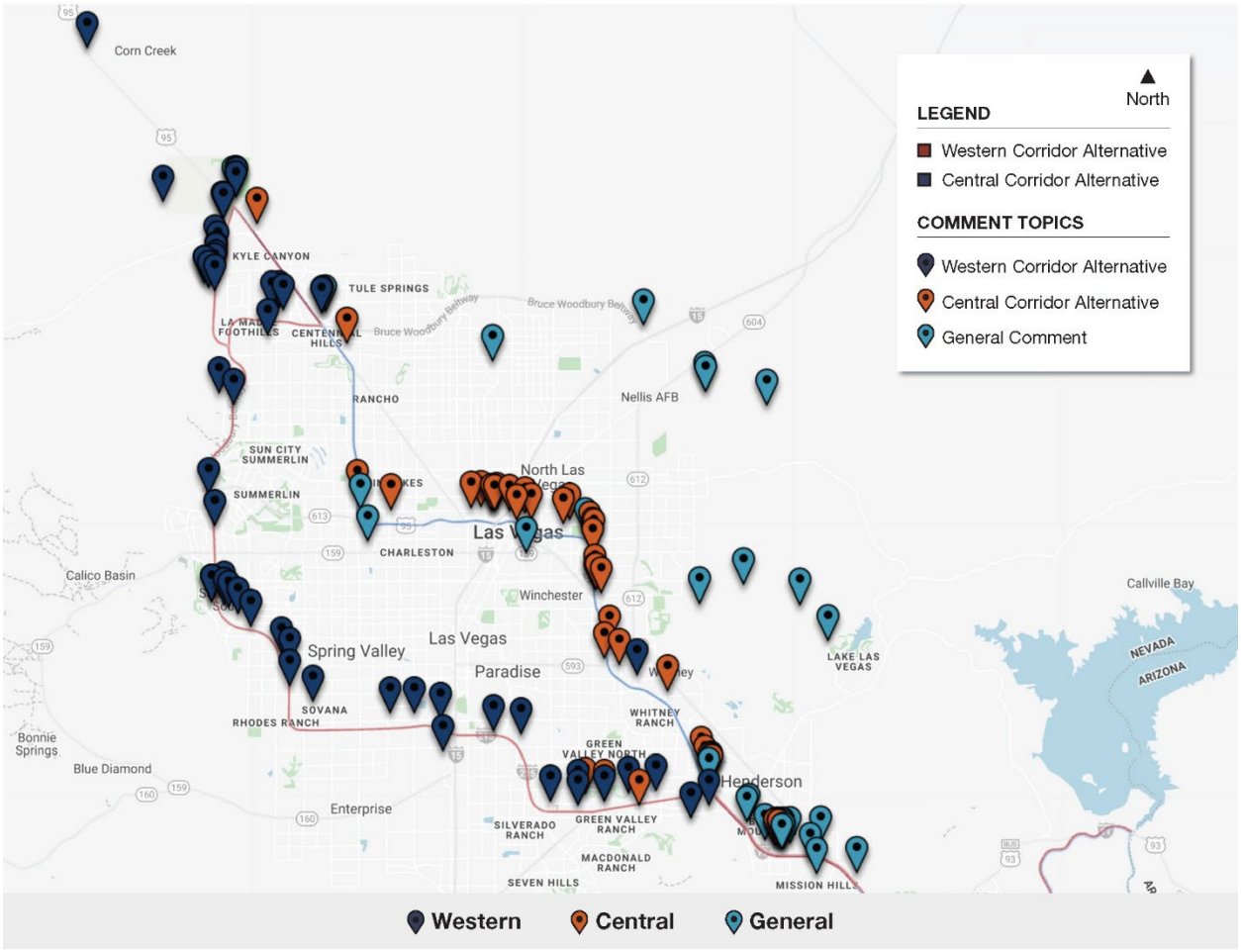
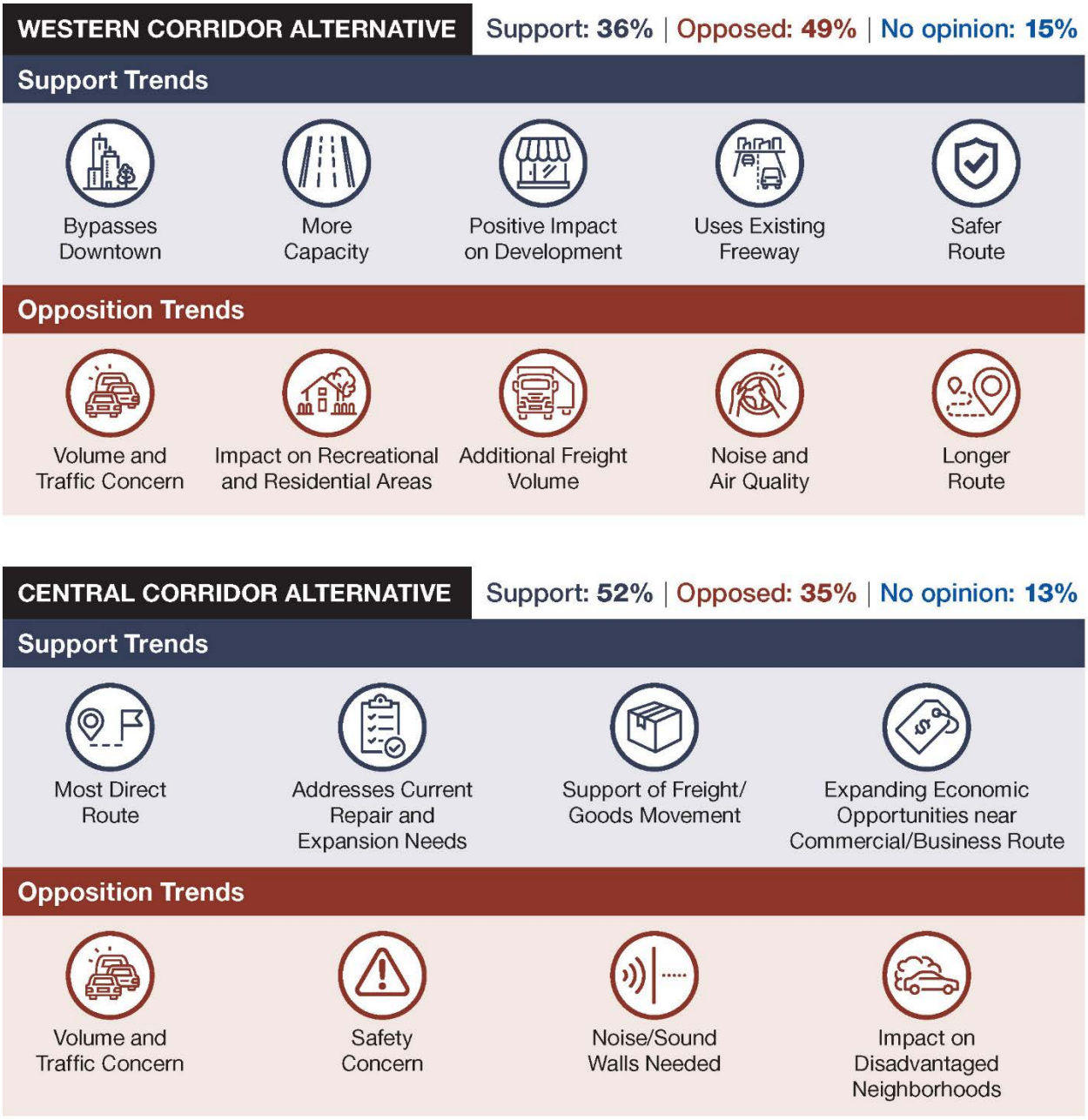


Figure 3-4. Online Meeting Themes by Corridor: Corridor Alternatives Development



See the attachments to Appendix C for the full summary of the public meeting, including items discussed and input received.

3.5 How Is NDOT Seeking Input on This PEL?

NDOT sought to obtain input through public comment and key outreach periods following the guidelines and requirements of Title VI of the Civil Rights Act, environmental justice guidance,

the ADA, and limited English proficiency guidance. This was accomplished by using newspaper ads, targeted social media posts, stakeholder emails, and a U.S. Postal Service mailer. All households within ¼ mile of either side of each corridor alternative received a bilingual mailer with information on how to participate in the study. In addition, the study team collaborated with local chambers of commerce, neighborhood liaisons, and organizations as advocates of their communities to encourage their audiences and members to participate and provide feedback on the PEL study.

NEXT STEPS

Public and agency support is one of the criteria used to select a recommended corridor to be designated as I-11 through the Las Vegas metropolitan area. Your input on the Draft PEL, and your support for any of the corridor alternatives, will be considered in the analysis and the identification of the recommended corridor in the Final PEL. Please take a few minutes to submit your comments and respond to the online survey to let us know what you think. Your opinions do count.

4 AFFECTED ENVIRONMENT

The I-11 Las Vegas Metropolitan Area PEL considers alternative options for the designation of I-11 through the study area. A description of the study area, corridor alternatives considered, and potential deficiencies of the existing highway system with respect to Interstate standards is provided below. A full description of the affected environment in proximity to the alternatives under consideration is included in Appendix A, *Conditions Assessment Report*.

4.1 PROJECT STUDY AREA

The I-11 Las Vegas Metropolitan Area PEL Study Area (Study Area) includes the Las Vegas Valley (Valley) from the I-215/I-515/I-11 "Henderson Interchange" in the city of Henderson to just north of the Kyle Canyon Road (State Route [SR] 157) interchange along US 95 to the northwest (Figure 5-1). Currently, I-11 is designated in Nevada just south of the study limits, extending from the Arizona border to the Henderson interchange.

This PEL process informs the identification and recommendation of a corridor that would be designated as I-11 through the Las Vegas metropolitan area, extending from the present northerly terminus of existing I-11 at the Henderson interchange to the vicinity of Kyle Canyon Road interchange along US 95. During the initial phases of this planning process, Eastern Corridor segments in undeveloped greenfield and urbanized areas were considered for I-11. At that time, the Study Area included the existing I-11 and the area east of the Las Vegas Valley to the Lake Mead National Recreation Area (see the *Draft Alternatives Development Report* in Appendix B) and some alternative segments considered I-11 not continuing along the corridor currently designated as I-11. At the conclusion of that phase of the study, all Eastern Corridor Alternatives were eliminated from further consideration, as described in the *Draft Alternatives Development Report*. With the elimination of an Eastern Corridor Alternative, the existing designated I-11 corridor south of the Henderson interchange shall remain. The corridor identification decision informed by this PEL process is for a recommended route north or west of the Henderson interchange. As such, while the existing I-11 is a component of both corridor alternatives under consideration in this PEL, the existing I-11 is not part of the Study Area and is not further evaluated in this PEL study.

5 ALTERNATIVES

5.1 ALTERNATIVES UNDER CONSIDERATION

The Draft Alternatives Development Report identifies two potentially feasible full-length corridor alternatives recommended for further study—a Western Corridor Alternative with two options and a Central Corridor Alternative. These corridors alternatives are illustrated in Figures 5-1 through 5-2.

Central Corridor Alternative

From the Henderson interchange, the Central Corridor Alternative would follow the generally six-lane I-515 through Downtown Las Vegas to the Las Vegas Spaghetti Bowl (US 95/I-15/I-515) interchange. The Central Corridor Alternative would continue west on the generally eight-lane US 95 corridor from downtown Las Vegas to the CC 215/US 95 interchange (Centennial Bowl) where the Corridor would continue along the four-lane US 95 to north of the Kyle Canyon Road interchange.

The I-515 portion of this Corridor is approximately 14.4 miles, and the US 95 portion of this Corridor is approximately 17.8 miles. In total, the Central Corridor Alternative is approximately 32.2 miles.

Western Corridor Alternative

From the Henderson interchange, the Western Corridor Alternative would turn west and follow the Southern and Western Beltway (I-215 and CC 215), which is generally a six- to eight-lane corridor. At approximately one-half mile north of the Ann Road interchange, and before the Beltway turns east (to the Northern Beltway portion), the Western Corridor Alternative can then follow two optional routes in the northwest. The section of the Western Corridor Alternative along the Southern and Western Beltway before the decision point of the two options (start of the Sheep Mountain Parkway alignment) is 32.9 miles. The two Western Corridor Alternative options are shown in Figure 5-2.

WESTERN CORRIDOR ALTERNATIVE – SHEEP MOUNTAIN OPTION

The Western Corridor Alternative – Sheep Mountain Option would follow a proposed highway facility that originates near Sheep Mountain Parkway and travels north from the northwest elbow of CC 215, connecting to US 95 just north of Kyle Canyon Road (SR 157). The Sheep Mountain portion of this option is approximately 5.5 miles, with the balance of this option using the existing I-215 and CC 215. The Western Corridor Alternative – Sheep Mountain Option is 38.4 miles in length.

Figure 5-1. Corridor Alternatives Under Consideration

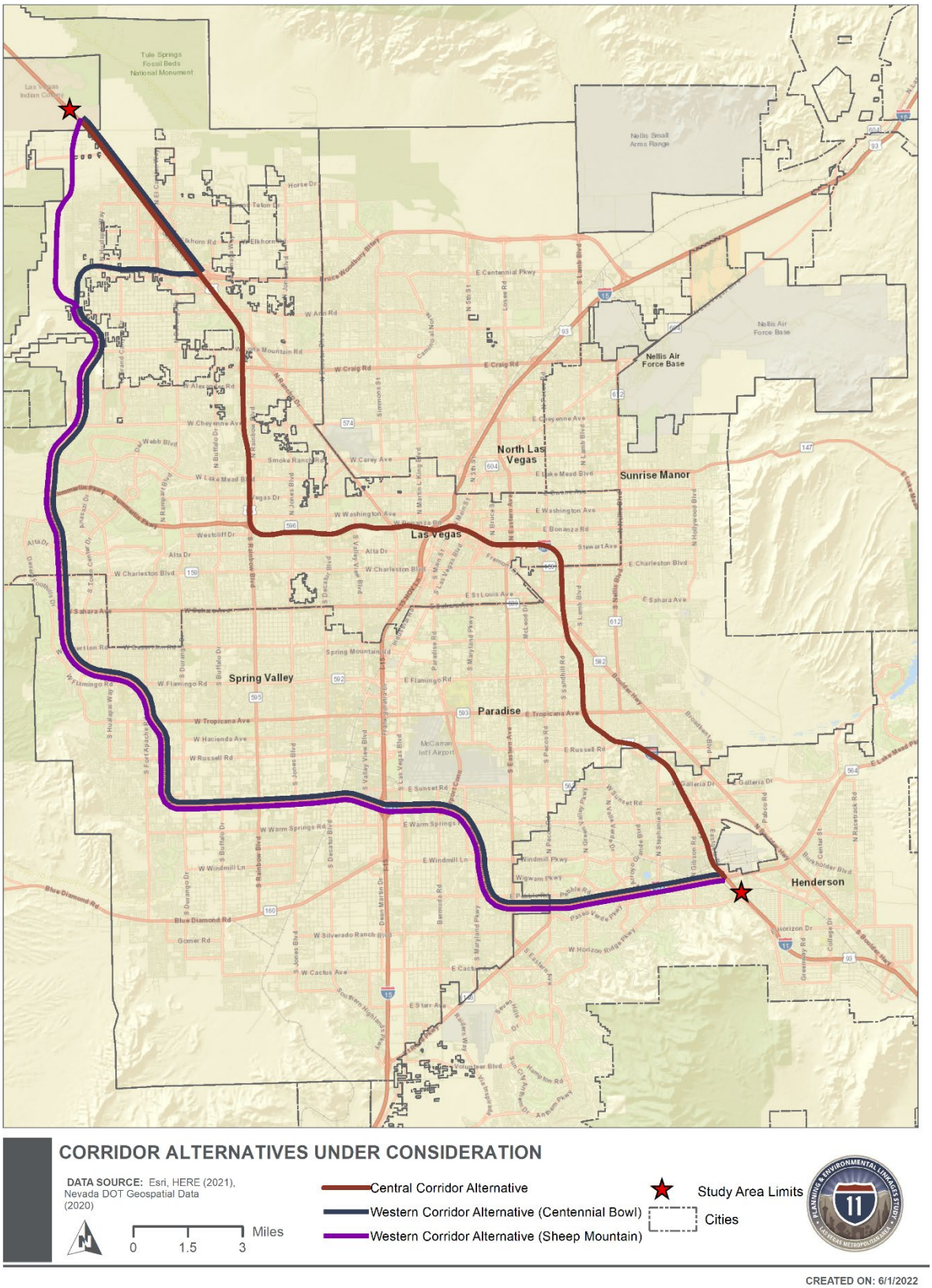
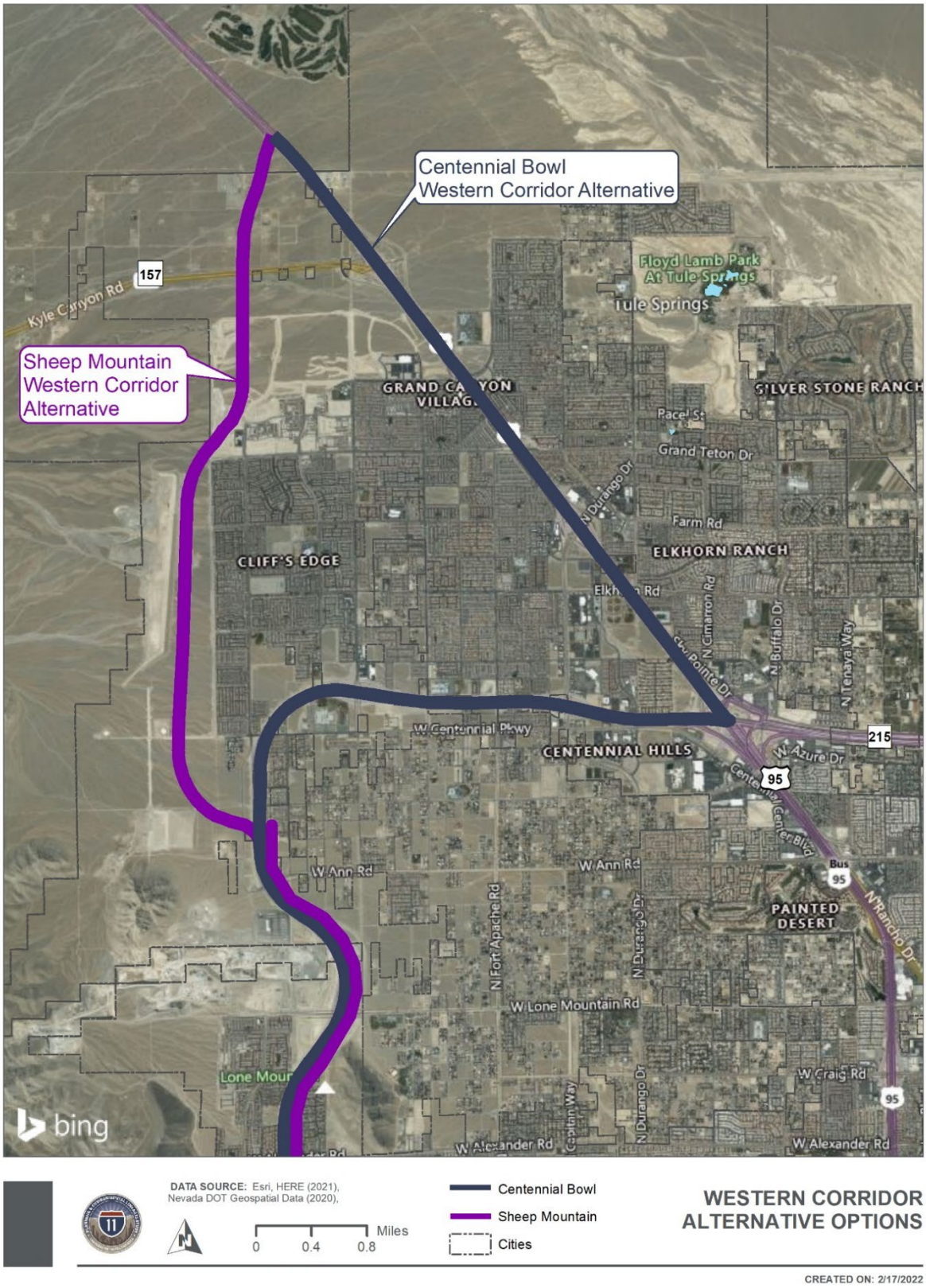


Figure 5-2. Western Corridor Alternative Options



WESTERN CORRIDOR ALTERNATIVE – CENTENNIAL BOWL OPTION

The Western Corridor Alternative – Centennial Bowl Option would continue along CC 215 along the Northern Beltway to the CC 215/US 95 interchange (Centennial Bowl) where the Corridor would turn northwest and follow US 95 to the northwest, to a terminus approximately one-half mile north of the Kyle Canyon Road (SR 157) interchange. The Western Corridor Alternative – Centennial Bowl Option is 42.5 miles in length.

The infrastructure upgrades needed with the three proposed corridor alternatives are described in more detail in the next section.

5.2 CORRIDOR ALTERNATIVES INTERSTATE DESIGN STANDARDS

Interstate highways are subject to a uniform set of standards throughout the country. These design standards set the Interstate Highway System above all other components of the National Highway System and ensure consistent design, development, construction, and preservation of these important national highways. These minimum standards consider design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, bridges, and other structures. *A Policy on Design Standards - Interstate System* (May 2016) states:

> The following minimum standards apply to Interstate highway segments constructed on new right-of-way and segments undergoing complete reconstruction along existing right-of-way. The geometric design standards used for resurfacing, restoration, and rehabilitation (3R) projects may be the AASHTO interstate standards that were in effect at the time of original construction or inclusion into the interstate system.

A desktop survey of the existing infrastructure along the Central Corridor Alternative and Western Corridor Alternative and Options has identified a number of deficiencies observed along segments of the corridor alternatives as they relate to the AASHTO policy referenced above. Construction of new segments would be guided by these standards, and designation of existing segments into the Interstate system would need to address these standards as well. It is important to note that NDOT and FHWA have established processes for design exceptions; therefore, the deficiencies identified here are subject to review for potential exception as part of the Interstate highway designation process. Additionally, designation of I-11 could be phased along logical segments of the selected corridor alternative depending on the timing of when such segments meet the applicable standards.

Tables 5-1, 5-2, and 5-3 summarize the corridor alternative deficiencies noted by the project team with respect to the above policy. These tables also identify improvements, notable potential impacts, and other actions necessary to meet NDOT standards and FHWA requirements for potential Interstate designation of the selected corridor alternative and as may otherwise be necessary as part of the Interstate highway designation process.

Table 5-1. Central Corridor Alternative

Deficiency/ Action Item	Area/Limits	Potential Improvements/Impacts/ Actions Identified
NDOT Report with FHWA Review	Limits of proposed designation	NDOT to prepare a report to FHWA that documents where the corridor alternative conforms to the AASHTO Interstate Standards (2016) and AASHTO Green Book (2018), and that identifies any design exceptions with proposed mitigation along with project(s) to correct deficiencies
Signage and Pavement Markings	On I-515 from Henderson interchange to Spaghetti Bowl interchange, at Spaghetti Bowl interchange, and at service interchanges on I-515 and on local roadways approaching service interchanges as appropriate	Replace on- and off-system I-515 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
Signage and Pavement Markings	On US 95 from Spaghetti Bowl to logical northerly terminus (that is, US 95/ SR 157 Kyle Canyon interchange), and at service interchanges on US 95 and local roadways approaching service interchanges as appropriate	Replace on- and off-system US 95 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On I-515 from Henderson interchange to Spaghetti Bowl interchange, at Spaghetti Bowl interchange and at service interchanges on I-515 within the control of access as appropriate	Presently designated as an Interstate highway
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On US 95 from Spaghetti Bowl to logical northerly terminus (that is, US 95/SR 157 Kyle Canyon interchange) and at service interchanges on US 95 within the control of access as appropriate	Exceptions approved for current designation as a U.S. route; subject to further review with NDOT and FHWA pending the results of this PEL Study

Table 5-2. Western Corridor Alternative – Centennial Bowl Option

Deficiency/ Action Item	Area/Limits	Improvements/Actions Identified
NDOT Report with FHWA Review	Limits of proposed designation	NDOT to prepare a report to FHWA that documents where the corridor alternative conforms to the AASHTO Interstate Standards (2016) and AASHTO Green Book (2018), and that identifies any design exceptions with proposed mitigation along with project(s) to correct deficiencies
Signage and Pavement Markings	On I-215 from Henderson interchange to I-215/I-15/CC 215 interchange, at service interchanges on I-215, and on local roadways approaching service interchanges as appropriate	Replace on- and off-system I-215 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
Signage and Pavement Markings	On CC 215 from I-215/I-15/CC 15 interchange to Centennial Bowl interchange, at service interchanges on CC 215, and on local roadways approaching service interchanges as appropriate	Replace on- and off-system CC 215 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
Signage and Pavement Markings	On US 95 from Centennial Bowl interchange to logical northerly terminus (that is, US 95/ SR 157 Kyle Canyon interchange), and at service interchanges on US 95 and local roadways approaching service interchanges as appropriate	Replace on- and off-system US 95 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On I-215 from Henderson interchange to I-215/I-15/CC-215 interchange and at service interchanges on I-215 within the control of access as appropriate	Presently designated as an Interstate highway
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On CC 215 from I-215/I-15/CC-215 interchange to Centennial Bowl interchange and at service interchanges on CC 215 within the control of access as appropriate	Subject to further review with NDOT and FHWA pending the results of this PEL Study
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On US 95 from Centennial Bowl interchange to logical northerly terminus (that is, US 95/SR 157 Kyle Canyon interchange and at service interchanges on US 95 within the control of access as appropriate	Subject to further review with NDOT and FHWA pending the results of this PEL Study

Table 5-3. Western Corridor Alternative – Sheep Mountain Parkway Option

Deficiency/ Action Item	Area/Limits	Improvements/Actions Identified
NDOT Report with FHWA Review	Limits of proposed designation	NDOT to prepare a report to FHWA that documents where the corridor alternative conforms to the AASHTO Interstate Standards (2016) and AASHTO Green Book (2018), and that identifies any design exceptions with proposed mitigation along with project(s) to correct deficiencies
Signage and Pavement Markings	On I-215 from Henderson interchange to I-215/I-15/CC-215 interchange, at service interchanges on I-215, and on local roadways approaching service interchanges as appropriate	Replace on- and off-system I-215 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
Signage and Pavement Markings	On CC-215 from I-215/I-15/CC 215 interchange to the point at which the proposed Sheep Mountain Parkway departs from CC 215	Replace on and off-system CC 215 signage and pavement markings with I-11 signage and pavement markings as appropriate within existing rights-of-way
Signage and Pavement Markings	Between the point at which the proposed Sheep Mountain Parkway departs from CC 215 to a point in the vicinity of the US 95 Kyle Canyon interchange	Provide on and off-system I-11 signage and pavement markings as appropriate within existing or new rights-of-way
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On I-215 from Henderson interchange to I-215/I-15/CC-215 interchange and at service interchanges on I-215 within the control of access as appropriate	Presently designated as an Interstate highway
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	On CC 215 from I-215/I-15/CC-215 interchange to the point at which the proposed Sheep Mountain Parkway departs from CC 215	Subject to further review with NDOT and FHWA pending the results of this PEL Study
AASHTO design traffic, right-of-way, geometric controls and criteria, cross section elements, interchanges, and bridges and other structures	Between the point at which the proposed Sheep Mountain Parkway departs from CC 215 to a point in the vicinity of the US 95 Kyle Canyon interchange	Approximately five miles of new freeway on a new alignment will be required built to AASHTO standards. Any freeway alignment in this area will require the preparation of an Environmental Impact Statement or Environmental Assessment prior to construction

6 EVALUATION OF CORRIDOR ALTERNATIVES

Each of the corridor alternatives and options is evaluated using quantitative metrics and qualitative considerations. This analysis considers proposed improvements associated with the designation of I-11 along the two corridor alternatives and options:

- Central Corridor Alternative
- Western Corridor Alternative
  - Sheep Mountain Option
  - Centennial Bowl Option

6.1 CORRIDOR ALTERNATIVES METHODOLOGY

6.1.1 Evaluation Framework

The framework for the development of the proposed evaluation process consists of the following steps:

- Review existing available data for the corridor alternatives and options;
- Group the data into evaluation categories;
- Develop the appropriate evaluation criteria for each category;
- Develop one or more performance measures for each evaluation criterion;
- Identify appropriate quantitative metrics and/or qualitative considerations;
- Rate the performance for each corridor alternative and option against each performance measure; and
- Identify the corridor alternative and/or option that performs best.

6.1.2 Data Review

Data reviewed from the draft *Conditions Assessment Report* (see Appendix A) and included in the development of evaluation criteria and performance measures include:

- Transportation system characteristics
- Traffic information
- Population characteristics
- Land use and community resources
- Economic conditions
- Environmental conditions

The data from the draft *Conditions Assessment Report* is supplemented by information presented in the draft *Alternatives Development Report* on transportation access, mobility, and feasibility. Public and stakeholder input will be incorporated into the analysis following the release and review of the Draft Final PEL Study document.

Note that the results of this analysis are subject to change pending the results of the agency and public engagement process and stakeholder preferences incorporated into this evaluation.

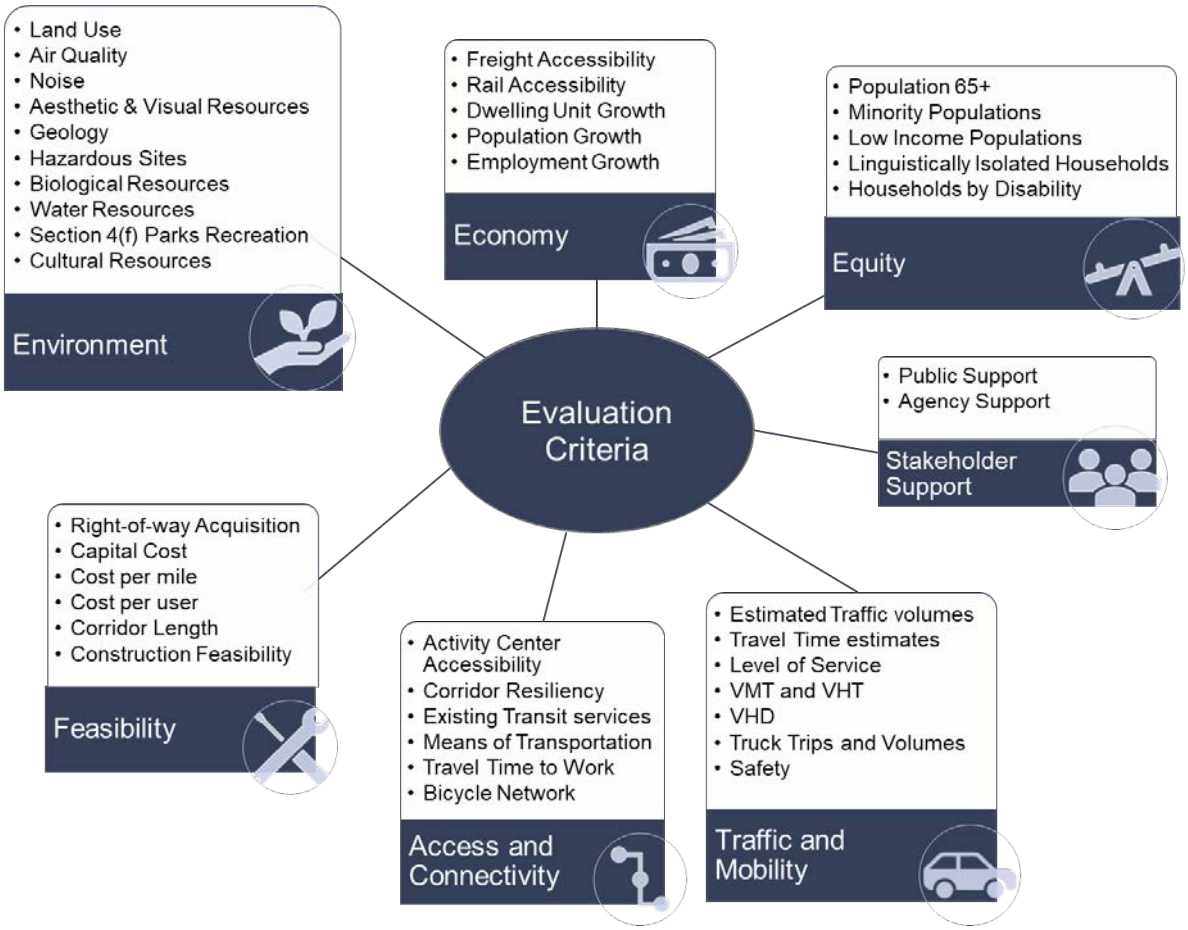
6.1.3 Evaluation Categories and Criteria

Seven evaluation categories are identified for this analysis and are shown in Figure 6-1.

- Environment
- Economy
- Feasibility
- Access and Connectivity
- Traffic and Mobility
- Equity
- Stakeholder Support (note: this is deferred to follow the release and review of the Draft Final PEL Study document)

For each evaluation category there are multiple evaluation criteria, as shown in Figure 6-1, that are measured as part of the I-11 PEL.

Figure 6-1. Evaluation Categories and Criteria



The evaluation considers the potential benefits and/or other impacts of future improvements of each corridor alternative against each of the criteria shown above.

The benefits and impacts of a corridor alternative's performance against each evaluation criterion were assessed using the results of quantitative and qualitative analyses. For each evaluation category, the evaluation criterion is described, and the results reported. In some instances, no meaningful benefits or impacts would occur, in which case this observation is noted.

6.2 EVALUATION

Since there are multiple evaluation criteria for each category, and the relative weights of the categories and criteria have not been defined to preserve an unbiased evaluation, individual criteria are not scored numerically. The corridor alternatives and options are scored at the category level, which considers the results of the analysis for each criterion evaluated. Results of the evaluation are provided in Section 6.3.

The following sections summarize the results of the analysis of the corridor alternatives: Central Corridor Alternative, Western Corridor Alternative – Sheep Mountain Option, and Western Corridor Alternative – Centennial Bowl Option.

6.2.1 Environmental

The PEL is a pre-NEPA activity that is meant to inform the NEPA process as potential future projects develop; the PEL is not intended to identify or assess specific environmental impacts. To inform the NEPA process, the PEL "Environment" category criteria address the topics that will be evaluated through NEPA. As with NEPA analysis, the emphasis is placed on identifying the major issues related to the proposed project—those issues where none of the corridor alternatives are anticipated to have negative impacts are noted as such.

For each criterion, after a description of the topic and performance measure, the risk of impacts is noted, and the corridor alternatives are ranked based on whether there is no impact, a potential impact, or a likely impact. In general, less risk of impact is preferred.

Environmental criterion impacts are noted as shown below:

○ – no impact (empty circle)

◒ – potential impact (half-filled circle)

● – likely impact (completely filled circle)

Land Use

Description
The Land Use criterion examines (1) the potential land use conversion associated with the Interstate designation and (2) whether any planned developments would be affected.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Land use change by number of properties: Potential land use conversion Land (number of parcels)	○	●	◒	▪ Central and Western Corridors are largely built out, with the exception of the Sheep Mountain Option. ▪ High concentration of multi-family developments in Central Corridor Western Corridor Sheep Mountain Option: ▪ Requires land use changes ▪ May impact Open Space ▪ Likely requires the acquisition of right-of-way
Concentrations of planned developments along the Corridor	○	◒	◒	▪ Central Corridor growth anticipated in portions of Henderson and Clark County east of the I-515 ▪ Western Corridor Alternative and options have projected dwelling unit growth and planned developments that would benefit from improved access Western Corridor Sheep Mountain Option: ▪ Would benefit from new access

Air Quality

Description

An increase in vehicle miles traveled (VMT) and its corresponding impact on air quality was evaluated. The resulting change in VMT based on the designation as I-11 alone is not substantial (2 – 3.2 percent, varies by alternative and option); therefore, the air quality criterion was not carried forward for evaluation of the corridor alternatives using existing routes. Subsequent improvements to address traffic capacity would be evaluated for air quality impacts since the Regional Transportation Commission (RTC) must quantitatively assess the air quality impacts of its plans and programs.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Air Quality	N/A	N/A	N/A	▪ Any major capital improvement projects in the corridor (including congestion mitigation and new capacity would be evaluated for air quality conformity at the time of design

Geology

Description

This criterion was included to examine possible geological hazards, specifically earthquake faults. No faults or other potential geologic risks to improvements associated with Interstate designation were identified on the corridor alternatives; therefore, this criterion was not carried forward for evaluation of the alternatives.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Presence of faults in the corridor and likelihood of impact	N/A	N/A	N/A	▪ No faults identified along the corridor alternatives that would pose a risk to improvements necessary for interstate designation

Aesthetics and Visual Resources

Description

This category examined two issues: (1) whether the improvements would affect the viewshed of drivers from the two corridor alternatives and options and (2) the distance to the nearest National Scenic Byway from the corridor alternative.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Existing Views: Qualitative review of visual resources near proposed areas of construction	○	●	○	▪ Central and Western Corridors have no changes noted other than signage replacement ▪ Western Corridor Sheep Mountain Option would encroach on viewshed of Kyle Canyon
Scenic Byways: Proximity of Scenic byways to the corridor near proposed areas of construction	○	●	○	▪ Eastern and Western Corridors have no changes noted other than signage replacement ▪ Western Corridor Sheep Mountain Option may impact Kyle Canyon during construction

Noise

Description

An increase in VMT and its corresponding impact on noise was evaluated. The resulting change in VMT based on the designation as I-11 alone is not substantial (2 – 3.2 percent, varies by alternative and option); however, the Western Corridor Sheep Mountain Option would introduce a new freeway section in close proximity to existing and planned residential neighborhoods.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Increase in average daily traffic and its impact on noise	○	●	◒	▪ Western Corridor Sheep Mountain Option increases operational noise in the Sheep Mountain area due to the new interstate segment ▪ Western Corridor Centennial Bowl Option freeway ramps may impact existing residential

Hazardous Sites

Description

This criterion identifies known hazardous material sites within the three corridor alternatives and options.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Number of Hazardous sites near proposed areas of construction	○	●	○	▪ Western Corridor Sheep Mountain Option contains 3 hazmat sites

Biological Resources

Description

This criterion examined two issues: (1) the possibility of land cover changes (land cover changes could result in a variety of negative issues for biological resources), and (2) whether there is habitat for special-status species.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Land cover changes near proposed areas of construction	○	●	○	▪ Western Corridor Sheep Mountain Option converts open space to roadway
Presence of special-status species near proposed areas of construction	○	◒	○	▪ Western Corridor Sheep Mountain Option may require use of undeveloped land which has potential to affect protected habitat species

Water Resources

Description

This category examined two issues: (1) the presence of natural hydraulic features near the proposed corridors and (2) the presence of wetlands near the proposed corridors.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Hydrology: Presence of natural hydraulic features near proposed areas of construction	○	●	○	▪ Western Corridor Sheep Mountain Option could alter existing drainage flows
Wetlands: Presence of wetlands near proposed areas of construction	N/A	N/A	N/A	▪ Western Corridor Sheep Mountain Option would not impact wetlands

Section 4(f) Resources – Parks and Recreational Facilities

Description
This criterion investigated the number of parks, type of usage, and acreage of usage associated with the two corridor alternatives and options.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Parks and recreational facilities near proposed areas of construction	N/A	N/A	N/A	▪ No parks and recreational facilities are near proposed areas of construction, and no existing parks in the corridors

Section 4(f) Resources – Trails

Description
Trails near proposed areas of construction.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Trails near proposed areas of construction	○	◒	○	▪ Western Corridor Sheep Mountain Option may impact a planned trail in the new segment.

Section 4(f) Resources – Schools with Recreation

Description
This criterion analyzed whether an alternative would result in the use of a publicly accessible recreational feature associated with a school by identifying the number of schools within the two corridor alternatives and options.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Schools with public recreation near proposed areas of construction	N/A	N/A	N/A	▪ Alternatives do not affect schools

Section 4(f) Resources – Historic Built Environment

Description
This criterion analyzes whether any corridor alternative adversely affects any historic sites by identifying the number of historic sites.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Presence of historic resources in the corridor	N/A	N/A	N/A	▪ Alternatives do not affect known historic resources

Section 4(f) Resources – Archaeological Resources

Description
This criterion analyzes whether one of the alternatives would adversely affect an archaeological resource by identifying the number of archaeological sites within the two alternatives and options.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Archaeological resources near proposed areas of construction	○	●	○	▪ Western Corridor Sheep Mountain Option has three archaeological sites within 500 feet

Tribal Lands

Description
This criterion identified potential effects to tribal lands within the two alternatives and options.

Performance Measure	Central Corridor	Western Corridor Options		Notes
		Sheep Mountain	Centennial Bowl	
Tribal properties near proposed areas of construction	○	●	○	▪ Western Corridor Sheep Mountain Option affects Las Vegas Paiute Indian Colony (reservation)

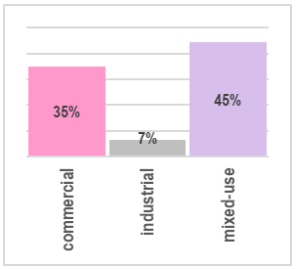
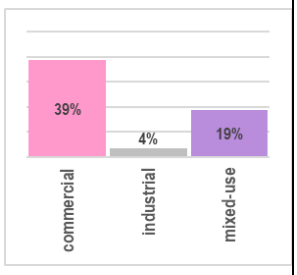
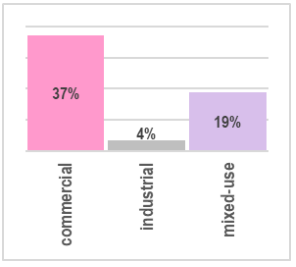
6.2.2 Economy

The “Economy” evaluation category considers four evaluation criteria. The following sections show the methodology for the evaluation criteria within the Economy evaluation category, along with the performance measures and quantitative and qualitative (where applicable) analysis for each criterion.

In lieu of the circles used in Section 6.2.1 to express the potential for environmental impacts, numerical measures and qualitative expressions are applied to the following criterion.

Freight Accessibility

Description
Freight accessibility is important because it reflects the ability of industries in the economy to move goods to their customers and to access material inputs from suppliers, which helps increase economic output. This criterion identifies the percentage of the corridor alternative and option that is freight accessible, by identifying the percentage of the total length of the corridor alternative that is commercial, industrial, or mixed-use served.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Percentage of corridor alternative accessible by freight			

Freight Rail Accessibility

Description
Freight rail accessibility is important for the same reasons as freight accessibility. This criterion identified the percentage of the corridor alternative that is freight rail accessible.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Percentage of corridor alternative accessible by freight	8%	10%	10%

Total Population Growth (2019 to 2050)

Description
This criterion analyzes the projected population growth for each of the two corridor alternatives and options by examining the projected growth around the areas of the corridor alternatives. The analysis identifies the extent of population growth (projected by 2050) adjacent to or within the corridor alternatives. From an economic perspective, population growth is preferred. (Note that the criterion dwelling unit growth is inherent in population growth, so is not described further.)

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Population growth along/adjacent to the corridor alternative by 2050	Lower population growth; area is largely built out	Moderate population growth	Moderate population growth

Total Employment Growth

Description
This criterion analyzes the projected employment growth for each of the two corridor alternatives and options by looking at the projected growth around the areas of the corridor alternatives. The analysis identifies the extent of employment growth (projected by 2050) adjacent to or within the corridor alternatives. From an economic perspective, employment growth is preferred

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Employment growth along/adjacent to the corridor alternative by 2050	Highest employment growth (compared to other alternatives)	Moderate employment growth	Moderate employment growth

6.2.3 Feasibility

The “Feasibility” evaluation category considers multiple evaluation criteria. The following sections show the methodology for the evaluation criteria within the feasibility evaluation category, along with the performance measures and quantitative and qualitative (where applicable) analysis for each criterion.

Right-of-Way Acquisition

Description
This criterion analyzes whether right-of-way acquisition is likely required and identifies the number of parcels that may need to be acquired within the two corridor alternatives and options. Right-of-way acquisition should be avoided where feasible.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Presence and number of parcel acquisitions needed	None	Several major parcels would likely be affected, resulting in acquisitions	One or more major parcels could potentially be affected, resulting in acquisitions

Corridor Length (miles)

Description
Shorter corridor length indicates less travel (in the event of through trips, which is a fraction of the total trips), so this criterion identifies the length of each corridor alternative and option. This criterion is important because freight movement by trucks prefer the shortest route. Shorter corridor length is preferred.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Corridor length (miles)	32.2	38.4	42.5

Capital Costs ($)

Description
This criterion analyzes whether capital improvements would be needed for the two corridor alternatives and options by identifying the cost associated with the capital improvements needed for each alternative. The higher the capital costs the more unfavorable, due to the impact of having to secure more funds for the project.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Capital cost ($ millions)	$1.2	$190.8	$116.37
Cost per mile ($ 000s)	$37	$4,969	$385

Volumes

Description
This criterion identifies projected average bidirectional 2040 traffic volumes generated with the I-11 designation, using data from the Regional Transportation Demand Model. Higher volumes would be preferred as they indicate the corridor alternative is serving more of the traffic generated by the I-11 designation. However, the traffic generated by I-11 designation represents a very small percentage of overall corridor volume currently and in 2040.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
2040 AADT Bidirectional Volume (vehicles) / Percent of Overall Corridor Volume	5,400 / 3.1%	3,600 / 2.3%	4,100 / 2.6%

Note: AADT – average annual daily traffic

Construction Feasibility

Description This criterion examines the feasibility to construct the corridor alternatives and options. Greater construction feasibility is preferred.			
Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Feasibility of construction improvements needed along corridor alternative	Feasible with minimal risks – primarily signage replacement	Feasible with potential for significant risks. Sheep Mountain Parkway (planned super arterial) to interstate conversion together with improvement of two-lane roadway segment north of Kyle Canyon Road (SR 157) to interstate standards and new system interchange at US 95	Feasible with potential for moderate risks due to interstate substandard connections planned at Centennial Bowl Interchange (planned connections meet standards for current US route designation)

6.2.4 Access and Connectivity

The "Access and Connectivity" evaluation category considers multiple evaluation criteria. The following sections show the methodology for the evaluation criteria within the Access and Connectivity evaluation category, along with the performance measures and quantitative and qualitative (where applicable) analysis for each criterion.

Activity Centers Accessibility

Description This criterion quantifies the number of activity centers within 3 miles of each corridor alternative and option that could benefit from improved access, such as universities, colleges, casinos, libraries, shopping centers, shopping malls, airports, cultural centers, community centers, and hospitals. Corridors with greater numbers of activity centers in close proximity to the facility are preferred.			
Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Number of activity centers within 3 miles of corridor alternative	69	41	50

Corridor Resiliency/Parallel Routes

Description This criterion examines how resilient the two corridor alternatives and options are by identifying the number of parallel principal arterials per mile within 1 mile of each of the alternatives and options. Fewer alternate routes would result in the corridor alternative being less resilient and therefore less desirable.			
Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Number of parallel routes per mile of the corridor	1.71	1.68	1.67

Existing Transit Service

Description
This criterion identifies existing transit routes and stops within the two corridor alternatives and options. There is little risk of impacts on transit services that intersect or operate near the corridor alternatives and options. Risks to these types of facilities, if present, would be undesirable.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Existing transit services	The Centennial Express (CX) utilizes long stretches of the 95, which is a major portion of the Central Corridor	No routes utilize this corridor	The CX route utilizes a short section of this corridor, along the 95 between Elkhorn and the CC 215

Existing and Proposed Bicycle Network

Description
This criterion identifies all existing and planned bicycle facilities within the two corridor alternatives and options. Alternatives and options with more bicycle facilities have a greater risk of temporary or permanent impacts to these facilities and, thus, affecting the bicycle network more. Risks to these types of facilities are undesirable.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Existing and proposed bicycle network	None	A new segment of the existing Beltway trail is proposed parallel to this corridor	None

Means of Transportation

Description
This criterion analyzes the primary means of transportation to work in census tracts along the two corridor alternatives and options. The alternative and/or option with a higher percentage of alternative modes of transportation (bike, walk, and public transit) would not realize the same benefit as the corridor alternatives or options that use automobiles to get to work. A greater percentage of alternative mode usage is preferred.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Percentage of 'alternative mode of transportation to work' (transit, bike walk)	6.6%	2.2%	2.2%

Travel Times to Work

Description
This criterion examines how long commute times are for census tracks within the two corridor alternatives and options, based on U.S. Census data. While exact benefits are unknown at this time, a modest improvement in freeway operations as a result of improved wayfinding is anticipated to improve travel time for commuters to a minor degree. Furthermore, commuters along the two Western Corridor Options experience a faster commute to work than those along the Central Corridor which would be preferable for I-11.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Travel time to work	No change	Minor benefit	Minor benefit

6.2.5 Traffic and Mobility

The "Traffic and Mobility" evaluation category considers multiple evaluation criteria. The following sections show the methodology for the evaluation criteria within the Traffic and Mobility evaluation category, along with the performance measures and quantitative and qualitative (where applicable) analysis for each criterion.

Average 2040 Volumes

Description
This criterion analyzes the bidirectional 2040 average daily traffic volumes between the corridors with and without the I-11 designation for the two corridor alternatives and options. The higher the percentage change in volumes the better, because these corridor alternatives would realize a greater benefit of moving more vehicles, both the regionally generated traffic that would use the freeway without I-11 as well as the small increase in volume associated with I-11 specific user volume, on a designated I-11 corridor.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Average 2040 volume without I-11 (vehicles)	167,100	154,400	155,400
Average 2040 volume with I-11 (vehicles)	172,500	158,000	159,500
Percentage change in average 2040 volumes due to I--11 designation	3.1%	2.3%	2.6%

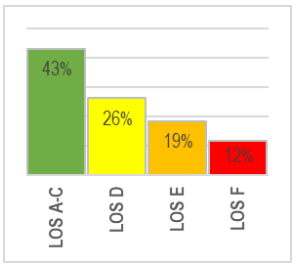
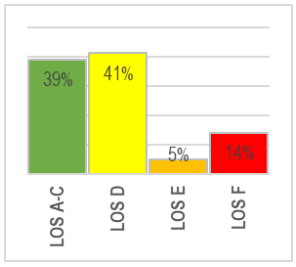
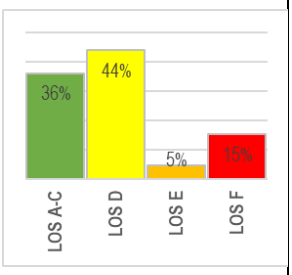
Travel Time Estimates

Description
This criterion analyzes the projected travel time estimates for the two corridor alternatives and options by identifying the PM (afternoon) peak and off-peak travel time along the corridor alternative with and without the I-11 designation in 2040. Lower travel times are preferred as they indicate greater mobility for a designated I-11 corridor.

Performance Measure		Central Corridor	Western Corridor Options	
			Sheep Mountain	Centennial Bowl
2040 without I-11 (minutes)	Avg off-peak	39.1	52.6	53.8
	Avg PM peak	54.2	62.0	61.9
2040 with I-11 (minutes)	Avg off-peak	39.8	53.5	54.0
	Avg PM peak	58.5	68.2	68.0

Level of Service (LOS) in 2040 Build

Description
This criterion identifies the average LOS for the segments within the two corridor alternatives and options. This analysis identified the percent of segments that operate in 2040 at less desirable LOS E and F together with the percent of segments that operate in 2040 at more desirable LOS A through D. Corridor alternatives that operate with greater percentages in LOS A through D and lower percentages at LOS E and F are preferred and indicate improved mobility for both the regionally generated traffic that would use the freeway without I-11 as well as the small increase in volume associated with I-11 specific user volume associated with a future I-11 corridor.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
LOS 2040 build * * Level of service (LOS) is a qualitative measure used to relate the quality of motor vehicle traffic service much like academic grading. LOS is used to analyze roadways and intersections by categorizing traffic flow and assigning quality levels of traffic based on performance measures like vehicle speed, density, mobility, etc.			

Change in Vehicle Hours Delay (VHD) in 2040

Description
This criterion identifies the projected 2040 VHD on the two corridor alternatives and options. VHD is a measure of the additional travel time, above and beyond free-flow travel time, that drivers incur along a given roadway. The corridor or option with the lowest level of VHD would experience fewer delays in the future and would be preferred.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
2040 daily VHD without I-11	17,560	7,150	7,730
2040 daily VHD with I-11	17,910	7,300	7,950
Additional VHD with I-11	350	150	220

Vehicle Miles Traveled (VMT)/Vehicle Hours Traveled (VHT) in 2040

Description
This criterion examines VMT and VHT for the two corridor alternatives and options. A higher VMT could be the result of increased ease of use and connectivity that the I-11 facility would have and is therefore preferred.

Performance Measure		Central Corridor	Western Corridor Options	
			Sheep Mountain	Centennial Bowl
2040 without I--11	2040 VMT (millions)	7.3	6.0	6.6
	VHT (000s)	134.3	102.0	111.1
2040 with I-11	2040 VMT (millions)	7.5	6.2	6.9
	VHT (000s)	140.8	105.8	116.3
Change with I-11	2040 VMT (000s)	268.0	106.0	240.0
	VHT (000s)	6.5	3.8	5.2

Truck Trips

Description
This criterion identifies the projected truck trips, as a percentage of total trips, along the two corridor alternatives and options. The higher the percentage of projected truck trips, the better that corridor is performing from a goods movement standpoint.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
2040 without I-11 percent truck traffic	7.6%	6.9%	6.6%
2040 with I-11 percent truck traffic	7.8%	7.3%	6.9%
Change in percent trucks trips from without I-11	0.2%	0.4%	0.3%

Average Daily Truck Volumes

Description
This criterion examines the projected total daily truck volumes along each of the two alternatives and options in the year 2040. Due to the movement of fewer trucks, the Central Corridor and Western Corridor Alternative – Centennial Bowl Option score slightly worse than the Western Corridor Alternative – Sheep Mountain Option. Corridors that demonstrate the capability to serve greater truck volume are preferred as they can move more freight.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Average 2040 Truck Traffic Without I-11 (trucks)	12,700	10,600	10,200
Average 2040 Truck Traffic With I-11 (trucks)	13,500	11,500	11,000
Additional 2040 Truck Volume with I-11 (trucks)	800	900	800

Safety and Reliability (Crash Rates)

Description
This criterion analyzes the number of crashes over a three year period (2015 – 2017) divided by the (respective) corridor length for for each of the alternatives and options. Corridors with lower crash rates are preferred.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Crash Rate (crashes over 3 year period per corridor mile)	200	125	120

6.2.6 Equity

The “Equity” evaluation category considers multiple evaluation criteria. The following sections show the methodology for the evaluation criteria within the Equity evaluation category, along with the performance measures and quantitative and qualitative (where applicable) analysis for each criterion.

Equity Evaluation Results

Description
The criteria in the Equity Category were derived from the population characteristics that make up RTCs Equity Communities. These populations will benefit from the designation of I-11 from easier access and being more connected plus the addition of clear signage, no signals, and access controls, helping drivers know what to expect. The corridor alternative that serves a higher percentage of these populations would be creating a greater benefit, score higher than a corridor alternative serving a lower percentage, and would be preferred.

Performance Measure	Central Corridor	Western Corridor Options	
		Sheep Mountain	Centennial Bowl
Percent older populations (65+)	13%	15%	15%
Percent people of color (minority) populations	42%	33%	33%
Percent low-income populations	19%	8%	8%
Percent linguistically isolated household	9%	3%	3%
Percent households with disability	28%	20%	20%

6.3 Evaluation Results

The evaluation results rank each corridor alternative and option relative to each other and the potential of impacts (positive or negative) within each evaluation category. Rankings are from low (0) to medium (1) to high (2), with a high ranking more favorable.

6.3.1 Evaluation Categories

Environmental

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain Option	Centennial Bowl Option
Rank	2	0	1

- Due to the limited nature of proposed corridor alternative improvements for the Central Corridor and Western Corridor – Centennial Bowl Option Alternatives have little to no environmental impacts
- Central Corridor Alternative may impact areas of growth in portions of Henderson and east of the I-15
- Western Corridor - Sheep Mountain Option Alternative introduces approximately 5.5 miles of corridor, as well as a new system-to-system interchange where the alternative connects with US 95, these improvements would have significant environmental impacts, relative to the Central Corridor and Western Corridor Alternative – Centennial Bowl

Economy

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain	Centennial Bowl
Rank	2	1	0

- The Central Corridor Alternative ranks highest in terms of freight access and employment growth
- Western Corridor Alternative Options have similar results for freight and freight rail accessibility, population, and employment growth
- The Western Corridor Alternative – Sheep Mountain Option offers modestly better freight accessibility (61 percent), relative to the Western Corridor Alternative – Centennial Bowl Option (60 percent)

Feasibility

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain	Centennial Bowl
Rank	2	0	1

- The Central Corridor Alternative has no right-of-way needs, shortest overall length, significantly lower cost, is the highest volume roadway and has minimal construction improvements necessary
- The Western Corridor Alternative – Centennial Bowl Option has moderate potential right-of-way needs, has the longest overall length, and second highest volume roadway
- The Western Corridor Alternative – Sheep Mountain Option ranks lower than the Central Corridor Alternative and the Western Corridor Alternative – Centennial Bowl Option in all categories (other than length)

Access and Connectivity

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain	Centennial Bowl
Rank	2	1	0

- The Central Corridor Alternative has the highest activity centers, slightly greater resiliency, existing transit, and three times the percentage of alternative modes of transportation as the Western Corridor Alternative Options

Traffic and Mobility

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain	Centennial Bowl
Rank	2	0	1
▪ The Central Corridor Alternative had the highest traffic volume, and greatest change in volume as a result of I-11 designation, greatest increase in PM Peak travel times, VMT, and truck trips and volume; however, the increased volume of the Central Corridor Alternative contributes to greatest failing LOS (E-F), greatest VHD and crash rate			

Equity

Alternatives	Central Corridor	Western Corridor	
		Sheep Mountain	Centennial Bowl
Rank	2	1	1
▪ The Central Corridor Alternative has higher concentrations of all RTC's Equity Communities (minority, low-income, linguistically isolated populations, and persons with disabilities) with the exception of Older Populations, which are modestly higher in the Western Corridor Alternative Options (which are indistinguishable in terms of the RTC's Equity Communities)			

6.3.1 Summary

The best performing corridor alternative (or alternative option) is presented as the recommended corridor alternative in this Draft PEL document. This recommendation will be evaluated further pending consideration of public and other stakeholder input to this document.

The recommendation of an identified corridor alternative and/or option advancing to the next phase of project development is deferred until completion of Final PEL Study document.

The Evaluation Results presented herein indicate that the Central Corridor Alternative ranks higher than the Western Corridor Alternative and Options in the Feasibility, Access and Connectivity, and Equity categories. While the Western Alternative Corridor – Centennial Bowl Option has fewer impacts in the Environmental Category, it only scored higher due to the planned land uses which potentially could be impacted by the Central Corridor.

The Central Corridor Alternative is identified as the best performing corridor alternative at this time, pending feedback and other input from forthcoming public and agency engagement efforts.

7 Conclusion and Next Steps

7.1 What Are the Conclusions from This Assessment?

Based on the assessments conducted across all evaluation criteria of each corridor alternative, the Central Corridor Alternative is identified as the best performing corridor alternative. Pending public and agency feedback and other input on this Draft PEL Study, the Central Corridor Alternative is recommended for future designation as I-11 through the Las Vegas metropolitan area due to the following reasons:

- **Feasibility:**
  - **Capital Cost ($):** Although there are minor infrastructure improvements needed for the Central Corridor Alternative, there is the cost associated with modifying on- and off-system signage with the I-11 interstate route shield. With the lowest cost associated, the Central Corridor Alternative receives the best score compared to the other corridor alternatives.
  - **Corridor Length:** Shorter corridor length indicates less travel, and it is also important because freight movement by trucks prefer the shortest route. Due to its length, the Central Corridor Alternative receives the highest score in this criterion.
  - **Cost Per Mile:** The Central Corridor Alternative resulted in the lowest cost per mile due to shortest corridor length and lowest Capital cost.
- **Access and Connectivity**
  - **Activity Centers Accessibility:** The Central Corridor Alternative provides access to the most activity centers within three miles of each corridor alternative such as universities, colleges, casinos, libraries, shopping centers, shopping malls, airports, cultural centers, community centers, and hospitals.
  - **Corridor Resiliency/Parallel Routes:** Corridor resiliency is the number of parallel principal arterials[4] per mile within one mile of each of the alternatives and options. Fewer alternate routes would result in the alternative being less resilient and thus score worse. With a greater number of parallel facilities, the Central Corridor Alternative scores the highest in this criterion.
- **Traffic and Mobility**
  - **Total Truck Trips:** This criterion identifies the projected truck trips, as a percentage of total trips, along the two corridor alternatives and options. The higher the percentage, the better that corridor is performing from a goods movement standpoint. Thus, that

[4] Principal arterials are a functional classification for major highways intended to serve through traffic where access is carefully controlled, generally highways of regional importance, with moderate to high volumes of traffic traveling relatively long distances and at higher speeds.

corridor is realizing a greater benefit and receives a better score than a corridor with a lower percentage. The Central Corridor Alternative is projected to have a higher percentage of truck trips and receives a higher score than the other corridor alternatives.

- **Economy:**
  - Freight accessibility is important because it reflects the ability of industries in the economy to move goods to their customers and to access material inputs from suppliers, which helps increase economic output. With a higher percentage of land use benefiting from freight accessibility, the Central Corridor Alternative has a greater benefit than the other corridor alternatives and options, which served far less industrial and mixed uses and scored neutral in this criterion.

7.2 What Is the Anticipated NEPA Review Process?

Compliance with NEPA will be required with the FHWA designation of I-11 through the Las Vegas metropolitan area, since this designation is a federal action which triggers NEPA. Pending the identification of the Central Corridor as I-11, there would be minimal impact to the social and natural environment, as shown in Table 4-1. In coordination with FHWA, a NEPA class of Action would be determined; however, it is anticipated that the designation of the Central Corridor as I-11 may potentially qualify for a Categorical Exclusion, if applicable.

Appendices

Appendix A – Conditions Assessment Report

Appendix B – Alternatives Development Report

Appendix C- Agency Coordination and Public Involvement Summary