



Record of Decision and Final Preliminary Section 4(f) Evaluation

November 2021



Federal Aid No. 999-M(161)S
ADOT Project No. 999 SW 0 M5180 01P



Interstate-11
Federal Aid No. 999-M(161)S / Project No. M5180 01P
FHWA-AZ-EIS-01-F

Record of Decision
November 2021

Decision

The Federal Highway Administration (FHWA) identifies the Preferred Corridor Alternative analyzed in the Interstate-11 (I-11) Final Tier 1 Environmental Impact Statement and Preliminary Section 4(f) Evaluation (EIS) as the Selected Corridor Alternative for the I-11 Corridor Project in Santa Cruz, Pima, Pinal, Maricopa, and Yavapai Counties, Arizona.

The Selected Corridor Alternative shown on **Figure 1** of this Record of Decision (ROD) meets the project purpose and need while balancing environmental impacts of building a transportation corridor in the study area.

The decision is based on the information presented in the Draft and Final Tier 1 EIS, the project's purpose and need, input from the public, and interagency and tribal coordination, as explained further in this ROD.

November 15, 2021

Date

Karla S. Petty

Karla S. Petty, Division Administrator
Federal Highway Administration, Arizona



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Acronyms

ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COVID-19	Novel Coronavirus Disease of 2019
EIS	Environmental Impact Study
FHWA	Federal Highway Administration
I-11	Interstate 11
IIJA	Infrastructure Investment and Jobs Act
IWCS	Intermountain West Corridor Study
LOS	Level of Service
MS4	Municipal Separate Stormwater Sewer System
NDOT	Nevada Department of Transportation
NEPA	National Environmental Policy Act
PEL	Planning and Environmental Linkage
ROD	Record of Decision
SR	State Route
U.S.C.	United States Code
US	United States
USFWS	United States Fish and Wildlife Service



1 INTRODUCTION

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) completed a Tier 1-level environmental review process for the Interstate 11 (I-11) Corridor from Nogales to Wickenburg, Arizona. This Record of Decision (ROD) was prepared as part of this process in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. FHWA is the Federal Lead Agency and ADOT is the local project sponsor under NEPA. As the federal lead agency, FHWA is responsible for compliance with NEPA and related statutes.

A Tier 1 Environmental Impact Study (EIS) is an effective method for managing the NEPA process across a large geographic area such as the I-11 Corridor Study Area. It allows the NEPA process to move forward prior to the identification of funding and lays the groundwork for where the corridor would be located. A Tier 1 EIS provides a programmatic approach for identifying existing and future conditions and evaluating the comprehensive effects of I-11 on the region. The ROD at the conclusion of the Tier 1 EIS process selects either (1) a 2,000-foot-wide Build Corridor Alternative that would advance to further design and Tier 2 NEPA analysis or (2) the No Build Alternative.

The concept of a continuous high-capacity, north-south interstate freeway facility connecting metropolitan areas and markets in the Intermountain West to Mexico and Canada through the western United States (US) has been considered for more than 20 years. This Tier 1 EIS NEPA process builds upon planning studies documenting the need for, and transportation infrastructure legislation formally designating, an interstate freeway throughout Arizona. This ROD is the next step in the continuum of project development activities for the I-11 Corridor between Nogales and Wickenburg, Arizona.

This ROD documents the selection of a corridor alternative and concludes the corridor evaluation for the approximately 280 miles between Nogales and Wickenburg in Santa Cruz, Pima, Pinal, Maricopa, and Yavapai Counties, Arizona, documented in the Draft and Final Tier 1 EISs. FHWA made the decision to carry forward the Preferred Alternative in the Final Tier 1 EIS, including both the east and west options in Pima County, as the Selected Alternative (**Figure 1**). More detailed NEPA studies in Tier 2 will inform the development of a range of specific alignment alternatives to avoid or minimize potential environmental impacts and provide specific mitigation measures. The project will likely be constructed in phases. The 2,000-foot-wide Selected Alternative provides flexibility for future studies to also consider co-location of multi-modal options including rail or utilities.

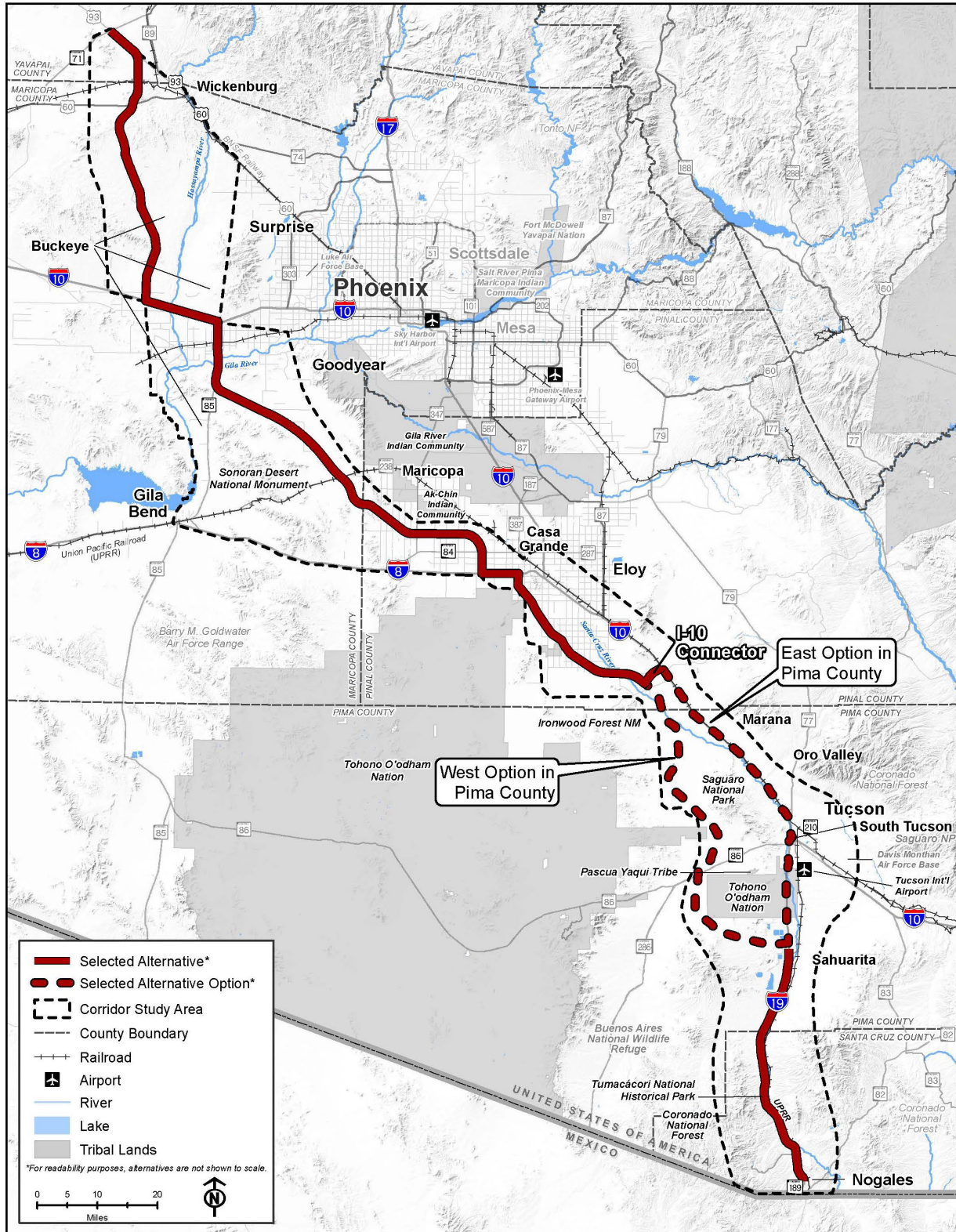


Figure 1. Selected Alternative



2 PURPOSE AND NEED

The purpose of and need for the I-11 Corridor were developed through a collaborative process that included examination of past studies, a review of regional plans, an analysis of environmental and socioeconomic conditions, input from stakeholders such as local governments and the public, and consultation with the government agencies involved in the process.

2.1 Need for the Proposed Facility

The assessment of needs associated with I-11 from Nogales to Wickenburg builds upon the *I-11 and Intermountain West Corridor Study (IWCS)* and its accompanying Planning and Environmental Linkages (PEL) document (Nevada Department of Transportation [NDOT] and ADOT 2014). The transportation-related problems, issues, and opportunities identified in the Study Area include:

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

2.2 Purpose of the Proposed Facility

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

- Provide a high-priority, high-capacity, access-controlled transportation corridor to serve population and employment growth.
- Support improved regional mobility for people and goods to reduce congestion and improve travel efficiency.



- Connect metropolitan areas and markets in the Intermountain West to Mexico and Canada through a continuous high-capacity transportation corridor.
- Enhance access to the high-capacity transportation network to support economic vitality.
- Provide for regional route redundancy to facilitate efficient mobility for emergency evacuation and defense access.

2.3 Other Desirable Outcomes

Cooperating agencies and project stakeholders identified other desirable outcomes for I-11 that were considered in alternatives development and evaluation. They are:

- Provide the opportunity for multimodal use as the need arises in the future.
- Support the protection of sensitive tourist attractions in accordance with applicable plans and policies.
- Support the protection of the environment and cultural resources in accordance with applicable plans and policies.
- Support coordination with other federal and state agencies to maintain the integrity of wildlife movement.



3 ALTERNATIVES

3.1 Alternatives Development and Screening Process

The concept of a continuous high-capacity, north-south interstate freeway facility connecting metropolitan areas and markets in the Intermountain West to Mexico and Canada through the western US has been considered for more than 20 years. This NEPA process builds upon the prior IWCS, a multimodal PEL study completed in 2014 that involved ADOT, NDOT, FHWA, the Federal Railroad Administration, the Maricopa Association of Governments, the Regional Transportation Commission of Southern Nevada, and other key stakeholders. The IWCS PEL was signed by ADOT and the FHWA Arizona Division in January 2015. The IWCS identified the following needs that would be fulfilled by an I-11 Corridor:

- A critical piece of multimodal infrastructure that would diversify, support, and connect the economies of Arizona and Nevada.
- Part of a larger north-south transportation corridor, linking Mexico and Canada.
- Developed within an identified Study Area between Nogales and Wickenburg, Arizona.

In December 2015, the US Congress approved the Fixing America's Surface Transportation Act, which is a 5-year legislation plan to improve the nation's surface transportation infrastructure. The Fixing America's Surface Transportation Act formally designates I-11 as an interstate freeway throughout Arizona, reinforcing ADOT's overall concept for I-11 that emerged from the IWCS (NDOT and ADOT 2014).

Figure 2 depicts the Study Area for the Tier 1 EIS. The initial Study Area boundary represented the outer limits of the range of feasible Build Corridor Alternatives recommended for further study in the IWCS, as vetted through that study's stakeholder team and public outreach process. Minor revisions were made to the boundary in response to input received during the scoping process, including widening the Study Area west of State Route (SR) 85 to allow a wide range of alternatives to be considered in this sensitive environmental resource area and extending the northern terminus to the US 93/SR 71 intersection to allow a wide range of connectivity options into US 93.

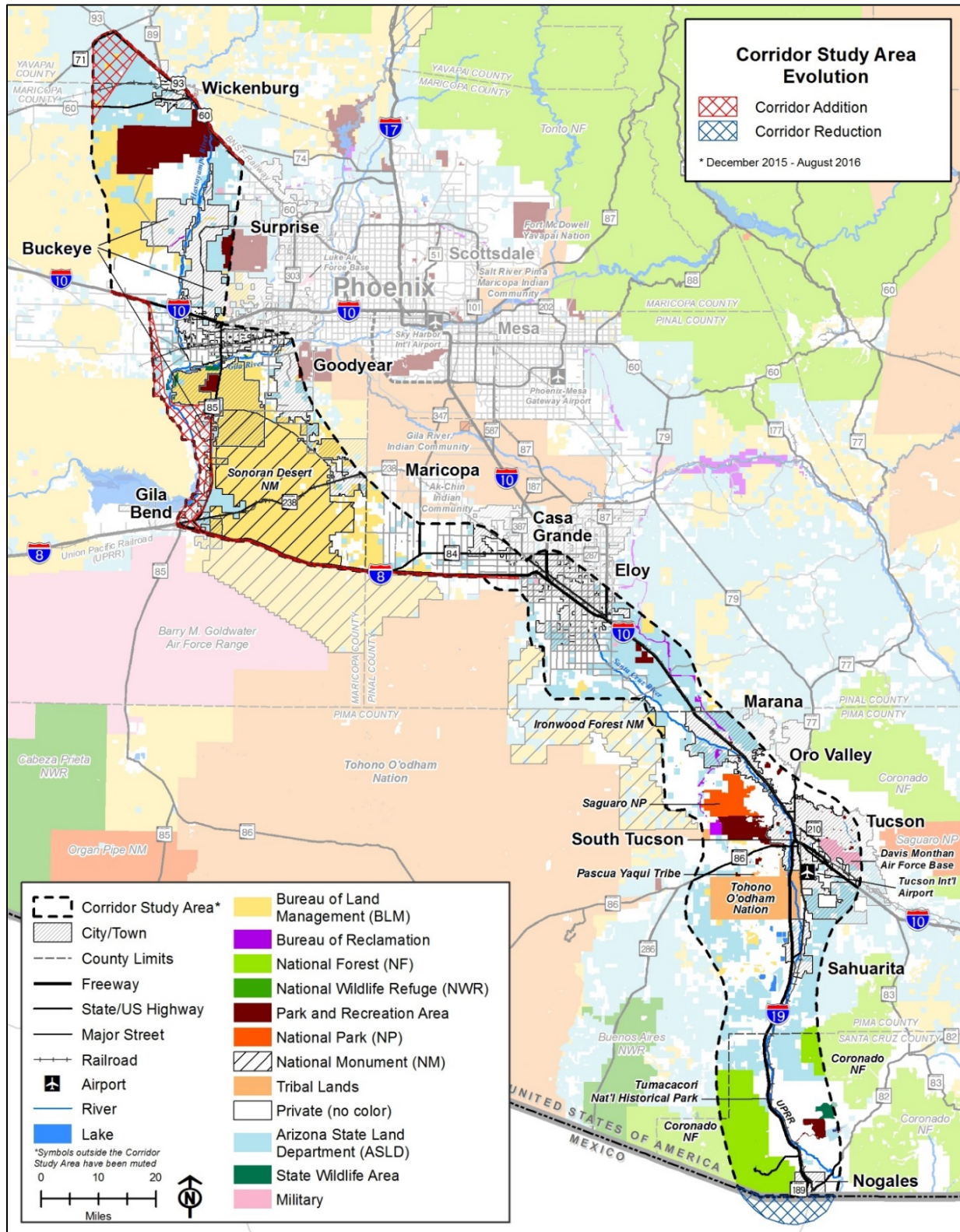


Figure 2. I-11 Corridor Study Area



3.1.1 Scoping

A scoping process that included agency and public meetings was completed in 2016. This effort informed the stakeholders about the study process, solidified the corridor study area, defined the purpose and need, and identified the range of issues to study, including non-freeway and multimodal considerations. A full compilation of the public and agency scoping comments was provided in the Scoping Summary Report (ADOT 2017c).

3.1.2 Development of Corridor Alternative Options and the No Build Alternative

Corridor alternatives were developed, evaluated, and screened based on methodology and criteria, including consistency with the project's purpose and need. FHWA and ADOT used several sources to identify the universe of potential corridor alternatives, including the prior IWCS study, agency and tribal scoping input, public scoping input, and technical analysis. The evaluation and screening criteria, discussed in the *Alternatives Selection Report Methodology and Criteria Report* (ADOT 2017b), included:

- Address population and employment growth
- Mitigate congestion and improve travel times
- Improve system linkages and interstate mobility
- Improve access to economic activity centers
- Support homeland security and national defense
- Minimize direct impacts on sensitive environmental areas

The screening enabled FHWA and ADOT to eliminate corridor alternatives, as well as to refine and further consider corridor alternatives that were most likely to best meet the overall purpose and need of the I-11 Corridor. The project team first developed a range of corridor options within the study area and lettered them from A to X (**Figure 3**). Corridor options that did not perform as well as others in the same area were eliminated and others were refined to minimize impacts. Corridor alternatives were developed by connecting the corridor options to create end-to-end corridors. The No Build Alternative (i.e., Do Nothing) served as a baseline for comparison to the corridor alternatives.

An alternatives evaluation process that included agency and public meetings was completed in 2017 (ADOT 2017a, 2017e). The public and agencies had opportunities to review and comment on the methodology, criteria, and the corridor option recommendations, and their feedback was incorporated into the overall evaluation and screening process as the study further progressed into the Draft Tier 1 EIS phase. Ultimately, the screening process resulted in a reasonable range of Build Corridor Alternatives and the No Build Alternative, which were advanced into the Draft Tier 1 EIS for more detailed study.

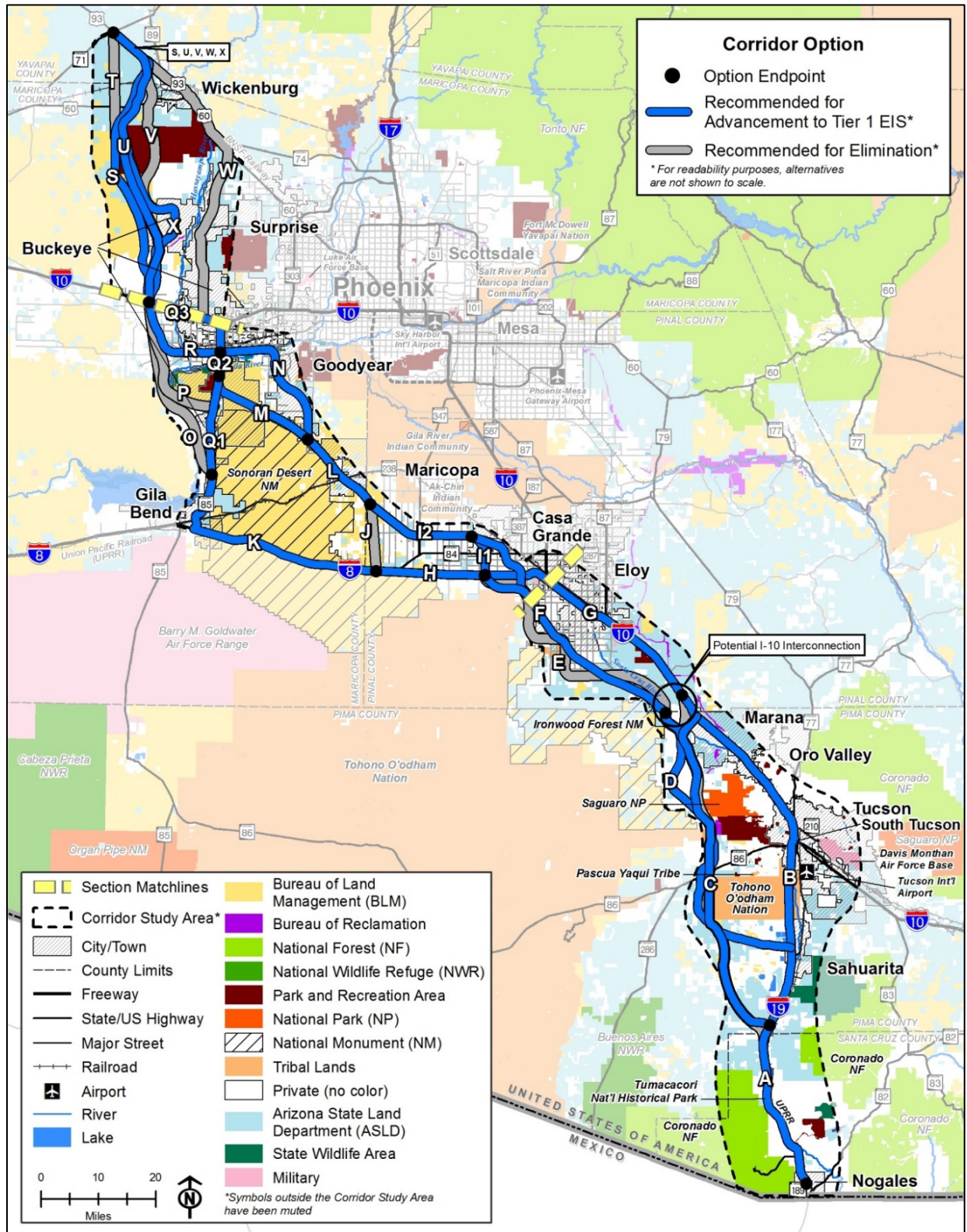


Figure 3. I-11 Range of Corridor Options



3.2 Alternatives Considered in the Draft Tier 1 EIS

FHWA and ADOT prepared a Draft Tier 1 EIS that more fully assessed the Build Corridor Alternative options that emerged from earlier analysis and the No Build Alternative (ADOT 2019b). The Draft Tier 1 EIS alternatives development process combined the options to form three end-to-end Build Corridor Alternatives (Purple, Green, and Orange) (**Figure 4**). The Draft Tier 1 EIS documents the comparison of these three Build Alternatives and the No Build Alternative, plus the ultimate development of a Hybrid Alternative that used pieces of each end-to-end Build Corridor Alternative, referred to as the Recommended Alternative (**Figure 5**).

FHWA and ADOT identified a Recommended Alternative that best meets the I-11 purpose and need while minimizing the potential adverse impacts. The Recommended Alternative is a hybrid alignment (i.e., a combination of corridor options from the Build Corridor Alternatives) resulting from technical analysis completed in an effort to reduce or avoid adverse effects while maximizing the fulfillment of the project purpose and need. A comprehensive analysis of the differentiating and substantive impacts is included in **Chapter 6** (Recommended Alternative) of the Draft Tier 1 EIS.

Tribes, agencies, and the public had opportunities to review and comment on the methodology, criteria, and analysis utilized to develop the Draft Tier 1 EIS Recommended Alternative during a 90-plus day public comment period from April 5 through July 8, 2019. Six formal public hearings were held to provide all community members the opportunity to comment on the Draft Tier 1 EIS. The public hearings were held in Nogales, Tucson, Marana, Casa Grande, Buckeye, and Wickenburg. The feedback was incorporated into the overall evaluation and screening process as the study further progressed into the Final Tier 1 EIS phase.

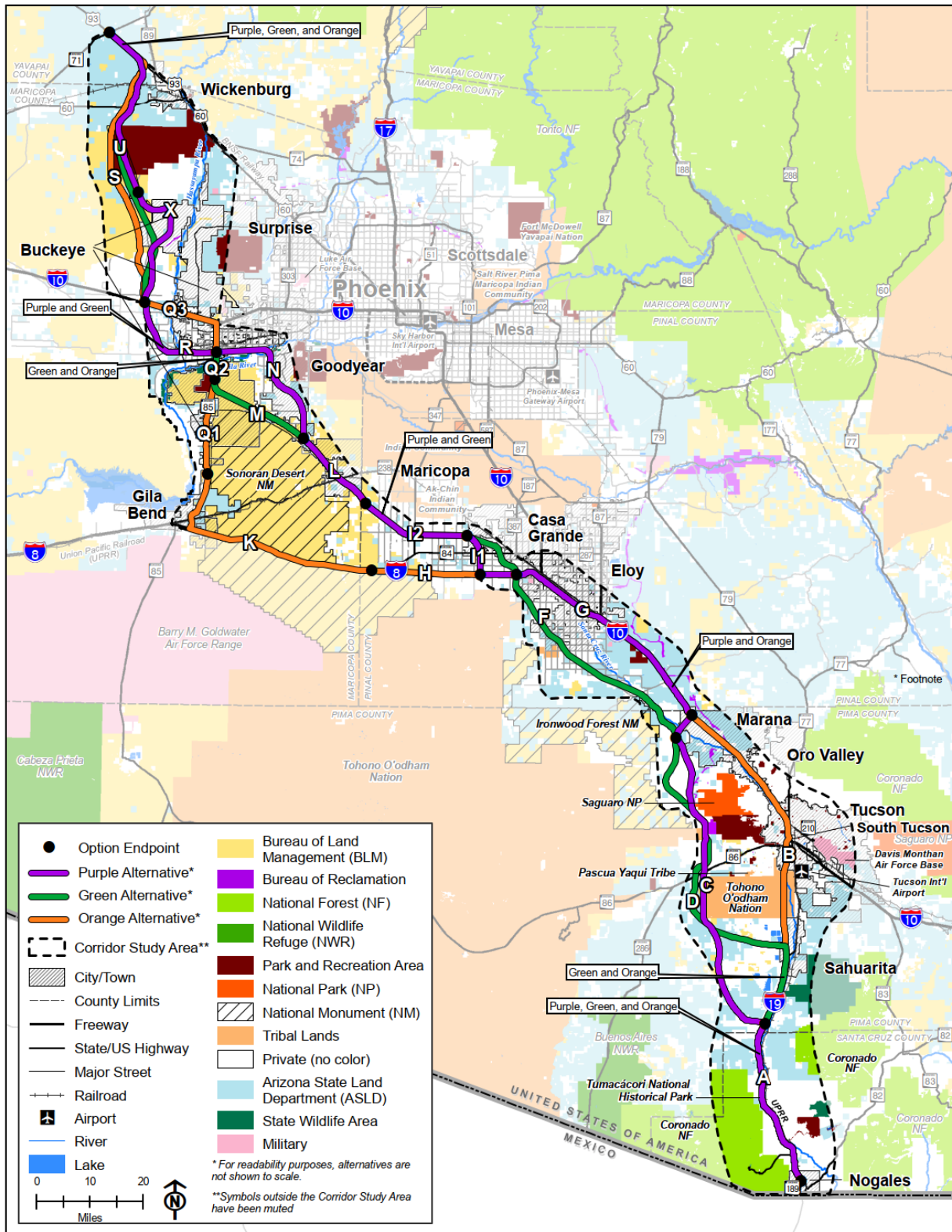


Figure 4. End-to-End Build Corridor Alternatives

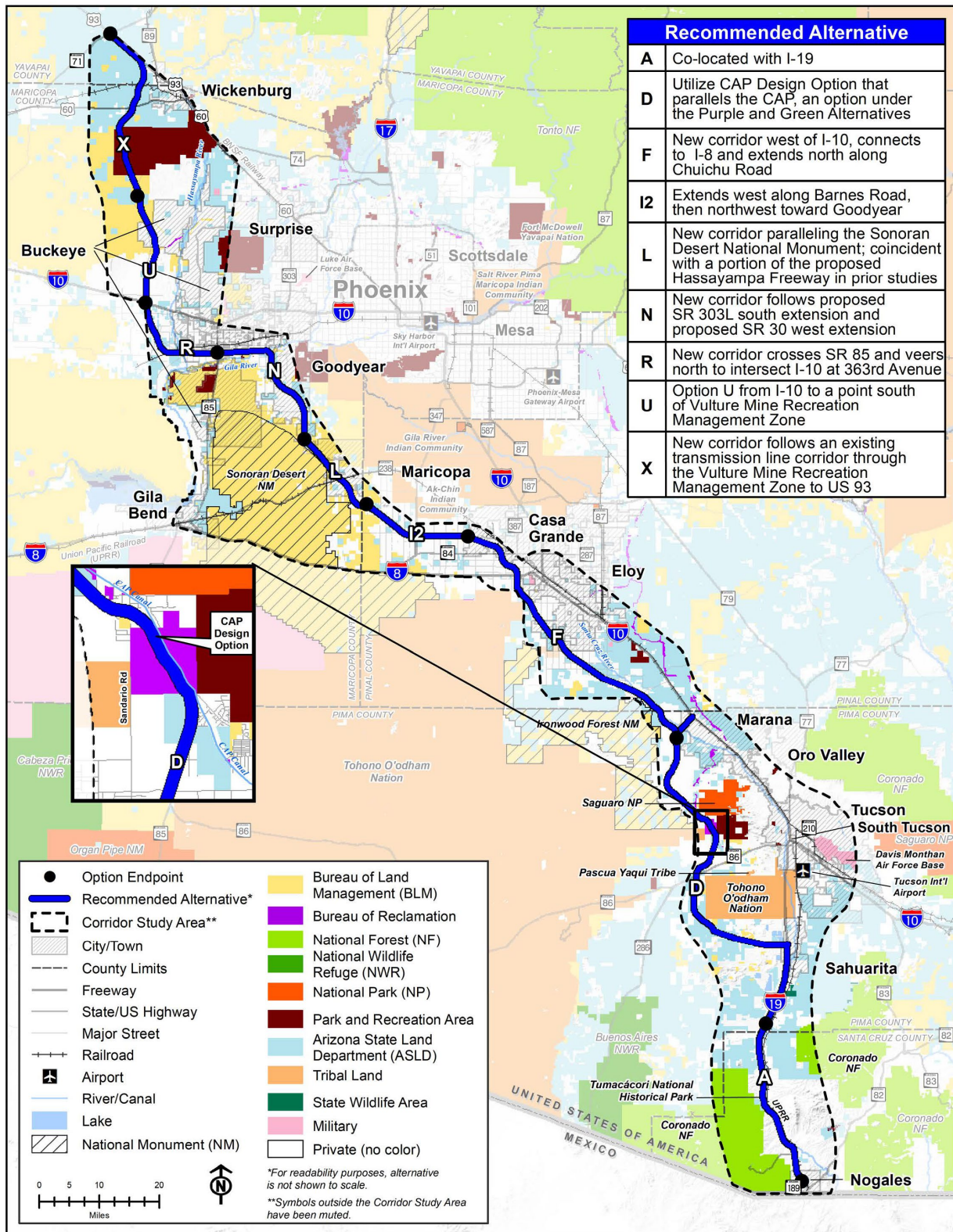


Figure 5. Recommended Alternative



3.3 Alternatives Considered in Final Tier 1 EIS

The Final Tier 1 EIS documented the Preferred Corridor Alternative; presented the basis for the decision; described the alternatives considered; and provided strategies to avoid, minimize, and mitigate environmental impacts (ADOT 2021). The comparison of the Recommended, Preferred, and No Build Alternatives, culminating in the identification of the Preferred Alternative, is detailed as well. This process included technical analysis, coordination with study partners such as Cooperating Agencies, Participating Agencies, and tribal governments, as well as the review and consideration of public input received during the Draft Tier 1 EIS public comment period.

The Preferred Alternative is different from the Recommended Alternative documented in the Draft Tier 1 EIS. The Preferred Alternative follows more existing highways than the Recommended Alternative, carries forward two options (west option and east option) for further study in Pima County, and includes many of the corridor segments from the Recommended Alternative while incorporating several revisions and refinements to avoid and minimize potential impacts (**Figure 6**). Specifically, the Preferred Alternative is different than the Recommended Alternative in the following areas:

- The Preferred Alternative carries forward both the west option in Pima County (Recommended or Green Alternative) and the east option in Pima County (Orange Alternative), allowing ADOT to make a more informed decision to choose one of them after completing detailed environmental and engineering studies in Tier 2 as requested by agencies and the public.
- The Preferred Alternative connects to I-10 at milepost 224, close to Park Link Drive north of the Pinal Airpark rather than at a location south of Pinal Airpark in the Recommended Alternative.
- The Preferred Alternative incorporates a refinement in southern Pinal County to minimize impacts to the Santa Cruz River.
- The Preferred Alternative follows Montgomery Road north of I-8, which is consistent with adopted plans and minimizes impacts to existing and planned economic development.
- The Preferred Alternative is co-located with SR 85 and I-10 in the Buckeye area, eliminating new crossings of the Gila River and Hassayampa River and minimizing impacts to critical riparian habitat and federally protected species. The Preferred Alternative was shifted slightly west near US 93 in Yavapai County to minimize impacts to residences, floodplains, wildlife linkages, and Sonoran desert tortoise habitat.

FHWA and ADOT weighed the impacts of the Recommended Alternative against the benefits described in the purpose and need metrics and identified the Preferred Alternative to further avoid or reduce impacts while meeting purpose and need. The Preferred Alternative would provide access to planned growth areas, improve travel times between Nogales and Wickenburg, divert traffic from existing roadways, serve economic centers, and provide an alternate regional route in many areas. For the complete discussion of the rationale for the Preferred Alternative, see **Chapter 6** (Preferred Alternative) of the Final Tier 1 EIS.

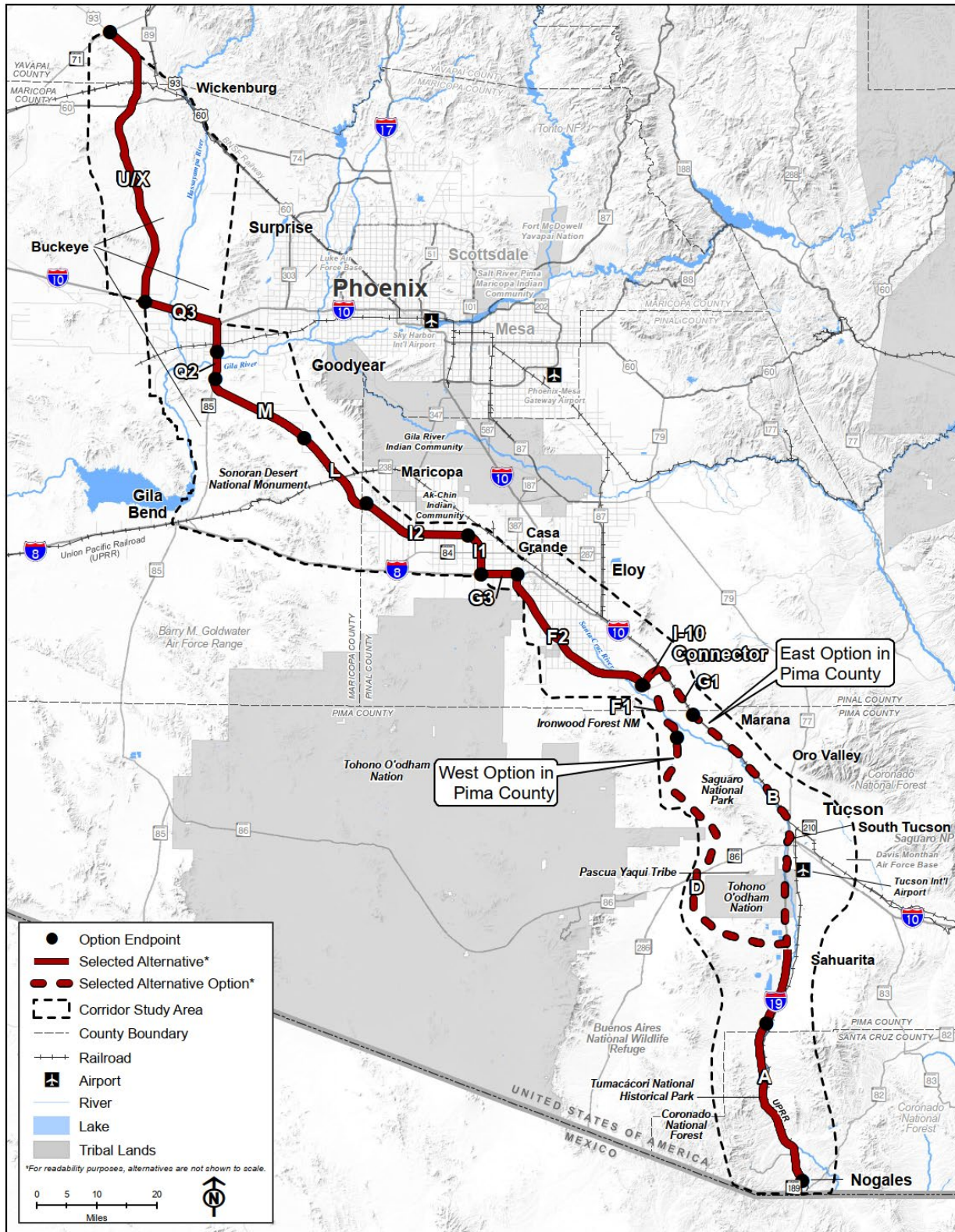


Figure 6. Preferred Alternative



3.3.1 No Build Alternative

The No Build Alternative is the baseline to compare beneficial and adverse impacts of the build alternatives with those benefits and adverse impacts of not proceeding with one of the build alternatives and was evaluated as a full alternative in the Tier 1 EIS. The No Build Alternative does not include construction of a major transportation facility, such as I-11; instead it represents the existing transportation system, along with committed capacity improvement projects that are programmed for funding (**Figure 7**). These capacity improvements are represented in the federally approved State Transportation Improvement Program (ADOT 2019). Projects in this program are consistent with the statewide long-range transportation plan and metropolitan transportation improvement programs. The No Build Alternative would not address the needs outlined in **Chapter 1** (Purpose and Need) of the Final Tier 1 EIS. It does not serve the highest growth areas within the study area and serves the least existing economic centers. Travel times between Nogales and Wickenburg would increase and regional mobility would decrease for people and goods. In addition, the No Build Alternative does not provide an alternate regional route.

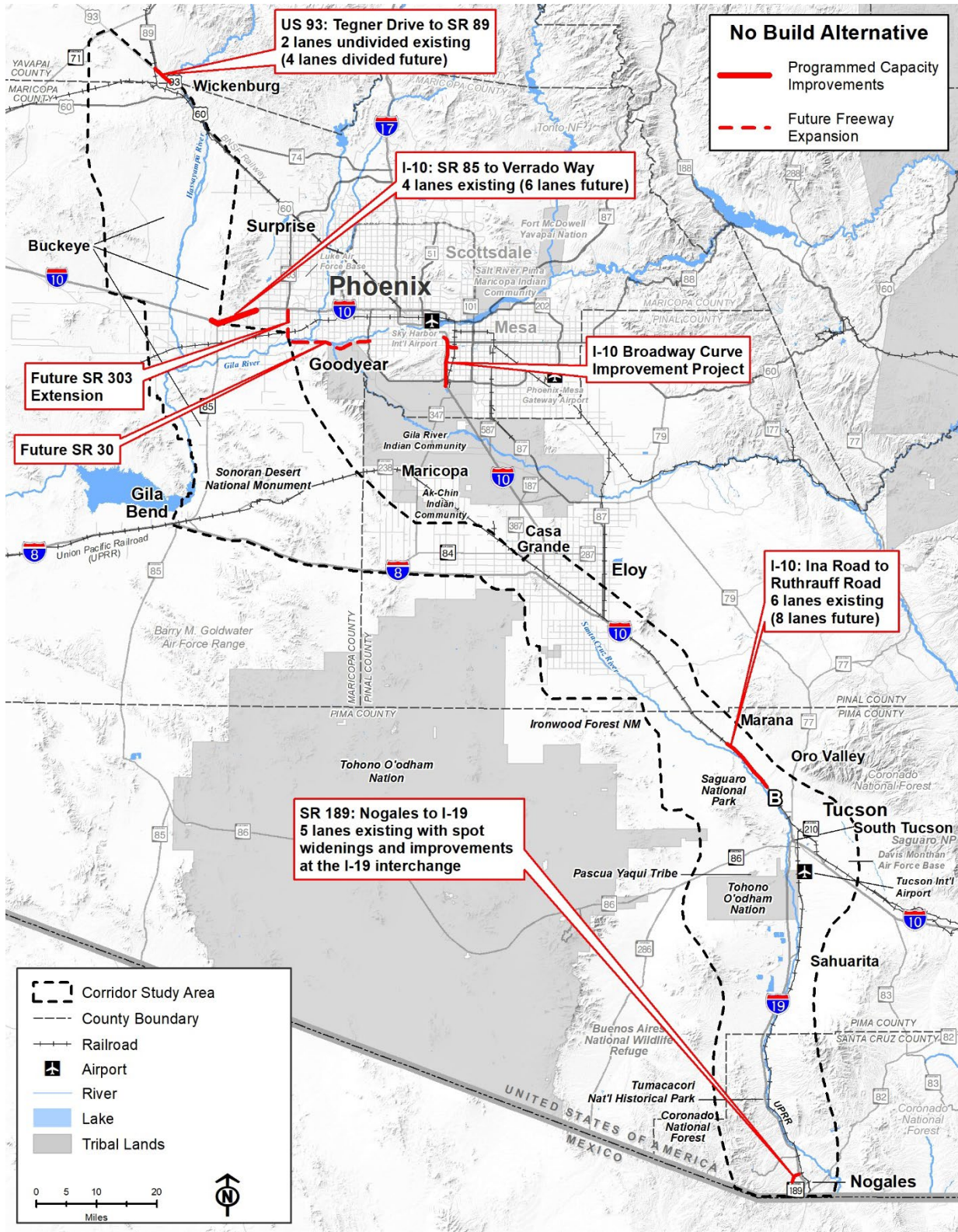


Figure 7. No Build Alternative with Capacity Improvements



3.4 Selected Alternative

The Selected Alternative balances transportation needs with impacts to the natural and human environments and stakeholder input. The Selected Alternative provides access to high-growth areas, achieves Level of Service (LOS) C or D throughout the I-11 corridor, and serves key economic centers while avoiding impacts to sensitive environmental concerns. The analysis completed in this ROD is based on an appropriate level of detail for a Tier 1 EIS and provides a good understanding of how the Build Corridor Alternatives perform relative to each other and a No Build Alternative. FHWA and ADOT, however, made the decision to carry forward both a west and an east option in Pima County due to agency and public concerns regarding the various resources along both options. The ROD Selected Alternative is the same as the Final Tier 1 EIS Preferred Alternative.

3.4.1 I-19: Nogales to Sahuarita

The Selected Alternative uses I-19 between Nogales and Sahuarita, which is the same as the Preferred Alternative. It provides access to high growth areas and serves key economic centers while avoiding impacts to sensitive environmental concerns. ADOT travel demand modeling indicates that Option A along I-19 will continue to provide LOS C with projected 2040 traffic volumes; however, Tier 2 studies would further investigate expanding I-19 capacity based on new data and more specific regional travel demand models. If needed, there is potentially enough room for additional travel lanes in the median.

3.4.2 Sahuarita to Marana

The Selected Alternative carries forward both the west option and east option in Pima County due to agency and public concerns regarding the various resources along both options, allowing ADOT to make a more informed decision after completing detailed environmental and engineering studies prior to selecting one of the alignments in Tier 2.

3.4.3 Marana to Casa Grande

The Selected Alternative uses Option F with a minor refinement, which is the same as the Final Tier 1 EIS Preferred Alternative. Between the Draft and Final Tier 1 EIS, FHWA and ADOT shifted a 12-mile section of Option F to minimize impacts to the Santa Cruz floodplain and relocated the connector to I-10 to lessen impacts to planned economic development. The Selected Alternative provides an alternate regional route to alleviate congestion and prevent bottlenecks during emergency situations where there currently is no alternative route to I-10. It serves planned growth areas and key economic centers in Marana, Eloy, and Casa Grande and is consistent with local and county-level planning. It will attract and divert traffic from existing roadways and is part of the end-to-end alternative that will reduce travel time between Nogales and Wickenburg compared to the No Build Alternative.

3.4.4 Casa Grande to Buckeye

The Selected Alternative remains the same as the Final Tier 1 EIS Preferred Alternative. At the intersection of Option F and I-8, the Selected Alternative heads west and is co-located with I-8 until Montgomery Road where it turns north and follows Option I1 in the Casa Grande area. The



Selected Alternative continues along Options I2 and L through the Hidden Valley area, and Options M, Q2, and Q3 through Buckeye and Palo Verde, avoiding a new crossing of the Gila and Hassayampa Rivers, and utilizing existing corridors. The Selected Alternative is consistent with local plans and agency feedback and minimizes impacts to wildlife connectivity, the rivers, critical habitat, and federally protected species in the area.

3.4.5 Buckeye to Wickenburg

Between Buckeye and Wickenburg, the Selected Alternative is a new corridor on a new alignment. It carries forward the Final Tier 1 EIS Preferred Alternative, and is a hybrid of Option U and Option X. Between the Draft and Final Tier 1 EIS, FHWA and ADOT identified a refinement near US 93 to minimize impacts to residences, floodplains, wildlife linkages, and Sonoran desert tortoise habitat. The Selected Alternative does not follow the exact alignment in local plans, but instead follows a straighter and more direct route, addressing travel times and mobility concerns.

3.5 Tier 2 and Next Steps

ADOT will be the lead agency on any future Tier 2 process for the I-11 project as FHWA and ADOT signed Memoranda of Understanding in April 2019 and January 2021 assigning ADOT responsibility to conduct environmental reviews under NEPA (FHWA and ADOT 2019, 2021).

At the time of this ROD, no funding has been identified to plan, design, purchase right-of-way, or construct any part of I-11, including any Tier 2 analysis. The implementation of the corridor could entail federal, state, or local funding; tolling; or public-private partnerships.

The Selected Alternative will likely be implemented in segments as funding is available. ADOT may phase Tier 2 projects according to the type of facility and extent of improvements within a segment such as intersection improvements, additional access controls, or construction of a two-lane or four-lane divided roadway that is later upgraded to interstate standards. Before initiating a Tier 2 project, ADOT would verify the termini, identify the scope (two-lane, four-lane, improvements to existing highway, etc.), and determine the specific class of Tier 2 NEPA analysis needed.

The Tier 2 process would include NEPA analysis to inform the selection of a specific alignment within the 2,000-foot-wide selected corridor alternative, site-specific environmental analyses and mitigation measures, and preliminary design. The alignment is expected to be approximately 400 feet wide but will depend on constraints and requirements. ADOT will continue to coordinate with the tribes, public, and agencies prior to and during Tier 2 project-level analysis.

ADOT is not currently acquiring any right-of-way for I-11. ADOT does not anticipate acquiring right-of-way until after the Tier 2 environmental process is underway and funding for the project is authorized.

Self-driving automobiles and trucks, emerging traffic management technologies, or new commute or freight patterns resulting from the novel coronavirus disease of 2019 (COVID-19) are changing the transportation landscape. ADOT uses a sophisticated travel demand model to project traffic volumes, which does not currently estimate these emerging technologies or demand patterns. If the need does decrease in the future, ADOT and regional planning



organizations may choose not to prioritize segments of the I-11 project. Economic growth in Arizona will result in demands on all modes of transportation, not just interstate highways. The Selected Alternative encompasses a 2,000-foot-wide corridor for a future interstate. It could also accommodate rail or utility lines as they are not precluded from being considered in the corridor provided the applicable environmental review process is conducted.

4 FINAL PRELIMINARY SECTION 4(F) EVALUATION

The proposed action has the potential to require the use of resources protected under Section 4(f) of the Department of Transportation Act of 1966 (49 United States Code [U.S.C.] 303), hereinafter referred to as “Section 4(f),” and its implementing regulations codified at 23 Code of Federal Regulations (CFR) Part 774. Section 4(f) requires that efforts be made to protect publicly owned public parks, recreation areas, wildlife and waterfowl refuges, and eligible historic sites. As allowed by 23 CFR 774.7(e)(1), a Preliminary Section 4(f) Evaluation is the appropriate level of evaluation for this tiered EIS approach.

The Draft Preliminary Section 4(f) Evaluation identified properties that are afforded protection by Section 4(f) (see **Section 4.5** of the Final Tier 1 EIS) and documents the evaluation of the potential use of these properties by the Build Corridor Alternatives (see **Section 4.6** of the Final Tier 1 EIS). FHWA and ADOT coordinated with officials with jurisdiction over Section 4(f) properties where a potential project use was identified in the evaluation. Coordination focused on identification of properties, their primary purposes, examining ways to avoid or minimize uses of the Section 4(f) properties in the development of alternatives, and identifying appropriate mitigation.

Pursuant to 23 CFR 774.5(a), the Draft Preliminary Section 4(f) Evaluation was provided to the Department of the Interior for review and comment prior to FHWA final approval. FHWA and ADOT also coordinated with the public as required by Section 4(f) regulations (23 CFR 774.5(2)). Public coordination activities for Section 4(f) were combined with the public involvement activities undertaken for the EIS process, documented in **Chapter 5** (Coordination and Outreach) of the Final Tier 1 EIS.

In response to publication of the Final Tier 1 EIS and Draft Preliminary Section 4(f) Evaluation in July 2021, FHWA and ADOT received correspondence on the document from agencies, tribes, and the public. This plus the findings of the Final Tier 1 EIS informed the decision presented in the ROD and Final Preliminary Section 4(f) Evaluation. The Selected Alternative is the Preferred Alternative as described in the Final Tier 1 EIS. The Selected Alternative balances transportation needs with impacts to the natural and human environments and stakeholder input. Refer to ROD **Chapter 3** (Alternatives) for details on the Selected Alternative.

As set forth in 23 CFR 774.7(e)(1), FHWA completed a Preliminary Section 4(f) Evaluation, including avoidance alternatives, potential use analysis, and measures to minimize harm. See ROD **Chapter 5** (Project Commitments). ADOT will complete Section 4(f) evaluations during the Tier 2 analyses. Specifically, ADOT will refine the corridor to a specific roadway alignment, potentially identify additional Section 4(f) resources, identify and assess potential impacts and uses of Section 4(f) properties as defined by Section 4(f), evaluate measures to avoid or minimize impacts to Section 4(f) properties, identify and commit to measures to mitigate adverse impacts to Section 4(f) properties, assess least overall harm as warranted, and complete a Final Section 4(f) Evaluation prior to making a final Section 4(f) approval. Based on the information contained in the Final Tier 1 EIS, FHWA preliminarily determined that the 2,000-foot-wide Selected Alternative corridor minimizes impacts to Section 4(f) properties. However, if new conditions, information, or regulations that change the boundaries of Section 4(f) properties within the corridors arise before Tier 2 studies, FHWA may evaluate alternatives outside the 2,000-foot-wide corridor.



ADOT will continue coordination during the Tier 2 studies with officials with jurisdiction over Section 4(f) properties where a potential use of a Section 4(f) property is identified. Coordination will focus on examining ways to avoid or minimize uses of the Section 4(f) properties in the development of alignment alternatives and on identifying appropriate mitigation. This coordination activity will enable ADOT to determine the potential for use and complete the Draft and Final Section 4(f) Evaluation(s) as required to satisfy the requirements of Section 4(f) during Tier 2.



5 PROJECT COMMITMENTS

ADOT assumed FHWA responsibility for carrying out environmental approvals under NEPA through two Memoranda of Understanding between FHWA and ADOT signed on April 16, 2019, and January 4, 2021 (FHWA and ADOT 2019, 2021). With this assignment of federal environmental review responsibility, ADOT will be responsible for Tier 2 studies and implementation of mitigation. FHWA remains the federal lead agency responsible for the ROD for this I-11 Corridor Tier I EIS.

FHWA and ADOT completed the analysis to identify a 2,000-foot-wide Selected Build Corridor Alternative. Additional analysis in Tier 2 will inform (1) the selection of a specific alignment (approximately 400 feet wide) within the selected 2,000-foot-wide corridor and (2) the selection of the west option or east option in Pima County.

As required by NEPA, FHWA and ADOT identified measures to avoid, minimize, and mitigate impacts from the project (generally referred to as mitigation) during this Tier 1 process that are listed in **Table 1**. Mitigation and Tier 2 commitments listed in the Final Tier 1 EIS that are not associated with the Selected Alternative are not included in **Table 1** but can be found in the Final Tier 1 EIS for future reference if needed during Tier 2. Additional studies and identification of mitigation will occur in Tier 2. The following describes how the mitigation and Tier 2 analysis is inventoried:

- Tier 2 analyses or studies that ADOT will complete during Tier 2 are numbered by resource with a 'T2' identifier. *Example: T2-Land Use-1.*
- Mitigation commitments identify specific mitigation that ADOT is committing to implement as mitigation for the I-11 Corridor Project. Each commitment is numbered by resource with an 'MM' identifier. *Example: MM-Recreation-3.*
- Some commitments include a description of location(s) along the Selected Alternative where they apply. Absent geography description, the commitment applies to the entire Selected Corridor Alternative and all future Tier 2 projects therein.
- This information also is stored in a sortable spreadsheet in the Project Record to facilitate ease of compliance in Tier 2.
- Some mitigation commitments reference a geographic limit or description via an option. The options can be found on **Figure 8**.

General best practices, permit requirements, and/or other mitigation strategies suggested by agencies or the public can be found in **Appendix C** (Additional Mitigation to be Evaluated in Tier 2).

Subsequent to the release of the Final Tier 1 EIS, the Section 106 Programmatic Agreement was finalized and executed. Continuing consultation is summarized, and a copy of the executed final Programmatic Agreement is provided in **Appendix B** (Section 106 Consultation Summary and Programmatic Agreement). Tier 2 analysis and mitigation commitments for cultural resources were updated according to the final Programmatic Agreement.

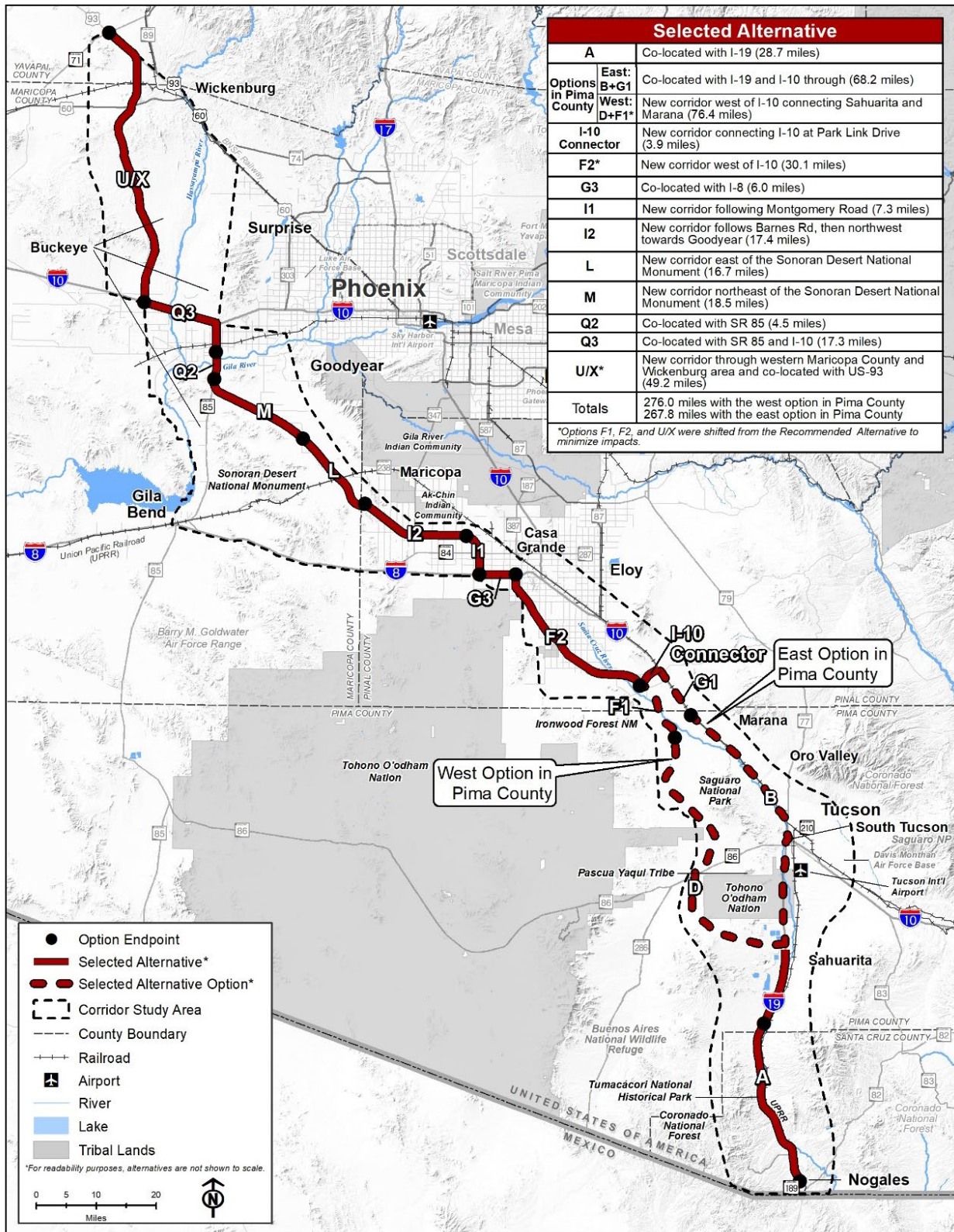


Figure 8. Selected Alternative



Table 1. Mitigation and Tier 2 Commitments

Number	Commitment	Type
T2-LandUse-1	Conduct environmental studies to identify specific effects to property, zoning regulations, neighborhoods, or community facilities to determine needed acquisitions, easements, and displacements.	Analysis
T2-LandUse-2	Complete a Final Section 6(f) Evaluation (if Section 6(f) properties are impacted) to assess the ability of the Tier 2 Selected Alternative to avoid or minimize impacts to protected properties and identify specific mitigation measures to offset the remaining impacts.	Analysis
T2-LandUse-3	Plan the specific alignment and locations of traffic interchanges in coordination with local government entities and with public input to address transportation needs and to minimize the potential for land use conflicts.	Analysis
MM-LandUse-1	Avoid or minimize impacts to Section 6(f) properties. Coordinate with agencies that have jurisdiction over Section 6(f) properties. If Section 6(f) properties cannot be avoided, ADOT will identify replacement land.	Mitigation
T2-Recreation-1	Coordinate with the appropriate land-managing agencies during Tier 2 studies to identify applicable laws, policies, and plans for each recreation site.	Analysis
T2-Recreation-2	Coordinate with the Bureau of Land Management when advancing transportation uses in the multi-use corridor within the Vulture Mine Recreation Management Zone.	Analysis
T2-Recreation-3	Update the list of recreational resources within the project-level Study Area and identify the temporary and permanent impacts to each resource.	Analysis
T2-Recreation-4	Review recreation planning documents applicable to the Study Area.	Analysis
T2-Recreation-5	Identify site-specific mitigation measures for impacted recreation resources.	Analysis
MM-Recreation-1	Provide connectivity across I-11 for continued use of the Vulture Mine Off-Road Challenge Race Course in the Vulture Mine Recreation Management Zone.	Mitigation
MM-Recreation-2	For the west option in Pima County: For any design alternatives that relocate Sandario Road (for example, the Central Arizona Project Design Option described in the Draft Tier 1 EIS), evaluate access to Saguaro National Park and Tucson Mountain Park.	Mitigation
MM-Recreation-3	During design, evaluate connection between the two segments of the Palo Verde Regional Park in western Pinal County.	Mitigation



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Number	Commitment	Type
T2-Community Resources, Title VI, and Environmental Justice-1	Develop a Public Involvement Plan for each Tier 2 project consistent with ADOT's agency-wide Public Involvement Plan (ADOT 2017e), which meets federal requirements for Title VI, Environmental Justice, and Limited English Proficiency in the transportation decision-making process. The public involvement plan will be developed by the ADOT in each Tier 2 with the focus of ensuring full and fair participation by affected communities and populations. Complete coordination with local stakeholders and community representatives to understand the unique needs and priorities of those affected by the project, as well as determine the most effective means of engaging them in the outreach process.	Analysis
T2-Community Resources, Title VI, and Environmental Justice-2	Identify and quantify impacts and mitigation measures to address adverse impacts to minority and low-income populations. Characterization of the demographics for affected communities would be conducted using the most recent census data and supplemental characterization techniques. The impact analysis would determine whether there are disproportionately high and adverse effects to the minority and/or low-income populations.	Analysis
T2-Community Resources, Title VI, and Environmental Justice-3	<p>Address Environmental Justice in accordance with the principles outlined in Executive Order 12898 and FHWA Order 6640.23A (FHWA 2012). The analysis should include the following items, as established by the FHWA "Guidance on Environmental Justice and NEPA" (FHWA 2011):</p> <ul style="list-style-type: none">• Conduct major, proactive efforts to ensure meaningful opportunities for public participation, including activities to increase participation from low-income and minority populations.• Compare the project effects (including indirect and cumulative effects) on minority and low-income populations with respect to those on the overall population. Fair distribution of the beneficial and adverse effects of the project is the desired outcome.• Determine whether the adverse effects are predominantly borne by the minority and low-income populations or are appreciably more severe or greater in magnitude on these populations than the adverse effects suffered by the non-minority and non-low-income populations (i.e., disproportionately high and adverse effects).• Determine whether the project might prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.• Determine whether there are practicable mitigation measures or alignment alternatives that would avoid or minimize the disproportionately high and adverse effect(s),• Determine whether any of the affected communities include minorities, ethnic groups, senior populations, persons with disabilities, individuals with a low-income, or those who are limited English proficient.	Analysis



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Number	Commitment	Type
T2-Economic-1	Use an updated travel demand model that delineates population and employment projections combined with an assessment of planned/entitled private developments to determine locations most suitable for ensuring transportation system safety and mobility.	Analysis
T2-Economic-2	Use a more detailed alignment to analyze impacts related to businesses (including loss of access).	Analysis
T2-Economic-3	Evaluate impacts on outdoor recreation and the overall regional economy by using recent, relevant outdoor recreation data such as the Outdoor Recreation Satellite Accounts. The Outdoor Recreation Satellite Accounts use tracker surveys to collect information on visitor spending, on attractions that generate tourist visits, and on how the alternatives might affect tourists' decisions.	Analysis
MM-Economic-1	Locate traffic interchanges to provide transportation access to state lands and other developable areas while balancing convenient access with potential impacts on parks and outdoor tourism destinations as a result of the added interchanges.	Mitigation
MM-Economic-2	Participate in continued, long-term planning efforts with metropolitan planning organizations, local jurisdictions, resource agencies, and private stakeholders to cooperatively plan development along the I-11 corridor. The effort would coordinate wildlife connectivity, local land use planning, and context sensitive design for the I-11 facility. Details regarding long-term planning efforts are dependent on the planning process for each individual organization, jurisdiction, and/or agency. ADOT commits to participating in these efforts but does not have the jurisdiction to lead them.	Mitigation
T2-Cultural-1	Collect additional information to further evaluate the Selected Alternative by completion of cultural resource surveys to inventory and evaluate the National Register of Historic Places eligibility of cultural resources within the area of potential effects of each Tier 2 project, in coordination with the Section 106 Consulting Parties and pursuant to the I-11 Final Programmatic Agreement (Appendix B [Section 106 Consultation Summary and Programmatic Agreement]), the requirements of Section 106 of the National Historic Preservation Act, any other applicable regulations, and any executed agreement documents. This will include, as necessary and upon request from consulting tribes, additional ethnographic and/or traditional cultural property studies.	Analysis



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Number	Commitment	Type
MM-Cultural-1	Implement commitments identified in the I-11 Final Programmatic Agreement (Appendix B [Section 106 Consultation Summary and Programmatic Agreement]), and any additional commitments from the Tier 2 process. During the Tier 1 process, ADOT has committed to the avoidance of adverse effects upon AZ T:14:115(ASM). ADOT has also committed to the avoidance of adverse effects upon historic canals that have been or may be determined eligible for listing in the National Register of Historic Places pursuant to 36 CFR 60.4(a), (b), and/or (c); and in such instances as the consulting party or parties with jurisdiction over said structures request avoidance.	Mitigation
MM-Cultural-2	Work to avoid or minimize adverse effects on historic properties listed in or eligible for the National Register of Historic Places, including traditional cultural properties, as well as cultural resources not yet evaluated for National Register of Historic Places eligibility. In coordination with the Section 106 Consulting Parties, ADOT would develop treatment measures to mitigate any unavoidable adverse effects. This will include, as necessary and upon request from consulting tribes, additional ethnographic and/or traditional cultural property studies.	Mitigation
T2-Noise-1	Conduct a Tier 2 traffic noise analysis in accordance with the current ADOT Noise Abatement Requirements (ADOT 2017d) as well as 23 CFR 772. The Tier 2 analysis will include conducting noise measurements to characterize the existing noise environment in areas adjacent to segments of I-11 that consist of a new highway on new alignment where a substantial noise increase (a 15 a-weighted decibel increase over existing noise levels) would be likely. Noise abatement measures will be considered where traffic noise impacts are identified, and abatement measures found to be both feasible and reasonable will be incorporated into the project.	Analysis
T2-Noise-2	Evaluate potential construction noise impacts and assess construction noise mitigation, as needed and in accordance with current ADOT Noise Abatement Requirements (ADOT 2017d). ADOT will determine whether any additional measures are needed in the plans or specifications to minimize or eliminate adverse impacts from construction noise.	Analysis
MM-Noise-1	Consider noise abatement measures where traffic noise impacts are identified during Tier 2 studies. Abatement measures found to be both feasible and reasonable will be incorporated into the project.	Mitigation
T2-Visual-1	Assess individual Tier 2 projects using FHWA's Visual Impact Assessment Scoping Questionnaire (FHWA 2015). Depending on the findings of the questionnaire, an Abbreviated Visual Impact Assessment may be needed, or a more involved Standard or Expanded Visual Impact Assessment may be required. Simulations may also be prepared to assist with evaluating potential visual impacts.	Analysis



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Number	Commitment	Type
T2-Visual-2	Identify site-specific mitigation measures for sensitive viewpoints, including Saguaro National Park West and Tucson Mountain Park.	Analysis
MM-Visual-1	Comply with applicable local ordinances that regulate outdoor lighting to minimize light pollution.	Mitigation
MM-Visual-2	Comply with appropriate level of FHWA Visual Impact Assessment Guidelines (FHWA 2015) during Tier 2 studies.	Mitigation
MM-Visual-3	Select roadway lighting that is compatible with locally adopted dark sky objectives and policies, where applicable.	Mitigation
MM-Visual-4	If the west option is selected during Tier 2, avoid use of roadway lighting in the vicinity of the Tucson Mitigation Corridor and Saguaro National Park, except at locations where safety requirements deem it necessary.	Mitigation
T2-Air Quality-1	Conduct a detailed air quality analysis for further environmental evaluation. Transportation conformity analysis could be required based on the nonattainment and maintenance designations of the areas surrounding the Study Area. Attainment status for the applicable areas will be re-evaluated during Tier 2 analysis.	Analysis
T2-Air Quality-2	Assess vehicle emissions along the I-11 Corridor. Modeling of carbon monoxide and particulate matter at the project level will be conducted to determine potential localized air quality effects (hotspots) from future construction and operation of the I-11 Corridor as required by the Clean Air Act.	Analysis
T2-Air Quality-3	Quantitatively assess greenhouse gas emissions using US Environmental Protection Agency's Motor Vehicles Emissions Simulator (MOVES) model or the model in place at the time of Tier 2 studies as required by the Clean Air Act.	Analysis
T2-Air Quality-4	Conduct an analysis of localized air quality impacts to sensitive areas, including the Saguaro National Park. The analysis will assess National Ambient Air Quality Standards and criteria pollutants and will consider the spacing of interchanges and associated idling impacts on adjacent receptors. ADOT will provide the opportunity for National Park Service to review the air quality emission inventory and modeling protocols.	Analysis
T2-HazardousMaterials-1	Conduct detailed hazardous materials evaluations, including review of regulatory agency files; subsurface investigations to quantify the vertical and horizontal distribution of hazardous materials; and remediation planning as needed.	Analysis
T2-HazardousMaterials-2	Evaluate engineering solutions to contain spills in areas that have a high potential to impact sensitive receptors, including water resources, groundwater recharge areas, wildlife habitat, and recreation resources.	Analysis
MM-HazardousMaterials-1	Prior to construction, prepare and implement a project-specific Health and Safety Plan and Hazardous Materials Management Plan to address potential hazardous materials that could be encountered. These plans will consist of specific measures to protect worker and public health and safety, as well as programs to manage contaminated materials during construction.	Mitigation



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Number	Commitment	Type
MM-HazardousMaterials-2	If unknown contaminated media is encountered during construction, stop working until the contamination is properly evaluated and measures are developed to protect worker health and safety in accordance with the project-specific Health and Safety Plan and Hazardous Materials Management Plan.	Mitigation
MM-HazardousMaterials-3	Identify practical measures to avoid, minimize, and mitigate the environmental consequences from hazardous materials.	Mitigation
MM-HazardousMaterials-4	Implement preparedness plans, such as the Arizona State Emergency Response and Recovery Plan (Arizona Department of Emergency and Military Affairs 2017).	Mitigation
T2-Soils-1	Identify and review regulations related to geologic resources based on local land ownership and the intended use.	Analysis
T2-Soils-2	As part of design and geotechnical investigations, determine the amount of ground disturbance anticipated and factors that affect the potential for soils to erode by water and wind, including physical characteristics, slope gradient, vegetative cover, surface roughness, and rainfall or wind intensity.	Analysis
T2-Soils-3	Evaluate existence and status of mining claims and active mining operations.	Analysis
T2-Soils-4	Identify and determine the extent of impacts to specific geologic, soil, and farmland resources.	Analysis
T2-Soils-5	Conduct site-specific field investigations during design to validate interpretations and confirm soil characteristics.	Analysis
T2-Soils-6	Collect any additional or refined data (Natural Resources Conservation Service, United States Geological Survey, or other sources) on geotechnical conditions that could affect design and performance such as shrink/swell, compression/collapse, and corrosion potential.	Analysis
T2-Soils-7	Identify the number of irrigated acres for refinement of potential prime or unique farmland impacts through Natural Resources Conservation Service completion of United States Department of Agriculture Form AD-1006 (Farmland Conversion Impact Rating form).	Analysis
T2-Soils-8	Identify areas of current and planned development that should be removed from prime and unique farmland categorization through the analysis of local land use and zoning maps.	Analysis
MM-Soils-1	Monitor disturbance and erosion areas during construction and through restoration.	Mitigation
MM-Soils-2	Avoid known land subsidence areas when feasible.	Mitigation
MM-Soils-3	Avoid known earth fissures when feasible.	Mitigation
MM-Soils-4	Develop and implement a reclamation and revegetation plan.	Mitigation
MM-Soils-5	Coordinate with Natural Resources Conservation Service as part of compliance with the Farmland Protection Policy Act.	Mitigation
T2-Water Resources-1	Coordinate with US Environmental Protection Agency regarding proposed construction within sole source aquifers.	Analysis



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Number	Commitment	Type
T2-Water Resources-2	Conduct field delineations of potential waters of the US and wetlands within the final project footprint, determine which potential waters of the US and wetlands are jurisdictional under the US Army Corps of Engineers definition, and identify specific Clean Water Act permitting requirements and mitigation. Tier 2 analyses will consider the requirement that no discharge of dredged or fill materials may be permitted if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem.	Analysis
T2-Water Resources-3	Conduct an alternative analysis and selection process for Tier 2 alternatives in support of Clean Water Act Section 404 Individual Permit applications and per the requirements of Executive Order 11990, Protection of Wetlands.	Analysis
T2-Water Resources-4	Assess which Municipal Separate Storm Sewer System (MS4) applies in which area, and whether any small operators (Phase II MS4s) are located within the Tier 2 study area.	Analysis
T2-Water Resources-5	Identify US Army Corps of Engineers civil works projects that may be altered by project construction and obtain US Army Corps of Engineers approval prior to alteration of such projects as required by Section 14 of the Rivers and Harbors Act.	Analysis
T2-Water Resources-6	Identify and assess project effects to unmapped floodplains, levees, and flood control basins that may be altered by project construction. Provide flood control districts and jurisdictions the opportunity to provide information regarding unmapped floodplains, levees, and flood control basins.	Analysis
T2-Water Resources-7	Conduct hydraulic computer modeling or other assessments of impacts on floodplains. Coordinate with local floodplain administrators to discuss the need for Floodplain Use Permits and mitigation. Assess impacts on high-hazard flood areas versus low-hazard (500-year-flood zone) areas and assess floodplain areas that have not been categorized in more detail; additional information sources such as Pima County's mapped regulatory riparian resources may be used to inform this analysis. Assess existing floodplain issues and potential solutions. An avoidance alternative outside of the 2,000-foot-wide corridor may be considered.	Analysis
MM-Water Resources-1	Develop location-specific avoidance, minimization, and mitigation measures for water resources. Avoid and minimize impacts on waters of the US, including wetlands, to the maximum extent practicable.	Mitigation



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Number	Commitment	Type
MM-Water Resources-2	<p>Incorporate best management practices designed to reduce erosion, minimize sedimentation, and eliminate non-stormwater pollutants into the project design. Standard best management practices are identified in ADOT's Erosion and Pollution Control Manual for Highway Design and Construction (2012) and ADOT's Standard Specifications for Road and Bridge Construction (2008). The most recent versions of these design standards will apply during Tier 2 studies. Among others, restrictions and requirements that will be incorporated during construction include the following:</p> <ul style="list-style-type: none">• Wastewater will be contained and disposed of at an approved off-site location.• No equipment refueling will occur within drainages.• The contractor will keep a regulated work area free of litter and trash.• The contractor will remove all construction material and debris from the construction site upon completion of the project.	Mitigation
MM-Water Resources-3	<p>Site the final corridor footprint to avoid sensitive water resources to the maximum extent practicable. Examples of resources that could be avoided through strategic footprint siting include the Tres Rios Water Reclamation Facility, Sweetwater Wetlands Park, certain segments of the Santa Cruz River, and the Nogales International Wastewater Treatment Plant, among others.</p>	Mitigation
MM-Water Resources-4	<p>Comply with federal, state, and local regulations pertaining to water resources and acquire the necessary permits and approvals prior to project construction.</p>	Mitigation
MM-Water Resources-5	<p>Coordinate with federal, state, and local jurisdictions as appropriate to identify water resources of concern and to develop strategies to avoid and minimize impacts.</p>	Mitigation
T2-Biological Resources-1	<p>Continue to work with the Arizona Game and Fish Department to determine compensation for the loss of wildlife habitat. Also continue to work with agencies prior to and during Tier 2 studies to conduct surveys needed to identify occupied habitat for Endangered Species Act-listed species at the time of the Tier 2 project and to develop specific conservation measures to avoid, minimize, or mitigate impacts to listed species.</p>	Analysis
T2-Biological Resources-2	<p>Continue to work with federal and state agencies as well as affected municipalities during the Tier 2 process to evaluate potential impacts to other sensitive species listed by these entities. Work with tribes during the Tier 2 process to avoid or minimize effects to tribal sensitive species.</p>	Analysis



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Number	Commitment	Type
T2-Biological Resources-3	Continue to work with Arizona Game and Fish Department and other stakeholders prior to and during the Tier 2 process to determine wildlife connectivity data needs and develop and fund appropriate studies to evaluate wildlife movement and roadway mortality. Sufficient time (at least 2 to 4 years) will be given to ensure the studies acquire adequate data for guiding the development of alternatives and mitigation measures. Tier 2 impact analyses will focus on refining information relating to specific impact areas within known wildlife linkages and corridors identified now and in the future.	Analysis and Mitigation
T2-Biological Resources-4	Conduct tracking studies using camera traps, satellite telemetry, track plates, or other methods to identify spatial and temporal use patterns of target species within the Study Area. These tracking studies, as well as collision studies, will be utilized to identify sites where overpasses or underpasses could be installed. ADOT will implement on-the-ground mitigation based on recommendations generated by these studies, such as constructing wildlife crossings where previous crossings by wildlife have been documented and building culverts of a specific size and design for wildlife occurring in specific locations in the Study Area. Also existing culverts, bridges, and other roadway features that are in place along co-located highways will be monitored to identify the species that use these and the degree to which these existing features are effective at maintaining movement across the highway barriers.	Analysis
T2-Biological Resources-5	Prepare biological evaluations for the Tier 2 studies and negotiate compensatory mitigation with the US Fish and Wildlife Service if adverse impacts to Endangered Species Act-listed species or habitat are determined likely to occur.	Analysis
T2-Biological Resources-6	Analyze impacts in Pima County to Conservation Lands System lands and coordinate with Pima County to minimize potential impacts and identify appropriate mitigation strategies.	Analysis
T2-Biological Resources-7	Partner with state and federal agencies during the design process for Tier 2 studies and use data obtained from habitat suitability studies to inform design features to minimize impacts to the Sonoran desert tortoise and its habitat.	Analysis
T2-Biological Resources-8	Continue to work with federal and state agencies as well as affected municipalities during Tier 2 studies to evaluate potential impacts to wildlife corridors designated by these entities.	Analysis
MM-Biological Resources-1	Participate, support, and commit to long-term invasive and noxious weed management efforts in the I-11 corridor. To effectively combat noxious and invasive weeds, a coordinated effort across federal, state, and local levels is required. Noxious and invasive weed control on Bureau of Land Management lands would occur in accordance with any previously approved environmental assessments applicable to the geographic area in the Tier 2 study. Long-term management of invasive and noxious weeds would be necessary to minimize indirect and cumulative effects to the Pima pineapple cactus and its habitat.	Mitigation

Number	Commitment	Type
MM-Biological Resources-2	Notify the Arizona Department of Agriculture prior to the start of construction, if needed, to compensate for impacts to native plants.	Mitigation
MM-Biological Resources-3	Discuss the need for habitat compensation with the Arizona Game and Fish Department during Tier 2 studies. Arizona Game and Fish Commission Policy A1.9 and Department Policy 12.3 (Arizona Game and Fish Department 1994) state the Department shall seek compensation at a 100 percent level, when feasible, for actual or potential habitat losses resulting from land and water projects.	Mitigation
MM-Biological Resources-4	Based on the results of wildlife studies discussed in T2-Biological Resources-2, in consultation with stakeholders, identify the crossing structures, design features, and supporting mitigation measure or conservation necessary to facilitate the movement of wildlife through the roadway barrier and will incorporate the solutions into subsequent I-11 projects.	Mitigation
MM-Biological Resources-5	Establish partnering opportunities with key landowners (e.g., private, Bureau of Land Management, Bureau of Reclamation, Santa Cruz County, Pima County, Pinal County, Maricopa County, and Yavapai County) and appropriate municipal, county, state, and federal agencies prior to and during any future Tier 2 study for long-term planning strategies.	Mitigation
MM-Biological Resources-6	Evaluate the Wildlife Connectivity Assessment reports from Santa Cruz, Pima, Pinal, Maricopa, and Yavapai Counties to identify and, if possible, avoid I-11 impacts on the diffuse, landscape, and riparian wildlife movement areas identified in each report prior to the Tier 2 analysis.	Mitigation
MM-Biological Resources-7	Evaluate structures designed to enhance wildlife connectivity, such as wildlife overpasses and underpasses, and fencing to funnel wildlife to these structures in association with the Arizona Game and Fish Department and relevant agencies and stakeholders.	Mitigation
MM-Biological Resources-8	Avoid or minimize impacts to designated or proposed critical habitat. If impacts to critical habitat cannot be avoided, consultation with US Fish and Wildlife Service will occur during the Tier 2 analysis.	Mitigation
MM-Biological Resources-9	Conduct a thorough habitat assessment in areas that have potential habitat for Endangered Species Act-listed species prior to any Tier 2 study that would encompass these areas. If suitable habitat occurs within the construction footprint, ADOT will avoid or minimize impacts. Additionally, pre-construction surveys will be completed for all Endangered Species Act-listed species, or it will be assumed that the species occurs on-site. For the southwestern willow flycatcher, western yellow-billed cuckoo, and Yuma Ridgway's rail, 2 years of breeding season surveys will be conducted prior to the Tier 2 study to the extent possible.	Mitigation
MM-Biological Resources-10	Continue to honor commitments within the Candidate Conservation Agreement for the Sonoran desert tortoise in Arizona (US Fish and Wildlife Service 2015).	Mitigation



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Number	Commitment	Type
MM-Biological Resources-11	Conduct habitat suitability surveys within agency-mapped Sonoran desert tortoise habitat that may be impacted by the I-11 section being considered prior to the Tier 2 study.	Mitigation
MM-Biological Resources-12	Follow ADOT's existing mitigation strategies for any future I-11 segments selected for construction that are located within Sonoran desert tortoise habitat. ADOT has developed comprehensive Sonoran desert tortoise mitigation that includes, but is not limited to, education of contractors and ADOT staff on tortoise awareness, pre-construction surveys, relocation of tortoises, on-site monitoring of construction activities, and best management practices designed to reduce potential tortoise mortalities during construction.	Mitigation
MM-Biological Resources-13	Avoid widening I-19 to the east along the Santa Cruz River and impacting southwestern willow flycatcher, yellow-billed cuckoo, and their critical habitat; Gila topminnow; and Northern Mexican garter snake habitat; conduct pre-construction surveys where and when appropriate; and consult with US Fish and Wildlife Service, as needed (Option A).	Mitigation
MM-Biological Resources-14	Minimize the construction footprint to the extent possible and improve or construct wildlife crossings that jaguar and ocelots will use (Option A).	Mitigation
MM-Biological Resources-15	Avoid or minimize construction footprint through quality Pima pineapple cactus habitat, survey suitable habitat 1 year prior to the Tier 2 study to inform design; implement long-term control of invasive and noxious weeds; and negotiate compensatory mitigation with US Fish and Wildlife Service, as needed (Option A and the west option in Pima County).	Mitigation
MM-Biological Resources-16	Avoid or minimize impacts to the riparian corridor associated with the Santa Cruz River. The need for potential additional wildlife crossings would be assessed and implemented where warranted to preserve wildlife movement. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option A).	Mitigation
MM-Biological Resources-17	Avoid or minimize impacts to the Santa Rita-Tumacácori Linkage and Santa Rita-Sierrita Detailed Linkage. Assess whether recommendations provided in the specific or county linkage reports can be used to improve or construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option A).	Mitigation
MM-Biological Resources-18	Conduct 2 years of pre-construction surveys during the breeding season in suitable habitat for yellow-billed cuckoo; implement seasonal restrictions; and consult with US Fish and Wildlife Service, as needed. Avoid widening I-19 or I-10 into the Santa Cruz River floodplain.	Mitigation



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Number	Commitment	Type
MM-Biological Resources-19	Avoid or minimize impacts to the Santa Rita-Sierrita Detailed Linkage, Tucson-Tortolita-Santa Catalina Linkage, and Coyote-Ironwood-Tucson Detailed Linkage. Assess whether recommendations provided in the specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement.	Mitigation
MM-Biological Resources-20	Avoid or minimize construction footprint through quality Pima pineapple cactus habitat; survey suitable habitat 1 year prior to any Tier 2 study that encompasses habitat to inform design; implement long-term control of invasive and noxious weeds; and negotiate compensatory mitigation with US Fish and Wildlife Service, as needed.	Mitigation
MM-Biological Resources-21	Avoid critical and occupied habitat for the Chiricahua leopard frog that occurs adjacent to the southern end of the Selected Alternative.	Mitigation
MM-Biological Resources-22	Avoid or minimize impacts to the Santa Rita-Sierrita Detailed Linkage, Coyote-Ironwood-Tucson Detailed Linkage. Assess whether recommendations provided in the linkage-specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement.	Mitigation
MM-Biological Resources-23	If the Selected Alternative with west option is chosen during Tier 2, studies will be developed to avoid, minimize, or mitigate impacts to the Tucson Mitigation Corridor, including coordination with Bureau of Reclamation, Arizona Game and Fish Department, and other relevant agencies to improve and design wildlife crossings in and near the Tucson Mitigation Corridor. Specific mitigation related to the Tucson Mitigation Corridor includes (1) relocating and reclaiming Sandario Road; (2) conducting wildlife studies prior to the Tier 2 studies; (3) aligning I-11 wildlife crossing structures to match the existing Central Arizona Project canal siphons (seven crossings total); (4) creating additional wildlife crossing(s) near the Tucson Mitigation Corridor depending on the results of wildlife studies; (5) acquiring property (at a minimum 1:1 ratio) to support additional wildlife connectivity corridors between the Tucson Mountains and the Roskruge and Silver Bell Mountains for the number of acres of the Tucson Mitigation Corridor that will be impacted by the project; and (6) implementing design restrictions, such as no interchanges in the Tucson Mitigation Corridor or between Snyder Hill Road and Manville Road, and minimizing the width of I-11, to limit the I-11 footprint in the Tucson Mitigation Corridor area.	Mitigation
MM-Biological Resources-24	Avoid or minimize impacts to the Santa Cruz River along the Selected Alternative; conduct 2 years of pre-construction breeding season surveys for yellow-billed cuckoo; implement seasonal restrictions; and consult with US Fish and Wildlife Service, as needed (Option F).	Mitigation



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Number	Commitment	Type
MM-Biological Resources-25	Avoid or minimize impacts to the Coyote-Ironwood-Tucson Detailed Linkage, Ironwood-Picacho Linkage. Assess whether recommendations provided in the linkage-specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option F).	Mitigation
MM-Biological Resources-26	Not used.	
MM-Biological Resources-27	Avoid or minimize impacts to the Gila Bend-Sierra Estrella Linkage. Assess whether recommendations provided in the linkage-specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option L).	Mitigation
MM-Biological Resources-28	Avoid or minimize impacts to the Buckeye Hills East-Sonoran Desert National Monument Linkage. Assess whether recommendations provided in the linkage-specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option M).	Mitigation
MM-Biological Resources-29	Not used.	
MM-Biological Resources-30	Not used.	
MM-Biological Resources-31	Not used.	
MM-Biological Resources-32	Minimize the footprint of bridge widening or new bridge construction on SR 85 crossing the Gila River to the extent possible; conduct 2 years of pre-construction, breeding season surveys in suitable habitat for yellow-billed cuckoo, southwestern willow flycatcher, and Yuma Ridgway's rail; implement seasonal restrictions; and consult with the US Fish and Wildlife Service, if species present, as needed (Option Q2).	Mitigation
MM-Biological Resources-33	Avoid or minimize impacts to the Gila River riparian corridor. The need for potential additional wildlife crossings will be assessed to preserve wildlife movement. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Option Q2).	Mitigation
MM-Biological Resources-34	Minimize construction in the Gila River floodplain to the extent possible; conduct 2 years of pre-construction, breeding season surveys in suitable habitat for yellow-billed cuckoo; implement seasonal restrictions; and consult with the US Fish and Wildlife Service, if species present, as needed (Option Q2).	Mitigation



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Number	Commitment	Type
MM-Biological Resources-35	Avoid, minimize, and mitigate impacts to the White Tank-Belmont Hieroglyphics Linkage, Wickenburg-Hassayampa Linkage, and primary and secondary wildlife crossing structures on the Bureau of Reclamation's Central Arizona Project canal. Assess whether recommendations provided in the linkage-specific or county linkage reports can be used to improve and construct wildlife crossings in these linkages. Coordinate with relevant agencies to implement modifications that will enhance wildlife movement (Options U and X).	Mitigation
MM-Indirect-1	Participate in continued, long-term planning efforts with metropolitan planning organizations, local jurisdictions, resource agencies, and private stakeholders to cooperatively plan development along the I-11 corridor. The effort would coordinate wildlife connectivity, local land use planning, and context sensitive design for the I-11 facility. Details regarding long-term planning efforts are dependent on the planning process for each individual organization, jurisdiction, and/or agency. ADOT commits to participating in these efforts but does not have the jurisdiction to lead them.	Mitigation
MM-Indirect-2	If the west option in Pima County is selected during Tier 2 studies, avoid building exits or interchanges between West Snyder Hill Road and Manville Road in the area around the Tucson Mitigation Corridor in order to limit project-induced development.	Mitigation
T2-Section 4(f)-1	Examine roadway design solutions to avoid or minimize impacts to Section 4(f) properties in downtown Tucson. Examples of such solutions would include, but may not be limited to, applying minimum required roadway cross sections, and shifting the proposed roadway alignment to avoid some properties, elevating I-11 over I-10, tunneling I-11 under I-10, and removing frontage roads. The benefits and impacts of design solutions will be quantified, compared, and reported in Tier 2 analyses. Such reporting will also enable comparison of the Selected Alternative east option findings with those of the Selected Alternative west option in Tier 2.	Analysis
T2-Section 4(f)-2	If the east option in Pima County is selected during Tier 2 studies, ADOT will develop measures to minimize harm during Tier 2 in coordination with the officials with jurisdiction over the affected properties.	Analysis
T2-Section 4(f)-3	Coordinate with Central Arizona Water Conservation District and the Bureau of Reclamation on the applicable design standards in Tier 2 studies.	Analysis
T2-Section 4(f)-4	Study alternatives and engineering design to avoid, minimize, and mitigate use of Section 4(f) properties in Tier 2 studies.	Analysis



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Number	Commitment	Type
T2-Section 4(f)-5	Evaluate the need for and effectiveness of measures to mitigate impacts to Section 4(f) properties. Types of measures to be evaluated include replacement of land and facilities of comparable value and function; compensation; restoration, preservation, interpretation, and recordation (such as for historic structures and properties); and other types of mitigation developed in coordination with the officials with jurisdiction over Section 4(f) properties.	Analysis
T2-Section 4(f)-6	Continue coordinating with officials with jurisdiction in Tier 2 regarding potential impacts to Section 4(f) properties. Where impacts to Section 4(f) properties potentially would occur, coordination will focus on identifying appropriate and reasonable measures to minimize and mitigate impacts.	Analysis
MM-Section 4(f)-1	Coordinate with the Bureau of Reclamation, National Park Service, Arizona Game and Fish Department, US Fish and Wildlife Service, and Pima County regarding the Tucson Mitigation Corridor during Tier 2 studies.	Mitigation
MM-Section 4(f)-2	As part of the west option in Pima County, during Tier 2 further study the relocation of Sandario Road to coincide with the new I-11 alignment. Under this scenario, ADOT would remove and reclaim an approximately 2-mile section of the existing road with native vegetation. Local access would be retained as a result of construction, which could require additional local roadway connections.	Mitigation
MM-Section 4(f)-3	As part of the west option in Pima County during Tier 2, study placement of wildlife crossings on I-11 that align with the six existing Central Arizona Project siphon crossings in the Tucson Mitigation Corridor and place one wildlife crossing immediately north of the Tucson Mitigation Corridor (a total of seven crossings). The purpose of the I-11 wildlife crossings is to provide continuity to the existing Central Arizona Project wildlife crossings (siphons) and minimize impacts to wildlife movements between the Tucson Mountains and Roskrige Mountains.	Mitigation
MM-Section 4(f)-4	To maximize the effectiveness of the Tucson Mitigation Corridor mitigation measures, avoid building exits or interchanges on I-11 between West Snyder Hill Road and West Manville Road if the west option in Pima County is chosen in Tier 2. The distance between these two roads is approximately 9 miles.	Mitigation
MM-Section 4(f)-5	If the west option in Pima County is chosen in Tier 2, minimize the width of I-11 through the Tucson Mitigation Corridor.	Mitigation



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Number	Commitment	Type
MM-Section 4(f)-6	Understanding the potential for indirect and cumulative land use effects that could occur if the west option in Pima County is chosen in Tier 2, be an active partner in a broader effort with metropolitan planning organizations, local jurisdictions, resource agencies, and private stakeholders to cooperatively plan development in the I-11 Corridor. The effort would coordinate wildlife connectivity, local land use planning, and context-sensitive design for the I-11 facility. The White Tank Mountains Conservancy may be a model for this type of effort. Coordination with Pima County on the implementation of the Sonoran Desert Conservation Plan also could be part of the effort.	Mitigation
MM-Section 4(f)-7	If I-11 crosses or immediately abuts the Central Arizona Project facility, ADOT will comply with Bureau of Reclamation and Central Arizona Water Conservation District design standards.	Mitigation
MM-Section 4(f)-8	Ensure roadway lighting is compatible with dark skies objectives and consistent with land use and development patterns at the time of the I-11 Corridor implementation.	Mitigation
MM-Section 4(f)-9	If the west option in Pima County is chosen in Tier 2, design the roadway in such a way as to screen the facility from sensitive viewpoints in the area. The design will use various measures, such as vegetation, berms, and topography or partial depression of the roadway, to accomplish this. The screening also could reduce noise impacts.	Mitigation
MM-Section 4(f)-10	If the west option in Pima County is chosen in Tier 2, coordinate with Arizona Game and Fish Department and US Fish and Wildlife Service, as recognized wildlife authorities, on determining the studies required to understand east-west wildlife movement needs (both on and off the Tucson Mitigation Corridor) between the Tucson Mountains and the Roskrige Mountains. ADOT will undertake and use the results of the wildlife studies, in consultation with Arizona Game and Fish Department, US Fish and Wildlife Service, and the Tucson Mitigation Corridor Working Group, to develop specific mitigation measures that will be incorporated into the I-11 Corridor. Mitigation measures may include creation of new or enhancement of existing wildlife corridor(s) on or outside the Tucson Mitigation Corridor property, but would be located between the Tucson Mountains to the east and the Roskrige Mountains to the west, and they would support the purpose of the Tucson Mitigation Corridor. These studies will gather baseline wildlife data, including evaluation of historical and current movement data, and surveys of existing populations. Using the baseline data, the studies will identify the extent, location, requirements, target species, and expected benefits of additional and enhanced wildlife movement corridors, supporting structures, and other mitigation measures. The wildlife studies will identify adaptive management thresholds and likely actions.	Mitigation



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Number	Commitment	Type
MM-Section 4(f)-11	If the west option in Pima County is chosen in Tier 2, replace or compensate for any land in the Tucson Mitigation Corridor acquired for I-11 by considering comparable value and function, restoration of land value, and preservation of land. If the west option in Pima County requires acquisition of Tucson Mitigation Corridor land, ADOT will assess the feasibility of transferring land acquired for Tucson Mitigation Corridor mitigation to an entity that would protect the lands for wildlife and wildlife movement purposes. ADOT will consult with the Tucson Mitigation Corridor partners to jointly identify and agree on the appropriate entity.	Mitigation
MM-Section 4(f)-12	Avoid or minimize the use of Section 4(f) properties that are partially or entirely within the Selected Alternative, as identified in the Preliminary Section 4(f) Evaluation, considering any new Section 4(f) properties that are identified in the Tier 2 process. Properties can be avoided by accommodation, shifting the corridor, or grade-separating the corridor.	Mitigation
MM-Section 4(f)-13	Complete a Final Section 4(f) evaluation for each Tier 2 study with a potential Section 4(f) property use prior to making a final Section 4(f) determination.	Mitigation



6 FINAL TIER 1 EIS REVIEW

The I-11 Final Tier 1 EIS was made available for a 30-day public review on July 16, 2021. The review period concluded August 16, 2021. During that time, the Final Tier 1 EIS document was available for review on the project website and in hard copy at repositories located throughout the study area. In addition to the traditional Final Tier 1 EIS document format, an interactive Final Tier 1 EIS was also available and could be accessed online via the project website.

Notification of the availability of the Final Tier 1 EIS included the following:

- Publication in the Federal Register (86 Fed Reg 37751 [July 16, 2021]).
- Publication of English and Spanish-language print advertisements in newspapers throughout the Study Area.
- E-mailed GovDelivery notices to all study participants who provided an email address during the project's public involvement process. The GovDelivery notice was also distributed to all news release subscribers.
- Project website announcement and status updates.
- News releases posted to the ADOT website and I-11 project website.
- Posts on ADOT's social media channels: Twitter, Facebook, and LinkedIn.
- Letter notification to Cooperating Agencies, Participating Agencies, tribes, and all Section 106 consulting party contacts.

Several methods were available to agency stakeholders and members of the public to submit feedback on the Final Tier 1 EIS, including an online form on the project website, e-mail, a mailing address, and a bilingual telephone hotline. Notification and outreach materials associated with the release of the Final Tier 1 EIS are available in **Appendix A** (Final Tier 1 EIS Outreach Summary Report). All public involvement and outreach materials throughout the life of the I-11 Tier 1 study can be found in **Appendix G** (Public Involvement Summary Report) of the Draft Tier 1 EIS, in **Appendix G** (Public Involvement Summary Report) of the Final Tier 1 EIS, and on the study website at i11study.com/Arizona.

Since July 16, 2021, cooperating agencies, participating agencies, tribes, and other organizations and individuals submitted correspondence pertaining to the Final Tier 1 EIS. All correspondence received was reviewed, and is in the project record and available on the I-11 project website.



7 DETERMINATION

The I-11 Corridor Draft Tier 1 EIS and Preliminary Section 4(f) Evaluation and the I-11 Corridor Final Tier 1 EIS and Preliminary Section 4(f) Evaluation are part of the environmental record for the I-11 Corridor project and support this ROD. These documents constitute the detailed statements required by NEPA and Title 23 of the U.S.C. on the following: the project's environmental effects, adverse environmental effects that cannot be avoided if the project is implemented, corridor alternatives to the proposed project, and the irreversible and irretrievable effects on the environment that might be involved with the project if it is implemented.

7.1 Environmentally Preferable Alternative

Council on Environmental Quality (CEQ) regulations [40 CFR 1505.2(b)] require the ROD to identify the environmentally preferable alternative. The environmentally preferable alternative is defined as the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources. Designation of the environmentally preferable alternative typically involves judgment and the balancing of some environmental values against others. CEQ notes that comments on draft environmental documents (such as the Draft Tier 1 EIS, Final Tier 1 EIS, and errata for this project) can assist the lead agency in developing and determining environmentally preferable alternatives. Many mitigation and commitments in the ROD are based on comments received on the environmental documents. Although the No Build Alternative would overall have less environmental impact overall, and therefore qualify as the environmentally preferable alternative, this alternative does not meet the project's purpose and need. Of the alternatives that do satisfy the project's purpose and need, however, the Selected Corridor Alternative is the environmentally preferable alternative. The Selected Corridor Alternative will meet the project needs as well as or better than the other alternatives, including the No Build Alternative.

Overall, the Selected Alternative would have fewer impacts on water resources than the Recommended Alternative in the Draft Tier 1 EIS primarily because it utilizes more co-located corridors. The Selected Alternative minimizes impacts to sensitive wetlands near the Santa Cruz River in southern Pinal County and sensitive ecosystems on the Gila River near Buckeye. Therefore, Tier 2 alternatives developed within the Selected Alternative corridor are more likely to comply with the Section 404(b)(1) guidelines and contain the Least Environmentally Damaging Practicable Alternative (40 CFR 230.10(a)(1)-(3)) than other alternatives.



8 CONCLUSION

The Selected Alternative chosen in this ROD is a build corridor alternative that will be implemented in segments as funding is available. At this time, no funding has been identified to plan, design, or construct any part of I-11, including any Tier 2 studies. The implementation of the corridor could entail federal, state, or local funding; tolling; or private-public partnerships. Federal spending on surface transportation is currently authorized under the 2021 Infrastructure Investment and Jobs Act (IIJA), a \$1.2 trillion funding bill that includes the many formula, discretionary grant, and loan programs that distribute federal transportation funds.

ADOT may phase Tier 2 projects according to the type of facility and extent of improvements within a segment, such as intersection or interchange improvements; additional access controls; or construction of a two-lane, three-lane, or four-lane divided roadway that is later upgraded to interstate standards. ADOT will act as the lead agency on any future Tier 2 process for the I-11 project as FHWA and ADOT entered Memoranda of Understanding that assign ADOT responsibility to conduct environmental reviews under NEPA. (See ADOT's website for more information on ADOT's NEPA Assignment.)

Before initiating a Tier 2 project, ADOT would verify the termini, identify the scope, and determine the specific class of NEPA analysis. The Tier 2 process would include NEPA analysis to inform the selection of a specific alignment within the 2,000-foot-wide corridor, site-specific environmental analyses, development of site-specific mitigation measures, and preliminary design. The alignment is expected to be approximately 400 feet wide but will depend on site-specific constraints and requirements. ADOT will continue to coordinate with tribes, the public, and agencies prior to and during Tier 2 project-level analysis.

If environmental conditions, regulations or guidance, additional information, or needs change from those described in this Tier 1 EIS, ADOT may consider the new information in the following ways:

- in determining whether or not to advance a Tier 2 segment,
- in development and analysis of alignments within the 2,000-foot-wide corridor,
- in considering alternatives outside of the 2,000-foot-wide corridor if warranted (for example, if there are no alternatives that avoid waters of the US or Section 4(f) properties within the 2,000-foot-wide corridor), and
- in considering and/or selecting the No Build Alternative during Tier 2 NEPA analysis.

In areas where Tier 2 studies advance, consideration of the many design options that were brought forward by the public may be considered (tunneling, elevation, rail, managed lanes, etc.).

See ROD **Chapter 5** (Project Commitments) for the list of specific Tier 2 mitigation and study commitments. Because this is a Tier 1 NEPA document, mitigation in the ROD represents commitments that will be implemented in I-11 Tier 2 projects.



8.1 Statute of Limitations

A federal agency may publish a notice in the Federal Register, pursuant to 23 U.S.C. 139(l), indicating that one or more federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the federal laws governing such claims will apply.



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