I-11 and Intermountain West Corridor Study

Purpose and Need Statement

Prepared for

Nevada DOT and ADOT

August 2014

DISCLAIMER

The contents of this planning document are based on information available to the Arizona Department of Transportation and the Nevada Department of Transportation (herein referred to as the Sponsoring Agencies) as of the date of this document. Accordingly, this document may be subject to change.

The Sponsoring Agencies' acceptance of this document as evidence of fulfillment of the objectives of this planning study does not constitute endorsement/approval of any recommended improvements nor does it constitute approval of their location and design or a commitment to fund any such improvements. Additional project-level environmental impact assessments and/or studies of alternatives will be necessary.

The Sponsoring Agencies do not warrant the use of this document, or any information contained in this document, for use or consideration by any third party. The Sponsoring Agencies accept no liability arising out of reliance by a third party on this document, or any information contained in this document. Any use or reliance by third parties is at their own risk.

Contents

Figures

Purpose and Need Statement

The purpose of the proposed action is to provide an access-controlled, north-south transportation corridor that will connect important metropolitan areas and markets in the Intermountain West with Mexico and Canada to support improved regional mobility for people and freight, and provide enhanced opportunities for trade and economic development. The need for the proposed action is demonstrated through a combination of the factors listed below and described in the remainder of this document.

- Federal legislation supports the proposed action.
- Current and projected congestion inhibits the free-flow movement of people and goods.
- System linkage gaps inhibit mobility and connectivity in the southwest triangle megaregion.
- Project status and public policy supports the proposed action.

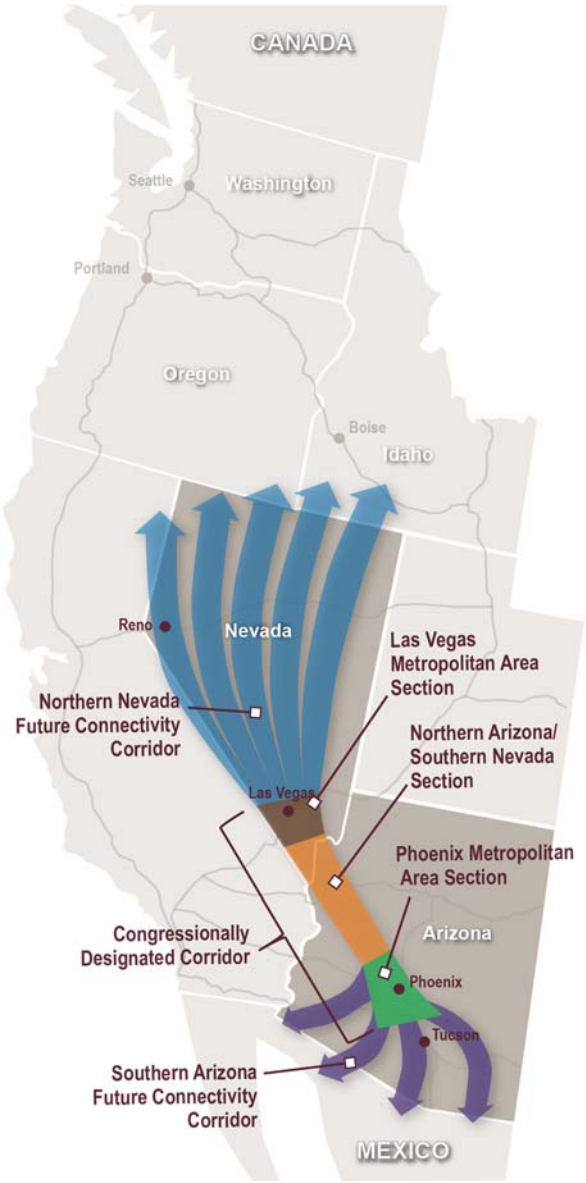
Project Overview

In the federal surface transportation law, Moving Ahead for Progress in the 21st Century (MAP-21), Congress identified the U.S. Highway 93 (US 93) Corridor from Phoenix, Arizona, to Las Vegas, Nevada, as a High Priority Corridor in the National Highway System and designated it Interstate-11 (I-11). The High Priority Corridor designation recognizes the importance of the corridor to the nation's economy, defense, and mobility. The federal Interstate designation is the latest action in a decades-long effort by the federal government and states in the Intermountain West to develop a mulitimodal transportation corridor between the Rocky Mountains and the Cascade Range/Sierra Nevada Mountains linking Mexico to Canada. States included in the Intermountain West are Arizona, Nevada, Idaho, Oregon, Utah, and Washington.

In addition to actions at the federal level, Arizona and Nevada have actively pursued a direct, contiguous, transportation corridor that connects major metropolitan areas in their states. The Arizona Department of Transportation (ADOT) and the Nevada Department of Transportation (NDOT) are undertaking the *I-11 and Intermountain West Corridor Study*, in consultation with the Federal Highway Administration (FHWA) and the Federal Railroad Administration (FRA), and in partnership with the Maricopa Association of Governments (MAG) and the Regional Transportation Commission of Southern Nevada (RTC).

The I-11 portion of the Corridor refers to the Congressional designation between Phoenix and Las Vegas. The Intermountain West Corridor is inclusive of the Congressionally Designated Corridor and extends south of Phoenix to the Mexican border and north of Las Vegas to the Canadian border. However, the focus of this study is only the portion of the Intermountain West Corridor within Arizona and Nevada. **Figure 1** shows the two-state study area within the larger Intermountain West region

Figure 1. I-11 and Intermountain West Corridor Study Area



and the I-11 Congressionally Designated Corridor between Phoenix and Las Vegas.

Because of its length and varying characteristics, the study area is divided into the following five segments with three segments requiring detailed corridor planning and two segments (north of the Las Vegas and south of Phoenix metropolitan areas) requiring higher-level visioning for potential extensions:

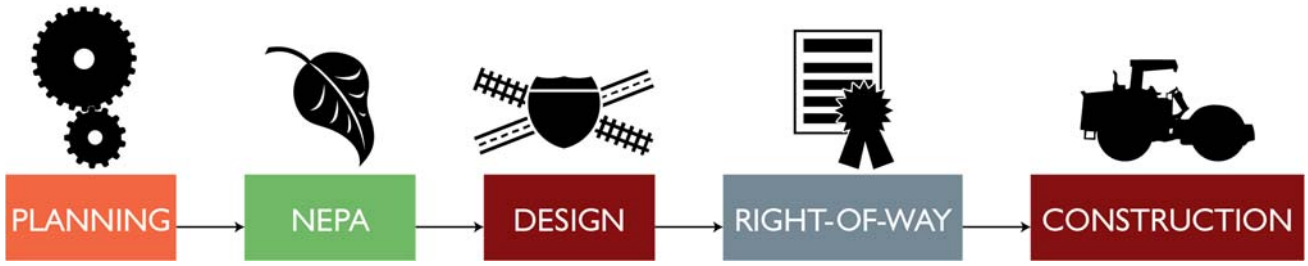
- Southern Arizona Future Connectivity Corridor—Mexico to Casa Grande
- Congressionally Designated Corridor—Phoenix Metropolitan Area Section (Casa Grande to Wickenburg)
- Congressionally Designated Corridor—Northern Arizona/Southern Nevada Section (Wickenburg to Las Vegas Metropolitan Area)
- Congressionally Designated Corridor—Las Vegas Metropolitan Area Section
- Northern Nevada Future Connectivity Corridor—Beyond Las Vegas Metropolitan Area

The purpose of this long-range planning study is to evaluate the need for a multimodal corridor in the Intermountain West region, and if warranted, establish a corridor vision and a reasonable range of alternatives in Arizona and Nevada to carry forward to further study. Because I-11 will be a key transportation connection that is part of a larger context of trade and regional development, the "need" for the project extends beyond the Congressionally designated I-11 termini to encompass the Intermountain West region.

Study Process

This project is following the Planning and Environmental Linkages (PEL) processes developed by the states of Arizona and Nevada, in accordance with FHWA guidance. The PEL process incorporates National Environmental Policy Act (NEPA) practices into long-range transportation planning studies. As long as NEPA requirements are met, the PEL process allows planning findings and decisions to inform future NEPA documents. The PEL process takes into account environmental, community, and economic goals throughout the project life cycle, from the planning stage (current study) through NEPA, design, right-of-way acquisition, and construction (**Figure 2**).

Figure 2. Project Development Process



The planning study has many components that will be documented during the PEL process, including the following areas:

- Draft Purpose and Need Statement, including goals and objectives (the focus of this document)
- An overview of the environmental setting
- Identification of a study area and general modes to be studied
- Identification of a range of alternative solutions
- Identification of screening criteria and the elimination of infeasible alternatives
- Identification of a reasonable range of alternatives
- Identification of sensitive areas, unresolved issues, and potential mitigation to inform future NEPA studies
- Stakeholder and public involvement

The PEL process does not guarantee a specific outcome, but it does promote greater communication within and among transportation and resource agencies, leading to improved decision-making and facilitating a smoother transition to future project development.[1] ADOT and NDOT have worked with FHWA to incorporate federal PEL guidance into this state Department of Transportation-led study. At the conclusion of the study, ADOT and NDOT will address and complete a series of PEL Questionnaires and Checklists summarizing study findings by major corridor segment for FHWA approval.

As noted in FHWA's guidance (http://environment.fhwa.dot.gov/integ/index.asp), PEL studies should develop a corridor vision, objectives, or purpose and need statement. For this study, ADOT and NDOT produced a Goals and Objectives Statement that was used to evaluate alternative corridors, and was later formalized into this Purpose and Need Statement. An overview of the Goals and Objectives Statement and its relationship to this Purpose and Need Statement is found at the end of this document.

Overview of Purpose and Need Statement

Because this Purpose and Need Statement is being prepared during the PEL Study phase and covers a study area that extends from southern Arizona to northern Nevada, the purpose statement and the need factors are appropriately high level (**Figure 3**). Engineering deficiencies such as high crash rates and geometric deficiencies are not discussed in this document. These issues will be evaluated along with other transportation deficiencies in future Purpose and Need Statements for the Arizona and Nevada segments of independent utility identified as part of this study that must be addressed to attain the standards of the limited access I-11 designated by Congress. This document would not serve as a Planning Level Purpose and Need Statement for other states in the Intermountain West that are interested in making improvements to the highways that are part of the CANAMEX Corridor. See "Federal Legislation Supporting the Proposed Action" section for more information about the CANAMEX Corridor.

Figure 3. Purpose and Need Statement

EA = environmental assessment
EIS = environmental impact statement

Note: A categorical exclusion could be applicable (e.g., if operational improvements were only recommended), however it is more likely that a new corridor or additional capacity will be needed, triggering the need for an EIS or EA.

Description of the Proposed Action

ADOT and NDOT, in consultation with the FHWA and FRA, and in partnership with MAG and RTC, are studying a high-capacity, limited-access, multi-use transportation corridor connecting the Phoenix and Las Vegas metropolitan areas and connecting Phoenix to the Mexican border and Las Vegas to the northern Nevada state line. The corridor could fill in a critical missing link in north-south transportation connectivity in the Intermountain West.

Need for the Proposed Action

The need for the proposed action is demonstrated through a combination of the factors described below. The remainder of this document discusses the need factors.

Federal Legislation Supporting the Proposed Action

The federal government and various states in the Intermountain West have a long history of working toward developing a Mexico–Canada transportation corridor. The genesis of the need for improved transportation infrastructure in the Intermountain West was President Clinton's signing of the North American Free Trade Agreement (NAFTA) on December 8, 1993. As of 2013, the NAFTA partners—Canada, the United States, and Mexico—have a combined population of roughly 470 million[2] and an estimated combined gross domestic product of almost

[1] http://www.environment.fhwa.dot.gov/strmlng/newsletters/apr07nl.asp

[2] http://www.worldpopulationstatistics.com/north-america-population-2013/

20 trillion U.S. dollars.[3] Since 1993, trade among the NAFTA partners has nearly quadrupled[4], and employment in North America has grown by almost 40 million jobs. Eighty-two percent of Mexico's exports go to the U.S. NAFTA has made integrated manufacturing very attractive. This is the process whereby U.S. manufacturing companies work with Mexican companies to manufacture goods, often transporting components across the border multiple times during production. Strong trade growth with Mexico is expected to continue well into the future. Unfortunately, the Intermountain West is not well positioned to take advantage of the full range of opportunities that NAFTA has created, because it does not have an Interstate corridor connecting the U.S., Mexico, and Canada. When compared to states such as California and Texas, which contain portions of the Interstate System that link Mexico to Canada, the Intermountain West states have lagged in reaping NAFTA-related economic benefits. As an example, Texas's trade with Mexico is nearly 10 times greater than the trade between Arizona and Mexico.

To address this issue, Congress identified the CANAMEX Trade Corridor as High Priority Corridor 26 in the 1995 National Highway System Designation Act. The CANAMEX corridor, shown in **Figure 4**, was defined from Nogales, Arizona, through Las Vegas, Nevada, to Salt Lake City, Utah, to Idaho Falls, Idaho, to Great Falls, Montana, to the Canadian border as follows:

A. In the State of Arizona, the CANAMEX Corridor shall generally follow:
   i. I-19 from Nogales to Tucson;
   ii. I-10 from Tucson to Phoenix; and
   iii. United States Route 93 in the vicinity of Phoenix to the Nevada Border [I-11].

B. In the State of Nevada, the CANAMEX Corridor shall follow:
   i. United States Route 93 from the Arizona Border to Las Vegas [I-11]; and
   ii. I-15 from Las Vegas to the Utah Border.

Gaps between the Interstate Highways on this route make the designated CANAMEX corridor underused and inefficient. The most significant gaps in the corridor are in the segment between Mexico and Las Vegas, especially in the highly congested areas in and around Tucson, Phoenix, and Las Vegas. Highly congested Interstate routes in these metropolitan areas, the lack of a direct Interstate connection to US 93 and to I-15, and the lack of a fully developed, access-controlled US 93 corridor create a substantial barrier to trade and connectivity in the Intermountain West. Congress confirmed the importance of CANAMEX by designating a 300-mile segment of it as a National Highway System High Priority Corridor (I-11) in MAP-21 from the Phoenix metropolitan area to the Las Vegas metropolitan area. The I-11 designation is a critical first step in addressing the lack of a continuous, access-controlled corridor in this region that has prevented the realization of an effective CANAMEX Trade Corridor that would fulfill the promise of NAFTA in the Intermountain West. Section 103 of MAP-21 confirms this by stating, "highways on the Interstate System shall be located so as to connect by routes, as direct as practicable, the principal metropolitan areas, cities, and industrial centers; to serve the national defense; and to the maximum extent practicable, to connect at suitable border points with routes of continental importance in Canada and Mexico."[5]

The need for transportation infrastructure to support trade in the Intermountain West is much broader than can be met by CANAMEX alone. The Intermountain West between the Rocky Mountains and the Cascade Range/ Sierra Nevada Mountains spans nearly 1,000 miles. Las Vegas being near the middle of the region has the potential to serve as a gateway that could provide more than one trade route to Canada. Congress has recognized the importance of additional north-south transportation connectivity in the region by creating designations for three corridors in addition to CANAMEX; these are listed below and shown in Figure 4:

- High Priority Corridor 68 from Las Vegas to Reno using US 95/I-580
- High Priority Corridor 19 from Reno to Canada via US 395
- High Priority Corridor 43 using US 95 from the Idaho/Oregon state border to Canada

[3] http://www.indexq.org/economy/gdp.php

[4] http://www.worldaffairs.org/events/chapters/sacramento-chapter/event/1293

[5] http://www.gpo.gov/fdsys/pkg/CRPT-112hrpt557.pdf; page 21

Figure 4. Federal Highway Administration High-Priority Corridors

In addition to the important economic role Las Vegas plays in Nevada and the Intermountain West region, Reno is becoming an important inland trade distribution center, is a major tourist destination, and is Nevada's second largest economic center. In addition, Portland, Boise, Seattle, Vancouver, and Calgary are critical economic and trade centers that could be more efficiently accessed from the Intermountain West by developing these High Priority Corridors. These designations are further evidence of a Congressional desire for improved north-south transportation connectivity, trade, and economic development in the Intermountain West region.

Current and Projected Congestion Inhibits the Free-flow Movement of People and Goods

In 2012, the U.S. Conference of Mayors published a report on the outlook of U.S. metropolitan economies and the critical role of transportation infrastructure. The metropolitan areas of Las Vegas and Phoenix rank in the top 50 cities for congestion costs per auto commuter, with Las Vegas ranked 41st and Phoenix 16th. In 2010, the annual congestion cost per auto commuter was $532 in Las Vegas and $821 in Phoenix. Focusing on specific congestion locations, four locations in Arizona, two in Nevada, and seven in Southern California, appear in FHWA's annual report on congestion at freight significant highway locations, shown on **Figure 5**. Most of the locations monitored are urban Interstate interchanges, and they are ranked according to congestion's impact on freight. Those in Arizona and Nevada include:[6]

- I-17 at I-10 in Phoenix (64th)
- I-15 at I-515 in Las Vegas (98th)
- I-10 at I-19 in Tucson (190th)
- I-10 at SR 51/SR 202 in Phoenix (147th)
- I-17 at I-40 in Flagstaff (179th)
- I-80 at US 395 in Reno (153rd)

Figure 5. Freight Bottlenecks

Currently, congestion exists through Tucson, Phoenix, Las Vegas, and Reno, and the segment of US 93 near Wickenburg is approaching capacity. **Figure 6** shows existing congestion on the major highways in Arizona and Nevada. The most congested areas in the Arizona and Nevada study area tend to be along segments of urban Interstates and associated interchanges. However, traffic modeling, which assumes that transport and trade in the region continue as forecast by the U.S. Department of Transportation and that the recent growth in the region continues without major structural changes, suggests that, without improvements, higher congestion levels would also be experienced on rural highway segments (**Figure 7**). The traffic modeling determined that about 28 percent of highways in the region would be unacceptably congested by 2040. Unacceptably congested means a level of service, which is a measure of a highway's ability to handle traffic demand, between D and F on a scale from A to F in order of decreasing operational quality. The traffic modeling also determined that if trade with Mexico expands in the future, up to 43 percent of the highways in the region could be unacceptably congested (**Figure 8**). (The National Highway System map includes a short deviation from US 93 north of Las Vegas—NV 318 to NV 6 and back to US 93—however, for ease of describing alternative alignments and routes in this study, Figures 6 – 8 refer only to US 93.)

[6] American Transportation Research Institute. 2011. *FPM Congestion Monitoring at 250 Freight Significant Highway Locations.* Available at: http://atri-online.org/2011/10/01/fpm-congestion-monitoring-at-250-freight-significant-highway-locations/.

Figure 6. Existing Congestion on Major Highways in Arizona and Nevada

Figure 7. Future Congestion on Major Highways in Arizona and Nevada under the Baseline Condition

Higher congestion levels are expected in the future, based on traffic modeling which assumes that transport and trade in the region continue, as forecast by the U.S. Department of Transportation, and that the recent growth in the region continues without major structural changes.

Figure 8. Future Congestion on Major Highways in Arizona and Nevada Assuming Integrated Manufacturing and Trade with Mexico Expands

The traffic modeling also determined that if trade with Mexico expands in the future, up to 43 percent of the highways in the region could be unacceptably congested.

The congestion impacts to trade and mobility extend beyond Arizona and Nevada. The range of current and anticipated trends in U.S. trade, both domestically and with Mexico and Asia suggests that the Western U.S. will experience significant sustained growth in the regional economy, accompanied by corresponding growth in travel demand. Because of the projected congestion on I-5 and other north-south routes in California, there is an emerging need for an alternative to those corridors to improve the flow of goods and to minimize the disruption that could result from a highway closure, whether caused by construction or a disaster such as an earthquake.

Robust and growing trade with Asian economies, much of which is shipped through California ports, is expected to increasingly strain the ability of California's already congested north-south highway system to efficiently distribute trade goods. Combined, the Port of Los Angeles and the Port of Long Beach are the busiest in the U.S. and the 7th busiest in the world for containerized cargo,[7] with the Port of Long Beach alone handling more than $140 billion worth of goods each year.[8] Based on the Port of Los Angeles and the Port of Long Beach business plan, container volumes are projected to triple between 2011 and 2035.[9] About 41 percent of imported goods leave Los Angeles by truck, and another 14 percent generally moves on short-haul rail trips to locations where the freight is transferred to trucks. These percentages are projected to increase to 56 percent and 21 percent, respectively, by 2040.[10] California's primary north-south route, I-5, and the primary connection to Nevada, I-15, are highly congested. Large segments of US 395 are projected to be congested. Significant stretches of the California highways are in highly developed urban areas, where potential for expansion is severely constrained.

Because supply chains are generally structured to minimize transportation costs, there will be an incentive for shippers to seek alternatives to increasingly congested conditions. Growing manufacturing costs in China, combined with rising transportation costs at home, are likely to make integrated manufacturing a more competitive option and manufacturing facilities in Mexico can be expected to increase. There is also likely to be further expansion and development of Mexican ports, such as the Port of Guaymas or the proposed Port at Punta Colonet. These factors have the potential to increase freight traffic through Arizona land ports of entry and the Intermountain West. Moving freight east from California's ports on I-8, I-10, I-40, and I-80, which are projected to have less congestion than California's existing north-south routes, to an inland north-south corridor could provide an important trade alternative. Unfortunately, neither Arizona nor Nevada has adequate north-south transportation infrastructure to provide for this alternative. In fact, the nearest viable north-south Interstate route alternative to I-5 and I-15 is I-25, which is nearly 760 miles from the California ports, shown on **Figure 9**.

Figure 9. North-South Interstates in the Western U.S.

[7] World Shipping Council. 2011. Available at: http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports.

[8] Port of Long Beach. 2013. Biography of Larry Cottrill, Director of Master Planning, Port of Long Beach, California. Available at: http://www.polb.com/contact/staff/directors/cottrill.asp

[9] Southern California Association of Governments. 2012. *2012-2035 Regional Transportation Plan*. Available at: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx.

[10] FHWA. 2012. *Freight Analysis Framework Version 3 (FAF3)*.

If the Intermountain West is to support projected trade growth, the need exists to improve regional mobility in Arizona and Nevada and to provide an alternative to the limited number of north-south Interstate corridors in the western U.S.

System Linkage Gaps Inhibit Mobility and Connectivity in the Southwest Triangle Megaregion

Beyond the need for better linkages to capitalize on trade trends, is a need to address the lack of efficient north-south connectivity and mobility between the region's important metropolitan and economic areas, particularly in Arizona and Nevada. These areas are shown on **Figure 10** and described in the text that follows. Arizona's Sun Corridor, which comprises the Phoenix, Tucson, Prescott, and Nogales metropolitan areas, has nearly 6 million people. The Sun Corridor is one of the fastest growing regions in the country, and its population is forecast to double by 2040. The Las Vegas region, including the greater Mojave Region, has about 2.2 million people, and the Reno area has about 420,000 people. The Conference of Mayors projects that, in the next 30 years, the population in Las Vegas will increase by 67 percent.[11] Development trends in Arizona and Nevada indicate that the economies of both states are expected to continue to outpace the U.S. average. The Phoenix and Las Vegas metropolitan areas are the largest contributors to each state's economy, followed by Tucson and Reno. These cities are linked by tourism, trade, and the desire to enhance economic development between them. Yet these metropolitan areas are connected by an inadequate patchwork of highly congested Interstate freeways and two-lane highways that lack basic amenities and are not access controlled.

Figure 10. The Southwest Triangle: Expanding Megaregion

Source: Metropolitan Research Center, University of Utah, Brookings Mountain West, June 2010.

By improving the connection between Phoenix and Las Vegas, which would intersect I-8, I-10, I-40, and I-15 connecting Southern California, Arizona, and Nevada, a critical leg of the I-11 and Intermountain West Corridor would be established, as would the missing third leg of what is known as the Southwest Triangle Megaregion (Figure 10). The Southwest Triangle Megaregion includes the Sun Corridor and greater Mojave Region and the urban area in Southern California between San Diego and Santa Barbara. Combined, this megaregion has a population of nearly 30 million people. The Southwest Triangle is on a trajectory to become a leading American region that maintains links to the world's fastest emerging economies in Asia (through the Port of Los Angeles and the Port of Long Beach) and in Latin America (through Arizona's connection to Mexico). This megaregion is linked by transportation, economy, and environment and shares numerous economic interdependencies in sectors such as defense, logistics, healthcare, entertainment, tourism, and technology. Surrounded by deserts, Las Vegas and the Sun Corridor are actively engaged in wind and solar research and development, equipment manufacturing, and green energy production, all of which have major market potential in California in addition to their home states, but are dependent on improved transportation and utility infrastructure to implement.

The Sun Corridor–Las Vegas leg of the Southwest Triangle Megaregion intersects with four important Interstates (I-8, I-10, I-40, and I-15) and has the potential for tremendous economic growth. However, the lack of efficient north-south connectivity on this leg hampers Arizona and Nevada from fully benefiting from the potential

[11] IHS Global Insight 2012. *U.S. Metro Economies.* Available at: http://usmayors.org/metroeconomies/2014/0114-briefing.pdf.

synergies that these connections make possible. Phoenix and Las Vegas are the only major metropolitan areas in the country not connected by a contiguous, access-controlled Interstate highway. Additionally, there is no passenger rail or direct freight rail connection between these cities, which are among the largest and fastest growing metropolitan areas in the country. Ease of mobility is a key component of economic growth, and completing the missing leg of the Southwest Triangle is a critical need for these closely linked metropolitan areas to achieve enhanced economic integration within the entire megaregion.

Project Status and Public Policy in Support of the Proposed Action

From the CANAMEX Trade Corridor designation to ADOT's current capacity expansion project on US 93 between the I-40/US 93 Interchange in Kingman and Wickenburg, numerous studies and construction projects have furthered the development of the I-11 and Intermountain West Corridor. For more than two decades, Arizona, Nevada, and local planning entities in both states have been advocating improving the transportation infrastructure that connects the two states. In 2007, MAG and ADOT launched a long-term transportation planning effort for the Phoenix Metropolitan Area and the State of Arizona titled *bqAZ: Building a Quality Arizona*.[12] As part of this effort, transportation framework studies were completed identifying the long-range transportation vision. In 2008 and 2009, the MAG Regional Council accepted the findings of the initial two framework studies[13] [14], and subsequently incorporated into the Regional Transportation Plan[15] as an illustrative corridor, the 152-mile Hassayampa Freeway corridor. In 2010, the Arizona State Transportation Board accepted the findings of the Statewide Transportation Planning Framework Program, which identified a proposed Interstate corridor along the Hassayampa Freeway and the replacement of US 93 by a future Interstate route in Arizona.

In Nevada, various committees of the State Legislature took up the matter of a proposed Interstate corridor connecting Las Vegas and Phoenix. In 2010, the Assembly House Development and Promotion of Logistics and Distribution Centers and Issues Concerning Infrastructure and Transportation studied the proposed Interstate and drafted a resolution asking Congress and the FHWA to designate US 93 as a future Interstate Highway. The resolution proclaimed that the Interstate Highway would begin at the border of Mexico (south of Tucson), continue through Las Vegas and Reno, and end at the border of Canada (north of Seattle). By designating it an Interstate Highway, it would connect to the I-40 east-west corridor and assist in making Nevada a major manufacturing distribution hub in the West. In 2011, the State Legislature passed Assembly Joint Resolution No. 6[16], from the Senate Committee on Transportation and the Assembly Committee on Commerce and Labor, requesting that Congress and the FHWA designate part of US 93 as an Interstate Highway.

Both states have already made significant investments toward fulfilling the vision of an I-11 Corridor. ADOT has invested nearly $500 million to upgrade most of the US 93 corridor to a four-lane divided highway. The Central Federal Lands Highway Division, with support from NDOT and ADOT, constructed the Mike O'Callaghan–Pat Tillman Memorial Bridge (Hoover Dam Bypass), and NDOT fast-tracked the design and construction of a project to widen US 93 to two lanes in each direction between the bridge and Boulder City, Nevada. NDOT and the RTC of Southern Nevada, in conjunction with FHWA, are currently developing the Boulder City Bypass, an alignment around Boulder City that will connect US 93 to the Hoover Dam Bypass. Despite these efforts, significant deficiencies remain:

- There is no high-capacity, access-controlled highway between I-10 and US 93 (western Phoenix Metropolitan Area).
- US 93 is not access-controlled; about 45 miles of the US 93 corridor is still a two-lane highway.

[12] Arizona Council of Government and Metropolitan Planning Organization Association. 2007. *Building a Quality Arizona* (*bqAZ) Statewide Mobility Reconnaissance Study*. Available at: http://www.bqaz.org/reconReports.asp?mS=m2.

[13] MAG. 2008. Interstate 10/Hassayampa Valley Transportation Framework Study. Available at: http://www.bqaz.org/hasOverview.asp?mS=m3.

[14] MAG. 2009. Interstates 8 and 10/Hidden Valley Transportation Framework Study. Available at: http://www.bqaz.org/hiddReports.asp?mS=m4.

[15] MAG. 2010. Regional Transportation Plan. Available at: http://www.azmag.gov/Projects/Project.asp?CMSID2=1126&MID=Transportation.

[16] State of Nevada. 2011. Assesmbly Join Resolution No. 6. Available at: http://www.interstate11.org/i11/documents/ajr6_en.pdf.

- The north-south Interstate highways in Tucson, Phoenix, and Las Vegas are growth-constrained and will not be able to keep up with predicted increases in congestion.
- There is a lack of contiguous north-south Interstate connectivity with major east-west Interstates (I-8, I-10, I-40, I-15, and I-80).
- The region has no north-south passenger rail and poor freight rail connectivity.
- The north-south transportation infrastructure in both states is insufficient to support projected increases in truck traffic generated by trade with Mexico.

In summary, the need for improved north-south connectivity in the Intermountain West, particularly between Arizona and Nevada, to enhance trade, economic development, efficient mobility, and provide an alternative route for freight movement is so vital that Congress has designated several High Priority Corridors in the region. Additionally, state governments along with local planning agencies have made substantial effort and investment toward the vision of a continuous, access-controlled, north-south transportation corridor in the Intermountain West.

Purpose of the Proposed Action

The purpose of the proposed action is to provide an access-controlled, north-south transportation corridor that will connect important metropolitan areas and markets in the Intermountain West with Mexico and Canada to support improved regional mobility for people and freight, and provide enhanced opportunities for trade and economic development.

Additional Goals and Objectives

Overview

A Goals and Objectives Statement was developed during the alternatives analysis phase of the study to provide a broad vision for the project and to communicate the full range of factors for evaluating the potential benefits of the I-11 and Intermountain West Corridor, particularly the segments in Arizona and Nevada. The information in the Goals and Objectives Statement was obtained largely from the *I-11 and Intermountain West Corridor Study Corridor Justification Report*[17] and input received from project stakeholders. This information and input were used to develop this Purpose and Need Statement. Additional goals and objectives not included in the project purpose are summarized below and are included in this document as issues to consider as the project develops. The full Goals and Objectives Statement is in Appendix A of the Technical Memorandum: Level 1 Evaluation Results Summary.[18]

Non-Transportation System Linkage

Beyond its ability to strengthen ground-based transportation, the I-11 and Intermountain West Corridor could enhance the economies of Phoenix, Las Vegas, and the region by also transporting electricity, fuel, water, commodities (by pipeline), and telecommunication data. Environmental groups participating in the study informed the project team that a statewide assessment has been conducted in Arizona to identify renewable energy development areas. The assessment identified ample land near the I-11 Corridor suitable for renewable energy production. In addition, the Arizona Solar Working Group, consisting of environmental and wildlife advocates, utility companies, and solar energy developers, has been working to evaluate possible corridors for renewable energy transmission throughout Arizona. From the analyses already conducted, it appears the I-11 Corridor has suitable characteristics not only for the production of renewable energy, but also to accommodate transmission lines to transfer the power with low ecological impacts.

[17] *I-11 and Intermountain West Corridor Study. Corridor Justification Report.* 2013. Prepared for Nevada Department of Transportation and Arizona Department of Transportation. Prepared by CH2M HILL and AECOM. August.

[18] Appendix A of the *Technical Memorandum: Level 1 Evaluation Results Summary*. 2014. Prepared for Nevada Department of Transportation and Arizona Department of Transportation. Prepared by CH2M HILL and AECOM. March.

Trade

The proposed action would connect Mexican ports and manufacturing areas with Arizona's and Nevada's largest manufacturing and economic activity centers to support regional, national, and international trade. Given Arizona's and Nevada's strong freight flows to California, Mexico, and Canada, the I-11 and Intermountain West Corridor is expected to increase the efficiency of freight movement to and from both states and to enhance the region's economy. Moreover, development of the I-11 Corridor is an important first step in positioning Arizona and Nevada strategically to benefit from the port activity in the region. Alternatives to the Ports of Los Angeles and Long Beach and the increasingly congested north-south Interstate freeways in California are likely to stimulate demand for additional north-south routes such as the I-11 Corridor to accommodate the movement of freight.

Modal Interrelationships

The I-11 Corridor and adjacent areas have established multimodal connections and a commitment from Arizona and Nevada, at the planning level, to continue promoting multimodal opportunities in the study area. A multimodal north-south transportation corridor would enhance connections with ports, rail intermodal facilities, and the region's airports. About half the bilateral flow of trade through Arizona's border crossings with Mexico, by value and volume, were multimodal.[19] Despite that, the lack of connections and transportation infrastructure linking Mexico, Phoenix, and Las Vegas make freight flows from and to Latin American/Mexico more attractive through Texas border crossings than through Arizona border crossings, such as Nogales.

Economics

Economic growth is strongly and positively correlated with overall transportation demand, both for freight and personal vehicles. Development trends in Arizona and Nevada indicate that the economies of both states are expected to continue to outpace the U.S. average. To enhance the region's competitiveness, a robust transportation system is needed to facilitate the growth of business and its attraction to the area and to offer a means to connect to other markets. Industry targets such as aerospace, aviation, and defense; advanced manufacturing; mining, materials, and manufacturing; transportation and logistics; and tourism, gaming, and entertainment are critically dependent upon their supply chain and the regional movement of people and finished goods. Both states recognize that to be successful in their economic development endeavors, many simultaneous strategies—including developing the transportation systems that these industry clusters require—must be implemented.

[19] FHWA. 2012. *Freight Analysis Framework Version 3 (FAF3).*