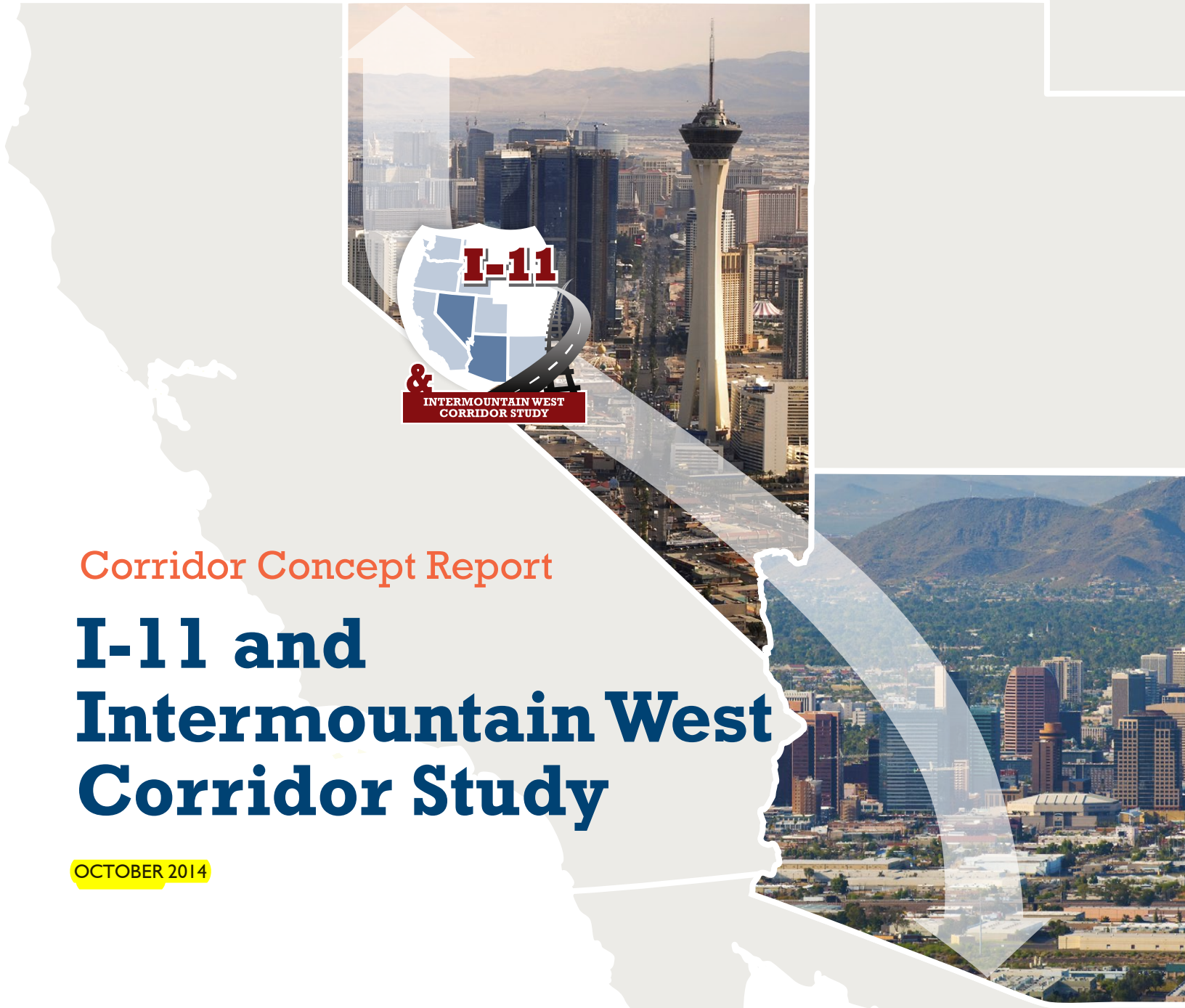


Corridor Concept Report

I-11 and Intermountain West Corridor Study

OCTOBER 2014

LINKING ECONOMIES • GENERATING PROSPERITY

By 2020, the U.S. trucking industry will move 3 billion more tons of freight than it did in 2010. To meet this demand, the industry will put another 1.8 million trucks on the road.

Source: AASHTO, Unlocking Freight, 2010

75%

The percent of U.S.-Mexico bilateral trade crossing through land ports of entry in 2011 was 75%

Source: Bureau of Transportation Statistics, Transborder Freight Data, 2012

13.4 m tons

Imports from Mexico through Arizona border crossings are expected to more than double by 2040 to 13.4 m tons

Source: FHWA, Freight Analysis Framework Version 3 (FAF3), 2012

18.6 m tons

Exports from Arizona to Mexico are expected to more than quadruple by 2040 to 18.6 m tons

Source: FHWA, Freight Analysis Framework Version 3 (FAF3), 2012

$66.2 billion

Total value of exports from Arizona to Mexico by 2040 is estimated at $66.2 billion

Source: FHWA, Freight Analysis Framework Version 3 (FAF3), 2012

Land ports of entry are key to economic growth

Continued investments in land ports of entry are key to mitigating congestion and encouraging the use of an I-11 and Intermountain West Corridor by making crossing times shorter and more predictable.

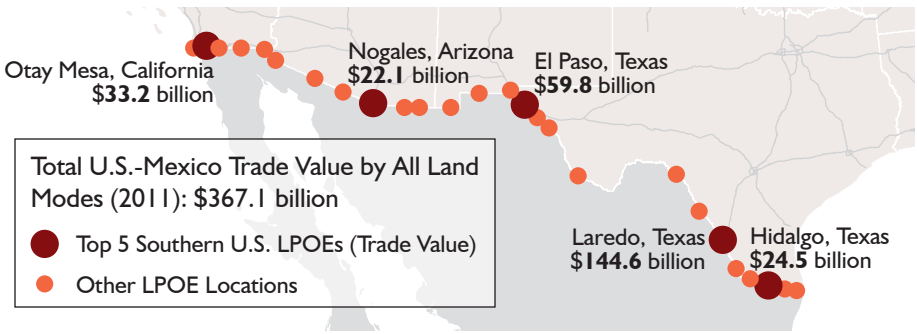
The function and capacity of Arizona's land ports of entry will affect the viability of the I-11 and Intermountain West Corridor. On its international border with Mexico, Arizona has eight land ports of entry that provide controlled entry into or departure from the U.S. for people, raw materials, and goods. Only one of these land ports of entry, DeConcini in Nogales, has a rail crossing for freight. Land ports of entry are a key aspect of freight movement through the Intermountain West Corridor, with about 75 percent of U.S.-Mexico bilateral trade by value crossing through land ports in 2011.

These border crossings are potential bottlenecks in the freight transportation network. As cargo levels continue to increase, the infrastructure supporting freight traffic will be strained and congestion will rise if no infrastructure investment is made. This will make the functionality and efficiency of Arizona's ports and associated infrastructure all the more critical to ensure reliable delivery of goods and to support economic growth.

With ample capacity, limited congestion, and high-quality transportation links, the number of land ports of entry and the quality of associated infrastructure in Texas have made Texas highways and railways attractive for accessing the American Heartland. The volume of freight crossing land ports of entry through Texas has undoubtedly been predominantly determined by the large populations in the Eastern Seaboard and Midwest, but would have been significantly less or would have shifted to other locations without the benefits of recent land ports of entry investments and connected infrastructure in Texas.

Figure 2

The primary destinations and origins for imports and exports entering through Arizona land ports of entry (LPOEs) in 2040 are projected to be Arizona, California, Texas, and Michigan.



The identification of segments of independent utility, next steps, and anticipated outcomes are illustrated on Figure 18. This segmentation does not include the Northern Nevada Future Connectivity Segment, which requires additional study to determine logical corridor connections.

Figure 18

Figure 18 color codes each SIU to represent the possible next step in the project development process. Anticipated outcomes of those steps are noted where applicable.

ANTICIPATED OUTCOME OF NEXT STEP

SIU 1. Preferred alignment, corridor plan, and right-of-way requirements for SR-189; additional study of international freight movement needs at Nogales port of entry

SIU 2-4. Preferred alignment (existing or new corridor segment) and ultimate corridor plan for I-11, including intercity passenger rail between Phoenix and Tucson and interconnected freight rail

SIU 5-7. Completion of capacity enhancements to upgrade US 93 to a four-lane divided highway, including improvement of I-40 system interchange

SIU 8. Design-build contract to be awarded in the fall of 2014, with construction immediately following

SIU 9-18. Selection of one corridor route for I-11 and determination of other system improvements and modes to be accommodated

Technical actions provide guidance for near- and long-term project prioritization

In whole, the I-11 and Intermountain West Corridor has the potential to be over 530 miles long between the southern Arizona border and the Las Vegas Metropolitan Area—and double that length to the northern Nevada border. A phased implementation strategy is required to achieve the full build condition that fulfills the vision of a multimodal I-11 and Intermountain West Corridor.

- The "**Interim Corridor**" assumes implementation of targeted improvements to create a continuous 4-lane divided highway from Nogales to Las Vegas. The goal of implementing this interim condition is to facilitate trade movements between Mexico, Arizona, and Nevada – until such a time as the ultimate trade corridor is deemed needed (as depicted in Figure 7 on page 19).
- The "**Full Build Corridor**" completes build-out of a multimodal transportation corridor that will match the needs of future demands for the movement of people and goods. The full build condition is the long-term vision for the Corridor.

Identifying interim project actions needed to achieve a free-flowing border-to-border corridor efficiently and in a cost-effective manner

While implementation of the full build I-11 and Intermountain West Corridor is desired to achieve the long-range multimodal vision, the focus of the implementation actions is to achieve an interim border-to-border corridor as efficiently as possible from a timing and cost perspective to begin to reap the benefits of a transcontinental trade corridor. Additionally, because implementation of the full build corridor is not envisioned for several decades, improvements that comprise the full build condition may change as the Corridor evolves and trade and growth patterns change.

On a practical level, several factors contribute to the need to phase corridor improvements, specifically as it relates to constructing the corridor:

- The U.S. has not had comprehensive long-term federal transportation reauthorization since the lapse of SAFETEA-LU in 2009.
- State DOTs are grappling with funding large transportation infrastructure projects as traditional funding methods are no longer available or reliable. For instance, state gas taxes have not been indexed in over 20 years, and state highway funds are being swept into general funds to balance budget deficits.
- The country – especially the Southwest – is still recovering from the Great Recession. Introducing new tax-based revenue streams would not be acceptable to the public at-large at this time.

Therefore, the interim condition of the I-11 and Intermountain West Corridor serves as the near-term implementation step for corridor development (Figure 19). It is important to note that many segments of the corridor have infrastructure in place today that lays the foundation for this interim corridor. Components of the statewide and regional transportation systems with current excess capacity are great candidates to contribute to a border-to-border corridor for the short term, and even potentially the long term.

Other segments of the corridor need improvements to achieve an interim condition. In some areas, the recommended improvements may be minimal; however, more significant improvements will be needed in those segments projected to experience severe peak period congestion in the coming decades, such as I-10 near downtown Tucson. In other portions of the corridor, gaps exist that need to be filled to provide a cohesive connection. All trend and interim corridor improvements will be studied to ensure that near-term recommendations align with long-term infrastructure needs.

Overall though, the foundation for this corridor exists and can be leveraged to adequately plan and design the vision for this multimodal trade corridor.

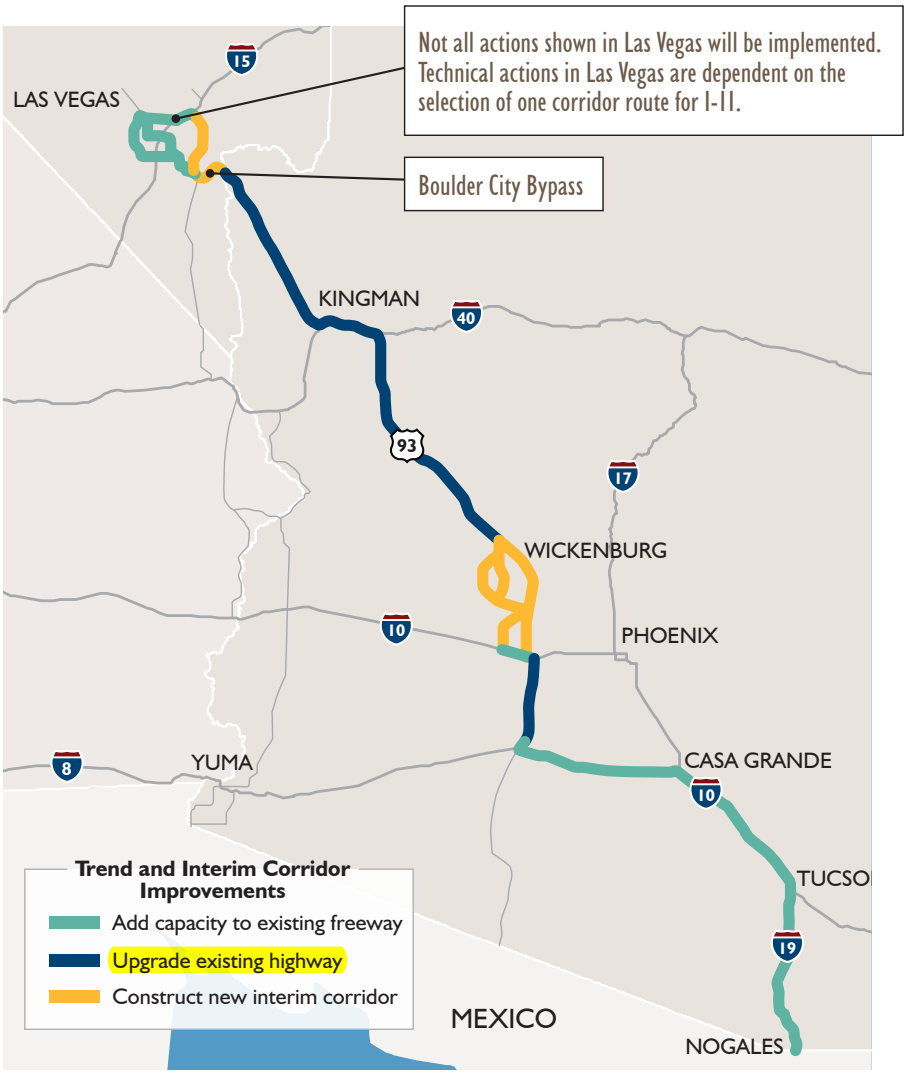


Figure 19

Trend and Interim Corridor Projects. Major improvement types required to achieve an interim end-to-end corridor between Mexico and the Las Vegas metropolitan area provide guidance for near-term prioritization of technical actions.

CRITICAL ACTIONS NEEDED TO IMPLEMENT THE CORRIDOR

Figure 21
Critical Next Steps. The table lists the critical actions (not in order of priority) that should be initiated within the next 2 years, or as soon as practical, to maintain the momentum of implementing the I-11 and Intermountain West Corridor. The lead agency should ensure that these critical technical actions are identified in applicable plans and/or programs, if not already.

Risk of Inaction – The actions listed in Figure 21 form the foundation for the corridor between the Mexican border and Las Vegas metropolitan area. If these actions are not carried out, an international and domestic trade corridor in the Intermountain West will be compromised. As a result, the host states of Arizona and Nevada will lose significant opportunities to grow and diversity their economies based on enhanced trade afforded by an international commerce corridor such as I-11. To maintain momentum through the NEPA process, where required, study analyses and decisions have been documented and approved by FHWA, ADOT and NDOT in the Planning and Environmental Linkage report.

ACTION	SIU(S)	LEAD AGENCY RESPONSIBLE	PRIMARY PARTNERS
TECHNICAL ACTIONS			
Improve SR-189 to provide free-flowing and direct access to the Mariposa land port of entry. Complete environmental clearance and then initiate design for SR-189/Mariposa Road to determine improvements from I-19 to the Mexican border.	1	ADOT	FHWA, FRA, regional COGs and MPOs
Initiate environmental clearance and design process for the area between Nogales and Casa Grande to determine the I-11 corridor alignment.	2	ADOT/PAG	FHWA, FRA
Initiate environmental clearance and design process for the Phoenix metropolitan area to determine the I-11 corridor alignment between Casa Grande and US 93 (Wickenburg).	3-4	ADOT/MAG	FHWA, FRA
Finish improvements to US 93 for completing a 4-lane divided highway between Wickenburg and I-40. Complete environmental studies, design, and right-of-way acquisition, and construction where required.	5	ADOT	FHWA
Complete construction of the Boulder City Bypass. Award Design-Build contract.	8	NDOT/ RTCSNV	FHWA
Determine preferred corridor and system-wide improvements in the Las Vegas metropolitan area. Initiate Advanced Planning Study.	9-18	NDOT/ RTCSNV	FHWA, FRA
MULTIMODAL ACCOMMODATION			
Coordinate Arizona and Nevada State Freight Plans to ascertain interest, feasibility, and market potential in implementing a continuous north-south trade corridor.	All	ADOT/NDOT (with ultimate lead to be determined)	FRA, Class I railroads, trucking industry, Arizona Commerce Authority, Nevada Governor's Office of Economic Development
Establish joint Arizona/Nevada State Infrastructure Working Group to ascertain interest and feasibility in co-locating major utility transmission with the I-11 and Intermountain West Corridor.	All	Arizona Commerce Authority, Nevada Governor's Office of Economic Development, Nevada State Energy Office	ADOT, NDOT, utility industry representatives, BLM, and other federal land agencies
PUBLIC POLICY ACTIONS			
Establish border-to-border Congressional designation of I-11 through Arizona and Nevada.	*	Private and non-governmental sector corridor champions	Members of the U.S. Congress
Update Arizona and Nevada long-range transportation plans and state rail plans.	All	ADOT/NDOT	FHWA, FRA, MPOs and COGs
Update state and regional transportation plans, resource management plans, and general/comprehensive land use plans to incorporate I-11 and Intermountain West Corridor location, to ensure corridor preservation.	All	ADOT, NDOT, MAG, RTCSNV, as well as other regional and local agencies	ADOT/NDOT
MARKETING/BRANDING ACTIONS			
Develop an I-11 marketing and branding strategy.	All	To be determined	ADOT/NDOT
Place I-11 signage along the Corridor upon implementation of improvements and/or along existing corridors where co-location is anticipated.	All	ADOT/NDOT	FHWA, COGs and MPOs, DOT district engineering offices

* All undesignated SIUs

MOVING FORWARD: PROMOTING BORDER-TO-BORDER CONNECTIONS

Although this study area spans the entirety of both states, only an initial alternatives evaluation analysis (Level 1 Screening) was conducted for the Southern Arizona and Northern Nevada Future Connectivity Segments to determine the major economic activity centers that the corridor should connect. As preliminary corridor planning continues for the extension of the corridor border-to-border, multimodal corridor champions should be defined from all states involved, and these champions should work together to extend the Congressional designation to allow this corridor to receive federal funding in the future.

Connecting the Corridor to Mexico

The preferred connection to Mexico in Southern Arizona is through the Tucson metropolitan region to Nogales. This connection links major freight and economic activity centers in Arizona and Mexico and provides the most direct international connection to trade corridors in Mexico—including the only land port of entry in Arizona with a connecting rail line (UPRR/Ferromex) and reciprocal high-capacity transportation corridor (Mexico Highway 15). The corridor is also aligned with statewide studies to develop congestion solutions in and around the Tucson Metropolitan Area, paired with efficient transportation connections to the Nogales area, to make both passenger and freight travel times more reliable.

Extending the Corridor through Northern Nevada

Several potential corridor connections were studied and two were found to meet the goals and objectives of the Corridor (Figure 22). The US 95 corridor options in the western part of the state are seen as viable options for an I-11 and Intermountain West Corridor, connecting the two largest economic activity centers in the state—the Las Vegas and Reno/Sparks/Carson City metropolitan areas.

The US 93 corridor has statewide significance, connecting the growing rural communities in the eastern part of the state. While it does not meet the goals and objectives of the highway portion of the I-11 and Intermountain West Corridor, the US 93 corridor could provide an opportunity to close a north-south gap in the Intermountain West rail network (as shown on Figure 8 in Chapter 2). More detailed advanced corridor planning will be required to further refine alternatives and provide improvement recommendations.

Making the Connection to Canada

Coordination with adjacent states must continue to determine the longer-range vision for connection north of Nevada to Canada. Current corridor options could connect from Northern Nevada to California, Oregon, Idaho, and/or Utah. Understanding the preferred routing through the Northwest U.S.—and other states' commitments to implementing such a corridor—is critical to further defining a preferred alternative and implementation steps.

Figure 22
The Northern Nevada Future Connectivity Corridor includes two alternatives for future consideration as a potential I-11 extension on the west side of the state. In addition, an alternative on the eastern side of the state is shown for statewide significance for future highway improvements or railroad connections (shown as the dashed line).