



# **Draft Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation**

**Executive Summary**

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## Abbreviations and Acronyms

1		
2		
3	ADOT	Arizona Department of Transportation
4	AGFD	Arizona Game and Fish Department
5	BLM	Bureau of Land Management
6	CAP	Central Arizona Project
7	CFR	Code of Federal Regulations
8	EIS	Environmental Impact Statement
9	FAA	Federal Aviation Administration
10	FAST Act	Fixing America's Surface Transportation Act
11	FHWA	Federal Highway Administration
12	FRA	Federal Railroad Administration
13	I	Interstate
14	IWCS	I 11 and Intermountain West Corridor Study
15	LOS	Level of Service
16	MAG	Maricopa Association of Governments
17	NDOT	Nevada Department of Transportation
18	NEPA	National Environmental Policy Act
19	NOI	Notice of Intent
20	NPS	National Park Service
21	Project Team	FHWA, ADOT, and their Consultant Team
22	Reclamation	US Bureau of Reclamation
23	SR	State Route
24	Study Area	I-11 Corridor Study Area
25	US	United States
26	USACE	US Army Corps of Engineers
27	USEPA	US Environmental Protection Agency
28	USFS	US Forest Service
29	USFWS	US Fish and Wildlife Service
30	VMRA	Vulture Mountains Recreation Area
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## 1 ES1 EXECUTIVE SUMMARY

2 The Federal Highway Administration (FHWA) and Arizona Department of Transportation  
3 (ADOT) are conducting the environmental review process for the Interstate 11 (I-11) Corridor  
4 from Nogales to Wickenburg, Arizona. This Draft Tier 1 Environmental Impact Statement and  
5 Preliminary Section 4(f) Evaluation (Draft Tier 1 EIS) has been prepared as part of this process  
6 in accordance with the National Environmental Policy Act (NEPA) and other regulatory  
7 requirements. FHWA is the Federal Lead Agency and ADOT is the local project sponsor under  
8 NEPA. As the federal lead agency, FHWA is responsible for compliance with NEPA and related  
9 statutes.

### 10 ES1.1 Project Background

11 The concept of a high-capacity, north-south interstate freeway facility connecting Canada and  
12 Mexico through the western United States (US) has been considered for more than 20 years. It  
13 was initially identified as the CANAMEX trade corridor in the 1991 Intermodal Surface  
14 Transportation Efficiency Act, established under the North American Free Trade Agreement in  
15 1993, and defined by the US Congress in the 1995 National Highway Systems Designation Act  
16 (Public Law 104-59). CANAMEX was designated as High-Priority Corridor #26 in the National  
17 Highway System, recognizing the importance of the corridor to the nation's economy, defense,  
18 and mobility.

19 This NEPA process builds upon the prior *I-11 and Intermountain West Corridor Study (IWCS)*, a  
20 multimodal planning effort completed in 2014 that involved ADOT, Nevada Department of  
21 Transportation (NDOT), FHWA, Federal Railroad Administration (FRA), Maricopa Association of  
22 Governments (MAG), Regional Transportation Commission of Southern Nevada (RTC), and  
23 other key stakeholders. The IWCS identified the I-11 Corridor as a critical piece of multimodal  
24 infrastructure that would diversify, support, and connect the economies of Arizona and Nevada.

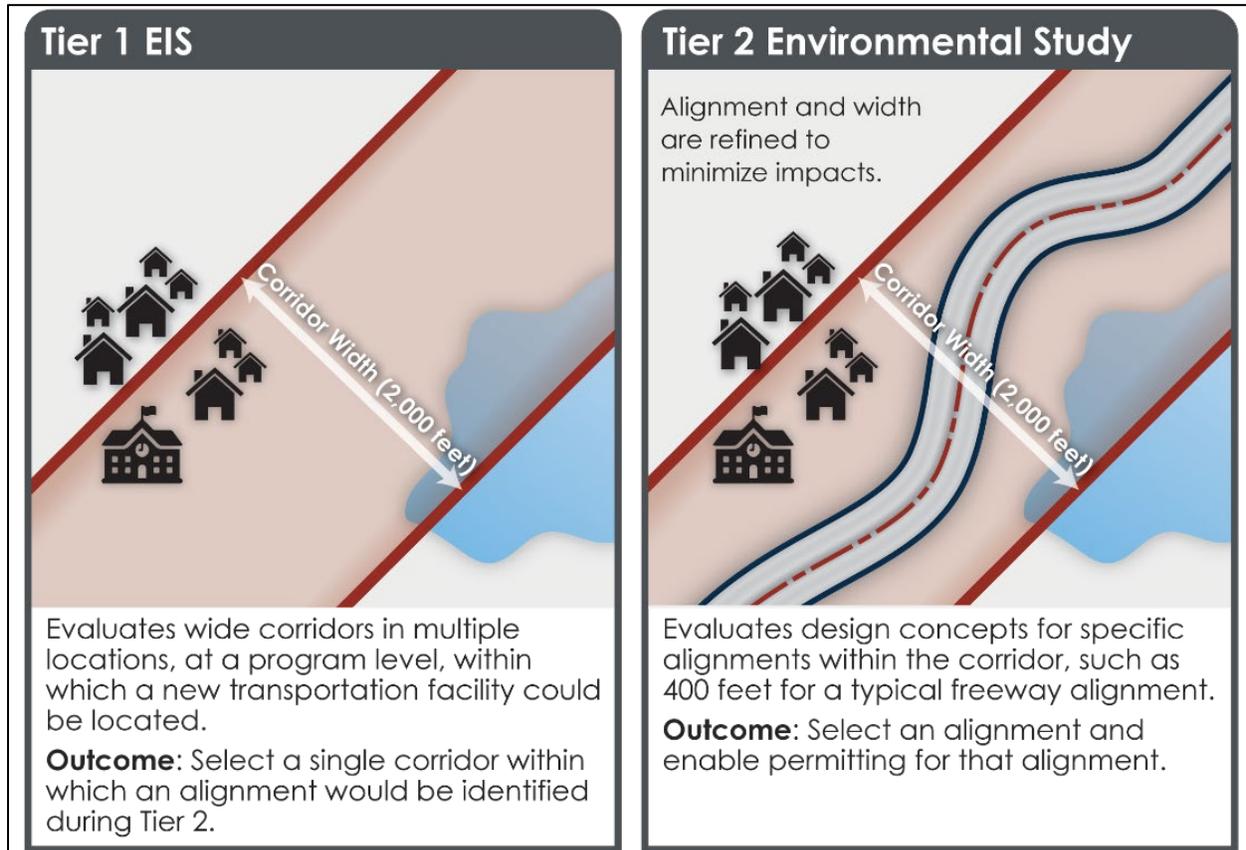
25 In December 2015, the US Congress approved the Fixing America's Surface Transportation Act  
26 (FAST Act), which is a 5-year legislation plan to improve the nation's surface transportation  
27 infrastructure. The FAST Act formally designates I-11 as an interstate freeway throughout  
28 Arizona, reinforcing ADOT's overall concept for I-11 that emerged from the IWCS study. This  
29 Draft Tier 1 EIS is the next step in the continuum of project development activities for the I-11  
30 Corridor between Nogales and Wickenburg.

### 31 ES1.2 Scope of this Draft Tier 1 EIS

32 FHWA is following a tiered environmental process, and a Tier 1 EIS will be completed during  
33 this phase of study. The Tier 1 EIS process is an effective method for managing the NEPA  
34 process across a large geographic area such as the I-11 Project Area. It allows the NEPA  
35 process to move forward prior to the identification of funding and lays the groundwork for where  
36 the corridor would be located.

37 A Tier 1 EIS provides a programmatic approach for identifying existing and future conditions and  
38 evaluating the comprehensive effects of I-11 on the region. The decision made at the conclusion  
39 of the Tier 1 EIS process will select either: (1) a 2,000-foot-wide Build Corridor Alternative that  
40 would advance to further design and Tier 2 NEPA analysis or (2) the No Build Alternative. If a  
41 Build Corridor Alternative advances, the process would require Tier 2 environmental studies to

1 determine the specific alignment of the I-11 Corridor. These studies would include more detailed  
 2 design and traffic interchange locations, and they also would evaluate more specific project-  
 3 level issues, such as individual property impacts and specific mitigation measures. **Figure ES-1**  
 4 (Tier 1 versus Tier 2 Level of Detail) illustrates the difference in study approach between Tier 1  
 5 and Tier 2. Future Tier 2 environmental studies could occur as funding is available for further  
 6 study and construction to address the construction of interim facilities prior to a full interstate  
 7 facility or to implement I-11 in shorter independent phases.



**Figure ES-1 Tier 1 versus Tier 2 Level of Detail**

8 As I-11 is intended to extend from Mexico to Canada, highway, rail, and utilities may be located  
 9 in the same corridor. The analysis in this Draft Tier 1 EIS considers available space within an  
 10 assumed typical cross-section—space that may be used for rail or utility co-location if this  
 11 infrastructure is implemented in the future. The planning for any future rail or utility infrastructure  
 12 co-located with I-11 would need to include a separate environmental review process.

13 This Draft Tier 1 EIS identifies a Recommended Alternative. Agency, Tribal, and public input on  
 14 the Draft Tier 1 EIS that is received during the public review period will be considered in  
 15 determining the Preferred Alternative, which will be described in the Final Tier 1 EIS. Following  
 16 a 30-day review of the Final Tier 1 EIS, FHWA will issue a Record of Decision (ROD) that  
 17 presents the Selected Alternative, describes the basis for the decision, and provides  
 18 commitments and presents strategies to avoid and minimize environmental impacts.  
 19 **Figure ES-2** (I-11 Tier 1 EIS Process) outlines the schedule for the key milestones in the NEPA  
 20 process.

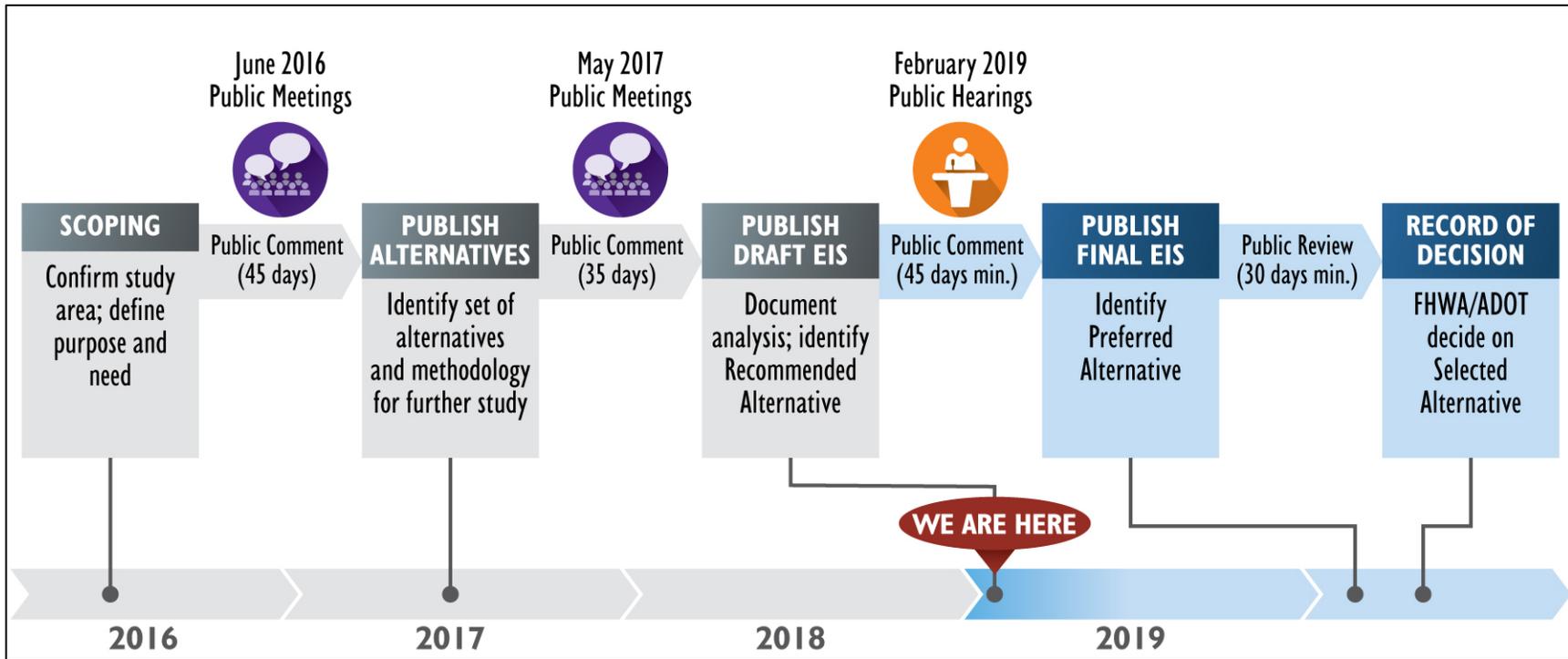


Figure ES-2 I-11 Tier 1 EIS Process

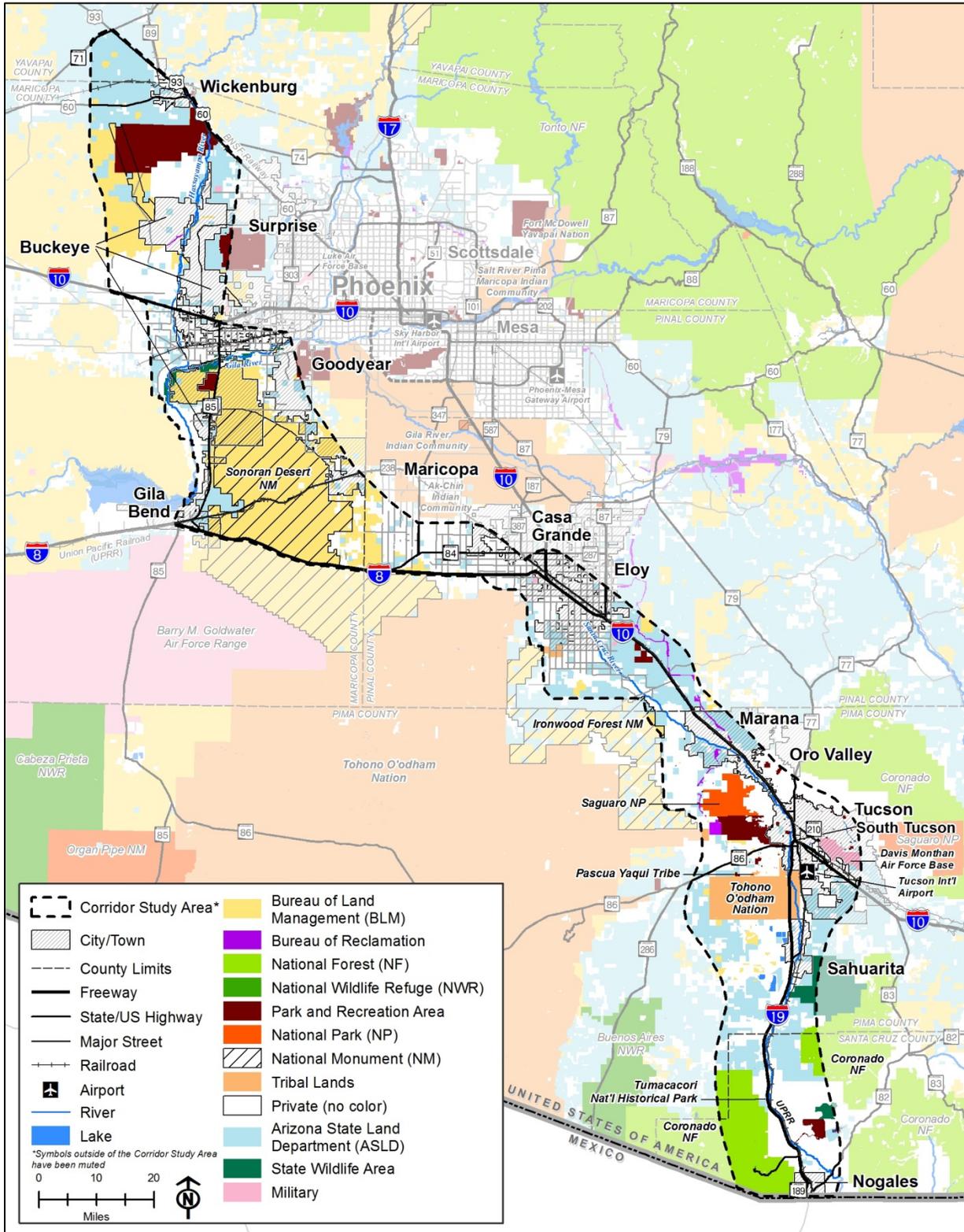


1 **ES1.3 Project Study Area**

2 This Draft Tier 1 EIS studies the I-11 Corridor in Arizona for approximately 280 miles between  
3 Nogales and Wickenburg, as shown on **Figure ES-3** (I-11 Corridor Study Area). It examines  
4 and evaluates the No Build Alternative as well as a 2,000-foot-wide Project Area for three Build  
5 Corridor Alternatives within which the I-11 alignment could be located. The No Build Alternative  
6 represents the existing transportation network plus the committed projects that are programmed  
7 for funding.

8 The I-11 Corridor Study Area (Study Area) extends into five counties (Santa Cruz, Pima, Pinal,  
9 Maricopa, and Yavapai); 13 municipalities (Nogales, Sahuarita, South Tucson, Tucson, Oro  
10 Valley, Marana, Eloy, Casa Grande, Gila Bend, Goodyear, Buckeye, Surprise, and  
11 Wickenburg); and two Tribal communities (Tohono O’odham Nation and Pascua Yaqui Tribe).

12 The initial Study Area boundary represented the outer limits of the range of feasible Build  
13 Corridor Alternatives recommended for further study in the IWCS, as vetted through that study’s  
14 stakeholder team and public outreach process. Minor revisions were made to the boundary in  
15 response to input received during the scoping process that initiated the Tier 1 EIS in May 2016.  
16 These refinements included widening the Study Area west of State Route (SR) 85 to allow a  
17 wider range of alternatives to be considered in this area of sensitive environmental resources  
18 associated with the Sonoran Desert National Monument, Gila River, and other topographical  
19 and hydrological constraints. The refinements also included extending the northern terminus to  
20 the US 93/SR 71 intersection to allow a wider range of connectivity options into US 93. During  
21 scoping, the southern boundary of the Study Area was confirmed as the I-19/SR 189  
22 interchange in Nogales, where improvements to address the connection to the Sonora-Arizona  
23 border are planned.



**Figure ES-3 I-11 Corridor Study Area**



## 1 ES1.4 Need for the Proposed Facility

2 The assessment of needs associated with I-11 from Nogales to Wickenburg builds upon the  
3 IWCS and its accompanying Planning and Environmental Linkages document (NDOT and  
4 ADOT 2014). Key transportation-related problems and issues in the Study Area were identified  
5 based on a combination of previous studies and input from agency coordination and public  
6 involvement during the I-11 Corridor Study scoping process. The problems, issues, and  
7 opportunities identified in the Study Area include:

- 8 • **Population and employment growth:** High-growth areas need access to the high-  
9 capacity, access-controlled transportation network.
- 10 • **Traffic growth and travel time reliability:** Increased traffic growth reduces travel time  
11 reliability due to unpredictable freeway conditions that impede travel flows and hinder the  
12 ability to move people and goods around and between metropolitan areas efficiently.
- 13 • **System linkages and regional mobility:** The lack of a north-south interstate freeway link in  
14 the Intermountain West constrains trade, reduces access for economic development, and  
15 inhibits efficient mobility.
- 16 • **Access to economic activity centers:** Efficient freeway access and connectivity to major  
17 economic activity centers are required for operations in a competitive economic market.
- 18 • **Homeland security and national defense:** Alternate interstate freeway routes and regional  
19 route redundancy help alleviate congestion and prevent bottlenecks during emergency  
20 situations. These routes may be parallel or may generally serve the same major origin and  
21 destination points, with local or regional roads connecting the freeways.

## 22 ES1.5 Purpose of the Proposed Facility

23 Given the need for greater connectivity and travel time reliability as population and employment  
24 continue to increase in the Study Area, the purpose of the I-11 corridor is to:

- 25 • Provide a high-priority, high-capacity, access-controlled transportation corridor to serve  
26 population and employment growth.
- 27 • Support improved regional mobility for people and goods to reduce congestion and improve  
28 travel efficiency.
- 29 • Connect metropolitan areas and markets in the Intermountain West to Mexico and Canada  
30 through a continuous high-capacity transportation corridor.
- 31 • Enhance access to the high-capacity transportation network to support economic vitality.
- 32 • Provide for regional route redundancy to facilitate efficient mobility for emergency  
33 evacuation and defense access.

34 For additional information on the I-11 Purpose and Need, see **Chapter 1** (Purpose and Need) of  
35 the Draft Tier 1 EIS.



1 **ES1.6 Alternatives Considered**

2 **ES1.6.1 Alternatives Analysis Process**

3 FHWA and ADOT conducted a robust alternatives analysis process to identify an initial range of  
4 corridor alternatives that meet the I-11 Purpose and Need, and screened those options to  
5 determine a reasonable range of alternatives to carry forward for further analysis in this Tier 1  
6 EIS.

7 The initial set of Corridor Options was identified within the Study Area based on several key  
8 factors:

- 9 • **Prior studies.** The 2014 IWCS encompassed a broad study area for the Intermountain  
10 West region from Mexico to Canada. The purpose of the IWCS was to determine whether  
11 sufficient justification exists for a new high-priority, high-capacity transportation corridor and  
12 if so, to establish the likely potential routes, focusing on connections within Arizona and  
13 Nevada. The recommendations of this study provided preliminary Corridor Options for this  
14 phase of study. In addition, state, regional, and local plans have considered the need and  
15 potential location for major transportation facilities in Arizona, and these recommendations  
16 also were incorporated into the initial set of possibilities.
- 17 • **Input received during scoping from agencies, Tribes, and the public.** The Study Area  
18 was presented for input during a scoping period, which included public meetings, in May and  
19 June 2016. The scoping period resulted in input on potential corridor location preferences,  
20 issues to be considered, and constraints or sensitive areas.
- 21 • **Technical Analysis.** The technical analysis considered both engineering and environmental  
22 factors. A software tool was used to map potential routes based on engineering design  
23 criteria, sensitive environmental resources, and topographical constraints. This analysis was  
24 meant to identify additional reasonable corridor alternatives that had not already been  
25 studied or recommended, and to validate or optimize previously suggested routes.

26 The Corridor Options that emerged from these sources were subject to a screening process that  
27 was based on an established set of criteria: (1) the Purpose and Need for I-11; (2) general  
28 engineering requirements; and (3) environmental considerations. Environmental considerations  
29 included avoiding designated protected areas that may preclude implementation of I-11 or have  
30 other fatal flaws (e.g., national parks and monuments, sovereign Tribal lands, designated  
31 wilderness or critical habitat, and designated roadless areas). Environmental considerations  
32 also included minimizing impacts in other areas that are considered sensitive but do not have  
33 fatal flaws (e.g., floodplains and potential wetlands). As part of this process, the evaluation  
34 criteria and methodology were reviewed by the study's stakeholder partners (Cooperating  
35 Agencies, Participating Agencies).

36 In May 2017, FHWA and ADOT presented the preliminary results of the screening process to  
37 the public, cooperating and participating agencies, and Tribes at a series of agency and public  
38 information meetings. Based on the analysis and input, FHWA and ADOT eliminated certain  
39 Corridor Options from further consideration. All remaining Corridor Options were retained for  
40 further evaluation. The remaining Corridor Options provided the building blocks for the Build  
41 Corridor Alternatives from Nogales to Wickenburg. This process is described in **Chapter 2**  
42 (Alternatives Considered) of the Draft Tier 1 EIS, and also is documented in more detail in the  
43 *Alternatives Selection Report* approved by ADOT in December 2017.



1 **ES1.6.2 Alternatives Evaluated in this Tier 1 EIS**

2 **ES1.6.2.1 Build Corridor Alternatives**

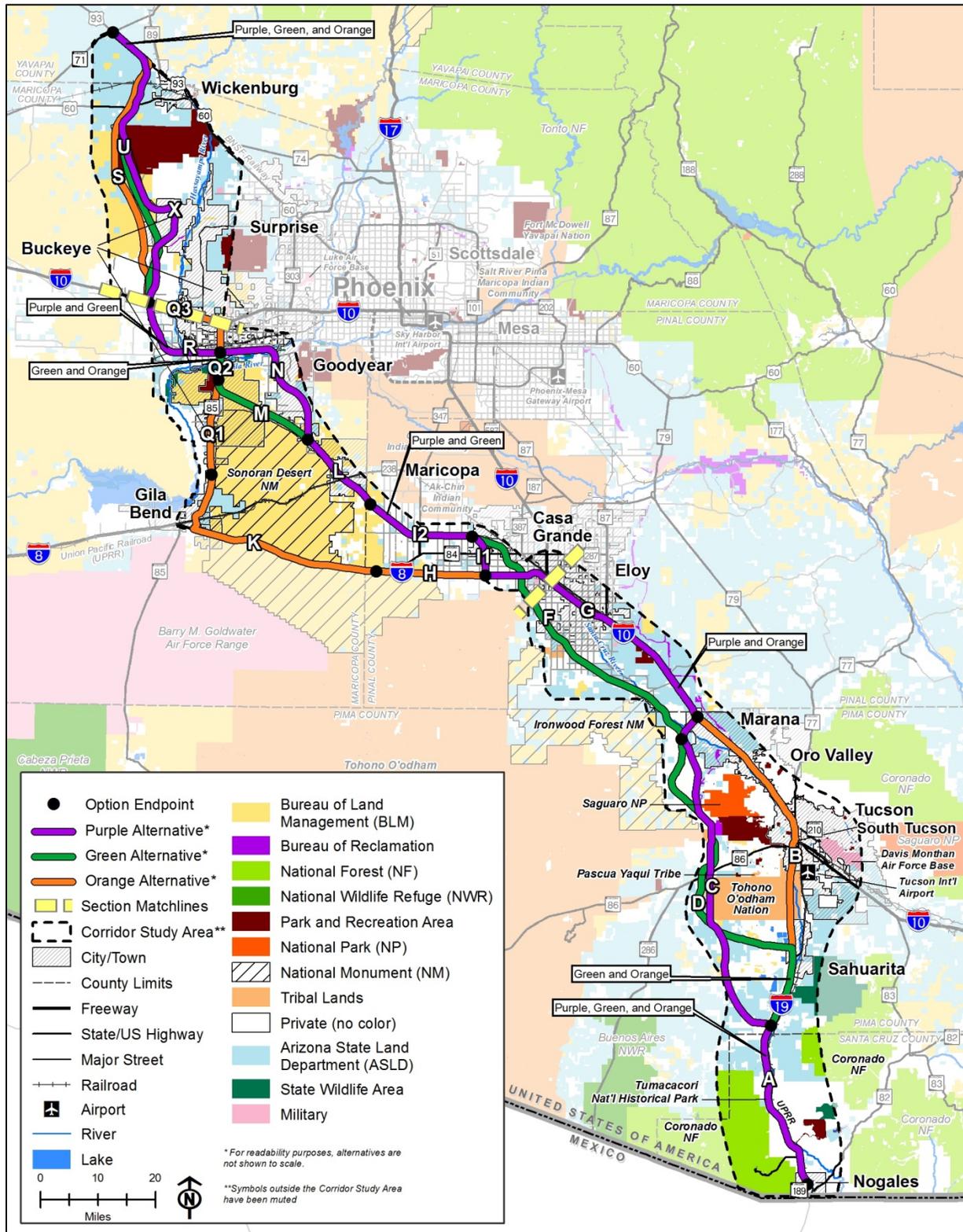
3 The Project Team assembled Corridor Options to create end-to-end alignments from Nogales to  
4 Wickenburg and tested different combinations of them using the Arizona Statewide Travel  
5 Demand Model to form alternatives that respond best to transportation needs. All Corridor  
6 Options remaining after the screening process are represented in the end-to-end alternatives.  
7 Corridor Options were slightly modified to better avoid constraints, such as Tribal land, or to  
8 respond to engineering criteria. The Project Team added a connection to I-10 in Marana to form  
9 a continuous route.

10 The Draft Tier 1 EIS evaluates three end-to-end Build Corridor Alternatives and a No Build  
11 Alternative, which are listed in **Table ES-1** (Corridor Options in Each Build Corridor Alternative)  
12 and shown on **Figure ES-4** (Build Corridor Alternatives). They represent the range of viewpoints  
13 voiced during the study to date, from supporting the development of a new corridor to using  
14 existing corridors as much as possible. The Options are organized by South, Central, and North  
15 Sections for ease of organization; these sections are not relevant to phasing.

**Table ES-1 Corridor Options in Each Build Corridor Alternative**

Section	Purple Alternative	Green Alternative	Orange Alternative
Theme	Blend of new corridors and existing facilities	Primarily new corridors	Primarily existing facilities
South Section	A	A	A
	C	D	B
	G	F	G
Central Section	I1	I2	H
	I2	L	K
	L	M	Q1
	N	Q2	Q2
	R	R	Q3
North Section	X	U	S
Total Alternative Length	271 miles	268 miles	280 miles
New Lane Miles	758	930	415

16 The detailed analysis in this Draft Tier 1 EIS considers both the end-to-end Build Corridor  
17 Alternatives and the individual Corridor Options in a way that enables FHWA to recommend a  
18 hybrid of the Build Corridor Alternatives, if appropriate, in this Draft Tier 1 EIS. FHWA and  
19 ADOT could opt to combine components of the Build Corridor Alternatives into a hybrid (i.e., a  
20 combination of Options from the Purple, Green, and Orange Alternatives) if the Tier 1 EIS  
21 analysis suggests the hybrid would avoid, minimize, or mitigate adverse environmental impacts  
22 while still meeting the I-11 Purpose and Need.



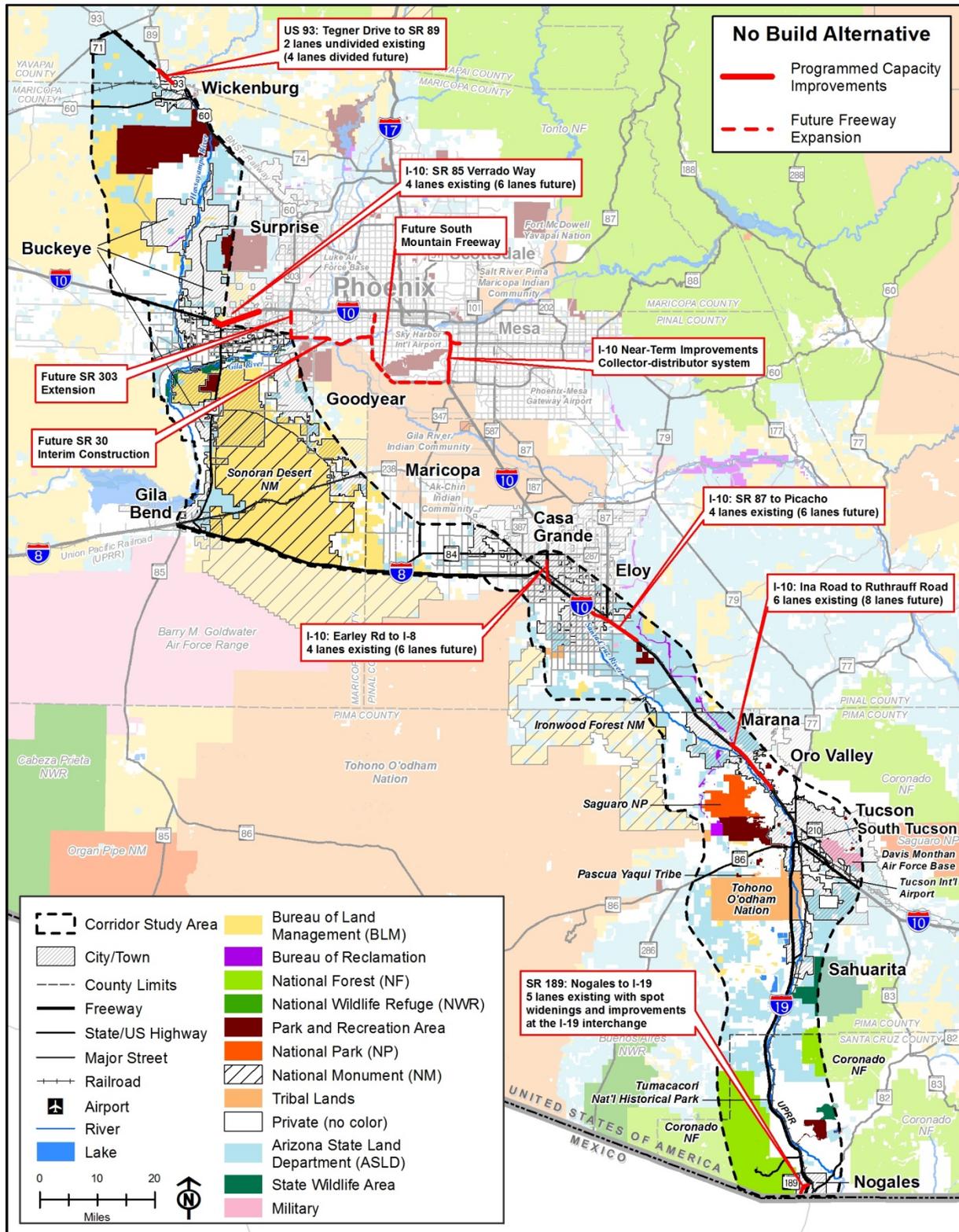
**Figure ES-4 Build Corridor Alternatives**



- 1 The Build Corridor Alternatives have several common features.
- 2 • Each Build Corridor Alternative is a 2,000-foot-wide corridor within which a future alignment  
3 would be located. Future Tier 2 studies would place the specific alignment of the I-11 facility  
4 somewhere within the 2,000-foot-wide corridor. A future I-11 facility is expected to be  
5 approximately 400 feet wide. The level of analysis for the Draft Tier 1 EIS is qualitative and  
6 programmatic, reflecting the broad definition of the corridor, while the future Tier 2  
7 environmental review would consider specific alignments for more detailed review  
8 (**Figure ES-1** [Tier 1 versus Tier 2 Level of Detail]).
- 9 • Specific interchange locations are not identified in this Draft Tier 1 EIS. However, the  
10 Arizona Statewide Travel Demand Model includes interchange assumptions based on  
11 current regional transportation plan networks that would warrant connections to a new high-  
12 capacity transportation facility. These potential interchange locations were considered in the  
13 analysis of indirect and cumulative impacts.
- 14 • All Build Corridor Alternatives would be implemented in phases, as discussed further in  
15 **Chapter 6** (Recommended Alternative).

#### 16 **ES1.6.2.2 No Build Alternative**

17 A No Build Alternative serves as a baseline for comparison to the Build Corridor Alternatives,  
18 and is evaluated as a separate alternative in the Tier 1 EIS. The No Build Alternative represents  
19 the existing transportation system along with committed improvement projects that are  
20 programmed for funding (shown on **Figure ES-5** [No Build Alternative]). The No Build  
21 Alternative would add new capacity to I-10 between Tucson and Casa Grande, and would  
22 convert US 93 to a four-lane divided highway for a short 3-mile segment through Wickenburg.  
23 These programmed improvements are listed in the federally approved *State Transportation*  
24 *Improvement Program*. Projects in this program are consistent with the statewide long-range  
25 transportation plan and metropolitan transportation improvement programs. Under the No Build  
26 scenario, travelers between Nogales and Wickenburg would use the existing corridors of I-19  
27 and I-10 within the Study Area, along with a connection to Wickenburg via the Phoenix  
28 metropolitan area, which could take many routes, depending on traveler preference (e.g.,  
29 SR 101L, SR 202L, SR 303L, I-17, SR 74, and US 60).



**Figure ES-5 No Build Alternative**



## 1 ES1.7 Summary of the Key Environmental Factors

2 Each alternative includes sensitive resource areas that were considered. **Chapter 3** (Affected  
3 Environment and Environmental Consequences) of this Draft Tier 1 EIS analyzes the following  
4 topic areas:

- 5 • Land Use
- 6 • Recreation
- 7 • Social Resources and Environmental Justice
- 8 • Economic Impacts
- 9 • Historical, Archaeological, or Cultural Resources
- 10 • Noise and Vibration
- 11 • Visual and Aesthetic
- 12 • Air Quality
- 13 • Hazardous Materials
- 14 • Geology, Soils, and Prime Farmlands
- 15 • Water Resources
- 16 • Biological Resources
- 17 • Construction-Related Impacts
- 18 • Unavoidable Adverse Impacts
- 19 • Indirect and Cumulative Effects

20 Since this is a Tier 1 EIS, the analysis primarily relies on existing data and considers a  
21 2,000-foot-wide corridor within which an alignment may be located (the Project Area). Although  
22 the specific alignment has not been determined, the analysis identifies the resources that are  
23 present; characterizes the potential for impacts on these resources; broadly assesses the  
24 potential to avoid, minimize, or mitigate impacts; and may identify programmatic-level mitigation  
25 strategies. The Tier 1 EIS also identifies additional detailed analysis that would be needed  
26 during the Tier 2 phase of the environmental review process.

27 A Preliminary Draft Section 4(f) Evaluation was prepared to comply with Section 4(f) of the US  
28 Department of Transportation Act of 1966 (49 United States Code 303), hereinafter referred to  
29 as “Section 4(f),” and its implementing regulations codified at 23 Code of Federal Regulations  
30 (CFR) Part 774. Additional guidance was obtained from the revised FHWA Section 4(f) Policy  
31 Paper (FHWA 2012). As allowed by 23 CFR 774.7(e)(1), a Preliminary Draft Section 4(f)  
32 Evaluation was determined to be the appropriate level of evaluation in light of the tiered EIS  
33 approach. The Preliminary Draft Section 4(f) Evaluation, which is provided in **Chapter 4**  
34 (Preliminary Draft Section 4(f) Evaluation), identifies properties that are afforded protection by  
35 Section 4(f) and evaluates the potential use of these properties by the Build Corridor  
36 Alternatives.

37 The tables in Section 3.2 (Summary of Key Environmental Impacts) provide a high-level  
38 summary of the key environmental considerations of the No Build Alternative and the three Build  
39 Corridor Alternatives. These summaries highlight location-specific considerations where there



1 are opportunities to avoid, minimize, and mitigate potential adverse impacts. These location-  
2 specific considerations contributed to the identification of the Recommended Alternative.

### 3 **ES1.8 Agency, Tribal, and Public Coordination and Outreach**

4 Consultation and coordination are fundamental components of the NEPA process. ADOT and  
5 FHWA have undertaken continuous outreach efforts throughout the scoping process,  
6 alternatives development, and preparation of the Draft Tier 1 EIS document.

#### 7 **ES1.8.1 Key Milestones for Coordination and Outreach**

8 The agency, Tribal, and public outreach component of the study is ongoing and seeks to  
9 engage, inform, and receive input for consideration during the environmental review process.  
10 The public is defined as those communities, elected representatives, interested stakeholders,  
11 businesses, civic organizations, and environmental justice populations with an interest in I-11.  
12 Prior to scoping, approximately 50 “pre-scoping” meetings were conducted with federal, state,  
13 and local agencies as well as Tribes to enable small group discussions about critical issues,  
14 needs, and concerns.

15 A Notice of Intent (NOI) to prepare a Tier 1 EIS for the I-11 Corridor was published in the  
16 Federal Register on May 20, 2016. General information regarding the proposed action was  
17 shared, along with notification of the scoping process and related meetings and input  
18 opportunities. As part of the NOI, FHWA, and ADOT invited all interested individuals,  
19 organizations, public agencies, and Native American Tribes to comment on the scope of the  
20 Tier 1 EIS, including the I-11 Purpose and Need, the alternatives to be studied, the impacts to  
21 be evaluated, and the evaluation methods to be used. The formal scoping period spanned  
22 45 days from publication of the NOI through July 8, 2016. The *Scoping Summary Report*  
23 (**Appendix G**) documents the following activities that took place and the feedback received  
24 during this period:

- 25 • Six public meetings were held in total, with one in Casa Grande, Buckeye, Nogales, Tucson,  
26 Marana, and Wickenburg, Arizona. The total number of attendees was 540.
- 27 • Three agency meetings were held in total, with one in Phoenix, Casa Grande, and Tucson,  
28 Arizona. The 47 attendees represented 23 agencies.
- 29 • Advertisements and public notifications were issued to advise interested parties on how to  
30 participate in scoping activities or provide comments.
- 31 • A study website provided background information and posted study updates. Individuals  
32 may submit comments, and all study documents will be posted.
- 33 • The total number of written comments received via email or online submittal, letter, or  
34 comment forms distributed at meetings was 834.

35 A second major set of agency and public information meetings was held in May 2017. The  
36 purpose of these meetings was to provide an update on project progress, solicit input on  
37 preliminary recommendations for alternatives to carry forward into the Tier 1 EIS, and continue  
38 to collect information on key issues. Similar to the scoping meetings, these public meetings  
39 were conducted throughout the Study Area to gain an understanding of the unique concerns in  
40 each area. The outreach during this period was intended to provide feedback on the initial  
41 screening results that would be incorporated into the subsequent decision-making process, as  
42 documented in the *Alternatives Selection Report*.



- 1 The feedback received during the public review period from April 28 through June 2, 2017, is  
2 documented in the *Agency and Public Information Meeting Summary Report (Appendix G)*.  
3 During this period:
- 4 • Six public meetings in total were held, with one in Tucson, Marana, Nogales, Casa Grande,  
5 Wickenburg, and Buckeye, Arizona. The total number of attendees was 608.
  - 6 • Four agency meetings in total were held, with one in Tucson, Marana, Casa Grande, and  
7 Avondale, Arizona. The 40 attendees represented 24 agencies.
  - 8 • Advertisements, media interviews, radio broadcasts, social media posts, and other public  
9 notifications were issued to advise interested parties on how to participate in public  
10 meetings or provide comments.
  - 11 • A study website was maintained and all meeting information was posted.
  - 12 • Members of the public were able to view the alternatives and provide map-based comments;  
13 through an online comment tool.
  - 14 • The total number of comments received via letter, email, comment form, online comment  
15 map tool, verbal transcription at a public meeting, or voicemail was 2,302.
- 16 FHWA and ADOT encourage and welcome public input throughout the NEPA process and will  
17 continue to provide input feedback opportunities via an information phone line and the study  
18 website or by letter and email.
- 19 In November 2017, FHWA and ADOT invited a third-party, neutral facilitator, the US Institute for  
20 Environmental Conflict Resolution (US Institute), to facilitate a discussion in Pima County  
21 regarding the I-11 Tier 1 EIS, to augment the ongoing public involvement effort. Three  
22 stakeholder engagement meetings were conducted between March and April 2018 to foster  
23 productive community conversations in Pima County to inform the decision-making process.  
24 The US Institute prepared the report documenting these stakeholder meetings, which is  
25 included as **Appendix H**.

## 26 **ES1.8.2 Cooperating and Participating Agencies**

27 FHWA and ADOT requested federal, state, and local agencies as well as Tribal governments to  
28 participate in the environmental review process by inviting them to be a Cooperating Agency or  
29 a Participating Agency under the NEPA guidelines.

30 Cooperating Agencies are, by definition in Title 40 CFR 1508.5 and 23 CFR 771.111(d), federal  
31 agencies with jurisdiction by law or special expertise with respect to any environmental impact  
32 involved in the study. Other agencies or Tribal governments of similar qualifications also may  
33 qualify, if FHWA concurs. The following 10 agencies opted to be engaged as Cooperating  
34 Agencies:

- 35 • Federal Aviation Administration (FAA)
- 36 • Federal Railroad Administration (FRA)
- 37 • National Park Service (NPS)
- 38 • US Army Corps of Engineers (USACE)
- 39 • US Bureau of Land Management (BLM)



- 1 • US Bureau of Reclamation (Reclamation)
- 2 • US Environmental Protection Agency (USEPA)
- 3 • US Fish and Wildlife Service (USFWS)
- 4 • US Forest Service, Coronado National Forest (USFS)
- 5 • Arizona Game and Fish Department (AGFD)

6 The Cooperating Agencies have met regularly (generally monthly) since 2016. FHWA and  
7 ADOT provide updates on the study process, and discussion of project issues occurs at these  
8 monthly and individual agency meetings. Cooperating Agencies also may review and comment  
9 on the Draft Tier 1 EIS and other supporting documentation related to the I-11 corridor at these  
10 meetings.

11 Sixty-seven agencies were invited to be a Participating Agency, and ultimately 51 opted to  
12 participate as a Participating Agency. Participating Agencies, as defined in the *Safe,*  
13 *Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users*, can be federal,  
14 state, regional, county, or local agencies as well as Tribal governments that may have an  
15 interest in I-11. **Chapter 5** (Coordination and Outreach) includes a list of Participating Agencies.  
16 Throughout the study process, meetings were conducted with Participating Agencies at project  
17 milestones, as needed, or requested with individual agencies. Individual meetings were  
18 conducted with individual agencies or Tribes as requested or in response to project issues.

### 19 **ES1.8.3 Tribal Outreach**

20 ADOT and FHWA are committed to maintaining government-to-government relations with  
21 Native American Tribes for projects in which Tribes may have an interest. Tribal coordination  
22 continues to be an integral part of this study. While Tribes have been invited to attend agency  
23 and stakeholder meetings throughout the process (2016 Scoping and 2017 Agency and Public  
24 Information Meetings as described above), a series of smaller meetings have been held with the  
25 Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian  
26 Community, Tohono O’odham Nation, Pascua Yaqui Tribe, and other Tribal governments that  
27 requested individual meetings. Input received during these meetings has led to new data  
28 sources, helped refine Corridor Options, and helped to achieve general consensus on the  
29 direction of the study’s findings to date. Typically, information is exchanged in person at the  
30 meetings, but several formal Tribal resolutions have been submitted for the study record.

31 Tribal coordination meetings generally include elected officials and staff members from  
32 transportation, community development, planning and zoning, agriculture and natural resources,  
33 and/or economic development. In addition, consultation activities in accordance with  
34 Section 106 of the National Historic Preservation Act are ongoing, as described in Section 3.7  
35 (Archaeological, Historical, Architectural, Cultural Resources).

### 36 **ES1.8.4 Continuing Coordination and Outreach**

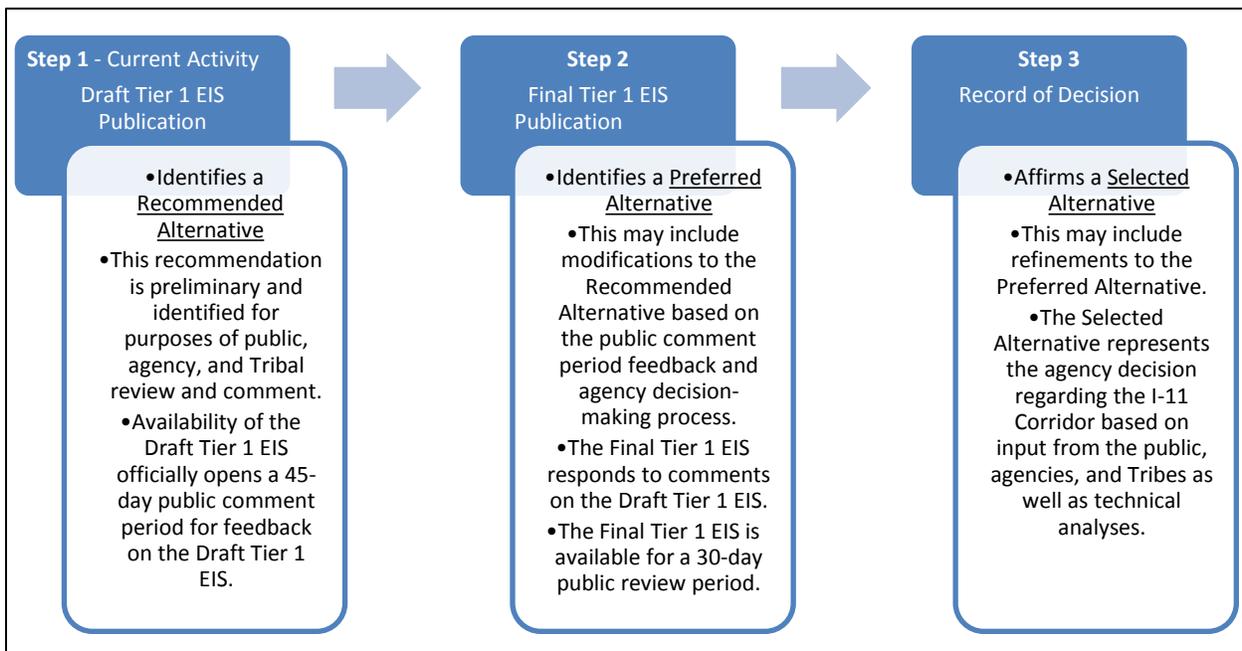
37 The issuance of the Draft Tier 1 EIS initiates a 56-day public review and comment period. Within  
38 this period, FHWA and ADOT will conduct public hearings to solicit comments on the Draft  
39 Tier 1 EIS. All comments received will be reviewed and documented, and will be responded to  
40 as part of the preparation of the Final Tier 1 EIS. Section ES1.10 below provides additional  
41 information about the public review period.

1 **ES1.9 Recommended Alternative**

2 FHWA and ADOT evaluated alternatives to determine a recommendation for I-11 between  
3 Nogales and Wickenburg by considering the following:

- 4 • How effectively does each alternative meet the I-11 Purpose and Need?  
5 • What are the differentiating and substantive impacts?  
6 • Can the impacts be avoided, minimized, or mitigated?

7 The Recommended Alternative represents the preliminary findings of FHWA and ADOT based  
8 on the Draft Tier 1 EIS resource analyses and agency, Tribal, and public input to date. As  
9 illustrated on **Figure ES-6** (Tier 1 EIS Decision Steps), the Recommended Alternative is  
10 presented for public review and comment as part of the Draft Tier 1 EIS. The subsequent Final  
11 Tier 1 EIS will consider input received and will affirm or modify the Recommended Alternative in  
12 identifying a Preferred Alternative. Ultimately, the ROD will affirm a Selected Alternative.



**Figure ES-6 Tier 1 EIS Decision Steps**

13 **ES1.9.1 How effectively does each alternative meet the Purpose and Need?**

14 The Project Team evaluated the proposed corridors for I-11 according to how they would meet  
15 the I-11 Purpose and Need, using metrics the team developed for this analysis. The results of  
16 this analysis are summarized below. Further detail is contained in **Chapter 2** (Alternatives  
17 Considered) and **Chapter 6** (Recommended Alternative).



1 **ES1.9.1.1 Population and Employment Growth**

2 The highest absolute and percentage growth in the Study Area is forecasted to occur by 2040 in  
3 western Maricopa County (population growth of 259 percent, employment growth of  
4 248 percent) and Pinal County (population growth of 80 percent, employment growth of  
5 234 percent). The three Build Corridor Alternatives would improve infrastructure capacity in  
6 those areas. The Purple and Green Alternatives would best serve areas of concentrated growth  
7 (Casa Grande, Goodyear, Buckeye, and Wickenburg), whereas the No Build Alternative would  
8 not appreciably expand service to meet projected demand. Under the No Build Alternative, the  
9 rate of growth may contribute to increasing congestion and travel time reliability issues, and  
10 exacerbate lack of connectivity as employment and commerce patterns shift, especially in the  
11 Phoenix and Tucson metropolitan areas.

12 **ES1.9.1.2 Traffic Growth and Travel Time Reliability**

13 Both the Purple and Green Alternatives reduce 2040 travel time from Nogales to Wickenburg  
14 compared to the No Build Alternative by an estimated 54 and 60 minutes, respectively. These  
15 routes would attract or divert traffic from existing roadways. This traffic diversion to the Purple  
16 and Green Alternatives would reduce congestion and improve travel time reliability on existing  
17 roadways. The Orange Alternative reduces 2040 travel time from Nogales to Wickenburg by  
18 31 minutes. The Orange Alternative provides the longest end-to-end 2040 travel time primarily  
19 due to the fact that it has the longest travel distance of the three Build Corridor Alternatives.

20 Under both the Purple and Green Alternatives, I-11 would achieve level of service (LOS) C or  
21 better throughout the corridor. For Option B, co-locating I-11 with existing facilities would require  
22 additional capacity on the following highway segments in order to achieve LOS C in rural areas  
23 and LOS D in urban areas (see **Appendix E1** [Conceptual Drawings]):

- 24 • I-19 from Sahuarita to I-10
- 25 • I-10 from I-19 to the Pima/Pinal county line
- 26 • SR 85 from the Gila River to I-10
- 27 • I-10 from SR 85 to 355th Avenue

28 Through the urban Tucson area, this translates to a need for two to three additional lanes in  
29 each direction under the Orange Alternative.

30 **ES1.9.1.3 System Linkages and Regional Mobility**

31 A key purpose of the I-11 system linkage is to support efficient commercial and trade traffic. The  
32 three Build Corridor Alternatives would create a high-capacity transportation connection from  
33 Mexico to the I-11 improvements north of Wickenburg along US 93 and into Nevada. Under the  
34 No Build Alternative, there would be no continuous high-capacity transportation connection  
35 between I-10 in Buckeye and US 93 in Wickenburg. Modeling for 2040 conditions suggests that  
36 the Purple Alternative could attract the highest increase in automobile and truck (trade-related)  
37 vehicle miles traveled (VMT) over the No Build Alternative.

38 **ES1.9.1.4 Access to Economic Activity Centers and Tourist Attractions**

39 The interstate highway system plays a critical role in connecting and providing access to  
40 employment hubs within the broader population base. The Purple and Orange Alternatives best



1 serve existing and emerging economic activity centers within the Study Area. Most existing and  
2 several emerging centers are located along the I-10 corridor, as good transportation access is a  
3 key asset to major industries. However, continued growth and congestion on existing interstate  
4 facilities could eventually hinder accessibility. **Figure ES-7** (Economic Centers 2040) illustrates  
5 the current and emerging economic centers, for horizon year 2040, within the Study Area.

#### 6 **ES1.9.1.5 Homeland Security and National Defense**

7 Congestion on I-10 and existing interstate freeways and state routes may prevent efficient and  
8 safe emergency evacuation and defense access. Regional route redundancy, including  
9 alternate interstate freeway routes, would facilitate efficient mobility, alleviate congestion, and  
10 prevent bottlenecks during emergencies and incidents. The metric for evaluating this element of  
11 the I-11 Purpose and Need is whether the alternative provides an alternate high-capacity  
12 interstate route where one does not exist already. Both the Purple and Green Alternatives  
13 respond to this need best in the South and Central Sections, where these alternatives are  
14 composed primarily of new corridors. The primary difference between the Purple and Green  
15 Alternatives is in Pinal County, where the Green Alternative includes a new corridor (Option F),  
16 while the Purple Alternative calls for co-location with I-10 (Option G).

17 None of the Build Corridor Alternatives performs well according to this metric in southern Santa  
18 Cruz County, where use of I-19 is the only Build Corridor Alternative. In the North Section, all  
19 Build Corridor Alternatives represent a new interstate transportation corridor where there is  
20 currently no high-capacity transportation facility.

21 The No Build Alternative would not provide an alternative regional route and would not address  
22 homeland security, national defense, or incident management needs.

#### 23 **ES1.9.2 Recommended Alternative Identified**

24 FHWA and ADOT identified a Recommended Alternative that best meets the I-11 Purpose and  
25 Need while minimizing the potential for adverse impacts. The Recommended Alternative is  
26 based primarily on the Purple and Green Alternatives, but it is a hybrid alignment (i.e., a  
27 combination of Corridor Options from the Build Corridor Alternatives) in an effort to reduce or  
28 avoid adverse effects. **Table ES-2** (Recommended Alternative) lists the Corridor Options that  
29 comprise the Recommended Alternative, which is illustrated on **Figure ES-8** (Recommended  
30 Alternative). A comprehensive analysis of the differentiating and substantive impacts is included  
31 in **Chapter 6** (Recommended Alternative).

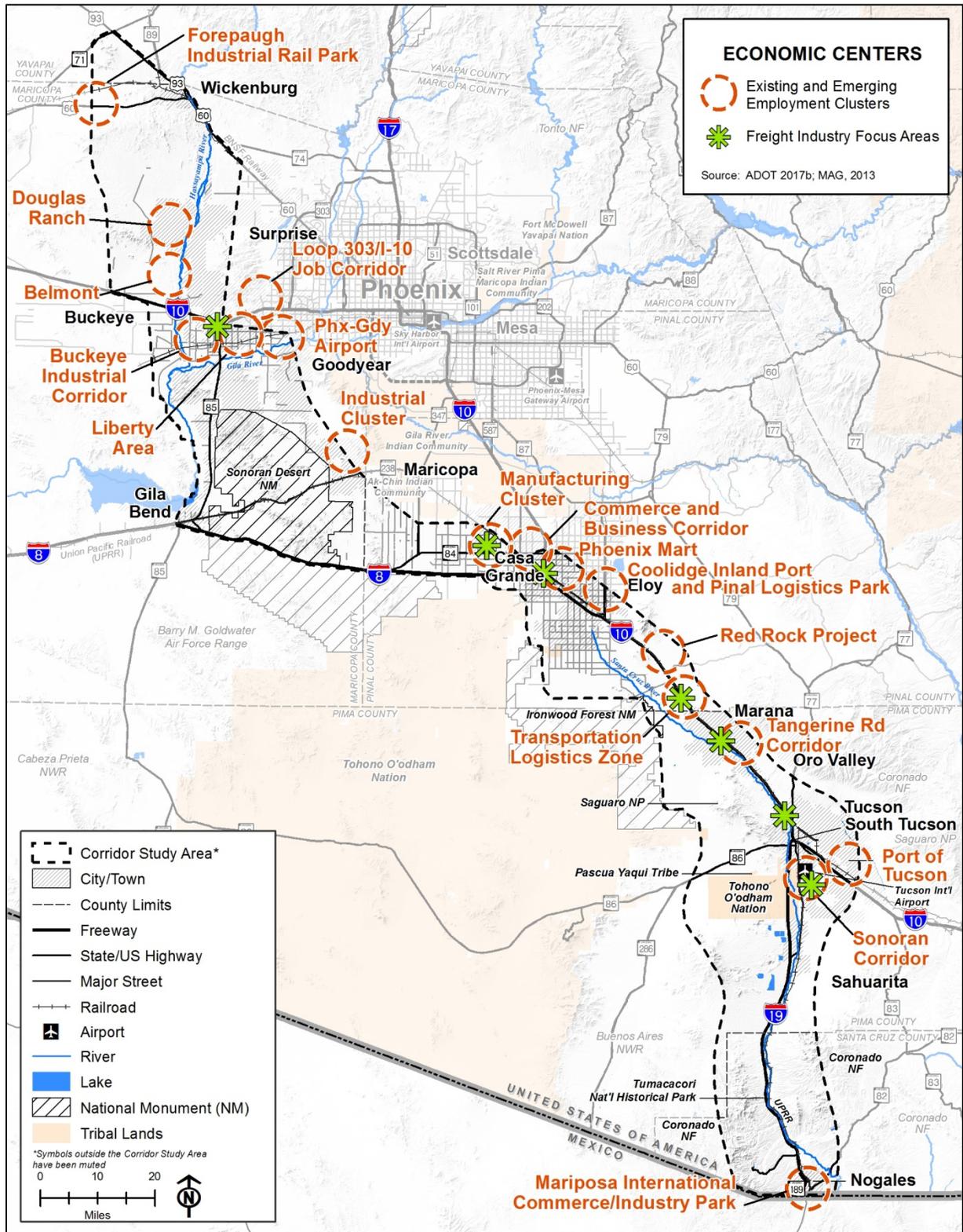


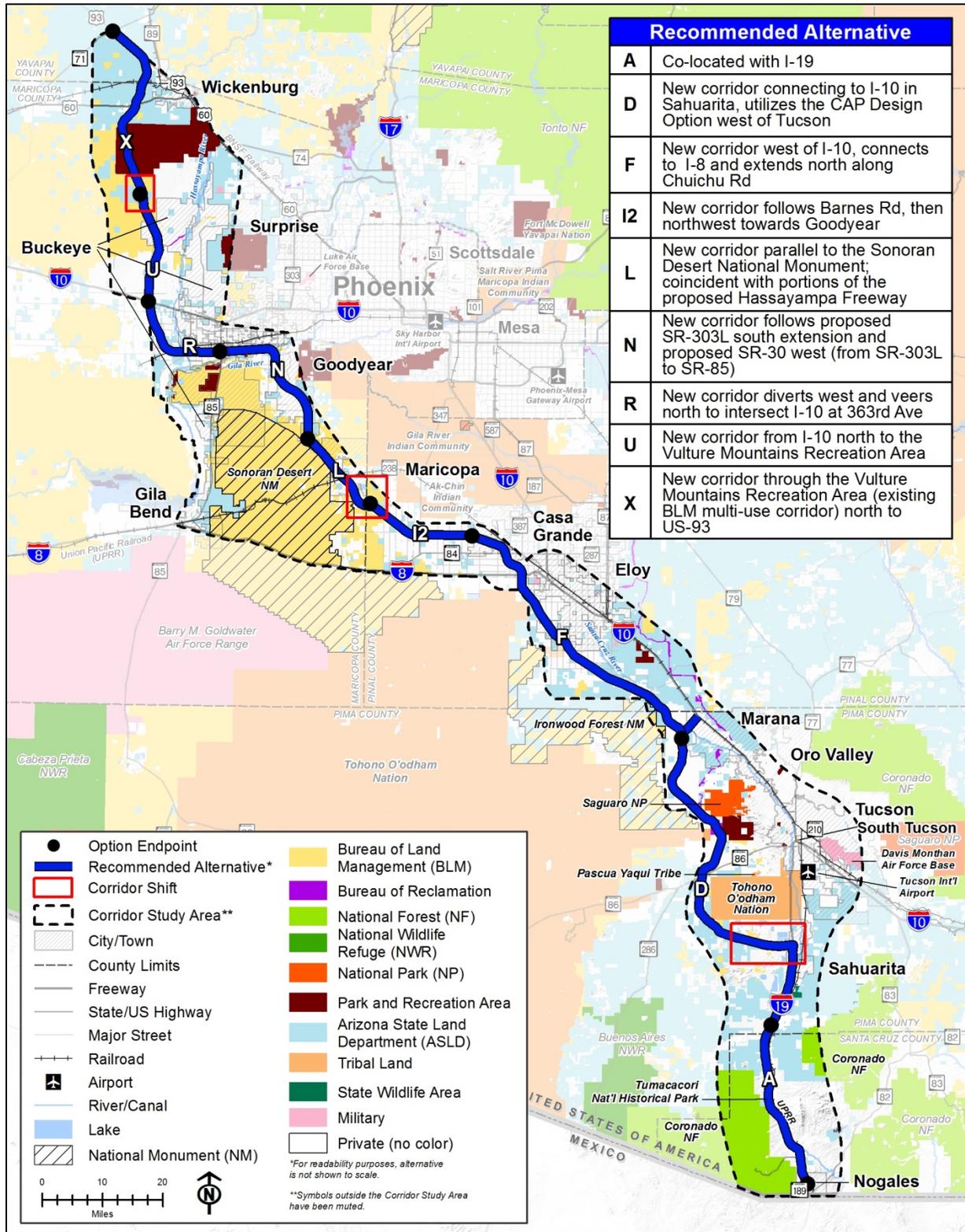
Figure ES-7 Economic Centers 2040

**Table ES-2 Recommended Alternative**

Option	Build Corridor Alternative	Description	Summary Rationale for Recommendation
A	Common to All Build Corridor Alternatives	From Nogales to Sahuarita, I-11 would be co-located with I-10 and I-19.	Option A provides access to high-growth areas, achieves LOS C throughout the I-11 corridor, and serves key economic centers while avoiding impacts to sensitive environmental resources.
D, with Central Arizona Project (CAP) Design Option	Green Alternative	From Sahuarita to Marana, I-11 would follow a new transportation corridor west of Tucson that uses a design option parallel to the CAP canal. It also includes a connection to I-10 in Marana.	Option D is part of an end-to-end alternative that reduces travel time between Nogales and Wickenburg compared to the No Build Alternative and achieves LOS C or better throughout the I-11 Project Area. It attracts/diverts traffic from existing roadways. Option D provides an alternate regional route to I-10, facilitating efficient mobility for emergency evacuation and defense access. It avoids non-mitigatable impacts to communities as well as historic districts and structures (Section (4f) resources) in downtown Tucson. The CAP Design Option and a number of additional mitigation strategies were developed to address impacts to the Tucson Mitigation Corridor.
F	Green Alternative	From Marana to Casa Grande, I-11 would follow a new transportation corridor west of I-10. It connects to I-8 and extends north along Chuichu Road.	Option F is part of an end-to-end alternative that reduces travel time between Nogales and Wickenburg compared to the No Build Alternative and achieves LOS C or better throughout the I-11 Project Area. It provides an alternate regional route that will provide access to planned growth areas and serve key economic centers in Marana, Eloy, and Casa Grande. Option F will attract/divert traffic away from existing roadways. It is consistent with local and county-level planning and commits to mitigation measures to minimize impacts of new alignment on floodplains.

**Table ES-2 Recommended Alternative (Continued)**

Option	Build Corridor Alternative	Description	Summary Rationale for Recommendation
I2, L, N, and R	Purple and Green Alternatives	<p>From Casa Grande in western Pinal County to Buckeye in western Maricopa County, I-11 would follow a new transportation corridor:</p> <ul style="list-style-type: none"> <li>• Option I2 extends west along Barnes Road, then heads northwest towards Goodyear</li> <li>• Option L is parallel to the Sonoran Desert National Monument and is co-located with a portion of the proposed Hassayampa Freeway</li> <li>• Option N follows the proposed SR 303L south extension and the proposed SR 30</li> <li>• Option R crosses SR 85 and then veers north to intersect I-10 near 363<sup>rd</sup> Avenue</li> </ul>	<p>Options I2, L, N, and R comprise a new corridor that is an alternate regional route in an area where there are no high-capacity transportation facilities. It provides access to planned growth areas and serves key economic centers in western Maricopa and Pinal Counties. The new corridor reduces travel time for long-distance traffic from Nogales to Wickenburg, achieves LOS C throughout the I-11 Project Area, and effectively attracts/diverts traffic from existing roadways. It is consistent with local and county level plans. The Recommended Alternative includes mitigation strategies developed to address the impacts of a new Gila River crossing.</p>
Hybrid Option U/X	Purple and Green Alternatives	<p>From western Maricopa County to Wickenburg, I-11 would follow a new transportation corridor which is a hybrid of the Purple and Green Alternatives:</p> <ul style="list-style-type: none"> <li>• Option U extends north from I-10 for approximately 15 miles</li> <li>• Approximately 5 miles south of the Vulture Mountains Recreation Area (VMRA), the Recommended Alternative transitions from Option U to Option X.</li> <li>• Option X follows an existing transmission line corridor through the VMRA north to US 93.</li> </ul>	<p>Hybrid Option U/X is a new corridor that provides an alternate regional route and access to planned growth areas, reduces travel time for long-distance traffic between Nogales and Wickenburg, and meets LOS C throughout the I-11 Project Area. It will effectively attract/divert traffic from existing roadways and serve key economic centers in the Hassayampa Valley and western Maricopa County. It is consistent with local land use and transportation plans and includes measures to mitigate impacts to VMRA.</p>



**Figure ES-8 Recommended Alternative**



1 **ES1.9.3 Mitigating Potential Impacts**

2 In addition to intentionally avoiding national monuments, national parks, wilderness areas, and  
3 Tribal lands, the Recommended Alternative includes mitigation measures such as:

- 4 • Avoiding or minimizing impacts to wildlife linkage areas
- 5 • Wildlife crossings and fencing, specifically 7 crossings in Avra Valley near the TMC
- 6 • Minimizing construction footprint through quality Pima pineapple cactus, other Endangered  
7 Species habitat, and the TMC
- 8 • Prohibiting interchanges in Avra Valley between West Snyder Hill and West Manville roads
- 9 • Minimizing construction footprint on Gila River and the Santa Cruz River
- 10 • Avoiding or minimizing impacts to parks, recreations areas, wildlife refuges, and historic  
11 resources (Section 4f resources), with the exception of the TMC
- 12 • Minimizing fugitive light impacts on dark skies
- 13 • Landscape designs to minimize visual impacts
- 14 • Maintaining local connectivity across I-11

15 **ES1.10 Next Steps**

16 This Draft Tier 1 EIS was issued to solicit input on the Build Corridor Alternatives and the  
17 Recommended Alternative from agencies, Tribes, and the public. Comments received on this  
18 Draft Tier 1 EIS during the public review period will be used to inform a Preferred Alternative  
19 and prepare a Final Tier 1 EIS. All responses to comments will be documented in the Final  
20 Tier 1 EIS.

21 The next step in the I-11 Corridor NEPA process is the development of a Final Tier 1 EIS. After  
22 considering all of the comments received, FHWA and ADOT will identify a Preferred Alternative  
23 in the Final Tier 1 EIS that may affirm or modify the Recommended Alternative. A preliminary  
24 phased implementation plan will be included in the Final Tier 1 EIS. The public issuance of the  
25 Final Tier 1 EIS with a Preferred Alternative will initiate a 30-day public review period.

26 Following a 30-day public review period for the Final Tier 1 EIS, FHWA will issue a ROD that  
27 presents a Selected Alternative, describes the basis for the decision, and provides strategies to  
28 avoid and minimize environmental impacts. Because this is a Tier 1 NEPA document, mitigation  
29 measures in the ROD represent commitments that shall be implemented in Tier 2 projects within  
30 the I-11 corridor.

31 If a Build Corridor Alternative is the Selected Alternative, it would be further evaluated and  
32 refined during future Tier 2 studies. During Tier 2 studies, it is anticipated that phased near-term  
33 projects or segments would be further developed as independent projects based on the phased  
34 implementation plan presented in the Final Tier 1 EIS. Tier 2 NEPA documents would include  
35 site-specific, quantitative analysis of effects and provide avoidance, minimization, and mitigation  
36 measures tailored for each project. The specific class of NEPA analysis for a logical Tier 2  
37 segment would be defined based on the nature of the project and as determined by the lead  
38 agency. Continuing coordination with the Tribes, public, and agencies would occur prior to and  
39 during Tier 2, project-level analysis.

40 If the No Build is selected, no project would occur.



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