Final Environmental Assessment

Interstate 10 Corridor Study: State Route 202L to State Route 387

Maricopa and Pinal Counties, Arizona

ADOT Project Nos. F0252 01L and F0252 02L
Federal Aid No. 010-C(222)S

February 26, 2024

ADOT

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ADOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 16, 2019, and executed by FHWA and ADOT.

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Arizona Department of Transportation

FINDING OF NO SIGNIFICANT IMPACT

for

Interstate 10 Corridor Study: State Route 202L to State Route 387

010-C(222)S

F0252 01L and F0252 02L

The Arizona Department of Transportation has determined that this project will not have any significant impact on the human or natural environment. This finding of no significant impact is based on the attached environmental assessment, which has been evaluated and determined to adequately discuss the environmental issues and impacts of the project. The environmental assessment provides sufficient evidence and analysis for the Arizona Department of Transportation to determine that an environmental impact statement is not required. The Arizona Department of Transportation takes full responsibility for the accuracy, scope, and content of the attached environmental assessment.

Approved by: _____ Date: 3/28/24

Paul O'Brien, PE
Administrator
Environmental Planning
Arizona Department of Transportation

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Acronyms and Abbreviations

AADT	annual average daily traffic
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
APE	area of potential effects
AVE	area of visual effect
AZPDES	Arizona Pollutant Discharge Elimination System
BIA	U.S. Bureau of Indian Affairs
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Community	Gila River Indian Community
CWA	Clean Water Act
dBA	A-weighted decibel
DCR	*Design Concept Report, Interstate 10 Corridor: State Route 202L to State Route 387*
DDI	diverging diamond interchange
DLT	displaced left turn
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	finding of no significant impact
FPPA	Farmland Protection Policy Act
HOV	high-occupancy vehicle
I-10	Interstate 10
L_{eq}	equivalent sound level
LOS	level of service
MAG	Maricopa Association of Governments
MBTA	Migratory Bird Treaty Act
mph	miles per hour
MSAT	mobile source air toxic
$\mu g/m^3$	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NAR	*Noise Abatement Requirements*
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PM_{10}	particulate matter
ppm	parts per million
RTP	*2040 Regional Transportation Plan Update*
SA	Selected Alternative
SCIP	San Carlos Irrigation Project
SHPO	State Historic Preservation Office/Officer
SR	State Route
TCP	traditional cultural property
THPO	Tribal Historic Preservation Office/Officer
TI	traffic interchange
Title VI	Title VI of the Civil Rights Act of 1964
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
v/c	volume to capacity
WHPDA	Wild Horse Pass Development Authority
WOTUS	waters of the United States

Standards

The Arizona Department of Transportation (ADOT) and the contractor shall follow the federal laws, regulations, and guidelines and the ADOT standards and specifications listed below to avoid, minimize, and mitigate impacts for all relevant environmental resources:

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
- Uniform Relocation Act Amendments of 1987
- Title VI of the Civil Rights Act of 1964
- ADOT's *Public Involvement Plan*
- ADOT's *NEPA EA and EIS Guidance*
- ADOT's *Right of Way Procedures Manual*
- ADOT's *Clean Water Act Section 404/401 Guidance Manual*
- ADOT's *Temporary Traffic Control Design Guidelines*
- ADOT's *Erosion and Pollution Control Manual*
- ADOT's *2017 Noise Abatement Requirements*
- ADOT's *Standard Specifications for Road and Bridge Construction*
- SAF-6.01 *Asbestos Management Policy*
- ADOT's *Roadside Vegetation Management Guideline*

Environmental Commitments and Mitigation Measures

Environmental mitigation measures are intended to avoid, minimize, or mitigate impacts on environmental resources. All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft Environmental Assessment and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- The Arizona Department of Transportation design team will continue to review community access impacts, mobility, and impacts on community services, community cohesion, aesthetics, and community values in all areas affected by the project to include the traditionally underserved communities that were identified in the study area, including short-term impacts that could affect minority and low-income residents (see page 64).
- The design team will ensure that Traditional Cultural Properties 9 and 15 will be accessible continually during and after construction. Although portions of the current access roads to Traditional Cultural Properties 9 and 15 will require permanent realignment to accommodate construction at the Nelson Road traffic interchange, the properties will be accessible on existing roads during construction and on the newly aligned roads following construction (see pages 72 and 86).
- The design team, in coordination with the Gila River Indian Community Tribal Historic Preservation Office, will ensure protection measures are employed to avoid Traditional Cultural Properties 13, 15, and 35 during construction (see pages 72 and 86).
- The design team will ensure that construction staging will not occur within the boundaries of any Section 4(f) property without prior coordination and approval from the Arizona Department of Transportation Environmental Planning (see page 86).
- The design team will coordinate with the Arizona Department of Transportation Environmental Planning on any changes in design within the boundaries of Section 4(f) properties (see page 86).
- During final design, the Arizona Department of Transportation project manager will contact the Arizona Department of Transportation Environmental Planning noise coordinator (adotairnoise@azdot.gov) to arrange for qualified personnel to review and update the noise analysis in accordance with the Arizona Department of Transportation's *Noise Abatement Requirements* (dated 2017) (see page 102).
- Future noise analyses will include public involvement in accordance with the Arizona Department of Transportation's *Noise Abatement Requirements* and the *Public Involvement Plan* for the Interstate 10 project (see page 103).
- The Arizona Department of Transportation design team will consider the effects of noise from project construction activities and will determine any additional measures that are needed in the plans or specifications to minimize or eliminate adverse impacts from construction noise (see page 103).
- The Arizona Department of Transportation Utility and Railroad Engineering Section and Environmental Planning will coordinate with the Gila River Indian Community; Cities of Phoenix, Chandler, and Casa Grande; and private utility and irrigation providers during the design process to minimize the effects of potential utility relocations and adjustments. Coordination will include developing construction schedules to coincide with scheduled maintenance periods and/or off-peak loads (see page 107).

- Should a utility relocation be required, the Arizona Department of Transportation Utility and Railroad Engineering Section and Environmental Planning will coordinate with the utility owner to determine the need for new right-of-way or easement of the same size as the previous right-of-way or easement for that utility (see page 108).
- The Arizona Department of Transportation will coordinate the Gila River Indian Community Flood Control Manager regarding the design of drainage features and will provide an opportunity to review and comment on the design plans (see page 121).
- Coordination with the Salt River Project, Pima-Maricopa Irrigation Project, Gila River Indian Irrigation and Drainage District, and San Carlos Irrigation Project will occur during final design to consider potential impacts of the project on irrigation infrastructure (see page 121).
- The design team will evaluate mitigation measures for cut-and-fill slopes, which may erode unless stabilized with vegetation or geotextiles. Vegetation will slow surface runoff, help bind soils, reduce rainfall impact, and break up flow patterns. Geotextiles including matting, retaining walls, and rock slope protection will prevent extensive contact between surface runoff and soil, keeping the soil intact. Retaining walls decrease cut-and-fill slopes, reducing runoff velocities and erosion potential. Rock slope protection armors the slope, preventing soil movement (see page 121).
- The design team will evaluate mitigation measures for slopes along roadside channels and at discharge points from culverts, which may be steep and promote erosion. Therefore, conveyance features may require protection in the form of channel lining, reduced slopes, or energy-dissipating structures designed to break up and reduce discharge velocities (see page 121).
- The Arizona Department of Transportation Environmental Planning will determine Clean Water Act Section 404, Section 401, and Section 402 permitting needs during final design (see page 123).
- During final design, a qualified biologist will complete surveys for nesting birds protected under the Migratory Bird Treaty Act, as necessary, and develop mitigation measures to avoid impacts on nesting birds during construction (see page 128).
- During final design, a qualified biologist will inspect all structures including concrete box culverts, underpass bridges, and large pipes that will be impacted by construction for roosting bats and develop mitigation measures to avoid impacts on bats during construction (see page 128).
- During final design of the project, the status of species and critical habitat proposed, listed, or designated under the Endangered Species Act will be reviewed. If new species or critical habitat have been proposed, listed, or designated following completion of the *Biological Evaluation*, or if the potential effects on species or critical habitat from the project have changed from those described in the *Biological Evaluation*, an update to the *Biological Evaluation* will be prepared and any required consultation with the U.S. Fish and Wildlife Service will be completed (see page 128).

- During final design, the Arizona Department of Transportation shall coordinate with the Gila River Indian Community Department of Environmental Quality on features to encourage wildlife passage based on the results of the *Wildlife Connectivity Assessment* (see page 128).
- The Arizona Department of Transportation design team will coordinate with Gila Farms regarding its agricultural fields and ongoing agricultural operations near Interstate 10 (see page 137).
- The design team's project manager will contact the Arizona Department of Transportation's Environmental Planning hazardous materials coordinator at 602.920.3882 or 602.712.7767 to determine the need for additional assessment (see page 139).

Arizona Department of Transportation Environmental Planning Responsibilities

- During the development of project designs, the Arizona Department of Transportation Environmental Planning Historic Preservation Team will arrange for additional archaeological surveys to identify previously unrecorded cultural resources and evaluate their National Register of Historic Places eligibility, verify archaeological site boundaries, update site records, and evaluate site conditions for those historic properties located in, or intersecting with, the area of potential effects (see page 72).
- During the development of project designs, a Historic Properties Treatment Plan will be developed and implemented by the Arizona Department of Transportation Environmental Planning Historic Preservation Team, in consultation with the Gila River Indian Community Tribal Historic Preservation Office and other consulting parties. The Historic Properties Treatment Plan will be developed in accordance with a programmatic agreement satisfying 36 Code of Federal Regulations 800.6 and 800.14(b). Construction activities will not occur in areas requiring archaeological testing and data recovery until the archaeological investigations are complete and the Arizona Department of Transportation has concluded consultation on the preliminary data recovery report, in accordance with the Historic Properties Treatment Plan (see page 72).
- Archaeological monitoring will also be required. The locations of the monitoring will be determined by the Gila River Indian Community Tribal Historic Preservation Office following archaeological testing and when data recovery efforts have been completed, so the precise locations are not known yet (see page 72).
- Roadside memorials will be avoided or relocated in consultation with the Gila River Indian Community Tribal Historic Preservation Office (see page 72).
- Cultural awareness training will be required of contractors (see page 73).
- The Arizona Department of Transportation Environmental Planning, in coordination with the Gila River Indian Community Tribal Historic Preservation Office, will ensure protection measures are employed to ensure Traditional Cultural Properties 13, 15, and 35 are avoided during construction (see page 87).

- The Arizona Department of Transportation Environmental Planning will determine whether any design changes within the boundaries of Section 4(f) historic properties will require reassessment (see page 87).
- During the development of project designs, a Historic Properties Treatment Plan will be developed and implemented by the Arizona Department of Transportation Environmental Planning Historic Preservation Team, in consultation with the Gila River Indian Community Tribal Historic Preservation Office and other consulting parties. The Historic Properties Treatment Plan will consider traditional religious ceremonies and/or ethnographic research for traditional cultural properties. Construction activities will not occur in traditional cultural properties until treatment outlined in the Historic Properties Treatment Plan is complete and consultation on any ethnographic studies is complete (see page 87).
- All load-bearing structures will be assessed during the final design to determine the presence of lead-based paint and/or asbestos (see page 139).

Arizona Department of Transportation Roadside Development Section Responsibilities

- During final design, the Arizona Department of Transportation will coordinate with the Gila River Indian Community regarding the location and scope of aesthetic treatments (see page 114).
- Plants protected by the Gila River Indian Community's Native Plant Ordinance will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will coordinate with the Gila River Indian Community Department of Environmental Quality to ensure compliance with the Native Plant Ordinance (see page 128).
- The Arizona Department of Transportation Roadside Development Section, in coordination with the Gila River Indian Community Department of Environmental Quality, will provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits (see page 128).
- Protected native plants within the project limits will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will determine whether Arizona Department of Agriculture notification is needed. If notification is needed, the Arizona Department of Transportation Roadside Development Section will send the notification at least 60 (sixty) calendar days prior to the start of construction (see page 128).

Arizona Department of Transportation Central District and Southcentral District Responsibilities

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist (see pages 73 and 87).
- The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.7767 and 602.712.8636) 14 days prior to construction to ensure that the terms and stipulations of the Historic Properties Treatment Plan have been fulfilled (see page 73).
- No work will occur in areas requiring archaeological testing, data recovery, flagging, fencing, or monitoring until the Arizona Department of Transportation Environmental Planning Historic Preservation Team informs the Engineer that testing/data recovery, flagging, or fencing have been completed or an archaeological monitor has been arranged in accordance with the Historic Properties Treatment Plan (see page 73).
- If suspected hazardous materials are encountered during construction, work will cease at that location and the Arizona Department of Transportation Resident Engineer will arrange for the proper assessment, treatment, or disposal of those materials (see page 139).
- Asbestos and lead-based paint containing materials identified in structures to be modified or demolished will be properly removed and disposed of prior to demolition (see page 139).
- No bridge work will occur until the Lead-Based Paint Removal and Abatement Plan is approved by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator and implemented (see page 139).
- The Engineer, in association with the contractor, will complete the National Emission Standards for Hazardous Air Pollutants documentation and submit it to the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for review 5 (five) working days prior to being submitted to the regulatory agency (see page 140).

Contractor Responsibilities

- The contractor shall use the most current Arizona Department of Transportation best management practices to reduce short-term adverse construction impacts related to air quality (from dust and exhaust); noise and vibration; surface and groundwater quality (from runoff); the transport, use, storage, and disposal of hazardous materials and waste; and related pollution control measures and practices during construction (see page 64).
- The contractor shall ensure the construction project will be managed in such a manner as to minimize temporary impacts on residents, businesses, churches, schools, community centers, and the traveling public, such as noise, vibration, dust, exhaust, traffic restrictions, and potential road closures during construction (see page 64).
- Access to businesses and residences shall be maintained during construction (see page 64).
- With the exception of roads where access could be limited during construction and those that will experience temporary, short-term closures, the contractor shall maintain access to all businesses and residences throughout construction (see page 64).
- No work will occur in areas requiring archaeological testing and data recovery, flagging, fencing, or monitoring until the Arizona Department of Transportation Environmental Planning Historic Preservation Team informs the Engineer that the testing/data recovery, avoidance flagging, or fencing has been completed or an archaeological monitor has been arranged in accordance with the Historic Properties Treatment Plan (see page 73).
- The contractor shall contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.7767 or 480.341.3029) at least 14 (fourteen) business days prior to the start of ground-disturbing activities to arrange for a qualified archaeologist to delineate avoidance areas (see pages 73 and 87).
- The contractor shall avoid all flagged and/or otherwise designated sensitive cultural areas (see page 73).
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist (see pages 74 and 87).
- The contractor shall avoid all flagged and/or otherwise designated sensitive areas (see page 87).

- Fugitive dust generated from construction activities must be controlled in accordance with Maricopa County Rule 310, the Gila River Indian Community Air Quality Ordinance (GRIC Code – Title 17, Chapter 9), and the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 104.08 (2021 edition), special provisions, and other local rules and ordinances (see page 100).
- The Arizona Department of Transportation's *Standard Specifications for Highway and Bridge Construction* (2021) stipulates that all exhaust systems on equipment will be in good working order and that properly designed engine closures and intake silencers will be used where appropriate (see page 103).
- To minimize noise impacts during construction, stationary or idling equipment will be located as far away from noise-sensitive receivers, such as residences, as possible (see page 103).
- The excavation, removal, and disposal of asbestos cement pipe will be done in accordance with Section 202 of the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (2021) (see page 108).
- The contractor shall develop a containment plan for debris and construction materials to avoid contamination of the Gila Drain. The containment plan will be approved by the Engineer prior to construction (see page 121).
- The contractor shall comply with the terms and conditions of the applicable state and local permits and rules for well abandonment, if applicable (see page 121).
- Best management practices set forth in the *Erosion and Pollution Control Manual for Highway Design and Construction* (Arizona Department of Transportation 2020) will be included in the Stormwater Pollution Prevention Plan (see page 121).
- Temporary and permanent erosion controls and stormwater best management practices will be implemented during construction in accordance with the Arizona Department of Transportation *Erosion and Pollution Control Manual for Highway Design and Construction* and the Arizona Department of Transportation *Post-Construction Best Management Practices Manual for Water Quality* (see page 124).
- Prior to construction, all personnel who will be on-site, including, but not limited to, contractors, contractors' employees, supervisors, inspectors, and subcontractors, shall review the attached Arizona Department of Transportation Environmental Planning "Western Burrowing Owl Awareness" flier (see page 129).
- If any burrowing owls or active burrows are identified, the contractor shall notify the District Engineer immediately. No construction activities will take place within 100 feet of any active burrow (see page 129).

- If the District Engineer, in cooperation with the Arizona Department of Transportation Biologist, determines that burrowing owls cannot be avoided, the contractor shall employ a qualified biologist holding a U.S. Fish and Wildlife Service permit to relocate burrowing owls from the project area, as appropriate. Should relocation be necessary, the qualified biologist shall work with the Gila River Indian Community Department of Environmental Quality to identify an appropriate location within the Gila River Indian Community for relocation (see page 129).
- If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the attached Arizona Game and Fish Department "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects." If any tortoise is encountered during construction, the contractor shall notify the Engineer to report the encounter (see page 129).
- The contractor shall report encounters with any Sonoran desert tortoises (live, injured, or dead) during construction to the Engineer using the attached Arizona Department of Transportation Sonoran Desert Tortoise Observation Form. The final form shall be sent to Arizona Department of Transportation Environmental Planning (email: bioteam@azdot.gov) within 24 hours of the encounter. Photographs shall be taken of tortoises encountered and included in the report if possible. The Gila River Indian Community Department of Environmental Quality shall be notified of any encounters with any Sonoran desert tortoises and, should relocation be necessary, the qualified biologist shall work with the Gila River Indian Community Department of Environmental Quality to identify an appropriate location within the Gila River Indian Community for relocation (see page 129).
- Prior to construction activity, the contractor's field personnel including the Project Manager, Assistant Project Manager, General Superintendent, and Project Superintendent shall review the attached Arizona Department of Transportation Environmental Planning "Sonoran Desert Tortoise Awareness Program Handout" flier, become familiar with the identification and avoidance of the Sonoran desert tortoise, and follow the notification request, as applicable (see page 129).
- The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents. Plants to be controlled shall include those listed in the state and federal noxious weed list, the state invasive species list, and Gila River Indian Community lists, as applicable, in accordance with state and federal laws and executive orders. The plan and associated treatments shall include all areas within the project right-of-way and easements as shown on the project plans. The treatment and control plan shall be submitted to the Engineer for the Arizona Department of Transportation Construction Professional Landscape Architect for review and approval prior to implementation by the contractor (see page 129).
- Prior to the start of ground-disturbing activities and throughout the duration of construction and any landscape establishment period, the contractor shall arrange for and perform the control of noxious and invasive species in the project area (see page 129).

- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed prior to entering the construction site and the contractor shall inspect all construction equipment and remove all attached debris, including plant parts, soil, and mud, prior to the equipment entering the construction site (see page 129).
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction and hauling equipment and remove all debris, including plant parts, soil, and mud, prior to leaving the construction site (see page 129).
- The contractor shall avoid all flagged and/or otherwise designated actively farmed agricultural land or farm fields with prime irrigated soils in the Gila River Indian Community between mileposts 177 and 180—specifically at the Gasline Road and Seed Farm Road construction areas (see page 137).
- The contractor shall coordinate with Gila Farms during construction at its agricultural fields at Gasline Road and at Seed Farm Road to avoid disrupting its ongoing operations near Interstate 10 (see page 137).
- The contractor shall not block access to farm fields, agricultural operations, or equipment in the Gila River Indian Community during construction (see page 137).
- All Interstate 10 project activities, vehicles, and construction equipment in the project area will be limited to the existing pavement, pullouts, side roads, and approved construction staging areas/temporary construction easements (see page 137).
- The contractor shall contact the Arizona Department of Transportation Environmental Planning (602.712.7767) at least ten (10) working days prior to the commencement of work to ensure compliance with agricultural avoidance areas (see page 137).
- If suspected hazardous materials were encountered during construction, work will cease at that location and the Arizona Department of Transportation Environmental Planning hazardous materials coordinator will be contacted to arrange for the proper assessment, treatment, or disposal of those materials (see page 140).
- An approved contractor shall develop and implement a Lead-Based Paint Removal and Abatement Plan for the removal of the lead-based paint, a Toxicity Characteristic Leaching Procedure for testing of the generated waste stream, and proper disposal of the waste stream derived from the removal of paint on the Dirk Lay Road and Gasline Road bridges (and any other load-bearing structure) and yellow and white pavement stripes. The contractor shall select a lead abatement contractor that meets the qualification requirements specified in the special provisions and as approved by the Engineer. The contractor shall follow all applicable federal, state, and local codes and regulations, including the Arizona Department of Transportation *Standard Specifications for Road and Bridge Construction* (2021 Edition), related to the treatment and handling of lead-based paint (see page 140).

- The contractor shall submit a Lead-Based Paint Removal and Abatement Plan for the removal of paint on the Dirk Lay Road and Gasline Road bridges (and any other bridges found to have lead-based paint) and yellow and white pavement stripes to the Engineer and the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for review and approval at least 10 (ten) working days prior to bridge work (see page 140).
- No bridge work will occur until the Lead-Based Paint Removal and Abatement Plan is approved by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator and implemented (see page 140).
- Visible fugitive dust emissions from paint removal will be controlled through wet or dry (for example, vacuum) means during the removal process. If the liquid waste stream generated by a waterblasting obliteration method passes the Toxicity Characteristic Leaching Procedure analysis, it may be used as a dust palliative or for compaction on the project. If the water is not used on the project, it will be properly disposed of in accordance with all applicable federal, state, and local regulations (see page 140).
- The contractor cannot start work associated with demolition or modification of any load-bearing structures until 10 (ten) working days have passed since the submittal of the National Emission Standards for Hazardous Air Pollutants notification to the regulatory agency (see page 141).
- The contractor shall complete a National Emission Standards for Hazardous Air Pollutants notification for work associated with the Dirk Lay Road and Gasline Road bridges and all other load-bearing structures and submit it to the Engineer for review (see page 141).
- After Engineer approval, the notification will be submitted to the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for a 5 (five) working day review and approval. Upon approval by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator, the contractor shall file the notification with the Arizona Department of Environmental Quality at least 10 (ten) working days prior to demolition/renovation associated with load-bearing structures along the Interstate 10 corridor (see page 141).
- The contractor shall use material sources from the Arizona Department of Transportation's *Contractor-Furnished Materials Sources List*. If the source that the contractor prefers to use is not on the Arizona Department of Transportation list, the contractor shall complete the Arizona Department of Transportation Environmental Planning's Material Source Environmental Analysis Application in accordance with the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 104 Material Sources (2021 Edition) (Stored Specifications 104 ENVIRO – 07/21 and 1001 MATL – 06/17/21), prior to using material from that source (see page 143).

- Contractor-furnished material sources must go through a process to obtain environmental clearance for use on Arizona Department of Transportation projects. The material source owner or operator must submit a Material Source Environmental Analysis Application, with cultural survey and reports, to the Arizona Department of Transportation Environmental Planning. After receiving the completed application, the Arizona Department of Transportation Environmental Planning will initiate a cultural consultation process. Upon successful completion of this process, the material source will receive a tracking number and may be included on the Arizona Department of Transportation's *Contractor-Furnished Materials Sources List* (see page 143).
- According to the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 107.11, Protection and Restoration of Property and Landscape (2021), "materials removed during construction operations, such as trees, stumps, building materials, irrigation and drainage structures, broken concrete, and other similar materials, shall not be dumped on either private or public property unless the contractor has obtained written permission from the owner or public agency with jurisdiction over the land. Written permission will not be required, however, when materials are disposed of at an operating, public dumping ground." Excess waste material and construction debris will be disposed of at sites supplied by the contractor, at a municipal landfill approved under Title D of the Resource Conservation and Recovery Act, at a construction debris landfill approved under Article 3 of Arizona Revised Statutes 49-241 (Aquifer Protection Permit) administered by the Arizona Department of Environmental Quality, or at an inert landfill (see page 144).

Gila River Indian Community Department of Transportation Responsibility

- Prior to the opening of the new Seed Farm Road traffic interchange, the Gila River Indian Community will pave Seed Farm Road from Sacaton to Interstate 10 to reduce fugitive dust concerns from the increased traffic that will use this new traffic interchange (see page 100).

Prologue

This prologue provides an overview of the Final Environmental Assessment (EA) for the Interstate 10 (I-10) Corridor Study: State Route (SR) 202L to SR 387 project (I-10 project), highlighting where the document was revised to respond to comments provided on the Draft EA.

Based on the results of the engineering and environmental studies for the I-10 project and the comments received on the Draft EA, the Arizona Department of Transportation (ADOT) has identified the Recommended Build Alternative evaluated in the Draft EA as the Selected Alternative.

Summary of Updated Information

Throughout this document, instances of the "Recommended Build Alternative" were revised to "Selected Alternative." When discussing future conditions or actions related to the Selected Alternative, instances of "would" were changed to "will" to indicate that the alternative will move forward to final design and construction.

Several parts of the EA document were revised more extensively to address comments received during the comment period and to provide additional information—they are summarized in the following sections.

Part II, Project Purpose and Need

Section C, Need: Socioeconomic data were updated using more recent information from the Maricopa Association of Governments and the U.S. Census Bureau's American Community Survey.

Part III, Alternatives

Section E, General Project Schedule: The project's cost and funding information was updated, and additional discussion regarding the project's implementation plan was provided.

Part IV, Affected Environment, Environmental Consequences, and Mitigation

Section B, Social and Economic Considerations: The discussion of populations considered under Title VI of the Civil Rights Act and environmental justice regulations was contained in one section in the Draft EA; for this Final EA, the discussion was separated into two sections. Socioeconomic data were updated using more recent information from the Maricopa Association of Governments and the U.S. Census Bureau's American Community Survey.

Section C, Cultural Resources: The number of archaeological sites that will be affected by the Selected Alternative was updated (from 21 sites to 26 sites). Also, the number of affected traditional cultural properties (TCPs) was updated (from six TCPs to eight TCPs).

Section D, Section 4(f) Resources: Information regarding the Tribal Historic Preservation Office's concurrence on the determination of effect and impact assessment for Section 4(f) resources has been added. Discussion of "*de minimis*" impacts has been removed and replaced with a discussion of a programmatic evaluation completed for Section 4(f) resources that will be affected by the Selected Alternative, under the *Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites*. Additional details regarding efforts to avoid impacts on TCPs 14 and 18 and on the Hohokam-Pima National Monument were also provided.

Section F, Air Quality: Air quality data for two monitoring sites on the Gila River Indian Community—in Sacaton and Casa Blanca—were added, with 3 years of air quality data reported (2020 to 2022). Information regarding regional and project-level air quality conformity was added.

Section N, Hazardous Materials: Information about a new hazardous materials assessment conducted in June 2023 was added to the section.

Section R, Conclusion. Table 29, *Summary of environmental impacts*, was updated to reflect the revisions discussed above.

Part V, Public Involvement and Coordination

Section C, Public Hearing: Information about the format of the in-person and virtual public hearings—and the information presented—was added. A reference to the new Appendix M, *Public Hearing Report*, was added.

Section D, Ongoing Activities: This new section provides information about additional public involvement that will occur as the Selected Alternative moves forward to final design and construction.

Section E, Conclusion: Additional public outreach strategies were added, based on ADOT's updated public involvement plan.

Appendices

Appendix C, Land Use and Socioeconomic Report: The report was updated to separate the discussion of populations considered under Title VI of the Civil Rights Act and environmental justice regulations. Socioeconomic data were updated using more recent information from the Maricopa Association of Governments and the U.S. Census Bureau's American Community Survey.

Appendix D, Cultural Resources Information: Table D-1, *Archaeological and historic sites*, and Table D-2, *Traditional cultural properties*, were revised to update the number of sites and TCPs, respectively, that will be affected. A letter was added to the Section 106 consultation section. Additionally, the draft programmatic agreement was replaced with the executed programmatic agreement.

Appendix F, Air Quality Report: The report was revised to include an update on the status of the Maricopa Association of Governments' Eight-Hour Ozone Plan. Air quality data for two monitoring sites on

the Gila River Indian Community—in Sacaton and Casa Blanca—were added, with 3 years of air quality data reported (2020 to 2022). Additionally, new text, tables, and figures describing analyses for particulate matter (PM_{10}), mobile source air toxics, and greenhouse gases were added to the report. Also, a memorandum regarding the project's air quality clearance was added.

Appendix K, Hazardous Materials Information: A new hazardous materials report for an assessment conducted in June 2023 was added to the appendix.

Appendix M, Section 4(f) Programmatic Evaluation: This is a new appendix containing the programmatic evaluation completed for Section 4(f) resources that will be affected by the Selected Alternative, prepared in accordance with the *Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites*.

Appendix N, Public Hearing Report: This is a new appendix providing the *Public Involvement and Hearing Summary, Draft Environmental Assessment and Design Concept Report, Interstate 10 Study: State Route Loop 202 to State Route 387*. Appendix C of the report provides the public comments received and ADOT's responses.

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I. Introduction

A. Explanation of an Environmental Assessment

This environmental assessment (EA) for the Interstate 10 (I-10) Corridor Study: State Route (SR) 202L to SR 387 was prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 U.S. Code [USC] Section 4321 et seq.), and Council on Environmental Quality (CEQ) regulations that implement NEPA (40 Code of Regulations [CFR] Sections 1500 to 1508). The Arizona Department of Transportation (ADOT) is the lead agency in the planning, preparation, and review of all technical and environmental documents associated with this EA. The environmental review, consultation, and other actions required by applicable federal environmental laws for this project have been carried out by ADOT pursuant to 23 USC Section 327 and a Memorandum of Understanding dated April 16, 2019, and executed by the Federal Highway Administration (FHWA) and ADOT.

Most of the proposed action will cross the Gila River Indian Community (Community) and will require new easement under the jurisdiction of the Community or the U.S. Bureau of Indian Affairs (BIA). Both entities have agreed to be cooperating agencies. According to CEQ regulations (40 CFR Section 1508.9), the basic function of an EA is to describe the need for a proposed action, alternatives for implementing or constructing the proposed action, and the environmental impacts of the proposed action and alternatives. The EA also provides a list of agencies and persons consulted. This document identifies potential impacts on social, economic, natural, and cultural resources and measures to avoid, minimize, and mitigate such impacts.

B. Project Location

ADOT proposes to increase the capacity and improve I-10 in south-central Maricopa County and northwestern Pinal County in Arizona (Figure 1). The I-10 corridor passes through the cities of Phoenix and Chandler in Maricopa County, the Community, and the city of Casa Grande in Pinal County (Figure 2), extending from mileposts 161.0 to 187.1. I-10 crosses the Gila River between mileposts 172.6 and 173.6, and the bridge over the Gila River is being addressed as a separate project by ADOT (i10bridgeproject.com).

Figure 1. Project location

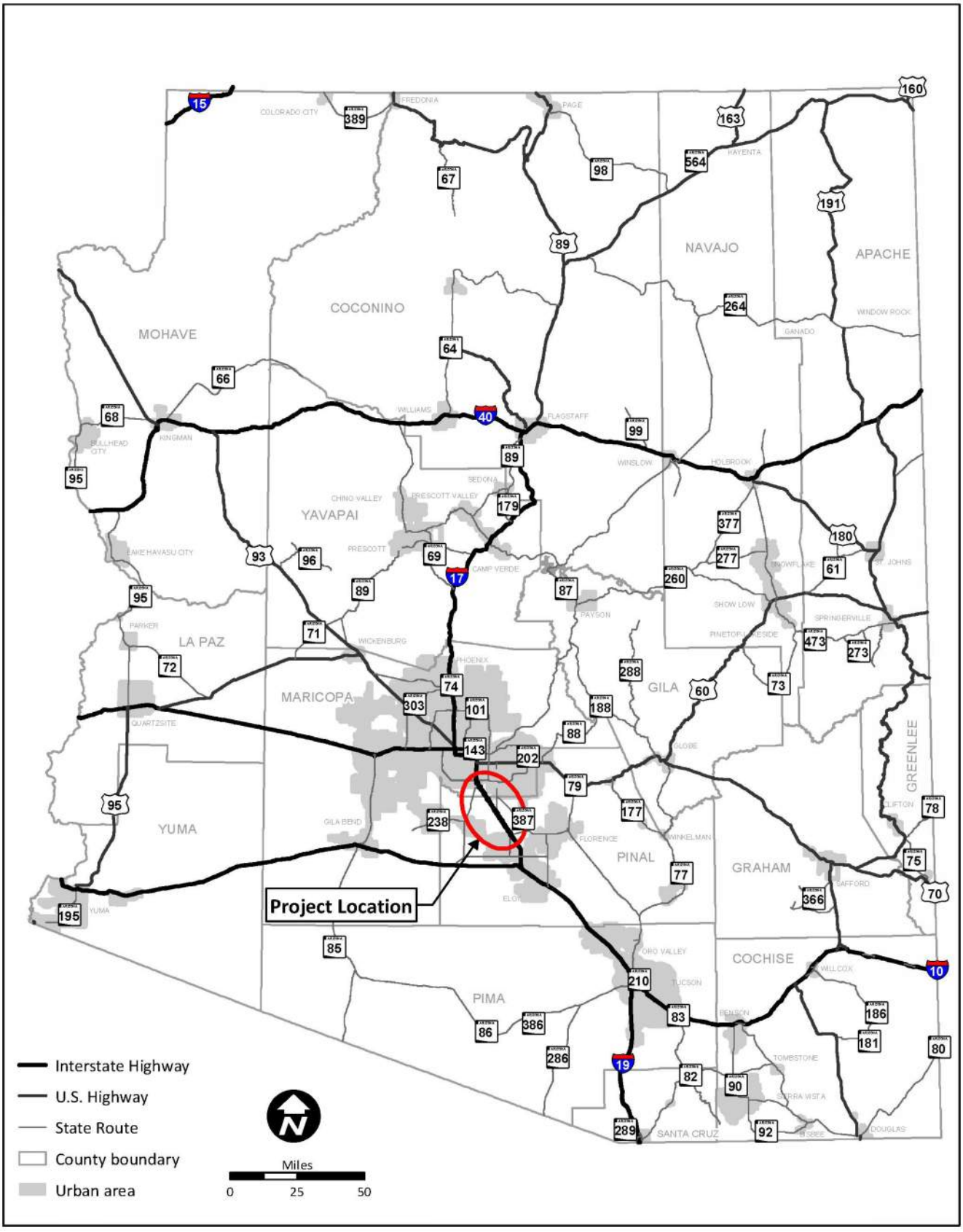
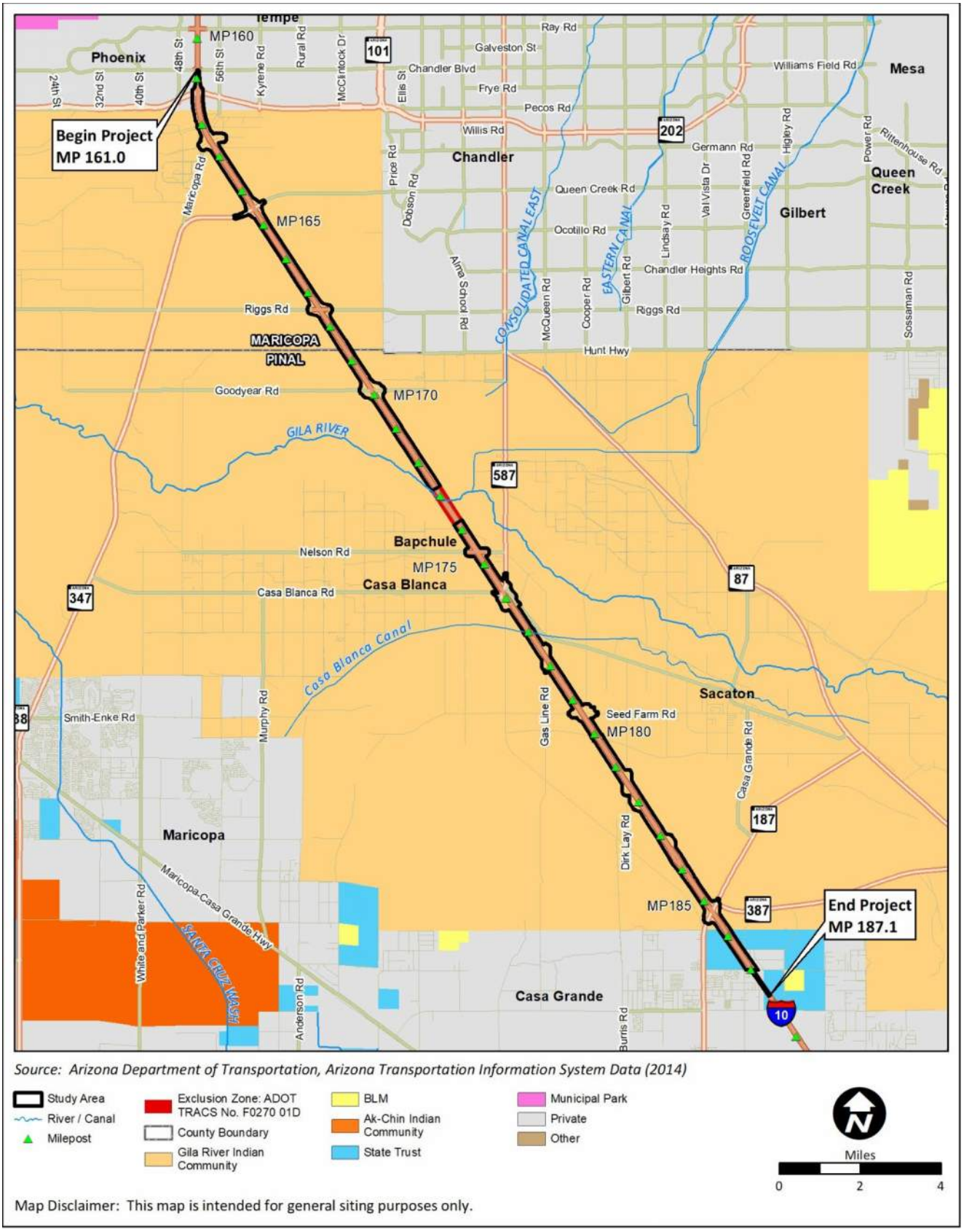


Figure 2. Project vicinity



C. Project Background and Overview

I-10 is a major transportation route for freight and passenger vehicular traffic in Arizona, connecting Arizona's largest major metropolitan areas of Phoenix and Tucson. I-10 carries both interstate and commuter traffic destined to and from the Phoenix area. It provides access to commercial enterprises on the Community that offer important employment opportunities for Community members.

I-10 is also a key national transportation route, serving as a transcontinental freeway on the U.S. Interstate system that facilitates the movement of international commerce, playing a key role in Arizona's transportation infrastructure and contributing to its economic success.

Recognizing the importance of I-10, the Maricopa Association of Governments (MAG) *2040 Regional Transportation Plan Update* (RTP) included funding for design, engineering, and environmental studies for this segment of I-10. The proposed action will increase I-10's current capacity by adding new general purpose lanes and high-occupancy vehicle (HOV) lanes, along with improvements to existing traffic interchanges (TIs) and crossroads. The *2022–2026 Five-Year Transportation Facilities Construction Program* identifies MAG funding for design and construction of the I-10 improvements between SR 202L and Riggs Road in fiscal years 2022, 2023, and 2025. The total amount of MAG funding is $221 million. ADOT has allocated $580 million across fiscal years 2019, 2020, 2021, 2023, 2024, and 2025 for the corridor.

At the northern terminus, the proposed action evaluated in this EA begins at the SR 202L system TI[1] at milepost 161. Between mileposts 161 and 164, I-10 is classified as an urban freeway, with two general purpose lanes and one auxiliary lane in each direction. East of milepost 164, just north of the I-10 and SR 347/Queen Creek Road service TI, I-10 becomes a rural freeway with two lanes in each direction. Continuing eastbound, I-10 leaves the Phoenix metropolitan area and Maricopa County at milepost 168.7 and traverses the Community in Pinal County as a rural four-lane freeway to the southern terminus of the proposed project. The corridor ends at milepost 187.1 near the city limits of Casa Grande, matching the three-lane section in each direction (for six lanes total) as I-10 continues southeast toward Tucson.

Other I-10 facilities included in this study are five existing service TIs in addition to the I-10 and SR 202L system TI, five crossroad bridges, median shoulders that vary from 2 to 4 feet wide, and outside shoulders that are 10 feet wide. Improvements to the rest areas on I-10 at mileposts 182 (eastbound) and 183 (westbound) are not included in this study. The I-10 median is highly disturbed open desert, except for a paved median with barriers at the northern terminus.

[1] A system TI provides a free-flowing connection between two freeway facilities, meaning that traffic does not stop at an intersection before entering the other facility. A service TI connects a freeway with a crossroad, and the traffic may need to stop at an intersection before entering the other facility.

The study area limits for the proposed I-10 project main line extend generally 500 feet from each side of the existing I-10 easement boundary for the length of the 26-mile corridor (Figure 3). The study area for the TIs and crossroads is wider than 500 feet in most cases to include the I-10 on and off ramps, intersecting roads, bridge approaches, and existing ADOT easement boundaries. The study area was established as the basis to obtain data and information to assess impacts for the resources evaluated in Part IV, *Affected Environment, Environmental Consequences, and Mitigation*, of this EA that may result from widening and improving I-10.

Additionally, an environmental footprint was established to assess potential direct impacts from the proposed action. Note that the study area may change based on engineering, drainage, or related factors in the field over the course of the freeway design process following the current preliminary design phase, but substantial changes are not anticipated.

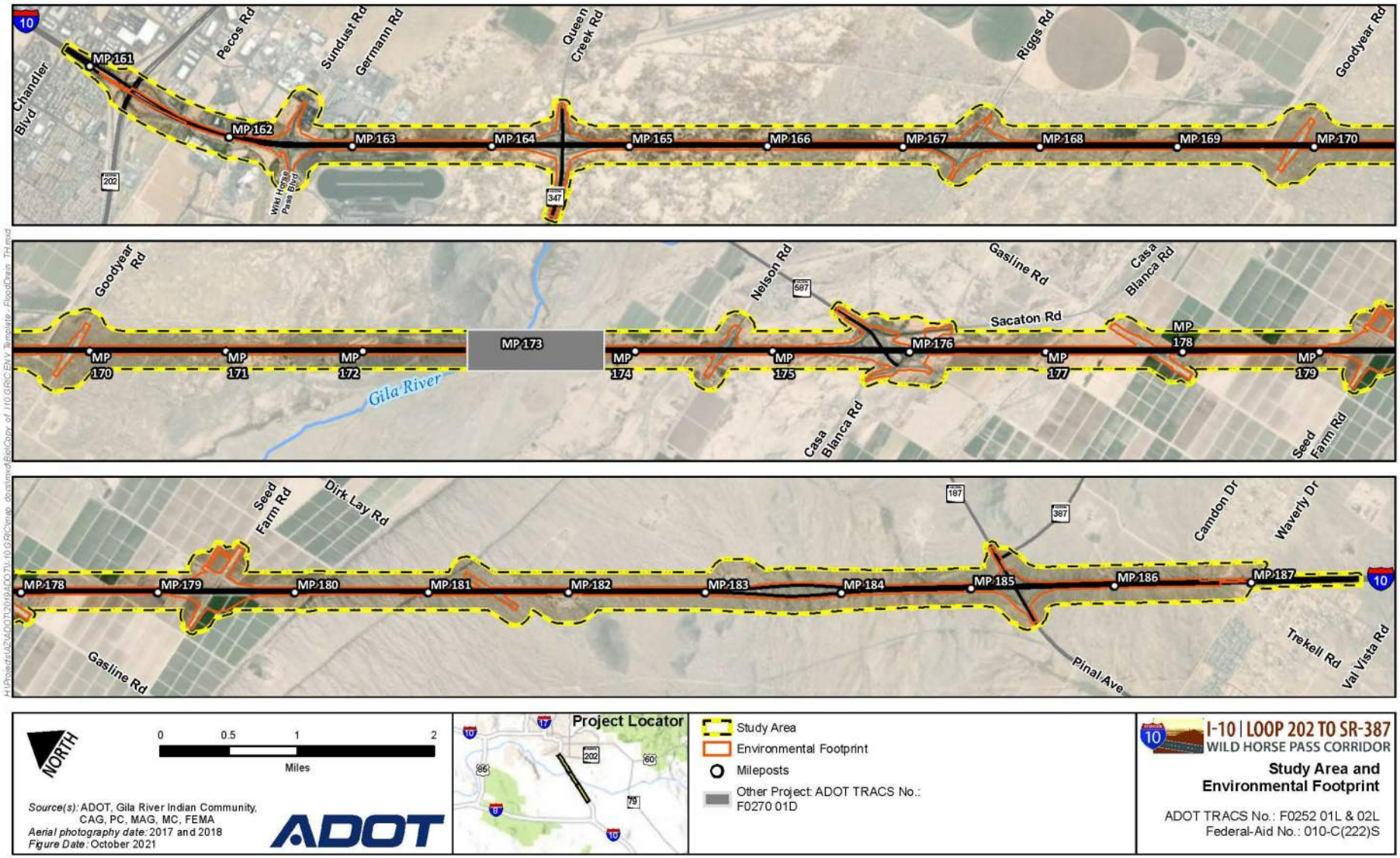
Late in the development of the EA, MAG released the 2050 RTP, which included updated traffic numbers. The effects of the new 2050 data were evaluated, and it was determined that they did not change the conclusions in this EA. In many cases, such as the purpose and need for the project, the additional traffic strengthens the need for the project. In other cases, such as the air quality and traffic impact discussions of this EA, more detailed explanations are provided to explain why no changes to the conclusions are needed.

Gila River Indian Community

Most of the I-10 corridor traverses Community land. I-10 in the Community was built on a transportation easement established in 1966 with ADOT, BIA, and the Community.[2] The Community has territorial sovereignty over its tribal land in accordance with federal law. Appendix A, *Coordination and Correspondence*, documents Community and other agency coordination.

[2] Right-of-way project numbers: I-10-3(16)155: Baseline to SR 347; I-10-3(35)161: SR 347 to County Line; I-10-3(37)168: County Line to Gila River; I-10-3(39)172: Gila River to Dirk Lay; I-10-3(41)180: Dirk Lay to Val Vista

Figure 3. Study area and environmental footprint



II. Project Purpose and Need

A. Summary

The purpose and need statement identifies specific and measurable transportation problems (needs) that the proposed project intends to address (purpose). This section discusses why ADOT is taking action to address current and future travel demand, congestion, capacity, traffic operations, travel time, safety, and infrastructure issues in the I-10 corridor between mileposts 161.0 and 187.1 (excluding the portion between mileposts 172.6 and 173.6). This part of the EA defines the purpose of the project, demonstrates the need for the action with regard to the problems and deficiencies to be corrected, provides the foundation for the development of alternatives, and discusses the proposed project's conformance to regional and local planning efforts. The purpose and need will inform the development of alternatives and facilitate the identification of a Recommended Build Alternative, as discussed in this EA in Part III, *Alternatives*.

The purpose and need for the proposed I-10 project was prepared in accordance with:

- 23 USC Section 327 – Surface Transportation Project Delivery Program
- 23 CFR Section 450.212 – Transportation Planning Studies and Project Development
- 23 CFR Part 771 – Environmental Impact and Related Procedures
- ADOT *NEPA EA and EIS Guidance* manual (2019)
- FHWA *Technical Advisory T 6640.8A – Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987)
- FHWA guidance – *Elements of Purpose and Need* (2018)

During development of the EA, MAG released the 2050 RTP, which includes updated data on future land uses, demographics, and traffic levels and which was reviewed by the study team.

B. Purpose

The purpose of the I-10 study is to address current and future travel demand, congestion, capacity, traffic operations, travel time, safety, and infrastructure issues by achieving the following:

- Meet current and projected travel demand and congestion on I-10 by 2040 that is being driven by population and employment growth in Maricopa, Pinal, and Pima Counties.
- Improve I-10 passenger and freight traffic capacity and traffic operations, and address incidents of traffic detouring off the I-10 main line.
- Improve the travel time reliability for regional and international freight transportation.

- Address design standards and end-of-service-life elements in the I-10 corridor to meet current Interstate highway standards. This includes addressing deficiencies of the portions of local roadways crossing I-10 as TIs or grade-separated structures.

The following section describes the proposed I-10 improvements that are needed to fulfill the project purpose, as described above.

C. Need

To accommodate the growth occurring in Maricopa and Pinal Counties, and in Pima County farther south near Tucson, ADOT is expanding and modernizing I-10 between Phoenix and Tucson. This 26-mile segment is the last remaining piece of ADOT's overall vision for expanding I-10's capacity and improving and modernizing the route in Arizona, particularly between the state's two major metropolitan areas of Phoenix and Tucson.

The project need identifies the specific and measurable transportation problems that exist today or will exist by 2040. The conditions that have resulted in the inadequacies or deficiencies that need to be remedied are:

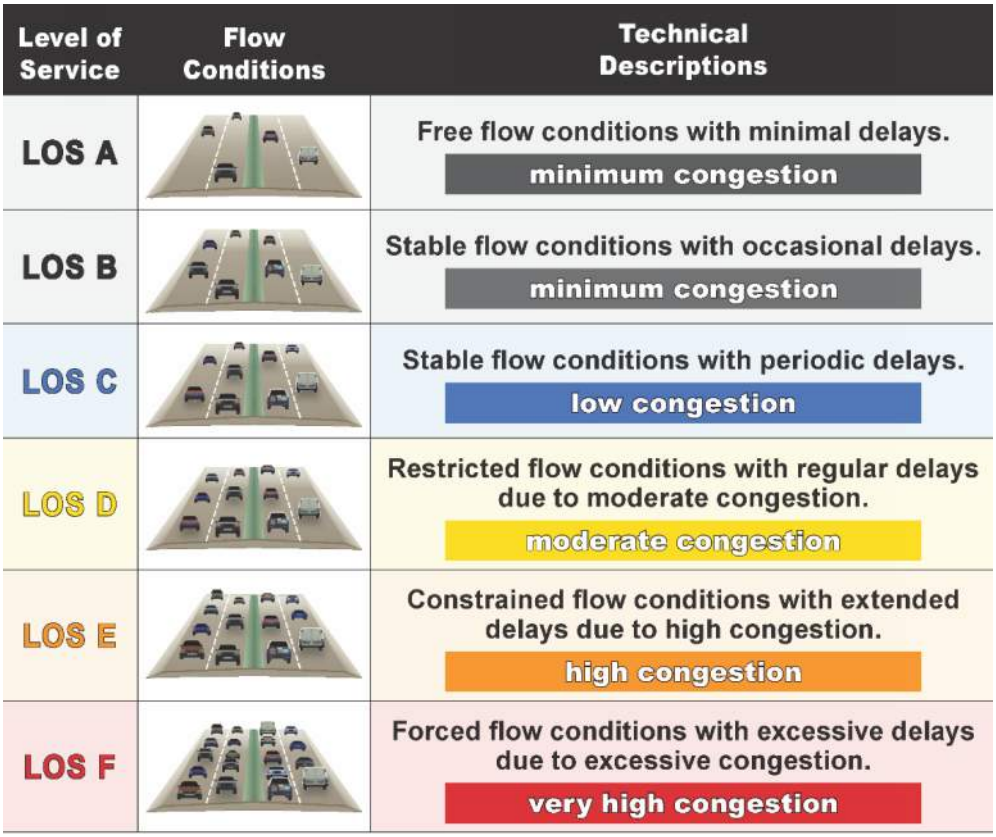
- substantial current and projected future travel demand on I-10 that is being driven by rapid population and employment growth in Maricopa, Pinal, and Pima Counties
- substantial traffic congestion resulting from inadequate roadway capacity on I-10 that continues to worsen, adversely affecting travel time and levels of service (LOS)
- substantial I-10 traffic operation issues caused by passenger and freight traffic volumes, major crashes, emergencies, and weather-related incidents, with subsequent diversion of traffic onto local Community roads
- crash statistics that indicate a higher-than-average number and/or severity of crashes than the Arizona statewide average for similar roadways
- elements of I-10 that fall short of today's Interstate highway design standards and/or have degraded and become deficient because of age or use, including degrading bridge decks, outdated bridge and roadway barriers, narrow or nonexistent shoulders, and poor pavement condition

Need Based on Travel Demand and Traffic Congestion

I-10 is classified primarily as a rural four-lane freeway with a 75 miles per hour (mph) speed limit through most of the 26-mile-long study area, except for a small section from milepost 161 at the I-10 and SR 202L system TI to milepost 164 just north of the I-10 and SR 347/Queen Creek Road service TI. This section is approximately 3 miles long and is classified as an urban freeway with a 65 mph speed limit.

The I-10 study area will remain a center of growth for population and employment, as indicated in Tables 3 and 4, respectively, later in this section. Along with the population and employment growth, the study area experiences further inefficiencies with increases in passenger and freight traffic, seasonal residents and visitors, and overall regional urbanization. ADOT uses a mobility index to assess the existing mobility and traffic flow on Arizona highways (ADOT 2017a). The mobility index is an average of the existing and projected annual average daily traffic (AADT) volume compared with the highway's current design capacity—known as the volume-to-capacity ratio, or v/c ratio. The v/c ratio reflects the mobility and quality of travel and circulation of a highway or a specific highway section. The v/c ratio measures the LOS for highways, comparing roadway demand (vehicle volumes) with highway supply (carrying capacity). Figure 4 illustrates the LOS grading system.

Figure 4. Level of service



LOS is a uniform way of describing the quality of service provided in a transportation corridor. The LOS method assesses the quality of transportation service using six letter grades: LOS A through F, with LOS A being the best—free-flow traffic conditions with little or no delays—and LOS F being the worst—severely congested traffic with long queues and delays.

LOS A, B, and C are considered satisfactory. Congested traffic flows are noticeable at LOS D. LOS E is undesirable and is viewed as being at the limit of tolerable delay. LOS F is considered unacceptable. The LOS letter scheme is commonly used by departments of transportation throughout the country.

Table 1 identifies the existing (2019) and projected (2040) LOS for the morning and evening commutes on I-10, along with durations of delay. The segments are demarcated by the I-10 TI locations.

Table 1. Existing (2019) and projected (2040) Interstate 10 morning and evening commute conditions

Interstate 10 study area segment	Morning commute[a]		Evening commute[b]	
	LOS (westbound)	Duration of delay (minutes)	LOS (eastbound)	Duration of delay (minutes)
Existing conditions (2019)				
SR 202L to Wild Horse Pass Boulevard	F	<1.0	F	<1.0
Wild Horse Pass Boulevard to SR 347/Queen Creek Road	F	1.4	E	1.0
SR 347/Queen Creek Road to Riggs Road	F	4.6	F	2.0
Riggs Road to SR 587/Casa Blanca Road	F	7.2	E	3.3
SR 587/Casa Blanca Road to SR 387/ SR 187/Pinal Avenue	F	9.4	E	4.5
Projected conditions (2040) without proposed Interstate 10 improvements				
SR 202L to Wild Horse Pass Boulevard	F	<1.0	F	<1.0
Wild Horse Pass Boulevard to SR 347/Queen Creek Road	F	2.6	F	2.6
SR 347/Queen Creek Road to Riggs Road	F	9.8	F	5.1
Riggs Road to SR 587/Casa Blanca Road	F	20.3	F	10.4
SR 587/Casa Blanca Road to SR 387/ SR 187/Pinal Avenue	F	28.4	F	15.4

Source: Maricopa Association of Governments (2021)
Notes: LOS = level of service, SR = State Route
[a] Morning commute time is from 6 a.m. to 9 a.m. [b] Evening commute time is from 3 p.m. to 6 p.m.

As shown in Table 1, I-10 experiences LOS E or F during the morning and evening commutes under existing conditions, with delays lasting up to 9 minutes in certain segments during the morning commute. It also shows that in 2040 without the proposed improvements, LOS F would occur for the entire length of I-10 in the study area during the morning and evening rush hours, with the delays increasing to over 28 minutes in certain segments in the morning and over 15 minutes during the evening. Note that Part IV, *Affected Environment, Environmental Consequences, and Mitigation*, Section E, *Traffic and Transportation*, provides information on how I-10 will operate with the proposed I-10 improvements.

Table 2 provides data on the I-10 main line's existing (2019) and projected (2040, without the proposed I-10 improvements) AADT and peak-hour traffic volumes on I-10. The most current traffic volume data indicate that the I-10 AADT is 123,800 vehicles on the urban section in the northern part of the study area. The rural section at the southern end of the study area near Casa Grande has an AADT of 69,800 vehicles

(ADOT 2021b). By 2040, MAG's regional travel demand model predicts the AADT will increase to 162,800 vehicles (a 32 percent increase) on the urban I-10 main line section, while the AADT is projected to increase to 108,100 (a 55 percent increase) in the southern end of the corridor near Casa Grande (ADOT 2021b). The percentage of trucks today is high—between 15 and 25 percent—but is expected to increase to as much as 34 percent by 2040, indicating I-10's importance for freight mobility.

Table 2. Existing (2019) and projected (2040) Interstate 10 traffic volumes

Interstate 10 study area segment	Average daily traffic		Peak-hour traffic	
	All traffic	% trucks	Morning peak	Evening peak
Existing conditions (2019)				
SR 202L to Wild Horse Pass Boulevard	123,800	15%	5,417	5,404
Wild Horse Pass Boulevard to SR 347/ Queen Creek Road	107,100	17%	5,354	5,038
SR 347/Queen Creek Road to Riggs Road	82,800	21%	3,997	3,710
Riggs Road to SR 587/Casa Blanca Road	65,200	25%	3,210	2,960
SR 587/Casa Blanca Road to SR 387/SR 187/Pinal Avenue	69,800	25%	3,295	3,129
Projected conditions (2040) without proposed Interstate 10 improvements				
SR 202L to Wild Horse Pass Boulevard	162,800	24%	6,060	6,060
Wild Horse Pass Boulevard to SR 347/ Queen Creek Road	137,500	27%	5,882	5,781
SR 347/Queen Creek Road to Riggs Road	116,700	31%	4,664	4,215
Riggs Road to SR 587/Casa Blanca Road	100,100	34%	4,058	3,865
SR 587/Casa Blanca Road to SR 387/SR 187/Pinal Avenue	108,100	34%	4,319	4,214

Source: Arizona Department of Transportation (2021b)
Note: SR = State Route

In addition, future commercial development in the Wild Horse Pass area located in the northern part of the Community just west of I-10 is projected to continue. The development planning process in this area is being undertaken by the Wild Horse Pass Development Authority (WHPDA). WHPDA has prepared the *Wild Horse Pass Master Plan Index* (2019).

The WHPDA plan for future development currently includes apartment, hotel, office, retail, restaurant, casino, convention center, recreational, water park, and medical land uses, as well as outdoor festival venues and seated entertainment and event venues. This future development is expected to occur between now and 2060.

This additional development and the traffic it would generate are not currently included in the MAG traffic projections, but given what is planned, it would increase and worsen traffic congestion in this section of I-10 above the projected 32 percent increase by 2040 (Table 2), further indicating a need to expand the traffic-carrying capacity in this stretch of I-10. Additional traffic from the WHPDA plan would be included in MAG's future projections once the project becomes part of the MAG regional coordination process.

For additional, more detailed information on traffic, see Chapter 2, *Traffic and Crash Data Analysis*, in the *Design Concept Report, Interstate 10 Corridor: State Route 202L to State Route 387* (DCR).

Need Based on Population and Employment Growth

Population and employment data were obtained from MAG for Phoenix, Chandler, the Community, and Casa Grande. Note that MAG obtains demographic and economic data from the municipalities in the MAG region.

Population growth is expected in the study area in Phoenix and Chandler between 2022 and 2040, although each area is close to its maximum build-out—that is, nearly completely developed. Casa Grande is expected to experience rapid growth through 2040. When employment growth is factored in each city, along with Casa Grande, the study area is expected to experience substantial growth by 2040. The Community is not anticipating population growth through 2040 (Table 3).

Employment, on the other hand, is projected to grow by double digits in the I-10 study area as urbanization and development continues to move south from the Phoenix area and north from Tucson by 2040. This employment growth would substantially increase travel demand on the interstates, state routes, and local roadways within and around the I-10 study area by 2040, further degrading system capacity (Table 4).

Table 3. Population growth, 2022 to 2040

Location	2022 population[a]	2030 population	2030 % change from 2022	2040 population	2040 % change from 2022
Phoenix: Interstate 10 study area	37,656	37,924	1%	38,208	1%
Phoenix	1,711,800	1,867,300	8%	2,007,800	17%
Chandler: Interstate 10 study area	41,024	41,126	0%	42,128	3%
Chandler	292,000	304,300	4%	315,900	8%
Gila River Indian Community	14,100	14,100	0%	14,100	0%
Casa Grande	64,565	85,296	24%	99,804	55%

Source: 2023 Maricopa Association of Governments Socioeconomic Projections (Phoenix, Chandler, Gila River Indian Community, Casa Grande)

[a] The socioeconomic projections for the Casa Grande Metropolitan Planning Area provided 2020 data rather than 2022 data.

Table 4. Employment growth, 2022 to 2040

Location	2022 employment[a]	2030 employment	2030 % change from 2022	2040 employment	2040 % change from 2022
Phoenix: Interstate 10 study area	17,622	18,549	5%	19,406	10%
Phoenix	933,700	1,048,500	10%	1,149,000	23%
Chandler: Interstate 10 study area	42,057	44,289	5%	46,475	11%
Chandler	166,400	189,400	12%	204,500	23%
Gila River Indian Community	9,000	12,300	27%	14,000	56%
Casa Grande	18,363	31,461	42%	37,777	106%

Source: 2023 Maricopa Association of Governments Socioeconomic Projections (Phoenix, Chandler, Gila River Indian Community, Casa Grande)

[a] The socioeconomic projections for the Casa Grande Metropolitan Planning Area provided 2020 data rather than 2022 data.

In addition to the population and employment growth shown in Tables 3 and 4, respectively, the substantial future commercial development in the Wild Horse Pass area, discussed in the previous section, is expected to further contribute to the need for the project based on employment growth.

Need Based on Traffic Operations Issues

Overall passenger and freight traffic volumes and incidents on I-10—such as crashes, emergencies, or inclement weather—can also affect the highway's efficiency, safety, and travel time reliability. Daily traffic volumes and incidents create congestion, both recurring and non-recurring. This is measured by the number of times and extent to which the highway experiences closures, as compared with other statewide corridors identified by ADOT and documented in ADOT's *I-10 East Corridor Study, State Route 202L to New Mexico State Line*. Construction-related closures are excluded because ADOT provides public notification, allowing people to plan around such closures.

In the I-10 study area between mileposts 161.0 and 187.1, 47 closures occurred between 2010 and 2015 (ADOT 2017a). The closures resulted in 235 hours of traffic delay and disruption on I-10 in the study area. Closure travel time delays were substantially higher in the eastbound direction (179 hours, accounting for 76 percent of the delays) than westbound (56 hours, accounting for 24 percent of the delays) (ADOT 2017a). The less-than-desirable travel time reliability in the study area is attributable to the lack of roadway capacity and pavement width combined with very high traffic volumes. The AADT on I-10 between mileposts 160 and 164 is approximately 124,000 vehicles, and 69,800 vehicles at the southern end near Casa Grande (ADOT 2021b). When closures occur in this area, they last longer because of the lack of roadway capacity and pavement width, lack of alternative routes to detour around incident areas, and the high traffic volumes.

Most of the 47 closures noted above occurred on the portion of I-10 on Community lands between mileposts 160 and 180, resulting in a “fair” to “poor” mobility performance rating by ADOT’s Highway Condition Reporting System (ADOT 2017a). When closures occur, many drivers on I-10 use local Community roads or state highways through the Community, seeking ways to detour around the closure areas. Most of these roads struggle to accommodate the Interstate traffic volumes during these incidents, leading to potential conflicts and delays for local Community vehicles and pedestrians.

In addition to operations issues on main line I-10, traffic growth in and adjacent to the corridor has resulted in several operational concerns, most notably at the TIs. TI operational issues include short acceleration or deceleration areas on the ramps, aged roadside barrier and end treatments, and ramp and crossroad intersection congestion resulting in operational efficiency issues now and into the future. While all five of the TIs have some level of operational concern, the most pronounced issues occur at the Wild Horse Pass Boulevard and SR 347/Queen Creek Road service TIs. These two TIs are expected to have substantially higher traffic growth rates over the next 20 years, worsening the operational issues.

Need Based on Less Than Efficient Freight Travel Time Reliability

I-10 is a major transportation route for regional and international freight transportation through the southern portion of the U.S. It provides a principal link for freight traffic from the ports of southern California and for international commerce to and from Mexico and Central America through Arizona. Of the vehicles that travel on the segment of I-10 in the study area on a daily basis, freight-hauling and commercial trucks range from 15 percent at the northern end to 25 percent at the southern end (ADOT 2021b). The congestion and bottlenecks that result from the capacity issues in this area further disrupt the normal flow of freight transport, causing substantial delays and safety concerns.

ADOT uses the truck planning time index to measure the reliability of freight travel time, which is the ratio of total travel time needed for 95 percent on-time arrival to free-flow travel time (ADOT 2017b). This index also reflects the additional buffer time needed for on-time delivery while accounting for non-recurring travel delays, such as road closures, poor weather, or construction. Other freight travel time reliability measures include recurring delay, closures (and duration of such closures), and low bridge vertical clearance areas from the ADOT Vertical Clearance Database, including low bridge locations where the vertical clearance of an underpass is less than 16.25 feet and no exit or entrance ramps are available to bypass the underpass (ADOT 2017b). ADOT uses these performance indicators to measure freight transport efficiency on highway segments.

The segment of I-10 from milepost 160 just north of the I-10 and SR 202L system TI to milepost 164 at the I-10 and SR 347/Queen Creek Road service TI has substantially poor freight travel time reliability. This segment rates “poor” in the truck planning time index because of recurring delays attributable to substantial congestion (both eastbound and westbound) and delays resulting from frequent road closures. This

segment of I-10 cannot adequately handle the 100,000 vehicles that make up the AADT, 15 percent of which consists of freight and commercial trucks.

Freight travel time reliability on I-10 is considered "good" by ADOT from milepost 164 at SR 347/Queen Creek Road to milepost 198 at the I-10 and Interstate 8 system TI.

Need Based on Crash Statistics

The vehicle crash rate on this segment of I-10 is higher than for similar highways in Arizona in similar operating environments (ADOT 2017a). From 2014 through 2018, there were 1,846 vehicle accidents between mileposts 161.0 and 187.1. Of those, 26 crashes caused fatalities and 42 caused incapacitating injuries. Given the historical crash data on this section of I-10, ADOT designated the study area as a Safety Corridor in 2017. An ADOT Safety Corridor designation is based on a number of criteria, including being in the top 1 percent for fatal and serious injuries and total crash rate and frequency, frequent and persistent traffic violations, number of hours of congestion, and number of freight and commercial vehicles.

Additionally, I-10 in the study area had four areas where the crash rate was much higher than statewide:

- mileposts 163 to 168, westbound (roughly Riggs Road to Wild Horse Pass Boulevard)
- mileposts 172 to 174, westbound (roughly the Gila River Bridge crossing)
- mileposts 166 to 171, eastbound (roughly Riggs Road to the Gila River Bridge crossing)
- mileposts 183 to 187, eastbound (roughly the eastbound Sacaton rest area to the southern Community boundary with Casa Grande)

Fifty-one percent of the fatal crashes and 50 percent of the crashes with incapacitating injuries were in the four areas identified above.

Of the 1,846 crashes, most were rear-end crashes (937 crashes, accounting for 51 percent), followed by single-vehicle crashes (515 crashes, 28 percent), and side-swipe crashes (290 crashes, 16 percent). Most single-vehicle crashes included hitting an object, such as a guardrail, sign, or utility pole, or overturning after running off the road in the median or roadside.

For additional, more detailed information on crashes and safety on I-10 in the study area, see Section 2.9, *Safety Assessment*, of the DCR.

Need Based on Design Standards and End-of-service-life Elements

I-10 in the study area was originally constructed in the mid-1960s. Design standards for the Interstate highway system have been updated and refined since that time, and some existing components may not meet the current American Association of State Highway and Transportation Officials standards and the ADOT *Roadway Design Guidelines*. There are 10 local roadways with structures that cross over I-10 in the

study area (not including the Gila River Bridge, which is a separate ADOT project), all of which are in the Community and are part of this I-10 project.

The existing service TIs with I-10 are at Wild Horse Pass Boulevard, SR 347/Queen Creek Road, Riggs Road, SR 587/Casa Blanca Road, and SR 387/SR 187/Pinal Avenue (see Figure 3). The roads crossing over I-10 without a service TI in the study area are Goodyear, Nelson, Gasline, Seed Farm, and Dirk Lay Roads. Apart from the relatively new Wild Horse Pass Boulevard and SR 347/Queen Creek Road TIs, the other TIs and roads crossing over I-10 generally have similar deficiencies and degraded components related to their age, including poor pavement and bridge deck conditions and outdated barriers. In addition to age-related factors, updates in design standards over the last 50 years have resulted in inadequate shoulder widths and the lack of pedestrian or bicycle accommodations at several of these crossings.

Gasline and Dirk Lay Roads, crossing over I-10, have bridge supports that are adjacent to the shoulders on both sides of I-10 that would conflict with any I-10 widening alternative. Furthermore, both Gasline and Dirk Lay Roads are narrow as they cross over I-10. This is particularly challenging at Gasline Road, causing difficulties for large agricultural equipment crossing I-10 in the Gila Farms area.

For additional, more detailed information on I-10's existing condition, see Chapter 1, *Description of the Project*, in the DCR.

D. Conformance with Regulations, Land Use Plans, and Other Plans

Regional Planning Efforts

The proposed I-10 capacity expansion and improvements project fully conforms to regional planning efforts undertaken by MAG (the metropolitan planning organization for Maricopa County and portions of Pinal County), the Sun Corridor Metropolitan Planning Organization, and ADOT. These efforts include:

- *2040 Regional Transportation Plan Update* (MAG 2020)
- *Sun Corridor MPO Regional Transportation Plan 2040: Creating Connectivity* (Sun Corridor Metropolitan Planning Organization 2016).
- *2022–2026 Five-Year Transportation Facilities Construction Program* (ADOT 2021a)
- *I-10 East Corridor Study (Loop 202 to New Mexico State Line)* (ADOT 2017a)
- *Arizona Key Commerce Corridors* (ADOT 2014)
- *Interstate 8 and Interstate 10 Hidden Valley Transportation Framework Study* (MAG 2009)

Local Planning Efforts

The proposed I-10 project fully conforms to local planning efforts enacted by Maricopa and Pinal Counties; the municipal jurisdictions in the study area that include the Cities of Phoenix, Chandler, and Casa Grande; and the Community.

Maricopa County

The Maricopa County *Vision 2030 Comprehensive Plan* (Maricopa County 2016) does not specifically identify the proposed I-10 project. However, the plan notes that any update or amendment to "the Maricopa County Transportation System Plan, municipal transportation plans, Short and Long Range Regional Transportation and Transit Plans, the State Highway Plan, the National Highway System, the Federal Interstate Highway System, or any other transportation system within Maricopa County, will be considered as amendments to the Comprehensive Plan." Because the proposed I-10 project is included in the RTP, it may be considered as an amendment to the County's comprehensive plan. Additionally, Maricopa County was a supporting local government for the preparation of the regional planning studies.

Pinal County

The *Pinal County Comprehensive Plan, We Create Our Future* (Pinal County 2009) does not mention the I-10 project specifically but includes very low (0 to 1 dwelling unit/acre) to low (0 to 2 dwelling units/acre) development density as the existing and future land use along the east side of the I-10 study area within the west-central part of the county. The Pinal County Future Land Use Map also includes a low-intensity activity center adjacent to local roadways that includes commercial, community service, and related mixed-use development to support existing and future residential development.

The *Pinal County Comprehensive Plan, We Create Our Future* was updated in 2015 (Pinal County 2015) and identifies the expansion of I-10 in Pinal County as an important component of its Mobility and Connectivity Element to achieve its goal of improving county and regional mobility based on a well-developed and balanced transportation system. Additionally, the plan has identified the West Pinal Growth Area as an important future development area to achieve economic and employment growth in the county. The cities of Casa Grande, Eloy, Coolidge, Florence, and Maricopa are located within the West Pinal Growth Area and are the county's primary population centers. The proposed I-10 project is considered an important factor in the future success of the West Pinal Growth Area.

City of Phoenix

The City of Phoenix *General Plan 2015* (City of Phoenix 2015) does not specifically identify the proposed I-10 project, but it does support the regional planning efforts that include the project in the RTP and the *2022–2026 Five-Year Transportation Facilities Construction Program*. The City of Phoenix is also a supporting municipality for the preparation of regional planning studies to improve the I-10 corridor in Arizona and in the study area. In addition, Phoenix has designated the southwestern corner of the city from

Pecos Road north to Guadalupe Road between I-10 and 40th Street as the Ahwatukee Major Employment Center. This area will benefit from the additional highway capacity, improved TIs, and other improvements the I-10 project will provide.

City of Chandler

The City of Chandler *General Plan 2016, A Vision Refined* (City of Chandler 2016) does not specifically identify the proposed I-10 project, but it is assumed the project will conform to the City's land use, transportation, and economic development elements of the general plan. Chandler has identified the Loop 202/I-10 Growth Center, strategically located along I-10 and SR 202L, as the city's western economic development and employment center in the general plan. With the new SR 202L (South Mountain Freeway) facility now fully operational, this key location has excellent regional access and visibility and provides an opportunity for Chandler to rebrand the area and encourage its redevelopment into a more intense business and employment center. Chandler envisions this area, located between I-10 and Kyrene Road in the northwestern part of the city, becoming a hub of a variety of additional uses, including apartment complexes, more commercial uses, office space, and tourism. The land use in this area is currently warehousing, distribution, and light industrial, with smaller supporting businesses. The proposed I-10 project will provide the benefits of additional roadway capacity, improved TIs, and other improvements to assist Chandler's future economic development plans.

City of Casa Grande

The City of Casa Grande *General Plan 2020* (City of Casa Grande 2009) identifies current and future land uses as rural ranch residential (1 dwelling unit/acre) that includes commercial, community service, and related mixed-use development on the west side of I-10 in the study area in the city's northeastern section.

Gila River Indian Community

The WHPDA has prepared the *Wild Horse Pass Master Plan Index*, approved on November 12, 2019, for the Wild Horse Pass complex in the northern part of the Community and adjacent to the west side of I-10 in this area. As previously noted, the WHPDA plan for future development currently includes apartment, hotel, office, retail, restaurant, casino, convention center, recreational, water park, and medical land uses, as well as outdoor festival venues and seated entertainment and event venues. This future development is expected to occur between now and 2060. The master plan does not specifically mention the I-10 expansion and improvement project, but a detailed traffic analysis was conducted as a key component of the plan. The service TIs at I-10 and Wild Horse Pass Boulevard and SR 347/Queen Creek Road would act as primary points of ingress and egress to the Wild Horse Pass area. They were identified in the traffic analysis as two points of access that would not operate at an acceptable LOS in 2040 without improvements. A project to expand and improve I-10 and the two TIs will conform to WHPDA's future build-out plans for the Wild Horse Pass complex.

III. Alternatives

A. Introduction

NEPA regulations require that any build alternatives and the No-Build Alternative be identified and evaluated in the EA. Consideration of alternatives leads to a solution that satisfies the project purpose and need while avoiding, minimizing, or otherwise mitigating adverse impacts on environmental, social, economic, and cultural resources in the study area. Several alternatives and options were evaluated for their ability to meet the proposed project's purpose and need while also fulfilling criteria related to engineering, environmental impacts, the need for additional easement, and cost. This evaluation was supplemented with public feedback gathered in November 2020. The alternatives and options considered but eliminated from further study are discussed in Section B. Section C, *Alternatives Under Consideration*, describes the alternatives and options carried forward in this EA.

ADOT began developing I-10 main line alternatives and design options for the TIs and crossroads for improving I-10 immediately following the NEPA public and agency scoping meetings held in the fall of 2019. ADOT studied 2 build alternatives and a No-Build alternative for the I-10 main line, 30 build options for the 5 service TIs and 5 crossroads along I-10 (plus a No-Build option at each of the 10 locations), and build and No-Build options for the installation of a fiber optic trunk line along the west side of the existing I-10 easement. In November 2020, ADOT held a public meeting to present a comparative screening of the alternatives and options. ADOT gathered feedback at the public meeting and during the associated comment period. This feedback, along with coordination with the Community and key agency stakeholders, shaped the alternatives and options discussed in this chapter. Additional descriptions of the main line build alternative, TI and crossroad build options, and fiber optic trunk line build option can be reviewed in the DCR.

Because most of I-10 in the study area was built on an easement through Community land and allotted land held in trust by the United States, minimizing the amount of additional new easement needed from the Community and allottees was an important criterion guiding the alternatives development process. A smaller footprint for the I-10 improvements would also minimize some types of environmental impacts, such as impacts on archaeological sites.

Screening Process

The study team analyzed the 3 alternatives (ML1, ML2, ML3) and 30 options that were initially considered (see also Sections B and C of this part of the EA and Chapter 3 of the DCR) using engineering, environmental, easement, and cost criteria. This high-level multidisciplinary evaluation—based on preliminary designs for the I-10 widening and the TI/crossroad improvements—identified the key advantages and/or challenges associated with each alternative and option.

Table 5 lists the specific areas studied for each criterion.

Table 5. Description of alternative and option evaluation criteria

Criterion	Areas of evaluation
Engineering	• *Roadway Design Factors*: Summary of highway design geometric features, including items such as shoulder widths, clearance under bridges, etc. • *Drainage Considerations*: Summary of impacts on the drainage culverts under I-10. • *Traffic Operations in 2040*: Summary of modeled level of traffic operations in 2040. • *Safety*: Indicators of anticipated safety implications for each alternative/option. • *Constructability/Maintenance of Traffic*: Ease of construction and the impacts on traffic during construction. • *Utility Considerations*: Summary of expected utility impacts and the probability and/or severity of outages for relocations for each alternative/option. • *Maintenance/Maintainability*: Ease and relative cost of maintaining each alternative/option.
Cost[a]	• *Design and Construction Cost*: Estimated cost, in 2020 dollars, to design and construct the alternative/option. • *Right-of-way or Easement Cost*: Relative cost of additional easements/right-of-way needed to construct the alterative/option. Costs are not quantified at this point in the evaluation but are generally considered proportional to the quantity of new easement/right-of-way. • *Utility Cost*: Estimated cost, in 2020 dollars, to relocate or adjust affected utilities.
Easement/ Right-of-way[b]	• *New Permanent Easement or Right-of-Way*: Area of additional new permanent easement or right-of-way required for the proposed improvements of each alternative/option, measured in acres. • *Temporary Easements*: Area of additional new temporary easement required to construct the proposed improvements of each alternative/option, measured in acres. Following construction, the temporary easement areas would revert to the property owner. • *Residential Relocations*: Number of residential units that must be acquired and relocated to construct the alternative/option. • *Business/Billboard Relocations*: Number of businesses or billboards that must be acquired and relocated to construct the alternative/option.
Environmental	• *Floodplain*: Area of impact on floodplains, measured in acres. • *Jurisdictional Waters of the U.S.*: Area of impact on waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers. Could be canals, rivers, or washes, measured in acres. • *Water Resources*: Impacts on features such as canals, irrigation channels, and wells. • *Noise*: Summary of whether noise from the proposed action could exceed the FHWA Noise Abatement Criteria and, if so, what mitigation may be required. • *Air Quality*: Determination of whether the proposed action would conform to emission budgets of air pollutants not in attainment in the study area, and whether the proposed action would cause or contribute to new air quality violations. If the proposed action conforms and would not cause new violations, it is said to be in conformity. • *Visual*: Assessment of the degree of change of the proposed action's compatibility, which is the environment's ability to absorb the proposed project in scale, form, and material. It also assesses viewer sensitivity (viewers to and in the project corridor and their duration of exposure) to the change the project creates. • *Hazardous Materials*: Summary of the presence of known hazardous materials potentially affected by the alternative/option.

Table 5. Description of alternative and option evaluation criteria

Criterion	Areas of evaluation
Environmental (continued)	• *Land Use*: Identification of existing land use in the study area (residential, commercial, etc.) and evaluation of future land use that may be needed for a long-term I-10 transportation use. Future land use is based on community land use plans in the study area. • *Local Businesses*: Identification of businesses in the study area (commercial, industrial, etc.) and evaluation of whether any business would need to be fully or partially acquired or would be otherwise affected by the alternative/option (access, circulation, etc.). • *Local Communities*: Identification of residential areas and community facilities near the alternative/option (schools, churches, hospitals, parks, etc.) and evaluation of whether any residences or community facilities would need to be fully or partially acquired or would otherwise be affected by the improvements (access, circulation, noise, visual, etc.). In addition, the process identified any minority or low-income populations within the area of the proposed improvements and evaluated whether the proposed improvements would result in disproportionally high adverse impacts, as compared with the study area population as a whole pursuant to environmental justice regulations. • *Biological Resources*: Assessment of the potential for, and impacts on, threatened and endangered species, special-status species (including tribal species), and these species' habitat. Also, evaluation of impacts on native plants and migratory birds. • *Prime and Unique Farmlands*: Identification of the impacts on important farmland soils needed to produce food, feed, fiber, forage, and oilseed crops, regardless of whether the land is currently used for that purpose. • *Cultural Resources*: Assessment of the magnitude of impacts for each alternative/option on cultural resources that have been determined eligible for listing on the National Register of Historic Places. • *Traditional Cultural Properties*: Assessment of the magnitude of impacts for each alternative/option on properties eligible for listing on the National Register of Historic Places based on their associations with the cultural practices, traditions, beliefs, arts, crafts, or social institutions of a living community, as described in National Register Bulletin 38. • *Section 4(f) and Section 6(f)*: Assessment of impact on Section 4(f) properties, which are publicly owned recreational resources, wildlife and waterfowl refuges, and National Register of Historic Places-eligible properties (these do not need to be publicly owned). Also, assessment of impacts on Section 6(f) resources, which are recreational properties that receive Land and Water Conservation Fund grants.

Notes: FHWA = Federal Highway Administration, I-10 = Interstate 10

[a] The estimated costs for each alternative and option are provided in the *Design Concept Report.*

[b] All four of the easement/right-of-way criteria were calculated separately for tribal land, allotment land, and land off the Gila River Indian Community (nontribal land). The analysis revealed, however, that no right-of-way would be required off the Gila River Indian Community. More details on the acquisitions associated with each alternative and option are provided in the *Design Concept Report*.

Figure 5 summarizes the alternative and option evaluation results for the criteria described in Table 5 related to engineering, cost, easement/right-of-way, and environmental. Agency and public feedback (from the November 2020 meeting)—and the evaluation results documented in the matrix—were incorporated to decide which alternatives and options should be eliminated from further study and which should be carried forward. The matrices in Figure 5 use symbols to indicate the relative potential impacts of each alternative and option, as follows:

- empty circle: most desirable or least impacts
- half-filled circle: average desirability or average impacts
- filled-in circle: least desirable or most impacts

Illustrations of the alternatives and options are provided in Chapter 3 of the DCR.

The following sections discuss the alternatives and options considered but eliminated from further study, the alternatives and options that are now under consideration, the Selected Alternative, and the general project schedule.

Figure 5. Alternatives and options evaluation matrix summary

○ = Most desirable or least impacts ◐ = Average desirability or average impacts ● = Least desirable or most impacts

ALTERNATIVES and OPTIONS		ENGINEERING IMPACTS							COST			RIGHT OF WAY (TRIBAL LAND)				RIGHT OF WAY (ALLOTMENT LAND)				RIGHT OF WAY (NON-TRIBAL LAND)				ENVIRONMENTAL IMPACTS															
		Roadway Design Factors	Drainage Considerations	Traffic Operations in 2040	Safety	Constructability / Maintenance of Traffic	Utility Considerations	Maintenance / Maintainability	Design and Construction Cost	Right of Way / Easement Cost	Utility Cost	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent ROW	Temporary Easements	Residential Relocations	Business / Billboard Relocations	Floodplain	Jurisdictional Waters of the U.S.	Water Resources	Noise	Air Quality	Visual	Hazardous Materials	Land Use (Existing and Future)	Local Businesses (including billboards)	Local communities (environmental justice, residential impacts)	Biological Resources	Prime and Unique Farmlands (soils not just active farming)	Archaeological Resources	Traditional Cultural Properties (TCPs)	Section 4(f) and Section 6(f)
I-10 Mainline Widening Alternatives (1 added lane each direction + HOV lanes from SR 202L to Riggs Road)																																					
ML1	No Build	●	○	●	●	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	●	○	○	○	○	○	○	○	○	○
ML2	Median Widening + Ramp Upgrades	○	◐	○	○	◐	○	●	◐	◐	○	○	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	◐	○	◐	○	○	○	○	○	◐	◐	◐
ML3	Outside Widening + Ramp Upgrades	○	●	○	◐	●	○	○	●	●	○	●	○	○	●	●	○	○	●	○	○	○	○	◐	◐	◐	●	○	●	○	●	●	◐	○	◐	●	●	●
Wild Horse Pass / Sundust Road Interchange Options																																					
WH1	No Build, Except for ADA Upgrades	○	○	●	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○
WH2	Diverging Diamond Interchange (DDI) with bike & ped accomodations	◐	◐	○	○	◐	○	○	●	◐	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	○	○	○
WH3	Displaced Left Turn (DLT) Interchange with bike & ped accomodations	○	◐	○	◐	◐	○	○	◐	◐	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	○	○	○
SR 347 / Queen Creek Road Interchange Options																																					
QC1	No Build	○	○	●	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○
QC2	Diverging Diamond Interchange (DDI) with bike & ped accomodations	◐	◐	○	○	◐	○	○	●	◐	○	◐	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	◐	○	○
QC3	Displaced Left Turn (DLT) Interchange with bike & ped accomodations	○	◐	○	◐	◐	○	○	◐	◐	○	◐	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	◐	○	○

Figure 5 (continued). Alternatives and options evaluation matrix summary

◯ = Most desirable or least impacts ◐ = Average desirability or average impacts ● = Least desirable or most impacts

ALTERNATIVES and OPTIONS		ENGINEERING IMPACTS							COST			RIGHT OF WAY (TRIBAL LAND)				RIGHT OF WAY (ALLOTMENT LAND)				RIGHT OF WAY (NON-TRIBAL LAND)				ENVIRONMENTAL IMPACTS														
		Roadway Design Factors	Drainage Considerations	Traffic Operations in 2040	Safety	Constructability / Maintenance of Traffic	Utility Considerations	Maintenance / Maintainability	Design and Construction Cost	Right of Way / Easement Cost	Utility Cost	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent ROW	Temporary Easements	Residential Relocations	Business / Billboard Relocations	Floodplain	Jurisdictional Waters of the U.S.	Water Resources	Noise	Air Quality	Visual	Hazardous Materials	Land Use (Existing and Future)	Local Businesses (including billboards)	Local communities (environmental justice, residential impacts)	Biological Resources	Prime and Unique Farmlands (soils not just active farming)	Archaeological Resources	Traditional Cultural Properties (TCPs)	Section 4(f) and Section 6(f)
Riggs Road Interchange Options																																				
RR1	No Build	●	◯	◐	◐	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
RR2	Bridge deck rehabilitation	●	◯	◯	◐	●	◯	◐	◐	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
RR3	Bridge deck rehabilitation with shoulder widening	◯	●	◯	◯	●	◯	◐	◐	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
RR4	Bridge deck rehabilitation with shoulder widening and sidewalks	◯	●	◯	◯	●	◯	◐	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
RR5	Bridge replacement off of the existing alignment	◯	◐	◯	◯	◐	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◐	◯	◯	◯	◯	◯
Goodyear Road Grade Separation Options																																				
GY1	No Build	●	◯	◯	◐	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
GY2	Shoulder widening on approaches and bridge	◯	◐	◯	◯	●	◯	◯	◐	◐	◯	◯	◯	◯	◯	◐	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◐	◯	◯	◯	◐	◯	◯
GY3	Bridge replacement off of the existing alignment	◯	◐	◯	◯	◐	◯	◯	●	●	◯	◯	◯	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◐	◯	◐	◯	◯	◯	◐	◯	◯
Nelson Road Grade Separation Options																																				
NR1	No Build	●	◯	◯	●	◯	◯	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
NR2	Shoulder widening on approaches and bridge	◐	◐	◯	◐	●	◐	◯	◐	◐	◐	◐	◐	◯	◯	●	◐	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◐	◯	◯	◯	◐	◐	◐	◐
NR3	Full crossroad and bridge replacement	◯	◐	◯	◯	◐	●	◯	●	●	●	◐	◐	◯	◯	●	●	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◐	◯	◐	◯	◯	◯	◐	◐	◐	◐

Figure 5 (continued). Alternatives and options evaluation matrix summary

○ = Most desirable or least impacts ◐ = Average desirability or average impacts ● = Least desirable or most impacts

ALTERNATIVES and OPTIONS		ENGINEERING IMPACTS							COST			RIGHT OF WAY (TRIBAL LAND)				RIGHT OF WAY (ALLOTMENT LAND)				RIGHT OF WAY (NON-TRIBAL LAND)				ENVIRONMENTAL IMPACTS														
		Roadway Design Factors	Drainage Considerations	Traffic Operations in 2040	Safety	Constructability / Maintenance of Traffic	Utility Considerations	Maintenance / Maintainability	Design and Construction Cost	Right of Way / Easement Cost	Utility Cost	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent ROW	Temporary Easements	Residential Relocations	Business / Billboard Relocations	Floodplain	Jurisdictional Waters of the U.S.	Water Resources	Noise	Air Quality	Visual	Hazardous Materials	Land Use (Existing and Future)	Local Businesses (including billboards)	Local communities (environmental justice, residential impacts)	Biological Resources	Prime and Unique Farmlands (soils not just active farming)	Archaeological Resources	Traditional Cultural Properties (TCPs)	Section 4(f) and Section 6(f)
SR 587 / Casa Blanca Road Interchange Options																																				
CB1	No Build	●	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○
CB2	Add ramp terminal signals and turn lanes only	●	◐	◐	◐	○	◐	◐	◐	◐	◐	◐	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	◐	◐	●
CB3	Add ramp terminal signals, turn lanes, bridge deck rehabilitation, and widening for bike and ped accomodations	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	◐	◐	●
CB4	CB3 but with bridge replacement off of the existing alignment	◐	◐	◐	◐	◐	◐	◐	●	◐	◐	◐	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	◐	◐	●
CB5	Diamond Interchange with 5-legged roundabouts at intersections	○	●	◐	○	●	●	○	●	◐	●	●	○	○	○	◐	○	○	○	○	○	○	○	○	◐	○	○	○	◐	○	◐	○	○	○	◐	●	◐	●
CB6	Diamond Interchange with Casa Blanca Road bypass	○	●	○	○	●	●	○	●	●	●	●	○	○	○	●	○	○	○	○	○	○	○	○	◐	○	○	○	●	○	●	○	○	○	●	●	◐	●
CB7	Split Diamond Interchange with triangular circulating roadway	○	●	○	○	●	◐	○	●	●	◐	●	○	○	○	◐	○	○	○	○	○	○	○	○	◐	○	○	○	●	○	●	○	○	○	●	●	◐	●
Gasline Road Grade Separation Options																																				
GL1	No Build	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GL2	Bridge replacement on current alignment	○	◐	○	○	●	●	○	●	◐	●	◐	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	○	○	◐	○	○	○	◐	○	○	○
GL3	Bridge replacement on parallel alignment	○	◐	○	○	◐	◐	○	●	●	◐	●	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	○	○	◐	○	○	○	◐	○	○	○
Seed Farm Road Grade Separation / Interchange Options																																				
SF1	No Build	●	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SF2	Bridge deck rehabilitation with shoulder widening - no interchange	○	◐	◐	○	●	◐	○	◐	◐	◐	◐	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SF3	New tight diamond interchange with bridge replacement	○	●	○	○	◐	●	◐	●	●	●	●	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	◐	○	○	○	◐	○	○	○
SF4	New spread diamond interchange with bridge replacement	○	●	○	○	◐	●	◐	●	●	●	●	○	○	◐	◐	◐	○	○	○	○	○	○	○	○	○	○	○	●	○	●	○	○	○	●	○	○	○
SF5	New spread diamond interchange with widened existing bridge	○	●	○	○	●	◐	◐	●	●	◐	●	○	○	◐	◐	◐	○	○	○	○	○	○	○	○	○	○	○	●	○	●	○	○	○	●	○	○	○

Figure 5 (continued). Alternatives and options evaluation matrix summary

○ = Most desirable or least impacts ◐ = Average desirability or average impacts ● = Least desirable or most impacts

ALTERNATIVES and OPTIONS		ENGINEERING IMPACTS							COST			RIGHT OF WAY (TRIBAL LAND)				RIGHT OF WAY (ALLOTMENT LAND)				RIGHT OF WAY (NON-TRIBAL LAND)				ENVIRONMENTAL IMPACTS														
		Roadway Design Factors	Drainage Considerations	Traffic Operations in 2040	Safety	Constructability / Maintenance of Traffic	Utility Considerations	Maintenance / Maintainability	Design and Construction Cost	Right of Way / Easement Cost	Utility Cost	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent Easement	Temporary Easements	Residential Relocations	Business / Billboard Relocations	New Permanent ROW	Temporary Easements	Residential Relocations	Business / Billboard Relocations	Floodplain	Jurisdictional Waters of the U.S.	Water Resources	Noise	Air Quality	Visual	Hazardous Materials	Land Use (Existing and Future)	Local Businesses (including billboards)	Local communities (environmental justice, residential impacts)	Biological Resources	Prime and Unique Farmlands (soils not just active farming)	Archaeological Resources	Traditional Cultural Properties (TCPs)	Section 4(f) and Section 6(f)
Dirk Lay Road Grade Separation Options																																				
DL1	No Build	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DL2	Bridge replacement on current alignment	○	●	○	○	●	○	○	●	◐	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	○	○
DL3	Bridge replacement on parallel alignment	○	◐	○	○	◐	○	○	●	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	○	○	○	◐	○	○
SR 387 / SR 187 / Pinal Avenue Interchange Options																																				
PA1	No Build	●	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○
PA2	Shoulder widening & sidewalk on approaches and bridge, add signals	◐	◐	○	◐	●	○	◐	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PA3	Upgrade ramp terminal capacity, shoulder widening & sidewalk on approaches and bridge, add signals	○	◐	○	○	●	○	◐	◐	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PA4	Bridge replacement off of the existing alignment, add signals	○	●	○	○	◐	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◐	●

Note: An additional option (DL4) for the Dirk Lay Road crossing was developed after the November 2020 public meeting, based on the input received.

B. Alternatives Considered But Eliminated from Further Study

I-10 Main Line Build Alternatives

Two build alternatives were considered for the I-10 main line:

- **ML2** (I-10 median widening): adding lanes within the existing median of I-10
- **ML3** (I-10 outside widening): adding lanes to the outside of I-10, beyond the existing outside shoulder

Based on the screening results, the ML3 alternative was eliminated from further study because it scored poorly in terms of the engineering, environmental, easement, and cost criteria when compared with the ML2 alternative. The ML3 alternative would have a larger footprint and more impacts because the side slopes along I-10 would need to be regraded, the drainage systems would need to be extended, and more than 80 acres of land along the I-10 corridor would need to be acquired to accommodate the additional lanes added to the outside of I-10. Conversely, the ML2 alternative footprint would be smaller, would minimally affect the drainage systems, and would involve no land acquisition specifically for the I-10 main line widening (land would be acquired at some crossroad locations, as discussed in the next section). In terms of impacts on environmental resources, as an example, the ML2 alternative (inside widening) would disturb only the vegetation in the existing median, while the ML3 alternative (outside widening) would affect more vegetation outside of the existing I-10 because of the larger footprint.

As another example, with regard to cultural resources, the earthwork needed to construct the ML2 alternative would mostly be “fill,” or dirt added to fill in the existing median, which would be less likely to disturb cultural resources. The ML3 alternative would involve more “cut,” or dirt removed to regrade the outside portion of I-10 to accommodate the drainage systems and new bridge structures—this would involve in a higher probability of cultural resource impacts because of the nature of the earthwork and the larger footprint. Thus, the ML2 alternative was carried forward for further consideration, along with the ML1 alternative, which represents the I-10 main line No-Build Alternative. Table 6 provides further details regarding the eliminated main line alternative.

Table 6. I-10 main line alternative eliminated from further study

Alternative	Description	Rationale for elimination
ML3	Would widen I-10 to the outside with one lane in each direction for the length of the study area from SR 202L to SR 387/SR 187/Pinal Avenue, plus one HOV lane in each direction to the median from SR 202L to Riggs Road. The outside widening would require that 8 of 10 bridges crossing over I-10 be replaced because the existing bridge structures would not accommodate the wider I-10 facility.	ML3 would involve additional engineering challenges related to the wider facility footprint, including the need to replace most of the I-10 bridges. Because of the wider facility footprint, additional environmental impacts would be expected in the areas of land use, jurisdictional waters, water resources, noise levels, visual resources, economic conditions (billboards), biological resources, farmland, historic properties, traditional cultural properties, and Section 4(f) resources. The ML3 alternative would require approximately 85 acres of additional easement on the Community (versus approximately 1 acre with the ML2 build alternative).[a] Because of the wider facility footprint and the need to replace most of the I-10 bridges, the ML3 cost would be notably higher (an estimated $354 million versus $307 million for ML2).[b] Public feedback overwhelmingly supported either of the main line build alternatives, with slightly more favoring ML2. Less than 2 percent supported the No-Build Alternative. Considering the greater impacts related to engineering, environmental resources, easement needs, and cost, the ML3 alternative was eliminated from further consideration.

Notes: Community = Gila River Indian Community, HOV = high-occupancy vehicle, I-10 = Interstate 10, SR = State Route
[a] The acreage estimates were completed during the preliminary design; the design has since been refined.
[b] The cost estimates were completed during the preliminary design; the estimated cost has since been refined.

I-10 Crossroad Build Options

Thirty build options were evaluated for the 10 crossings along I-10. Currently, 5 of the crossings are service TIs that allow traffic access between the crossroad and I-10 using TI ramps; the other 5 crossroads simply have bridges that carry crossroad traffic over I-10. ADOT evaluated whether any of the 5 crossroads that pass over I-10 would merit an upgrade to TI status—considering the Community's interest in such an improvement, surrounding land uses, and expected traffic growth. The build options ranged from modest upgrades to complete replacements of the existing facilities, as described below:

- **Wild Horse Pass Boulevard TI** – In addition to the No-Build option (WH1), two build options:
  - WH2 (new diverging diamond interchange [DDI] with bicycle and pedestrian accommodations)
  - WH3 (new displaced left-turn [DLT] interchange with bicycle and pedestrian accommodations)
- **SR 347/Queen Creek Road TI** – In addition to the No-Build option (QC1), two build options:
  - QC2 (new DDI with bicycle and pedestrian accommodations)
  - QC3 (new DLT interchange with bicycle and pedestrian accommodations)
- **Riggs Road TI** – In addition to the No-Build option (RR1), four build options:
  - RR2 (bridge deck rehabilitation)
  - RR3 (bridge deck rehabilitation with shoulder widening)

  - RR4 (bridge deck rehabilitation with shoulder widening and sidewalks)
  - RR5 (bridge replacement off the existing alignment)
- **Goodyear Road crossing**: In addition to the No-Build option (GY1), two build options:
  - GY2 (shoulder widening on approaches and bridge)
  - GY3 (bridge replacement off the existing alignment)
- **Nelson Road crossing**: In addition to the No-Build option (NR1), two build options:
  - NR2 (shoulder widening on approaches and bridge)
  - NR3 (full crossroad and bridge replacement to increase design speed to 55 mph)
- **SR 587/Casa Blanca Road TI**: In addition to the No-Build option (CB1), six build options:
  - CB2 (add ramp terminal signals and turn lanes only)
  - CB3 (add ramp terminal signals and turn lanes, rehabilitate the bridge deck, and widen with bicycle and pedestrian accommodations)
  - CB4 (CB3, but with bridge replacement off the existing alignment)
  - CB5 (new diamond-style TI with five-legged roundabouts at intersections)
  - CB6 (new diamond TI with Casa Blanca Road bypass)
  - CB7 (new split diamond TI with triangular circulating roadway)
- **Gasline Road crossing**: In addition to the No-Build option (GL1), two build options:
  - GL2 (bridge replacement on current alignment)
  - GL3 (bridge replacement on parallel alignment)
- **Seed Farm Road crossing**: In addition to the No-Build option (SF1), four build options:
  - SF2 (bridge deck rehabilitation with shoulder widening—no TI)
  - SF3 (conversion to a new tight diamond TI with bridge replacement)
  - SF4 (conversion to a new spread diamond TI with bridge replacement)
  - SF5 (conversion to a new spread diamond TI with modified existing bridge—widening and rehabilitation only)
- **Dirk Lay Road crossing**: In addition to the No-Build option (DL1), three build options:
  - DL2 (bridge replacement on current alignment)
  - DL3 (bridge replacement on parallel alignment)

  - DL4 (bridge and embankment removal—new option created after the public comment period)

- **SR 387/SR 187/Pinal Avenue TI**: In addition to the No-Build option (PA1), three build options:
  - PA2 (shoulder widening and sidewalk on approaches and bridge)
  - PA3 (upgrade ramp terminal capacity; shoulder widening and sidewalk on approaches and bridge)
  - PA4 (bridge replacement off the existing alignment)

Table 7 describes the crossroad build options eliminated from further study. Additional details on the TI and crossroad build options can be reviewed in the DCR.

Table 7. I-10 crossroad options eliminated from further study

Option	Description	Rationale for elimination
Wild Horse Pass Boulevard TI		
WH3	DLT interchange with bicycle and pedestrian accommodations	The DLT interchange configuration associated with WH3 is less common, unfamiliar to drivers, and potentially less safe because it could increase the probability of wrong-way drivers on I-10. The DDI configuration associated with the WH2 option is safer and was slightly favored based on public feedback; therefore, WH2 was advanced for further study.
SR 347/Queen Creek Road TI		
QC3	DLT interchange with bicycle and pedestrian accommodations	The DLT interchange configuration associated with QC3 is less common, unfamiliar to drivers, and potentially less safe because it could increase the probability of wrong-way drivers on I-10. The DDI configuration associated with the QC2 option is safer and was slightly favored based on public feedback; therefore, QC2 was advanced for further study.
Riggs Road TI		
RR2	Bridge deck rehabilitation	RR2 would not address pedestrian accessibility, which was a stated concern of the Community during the public comment period. The RR4 option, which was advanced for further study, would include sidewalks.
RR3	Bridge deck rehabilitation with shoulder widening	RR3 would not address pedestrian accessibility, which was a stated concern of the Community during the public comment period. The RR4 option, which was advanced for further study, would include sidewalks.
RR5	Bridge replacement off the existing alignment	RR5 would have more permanent environmental impacts because it would be built off the existing bridge alignment. It would cost more because it would involve building a new bridge, rather than rehabilitating and widening the existing bridge, as with the RR4 option, which was advanced for further study. Public feedback slightly favored RR5, but RR4 accomplished the same objectives at a lower cost and with fewer impacts.
Goodyear Road crossing		
GY3	Bridge replacement off the existing alignment	The full bridge replacement proposed with GY3 is not warranted because the existing bridge is in good condition. Widening the existing bridge, as proposed with the GY2 option, would cost less and have fewer impacts, and it was slightly favored during the public comment period. Therefore, GY2 was advanced for further study.

Table 7. I-10 crossroad options eliminated from further study

Option	Description	Rationale for elimination
Nelson Road crossing		
NR3	Full crossroad and bridge replacement to increase design speed to 55 mph	The full bridge replacement proposed with NR3 is not warranted because the existing bridge is in good condition with no known safety issues. Widening the existing bridge, as proposed with the NR2 option, would cost less and have fewer impacts, and it was slightly favored during the public comment period. Therefore, NR2 was advanced for further study.
SR 587/Casa Blanca Road TI		
CB2	Add ramp terminal signals and turn lanes only	CB2 would be a minimal intersection improvement with no bridge improvements and only minor traffic capacity improvements within the existing TI configuration. Public feedback suggested stronger support for a new TI configuration, rather than minor improvements. The CB6 option would provide a new TI better suited to handle future traffic conditions and would promote development being considered by the Community near this TI. Therefore, CB6 was advanced for further study.
CB3	Add ramp terminal signals and turn lanes, rehabilitate bridge deck, and widen with bicycle and pedestrian accommodations	CB3 would provide both intersection and bridge improvements and would provide only minor traffic capacity improvements within the existing TI configuration. Public feedback suggested stronger support for a new TI configuration, rather than minor improvements. The CB6 option would provide a new TI better suited to handle future traffic conditions and would promote development being considered by the Community near this TI. Therefore, CB6 was advanced for further study.
CB4	CB3, but with bridge replacement off the existing alignment	CB4 would provide intersection and bridge improvements, with only minor but no additional traffic capacity improvements within the existing TI configuration. Public feedback suggested stronger support for a new TI configuration, rather than minor improvements. The CB6 option would provide a new TI better suited to handle future traffic conditions and would promote development being considered by the Community near this TI. Therefore, CB6 was advanced for further study.
CB5	Diamond-style TI with five-legged roundabouts at intersections	While CB5 would provide a new TI configuration that could handle more traffic, the five-legged roundabouts would not perform well when dealing with heavy traffic diverted from I-10 during traffic incidents. Public feedback suggested stronger support for a new TI configuration like CB5. While the CB6 option also proposes roundabouts, they are more conventional three- and four-legged roundabouts that would operate more effectively than CB5. Furthermore, the CB6 option would provide a new TI configuration that is better suited to handle future traffic conditions and would promote development being considered by the Community near this TI. Therefore, CB6 was advanced for further study.
CB7	Split diamond TI with triangular circulating roadway	While predicted to operate more efficiently than any other option, CB7 would have the largest footprint of all the options. Public feedback suggested stronger support for a new TI configuration like CB7. However, CB6 would substantially improve traffic operations over existing conditions and with a smaller footprint than CB7. Therefore, CB6 was advanced for further study.
Gasline Road crossing		
GL2	Bridge replacement on current alignment	GL2 would be similar to GL3 in terms of engineering design, easement needs, and environmental impacts, but it would entail a closure of Gasline Road for 6 to 9 months to reconstruct the bridge, affecting Gila Farms operations and causing more impacts on nearby utilities. Even though public feedback slightly favored GL2 over GL3, GL3 was advanced for further study for the technical reasons noted above.

Table 7. I-10 crossroad options eliminated from further study

Option	Description	Rationale for elimination
Seed Farm Road crossing		
SF2	Bridge deck rehabilitation with wider shoulder—no TI	SF2 would upgrade the existing bridge crossing over I-10, but it would not provide a new TI as requested by the Community and as recommended in the *Interstate 8 and Interstate 10 Hidden Valley Transportation Framework Study* (MAG 2009). In addition, public feedback indicated a preference for options that added a new TI. SF4 would provide a new TI and was advanced for further study.
SF3	Conversion to a new tight diamond TI with bridge replacement	While SF3 would provide a new TI with relatively smaller easement requirements and fewer environmental impacts, its tight diamond configuration is not a context-sensitive design[1] for this rural setting. A tight diamond TI, with less space between ramps and the I-10 main line, would introduce an urban element into a rural area. Public feedback indicated a preference for options that added a new TI. The SF4 option, with a spread diamond TI design more appropriate for a rural setting, was advanced.
SF5	Conversion to a new spread diamond TI with modified existing bridge—widen and rehabilitate only	SF5 would provide a new spread diamond TI but would reuse the existing bridge by widening it. The ratio of required bridge widening compared to the existing bridge that would remain resulted in concerns about the bridge's long-term maintenance and serviceability. Public feedback indicated a preference for the options that added a new TI. The SF4 option, offering an entirely new bridge with a spread diamond TI configuration, was advanced for further study.
Dirk Lay Road crossing		
DL2	Bridge replacement on current alignment	DL2 and DL3 were eliminated from further consideration when coordination with the Community during the public comment period revealed that the Dirk Lay Road bridge crossing over I-10 is infrequently used, the bridge lacks connectivity to other Community routes (with no plans for such connections), and no development is planned in the area. Public comment echoed this concern, with many preferring DL1 (No-Build) because the bridge is not used. However, because the existing bridge is not compatible with ML2 or ML3, a new DL4 option was created that simply removed the bridge and approach roadways. DL4 was subsequently advanced for further study.
DL3	Bridge replacement on parallel alignment	
SR 387/SR 187/Pinal Avenue TI		
PA2	Shoulder widening and sidewalk on approaches and bridge	PA2 would provide only minimal operational improvement at the ramp terminals as compared with the other build options. Public comment favored PA3. Consequently, PA2 was dropped from further consideration, and PA3 was advanced for further study.
PA4	Bridge replacement off the existing alignment	PA4 would affect a sensitive cultural resource and would cost more because it would involve a full bridge replacement. Public comment favored PA3. For these reasons, PA4 was eliminated from further study and the PA3 option was advanced.

Notes: Community = Gila River Indian Community, DDI = diverging diamond interchange, DLT = diverging left turn, I-10 = Interstate 10, MAG = Maricopa Association of Governments, mph = miles per hour, SR = State Route, TI = traffic interchange

[1] According to FHWA (2019), context-sensitive design aims to "provide a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility."

C. Alternatives Under Consideration

No-Build Alternative

The No-Build Alternative would involve no major improvements to this segment of I-10 in the study area or to the TIs and crossroads. Maintenance of the existing I-10 main line, TIs, and crossroads would continue. With the No-Build Alternative, traffic congestion and safety issues would continue along this part of I-10, and no fiber optic trunk line would be installed to support ADOT's Freeway Management System.

While the No-Build Alternative would not meet the project's purpose and need, it serves as a baseline for comparing and evaluating the impacts of the proposed action against the impacts of not undertaking the proposed action.

Build Alternative

I-10 Main Line

The ML2 alternative would widen I-10 by adding one general purpose lane in each direction within the existing median from SR 202L to SR 387/SR 187/Pinal Avenue. In addition, an HOV lane would be added in each direction in the urban portion of the I-10 corridor near Phoenix, from SR 202L to Riggs Road. The concrete median barrier would be extended from SR 202L to Riggs Road. Median cable barrier (or an equivalent system) would be installed from Riggs Road to the southern project limits, connecting to the existing median cable barrier to the south. This alternative would shift the existing I-10 lanes 2 feet toward the median (to provide 12-foot outside shoulders) and improve the geometry of the high-speed portions of the ramps to meet current design standards. Figure 6 shows the proposed I-10 cross-section for the segment with six lanes plus the HOV lanes between SR 202L and Riggs Road. The general purpose and HOV lanes would be 12 feet wide. Both the outside and inside shoulders would be 12 feet wide.

Figure 6. Proposed Interstate 10 cross-section from State Route 202L to Riggs Road

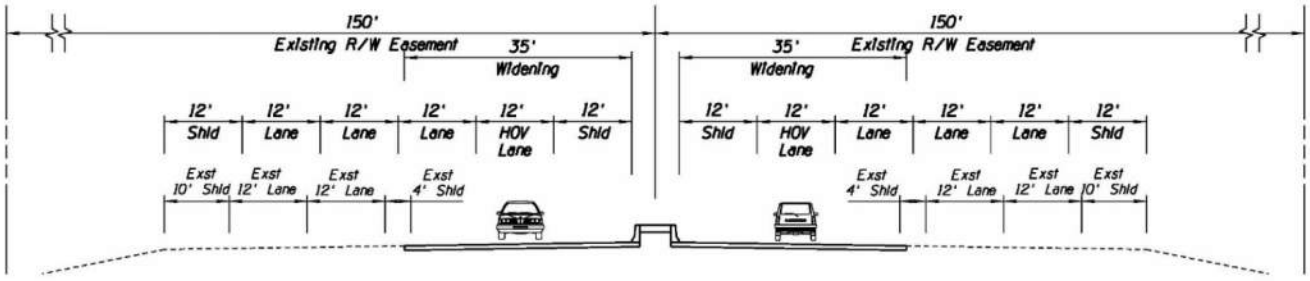
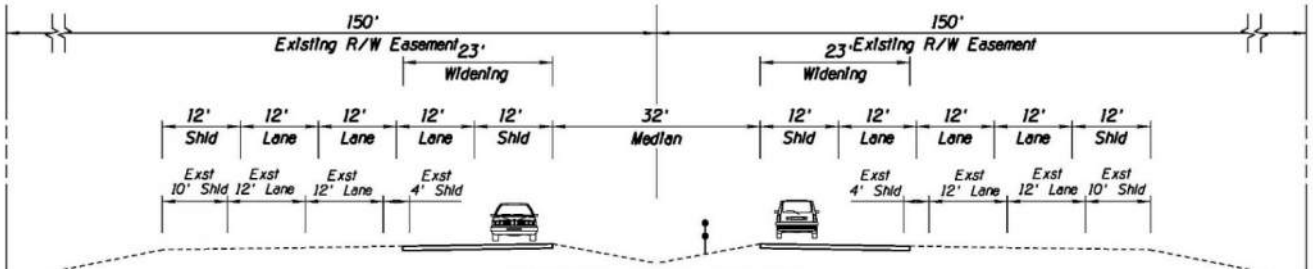


Figure 7 shows the proposed I-10 cross-section with six lanes between Riggs Road and SR 387/ SR 187/Pinal Avenue. The general purpose lanes would be 12 feet wide. Both the outside and inside shoulders would be 12 feet wide. This portion of I-10 would have a 32-foot-wide median, with a

median cable barrier (or equivalent) provided for safety, to prevent crossover crashes, given the narrower median.

Figure 7. Proposed Interstate 10 cross-section from Riggs Road to State Route 387/State Route 187/Pinal Avenue



As discussed in Part II, *Project Purpose and Need*, traffic volumes are expected to increase substantially along I-10 in the study area during the next 20 years. By 2040, the AADT on I-10 near Wild Horse Pass Boulevard will increase by 32 percent, while the AADT in the southern end of the corridor near Casa Grande will increase by 55 percent (ADOT 2021b). The ML2 alternative would help address the increasing traffic volumes by providing an additional general purpose lane in each direction for the length of the corridor, plus an HOV lane in each direction in the urban portion of the corridor that experiences the heaviest traffic—and it would involve fewer impacts because the widening would occur in the median, most of which was already disturbed during previous construction projects.

I-10 Crossroads

The following build options for the 5 service TIs and 5 crossroads were carried forward for further study and are evaluated in this EA:

- **Wild Horse Pass Boulevard TI**: WH2 (new DDI with bicycle and pedestrian accommodations)
- **SR 347/Queen Creek Road TI**: QC2 (new DDI with bicycle and pedestrian accommodations)
- **Riggs Road TI**: RR4 (bridge deck rehabilitation with shoulder widening and sidewalks)
- **Goodyear Road crossing**: GY2 (shoulder widening and sidewalks on approaches and bridge)
- **Nelson Road crossing**: NR2 (shoulder widening and sidewalks on approaches and bridge)
- **SR 587/Casa Blanca Road TI**: CB6 (new diamond TI with a Casa Blanca Road bypass)
- **Gasline Road crossing**: GL3 (bridge replacement on parallel alignment)
- **Seed Farm Road crossing**: SF4 (conversion to a new spread diamond TI with bridge replacement)
- **Dirk Lay Road crossing**: DL4 (bridge and embankment removal—a new option created based on public and agency input)

- **SR 387/SR 187/Pinal Avenue TI**: PA3 (upgrade ramp terminal capacity; shoulder widening and sidewalk on approaches and bridge)

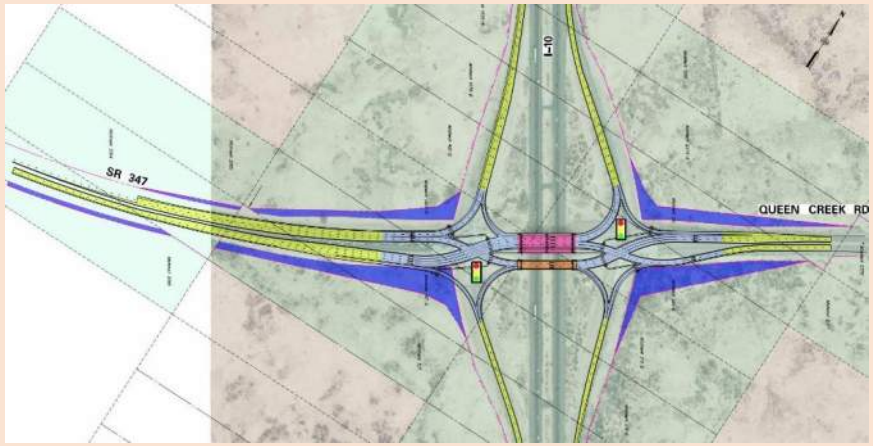
Table 8 provides descriptions of each crossroad build option, including its advantages over the eliminated options, and schematic drawings of each build option, including additional new easement ADOT would need to acquire (shown in the dark blue).

I-10 Fiber Optic Trunk Line Option

Another build option that is being carried forward is the installation of a fiber optic trunk line conduit on the west side of the existing I-10 easement. This trunk line would be used for ADOT's Freeway Management System to upgrade I-10 to an intelligent transportation corridor, just as ADOT is doing with all the major transportation corridors in the state. This fiber optic trunk line would connect freeway monitoring closed-circuit television cameras, dynamic message signs, ramp meters, and weigh-in-motion equipment, and possibly wrong-way driver detection, road and weather condition sensors, and other future technology that helps ADOT operate and maintain a safe and efficient freeway facility.

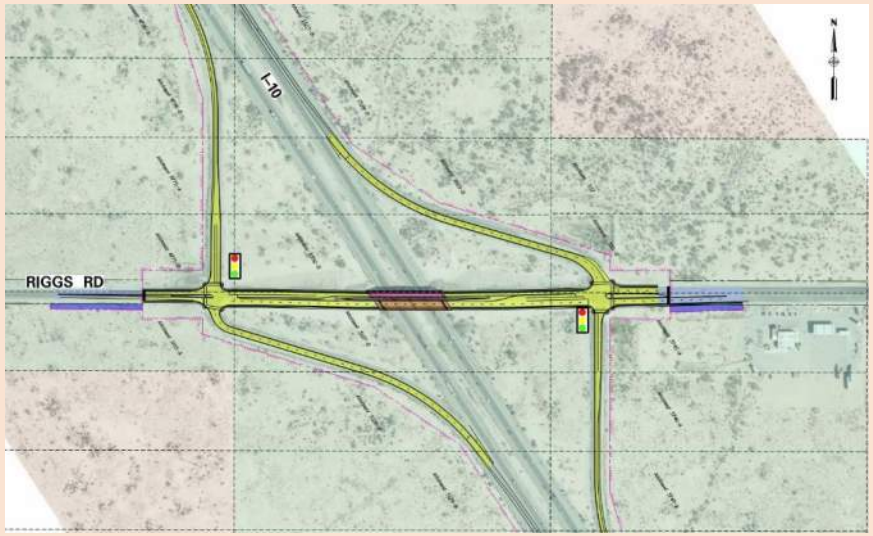
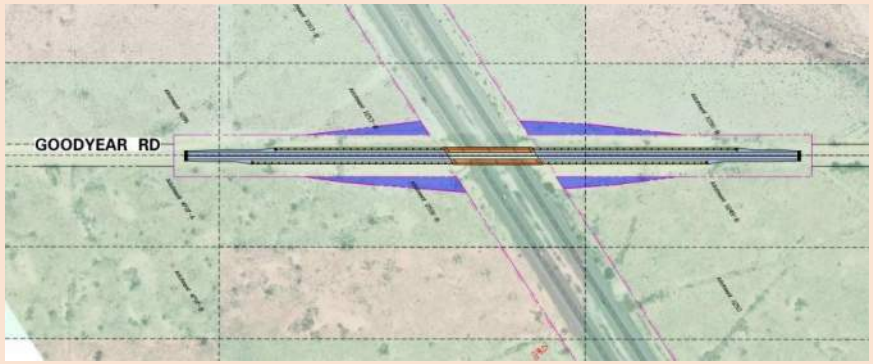
Because the fiber optic trunk line would be installed in the existing I-10 easement, its potential environmental impacts would involve only cultural resources and Section 4(f) resources (see Part IV, *Affected Environment, Environmental Consequences, and Mitigation*, for further discussion).

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Wild Horse Pass Boulevard TI: WH2	WH2 would replace the existing diamond TI at Wild Horse Pass Boulevard with a new DDI featuring bicycle and pedestrian accommodations. While both WH2 and WH3, the other build option, would improve traffic operations at the TI, WH2's DDI design is safer because it reduces the number of vehicle conflict points and discourages wrong-way drivers because of its geometry. It is for these reasons that the DDI design is becoming increasingly common in the U.S., although it is still a relatively new design for Arizona. From an environmental and easement perspective, WH2 is nearly identical to WH3. And while WH2 would be more expensive than WH3 (an estimated $21 million versus $13.7 million), the improved safety justifies the additional cost. This option is consistent with the recently approved Wild Horse Pass Development Authority Master Plan update and was favored based on public feedback.	
SR 347/ Queen Creek Road TI: QC2	QC2 would replace the existing diamond TI at SR 347/Queen Creek Road with a new DDI featuring bicycle and pedestrian accommodations. While both QC2 and QC3, the other build option, would improve traffic operations at the TI, QC2's DDI design is safer because it reduces the number of vehicle conflict points and discourages wrong-way drivers because of its geometry. From an environmental and easement perspective, QC2 is nearly identical to QC3. And while QC2 would be more expensive than QC3 (an estimated $19.1 million versus $16.9 million), the improved safety justifies the additional cost. This option is consistent with the recently approved Wild Horse Pass Development Authority Master Plan update and was favored based on public feedback.	

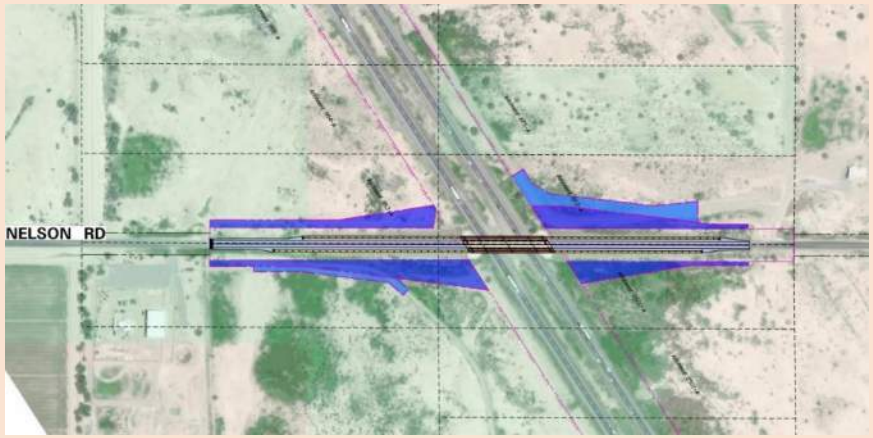
Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Riggs Road TI: RR4	RR4 would consist of upgrades to the existing TI at Riggs Road. It would rehabilitate the current bridge deck, widen the shoulder, and add sidewalks. Pavement and guardrails in poor condition would be replaced, as needed. The study team carried RR4 forward because it would use the existing bridge, which is in overall good condition—only needing minor rehabilitation and widening. It would also address pedestrian accessibility, unlike the RR2 and RR3 options. RR4 would provide all the operational, safety, and accessibility attributes as RR5, but with a smaller environmental footprint and less cost. Short-term traffic impacts during construction would be slightly worse with RR4 compared with RR5; however, RR4 would have fewer permanent environmental impacts than RR5, which is a justifiable trade-off. Public feedback favored RR5, but for the technical reasons noted above and because RR4 performed the same as RR5, RR4 was carried forward.	
Goodyear Road crossing: GY2	GY2 would widen the shoulders and add pedestrian accommodations on the roadway approaches and the existing bridge over I-10. Pavement and guardrails in poor condition would be replaced, as needed. The bridge is in very good condition; therefore, a full bridge replacement, as included in GY3, is not warranted. The bridge widening option, as proposed in GY2, is more economical, would provide the pedestrian accommodations and wider shoulders requested by the Community, could accommodate certain types of utility crossings through the widening, would have the least environmental impact, and would require the least amount of additional easement. Public feedback slightly favored GY2. Finally, given the low volume of traffic on this bridge, impacts on traffic during construction would be negligible.	

Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Nelson Road crossing: NR2	NR2 would widen the shoulders and add pedestrian accommodations on the roadway approaches and the existing bridge over I-10. Pavement and guardrails in poor condition would be replaced, as needed. The bridge is in very good condition; therefore, a full bridge replacement, as included in NR3, is not warranted. The bridge widening option, as proposed in NR2, is more economical, would provide the pedestrian accommodations and wider shoulders requested by the Community, could accommodate certain types of utility crossings through the widening, would have the least environmental impact, and would require the least amount of additional easement. Finally, public feedback favored NR2. Note the lighter blue areas indicate new temporary easement needed to construct this option.	
SR 587/ Casa Blanca Road TI: CB6	CB6 would convert the existing TI into a new diamond TI, supplemented with a Casa Blanca Road bypass around the southern end of the TI. Unlike the CB2, CB3, and CB4 options, which would use the existing TI, this would be an entirely new TI that would be able to handle growing traffic and potential nearby development. It would eliminate the existing TI's undesirable "hook" ramps. CB6 would improve the TI's operations and would be able to handle traffic diverted off I-10 during traffic incidents better than CB5. It would also improve the existing TI traffic operations, but with less easement, environmental impacts, and cost compared with the CB7 option. While CB6 would require 19.36 acres of new easement and would likely have some cultural resource impacts, this option was favored by the Community's District 5 representatives. Public feedback favored CB5, CB6, or CB7 over the other build options that used the existing TI configuration. Because this would be a new TI with a new configuration, an Interstate Change of Access request would need to be approved by FHWA.	

Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Gasline Road crossing: GL3	GL3 would provide a new bridge over I-10 on an alignment parallel to and east of the existing bridge. While the GL2 option would require Gasline Road to be closed for 6 to 9 months to remove the old bridge and build a new one in its place, GL3 would avoid this long-term closure, instead requiring only short-term closures for pavement tie-ins. This option would provide largely uninterrupted service for Gila Farms' equipment that frequently uses the existing bridge. GL3 would have fewer utility impacts, along with the added benefit of constructing a new bridge farther away from two sensitive and important natural gas pipelines. GL3 would, therefore, reduce risks for the utility itself, the utility clearance, and the construction contractor's operation as compared with GL2. Public feedback favored GL2, but for the technical reasons noted, GL3 was advanced. Upon completion of the new bridge, the old bridge would be removed.	

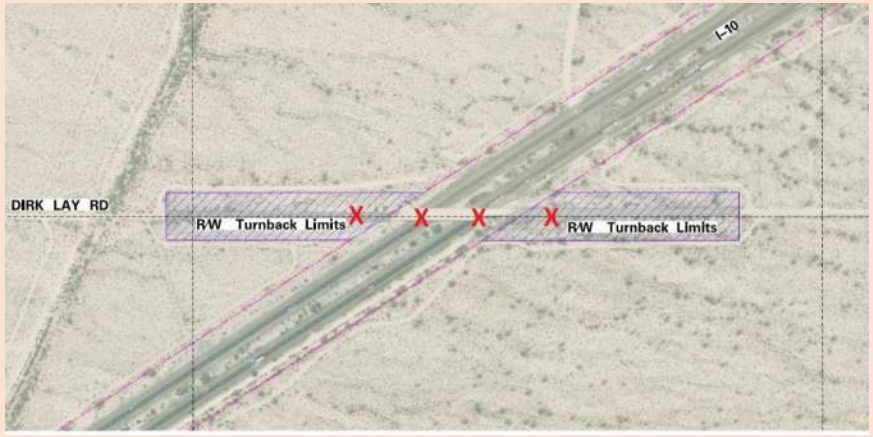
Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Seed Farm Road crossing: SF4	SF4 would convert this existing I-10 crossing into a new spread diamond TI with a bridge replacement. It would address the operational, safety, and accessibility deficiencies of the existing I-10 crossing while also adding direct Interstate access to the Community's governance and medical facilities in Sacaton, as requested by the Community. SF4 would provide a new access point along I-10, unlike the SF2 option, which would simply upgrade the existing bridge crossing over I-10. As a spread diamond TI, SF4 would be more appropriate for the rural setting, unlike SF3, which would be a tight diamond TI more appropriate for an urban setting. SF4 would also include a full bridge replacement, unlike SF5, which would have retained old portions of the bridge, raising concerns about the bridge's long-term serviceability and maintenance. While SF4 would have the largest footprint and corresponding environmental impacts and is one of the more expensive options, the Community requested a new TI at this location to relieve demand on the SR 587/Casa Blanca Road TI and to provide a more direct route between I-10 and Sacaton. The SF4 option would require the Community to pave Seed Farm Road from I-10 to Sacaton to mitigate any air quality concerns related to increased traffic on a currently unpaved road. Public feedback favored adding a new TI at this location, and slightly favored SF4. Because this would be a new TI, an Interstate Change of Access request would need to be approved by FHWA.	

Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Table 8. Interstate 10 traffic interchange and crossroad build options

Option	Description and advantages	Schematic drawing
Dirk Lay Road crossing: DL4	DL4 would remove the existing bridge over I-10 and its associated roadway approaches and embankment. This option was created after the public comment period based on public and agency input, which indicated that the crossing is lightly, if ever, used and does not connect to Community roadways that are maintained by the Community or any other agency. Also, no planned future development would rely on the crossing. Based on this information, the recommendation is to remove the existing bridge, the paved portion of the crossroad, and the embankment. The embankment material could be used elsewhere on the project site where needed. DL4 would have an environmental benefit because it would remove the structure from the viewshed and would return the drainage patterns to a pre-freeway condition. The current easement of 8.5 acres associated with this crossing would be returned to the Community. Public feedback supported the creation of this option—several comments supported DL1 (No-Build) because the crossing is not used. DL1, however, is not compatible with ML2, while DL4 is compatible.	
SR 387/ SR 187/ Pinal Avenue TI: PA3	PA3 would upgrade the ramp terminal capacity at the existing TI and widen the shoulder and add sidewalks on the existing bridge and roadway approaches. Turn lanes would be added. Pavement and guardrails in poor condition would be replaced, as needed. PA3 would provide more operational improvements at the ramp terminals than PA2. PA3 would also be less costly than the PA4 option, which would completely replace the bridge, and it would avoid a sensitive cultural property that would be affected with PA4. PA3 was also favored based on the public feedback.	

Legend: New permanent easement | Temporary easement | New bridge | Rehabilitated bridge | New asphalt pavement | New concrete pavement

Notes: Community = Gila River Indian Community, FHWA = Federal Highway Administration, I-10 = Interstate 10, SR = State Route, TI = traffic interchange

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Summary of Build Alternative

The build alternative minimizes the potential impacts of the I-10 improvements while providing greater traffic-carrying capacity and improved safety along the I-10 main line and upgraded TI and crossroad facilities that would best serve local, regional, and national transportation needs and planned growth in this area of central Arizona. In total, 81.02 acres of new easement (excluding temporary construction easements) would be needed for the 26-mile project.

Because the I-10 main line build alternative would involve adding lanes into the median, no additional easement would be needed for the lane widening. However, the widening would affect the Dirk Lay Road and Gasline Road crossings because the existing bridge spans are not wide enough to accommodate the additional I-10 lanes. Most of the crossroad build options would require only a small amount of additional easement, with the exception of the SR 587/Casa Blanca Road TI reconstruction, the new Seed Farm Road TI, and the Nelson Road crossing, which would require 19.36, 38.70, and 8.88 acres of additional new easement, respectively (excluding temporary construction easements). At those locations, the options with larger footprints were recommended in collaboration with the Community.

The reconfigured TI at SR 587/Casa Blanca Road was requested by the Community's District 5 representatives. At Seed Farm Road, a new TI would replace the existing bridge crossing, as requested by the Community to provide better access between I-10 and Sacaton, where Community police, fire, and governmental services are located. While both TIs would have a larger footprint, they would help the Community realize more access benefits from the improved I-10 corridor in terms of access to medical and government services and Community enterprises. The TIs would also support the proposed project's purpose and need by improving traffic flow, incident management, and operations. Additionally, the construction of a new TI at Seed Farm Road was recommended in the *Interstate 8 and Interstate 10 Hidden Valley Transportation Framework Study* to address "intense growth in population and employment over the next 30 to 50 years" in central Arizona (MAG 2009: 1-1).

A more detailed discussion of easement needed for the proposed I-10 project can be found in Part IV, *Affected Environment, Environmental Consequences, and Mitigation*, in Section A, *Land Ownership, Jurisdiction, and Land Use*.

D. Selected Alternative

The main line build alternative, TI and crossroad build options, and fiber optic trunk line build option chosen by ADOT and discussed in the previous section represent the Selected Alternative for the I-10 improvements. ADOT evaluated the alternatives and options in close coordination with the Community[2] and other key stakeholders such as FHWA. As previously discussed, the alternatives evaluation process

[2] The Community documented its consensus with the Recommended Build Alternative, now the Selected Alternative, in a letter dated June 3, 2021.

used high-level analyses based on preliminary engineering designs developed to equal levels of detail for the multiple alternatives and options. A more detailed evaluation of the Selected Alternative's potential environmental impacts is presented in this EA in Part IV, *Affected Environment, Environmental Consequences, and Mitigation*, based on more refined designs developed for the DCR.

E. General Project Schedule

MAG has allocated $221 million in fiscal years 2019, 2020, 2022, 2023, and 2025 toward I-10 improvements between SR 202L and Riggs Road. The MAG funds are from the 2004 voter-approved Proposition 400 transportation half-cent sales tax in Maricopa County and can be spent only in Maricopa County. ADOT has allocated $580 million in fiscal years 2019, 2020, 2021, 2023, 2024, and 2025 for the corridor. The total estimated cost of the proposed I-10 improvements is $779 million (in fiscal year 2023 dollars). Inflating the project costs to the year of expenditure, additional funding will need to be identified.

A preliminary implementation plan has identified the following segments of construction, based on consideration of funding limitations, schedule constraints, logical termini, satisfying the project purpose and need, constructability, maintenance of traffic, and environmental impacts:

- Segment 1A – milepost 177 (north of Gasline Road) to southern project terminus at milepost 187.1 (south of SR 387/SR 187/Pinal Avenue)
- Segment 1B – Gila River Bridge replacement (note that this a separate project by ADOT)
- Segment 2 – milepost 161 (northern project terminus at SR 202L) to milepost 168.7 at Maricopa-Pinal County line (south of Riggs Road)
- Segment 3 – milepost 168.7 at Maricopa-Pinal County line to milepost 177

This implementation plan depicts one possible strategy for how to efficiently deliver this large project as soon as possible. It must be noted that many future influences beyond the control of this project or the stakeholders involved could alter this plan. As an example, program funding does and will continue to change to accommodate budgetary constraints and available funding sources, and this will likely affect how this corridor's construction would ultimately be sequenced. As a result, the information presented here is meant primarily to provide a framework for prioritization and is subject to change over time. ADOT's preferred approach would be to construct the improvements for the entire corridor at one time, if funding were available.

A more detailed discussion of the considerations and logic used to develop the implementation plan can be found in Chapter 6 of the DCR.

IV. Affected Environment, Environmental Consequences, and Mitigation

This part of the EA discusses environmental resources that will be affected by the Selected Alternative. The environmental impact evaluation analyzed the improvements that make up the Selected Alternative (see Part I, *Introduction*, Section C, *Project Background and Overview*) with regard to the general study area and the environmental footprint, as shown on Figure 3 in Part I, *Introduction*. Appendix B, *Regulatory Background*, contains information on the regulations that apply to the resource areas discussed in this part of the EA.

Issues Eliminated from Detailed Study. Based on early coordination and a review of the study area, the Selected Alternative will not affect wild and scenic rivers, outstanding waters, sole-source aquifers, wilderness areas, national natural landmarks, scenic roads and parkways, coastal zones or barriers, and Section 6(f) resources because these resources do not exist in the study area.

A. Land Ownership, Jurisdiction, and Land Use

This section describes land ownership, jurisdiction, and land use in the study area. The more detailed *Land Use and Socioeconomic Report* is available in Appendix C.

Affected Environment

The study area begins in Phoenix and Chandler in Maricopa County at the southern end of the I-10 and SR 202L system TI and continues south through the Community. I-10 continues to the southeast to Casa Grande, traversing mostly undeveloped and agricultural land through most of the 26-mile study area. Figure 8 shows the municipal and Community jurisdictions in the study area.

Existing Land Use

Existing land uses in and near the study area were identified through aerial imagery, field survey, and MAG data (based on each jurisdiction's general plan and Community information). More than two-thirds (71 percent) of the study area is open space and undeveloped land, followed by agricultural land (11 percent) and transportation uses such as I-10 and crossroads (11 percent). The remaining area consists of public/quasi-public, commercial, industrial, and residential uses. Figure 9 shows existing land uses in the study area.

Future Land Use

Future land uses in the study area, including for the Community, were obtained from MAG and through a review of the adopted general plans of Phoenix, Chandler, Casa Grande, and Pinal County. Future land uses are shown in Figure 10.

Figure 8. Affected jurisdictions

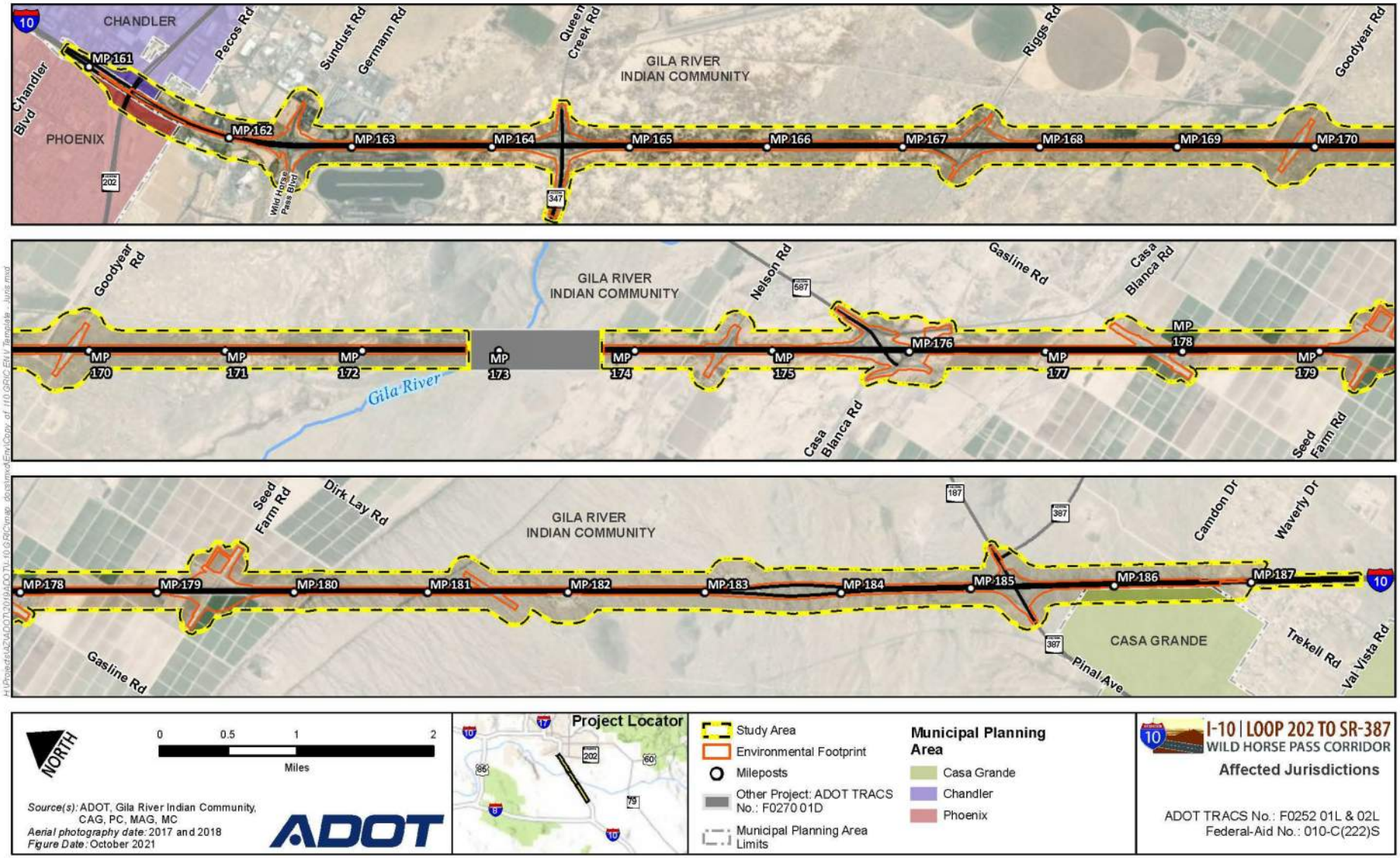


Figure 9. Existing land use

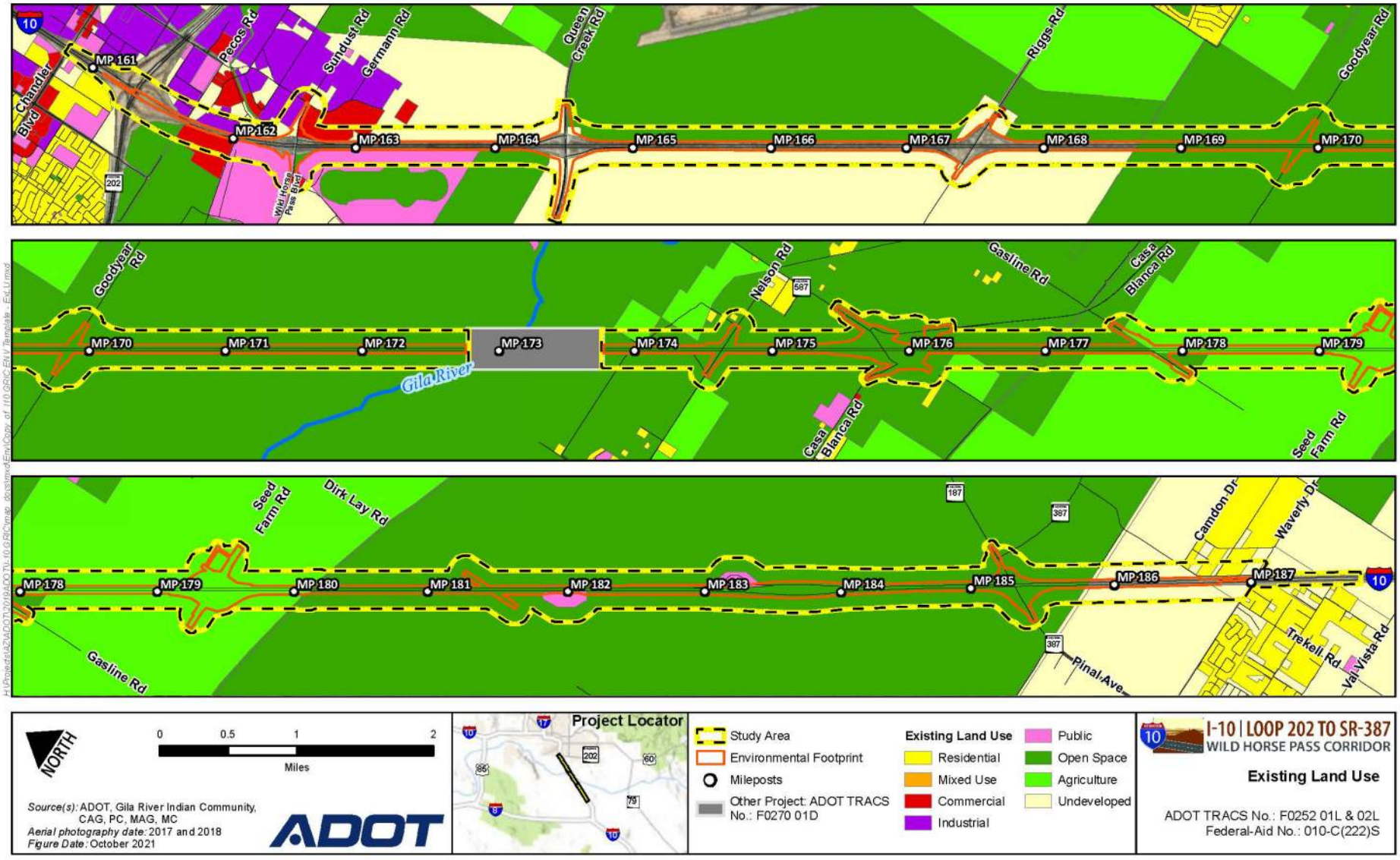
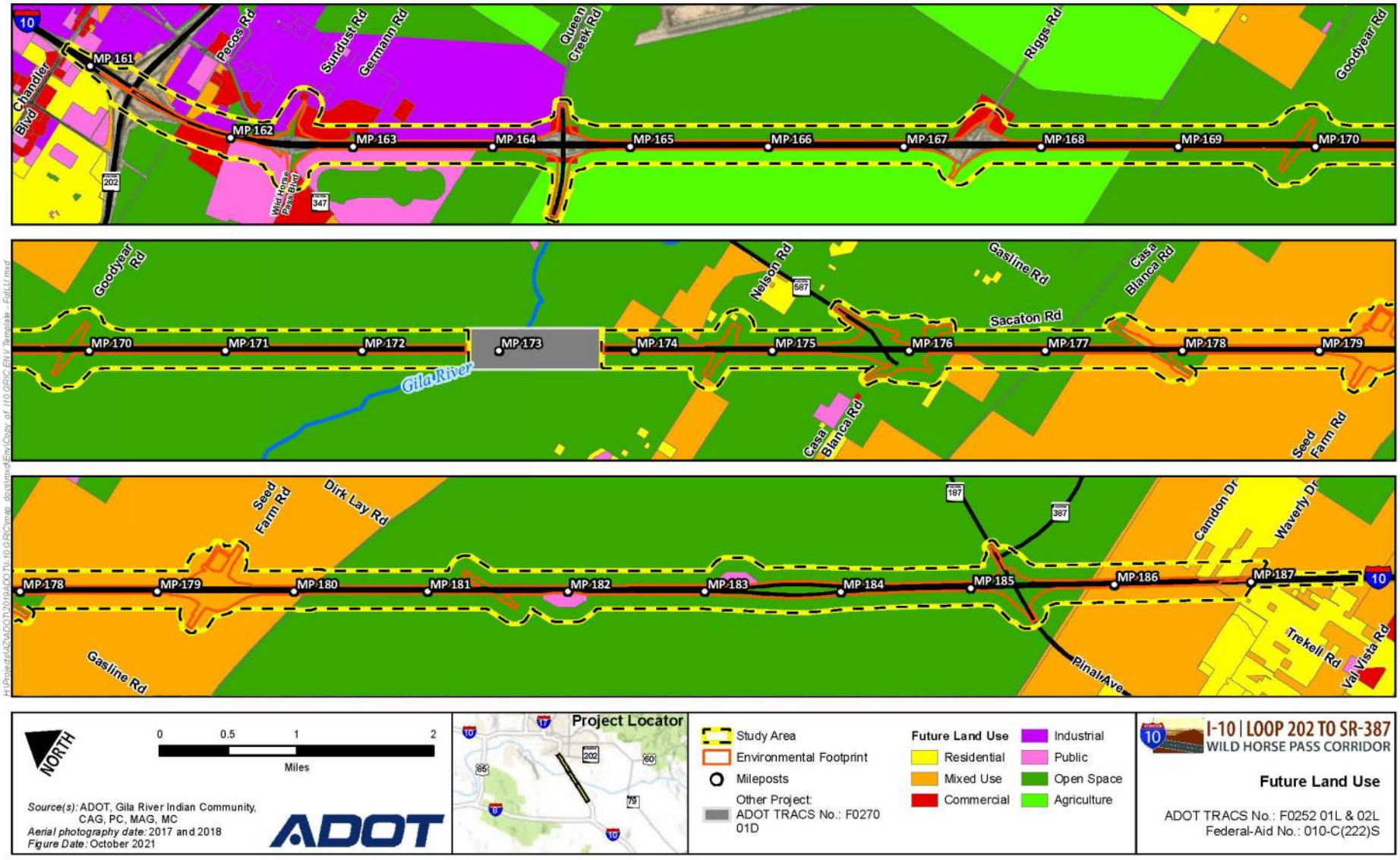


Figure 10. Future land use



The area of the Community from the northern boundary with Phoenix and Chandler to the I-10 and SR 347/Queen Creek Road service TI in the Wild Horse Pass area is planned as infill development of currently undeveloped parcels. The Community has a master plan for additional commercial and event uses on the western side of I-10, while additional industrial, mixed use, and commercial uses would infill existing vacant parcels east of I-10. From the I-10 and SR 347/Queen Creek Road service TI to roughly milepost 174, Community land on each side of I-10 would remain as open space, along with planned agricultural land on what is currently vacant land between the above-mentioned TI and milepost 168.5.

Potential changes between existing and future land use would occur from mileposts 177 to 180. The Community plans to develop existing agricultural land as a mixed use development. This includes land that is adjacent to and within the study area. The land from milepost 180 to the Community's southern boundary with Casa Grande and Pinal County is planned to remain as open space in the future.

Pinal County future land uses include low-density residential and low-density mixed use development. Future land uses in Casa Grande will include mixed-use development. No substantial future land use changes are planned in Phoenix and Chandler.

Environmental Consequences

Selected Alternative

No additional right-of-way will be required for the proposed I-10 main line widening, which will take place exclusively in the existing ADOT easement. Note that the existing bridges at Gasline and Dirk Lay Roads will not accommodate the additional I-10 median lanes. Additional easement will be needed at Gasline Road to construct a new bridge. The bridge and embankments at Dirk Lay Road will be fully removed as part of decommissioning the crossover bridge, with the land associated with the approach roadways returned to the Community via right-of-way abandonment.

Additional easement will be needed for TI and crossroad improvements; however, there is no existing development at those locations, aside from a business sign (located south of Seed Farm Road and east of I-10) that will be relocated or removed.

Table 9 shows the additional new easement needed and existing and future land uses at those locations. The I-10 improvements to reconstruct the SR 587/Casa Blanca Road TI and construct a new spread diamond TI at Seed Farm Road will account for most—72 percent—of the total 81.02 acres of additional easement.

Of the total acreage required by ADOT for additional easement, both Community tribal land and allotted land will be affected. Tribal land is owned by the United States and held in trust for the benefit of the Community. Allotted lands are parcels owned by the United States for the benefit of individuals (mostly Community members) and are under the jurisdiction of BIA. Table 10 provides the additional new

easement acreage ADOT will need, by tribal land and allotted land, including the number of allotted land parcels affected at each location.

Table 9. Additional new easement needed for Interstate 10 expansion and improvements

Location	Type of improvement	Existing land use	Future land use	New easement needed (acres)[a]
I-10 main line	Inside median widening	Various (Figure 9)	Various (Figure 10)	0.00
Wild Horse Pass Boulevard TI	Diverging diamond interchange with bicycle and pedestrian accommodations	Commercial Industrial Other/Public Vacant	Commercial Industrial Other/Public	0.90
SR 347/Queen Creek Road TI	Diverging diamond interchange with bicycle and pedestrian accommodations	Open space Vacant	Commercial Agricultural Open space	6.74
Riggs Road TI	Bridge deck rehabilitation with shoulder widening and sidewalks	Open space	Open space	0.38
Goodyear Road crossing	Shoulder and pedestrian accommodation widening on approaches and bridge	Open space	Open space	1.26
Nelson Road crossing	Shoulder and pedestrian accommodation widening on approaches and bridge	Open space	Open space	8.88
SR 587/Casa Blanca Road TI	Diamond TI with Casa Blanca Road bypass	Open space	Open space	19.36
Gasline Road crossing	Bridge replacement on parallel alignment	Agricultural Open space	Mixed use Open space	4.50
Seed Farm Road crossing	New spread diamond TI with bridge replacement	Agricultural	Mixed use	38.70
Dirk Lay Road crossing	Bridge and embankment removal	Open space	Open space	–8.45[b]
SR 387/SR 187/ Pinal Avenue TI	Upgrade ramp terminal capacity, shoulder widening, and sidewalks on bridge and approaches	Open space	Open space	0.30
Fiber optic trunk line	Length of project in existing ADOT easement	Transportation	Transportation	0.00
			Total	**81.02**

Notes: ADOT = Arizona Department of Transportation, I-10 = Interstate 10, SR = State Route, TI = traffic interchange

[a] excludes temporary construction easement requirements

[b] Easement will be returned to Gila River Indian Community; the acreage is not included in the total of this table, which includes only new easement requirements.

Table 10. Additional new ADOT easement for tribal and allotted land

Location	Tribal land acreage[a]	Allotted land acreage	Number of allotted land parcels affected
I-10 main line	0.00	0.00	0
Wild Horse Pass Boulevard TI	0.90	0.00	0
SR 347/Queen Creek Road TI	0.00	6.74	9
Riggs Road TI	0.00	0.38	4
Goodyear Road crossing	0.00	1.26	4
Nelson Road crossing	1.17	7.71	5
SR 587/Casa Blanca Road TI	7.88	11.48	14
Gasline Road crossing	4.51	0.00	0
Seed Farm Road crossing	38.70	0.00	0
Dirk Lay Road crossing	–8.45[b]	0.00	0
SR 387/SR 187/Pinal Avenue TI	0.30	0.00	0
Fiber optic trunk line	0.00	0.00	0
Total[c]	**53.45**	**27.57**	**36**

Notes: I-10 = Interstate 10, SR = State Route, TI = traffic interchange

[a] Tribal land is not divided into parcels, as with allotted parcels.

[b] Easement will be returned to Gila River Indian Community; the acreage is not included in the total of this table, which includes only new easement requirements.

[c] Excludes temporary construction easement requirements.

A total of 27.57 acres will be required for new ADOT easement (excluding temporary construction easements) from 36 individual allottee parcels for the Selected Alternative, while the remaining 53.45 acres will come from tribal land. The 81.02 acres needed for the new ADOT easement is all adjacent to the existing I-10 TIs and crossroads. None of the tribal land or allottee parcels have any development that will be affected, and parcel access is not expected to materially change from the existing conditions today. If parcel access were affected, it will be adequately compensated for during the acquisition process.

Additionally, the Selected Alternative will require 12.78 acres for temporary construction easements to provide the contractor with adequate space to reconstruct local access roads/driveways and to reconstruct irrigation infrastructure in the agricultural areas. This acreage will be returned to the Community and allottees in as good as the previous condition when construction has been completed. Temporary construction easements will be required at the following locations: Wild Horse Pass Boulevard (0.06 acre, all tribal), Nelson Road (1.94 acres, with 0.49 acre tribal and 1.45 acres allottee), Gasline Road (2.00 acres, all tribal), and Seed Farm Road (8.78 acres, all tribal).

For the improvements at each TI, change of access will be required along nearby roads as part of the improvements. Change of access requirements will be included as part of the additional ADOT easement requirements at each TI. In addition, change of access will be required from the northwest and northeast corners of the Riggs Road TI, but they will not require an acquisition area by ADOT as new easement.

ADOT Environmental Planning will coordinate with ADOT Community Relations and the Community regarding the appropriate level of public involvement for land acquisition and temporary construction easements and change of access.

In summary, the Selected Alternative will convert 81.02 acres of Community land to a transportation use, including new easement from tribal and allotted land parcels. The impact will be long term, but of minimal intensity, given that the Selected Alternative conforms to the Community's long-range planning and development efforts. Furthermore, the Selected Alternative will benefit the Community's master development plans for the Wild Horse Pass area by improving access.

No-Build Alternative

The No-Build Alternative would not result in the widening of I-10 and other improvements ADOT is proposing in the study area, meaning that no additional easement would be needed from the Community. ADOT would continue to maintain I-10 and the other jurisdictions would continue to maintain the roads that intersect with I-10 in their respective right-of-way areas. Land use plans and policies can determine the location and type of development that can occur; however, available roadway capacity can also influence how much and where development occurs. It is expected that development would slow considerably in those locations where future traffic volumes on I-10 would approach or substantially exceed the maximum capacity, which is projected to occur on I-10 with the No-Build Alternative.

The No-Build Alternative would not meet the purpose and need for this proposed project and would not conform to the transportation, land use, and related plans and policies established by ADOT, MAG, Sun Corridor Metropolitan Planning Organization, Phoenix, Chandler, Casa Grande, and the Community, regarding future development based on an efficiently performing highway transportation system.

Environmental Commitments and Mitigation Measures

No mitigation measures are proposed for land ownership, jurisdiction, and land use.

B. Social and Economic Considerations

This section describes the potential social and economic impacts of the proposed action on the local and surrounding population, including populations of environmental justice concern. The more detailed *Land Use and Socioeconomic Report* is available in Appendix C.

Affected Environment

Community Facilities

Numerous community facilities are within 0.5 mile of the study area (Figure 11). Three are in the study area: a small portion of Pecos Park and a senior living facility in Phoenix, and a religious facility in Chandler east of I-10. No community facilities are in or near the study area in the Community, Casa Grande, or Pinal County.

Community Character and Cohesion

Community character and cohesion is generally defined as the degree to which residents have a sense of belonging to their neighborhood. Impacts on community character and cohesion from highway projects may result from residential displacements, property acquisition, changes in access and circulation, and barrier effects.

The residential areas west of the study area—but not within it—in Phoenix are part of the Ahwatukee Foothills Urban Planning Village. Pecos Park, a senior living facility, and a religious facility in the study area support the residential areas and foster community cohesion in this area of Phoenix.

One residence is east of I-10 near the far eastern study area boundary. It is just south of the I-10 Gila River Bridge near milepost 174 in the Community. Access to the property is provided by a road connecting to Nelson Road near I-10. No residential areas in Chandler, Casa Grande, or Pinal County are in the study area.

Demographic Characteristics

Population and employment data were obtained from MAG for Phoenix, Chandler, the Community, and Casa Grande. The population in Phoenix and Chandler near the study area is not projected to grow substantially between 2022 and 2040 because these areas are already near build out—but each city as a whole is expected to continue growing substantially, along with Casa Grande (Table 11). The Community population is projected to remain the same between 2022 and 2040. Employment growth is projected to increase in the double digits (Table 11), substantially increasing traffic levels on I-10, SR 202L, and local streets in and near the study area.

Figure 11. Existing community facilities

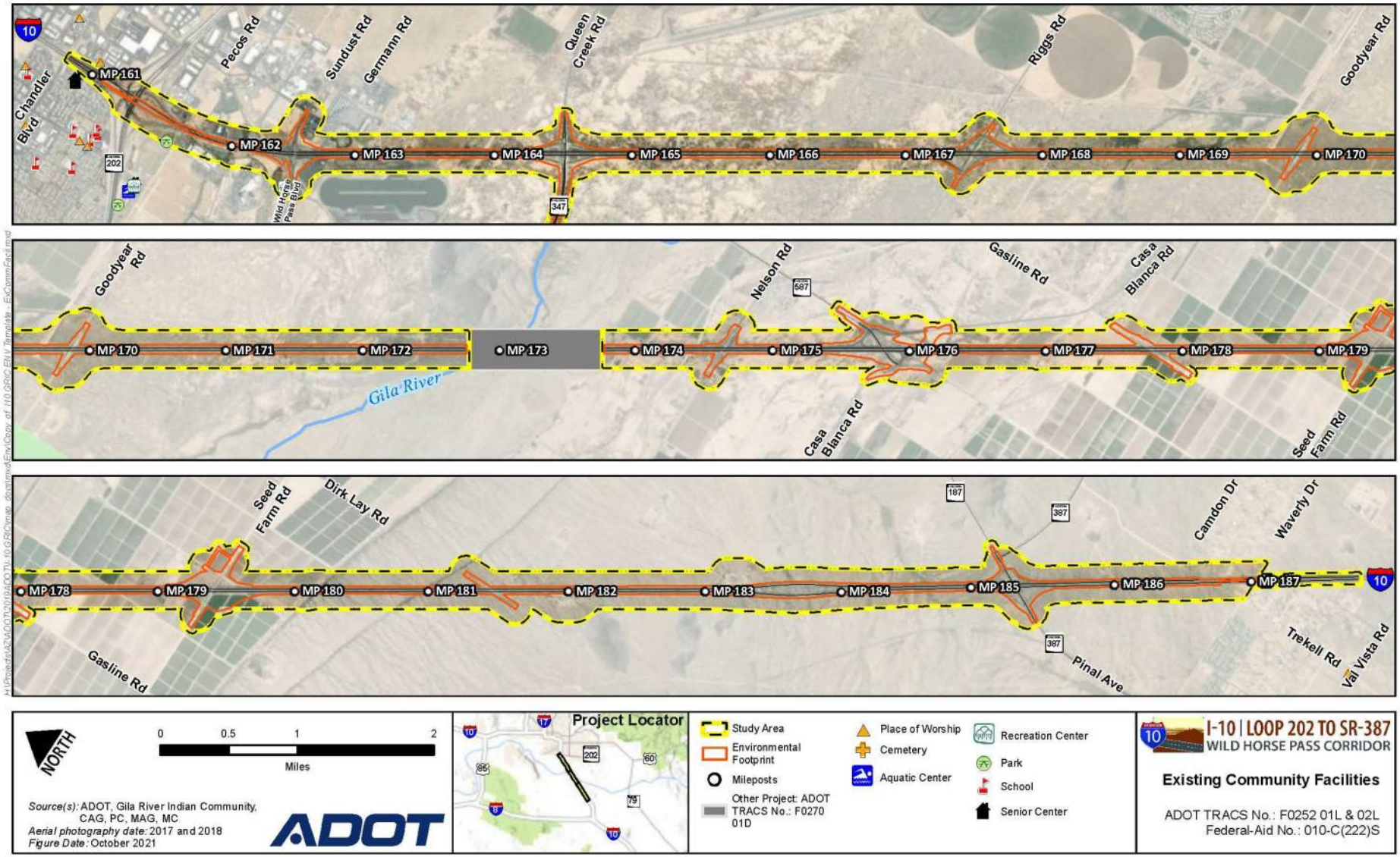


Table 11. Population and employment projections

Location	2022[a]	2030	2040	% increase (2022–2040)
Population				
Phoenix adjacent to Interstate 10[b]	37,656	37,924	38,208	1
Phoenix	1,711,800	1,867,300	2,007,800	17
Chandler adjacent to Interstate 10[c]	41,024	41,126	42,128	3
Chandler	292,000	304,300	315,900	8
Gila River Indian Community	14,100	14,100	14,100	0
Casa Grande	64,565	85,296	99,804	55
Employment				
Phoenix adjacent to Interstate 10[b]	17,622	18,549	19,406	10
Phoenix	933,700	1,048,500	1,149,000	23
Chandler adjacent to Interstate 10[c]	42,057	44,289	46,475	11
Chandler	166,400	189,400	204,500	23
Gila River Indian Community	9,000	12,300	14,000	56
Casa Grande	18,363	31,461	37,777	106

Sources: 2023 Maricopa Association of Governments Socioeconomic Projections (Phoenix, Chandler, Gila River Indian Community, Casa Grande)

[a] The socioeconomic projections for the Casa Grande Metropolitan Planning Area provided 2020 data rather than 2022 data.

[b] regional analysis zone 314 [c] regional analysis zone 315

Title VI of the Civil Rights Act

For a more detailed analysis of Title VI of the Civil Rights Act (Title VI), review the *Land Use and Socioeconomic Report* in Appendix C.

This section discusses minority and other protected populations in the study area. ADOT must comply with Title VI, which provides that "no person shall on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination." FHWA's Title VI Program includes Title VI and other federal nondiscrimination statutes and authorities under its "umbrella," including Executive Order 12898. It requires equitable access to services and participation for minority, limited English proficiency, female head of household, elderly, disabled, and low-income populations. Table 12 shows the percentages of minority and protected populations by census tract in the study area, as compared with Maricopa and Pinal Counties, based on the 2021 American Community Survey 5-year survey. Additionally, census block groups 1 through 4 were evaluated and combined in census tract 9412, and census tract 9413 included two block groups. Figure 12 shows the locations of minority populations.

Table 12. Percentages of minority and other protected populations

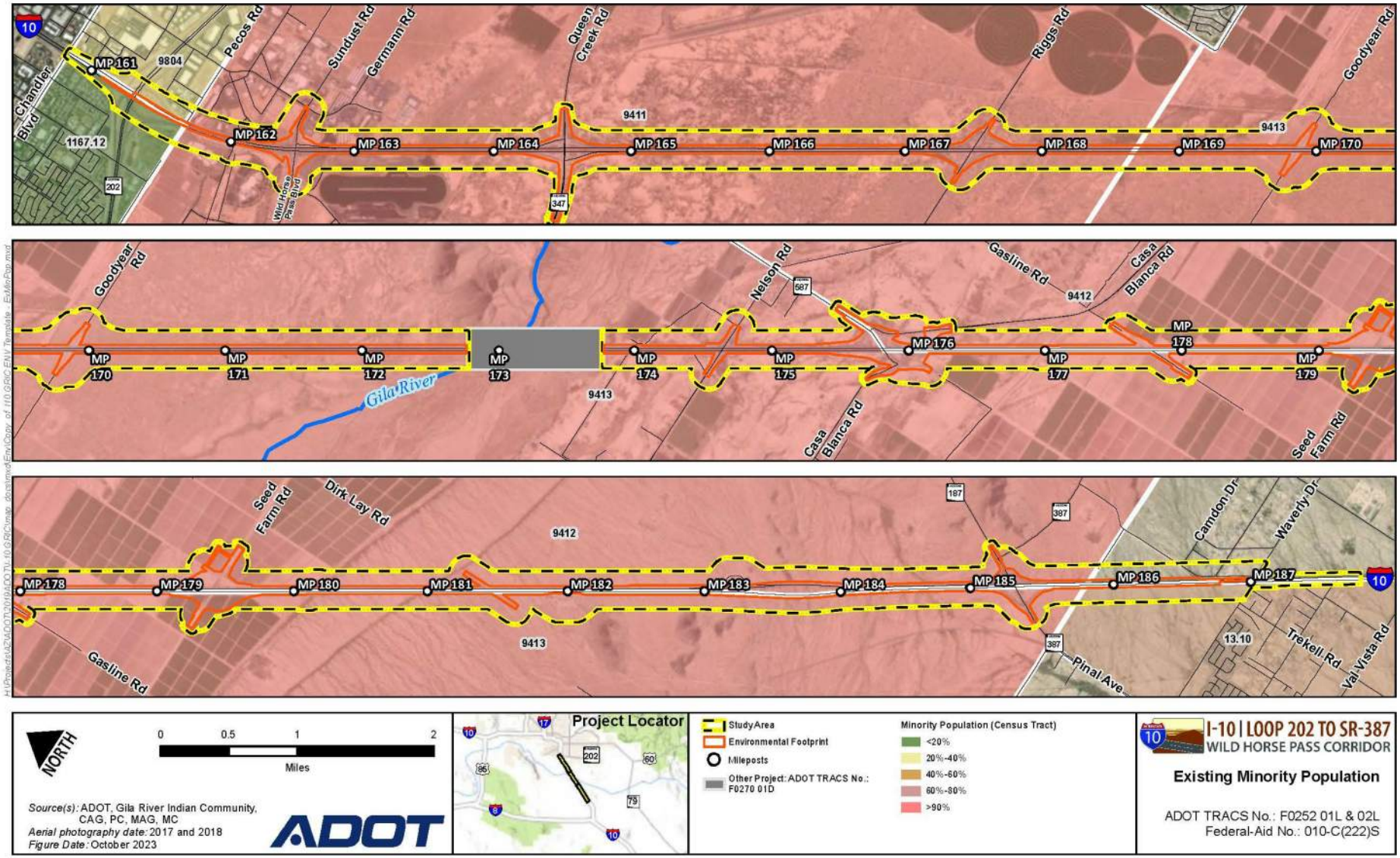
Minority and protected population	Census tract 1167.12 Phoenix	Census tract 9804 Chandler	Census tract 9411 Community	Maricopa County	Census tracts 9412 and 9413 Community	Census tract 13.10 Casa Grande	Pinal County
Hispanic or Latino	19	38	0	32	16	44	31
Black or African American	9	13	0	5	0	5	4
American Indian or Alaskan Native	4	0	0	1	62	0	4
Asian	9	0	100	4	0	2	1
Native Hawaiian or Other Pacific Islander	0	0	0	0.2	0.3	0	0.3
More than one race	9	0	0	3	2	3	3
Elderly – over 65	10	0	0	15	9	14	20
Disabled – under 65	3	0	0	7	10	9	9
Female head of household	17	0	0	15	41	22	14
Limited English proficiency[a]	7	38	16	8	2	6	6

Source: U.S. Census Bureau, American Community Survey, ACS 5-Year Estimates Detailed Tables, 2021
[a] reported as: Speak English less than "very well"

No substantial differences, with regard to minority populations, exist in Phoenix when compared with the Maricopa County population as a whole. Note that the Black or African American and Asian populations in the census tract are higher than Maricopa County; they both account for 9 percent of population in the census tract. The census tract in Chandler has a higher percentage of Hispanic residents when compared with Maricopa County, and the census tract in the northern section of the Community has a much higher percentage of Asian residents (100 percent) than Maricopa County (4 percent).

The census tracts to the east and west of I-10 include the part of the Community in Pinal County traversed by I-10. They have a large American Indian population (62 percent) as compared with Pinal County. The populations in the northeastern section of Casa Grande traversed by I-10 have a higher percentage of Hispanic residents than the Pinal County population as a whole. The female head of household population is notably higher in the Community and Casa Grande census tracts than in Pinal County as a whole.

Figure 12. Existing minority population



With regard to populations with limited English proficiency, the census tracts in Chandler and the northern part of the Community have a higher percentage of limited English proficiency residents when compared with Maricopa County. The study's *Public Involvement Plan* indicated that 4 percent of the population in the study area speaks English less than very well (ADOT 2019b). Languages spoken (other than English) include Spanish (10 percent) and the O'odham spoken language in the Community. The *Public Involvement Plan* did not indicate the percentage of the Community that speaks O'odham.

Environmental Justice

For a more detailed analysis of environmental justice, review the *Land Use and Socioeconomic Report* in Appendix C.

This section discusses minority and low-income populations in the study area. Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) on environmental justice requires "the fair treatment and meaningful involvement of all people, particularly minority and low-income populations, in the environmental decision-making process."

Although the nondiscrimination principles of Title VI and the provisions for minority and low-income populations in Executive Order 12898 intersect, they are separate mandates, each with unique requirements. The term "minority," which is a protected category under environmental justice, overlaps with "race, color, and national origin" (including individuals with limited English proficiency), which the Title VI statute protects. Environmental justice principles also apply to low-income populations.

DOT Order 5610.2A, *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* require fair consideration for people of all races, cultures, and incomes. This includes consideration of Caucasian individuals, families, and communities that may be considered within these population groups, such as low-income persons.

Table 13 shows the percentages of low-income populations by census tract in the study area, as compared with Maricopa and Pinal Counties, based on the 2021 American Community Survey 5-year survey. Figure 13 shows the locations of low-income populations. Refer to Table 12 and Figure 12 for information on minority populations.

Table 13. Percentages of low-income populations

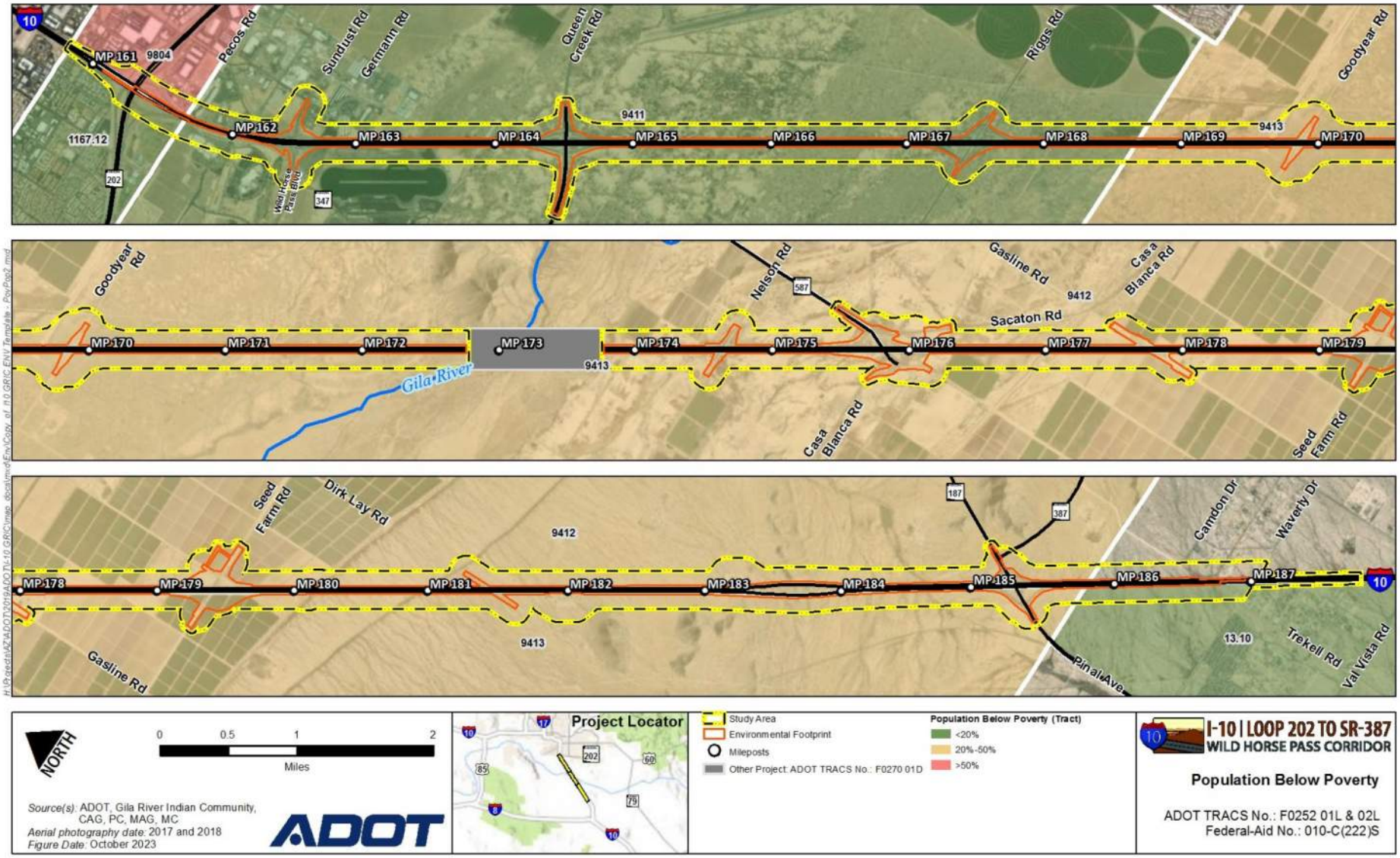
Low-income population[a]	Census tract 1167.12 Phoenix	Census tract 9804 Chandler	Census tract 9411 Community	Maricopa County	Census tracts 9412 and 9413 Community	Census tract 13.10 Casa Grande	Pinal County
Households with income below poverty level	5	57	0	12	40	1	11

Source: U.S. Census Bureau, American Community Survey, ACS 5-Year Estimates Detailed Tables, 2021
[a] Low-income means a population whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines (for the same year as the data and for a four-person household by default).

No substantial differences, with regard to low-income populations, exist in Phoenix when compared with the Maricopa County population as a whole. The census tract in Chandler shows a notably higher percentage of the population (57 percent) living in poverty when compared with Maricopa County (12 percent).

The census tracts to the east and west of I-10 include the part of the Community in Pinal County traversed by I-10. They have a large percentage of Community families (40 percent) living below the poverty level, as compared with Pinal County. This is a higher level than the national share of Native Americans considered to be living below the poverty line (26 percent) (Economic Policy Institute 2017). The populations in the northeastern section of Casa Grande traversed by I-10 have a lower percentage living in poverty than the Pinal County population as a whole.

Figure 13. Population below poverty level



Economic Conditions

In the study area, most of the employers with the highest numbers of employees are in Chandler and the northern part of the Community in the Wild Horse Pass area west of I-10 and the Lone Butte Industrial Park east of I-10 (Figure 14).

The WHPDA prepared the Wild Horse Pass Master Plan for the Wild Horse Pass complex in the northern part of the Community and west of I-10. The plan proposes to develop 3,000 acres in the complex, including apartment, hotel, office, retail, restaurant, casino, convention center, recreational, water park, and medical land uses, as well as outdoor festival venues and seated entertainment and event venues.

Environmental Consequences

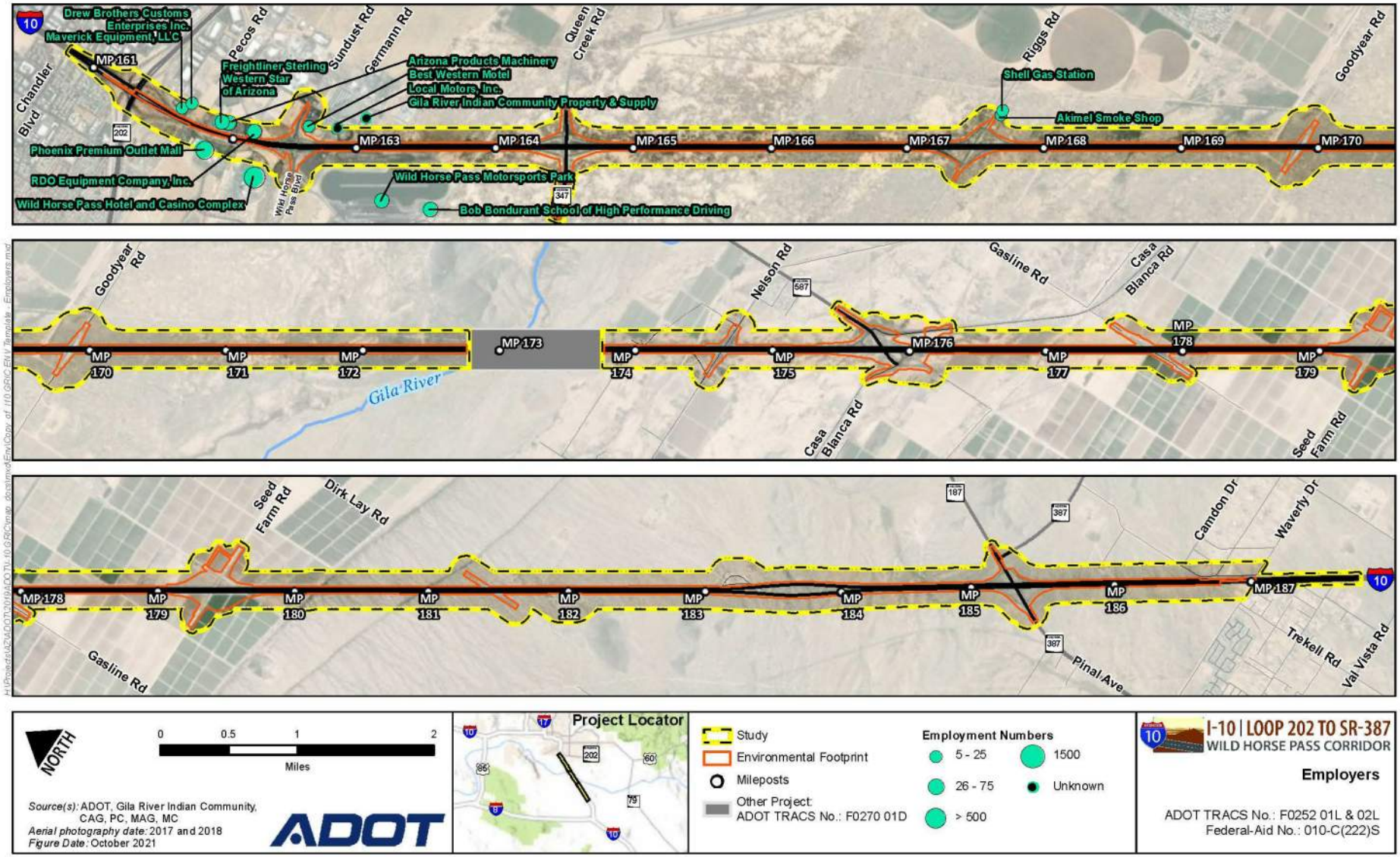
Selected Alternative

Social Conditions. The Selected Alternative will not adversely affect residential areas or neighborhoods because none are in the study area, with the exception of the single residence near milepost 174, which will not be subject to long-term adverse impacts. This residence will not be affected by the Selected Alternative but its existing access will be modified near Nelson Road to accommodate the proposed Nelson Road improvements. These access road modifications, however, will not require closures or restrictions. The senior living facility, religious facility, and Pecos Park will not be affected because no construction will occur on I-10 in this part of the study area—only the addition of new signs and lane stripes.

The Selected Alternative will not involve any residential acquisitions or displacements, changes in neighborhood character or community cohesion, long-term changes in travel patterns or accessibility, fragmentation of neighborhoods or creation of barriers between them (including to the movement of people, goods, or services), or impacts on parks, schools, churches, emergency services, recreation facilities, or other community facilities.

The Selected Alternative will benefit local neighborhoods and community facilities through improved vehicular, bicycle, and pedestrian access locally and regionally across I-10, reduced travel times by alleviating congestion, enhanced mobility and local connectivity, and improved emergency service response times and incident management on I-10 and local Community roads.

Figure 14. Employers



Residents near the study area, businesses, and the traveling public may experience short-term adverse impacts during construction—traffic delays, increased travel times, access limitations (primarily at the TIs and crossroads), construction equipment noise and vibration, and localized reduced air quality from dust and exhaust—but such impacts will be temporary and will end upon completion of construction.

Title VI. The Native American population—considered a minority population—in the Community is substantially higher (62 percent) than in Pinal County. The Selected Alternative will not require any residential displacements in the Community or have a greater impact on the Native American population as compared with other populations that could be affected by the project because no Community members — like other minority and non-minority populations—reside in or near the study area, with the exception of the home near milepost 174 that will not be adversely affected.

Beyond the study area, the primary residential areas in the Community close to I-10 include Bapchule (approximately 1 mile west of I-10 just north of Nelson Road), Casa Blanca (2.5 miles west of I-10 along Casa Blanca Road), and Sacaton—the Community's government center (just over 2 miles east of I-10 at Seed Farm Road). Residents in these communities will experience short-term adverse construction impacts, along with the overall traveling public. In the Community, the short-term effects of the project during construction could potentially be borne by minority residents that make up the majority of the population. These short-term impacts, however, will also affect other members of the public traveling on I-10 during construction in the same manner as Community residents without regard to racial status.

The Native American populations in the Community outside the study area will experience the same benefits of improved circulation, reduced travel times, and shorter travel delays with the completed project. The Selected Alternative will also include improvements to TIs and crossroads in the Community that will improve safety, access, and circulation.

The Hispanic population percentage in census tract 13.10 in Casa Grande is higher than the Pinal County percentage, and the Hispanic population percentage in census tract 9804 in Chandler is higher than in Maricopa County. Also, the Asian population percentage in census tract 9411 in the northern part of the Community is substantially higher than in Maricopa County. In terms of female head of household populations, census tracts 9412 and 9413 in the Community and census tract 13.10 in Casa Grande have higher percentages of female-headed households than in Pinal County. Limited English proficiency population percentages in census tract 9804 in Chandler and in census tract 9411 in the Community are higher than the Maricopa County percentage. However, as noted before, the Selected Alternative will not require any residential displacements in the study area and any construction impacts would affect both minority/protected populations and non-minority/non-protected populations.

Environmental Justice. Census tract 9804 in Chandler has a notably higher percentage of low-income populations than in Maricopa County (57 percent versus 12 percent). In Pinal County, the Community has a higher percentage (40 percent) of low-income households than the county (11 percent). As noted in the

Title VI discussion, the Community also has a higher percentage of minority (Native American) residents. The Selected Alternative will not require any residential displacements in Chandler or the Community or result in disproportionally high and adverse effects on minority populations or on low-income families as compared with other populations that could be affected by the project because they—like other minority and low-income and non-minority and non-low-income populations—are not in or near the study area, with the exception of the home near milepost 174 that will not be adversely affected.

Beyond the study area, the primary residential areas in the Community close to I-10 include Bapchule (approximately 1 mile west of I-10 just north of Nelson Road), Casa Blanca (2.5 miles west of I-10 along Casa Blanca Road), and Sacaton—the Community's government center (just over 2 miles east of I-10 at Seed Farm Road). Residents in these communities will experience short-term adverse construction impacts, along with the overall traveling public. In the Community, the short-term effects of the project during construction could potentially be disproportionately borne by minority and low-income residents that make up the majority of the population. These short-term impacts, however, will also affect other members of the public traveling on I-10 during construction in the same manner as Community residents without regard to racial or income status and should not be considered disproportionately high and adverse.

The minority and low-income populations in and outside the study area will experience the same benefits of improved circulation, reduced travel times, and shorter travel delays with the completed project. The Selected Alternative will also include improvements to TIs and crossroads in the Community that will improve safety, access, and circulation.

Additionally, the public involvement program has been designed and executed to reach the affected population, including populations of environmental justice concern in the area. All public information meetings have been developed in partnership with the Community, the primary population of environmental justice concern in the study area. Public meetings were advertised in English-language, Spanish-language, and Community newspapers. General public meetings were held off the Community and multiple meetings were held on the Community specifically for Community members. In coordination with the Community, the Community meetings were tailored to engage Community members and solicit feedback. Translation services were provided at the meetings.

Economic Conditions. There are 12 businesses of varying sizes located either partially or wholly in the study area. The Selected Alternative will not adversely affect these businesses or the local or regional economy. Construction to widen I-10 will occur inside the existing median throughout the study area. No businesses are located where the TI and crossroad improvements will occur, and no businesses will be adversely affected. One business sign will have to be relocated from the southeast quadrant of Seed Farm Road for the proposed new TI.

The proposed I-10 project will facilitate the WHPDA's planned expansion of Wild Horse Pass by helping to accommodate the area's projected increase in traffic through 2060 and by improving the I-10 TIs at Wild Horse Pass Boulevard and SR 347/Queen Creek Road—important access points for the complex.

Local businesses in or near the study area will experience short-term construction impacts in a manner similar to residential areas and community facilities, as discussed previously. The short-term construction impacts could also affect travel time reliability for freight and other business traffic. With the implementation of ADOT-specified mitigation measures, standard specifications, and best management practices, construction impacts are not anticipated to be adverse in the long term.

No-Build Alternative

The No-Build Alternative would not result in the I-10 widening and other improvements in the study area. Population and employment growth and new economic development would continue at a rapid pace between Phoenix and Tucson. I-10 would not be able to provide the traffic operations, LOS, travel time efficiency, and needed incident management capabilities to meet the future travel demand, hindering future economic development.

Travel times would not improve and future economic development would not benefit from a more efficient, well-functioning transportation facility; the potential for new business development likely would continue in the long term in the study area and surrounding areas, but potentially at a slower pace.

Adverse impacts are anticipated for all populations, community services, recreational facilities, businesses, employment, housing areas, and response times by emergency services and law enforcement personnel because traffic delays and congestion would continue to increase in frequency. The No-Build Alternative would not add capacity on I-10, would not improve access at the Tis, and would not reduce I-10 traffic diverting to local roadways during bad weather and accidents that close I-10 in the study area for long periods of time. Diversion off I-10 onto Community roads and lands, during accidents and inclement weather, could adversely affect local roads in the Community.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- The Arizona Department of Transportation design team will continue to review community access impacts, mobility, and impacts on community services, community cohesion, aesthetics, and community values in all areas affected by the project to include the traditionally underserved communities that were identified in the study area, including short-term impacts that could affect minority and low-income residents.

Contractor Responsibilities

- The contractor shall use the most current Arizona Department of Transportation best management practices to reduce short-term adverse construction impacts related to air quality (from dust and exhaust); noise and vibration; surface and groundwater quality (from runoff); the transport, use, storage, and disposal of hazardous materials and waste; and related pollution control measures and practices during construction.
- The contractor shall ensure the construction project will be managed in such a manner as to minimize temporary impacts on residents, businesses, churches, schools, community centers, and the traveling public, such as noise, vibration, dust, exhaust, traffic restrictions, and potential road closures during construction.
- Access to businesses and residences will be maintained during construction.
- With the exception of roads where access could be limited during construction and those that will experience temporary, short-term closures, the contractor shall maintain access to all businesses and residences throughout construction.

C. Cultural Resources

This section discusses cultural resources, which include archaeological sites, historic architecture, and places of traditional, religious, and cultural importance.

National Historic Preservation Act (NHPA) Section 106 consultations completed thus far for the project are documented in Appendix D, *Cultural Resources Information*. Coordination meetings with the Community's Cultural Resource Management Program (CRMP) and Tribal Historic Preservation Office (THPO) are documented in Appendix L, *Agency and Public Involvement*. ADOT has developed a programmatic agreement pursuant to 36 CFR Sections 800.6 and 800.14(b) to implement measures to avoid or minimize and, if necessary, resolve any adverse effects of the undertaking on historic properties. A *historic property* is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). This term includes artifacts, records, and remains that are related to and located within such properties. The phrase "eligible for inclusion in the NRHP" means properties formally determined as such by the Secretary of the Interior or by FHWA in consultation with the SHPO or THPO. Properties that have been determined eligible for inclusion are accorded the same protections as properties listed in the NRHP [36 CFR Section 800.16(l)(1)]. A copy of the executed programmatic agreement is provided in Appendix D. Inventory lists of historic properties, including traditional cultural properties (TCPs), in the project's area of potential effects (APE) are also provided in Appendix D.

Affected Environment

Class I cultural resources inventory reports were prepared for the portions of the project on and off Community lands (Brodbeck 2020a, 2020b). A TCP overview report was prepared for the entire project area (Darling 2020). The Class I research identified 85 previous cultural resource investigations in the APE (Brodbeck 2020a, 2020b). That portion of the APE subject to direct effects has been surveyed for cultural resources (Barz 1998; Brodbeck 2020a, 2020b; Darling and Touchin 2001); therefore, no additional survey was required for the EA. The Community THPO agreed that the existing data were adequate for preparing the EA (Lewis [THPO] to Powell [ADOT], concurrence July 23, 2020). THPO also recommended additional archaeological survey following completion of the EA to verify archaeological site boundaries and to evaluate site conditions for those historic properties in the APE. The Class I reviews identified 63 archaeological sites, 14 linear sites, 1 historic building, 1 National Monument, 35 TCPs, and additional resources, such as canals and roads, shown on historical maps. Recent survey conducted by the Community's Cultural Resource Management Program identified 4 additional archaeological sites.

Archaeological Sites

The 67 archaeological sites in the APE included 33 prehistoric artifact scatters, 11 multicomponent artifact scatters (10 Hohokam and O'odham, 1 O'odham and Euro-American), 5 prehistoric Hohokam village sites

(2 with public architecture), 5 multicomponent village sites (Hohokam and O'odham), 5 historic habitations (O'odham), 4 multicomponent artifact scatters with historic O'odham habitations, 1 prehistoric Hohokam habitation with prehistoric and historic petroglyphs, 1 prehistoric Hohokam artifact scatter with a historic O'odham habitation, 1 Euro-American quarry site, and 1 Euro-American artifact scatter. Of these archaeological sites, 18 sites are eligible for listing on the NRHP under Criterion D; 4 sites are eligible under Criteria A and D; 2 sites are eligible under Criteria A, C, and D; 4 sites are not eligible; and 39 sites have not been evaluated and are being treated as eligible for purposes of Section 106 compliance with this project until such time as they have been individually assessed.

Linear Sites

The Class I reviews identified 14 linear sites within the APE, which included 9 canals (7 irrigation and 2 drainage), 3 roads, 1 railroad, and 1 gas pipeline. The Well Ditch-Snaketown Canal (GR-1646) has been determined to be ineligible for listing in the NRHP; therefore, no further treatment would be required. The historic Bapchule Canal System (GR-1528) is eligible for listing in the NRHP under Criterion D. GR-1528 is within the direct effects APE and will be affected by the Selected Alternative. The Southside Canal, Casa Blanca Canal, and the Southside Stormwater Channel are components of the San Carlos Irrigation Project (SCIP) system, which is eligible for NRHP listing under Criterion A. The segments of these three linear sites in the I-10 easement do not retain qualities that contribute to the SCIP's NRHP eligibility. In addition, the SCIP system has been previously mitigated through a Historic American Engineering Record (HAER No. AZ-50). Therefore, the Selected Alternative will not adversely affect these SCIP components.

The Maricopa and Phoenix Railroad is eligible for NRHP listing under Criterion A and the Sacaton to Casa Grande Road (GR-914) is eligible under Criterion D. Both sites were obliterated by the original freeway construction in the direct effects APE; therefore, neither will be adversely affected by the Selected Alternative.

The Fowler/Broadacres Canal (GR-1581) and the Gila Drain (GR-1612) are eligible for NRHP listing under Criteria A and D. The segments of both sites within the direct effects APE were altered (piped underground) for the construction of I-10 and no longer retain qualities that contribute to their NRHP eligibility. Therefore, neither will be adversely affected by the Selected Alternative.

The Historic Snaketown Canal (GR-1615) and Old Mountain Top Canal (GR-1469) are eligible for listing on the NRHP under Criterion D. Both sites are not within the direct effects APE and, therefore, will not be affected by the project.

State Highway 93 (SR 93) and SR 187 are components of Arizona's Historic State Highway System, the network of roadways developed between 1912 and 1955 whose remnants are preserved as in-use roadways and abandoned segments of roadway (ADOT 2002). The Historic State Highway System is eligible for NRHP listing under Criterion D for its potential to yield important information about the development of Arizona's transportation system (ADOT 2002). The segments of SR 93 and SR 187 in the

APE do not retain qualities that contribute to the NRHP eligibility of the Historic State Highway System; therefore, no further treatment will be required.

I-10, which was not included in the cultural resources inventory, is not part of the Historic State Highway System and is exempt from Section 106 consideration (Advisory Council on Historic Preservation 2005). The El Paso Natural Gas (EPNG) Pipeline, while considered eligible for NRHP listing, is exempt from Section 106 consideration, except on tribal lands (Advisory Council on Historic Preservation 2002). Although the exemption does not apply to tribal lands, the THPO agrees with this finding since pipelines constitute expansive features that exhibit considerable redundancy and uniformity in design (Brodbeck 2020b).

Historic Buildings

One historic building, a traditional sandwich house, is in the indirect effects APE and is individually eligible for NRHP listing under Criterion C for its architectural significance. The house is part of a traditional O'odham residence designated GR-1458, which qualifies as an NRHP-eligible TCP (see Darling 2020, TCP 9). The building is set approximately 150 feet back from I-10 and, therefore, will not be directly affected by the Selected Alternative. Furthermore, the property's visual and acoustic settings are not qualities contributing to its NRHP eligibility under Criterion C; therefore, it will not be indirectly affected by the Selected Alternative.

National Monuments

The Hohokam-Pima National Monument was established in 1972 to preserve the site known as Snaketown, which was designated a National Historic Landmark in 1964, and to develop the area as an interpretive archaeological park. (National Historic Landmarks are afforded special consideration in Section 110[f] of the NHPA.) The Community did not complete the acquisition of tribal and allotted lands identified for inclusion in the monument. However, the National Park Service continues to recognize the area as a monument. It is listed in the NRHP under Criteria C and D. The monument does not itself constitute any significant historical attributes. It essentially represents an administrative boundary for an archaeological park that was never developed. The portion of the monument that intersects with the Selected Alternative APE has no tangible qualities contributing to its NRHP listing. The Snaketown site/National Historic Landmark does not intersect the Selected Alternative APE.

Traditional Cultural Properties

TCPs are places eligible for inclusion in the NRHP and are associated with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community (NRHP Bulletin #38). The TCP review identified 35 TCPs in the APE. Eight general categories or types of TCPs were identified, including topographic landmarks, shrines, platform mound and ballcourt

sites, petroglyphs, historic villages, traditional homesites, cemeteries, and racetracks (Darling 2020). All 35 TCPs are eligible for listing on the NRHP under Criteria A and D; TCP 15 is also eligible under Criterion B; and TCPs 1, 9, 13, and 24 are also eligible under Criterion C.

Historically Documented Cultural Resources

The Class I reviews identified 39 prehistoric and historic features in the APE that were documented historically—for example, features that appear on old maps but have not been detected by modern cultural resources surveys. The historically documented features include prehistoric and historic canals, historic cemeteries and houses, wells, roads, stage routes, and utility lines. These features may not be visible on the ground surface but may be preserved subsurface.

Environmental Consequences

Selected Alternative

Direct effects on historic properties that could result from the Selected Alternative will be the physical impacts resulting from construction activities that diminish their integrity and ability to qualify for listing on the NRHP, such as mechanical excavations, surface grading, and subsurface utility work. Indirect effects on historic properties that could result from the Selected Alternative will be changes in visual settings, noise levels, vibrations, and increased public access resulting from the project that diminish their integrity and ability to qualify for listing on the NRHP. ADOT has made a finding that the Selected Alternative will have an adverse effect on historic properties (Rucker [ADOT] to Lewis [THPO], July 26, 2023); THPO has concurred with this finding (Lewis [THPO] to Rucker [ADOT], September 22, 2023).

ARCHAEOLOGICAL AND HISTORIC IN-USE SITES

Direct Effects

The Selected Alternative will adversely affect 26 archaeological sites eligible for listing on the NRHP through direct effects: GR-364, GR-386, GR-387, GR-392, GR-393, GR-473, GR-513, GR-587, GR-598, GR-786, GR-806, GR-832, GR-886, GR-887, GR-931, GR-980, GR-1175, GR-1184, GR-1205, GR-1206, GR-1770, GR-1771, AZ U:9:96(ASU), AZ U:13:43(ASM), AZ U:13:96(ASM), and AZ U:13:252(ASM). The Selected Alternative will adversely affect one linear site through direct impacts: GR-1528. Despite prior freeway construction, these sites have the potential for significant cultural deposits and features preserved subsurface in the construction footprint, including in the I-10 median. If preserved cultural deposits are present that will be physically destroyed by construction activities, qualities (cultural and scientific information) that contribute to their NRHP eligibility will be compromised. Archaeological testing will be required to determine the condition and character of the subsurface cultural deposits. Any adverse impacts on these archaeological and linear sites will require mitigation through archaeological data recovery. With the executed programmatic agreement and mitigation requirements for adverse effects in place, direct impacts on archaeological and historic sites will be moderate and permanent.

Indirect Effects

No archaeological or linear sites will be indirectly affected by the Selected Alternative because the construction will not introduce new elements that will indirectly diminish the integrity or qualities contributing to the NRHP eligibility of sites outside the construction footprint.

HISTORIC ARCHITECTURAL RESOURCES

Direct and Indirect Effects

No historic architectural resources will be directly or indirectly affected by the Selected Alternative because there are none in the APE that will be affected.

TRADITIONAL CULTURAL PROPERTIES

Direct Effects

Eight NRHP-eligible TCPs will be directly affected by the Selected Alternative: TCP 5, TCP 6, TCP 7, TCP 8, TCP 14, TCP 18, TCP 26, and TCP 30. These TCPs are NRHP-eligible under Criteria A and D for their associations with significant events and data potential. Their NHRP eligibility allows them to be identified as TCPs, along with their association with the cultural traditions, beliefs, arts, crafts, or social institutions of a living Community. Physical impacts on the TCPs would be mitigated with mitigation measures identified through consultation with the Community THPO and Community CRMP, and which may minimally include archaeological testing, data recovery, and ethnographic investigation. Impacts to TCPs may require additional attention, such as traditional religious activities and additional ethnographic evaluation. Specific treatments would be elucidated in a Historic Properties Treatment Plan (see below), which ADOT would develop in close coordination with the Community THPO and Community CRMP.

Indirect Effects

It is anticipated that no TCPs will be indirectly affected by the Selected Alternative because it is likely the construction will not introduce new elements or alter current conditions presented by the existing freeway that will diminish their integrity or NRHP eligibility.

TCP 13 is outside the Selected Alternative but in proximity; protection measures will be required during construction.

TCP 9 and TCP 15 are outside the Selected Alternative; however, access roads to the TCPs may be impeded by construction; therefore, access plans will be required for the construction. Access to TCP 9 will be modified as a result of the project. Specifically, a portion of the unnamed road in the northeast quadrant of the Nelson Road TI will need to be reconstructed slightly north (a maximum of about 75 feet) of its current location to accommodate construction activities at the TI. The Community will have access to this unnamed road, and therefore to TCP 9, until the replacement roadway is constructed, after which time the

old roadway will be abandoned. Therefore, Community access to TCP 9 will not be impeded during or after construction.

Access to TCP 15 will be modified as a result of the project. Specifically, a portion of the unnamed road in the southwest quadrant of the Nelson Road TI will need to be reconstructed slightly south (a maximum of about 30 feet) of its current location to accommodate construction activities at the TI. The Community will have access to this unnamed road, and therefore to TCP 15, until the replacement roadway is constructed, after which time the old roadway will be abandoned. Therefore, Community access to TCP 9 will not be impeded during or after construction.

TCP 35 is within the Selected Alternative but would be avoided; protection measures confirmed through consultation with the Community THPO and Community CRMP would be required to ensure avoidance and to ensure that the TCP experiences no direct effects. Specific protection measures would be detailed in a Historic Properties Treatment Plan (see below) and will be confirmed through future consultation with the Community THPO and Community CRMP. ADOT will continue to evaluate and consult on impacts to TCPs with the Community THPO.

NATIONAL MONUMENTS

Direct and Indirect Effects

The Selected Alternative will not adversely affect the Hohokam-Pima National Monument. The monument was established in 1972 to preserve the site known as Snaketown and to develop the area as an interpretive archaeological park. The National Park Service recognizes the area as a monument. The monument is listed in the NRHP under Criteria C and D. It essentially represents an administrative boundary for an archaeological park that was never developed. The portion of the monument that will be affected by the Selected Alternative has no tangible qualities contributing to its NRHP listing and, therefore, it is anticipated that it will not be adversely affected.

HISTORICALLY DOCUMENTED CANALS

Historically documented prehistoric and historic canal alignments cross through the Selected Alternative that may not be visible on the surface but may be preserved subsurface. If present, historically documented canals may qualify for listing on the NRHP for their potential to yield important information regarding the area's prehistory or history. The locations of historically documented canals will require archaeological testing to confirm their location, condition, and NRHP eligibility. Any adverse impacts on canals will require mitigation through archaeological data recovery.

No-Build Alternative

No cultural resources would be directly or indirectly affected by the No-Build Alternative because no construction would take place.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- The design team will ensure that Traditional Cultural Properties 9 and 15 will be accessible continually during and after construction. Although portions of the current access roads to Traditional Cultural Properties 9 and 15 will require permanent realignment to accommodate construction at the Nelson Road traffic interchange, the properties will be accessible on existing roads during construction and on the newly aligned roads following construction.
- The design team, in coordination with the Gila River Indian Community Tribal Historic Preservation Office, will ensure protection measure are employed to avoid Traditional Cultural Properties 13, 15, and 35 during construction.

Arizona Department of Transportation Environmental Planning Responsibilities

- During the development of project designs, the Arizona Department of Transportation Environmental Planning Historic Preservation Team will arrange for additional archaeological surveys to identify previously unrecorded cultural resources and evaluate their National Register of Historic Places eligibility, verify archaeological site boundaries, update site records, and evaluate site conditions for those historic properties located in, or intersecting with, the area of potential effects.
- During the development of project designs, a Historic Properties Treatment Plan will be developed and implemented by the Arizona Department of Transportation Environmental Planning Historic Preservation Team, in consultation with the Gila River Indian Community Tribal Historic Preservation Office and other consulting parties. The Historic Properties Treatment Plan will be developed in accordance with a programmatic agreement satisfying 36 Code of Federal Regulations Sections 800.6 and 800.14(b). Construction activities will not occur in areas requiring archaeological testing and data recovery until the archaeological investigations are complete and the Arizona Department of Transportation has concluded consultation on the preliminary data recovery report, in accordance with the Historic Properties Treatment Plan.
- Archaeological monitoring will also be required. The locations of the monitoring will be determined by the Gila River Indian Community Tribal Historic Preservation Office following archaeological testing and when data recovery efforts have been completed, so the precise locations are not known yet.
- Roadside memorials will be avoided or relocated in consultation with the Gila River Indian Community Tribal Historic Preservation Office.

- Cultural awareness training will be required of contractors.

Arizona Department of Transportation Central District and Southcentral District Responsibilities

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist.
- The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.7767 and 602.712.8636) 14 days prior to construction to ensure that the terms and stipulations of the Historic Properties Treatment Plan have been fulfilled.
- No work will occur in areas requiring archaeological testing, data recovery, flagging, fencing, or monitoring until the Arizona Department of Transportation Environmental Planning Historic Preservation Team informs the Engineer that testing, data recovery, flagging, or fencing have been completed or an archeological monitor has been arranged in accordance with the Historic Properties Treatment Plan.

Contractor Responsibilities

- No work will occur in areas requiring archaeological testing and data recovery, flagging, fencing, or monitoring until the Arizona Department of Transportation Environmental Planning Historic Preservation Team informs the Engineer that testing and data recovery, avoidance flagging, or fencing has been completed or an archaeological monitor has been arranged in accordance with the Historic Properties Treatment Plan.
- The contractor shall contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.7767 or 480.341.3029) at least 14 (fourteen) business days prior to the start of ground-disturbing activities to arrange for a qualified archaeologist to designate avoidance areas.
- The contractor shall avoid all flagged and/or otherwise designated sensitive cultural areas.

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist.

D. Section 4(f) Resources

This section discusses the Selected Alternative's potential impacts on recreational and historic resources protected under Section 4(f) of the Department of Transportation Act of 1966, as amended. The THPO concurred on the *Final Nationwide Section 4(f) Evaluation and Approval for Federally Aided Highway Projects with Minor Involvements with Historic Sites* on October 13, 2023 (Appendix M).

Affected Environment

The Selected Alternative will be close to several properties afforded protection under Section 4(f), including a public park and multiple NRHP-eligible historic properties. Section 4(f) considers resources within 0.25 mile of the proposed action's environmental footprint. Generally, resources more than 0.25 mile away would not experience traffic noise that would disrupt human or wildlife uses. All other proximity impacts, such as those to the viewshed, would be detected at distances less than 0.25 mile.

Section 4(f) Recreational Resources

The City of Phoenix Pecos Park is the only Section 4(f) recreational resource within 0.25 mile of the environmental footprint. Located at 17010 S. 48th Street, this 66-acre public park includes a retention basin, ball fields, basketball courts, athletic fields, skateboard plaza, picnic area, dog park, aquatic center, community center, and other recreational facilities. The park is accessible from 48th Street (Figure 15).

Section 4(f) Historic Properties

Not all NRHP-eligible properties are afforded protection under Section 4(f)—typically, only properties eligible for listing under Criteria[1] A, B, or C are considered. Generally, cultural resources eligible for listing in the NRHP under Criterion D meet the exception from Section 4(f) applicability [23 CFR 774.13(b)] unless they warrant preservation in place. In the case of the proposed action, cultural resources identified as eligible solely under Criterion D have value for their information potential, but minimal value for preservation in place, and are exempt from Section 4(f) applicability; the Community THPO concurred on October 13, 2023 (see Appendix M). Therefore, those resources are not discussed in this section (see Section C, *Cultural Resources*, in this part of the EA).

Thirty-two historic resources within 0.25 mile of the proposed action's environmental footprint are eligible for the NRHP and for Section 4(f) consideration.

[1] Section 106 of the NHPA specifies four criteria of significance: Criterion A (association with an important event), Criterion B (association with an important person significant in the past), Criterion C (embodiment of a distinctive design of a given type, period, or method of construction), and Criterion D (has yielded, or is likely to yield, information important in prehistory or history).

Figure 15. Pecos Park

Environmental Consequences

Selected Alternative

Table 14 describes the Section 4(f) properties within 0.25 mile of the environmental footprint of the Selected Alternative, potential uses of the resources that will result from implementation of the alternative, and measures to minimize harm to the resources, if needed.

PERMANENT AND TEMPORARY USE

No direct impact or permanent use of recreational Section 4(f) properties will result from the Selected Alternative.

Section 4(f) properties within 0.25 mile of the footprint of the Selected Alternative experienced substantial impacts when I-10 was first constructed—predating NEPA and Section 4(f) laws. In coordination with the Community THPO, it is understood that impacts on historic Section 4(f) resources occurred during this initial construction and that primary impacts on historic Section 4(f) properties predate the Selected Alternative.

Nineteen historic Section 4(f) properties, of which 12 are TCPs,[2] are located partially in the environmental footprint (TCPs 5, 6, 7, 14, 18, 20, 21, 22, 26, 30, 33, and 35). Of these, 5 TCPs (20, 21, 22, 33, and 35) are in the existing easement but will be avoided by any ground-disturbing activity. Permanent use of TCPs, with the exception of TCPs 14 and 18, will occur entirely within the existing I-10 easement. For a Section 4(f) permanent use to occur there must be conversion of the TCP—or other type of Section 4(f) resource—to a transportation use. Since most of the impacts on TCPs will occur entirely within the existing transportation easement, there will be no conversion of the TCP to a transportation use. Therefore, in these instances, there will be no Section 4(f) permanent uses.

The permanent use of TCPs 14 and 18 will result from ROW acquisition to improve a crossroad and a TI, and ADOT has therefore prepared the *Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites*[3] (programmatic evaluation). The term "minor" in this programmatic evaluation is narrowly defined as having either a "no effect" or a "no adverse effect" (when applying the requirements of Section 106 of the NHPA and 36 CFR Part 800 on the qualities that qualified the site for listing on or eligibility to the NRHP) (see the programmatic evaluation in Appendix M). The results of the analysis for TCPs 14 and 18 are summarized below.

TCP 14. The permanent use of TCP 14 will primarily result from improving off-site drainage issues, as requested by the Community. The crossroad improvements themselves could avoid TCP 14 with the use of retaining walls (at a cost of approximately $6 million added to the cost of the $14 million crossing—almost a 43 percent increase). Retaining walls, however, are not a good solution to avoiding the TCP because of the flooding and ponding that occurs in the area. Ponding water and the resulting soil saturation do not make good foundation materials for retaining walls, so additional cost would be incurred to design and build the retaining walls for these conditions. In addition, the excavation to construct retaining walls could disturb archaeological resources. In addition, if the TCP 14 impacts were to be completely avoided, the drainage issues could not be resolved, as requested by the Community, because any drainage solution requires additional ROW for flood control features such as basins and channels. While avoidance of TCP 14 is feasible, it is not prudent under Section 4(f) because of the unique engineering and maintenance issues retaining walls would involve.

TCP 18. During the alternatives screening process, the alternative selected at this TI location was the solution the Community Tribal Council selected over seven other alternatives (including the No-Build Alternative), all of which would have required less new ROW. These other alternatives, which could permanently incorporate less of TCP 18, were rejected by Tribal Council because of potential future

[2] A TCP is a property that is eligible for inclusion in the NRHP, based on the criteria in the previous footnote, and on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community.

[3] The Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites was issued on December 23, 1986, and published in the *Federal Register* on August 19, 1987. It can be found at 52 *Federal Register* 31118.

development in the area; the lack of a bypass route, which would allow tribal members to avoid the TI altogether; and this alternative's ability to most efficiently deter main line I-10 traffic from rerouting onto tribal roads during accidents or other incidents on I-10.

To reduce the permanent use of TCP 18 to the extent possible while still providing a solution acceptable to the Community, the design team further refined the TI design to keep the features of the Selected Alternative while minimizing the amount of new ROW required for the improvements. This refinement reduced the impacts/permanent use of the Section 4(f) property from 36.65 acres to 19.36 acres—a nearly 50 percent reduction. The only alternative that avoids TCP 18 is the No-Build Alternative. The No-Build Alternative would avoid permanent use of the TCP; however, it does not meet the purpose and need of the project and thus is not prudent under Section 4(f).

In-use historic properties that are not TCPs include the Southside Canal, Maricopa and Phoenix Railroad, Southside Storm Water Channel, Casa Blanca Canal, Fowler Canal, and Gila Drain. However, the segments of these resources in the environmental footprint of the Selected Alternative were destroyed or substantially modified by the prior construction of I-10 and do not retain the qualities that contribute to their NRHP eligibility. As part of a past U.S. Bureau of Reclamation project, the entire San Carlos Irrigation Project system, including the Southside Canal, Southside Storm Water Channel, and Casa Blanca Canal, were documented under the Historic American Engineering Record, considered by the State Historic Preservation Office (SHPO) as acceptable mitigation for future impacts. The Fowler or Broadacres Canal was documented as a result of an adverse effect on the Pima-Maricopa Irrigation Project. The THPO and SHPO agreed that the documentation serves as mitigation for further impacts by other projects. Because these canals no longer retain integrity and because the portions of these resources affected by the Selected Alternative are in the existing I-10 easement, there will be no conversion of the sites to a transportation use and, thus, no Section 4(f) permanent use (Table 14).

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
Pecos Park	▪ 66-acre public park ▪ Amenities include ball fields, basketball courts, athletic fields, dog park, skateboard plaza, picnic area, aquatic center, community center ▪ Accessible from 48th Street	Yes	Approximately 300 feet west of environmental footprint	No	No: No noise-sensitive activities or viewshed characteristics contribute to the park's importance as a Section 4(f) resource; therefore, there will be no constructive use.	Not required[b]
TCP 4: GR-1157 *Halychduum Nyiva #1* ('Where Halychduum used to live')	▪ Historic village ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 672 feet from the environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (visual or noise) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 5: GR-1175 *U'us Hiha'iñ* (U'us Cemetery)	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	The portion of the TCP affected is currently in the existing I-10 easement.	No—approximately 5.07 acres, or 5.28 percent, of the administrative boundary of the TCP (defined by the GR-1175 site boundary) is in the existing easement. However, because only the portion of the TCP that is currently within the I-10 easement will be affected (no additional easement will be required), there will be no conversion of the TCP to a transportation use and, thus, no Section 4(f) use. Although the administrative TCP boundary will be in the environmental footprint, no construction will occur in the U'us Cemetery itself.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (visual or noise) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 6: *Aji, Bibjulik, Vii Mkor Hvik* (Gila Butte)	▪ Topographic landmark ▪ Recommended NRHP-eligible under Criterion A	Yes	The portion of the TCP affected is in the existing I-10 easement.	No—approximately 2.8 acres, or 0.89 percent, of the site will be affected as a result of the inside widening. However, because only the portion of the TCP that is currently within the I-10 easement will be affected (no new easement will be required), there will be no conversion of the TCP to a transportation use and, thus, no Section 4(f) use.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (visual or noise) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 7: *U'us* (Sticks) Historic Village GR-1184, GR-1205, GR-1206	▪ Historic village ▪ Recommended NRHP-eligible under Criterion A	Yes	The portion of the TCP affected is in the existing I-10 easement.	No—approximately 36.5 acres, or 10.72 percent, of the site will be affected by the inside widening and fiber optic line, both of which will occur within the existing easement. However, because only the portion of the TCP that is currently within the I-10 easement will be affected (no additional easement required), there will be no conversion of the TCP to a transportation use and, thus, no Section 4(f) use.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (visual or noise) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required under Section 4(f). However, treatment will address adverse effects on GR-1175 under Criterion D due to ground disturbance (see Section C, *Cultural Resources*).
TCP 8: GR-806 Reburial Site	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 54 feet from the environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
TCP 9: GR-1458 Homesite	▪ Traditional homesite ▪ Recommended NRHP-eligible under Criteria A and C	Yes	Approximately 30 feet from the environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP. The access road to TCP 9 will be modified near Nelson Road, but the access road will remain open during the modifications. Once the new access road is built, traffic will shift onto the new road and the old access road will be abandoned; therefore, no constructive use is anticipated.	TCP 9 will be accessible continually during and after construction. Although portions of current access roads to TCP 9 will require permanent realignment to accommodate construction at the Nelson Road traffic interchange, the property will be accessible on existing roads during construction and on the newly aligned roads following construction.
TCP 13: GR-2048 *Hodai Chepavik* (Shrine)	▪ Shrine ▪ Recommended NRHP-eligible under Criteria A and C	Yes	Approximately 16 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	In coordination with the Community THPO, protection measures will be employed to ensure that TCP 13 will be avoided during construction.
TCP 14: GR-598, GR-931 *S-i'ovĭ Shuudag* (Sweetwater Village), *S-totonigk* (Historic Stotonic)	▪ Historic village ▪ Recommended NRHP-eligible under Criterion A	No	Primarily affected by modifications at a crossroad requiring new easement and, to a lesser extent, the fiber optic line, which is located entirely within the existing I-10 easement.	Yes—Permanent use/conversion of a portion of the TCP to a transportation use of approximately 3.28 acres, or 0.73 percent, of TCP 14. Section 4(f) permanent use will occur where new easement is needed for the crossroad improvements. The portion of the TCP in the existing easement will not experience conversion to a transportation use and, thus, no Section 4(f) use will occur. A programmatic Section 4(f) evaluation was prepared to analyze impacts on this Section 4(f) property, which determined that avoidance of TCP 14 was not prudent under Section 4(f). The SA will not affect the TCP's ability to convey its historical or cultural significance or further impair the ability of the Community to use this site in a traditional manner. An approximately 1.05-acre temporary construction easement will be required at the crossroad, within the TCP. The temporary occupancy will not constitute a use because the construction activity will meet all the conditions necessary so as not to be considered adverse within the meaning of Section 4(f). The THPO concurred on the Section 4(f) programmatic evaluation and temporary occupancy on October 13, 2023.	Not applicable[c]	Impacts to the TCP may require traditional religious activities and additional ethnographic evaluations. If required, details will be provided in the Historic Properties Treatment Plan that ADOT will develop in coordination with the Community THPO and Community Cultural Resource Management Program.
TCP 15: GR-2017 *S-i'ovĭ Shuudag Hiha'iñ #1* (Sweetwater Cemetery #1)	▪ Cemetery ▪ Recommended NRHP-eligible under Criteria A and B	Yes	Approximately 17 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP. The access road to TCP 15 will be modified near Nelson Road, but the access road will remain open during the modifications; therefore, no constructive use is anticipated.	TCP 15 will be continually accessible during and after construction. Although portions of the current access roads to TCP 15 will require permanent realignment to accommodate construction at the Nelson Road traffic interchange, the property will be accessible on existing roads during construction and on the newly aligned roads following construction. In coordination with the Community THPO, protection measures will be employed to ensure that TCP 15 will be avoided during construction.

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
TCP 16: GR-2018 *Hejel Juk Hiha'iñ #1* (Hejel Juk Cemetery #1)	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 312 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 16 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 17: GR-2101 *S-i'oviʃ Shuudag Hiha'iñ #2* (Sweetwater Cemetery #2)	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 358 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of the TCP from existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 18: GR-598, GR-886, GR-931 *Hejel Juk* (Natural Clearing, Historic Village)	▪ Historic village ▪ Recommended NRHP-eligible under Criterion A	No	Impacts will result from the traffic interchange reconstruction (new easement will be required).	Yes—Approximately 19.36 acres of TCP 18 will be affected by the Selected Alternative; however, a portion of this impact is located in the existing I-10 easement and will not be converted to a transportation use and, thus, will not be a permanent use under Section 4(f). Permanent use of approximately 9.41 acres, the amount of new easement required, or 3.07 percent of TCP 18, will occur. A programmatic Section 4(f) evaluation was prepared to analyze impacts on this Section 4(f) property, which determined that avoidance of TCP 18 was not prudent under Section 4(f). The SA is not anticipated to affect the ability of the TCP to convey its historical or cultural significance or further impair the ability of the Community to use this site in a traditional manner. The THPO concurred on the Section 4(f) programmatic evaluation and temporary occupancy on October 13, 2023.	Not applicable	Impacts on the TCP may require traditional religious activities and additional ethnographic evaluations. If required, details will be provided in the Historic Properties Treatment Plan that ADOT will develop in coordination with the Community THPO and Community Cultural Resource Management Program.
TCP 20: GR-2019 *S-i'oviʃ Shuudag Hiha'iñ #3* (Sweetwater Cemetery #3)	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	In environmental footprint, but avoided	No—Approximately 0.3 acre, or 0.4 percent, of the administrative TCP boundary is within the environmental footprint but will be avoided by any ground-disturbing activity. Sweetwater Cemetery is located well outside the environmental footprint and will be avoided.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 21: GR-2020X *Hejel Juk Hiha'iñ #2* (Hejel Juke Cemetery #2)	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	In environmental footprint, but avoided	No—Approximately 0.3 acre, or 0.4 percent, of the administrative TCP boundary is within the environmental footprint but will be avoided by any ground-disturbing activity. The cemetery is located well outside the environmental footprint and will be avoided.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 22: GR-2020 *Hejel Juk Hiha'iñ #3*	▪ Cemetery ▪ Recommended NRHP-eligible under Criterion A	Yes	In environmental footprint, but avoided	No—Approximately 0.3 acre, or 0.4 percent, of the administrative TCP boundary is within the environmental footprint but will be avoided by any ground-disturbing activity. The cemetery is located well outside the environmental footprint and will be avoided.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
TCP 23: GR-929 *Halychduum Nyiva #2* ('Where Halychduum used to live')	▪ Historic village ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 785 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 23 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 24: GR-787 *Da'a Sivañ Va'aki* (Sweetwater Village Platform Mound)	▪ Hohokam village with platform mound, ball court ▪ Recommended NRHP-eligible under Criteria A and C	Yes	Approximately 300 feet from the environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 24 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 26: *Hohodi O'ohadag* (Petroglyphs)	▪ Petroglyphs ▪ Recommended NRHP-eligible under Criterion A	Yes	Impacts will be caused by the fiber optic line only (no new easement is required).	No—Approximately 0.27 acres, or 3.29 percent, of the TCP is located inside the existing I-10 easement. The installation of the fiber optic line will affect approximately 0.01 acre, or 0.14 percent, of the TCP. The petroglyphs themselves will not be affected. However, because only the portion of the TCP that is currently within the I-10 easement will be affected, there will be no conversion of the TCP to a transportation use and, thus, no Section 4(f) use.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 26 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 27: *Dahidakuḍ* (Shrine)	▪ Shrine ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 645 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 27 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required: The SA includes a bridge decommissioning and demolition, which will provide an incidental benefit [that is, not directly related to Section 4(f)] to this TCP by reducing access to the TCP from I-10. Access will not be reduced from the Community.
TCP 28: *Hohodi O'ohadag* (Petroglyphs)	▪ Petroglyphs ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 1,251 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. The distance of the TCP from the SA indicates that any proximity impacts will not be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 30: *O'obab Ha Ko'idag* ('Place of Deceased Pee Posh')	▪ Topographic landmark ▪ Recommended NRHP-eligible under Criterion A	Yes	Impacts will result from the inside widening and fiber optic line (no new easement is required).	No—Only the portion of the TCP that is currently within the I-10 easement will be affected; therefore, there will be no conversion of the TCP to a transportation use and, thus, no Section 4(f) use.	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. The distance of the TCP from the SA indicates that any proximity impacts will not be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 32: Stone Circle (Shrine)	▪ Shrine ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 1,263 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. The distance of the TCP from the SA indicates that any proximity impacts will not be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
TCP 33: *Ñenhokuḍ* (Lookout, Shrine)	▪ Shrine ▪ Recommended NRHP-eligible Criterion A	Yes	In environmental footprint; however, the site will be avoided.	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 34: *O'ob Chetto* ('Enemy Firepits,' Topographic Landmark)	▪ Topographic landmark ▪ Recommended NRHP-eligible under Criterion A	Yes	Approximately 410 feet from environmental footprint	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. Given the distance of TCP 27 from the existing I-10, it is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	Not required
TCP 35: *O'ob Chetto* ('Enemy Firepits,' Shrine)	▪ Shrine ▪ Recommended NRHP-eligible under Criterion A	Yes	Inside the environmental footprint, but avoided	No	The SA will introduce new visual elements to the TCP's setting, but they will be consistent with the existing I-10. It is not anticipated that the SA will result in proximity impacts (noise or visual) that will be of a magnitude to impair the activities, features, or attributes of the TCP that qualify it for the NRHP; therefore, no constructive use is anticipated.	The proposed roadway improvements were shifted away from TCP 35 to avoid use of the Section 4(f) property. In coordination with the Community THPO, protection measures will be employed to ensure that TCP 35 will be avoided during construction.
Southside Canal	▪ Canal; component of San Carlos Irrigation Project ▪ NRHP-eligible under Criterion A as a component of the San Carlos Irrigation Project	Yes	In environmental footprint	No—The segments of this canal in the existing I-10 easement have been significantly modified from construction of the existing I-10 and do not retain qualities that contribute to the canal's NRHP eligibility. Because the portions of this resource affected by the SA are in the existing I-10 easement, there will be no conversion of the site to a transportation use and, thus, there will be no Section 4(f) permanent use.	Not applicable	Not required: As part of a past U.S. Bureau of Reclamation project, the entire San Carlos Irrigation Project system was documented under the Historic American Engineering Record, considered by SHPO as acceptable mitigation for future impacts.
Maricopa and Phoenix Railroad	▪ Railway ▪ NRHP-eligible under Criterion A	Yes	In environmental footprint	No—Because the resource is in the existing I-10 easement and has been destroyed by development in the study area, there will be no conversion of the site to a transportation use and, therefore, no Section 4(f) permanent use.	Not applicable	Not required
Southside Storm Water Channel	▪ Flood control structure; component of San Carlos Irrigation Project ▪ NRHP-eligible under Criterion A	Yes	In environmental footprint	No—The segments of this channel in the existing I-10 easement have been significantly modified from construction of the existing I-10 and do not retain qualities that contribute to its NRHP eligibility. Because the portions of this resource affected by the SA are in the existing I-10 easement, there will be no conversion of the site to a transportation use and, thus, there will be no Section 4(f) permanent use.	Not applicable	Not required: As part of a past U.S. Bureau of Reclamation project, the entire San Carlos Irrigation Project system was documented under the Historic American Engineering Record, considered by SHPO as acceptable mitigation for future impacts.
GR-1422 AZ:13:250 Casa Blanca Canal	▪ Canal, part of the San Carlos Irrigation Project system ▪ NRHP-eligible under Criterion A	Yes	In environmental footprint	No—The segments of the canal in the existing I-10 easement have been significantly modified from construction of the existing I-10 and do not retain qualities that contribute to the canal's NRHP eligibility. Because the portions of this resource affected by the SA are in the existing I-10 easement, there will be no conversion of the site to a transportation use and, thus, there will be no Section 4(f) permanent use.	Not applicable	Not required: As part of a past U.S. Bureau of Reclamation project, the entire San Carlos Irrigation Project system was documented under the Historic American Engineering Record, considered by SHPO as acceptable mitigation for future impacts.

Table 14. Section 4(f) properties and summary of impacts

Section 4(f) resource	Description	Avoidance[a]	Proximity to SA	Permanent or temporary use	Constructive use	Measures to minimize harm
GR-1581 Fowler or Broadacres Canal	▪ Canal ▪ NRHP-eligible under Criterion A	Yes	In environmental footprint	No—The segment of the canal in the environmental footprint has been piped underground and no longer retains qualities that contribute to its NRHP eligibility. Because the portions of this resource affected by the SA are in the existing I-10 easement, there will be no conversion of the site to a transportation use and, thus, there will be no Section 4(f) permanent use.	Not applicable	Not required: The historic canal has been documented as a result of an adverse effect on the Pima-Maricopa Irrigation Project. The THPO and SHPO agreed that the documentation serves as mitigation for further impacts by other projects.
GR-1612 Gila Drain, Tempe Drain	▪ Canal ▪ NRHP-eligible under Criterion A	Yes	In environmental footprint	No—The segment in the environmental footprint has been realigned and piped underground and no longer retains qualities that contribute to its NRHP eligibility. Because the portions of this resource affected by the SA are in the existing I-10 easement, there will be no conversion of the site to a transportation use and, thus, there will be no Section 4(f) permanent use.	Not applicable	Not required
Hohokam-Pima National Monument	▪ Established to preserve the site known as Snaketown and to develop the area as an interpretive archaeological park. ▪ NRHP-listed under Criterion C	No	In environmental footprint and new easement will be needed	Yes—The Hohokam-Pima National Monument crosses the existing I-10 easement and will be affected by the inside widening and by the acquisition of additional easement at Goodyear Road. Only the additional easement at Goodyear Road will qualify as a permanent use under Section 4(f). The monument does not feature any significant historical attributes in the environmental footprint and the Snaketown site will not be affected. Although recognized by the National Park Service, the monument was not developed for its intended purpose, nor did the Community acquire the tribal and allotted lands identified for inclusion in the monument. A programmatic Section 4(f) evaluation was prepared to analyze impacts on this Section 4(f) property, which determined that avoidance of the monument was not prudent under Section 4(f). The THPO concurred on the Section 4(f) programmatic evaluation on October 13, 2023.	Not applicable	Not required

Notes: Community = Gila River Indian Community, I-10 = Interstate 10, NRHP = National Register of Historic Places, SA = Selected Alternative, SHPO = State Historic Preservation Office, TCP = traditional cultural property, THPO = Tribal Historic Preservation Office

[a] Avoidance refers to the avoidance of the property as defined by Section 4(f), not necessarily under Section 106 of the NHPA.

[b] When there is no direct or constructive use, measures to minimize harm are not required under Section 4(f).

[c] As a rule, when direct use of a Section 4(f) resource would occur, analysis to determine whether proximity impacts would result in constructive use is no longer applicable (23 Code of Federal Regulations Section 774.15).

The Hohokam-Pima National Monument was authorized by Congress in 1972 to protect an ancient Hohokam village known today as “Snaketown” (National Park Foundation 2022). Although recognized by the National Park Service, the monument was never developed for its intended purpose, nor did the Community complete the acquisition of tribal and allotted lands identified for inclusion in the monument. The portion of the monument affected by the Selected Alternative contains no archaeological sites. Additionally, the archaeological site and associated TCP (TCP 1) the monument was intended to protect are located 0.75 mile west of the environmental footprint. Therefore, the portion of the monument permanently used by the Selected Alternative has no tangible qualities contributing to its NRHP eligibility.

The programmatic evaluation developed for TCPs 14 and 18 was also developed for the Hohokam-Pima National Monument. As part of that evaluation, an analysis was completed to determine whether an engineering solution could eliminate the permanent use of the Section 4(f) resource. Retaining walls, at an additional cost of almost $4 million (almost 30 percent more expensive than the base cost of approximately $14 million at Goodyear Road) would avoid use of the monument. However, it is not prudent to expend an additional $4 million in public funds to protect an archaeological park that was not developed for its intended purpose and does not protect archaeological sites or TCPs. Additionally, retaining walls require excavation to construct the footings/foundations, so if unknown archaeological resources were present in the area of improvements, they would be disturbed. The improvements associated with the Selected Alternative simply extend embankment slopes over these areas, essentially avoiding additional disturbance.

PROXIMITY IMPACTS (CONSTRUCTIVE USE)

The Selected Alternative will introduce new visual elements, such as median traffic lanes, bridge replacements, and modifications to crossroads. These elements, however, will be consistent with the existing I-10 facility and, therefore, alteration to visual settings is not anticipated to result in substantial impairment to historic Section 4(f) properties.

There are no known Section 4(f) properties within 0.25 mile of the Selected Alternative with noise-sensitive qualities that contribute to their NRHP eligibility or their importance as Section 4(f) resources Therefore, any additional noise is not anticipated to result in substantial impairment.

Although portions of the current access roads to TCPs 9 and 15 will require permanent realignment to accommodate construction at the Nelson Road TI, the properties will be accessible on existing roads during construction and on the newly aligned roads following construction. Therefore, there will be no access impacts on these Section 4(f) properties.

Overall, the Selected Alternative should not result in proximity impacts that are so severe that the activities, features, or attributes that qualify the resources for consideration under Section 4(f) are substantially impaired. Therefore, proximity impacts on Section 4(f) properties should not result in a constructive use.

TEMPORARY OCCUPANCY

An approximately 1.05-acre temporary construction easement, located within TCP 14, will be needed to relocate an access road and rebuild roadway slopes (a minor scope of work). The temporary construction easement will be needed for 2 to 4 months out of an approximate total duration of 2 years needed to construct the entire segment of the project. There will no change in ownership of the land used for the temporary construction easement, and the land will be returned to a similar or better condition. The temporary construction easement will not result in interference with the protected activities or attributes of the TCP on either a temporary or permanent basis. Therefore, the Selected Alternative's temporary occupancy of TCP 14 satisfies the conditions set forth in 23 CFR Section 771.13(D) as not being considered adverse (not constituting a permanent use) within the meaning of Section 4(f). Any temporary occupancy of TCP 14 would fall under the programmatic evaluation, signed by the Community THPO on October 13, 2023.

MEASURES TO MINIMIZE HARM

Section 4(f) requires consideration and documentation of all possible planning to minimize harm to a Section 4(f) property [23 CFR Section 774.3(a)(2)] that includes avoidance, minimization, mitigation, or enhancement measures. Throughout the Section 4(f) process, ADOT has strived to reduce easement acquisition at Section 4(f) properties and to avoid impacts in the environmental footprint of the Selected Alternative. The proposed roadway improvements were shifted away from TCP 35 to avoid use of this Section 4(f) resource. All planning to minimize harm was undertaken.

Arizona Department of Transportation Design Responsibilities

- The design team will ensure that Traditional Cultural Properties 9 and 15 will be accessible continually during and after construction. Although portions of the current access roads to Traditional Cultural Properties 9 and 15 will require permanent realignment to accommodate construction at the Nelson Road traffic interchange, the properties will be accessible on existing roads during construction and on the newly aligned roads following construction.
- The design team, in coordination with the Gila River Indian Community Tribal Historic Preservation Office, will ensure protection measures are employed to avoid Traditional Cultural Properties 13, 15, and 35 during construction.
- The design team will ensure that construction staging will not occur within the boundaries of any Section 4(f) property without prior coordination and approval from the Arizona Department of Transportation Environmental Planning.
- The design team will coordinate with the Arizona Department of Transportation Environmental Planning on any changes in design within the boundaries of Section 4(f) properties.

Arizona Department of Transportation Environmental Planning Responsibilities

- The Arizona Department of Transportation Environmental Planning, in coordination with the Gila River Indian Community Tribal Historic Preservation Office, will ensure protection measures are employed to ensure Traditional Cultural Properties 13, 15, and 35 are avoided during construction.
- The Arizona Department of Transportation Environmental Planning will determine whether any design changes within the boundaries of Section 4(f) historic properties will require reassessment.
- During the development of project designs, a Historic Properties Treatment Plan will be developed and implemented by the Arizona Department of Transportation Environmental Planning Historic Preservation Team, in consultation with the Gila River Indian Community Tribal Historic Preservation Office and other consulting parties. The Historic Properties Treatment Plan will consider traditional religious ceremonies and/or ethnographic research for traditional cultural properties. Construction activities will not occur in traditional cultural properties until treatment outlined in the Historic Properties Treatment Plan is complete and consultation on any ethnographic studies is complete.

Arizona Department of Transportation Central District and Southcentral District Responsibilities

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist.

Contractor Responsibilities

- The contractor shall avoid all flagged and/or otherwise designated sensitive areas.
- The contractor shall contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.7767 or 480.341.3029) at least 14 (fourteen) business days prior to the start of ground-disturbing activities to arrange for a qualified archaeologist to delineate avoidance areas.
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Historic Preservation Team (602.712.8636 or 602.712.7767), which will immediately make arrangements for proper treatment of those resources in coordination with the Gila River Indian Community Tribal Historic Preservation

Office, the Gila River Indian Community Cultural Resources Management Program, and the Bureau of Indian Affairs Regional Archaeologist.

COORDINATION

Coordination between ADOT and the Community, a cooperating agency under NEPA, has been ongoing regarding the development and consideration of alternatives on Community land, particularly with regard to cultural resources and Section 4(f) properties, since the study's inception in mid-2019. Based on this ongoing coordination, the Community THPO and Cultural Resources Management Program concurred with administrative boundaries for the Section 4(f) TCPs on March 19, 2021.

ADOT met with the Community's THPO and Cultural Resource Management Program on January 11, 2022, to discuss Section 4(f) and the EA submittal. The Community and THPO/Cultural Resource Management Program then reviewed and provided comments on the Section 4(f) section of the EA prior to its release to the public.

The *Final Nationwide Section 4(f) Evaluation and Approval for Federally-Aided Highway Projects with Minor Involvements with Historic Sites* requires that the official with jurisdiction, the THPO, concur with the Section 106 finding of "no adverse effect," the assessment of impacts on Section 4(f) properties, and measures to minimize harm; the THPO did so on October 13, 2023.

No-Build Alternative

The No-Build Alternative would not result in effects on properties afforded protection under Section 4(f) related to the proposed I-10 improvements. However, the No-Build Alternative would not prevent nonfederal projects (for example, private development) from adversely affecting properties afforded protection under Section 4(f).

E. Traffic and Transportation

This section discusses the existing transportation system that connects with I-10 and potential future effects on the system resulting from the proposed action. Additional information on existing and future I-10 traffic and LOS, travel time reliability, incident management, and safety may be reviewed in Part II, *Project Purpose and Need*, and in Appendix E, *Traffic Analysis Information*.

For additional, more detailed data and information on traffic, see Chapter 2, *Traffic and Crash Data Analysis*, in the DCR.

Affected Environment

The transportation system in the study area consists of local roads and highways that intersect with I-10, with varying functional classifications that characterize the type of traffic service they are intended to provide. They are listed below with their functional classification and are shown in Figure 16 (note that unclassified roads do not have a color associated with them—only the name of the road is shown).

Roads and highways intersecting I-10 in Maricopa County include:

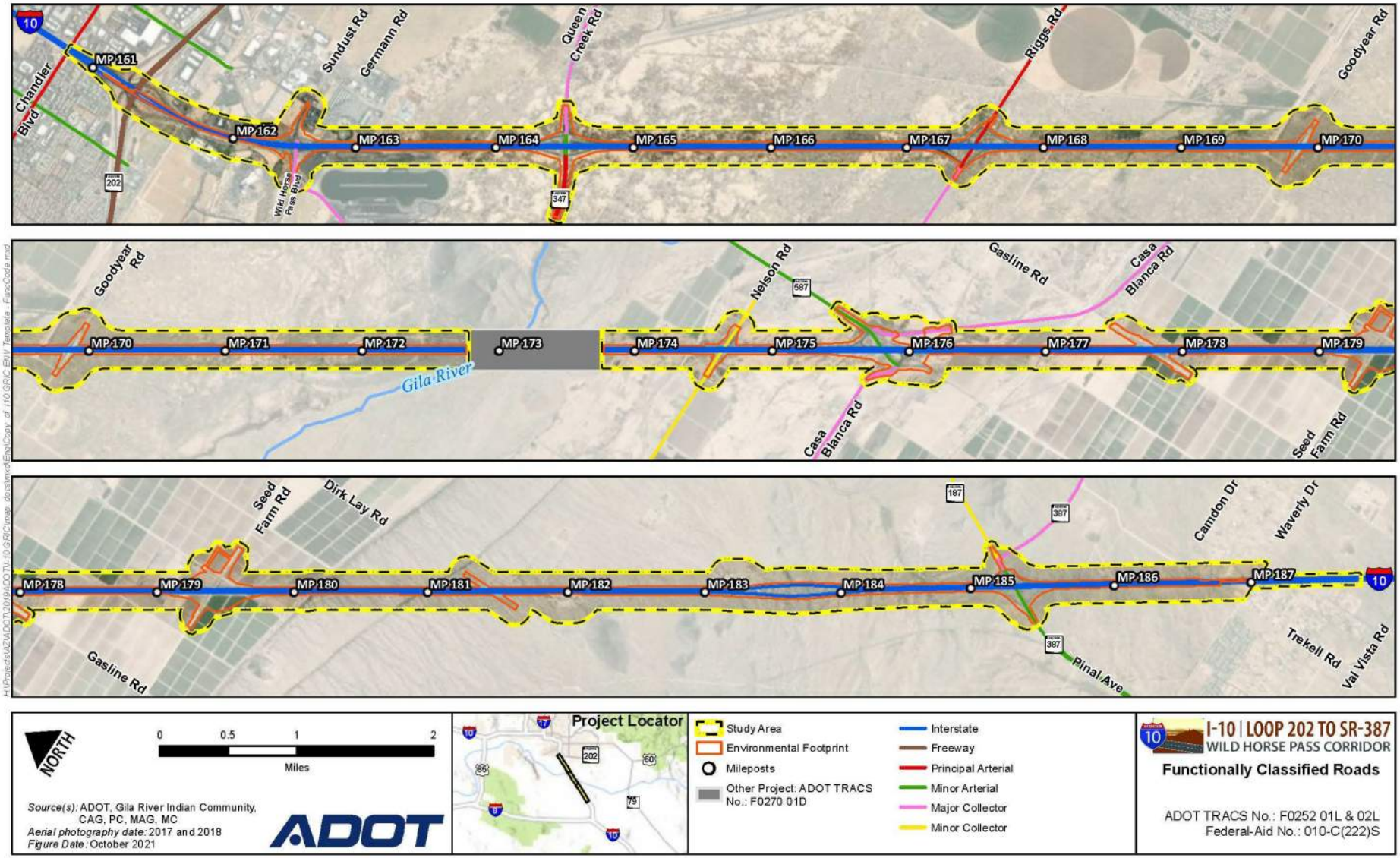
- SR 202L (freeway) system TI
- Wild Horse Pass Boulevard (major collector)/Sundust Road (unclassified) service TI
- SR 347 (principal arterial)/Queen Creek Road (major collector) service TI
- Riggs Road (principal arterial and major collector) service TI

Roads and highways intersecting I-10 in Pinal County include:

- Goodyear Road (unclassified) grade separation
- Nelson Road (minor collector) grade separation
- SR 587 (minor arterial)/Casa Blanca Road (major collector) service TI
- Gasline Road (unclassified) grade separation
- Seed Farm Road (unclassified) grade separation
- Dirk Lay Road (unclassified) grade separation
- SR 387(major collector)/SR 187 (minor collector)/Pinal Avenue (minor arterial) service TI

All the local roads and highways that intersect with I-10 in the study area are in the Community, except for the SR 202L system TI in Phoenix and Chandler. SR 202L will not be modified as part of the Selected Alternative, other than incorporating new signs and roadway stripes on I-10 in the TI.

Figure 16. Functionally classified roads



Operational, functional, or structural issues identified by ADOT analysis and Community feedback include:

- Wild Horse Pass Boulevard and SR 347/Queen Creek Road service Tis: operational issues during peak travel times and during special events at the Wild Horse Pass entertainment complex
- Riggs, Goodyear, Nelson, Gasline, Seed Farm, and Dirk Lay Roads: bridge deck, barrier, pavement, guardrail, shoulder, and approach deficiencies; operational deficiencies related to Riggs Road TI
- Gasline Road and Dirk Lay Road bridge piers: adjacent to the existing inside and outside I-10 shoulders and not compatible with either the median or outside I-10 widening
- SR 587/Casa Blanca Road service TI: ramp, configuration, and operational deficiencies
- SR 387/SR 187/Pinal Avenue service TI: ramp terminal, shoulder, and operational deficiencies

No active railroads, airports, or designated bicycle or pedestrian facilities are in the study area.

Environmental Consequences

Selected Alternative

ADOT conducted a traffic evaluation (Appendix E) that focused on the future LOS on the I-10 main line and at the TIs. The study evaluated whether the Selected Alternative will adequately support future traffic based on travel demand and reliability forecasts under 2040 conditions.[4] The study analyzed two scenarios for future I-10 main line traffic (1) 2040 with no improvements (No-Build Alternative), discussed in Table 1 in Part II, *Project Purpose and Need*, and (2) 2040 with the I-10 main line improvements (Selected Alternative), as shown in Table 15.

Table 15. Projected (2040) Interstate 10 commute conditions with Selected Alternative

Interstate 10 segment	Morning commute[a]		Evening commute[b]	
	LOS (westbound)	Delay (minutes)	LOS (eastbound)	Delay (minutes)
SR 202L to Wild Horse Pass Boulevard	F	<1.0	F	<1.0
Wild Horse Pass Boulevard to SR 347/Queen Creek Road	F	2.7	F	1.6
SR 347/Queen Creek Road to Riggs Road	F	3.0	F	1.8
Riggs Road to SR 587/Casa Blanca Road	F	11.2	F	5.3
SR 587/Casa Blanca Road to SR 387/SR 187/Pinal Avenue	F	15.2	F	7.3

Source: Maricopa Association of Governments (2021), Notes: LOS = level of service, SR = State Route
[a] Morning commute time is from 6 a.m. to 9 a.m. [b] Evening commute time is from 3 p.m. to 6 p.m.

[4] Late in the development of the EA, MAG released the 2050 RTP, which includes updated traffic data. These new data were reviewed to determine whether they would affect LOS. According to that analysis, all TIs would still operate at LOS C or better with the Selected Alternative, except at the SR 347/Queen Creek Road service TI, which will operate at LOS D. LOS D would be acceptable at this urban service TI.

Table 15 indicates that traffic will operate at LOS F in the study area in 2040 with the Selected Alternative, as with the No-Build Alternative, although the duration of the poor LOS will be shorter, as illustrated in Table 16. The Selected Alternative will substantially decrease the duration of I-10 travel time delay, compared with the No-Build Alternative.

Table 16. Projected (2040) Interstate 10 duration of delay with No-Build and Selected Alternatives

Interstate 10 segment	No-Build Alternative (minutes of delay)		Selected Alternative (minutes of delay)	
	Morning[a]	Evening[b]	Morning	Evening
Wild Horse Pass Boulevard to SR 347/Queen Creek Road	2.6	2.6	2.7	1.6
SR 347/Queen Creek Road to Riggs Road	9.8	5.1	3.0	1.8
Riggs Road to SR 587/Casa Blanca Road	20.3	10.4	11.2	5.3
SR 587/Casa Blanca Road to SR 387/ SR 187/Pinal Avenue	28.4	15.4	15.2	7.3

[a] Morning commute time is from 6 a.m. to 9 a.m. [b] Evening commute time is from 3 p.m. to 6 p.m.

The LOS in 2040 for the Selected Alternative is based on a projected average 39 percent increase in traffic in the study area—125,040 average vehicles per day in 2040 as compared with 89,740 average vehicles per day for existing (2019) conditions. Note that existing (2019) and projected (2040) I-10 traffic volumes without the proposed improvements may be reviewed in Part II, *Project Purpose and Need*. Table 17 shows the expected 2040 traffic volumes with the proposed improvements.

Table 17. Projected (2040) Interstate 10 traffic volumes with Selected Alternative

Interstate 10 segment	Average daily traffic		Peak-hour traffic	
	All traffic	% trucks	Morning peak	Evening peak
SR 202L to Wild Horse Pass Boulevard	197,000	22	25,164	30,974
Wild Horse Pass Boulevard to SR 347/Queen Creek Road	171,100	25	23,479	28,770
SR 347/Queen Creek Road to Riggs Road	152,200	27	20,215	23,077
Riggs Road to SR 587/Casa Blanca Road	133,500	29	18,258	20,126
SR 587/Casa Blanca Road to Seed Farm Road	141,500	29	19,169	21,683
SR 587/Casa Blanca Road to SR 387/ SR 187/Pinal Avenue	141,100	29	19,152	21,579

Source: Maricopa Association of Governments Regional Travel Demand Model (July 2021)
Note: SR = State Route

Table 18 shows the LOS and duration of delay at each TI in 2040 under no-build and build conditions during the morning and evening commutes in both directions. The LOS at most TIs would degrade to LOS E or F with the No-Build Alternative. The exception is the Riggs Road TI, which would have an acceptable LOS. Of particular note is the projected LOS F at the SR 387/SR 187/Pinal Avenue TI, which serves the rapidly growing Casa Grande area. Westbound intersection delays at that TI are projected to be 19 minutes during the morning commute toward Phoenix and nearly an hour (57.6 minutes) during the evening commute.

With the Selected Alternative, Table 18 shows that LOS and travel times will improve substantially in 2040,[5] with all TIs operating at or better than LOS C (LOS C is considered acceptable in rural areas). Delays, including at the SR 387/SR 187/Pinal Avenue TI, will drop to well below 1 minute.

Table 18. Interstate 10 traffic interchange conditions in 2040, with No-Build and Selected Alternatives

Interstate 10 traffic interchange	Morning commute[a]				Evening commute[b]			
	LOS		Delay (minutes)		LOS		Delay (minutes)	
	EB	WB	EB	WB	EB	WB	EB	WB
No-Build Alternative								
Wild Horse Pass Boulevard	F	B	1.5	0.3	E	D	1.0	0.8
SR 347/Queen Creek Road	F	E	1.0	1.3	E	F	1.0	1.9
Riggs Road	B	C	<1	<1	B	B	<1	<1
SR 587/Casa Blanca Road	F	F	1.6	2.0	E	F	<1	1.4
SR 387/SR 187/Pinal Avenue	F	F	5.8	19.0	F	F	7.3	57.6
Selected Alternative								
Wild Horse Pass Boulevard	B	A	<1	<1	B	B	<1	<1
SR 347/Queen Creek Road	C	B	<1	<1	C	B	<1	<1
Riggs Road	B	B	<1	<1	B	B	<1	<1
SR 587/Casa Blanca Road	A	A	<1	<1	A	A	<1	<1
SR 387/SR 187/Pinal Avenue	B	B	<1	<1	A	C	<1	<1

Source: Maricopa Association of Governments Regional Travel Demand Model (July 2021)
Notes: EB = eastbound, LOS = level of service, SR = State Route, WB = westbound
[a] Morning commute time is from 6 a.m. to 9 a.m. [b] Evening commute time is from 3 p.m. to 6 p.m.

[5] Late in the development of the EA, MAG released the 2050 RTP, which includes updated traffic data. These new data were reviewed to determine whether they would affect LOS. According to that analysis, all TIs would still operate at LOS C or better with the Selected Alternative, except at the SR 347/Queen Creek Road service TI, which will operate at LOS D. LOS D would be acceptable at this urban service TI.

No-Build Alternative

With the No-Build Alternative, travel demand would continue to increase considerably between current and 2040 conditions based on projected population and employment growth. LOS would degrade to E and F on the I-10 main line (see Table 1 in Part II, *Project Purpose and Need*) and the TIs, and delays would increase to intolerable conditions at some locations, severely reducing travel time reliability. Because these routes support the Community's mobility, members would be negatively affected by increased congestion and delays. Unacceptable delays, such as at the SR 387/SR 187/Pinal Avenue service TI, may result in traffic detouring through the Community, causing local congestion and safety concerns.

Additionally, I-10 in the study area would continue to be classified as a Safety Corridor because crash rates would likely increase as a result of increased traffic volumes. ADOT would not be able to take advantage of the proposed I-10 improvements to help manage and reduce crashes and weather-related incidents.

Environmental Commitments and Mitigation Measures

No mitigation measures are proposed for traffic and transportation.

F. Air Quality

This section describes the potential air quality impacts of the proposed action, as required under the Clean Air Act (CAA). Additional information is provided in the I-10 study's *Air Quality Report* (Appendix F).

Affected Environment

The study area lies in the Phoenix maintenance area for carbon monoxide and the nonattainment area for ozone beginning at milepost 161 for less than 1 mile. The first 8 miles of the study area (mileposts 161 to 169) are in the Phoenix nonattainment area for particulate matter (PM_{10}), and the last mile of the study area (mileposts 186 to 187) is in the Pinal County PM_{10} nonattainment area (see Figure 17).

The adjacent monitoring site in Maricopa County is the West Chandler site at Frye Road and Ellis Street. This monitoring site collects data on concentrations of carbon monoxide, ozone, and PM_{10}. The West Chandler site recorded exceedances of the ozone and PM_{10} standards in 2021. The adjacent monitoring site in Pinal County is the Casa Grande Airport at 660 West Aero Drive. This site collects data on concentrations of ozone and recorded exceedances of the ozone standard in 2020. The adjacent monitoring sites in the Community are the Sacaton site at 291 West Casa Blanca Road and the Casa Blanca site at 3455 West Casa Blanca Road. Table 19 summarizes concentrations monitored at the four monitoring sites.

Environmental Consequences

Selected Alternative

The analysis of potential air quality impacts resulting from the proposed freeway involved an evaluation of carbon monoxide, PM_{10}, and mobile source air toxics (MSATs).

On August 26, 2021, ADOT provided a copy of the Project-Level PM_{10} Quantitative Hot-Spot Analysis—Project of Air Quality Concern Questionnaire to the following consultation parties: U.S. Environmental Protection Agency (EPA), FHWA, MAG, Arizona Department of Environmental Quality (ADEQ), Maricopa County Air Quality Department, Pinal County Air Quality Control District, and Sun Corridor Metropolitan Planning Organization. There were no objections to the project determination, and on September 15, 2021, ADOT concluded interagency consultation by notifying interested parties that this project will proceed as a project that does not require a quantitative PM_{10} hot-spot analysis under 40 CFR Section 93.123(b).

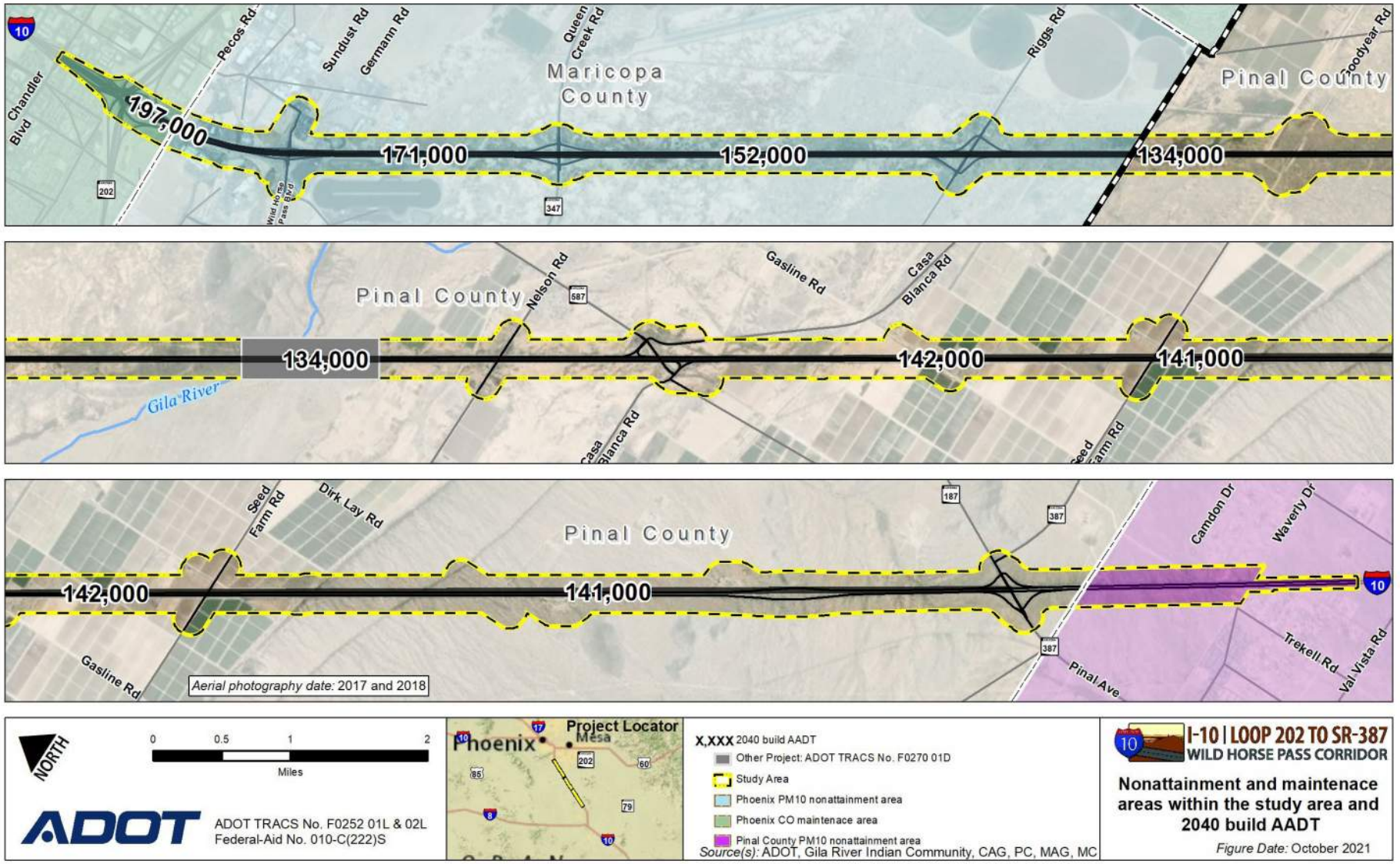
Table 19. Air quality monitoring data, 2020–2022

Monitoring site	Pollutant	Averaging time	2020		2021		2022	
			Concentration	Number of exceedances	Concentration	Number of exceedances	Concentration	Number of exceedances
West Chandler	Carbon monoxide	8-hour	1.3 ppm	0	1.2 ppm	0	1.0 ppm	0
	Ozone	8-hour	0.081 ppm	5	0.081 ppm	8	0.083 ppm	4
	Particulate matter (PM_{10})	24-hour	263 µg/m^3	1	181 µg/m^3	3	191 µg/m^3	1
Casa Grande Airport	Ozone	8-hour	0.081 µg/m^3	5	0.073 µg/m^3	3	0.076 µg/m^3	3
Sacaton	Particulate matter (PM_{10})	24-hour	200 µg/m^3	1	285 µg/m^3	1	92 µg/m^3	0
	Ozone	8-hour	0.078 ppm	4	0.070 ppm	0	0.084 ppm	3
Casa Blanca	Particulate matter (PM_{10})	24-hour	221 µg/m^3	2	259 µg/m^3	3	271 µg/m^3	1

Sources: U.S. Environmental Protection Agency, *Outdoor Air Quality Data*, accessed on 12/14/2022; Maricopa County Air Quality Department, *2022 Air Monitoring Network Plan*, Final; Pinal County Air Quality Control District, *2021 Ambient Monitoring Network Plan and 2020 Data Summary*; Gila River Indian Community, *2021 Ambient Air Monitoring Network Review and 2022 Plan*

Notes: µg/m^3 = micrograms per cubic meter, ppm = parts per million

Figure 17. Nonattainment and maintenance areas within the study area and 2040 build AADT



Additionally, ADOT has determined that there are no intersections in the study area in the carbon monoxide maintenance areas. A similar widening project, the I-10 Broadway Curve project, is just north of the proposed project. The predicted worst-case 1- and 8-hour carbon monoxide concentrations for the I-10 Broadway Curve project will be well below the National Ambient Air Quality Standards (NAAQS) at the selected intersections. Therefore, it can be inferred that the Selected Alternative will not result in carbon monoxide impacts, since the traffic volumes are generally lower than those reported for the I-10 Broadway Curve project. Comments on the interagency consultation described above can be found in Appendix F, *Air Quality Report*, in the report's Appendix A, *Interagency Consultation Documentation*.

MOBILE SOURCE AIR TOXICS

For the Selected Alternative, the vehicle miles traveled is estimated to be slightly higher than with the No-Build Alternative in the study area. However, as a result of increased speeds with the Selected Alternative, emissions of all priority MSATs will be slightly lower than with the No-Build Alternative (refer to Section 3.3 of the *Air Quality Report* in Appendix F). Moreover, EPA's national control programs are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050 in nearly all cases.

Construction may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSATs. In addition, diesel retrofit technologies required by law are designed to lessen a number of MSATs.[6]

The magnitude of the EPA-projected reductions is so great (even after accounting for vehicle miles traveled growth) that MSAT emissions in the study area are likely to be substantially lower in the future than they are today, regardless of the selected alternative.

GREENHOUSE GASES

Greenhouse gases differ from other air pollutants because no national standards have been established and their impacts are not local or regional, given their rapid dispersion into the global atmosphere. The affected environment for carbon dioxide and other greenhouse gas emissions is the entire planet. In addition, global climate change is the cumulative result of numerous and varied emissions sources, each of which makes a relatively small addition to global greenhouse gas concentrations. There is no scientific methodology for attributing specific climatological changes to a particular transportation project's emission.

Presently, there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

[6] Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Public Law 109-59, August 10, 2005

The results of the greenhouse gas analysis for the existing conditions, 2050 No-Build condition, and 2050 Build condition are shown in Table 20. As shown, with the 2050 No-Build and Build conditions, greenhouse gas emission burdens would be greater compared to existing greenhouse gas burdens because of increased vehicle miles traveled. Build condition greenhouse gas burdens would be approximately 1 percent lower than No-Build condition burdens in 2050 because of improved traffic flow in the greenhouse gas study area.

Table 20. Predicted greenhouse gas emission burdens

Vehicle miles traveled/ Pollutant	2018 existing conditions	2050 No-Build		2050 Build		
		Value	% change from existing	Value	% change from existing	% change from No-Build
Greenhouse gas study area annual vehicle miles traveled	2,291,357,959	5,658.242,950	147	5,892,565,523	157	4
CO_2e (metric tonnes/year)	1,106,637	2,278,963	106	2,271,514	105	–1

Source: U.S. Environmental Protection Agency MOVES model
Notes: CO_2e = carbon dioxide equivalent. CO_2e is a measurement of the total greenhouse gases emitted, expressed in terms of the equivalent measurement of carbon dioxide.

Under NEPA, detailed environmental analysis should focus on issues that are significant and meaningful to decision-making. Given the exceedingly small potential greenhouse gas impacts of the proposed action, the Selected Alternative will not result in “reasonably foreseeable significant adverse impacts on the human environment” [40 CFR Section 1502.22(b)].

No-Build Alternative

Under the No-Build Alternative, the I-10 improvements would not be built. Because traffic volumes are predicted to increase through 2040, traffic congestion would increase. Through improved engine technology and cleaner vehicle options, the No-Build Alternative would result in air quality improvements, although not to the extent of the Selected Alternative.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Gila River Indian Community Department of Transportation

- Prior to the opening of the new Seed Farm Road traffic interchange, the Gila River Indian Community will pave Seed Farm Road from Sacaton to Interstate 10 to reduce fugitive dust concerns from the increased traffic that will use this new traffic interchange.

Contractor Responsibility

- Fugitive dust generated from construction activities must be controlled in accordance with Maricopa County Rule 310, the Gila River Indian Community Air Quality Ordinance (GRIC Code – Title 17, Chapter 9), and the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 104.08 (2021 edition), special provisions, and other local rules and ordinances.

Conformity

Section 176c of the CAA requires that transportation projects conform to the approved air quality State Implementation Plan for meeting federal air quality standards. This project is not likely to cause or contribute to the severity or number of violations of the NAAQS.

The construction of the entire project is included in the *ADOT 2023–2027 Five-Year Transportation Facilities Construction Program* and in the *Sun Corridor MPO 2023–2027 Transportation Improvement Program*. As of September 26, 2023, FHWA issued regional air quality conformity. The project-level air quality conformity was approved by FHWA on October 19, 2023.

G. Noise

This section describes the analysis completed to assess the potential noise impacts of the proposed action, in accordance with 23 CFR Part 772 and ADOT's *Noise Abatement Requirements* (NAR). A new or expanded roadway may introduce or increase traffic-generated noise in the surrounding area. As described in the *Noise Report* (Appendix G), potential noise impacts were evaluated by conducting ambient (existing) noise monitoring and by predicting traffic noise levels for the design year (2040) for both the No-Build and Build Alternatives at selected representative sites in the study area. The existing noise levels were measured in A-weighted decibels (dBA), which correspond to the human perception of loudness. Future traffic noise levels were predicted using the Traffic Noise Model Version 2.5.

Affected Environment

Existing land uses in the study area consist of residential, commercial, office, industrial, and vacant. Residential areas in the study area, under Activity Category B, feature single-family homes and apartments. Activity Category C land uses in the study area include the MotorCoach Resort/RV park, a senior living community, and Pecos Park. Activity Category D land uses include the Radha-Krishna temple. Activity Category E land uses include office buildings, hotels, Wild Horse Pass Motorsports Park, and the Sacaton rest area. For land uses designated as Activity Category F, noise receivers were modeled approximately 300 feet away from the proposed easement line for land use planning purposes.

Existing noise level readings were taken at 26 monitoring sites in the study area and ranged from 57 to 77 dBA equivalent sound level (L_{eq}). The lowest noise level was recorded at the backyard of the Radha-Krishna temple. The highest noise level was recorded on the roadway easement adjacent to the MotorCoach Resort/RV park on the westbound side of I-10 just south of Wild Horse Pass Boulevard.

Environmental Consequences

Noise levels were evaluated at 381 noise-sensitive receivers along I-10 for the No-Build and Build Alternatives. The receivers are generally located within 800 feet of the freeway easement; adjacent land uses were mostly residential and undeveloped land. The noise level evaluation considered the planned freeway and the future (2040) peak-hour traffic volumes. The *Noise Report* (Appendix G) lists specific information for the 381 receivers, including the receiver identification and description, noise abatement criteria (NAC) category, predicted noise levels, and noise mitigation considerations.

Selected Alternative

Predicted future peak-hour noise levels along the Selected Alternative will range from 52 to 84 dBA L_{eq} at the 381 receivers. The predicted noise levels at 55 of the sensitive receivers will exceed the ADOT mitigation criterion; those 55 receivers will be eligible for noise abatement measures.

ADOT considers abatement measures as mitigation for receivers predicted to be affected by traffic noise associated with a proposed transportation improvement project. A mitigation measure such as a noise barrier must be both feasible and reasonable. ADOT requires achieving at least a 5 dBA highway traffic noise reduction at 50 percent of affected receptors and reducing projected unmitigated noise levels by at least 7 dBA for benefited receptors closest to the facility. To be considered reasonable, at least half of the benefited receptors closest to the transportation facility will need to achieve this level of noise reduction. The maximum reasonable cost of abatement is $49,000 per benefited receptor, with barrier costs calculated at $35 per square foot, or $85 per square foot if constructed on a structure.

Based on the noise analysis, which included numerous assumptions associated with preliminary design, one new noise barrier was potentially recommended for the MotorCoach Resort/RV park on the westbound side of I-10 just south of Wild Horse Pass Boulevard because it will meet ADOT's NAR guidelines. However, subsequent to approval of the *Noise Report*, the RV park was demolished. The site is currently under construction for covered RV storage stalls. The noise activity category for this site thus changes from C to F. Therefore, consideration of noise abatement is not warranted. Refer to the technical memorandum attached to the *Noise Report* in Appendix G.

The 2040 unmitigated noise levels were predicted for representative undeveloped lands at approximately 300 feet from the edge of the easement to provide an indication of peak traffic noise levels on undeveloped land (Activity Category G), as required by ADOT's NAR. Noise levels on undeveloped lands ranged from 60 to 84 dBA with the Selected Alternative. Refer to Appendix G for additional details.

No-Build Alternative

Under the No-Build Alternative, the improvements would not be built. Noise levels at the evaluated receivers, resulting from by traffic on I-10 in its existing configuration with lower vehicle traffic volumes, would be lower than with the Selected Alternative. Predicted future peak-hour noise levels for the No-Build Alternative would range from 52 to 83 dBA L_{eq} at the 381 receivers. For the No-Build Alternative, noise mitigation would not be provided for any of the receivers because the widening of the existing I-10 would not occur.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- During final design, the Arizona Department of Transportation project manager will contact the Arizona Department of Transportation Environmental Planning noise coordinator

(adotairnoise@azdot.gov) to arrange for qualified personnel to review and update the noise analysis in accordance with the Arizona Department of Transportation's *Noise Abatement Requirements* (dated 2017).

- Future noise analyses will include public involvement in accordance with the Arizona Department of Transportation's *Noise Abatement Requirements* and the *Public Involvement Plan* for the Interstate 10 project.
- The Arizona Department of Transportation design team will consider the effects of noise from project construction activities and will determine any additional measures that are needed in the plans or specifications to minimize or eliminate adverse impacts from construction noise.

Contractor Responsibilities

- The Arizona Department of Transportation's *Standard Specifications for Highway and Bridge Construction* (2021) stipulates that all exhaust systems on equipment will be in good working order and that properly designed engine closures and intake silencers will be used where appropriate.
- To minimize noise impacts during construction, stationary or idling equipment will be located as far away from noise-sensitive receivers, such as residences, as possible.

H. Utilities

Utilities in the study area were evaluated for potential impacts from the proposed action.

For additional, more detailed data and information on utilities, see Section 1.3.5, *Utilities*, in the DCR.

Affected Environment

Existing utilities in the study area were identified based on previous utility surveys and available as-built information from ADOT and local utility providers. Major utilities in the study area are listed in Table 21. Note that drainage and irrigation facilities in the study area may be reviewed in Table 22, in Section J, *Drainage and Floodplain Considerations*. Existing and planned surface water infrastructure in the study area is shown in Figure 26, also in Section J.

Table 21. Utilities in the Interstate 10 study area

Utility type[a]	Provider	Description
Electric power	Arizona Public Service	Overhead transmission lines, substation
	Salt River Project	Overhead transmission lines
	Gila River Indian Community Utility Authority	Overhead and underground transmission lines
	Western Area Power Administration	Overhead transmission lines
	San Carlos Irrigation Project	Overhead and underground transmission lines
Natural gas	Southwest Gas	Underground pipelines
	Kinder Morgan (El Paso Natural Gas)	Underground pipelines
	Kinder Morgan Energy	Underground petroleum pipelines
Communications (fiber optic, coaxial cable, telephone)	AT&T	Coaxial, fiber optic
	Cox Communications	Cable television, fiber optic
	CTLQL-CenturyLink	Coaxial, fiber optic
	Salt River Project	Overhead transmission lines, irrigation
	Gila River Telecommunications	Fiber optic, telephone
Water, reclaimed water, sewer, stormwater	City of Phoenix	Water and reclaimed water lines, sewer lines
	City of Chandler	Water and reclaimed water lines, sewer lines
	AZ Water Company	Water lines
	Lone Butte Development Corporation	Water and sewer lines

[a] Irrigation canals, drainage facilities, and other water conveyance facilities are discussed in this part of the EA in Section J, *Drainage and Floodplain Considerations*.

Figure 18 shows major utilities in or near the study area and Figure 19 identifies major high-voltage power transmission providers.

Figure 18. Utilities

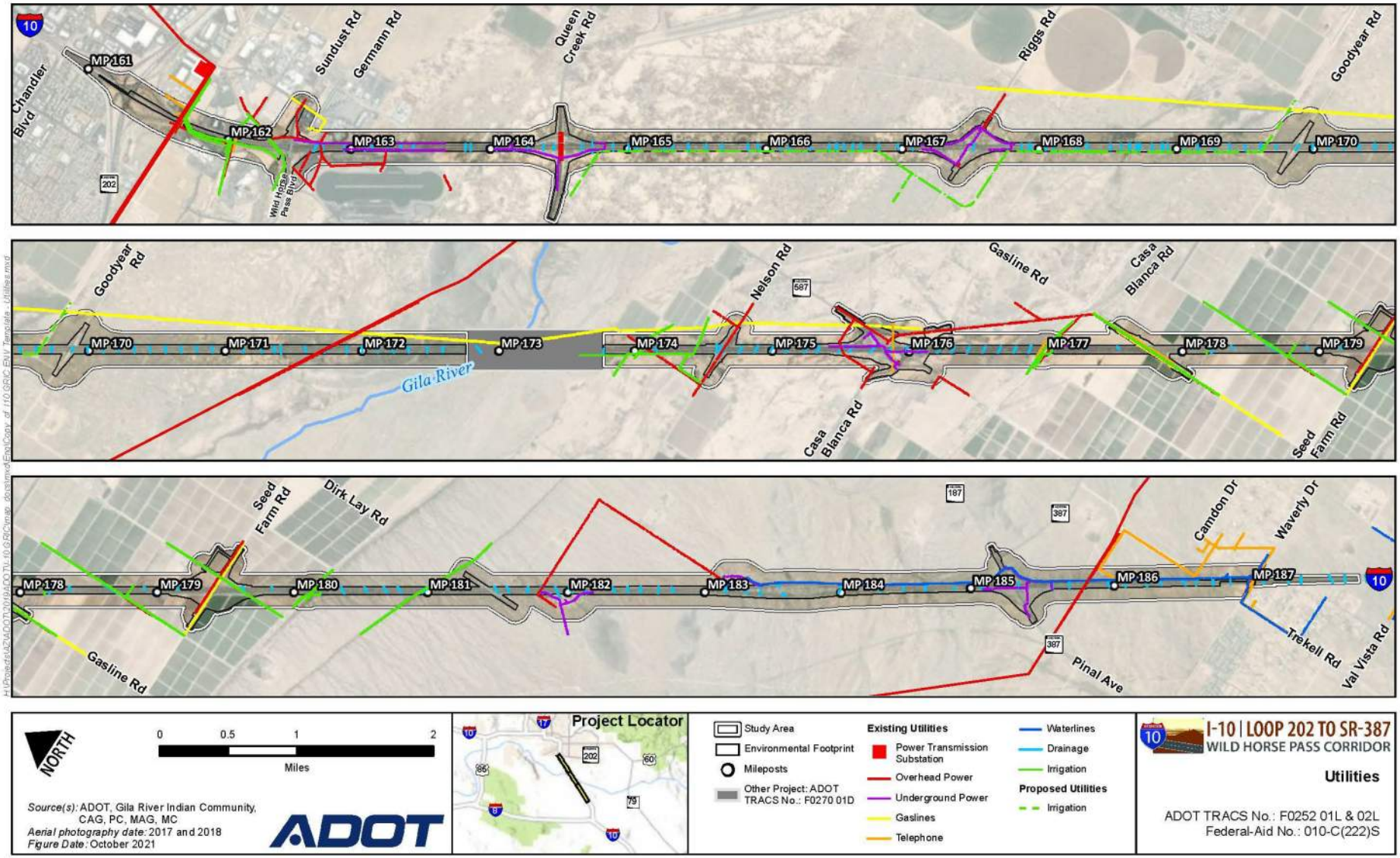
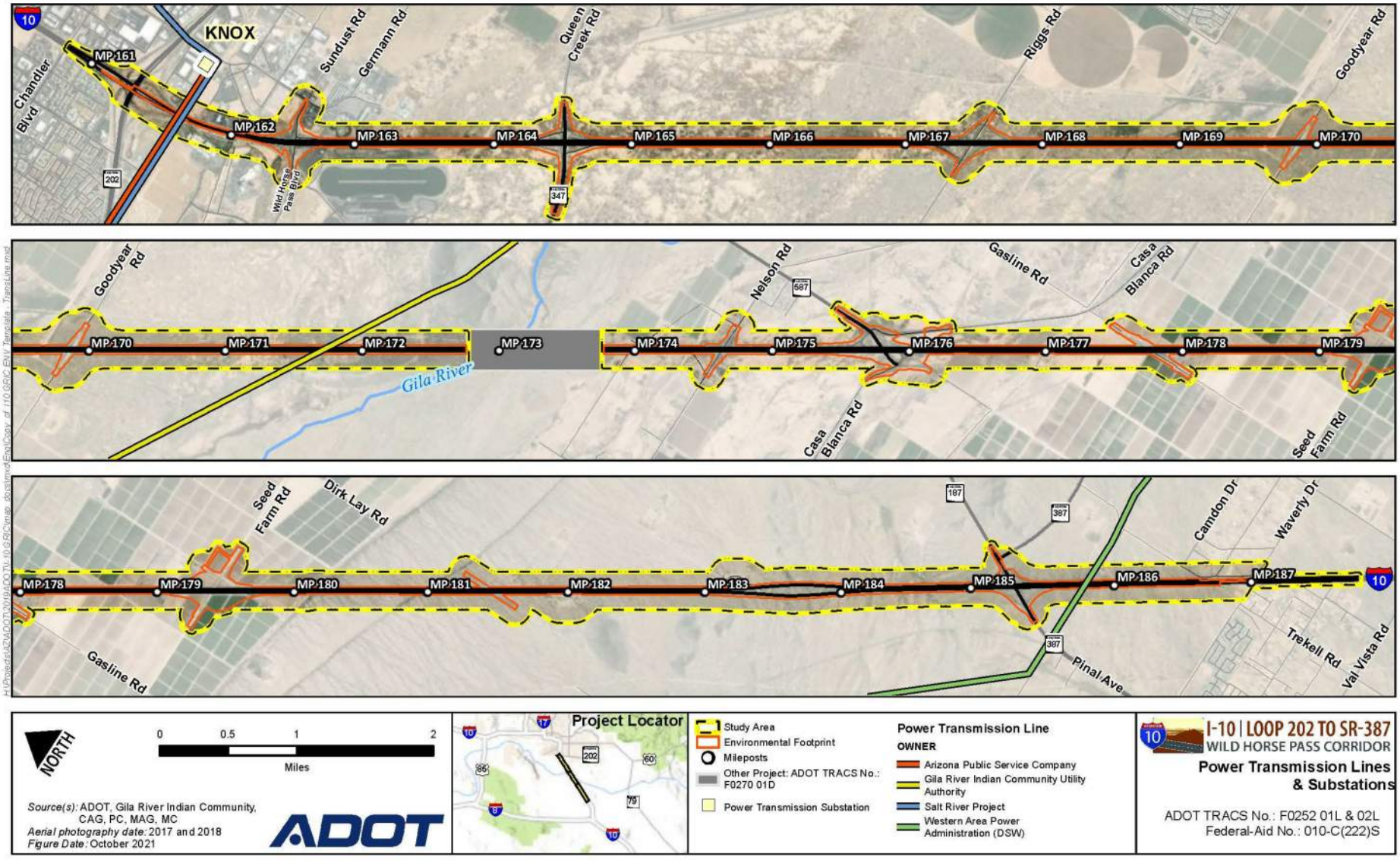


Figure 19. Power transmission lines and substations



Environmental Consequences

Selected Alternative

Adding new lanes in the existing I-10 median for the main line component of the Selected Alternative will have minimal to no impacts on existing utilities that intersect or are near the I-10. For the proposed improvements at the TIs and crossroads, coordination regarding overhead power lines may be required during construction at Nelson, SR 587/Casa Blanca, and Seed Farm Roads (Figure 18; note that the figure includes those that cross, run parallel to, or are near I-10). Other utilities listed in Table 21 could also be affected as the I-10 design becomes more refined, along with those operated and maintained by ADOT for I-10, including the Freeway Management System and electrical conduit for traffic signal and roadway lighting. The fiber optic trunk line will be installed in the existing I-10 easement, and ADOT will coordinate with utility providers where it will intersect with existing utilities crossing under I-10 during installation.

During construction, the ADOT Utility and Railroad Engineering Section will coordinate with affected utility companies to minimize potential long-term effects. Because impacts on utilities are usually not substantial over the long term, these strategies are a key part of ADOT's best management practices. No adverse impacts that cannot be avoided or minimized are anticipated for utilities as part of the Selected Alternative.

No-Build Alternative

The No-Build Alternative would make no changes or improvements to I-10 in the study area and would have no impact on existing utilities. Existing utilities in the study area could be expanded or replaced by their providers in the future. The fiber optic trunk line included as part of the Selected Alternative would not be constructed with the No-Build Alternative. This would not allow ADOT to connect its broadband network across the state transportation system network for its Freeway Management System facilities.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- The Arizona Department of Transportation Utility and Railroad Engineering Section and Environmental Planning will coordinate with the Gila River Indian Community; Cities of Phoenix, Chandler, and Casa Grande; and private utility and irrigation providers during the design process to minimize the effects of potential utility relocations and adjustments. Coordination will include developing construction schedules to coincide with scheduled maintenance periods and/or off-peak loads.

- Should a utility relocation be required, the Arizona Department of Transportation Utility and Railroad Engineering Section and Environmental Planning will coordinate with the utility owner to determine the need for new right-of-way or easement of the same size as the previous right-of-way or easement for that utility.

Contractor Responsibility

- The excavation, removal, and disposal of asbestos cement pipe will be done in accordance with Section 202 of the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction* (2021).

I. Visual Resources

This section discusses how the Selected Alternative will change the study area's visual resources and predicts the viewer's response to that change. Refer to the visual resources memorandum in Appendix H for further information on the study.

Affected Environment

Visual Character

The existing I-10 corridor within the Sonoran Desert-urban interface includes a typical, weathered asphalt pavement freeway with concrete barriers and bridges, freeway crossings with on- and off-ramps, light fixtures, signals, signs, and billboards.

Area of Visual Effect

The area of project visibility is referred to as the area of visual effect (AVE), which is determined by the physical constraints of the environment and the physiological limits of human sight. For most of the study area, there is little landform variation or land cover to obstruct fore-, middle-, or background views as experienced by neighbors and travelers (defined later in this section). The study area was divided into two landscape units, Unit 1 – Desert Flats and Unit 2 – Agriculture and Hills, based on landscape type only, since no viewsheds were identified. Unit 1 is from mileposts 161 to 173, with the first 2 miles of the project in an urban context before giving way to natural desert. Unit 2 occurs from mileposts 173 to 187.1 and is differentiated by the increased natural vegetation density and by areas of agricultural fields.

Natural Environment

The study area terrain is at an elevation of approximately 1,140 feet at the northern end and approximately 1,600 feet at the southern end. The flat desert floor provides the ability to see great distances to the surrounding mountain ranges. The mountains visible from the study area are the San Tan Mountains to the east, Sacaton Mountains to the south, Sierra Estrella to the west, and South Mountains to the north. In the distance to the northeast are the McDowell Mountains. Gila Butte is a small feature north of the Gila River on the east side of the corridor.

Plant density in the study area is generally open and simple, with concentrations along rivers and washes. Vegetation appears generally the same year-round, although it can look sparser in the summer.

Between mileposts 175 and 180, the natural desert has been converted to agricultural production. The fields are generally laid out with geometric lines and are laser leveled. Depending on the growing season, this area can be a geometric patchwork of greens. In the agricultural area, there are a few scattered human-made structures, mainly small residences. The largest collection of human-made structures is at the northern end of the corridor near the Wild Horse Pass and Lone Butte developments.

Affected Population

The people affected by a project are referred to as viewers and includes those who live in (neighbors) or regularly travel (travelers) through the study area or who may have sensitivity to visual changes in the environment. Viewer types were considered in the evaluation because they respond to change differently, and can be defined by their location, sensitivity to change, and duration of exposure.

The two main types of neighbors in the study area are residential and agricultural. The residents have lived in the area for many generations and their sensitivity to change will be high. Agricultural neighbors work intermittently in the fields and often regard cultural order and natural harmony as critical components of the landscape but may be less interested in project coherence. Their sensitivity will be low.

Travelers on I-10 are predominantly commuting, touring, and shipping travelers. These types of travelers are most frequently interested in project coherence and wayfinding but are also interested in cultural order and natural harmony. All three types of travelers use the entire length of the project corridor and their sensitivity will be low.

Visual Quality

Visual quality is what viewers like and dislike about an AVE's visual character and is the baseline for determining a project's degree of visual impact. Impacts can be adverse, beneficial, or neutral; if people see what they expect, they are pleased and consider the visual quality good; if not, they are displeased and the visual quality is considered poor. Viewer preference was established using the professional observational approach because the project is of average complexity and minimal controversy.

Through observation, the study area's natural environment was determined to be harmonious; the cultural environment orderly; and the project environment coherent. While it is pleasing, it is not unique in the study area.

Two key views were identified, one per landscape unit, to help assess the project's visual impacts on the AVE's visual quality.

UNIT 1 – DESERT FLATS

In Unit 1, the key view at approximately milepost 167 encompasses the change from the somewhat urban northern end into the natural desert area (Figure 20) of Unit 1. The natural environment transitions from ornamental plantings to natural desert and thus is not completely harmonious. The cultural environment transitions from commercial/entertainment to vacant and thus is not completely orderly. The project environment is coherent because it will add built features similar to existing features.

Views of the freeway from areas in Unit 1 are similar to those in Figures 21 and 22; traffic on the freeway can be seen but does not obstruct distant views, and freeway ramps and bridges, depending on the distance from the viewer, can somewhat obscure distant views.

Figure 20. View north from Riggs Road overpass

Figure 21. Typical view of the freeway main line

Figure 22. Typical view of a freeway bridge

UNIT 2 – AGRICULTURE AND HILLS

In Unit 2, the key view is from approximately milepost 185 (Figure 23), where changes in the surrounding terrain are more apparent. The natural environment is mostly native desert with mountains in the middleground making it harmonious. The agricultural fields from mileposts 175 to 180, while contrasting with the natural desert, add a pleasing green patchwork for much of the year (Figure 24). Between mileposts 183 and 184 are rock cuts from blasting through rock to construct the current traffic lanes. The cultural environment includes scattered homes and businesses in the middle and background and thus is orderly. The project environment is coherent because it will add built features similar to existing features and the new rock cuts to construct the median lanes will be similar to the existing rock cuts. Unit 2 has views of the freeway similar to those in Figures 21 and 22.

Figure 23. View north from State Route 387 overpass

Figure 24. View of agricultural fields

Environmental Consequences

The visual impact analysis considers the visual consequences of the proposed action, that is, the changes to the environment (compatibility) or to the viewers (sensitivity). The degree of change the project would bring about is determined to be beneficial, adverse, or neutral as it relates to the viewers' relationship (sensitivity) with the visual environment (compatibility). Compatibility is the project's fit into the existing visual character. Sensitivity is the capacity of viewers to see and care about a project's impacts.

Selected Alternative

The Selected Alternative will add new lanes to the median where natural desert scrub will be removed or reduced in width. Two TIs will be moderately modified with changes only to the crossroads. Two TIs will be heavily modified, with one reconfigured to include new ramps and bridges in different configurations and one expanded into a full TI. One small bridge will be removed and the remaining bridges will be widened, replaced, or improved in the same general configuration as they exist today. Additional visible elements will be more lighting and traffic signs and new median barriers.

The improvements associated with the Selected Alternative will be similar in both units. The improvements will match the existing freeway's geometry; existing bridges will be improved with similar materials (steel girders), while new bridges will use concrete girders. Other elements such as roadway pavement will be of similar construction materials. The areas disturbed by construction will be revegetated with plants to resemble the existing vegetation. The removal of a small bridge in Unit 2 will slightly increase some views to the Sacaton Mountains that the bridge currently obscures.

Compatibility. The project's scale, form, and materials will be compatible with the existing natural, cultural, and project environments. The forms and materials proposed will be compatible with the existing forms and materials. The scale of the project will increase through additional pavement width; wider, taller bridges; and, in some locations, expanded TIs. However, the overall scale of the project in the environment will remain similar, so the collective change will be neutral. The memorability of the landscape will not be altered.

Sensitivity. The project will have a high number of travelers with short exposure to the project (duration) so their sensitivity will be low. Few neighbors have long-duration views, some of whom have very close proximity to the project, and thus high sensitivity; however, most neighbors will have middle or background proximity to the project and thus low sensitivity. Collectively, overall sensitivity to the project will be low.

Degree of Change. The change in the experience of natural harmony will be neutral. No additional topography, water, or other similar natural elements will be affected that have not already been affected by the existing freeway. The stretches of desert with background mountain views will remain unchanged. The materials, forms, and finishes of the new freeway elements will coordinate with the existing elements to create a unified appearance. In summary, the overall change in visual quality will be neutral.

SUMMARY

The Selected Alternative will not adversely affect visual quality. Minor changes to the natural, cultural, or project environments are anticipated. Permanent, minor impacts will be the loss of vegetation from the freeway median and slightly taller bridges. Short-term, minor changes to viewer exposure or awareness are anticipated as viewers experience the new freeway over time. Permanent, minor impacts will be intensified by built features (slightly taller bridges and expanded TIs) for those neighbors who live within a few hundred feet of the project, predominantly near Nelson Road. These minor changes will not constitute adverse impacts; therefore, no mitigation is necessary. Construction activities will be visually unpleasant but will be a temporary visual change.

No-Build Alternative

Under the No-Build Alternative, no visual impacts as described for the proposed action would occur.

Environmental Commitments and Mitigation Measures

No mitigation is necessary to address visual impacts because the Selected Alternative is not expected to contribute to adverse visual effects. Although no mitigation is necessary, the Selected Alternative's final design will incorporate aesthetic treatments. The scope and the location of those treatments will be determined in final design and in coordination with the Community.

Arizona Department of Transportation Roadside Development Section

- During final design, the Arizona Department of Transportation will coordinate with the Gila River Indian Community regarding the location and scope of aesthetic treatments.

J. Drainage and Floodplain Considerations

This section identifies drainage and floodplain issues to be considered when evaluating the Selected Alternative.

Affected Environment

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and effective flood hazard data were reviewed to identify flood zones in the study area (FEMA 2007, 2013, 2021). From milepost 161 to the Community's northern boundary, the area is mapped as Zone X (shaded) (Figure 25). This area is protected from 100-year floods by the Southeast Valley Regional Drainage System managed by ADOT (Figure 26) (Flood Control District of Maricopa County 2021). South of the Community to the southern project terminus at milepost 187, the study area is designated as Zone X (unshaded) (Figure 25).

In the Community, the study area is designated as Zone D. FEMA has not formally studied the Community and designated the applicable flood zones; however, the Community has conducted multiple floodplain studies in the Zone D areas and has identified 10-, 50-, and 100-year flood hazard areas and existing drainage concerns such as localized flooding and ponding.[7] Drainage patterns in most of the I-10 corridor consist of unconsolidated sheet flows across loose sediments that result in occasional minor washes interspersed with major washes. Natural drainage patterns in the study area have been partially modified by agriculture and other development, including irrigation canals. The portion of I-10 that crosses the Gila River is not part of this study; however, the Gila River is the outfall for all drainages in the study area.

Numerous pipelines, drains, irrigation canals, and culverts cross under and run parallel to I-10 in the study area. These drainage structures convey stormwater and irrigation water for agriculture and address other drainage needs in and adjacent to the Community (Table 22) (see Chapter 4 of the DCR for additional information). In addition, one active groundwater well is in the study area (Figure 26 and Table 23).

Table 22. Existing and planned surface water infrastructure in the study area

Milepost	Structure name and type	Owner/Management agency
Existing		
161.75–161.76	Westside IA Level Top Canal – irrigation	Salt River Valley Water Users Association
161.80–161.90	Memorial Pipeline (MM-ID) – irrigation	Pima-Maricopa Irrigation Project
161.80–162.02	Westside IB Pipeline – irrigation	Pima-Maricopa Irrigation Project
161.81	Southeast Valley Regional Drainage System – drainage	Arizona Department of Transportation
162.33	Gila Drain – irrigation canal	Salt River Project
169.63–169.67	Westside VA Canal – irrigation siphon	Pima-Maricopa Irrigation Project

[7] Comprehensive floodplain data identifying discrete flood hazard zones for portions of the Community in the study area were not available for review as part of this assessment.

Table 22. Existing and planned surface water infrastructure in the study area

Milepost	Structure name and type	Owner/Management agency
171.41	Unnamed reinforced concrete pipe – irrigation	Pima-Maricopa Irrigation Project
174.02–174.14	Old Canal 13 – irrigation siphon	Pima-Maricopa Irrigation Project
174.42–174.46	Canal 13 – irrigation	Pima-Maricopa Irrigation Project
177.02	Casa Blanca Canal box culvert – drainage	Pima-Maricopa Irrigation Project
177.10	Casa Blanca Drainage Channel – drainage	Pima-Maricopa Irrigation Project
177.61–177.91	Lateral 7-4 – irrigation	Gila River Farms
177.67–177.69	Unnamed earthen irrigation channel	Gila River Farms
178.18	Unnamed concrete irrigation channel	Pima-Maricopa Irrigation Project
178.62–178.64	Lateral 7-5 – irrigation	Gila River Farms
178.64–178.77	Unnamed reinforced concrete pipe – irrigation	Gila River Farms
178.79–178.83	Unnamed reinforced concrete pipe – irrigation	Pima-Maricopa Irrigation Project
179.35–179.46	Lateral 7-6 – irrigation	Gila River Farms
179.44–179.46	Unnamed reinforced concrete pipe – irrigation	Gila River Farms
179.46–179.47	Unnamed reinforced concrete pipe – irrigation	Gila River Farms
179.47–179.67	Unnamed reinforced concrete pipe – irrigation	Gila River Farms
180.20	Southside Canal old box culvert – drainage	San Carlos Irrigation Project
180.30	Southside Canal box culvert	San Carlos Irrigation Project
181.00	Southside Canal Levee	San Carlos Irrigation Project
Planned		
164.50– 167.25	Westside VE Canal	Pima-Maricopa Irrigation Project
167.25– 169.75	Westside VB Canal	Pima-Maricopa Irrigation Project

Table 23. Existing and planned groundwater infrastructure in the study area

Milepost	Type	Owner/Management agency
Existing		
186.86	Groundwater well	A.R.E. Clinic
Planned		
173.80–174.40	Managed Aquifer Recharge site (MAR 8B)	Gila River Indian Community

Figure 25. Existing Federal Emergency Management Agency flood hazard zones

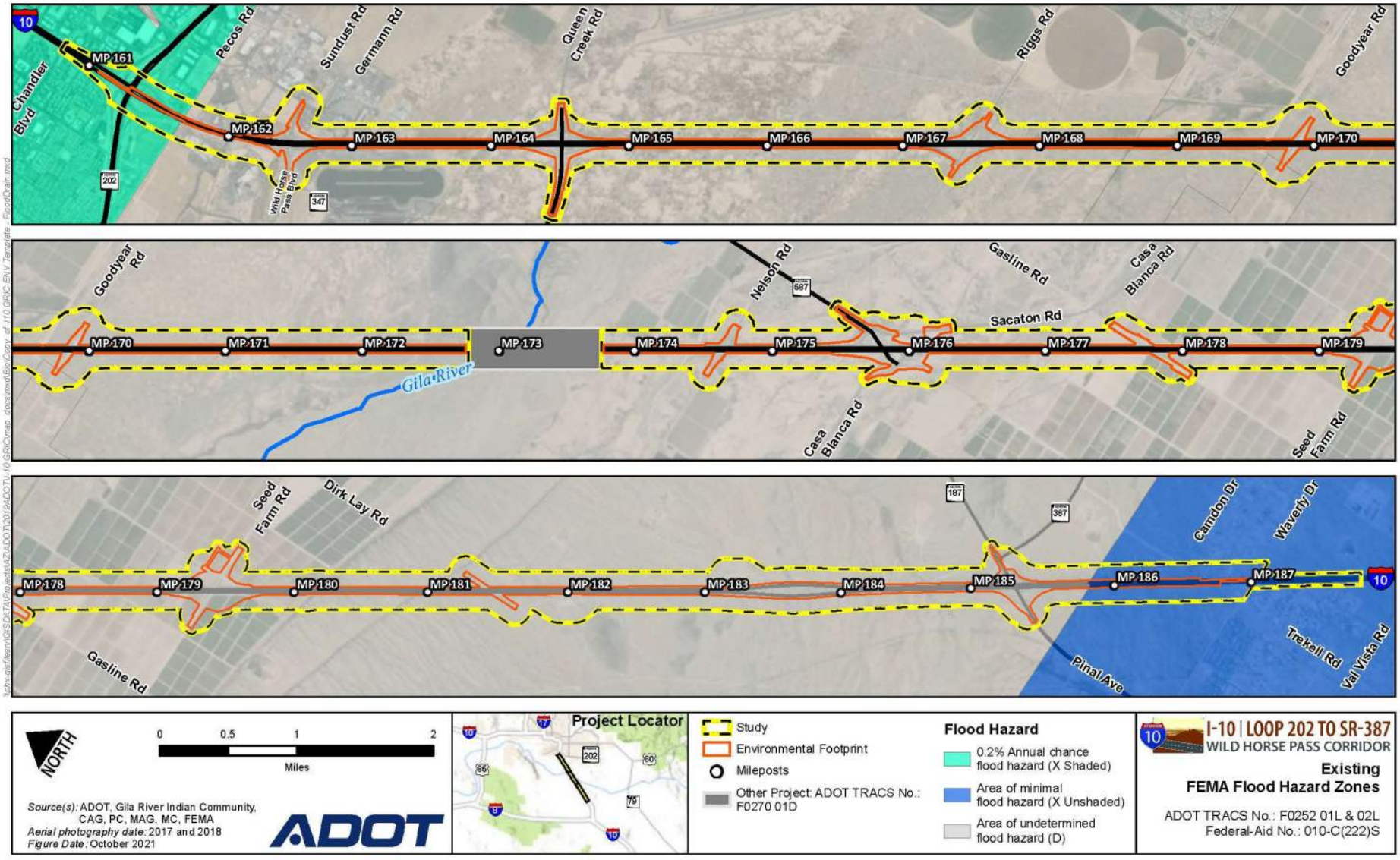
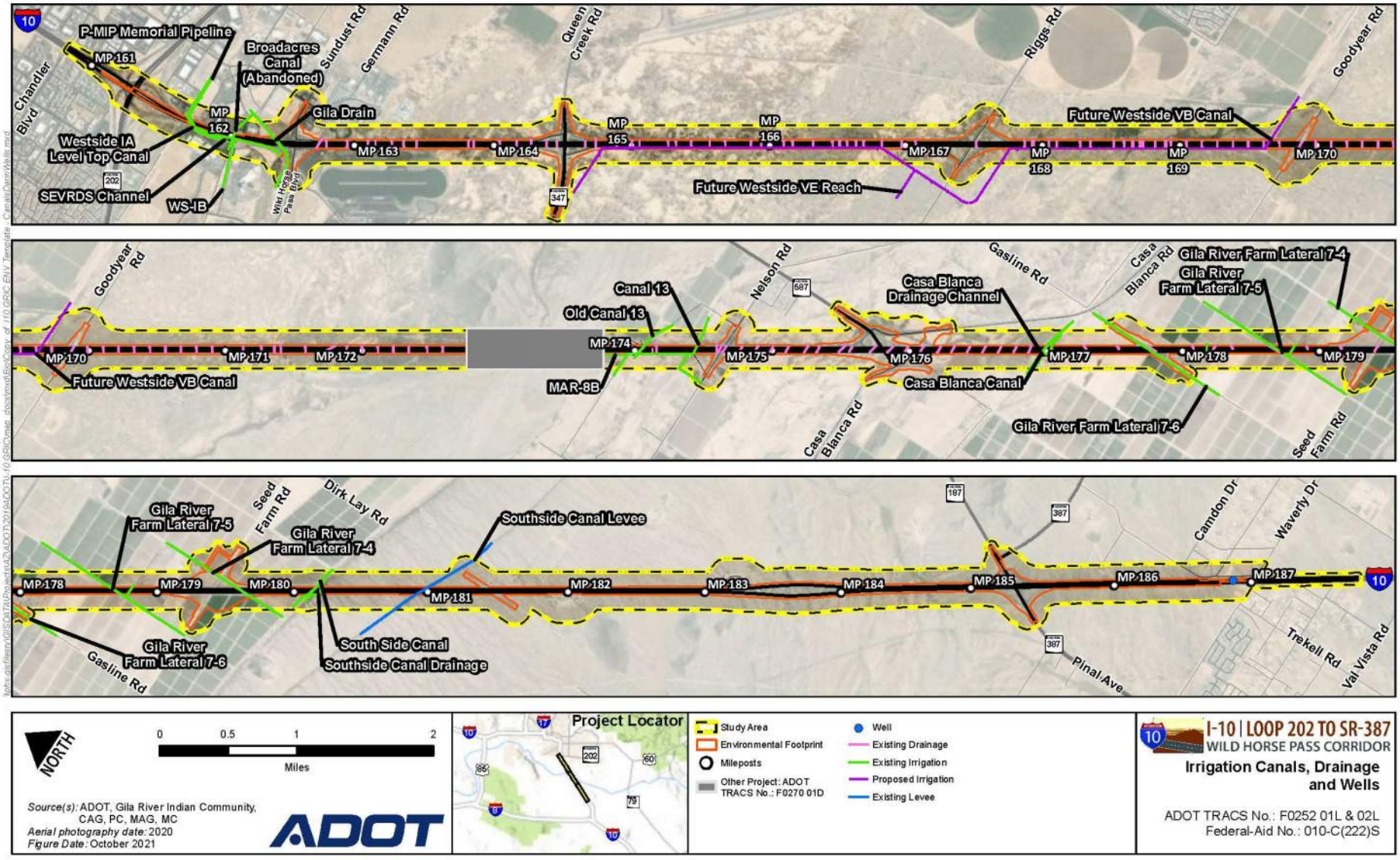


Figure 26. Irrigation canals, drainage channels, and wells



Environmental Consequences

Selected Alternative

The Selected Alternative will not affect any federally mapped floodplains. Comprehensive data on flood hazard zones in portions of the study area within the Community were not available; however, the Selected Alternative is not anticipated to affect specific flood hazard zones or Community-identified floodplains because the project will not increase any base flood elevations or change the watershed. In addition, ADOT is committed to maintaining government-to-government relations and will coordinate closely with the Community through final design to consider potential impacts on Community-identified flood hazard zones in the study area.

Most TIs and crossroads will require minor modifications of the existing on-site drainage system to accommodate the new configurations. These modifications may require reconstructing existing culverts; reconstructing existing drainage basins, chutes, and/or slopes; and replacing, extending, or realigning culverts. More extensive drainage modifications will occur at the SR 587/Casa Blanca Road TI, which will require on-site drainage to be reconstructed and regraded for the new TI configuration. Overpass connections and TI drainage will be controlled by the reconfigured roadway sections.

Overall, current on-site surface water drainage patterns will be maintained or improved through the replacement and/or extension of existing concrete box and corrugated metal pipe culverts; inclusion, adjustment, or relocation of median catch basins; and other methods to be determined during final design (Table 24). Off-site drainage will be largely unaffected by the Selected Alternative since impacts on drainage outside of the existing roadway alignment will be minor, existing drainage patterns will remain, and there will be no change to the watershed.

Table 24. Drainage considerations affected by the Selected Alternative

Drainage consideration	Selected Alternative impacts
Drainage infrastructure	
Box culverts	Will close or extend box culverts at nine locations; closed or extended box culverts will maintain current capacity and will not cause additional flows in the study area
Drainage basins	Drainage modifications will be required at the Wild Horse Pass Boulevard TI to mitigate impacts on existing drainage basins in the two southern quadrants of the TI.
Pipe culverts	Will replace 55 existing reinforced concrete/corrugated metal pipe culverts; replacement culverts will maintain current capacity and will not cause additional flows in the study area
Median drainage inlets	Will be placed where existing median pipe culverts are located or at locations of pipe culvert replacement; the potential for additional median drainage inlets, if needed, will be determined during final design

Table 24. Drainage considerations affected by the Selected Alternative

Drainage consideration	Selected Alternative impacts
Water quality	
Surface water	▪ Operational and temporary construction runoff from the proposed project; primary impacts on water quality will be minor nonpoint source pollution (sediment) ▪ Temporary soil erosion protection measures such as embankment waddles, straw logs, rock check dams, soil blankets, sediment basins, and other soil stabilization measures will prevent sediment movement outside of the project work areas and minimize impacts on surface water quality during construction
Groundwater	Will maintain groundwater quality in the Selected Alternative footprint by implementing best management practices during construction
Groundwater wells	Will employ best management practices to avoid indirect effects, such as physical damage, restricted access to the wellhead and/or use of the well, and/or reduced water quality caused by stormwater runoff during construction
Irrigation infrastructure	
Canal, ditch, and pipeline	▪ Gila Drain will be protected during construction and will not be directly affected ▪ Irrigation infrastructure at Gasline and Seed Farm Roads within the construction footprint will be relocated

Note: TI = traffic interchange

The Selected Alternative will include minor relocation of irrigation infrastructure at Gasline and Seed Farm Roads. The Gila Drain is within the limits of work but will not be directly affected and will be protected during construction. The Selected Alternative will not directly affect any wells, and indirect effects will be avoided through implementation of best management practices (Table 24).

Water will be required to construct the Selected Alternative (for example, for dust control and soil compaction). The contractor typically determines the water source, which is likely to be a commercial water source. During final design, ADOT also develops a construction water use plan as part of its project-specific Environmental Management Plan.

ADOT is coordinating closely with the Community and designing the Selected Alternative to consider the potential impacts identified in the early planning stages. As design advances, ADOT will continue to coordinate with the Community to identify ways to avoid, minimize, and refine specified mitigation measures to reduce adverse impacts on drainages in the footprint of the Selected Alternative and indirectly in the general study area.

No-Build Alternative

The No-Build Alternative would result in no new impacts on regulatory floodplains or floodways and would not affect on- or off-site drainage. However, ongoing drainage concerns, including localized flooding and ponding identified by the Community, and structurally deficient pipe culverts, if present, would remain. In

addition, continued development in the area may create the need for additional roadway improvements, which could affect off-site drainage in the future.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- The Arizona Department of Transportation will coordinate the Gila River Indian Community Flood Control Manager regarding the design of drainage features and will provide an opportunity to review and comment on the design plans.
- Coordination with the Salt River Project, Pima-Maricopa Irrigation Project, Gila River Indian Irrigation and Drainage District, and San Carlos Irrigation Project will occur during final design to consider potential impacts of the project on irrigation infrastructure.
- The design team will evaluate mitigation measures for cut-and-fill slopes, which may erode unless stabilized with vegetation or geotextiles. Vegetation will slow surface runoff, help bind soils, reduce rainfall impact, and break up flow patterns. Geotextiles including matting, retaining walls, and rock slope protection will prevent extensive contact between surface runoff and soil, keeping the soil intact. Retaining walls decrease cut-and-fill slopes, reducing runoff velocities and erosion potential. Rock slope protection armors the slope, preventing soil movement.
- The design team will evaluate mitigation measures for slopes along roadside channels and at discharge points from culverts, which may be steep and promote erosion. Therefore, conveyance features may require protection in the form of channel lining, reduced slopes, or energy-dissipating structures designed to break up and reduce discharge velocities.

Contractor Responsibilities

- The contractor shall develop a containment plan for debris and construction materials to avoid contamination of the Gila Drain. The containment plan will be approved by the Engineer prior to construction.
- The contractor shall comply with the terms and conditions of the applicable state and local permits and rules for well abandonment, if applicable.
- Best management practices set forth in the *Erosion and Pollution Control Manual for Highway Design and Construction* (Arizona Department of Transportation 2020) will be included in the Stormwater Pollution Prevention Plan.

K. Sections 404, 401, and 402 of the Clean Water Act and National Pollutant Discharge Elimination System

This section discusses the Clean Water Act (CWA) and the National Pollutant Discharge Elimination System (NPDES) and how they pertain to surface waters in the study area.

Affected Environment

Forty-nine surface water features in the study area exhibit characteristics of an ordinary high water mark—such as changes in soil characteristics, shelving, or cut banks—and have the potential to be waters of the United States (WOTUS). These include 44 ephemeral washes, 1 stormwater control feature, and 4 constructed ditches (for example, conveyance channels or constructed canals). The ephemeral washes have surface water present (for example, flowing or pooling) only during and immediately after a rainstorm. The stormwater control feature is a levee constructed in the uplands that conveys stormwater runoff. Three of the constructed ditches (Gila Drain, Little Gila Canal, and Southside Canal) convey perennially flowing surface waters, but the fourth is an unnamed earthen conveyance channel that conveys ephemeral surface waters. All surface water features in the study flow toward the Gila River. As previously mentioned, the Gila River Bridge is being addressed under a separate ADOT project.

Environmental Consequences

Selected Alternative

CLEAN WATER ACT SECTIONS 404 AND 401

The Selected Alternative will modify existing drainage structures by improving or expanding existing culverts and drainage pipes that convey surface water features across the I-10 corridor. Proposed improvements will replace existing pipes and extend culverts toward the median or connect existing eastbound and westbound drainage structures through the median to accommodate the widened roadway. The three constructed canals in the study area with perennial surface waters (Gila Drain, Little Gila Canal, and Southside Canal) will not be affected because their existing drainage structures span the entire width of I-10, including the median. There will also be no impacts to irrigation facilities managed by the Pima-Maricopa Irrigation Project, San Carlos Irrigation Project, and Gila River Indian Irrigation Drainage District. The Selected Alternative will not alter existing drainage patterns, and any channels or canals associated with these irrigation facilities that pass under I-10 will be reinforced or otherwise modified to ensure their continued function. Proposed improvements at the remaining 46 surface water features may require authorization under Section 404 of the CWA. Impacts on these surface water features are not anticipated to exceed 0.5 acre of permanent loss at any drainage; therefore, the Selected Alternative is anticipated to be authorized under Nationwide Permit 14 – Linear Transportation Projects. For Section 401 Water Quality Certification of the Selected Alternative, the 10 surface water features between mileposts 185.85 and 187.1 are anticipated to be conditionally certified by ADEQ and the 36 surface water features on the

Community will require Section 401 Water Quality Certification from the Community's Department of Environmental Quality.

CLEAN WATER ACT SECTION 402

Construction activities to widen I-10 and improve the TIs and crossroads will disturb soils and sediments, which may discharge into surface water features from stormwater runoff and affect water quality in downstream WOTUS. The Selected Alternative will disturb more than 1 acre of ground; therefore, it must be constructed in accordance with a NPDES Construction General Permit within ADOT's easement on Community lands and with an Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit in ADOT's right-of-way. According to conditions of the NPDES and AZPDES Construction General Permits, a Stormwater Pollution Prevention Plan will be prepared and best management practices for erosion and sediment control will be implemented by ADOT and the contractor during construction. Therefore, with the Selected Alternative, no project-related impacts on water quality in stormwater runoff or downstream of the project will occur.

No-Build Alternative

Under the No-Build Alternative, surface water features would not be affected by construction and would continue to cross beneath I-10 in the existing drainage structures. Consequently, for the No-Build Alternative, there would be no impacts on CWA resources and no CWA mitigation would be provided.

Environmental Commitments and Mitigation Measures

ADOT's *Standard Specifications for Road and Bridge Construction, Clean Water Act Section 404/401 Guidance Manual*, *Erosion and Pollution Control Manual for Highway Design and Construction*, and *Post-Construction Best Management Practices Manual for Water Quality* will be followed by ADOT and the contractor during final design and construction of the Selected Alternative. The following commitments will be implemented to mitigate impacts on CWA resources. All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibility

- The Arizona Department of Transportation Environmental Planning will determine Clean Water Act Section 404, Section 401, and Section 402 permitting needs during final design.

Contractor Responsibility

- Temporary and permanent erosion controls and stormwater best management practices will be implemented during construction in accordance with the Arizona Department of Transportation *Erosion and Pollution Control Manual for Highway Design and Construction* and the Arizona Department of Transportation *Post-Construction Best Management Practices Manual for Water Quality*.

L. Biological Resources

This section discusses biological resources in the study area and how they may be affected by the proposed action.

Affected Environment

The study area is in the Sonoran Desertscrub biotic community and primarily encompasses the Lower Colorado subdivision, with an approximate 2-mile section (mileposts 183 to 185) in the Arizona Upland subdivision. The environment surrounding the northern limits of the study area (from mileposts 161 to 162.5) features urbanized industrial and residential development, while south of milepost 162.5 the study area and surrounding environment features undeveloped natural desert, rural residences, and agricultural lands.

Vegetation and Wildlife

Vegetation throughout the study area is sparse, and species present are typical of the Sonoran Desertscrub biotic community. Areas of undeveloped natural desert north of approximately milepost 180 are dominated by creosote bush (*Larrea tridentata*). South of milepost 180, the vegetation community is more diverse, with species such as palo verde (*Parkinsonia* spp.), brittlebush (*Encelia farinosa*), broom snakeweed (*Gutierrezia sarothrae*), creosote bush, and various species of cacti including saguaro (*Carnegiea gigantea*), barrel (*Ferocactus* spp.), and cholla (*Cylindropuntia* spp.). Nonnative vegetation including Russian thistle (*Salsola* spp.), puncture vine (*Tribulus terrestris*), kochia (*Bassia scoparia*), common Mediterranean grass (*Schismus barbatus*), and globe chamomile (*Oncosiphon piluliferum*) is also prevalent throughout the study area.

Wildlife is typical for the Sonoran Desertscrub biotic community. Predominant species include mammals such as round-tailed ground squirrels (*Xerospermophilus tereticaudus*), desert cottontail rabbits (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*); reptiles such as whiptail lizards (*Aspidoscelus* spp.), spiny lizards (*Sceloporus* spp.), gopher snake (*Pituophis catenifer*), and rattlesnakes (*Crotalus* spp.); and avian species such as red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), Gambel's quail (*Callipepla gambelii*), dove (*Zenaida* spp.), and various passerine species. Bats may also utilize bridge and culvert structures in the study area as day or night roosts.

Sensitive Species

Sensitive species in the study area include U.S. Fish and Wildlife Service (USFWS)-listed, Endangered Species Act (ESA), and Migratory Bird Treaty Act (MBTA) species, as well as species protected by the Community's Native Plant Ordinance and Focal Species designation. To determine whether ESA-listed species may be present in the study area, an Information for Planning and Consultation list was obtained from USFWS and the Arizona Game and Fish Department On-line Environmental Review Tool was accessed for state and privately owned lands in the study area (mileposts 161 to 161.8, 185.9 to 187.1)

(see Appendix I, *Biological Resources Information*). The cactus ferruginous pygmy owl, a threatened species under the ESA, and Sonoran desert tortoise (*Gopherus morafkai*), a candidate for listing under the ESA, are the only ESA species that may be present. Since public review of the Draft EA, the Sonoran desert tortoise has been de-listed from USFWS's list of threatened and endangered species. The species remains a Community Focal Species and an Arizona species of concern. The cactus ferruginous pygmy owl was listed on the ESA after the distribution of the Draft EA. Cactus ferruginous pygmy owls are found in Sonoran desertscrub or semidesert grasslands in Arizona and require columnar cacti, typically saguaros, to use as nesting cavities. There are historical records of cactus ferruginous pygmy owls in the project area; however, this species' current distribution is outside of the Build Alternative and, therefore, the project will have no effect on cactus ferruginous pygmy owls.

Several species protected by the MBTA can be found in the study area and may utilize trees and cacti, particularly south of milepost 180, for nesting. One MBTA-protected species, Western burrowing owl (*Athene cunicularia hypugaea*), can be found throughout the study area but prefers to nest in desert flats and along the perimeter of agricultural fields. Cliff swallows (*Petrochelidon pyrrhonota*), also protected by the MBTA, may utilize drainage structures, specifically those located over perennial surface water such as at the four canal crossings, for nesting. The Sonoran desert tortoise, along with several other Community Focal Species, may be present or have suitable habitat in the study area. Likewise, species listed in the Native Plant Ordinance—including, but not limited to, saguaro, little leaf palo verde (*Parkinsonia microphylla*), blue palo verde (*Parkinsonia florida*), and barrel cacti (*Ferocactus wislizenii*)—are present in the study area.

Environmental Consequences

Selected Alternative

Vegetation and Wildlife. The Selected Alternative will permanently convert approximately 193.7 acres of natural ground surfaces to impermeable surfaces. However, only approximately 5.9 acres of undisturbed Sonoran Desertscrub habitat will be permanently affected. Most of the undisturbed desertscrub habitat anticipated to be affected is associated with upgrading and reconfiguring the TIs. The remaining 187.8 acres of permanent impacts will occur on previously disturbed ground surfaces (that is, the I-10 median and crossroad TI roadsides).

Construction will affect native plant species protected by the Community's Native Plant Ordinance and the Arizona Native Plant Law. During final design, ADOT will determine the extent of impact on native plants and coordinate with the Community Department of Environmental Quality and Arizona Department of Agriculture, as necessary. Invasive plant species also occur in the project area, and earth-disturbing activities associated with the Selected Alternative have the potential to introduce or spread invasive plants. Further analysis of these impacts can be found in the *Biological Evaluation* located in Appendix I, and ADOT will implement mitigation measures to avoid the introduction or spread of invasive plants.

A *Wildlife Connectivity Assessment* (Appendix I) was completed to analyze current wildlife permeability in the project area and make recommendations for final design of the Selected Alternative. This assessment found that medium-sized mammals including coyote, bobcat, and javelina are known to move through the project area. Construction will have temporary and permanent impacts on potentially suitable foraging, breeding, or dispersal habitat for a variety of wildlife species. However, all impacts will occur in previously disturbed areas adjacent to I-10 and the crossroad TIs where the existing habitat is of low value to wildlife. Furthermore, the Selected Alternative will preserve wildlife permeability by maintaining the culvert structures suitable for species known to occur in the project area. During final design, ADOT will coordinate with the Community Department of Environmental Quality on recommendations from the *Wildlife Connectivity Assessment* (Appendix I) to address wildlife movement through the project area.

Sensitive Species. With the Selected Alternative, earth-disturbing activities have the potential to directly affect the Sonoran desert tortoise, if individuals are present during construction, and to indirectly affect the species by introducing or spreading invasive plants that may degrade suitable habitat. Earth-disturbing activities also have the potential to directly affect the Western burrowing owl if individuals are present in the desert flats and agricultural lands that will be affected by the project. Impacts on the Sonoran desert tortoise and Western burrowing owl were analyzed and documented in the *Biological Evaluation* included in Appendix I, and ADOT, in coordination with the Community Department of Environmental Quality, will implement mitigation measures to avoid impacts from the Selected Alternative on these species.

The proposed pipe replacements and culvert extensions may directly affect roosting bats or nesting migratory birds if individuals occupy the project culverts during construction. Similarly, vegetation-clearing activities will remove trees suitable for nesting migratory bird species and will affect nesting birds if they are present in the vegetation to be removed. Refer to the *Biological Evaluation* and *Wildlife Connectivity Assessment* in Appendix I for further analysis of impacts from the Selected Alternative on these species. During final design, all structures and vegetation affected by the Selected Alternative will be inspected to determine utilization by bats and nesting migratory birds, and mitigation measures will be implemented to avoid impacts on these species. Several Community Focal Species are known to utilize the project area, and vegetation clearing and earth-disturbing activities have potential to directly affect individuals if they are present during construction. Loss of habitat for sensitive species will also result from the project, although all habitat affected by the Selected Alternative is of low value to wildlife compared with the ample high-quality habitat in surrounding areas. Although the Selected Alternative may affect the aforementioned species or their habitats, impacts will be minor, and mitigation measures will be implemented to avoid or minimize those impacts. Therefore, the project may affect individuals of the sensitive species but is not likely to result in a trend toward federal listing or loss of viability. Refer to the *Biological Evaluation* in Appendix I for detailed analysis of impacts on Community Focal Species.

No-Build Alternative

With the No-Build Alternative, there would be no impacts on vegetation and wildlife or sensitive species; therefore, no mitigation for biological resources is provided.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibilities

- During final design, a qualified biologist will complete surveys for nesting birds protected under the Migratory Bird Treaty Act, as necessary, and develop mitigation measures to avoid impacts on nesting birds during construction.
- During final design, a qualified biologist will inspect all structures including concrete box culverts, underpass bridges, and large pipes that will be impacted by construction for roosting bats and develop mitigation measures to avoid impacts on bats during construction.
- During final design of the project, the status of species and critical habitat proposed, listed, or designated under the Endangered Species Act will be reviewed. If new species or critical habitat have been proposed, listed, or designated following completion of the *Biological Evaluation*, or if the potential effects on species or critical habitat from the project have changed from those described in the *Biological Evaluation*, an update to the *Biological Evaluation* will be prepared and any required consultation with the U.S. Fish and Wildlife Service will be completed.
- During final design, the Arizona Department of Transportation shall coordinate with the Gila River Indian Community Department of Environmental Quality on features to encourage wildlife passage based on the results of the *Wildlife Connectivity Assessment*.

Arizona Department of Transportation Roadside Development Section Responsibilities

- Plants protected by the Gila River Indian Community's Native Plant Ordinance will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will coordinate with the Gila River Indian Community Department of Environmental Quality to ensure compliance with the Native Plant Ordinance.
- The Arizona Department of Transportation Roadside Development Section, in coordination with the Gila River Indian Community Department of Environmental Quality, will provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits.

- Protected native plants within the project limits will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will determine whether Arizona Department of Agriculture notification is needed. If notification is needed, the Arizona Department of Transportation Roadside Development Section will send the notification at least 60 (sixty) calendar days prior to the start of construction.

Contractor Responsibilities

- Prior to construction, all personnel who will be on-site, including, but not limited to, contractors, contractors' employees, supervisors, inspectors, and subcontractors shall review the attached Arizona Department of Transportation Environmental Planning "Western Burrowing Owl Awareness" flier.
- If any burrowing owls or active burrows are identified, the contractor shall notify the District Engineer immediately. No construction activities will take place within 100 feet of any active burrow.
- If the District Engineer, in cooperation with the Arizona Department of Transportation Biologist, determines that burrowing owls cannot be avoided, the contractor shall employ a qualified biologist holding a U.S. Fish and Wildlife Service permit to relocate burrowing owls from the project area, as appropriate. Should relocation be necessary, the qualified biologist shall work with the Gila River Indian Community Department of Environmental Quality to identify an appropriate location within the Gila River Indian Community for relocation.
- If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the attached Arizona Game and Fish Department "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects." If any tortoise is encountered during construction, the contractor shall notify the Engineer to report the encounter.
- The contractor shall report encounters with any Sonoran desert tortoises (live, injured, or dead) during construction to the Engineer using the attached Arizona Department of Transportation Sonoran desert Tortoise Observation Form. The final form shall be sent to Arizona Department of Transportation Environmental Planning (email: bioteam@azdot.gov) within 24 hours of the encounter. Photographs shall be taken of tortoises encountered and included in the report if possible. The Gila River Indian Community Department of Environmental Quality shall be notified of any encounters with any Sonoran desert tortoises and, should relocation be necessary, the qualified biologist shall work with the Gila River Indian Community Department of Environmental Quality to identify an appropriate location within the Gila River Indian Community for relocation.
- Prior to construction activity, the contractor's field personnel including the Project Manager, Assistant Project Manager, General Superintendent, and Project Superintendent shall review the attached Arizona Department of Transportation Environmental Planning "Sonoran Desert Tortoise Awareness

Program Handout" flier, become familiar with the identification and avoidance of the Sonoran desert tortoise, and follow the notification request, as applicable.

- The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents. Plants to be controlled shall include those listed in the state and federal noxious weed list, the state invasive species list, and Gila River Indian Community lists, as applicable, in accordance with state and federal laws and executive orders. The plan and associated treatments shall include all areas within the project right-of-way and easements as shown on the project plans. The treatment and control plan shall be submitted to the Engineer for the Arizona Department of Transportation Construction Professional Landscape Architect for review and approval prior to implementation by the contractor.
- Prior to the start of ground-disturbing activities and throughout the duration of construction and any landscape establishment period, the contractor shall arrange for and perform the control of noxious and invasive species in the project area.
- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed prior to entering the construction site and the contractor shall inspect all construction equipment and remove all attached debris, including plant parts, soil, and mud, prior to the equipment entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction and hauling equipment and remove all debris, including plant parts, soil, and mud, prior to leaving the construction site.

M. Prime and Unique Farmland

This section discusses the proposed action's potential impacts on farmland, as required by the Farmland Protection Policy Act (FPPA).

Affected Environment

The study area includes prime irrigated and unique farmland soils, along with active agricultural land that includes these soil types. All active agricultural land is in the Community. Community farms grow crops such as cotton, wheat, millet, alfalfa, barley, melons, pistachios, olives, citrus, and vegetables. The Community's total agricultural product value is more than $25 million per year (Inter Tribal Council of Arizona 2019). Community agricultural land totals 37,000 acres, or 10 percent of the Community's land.

The online Natural Resource Conservation Service (NRCS) Web Soil Survey tool was used to identify prime or unique farmland soils in the study area. Approximately 3,556 acres of prime-irrigated or unique farmland soil types were identified in the study area and 983 acres in the existing ADOT easement for I-10 (Table 25 and Figure 27). Prime farmland if irrigated soils also exist in the study area in Casa Grande and Pinal County south of the Community from milepost 186 to the southern terminus of the I-10 project at milepost 187.1, but this area has no active farmland.

Table 25. Prime and unique farmland soils in the study area

Farmland soil type	500-foot study area (acres)	Existing easement (acres)
Unique farmland	2,598	726
Prime farmland, if irrigated	923	240
Prime farmland, if irrigated and flood protected	35	17
Total	**3,556**	**983**

Source: Natural Resources Conservation Service, Web Soil Survey Tool, 2019

Prime and unique farmland soils on active agricultural land, or land that could become active agricultural land in the future, exist throughout much of the study area in the Community (Figure 27). An area of active, contiguous agricultural land and farming operations is found between mileposts 177 and 180 that contains both prime irrigated and unique farmland soils. Canals provide irrigation to these farmlands.

While the Community's future land use plans include mixed-use development in prime and unique farmland areas (see Figure 10, *Future land use*), this designation does not exempt those areas from FPPA evaluation.

Environmental Consequences

Selected Alternative

ADOT submitted the NRCS-CPA-106 form to the NRCS State Resource Conservationist for Arizona on July 26, 2021. Based on design changes to the TIs and crossroads, a revised form was submitted on August 19, 2021 (Appendix J, *Farmland Information*). On September 15, 2021, the NRCS State Resource Conservationist for Arizona sent a letter stating that the proposed I-10 project had the potential to affect farmland soils in the study area, as defined in Section 658.2a of the Code of Federal Regulations pursuant to the FPPA. A *Custom Soil Report for the I-10 Widening and Improvements Project* accompanied the letter, indicating the types of soils present in the study area that are considered attributable to prime irrigated or unique farmland.

Subsequent to receipt of the letter, ADOT prepared the remaining parts of the NRCS-CPA-106 form to determine whether the I-10 project will result in adverse impacts on prime irrigated or unique farmland soils and active farmland based on FPPA Corridor Assessment Criteria [7 CFR Section 658.5(c)]. The assessment involves 10 criteria that must be considered based on a maximum number of points adding up to 160. If the assessment reaches 160 points, an agency must consider additional alternatives to reduce or mitigate adverse prime and/or unique farmlands. The point total for the I-10 project was 75 points. As a result, ADOT has met the requirements of the FPPA based on the NRCS-CPA-106 form. No additional alternatives need to be developed and no further coordination with the NRCS State Resource Conservationist for Arizona is required.

The Selected Alternative will convert 81.02 acres of land with prime irrigated and unique farmland soils in the Community to a long-term transportation use to make improvements to four I-10 TIs (with the exception being the SR 387/SR 187/Pinal Avenue TI) and four crossroads (with the exception being the Dirk Lay Road crossing)—note that no additional easement is needed to widen I-10 inside to the median. These soil types will no longer be available for potential agricultural use in the Community. No impacts on prime or unique farmland soils will occur in Phoenix and Chandler because this area is fully urbanized. No new easement is needed by ADOT in Casa Grande, so there will be no impact on the prime if irrigated farmland soil in this part of the study area.

The proposed improvements to the Wild Horse Pass Boulevard (0.90 acre), SR 347/Queen Creek Road (6.74 acres), Riggs Road (0.38 acre), and SR 587/Casa Blanca Road (19.36 acres) TIs and the Goodyear Road (1.26 acres) and Nelson Road (8.88 acres) crossroads will require 37.52 acres of unique farmland soils. The additional ADOT easement will increase the amount of land in a transportation use (Figure 27). None of these locations are in areas of agricultural land use and are classified as either open space or undeveloped land in the Community.

The Gasline Road crossroad improvements will require 4.50 acres of prime irrigated and unique farmland soils (Figure 28). Additionally, ADOT will require 2.00 acres for a temporary construction easement, which will be returned to the Community after the completion of construction.

The conversion of the Seed Farm Road crossroad to a new TI will require 38.70 acres of prime irrigated farmland, all of which is farmed (Figure 29). The new Seed Farm Road TI will also require 8.78 acres as a temporary construction easement.

In summary, the I-10 expansion and improvement project will require 81.02 acres for conversion to a transportation use, of which 31.02 acres is currently being used for agriculture. While this is an impact of long-term duration, it is of minimal intensity given that the Community has 37,000 acres of active farmland.

No-Build Alternative

With the No-Build Alternative, no farmland would be converted to a long-term transportation use because ADOT would not expand and improve I-10 in the study area corridor. Farming and agriculture in the Community would likely continue in the future as it does today. However, area farmers would not benefit from the reduced travel times and congestion that the I-10 improvements would provide, in terms of getting their crops and other agricultural products to market.

Figure 27. Farmland classification

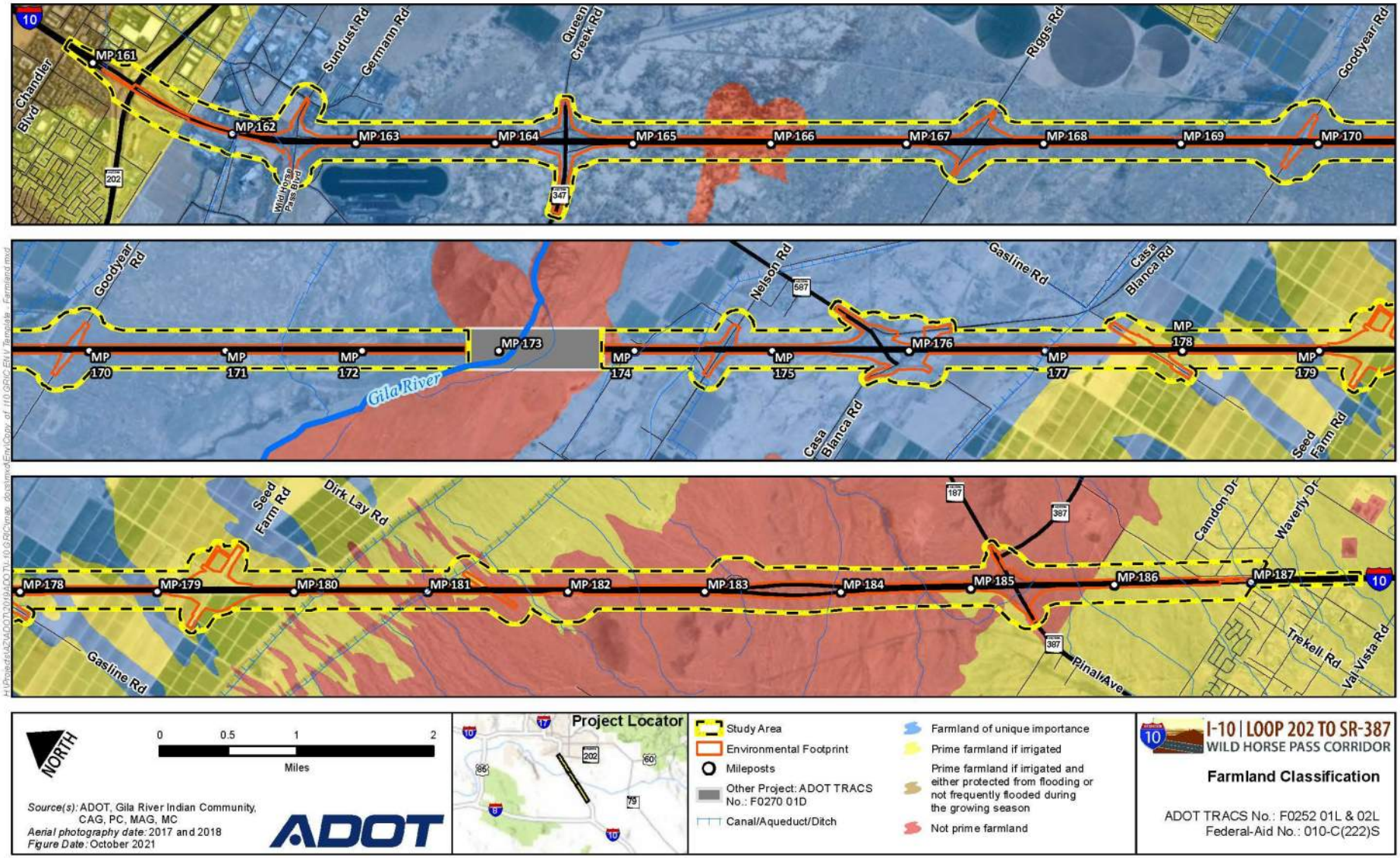


Figure 28. Gasline Road: existing land use

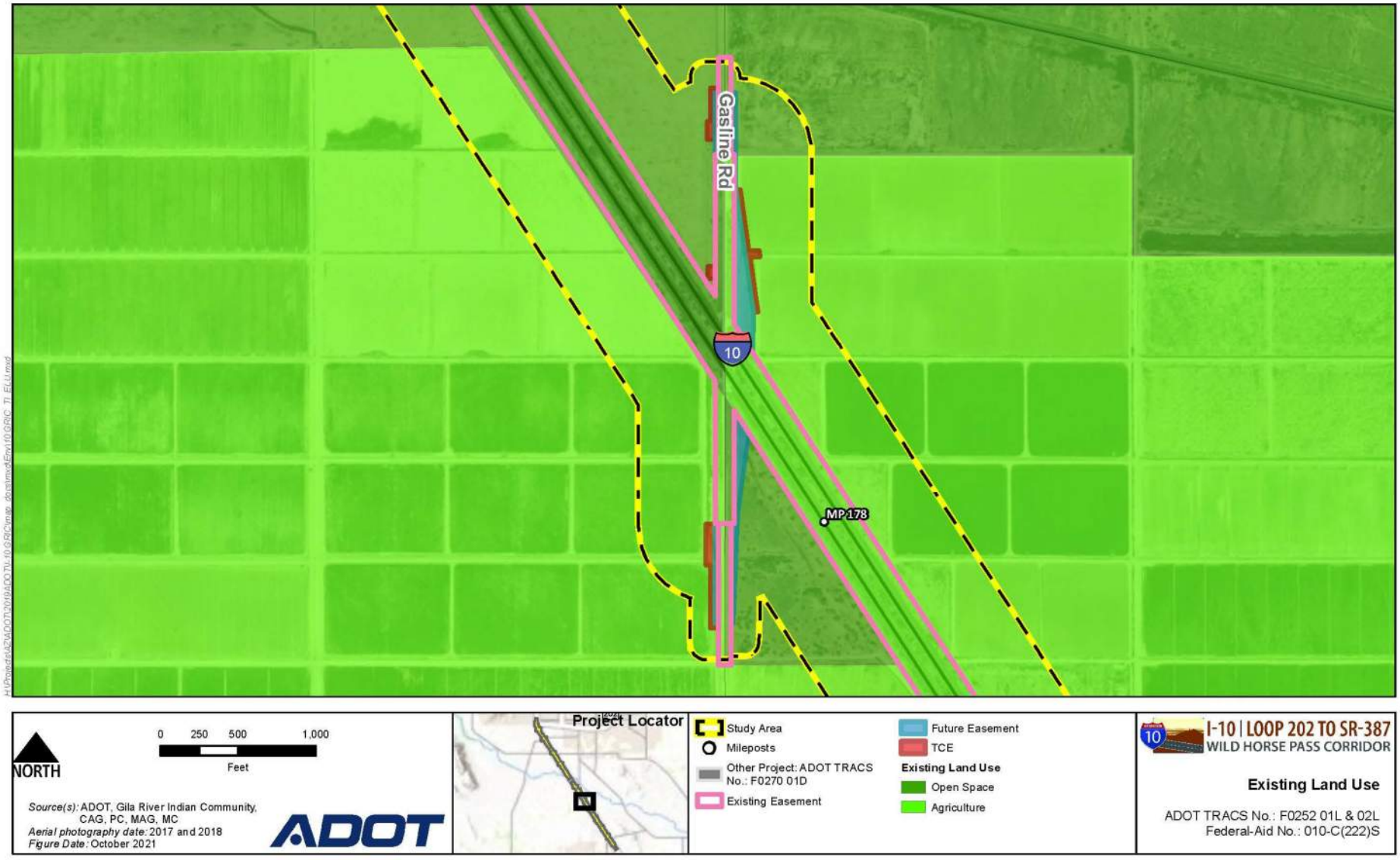
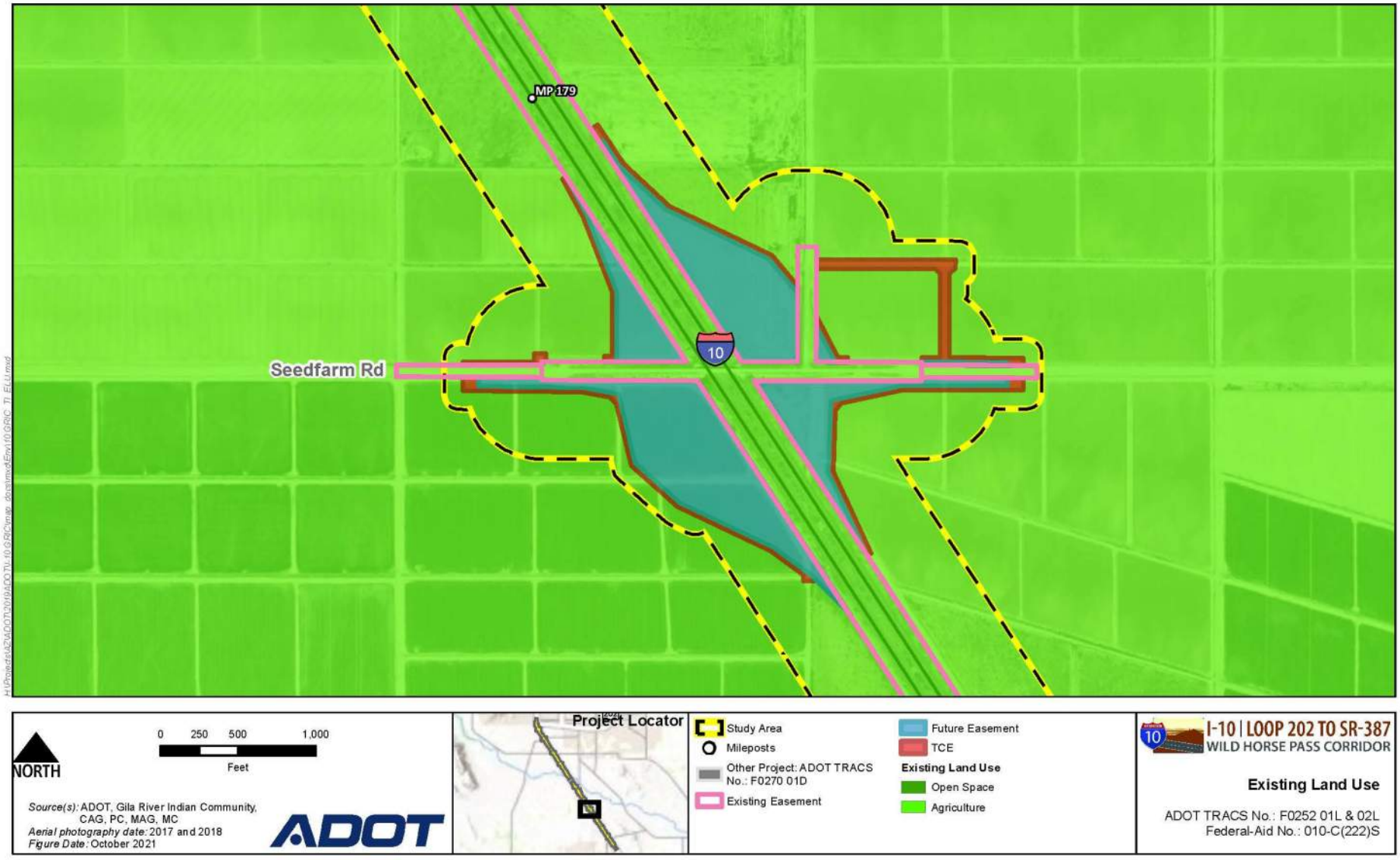


Figure 29. Seed Farm Road: existing land use



Environmental Commitments and Mitigation Measures

Arizona Department of Transportation Design Responsibilities

- The Arizona Department of Transportation design team will coordinate with Gila Farms regarding its agricultural fields and ongoing agricultural operations near Interstate 10.

Contractor Responsibilities

- The contractor shall avoid all flagged and/or otherwise designated actively farmed agricultural land or farm fields with prime irrigated soils in the Gila River Indian Community between mileposts 177 and 180—specifically at the Gasline Road and Seed Farm Road construction areas.
- The contractor shall coordinate with Gila Farms during construction at its agricultural fields at Gasline Road and at Seed Farm Road to avoid disrupting its ongoing operations near Interstate 10.
- The contractor shall not block access to farm fields, agricultural operations, or equipment in the Gila River Indian Community during construction.
- All Interstate 10 project activities, vehicles, and construction equipment in the project area will be limited to the existing pavement, pullouts, side roads, and approved construction staging areas/temporary construction easements.
- The contractor shall contact the Arizona Department of Transportation Environmental Planning (602.712.7767) at least ten (10) working days prior to the commencement of work to ensure compliance with agricultural avoidance areas.

N. Hazardous Materials

This section discusses hazardous materials sites in the study area and how the Selected Alternative may affect such sites.

Affected Environment

Available records from federal, state, local, and tribal databases were reviewed in July 2019 to identify potential sites of hazardous contamination in or near the study area.[8] Forty-four listings were found in the environmental database report, but only five listings were located in the corridor or within 1/8 mile of the edge of the easement or right-of-way. None of the listings indicated a specific issue of concern (see Appendix K for additional information). In June 2023, a new hazardous materials assessment was conducted for the study area (Appendix K). While the number of sites has increased in the almost 4 years since the original assessment, none of the listings indicates a specific issue of concern.

The Community's Department of Environmental Quality indicated that it had no specific files regarding spills and releases in the study area. Arizona Department of Public Safety records related to crashes on I-10 indicated only that there have been crashes, with no indication of whether hazardous materials were involved. No other sites of concern were identified during the site reconnaissance or from the review of aerial photography.

The potential presence of asbestos-containing materials and lead-based paint along the I-10 corridor was also investigated. Asbestos sampling at the Dirk Lay Road and Gasline Road bridges and subsequent laboratory analyses indicated that none of the concrete or paint materials sampled contained asbestos. However, paint samples from these bridges contained lead in concentrations well above the ADEQ action level of 5 parts per million.

Environmental Consequences

Selected Alternative

No specific hazardous materials sites of concern are located in the study area; therefore, no further hazardous materials assessments are required. However, the risk of environmental impacts in the study area is moderate, based on the multiple vehicle crashes in the corridor, some of which likely involved the release of hazardous materials such as oil, fuel, and other vehicle liquids (specific locations and volumes cannot be determined). Pavement restriping will be required throughout for the Selected Alternative. The pavement has not been sampled for the presence of lead-based paint because of safety concerns related to the heavy traffic on I-10; therefore, it is assumed that yellow and white paint stripes contain actionable levels of lead. Additionally, action levels of lead-based paint are present at the Dirk Lay Road and Gasline

[8] The environmental database report included a quarter-mile buffer from the edge of existing ADOT easement or right-of-way.

Road bridges. No asbestos was found in either bridge. The remaining bridges in the Selected Alternative have not been sampled for lead-based paint or asbestos; therefore, it is assumed that, as with the Dirk Lay Road and Gasline Road bridges, the remaining bridges could also contain lead-based paint and possibly asbestos. Environmental commitments and mitigation measures identified below will be implemented for the Selected Alternative. With their implementation, no adverse impacts associated with hazardous materials are anticipated as a result of the build alternative.

No-Build Alternative

No impacts on hazardous materials sites would be associated with the No-Build Alternative because there are no specific sites of concern in or near the corridor.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Arizona Department of Transportation Design Responsibility

- The design team's project manager will contact the Arizona Department of Transportation's Environmental Planning hazardous materials coordinator at 602.920.3882 or 602.712.7767 to determine the need for additional assessment.

Arizona Department of Transportation Environmental Planning Responsibilities

- All load-bearing structures will be assessed during the final design to determine the presence of lead-based paint and/or asbestos.

Arizona Department of Transportation Central District and Southcentral District Responsibilities

- If suspected hazardous materials were encountered during construction, work will cease at that location and the Arizona Department of Transportation Resident Engineer will arrange for the proper assessment, treatment, or disposal of those materials.
- Asbestos and lead-based paint containing materials identified in structures to be modified or demolished will be properly removed and disposed of prior to demolition.
- No bridge work will occur until the Lead-Based Paint Removal and Abatement Plan is approved by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator and implemented.

- The Engineer, in association with the contractor, will complete the National Emission Standards for Hazardous Air Pollutants documentation and submit it to the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for review 5 (five) working days prior to being submitted to the regulatory agency.

Contractor's Responsibilities

- If suspected hazardous materials were encountered during construction, work will cease at that location and the Arizona Department of Transportation Environmental Planning hazardous materials coordinator will be contacted to arrange for the proper assessment, treatment, or disposal of those materials.
- An approved contractor shall develop and implement a Lead-Based Paint Removal and Abatement Plan for the removal of the lead-based paint, a Toxicity Characteristic Leaching Procedure for testing of the generated waste stream, and proper disposal of the waste stream derived from the removal of paint on the Dirk Lay Road and Gasline Road bridges (and any other load-bearing structure) and yellow and white pavement stripes. The contractor shall select a lead abatement contractor that meets the qualification requirements specified in the special provisions and as approved by the Engineer. The contractor shall follow all applicable federal, state, and local codes and regulations, including the Arizona Department of Transportation *Standard Specifications for Road and Bridge Construction* (2021 Edition), related to the treatment and handling of lead-based paint.
- The contractor shall submit a Lead-Based Paint Removal and Abatement Plan for the removal of paint on the Dirk Lay Road and Gasline Road bridges (and any other bridges found to have lead-based paint) and yellow and white pavement stripes to the Engineer and the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for review and approval at least 10 (ten) working days prior to bridge work.
- No bridge work will occur until the Lead-Based Paint Removal and Abatement Plan is approved by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator and implemented.
- Visible fugitive dust emissions from paint removal will be controlled through wet or dry (for example, vacuum) means during the removal process. If the liquid waste stream generated by a waterblasting obliteration method passes the Toxicity Characteristic Leaching Procedure analysis, it may be used as a dust palliative or for compaction on the project. If the water is not used on the project, it will be properly disposed of in accordance with all applicable federal, state, and local regulations.

- The contractor cannot start work associated with demolition or modification of any load-bearing structures until 10 (ten) working days have passed since the submittal of the National Emission Standards for Hazardous Air Pollutants notification to the regulatory agency.
- The contractor shall complete a National Emission Standards for Hazardous Air Pollutants notification for work associated with the Dirk Lay Road and Gasline Road bridges and all other load-bearing structures and submit it to the Engineer for review.
- After Engineer approval, the notification will be submitted to the Arizona Department of Transportation Environmental Planning hazardous materials coordinator (602.920.3882 or 602.712.7767) for a 5 (five) working day review and approval. Upon approval by the Arizona Department of Transportation Environmental Planning hazardous materials coordinator, the contractor shall file the notification with the Arizona Department of Environmental Quality at least 10 (ten) working days prior to demolition/renovation associated with load-bearing structures along the Interstate 10 corridor.

O. Materials Sources and Waste Materials

This section discusses materials needed for, and waste generated by, construction of the proposed action.

Affected Environment

The contractor will acquire the materials needed for construction by using either an ADOT-licensed source or a contractor-furnished source. In either case, the materials will require environmental analysis and approval by ADOT prior to use. A number of landfills and transfer stations are located in Maricopa and Pinal Counties near the study area and could be used to dispose of waste materials.

Environmental Consequences

Selected Alternative

Preliminary calculations indicate that construction of the Selected Alternative will require approximately 1.6 million cubic yards of borrow materials from an off-site location for fill materials, embankments, overpasses, road base, and related construction needs (Table 26).

Table 26. Borrow materials needed for the Selected Alternative

Construction component	Total shrink/swell-adjusted excavation[a] (cut) (cubic yards)	Total embankment (fill) (cubic yards)	Net borrow required (cubic yards)
Interstate 10 main line widening	122,491	684,570	562,079
Wild Horse Pass Boulevard TI	33,171	148,073	114,902
SR 347/Queen Creek Road TI	10,336	230,100	219,764
Riggs Road TI	4,116	47,300	43,184
Goodyear Road crossing	1,265	35,810	34,545
Nelson Road crossing	738	32,780	32,042
SR 587/Casa Blanca Road TI	9,431	312,427	302,996
Gasline Road crossing	5,364	80,500	75,137
Seed Farm Road TI	12,240	190,000	177,760
Dirk Lay Road crossing	39,563	0	–39,563
SR 387/SR 187/Pinal Avenue TI	2,083	59,900	57,818
Fiber optic trunk line	0	0	0
Total	**240,797**	**1,821,460**	**1,580,663**

Notes: SR = State Route, TI = traffic interchange

[a] Shrink is the decrease in volume of soil once it has been replaced and compacted, compared with the volume of soil in its natural state. Swell can increase the volume of soil, typically as a result of additional moisture.

No adverse impacts that cannot be avoided or minimized are anticipated from the transport, storage, and use of borrow materials or the handling and disposal of project-related waste materials.

No-Build Alternative

The No-Build Alternative would not require the use of borrow material or waste disposal sites. Therefore, it would have no impact related to the use of material sources or waste sites.

Environmental Commitments and Mitigation Measures

All of the following mitigation measures apply and will be implemented during all phases of construction. The mitigation measures listed below supersede the mitigation measures from the Draft EA and are not subject to change without prior written approval from ADOT.

Contractor Responsibilities

- The contractor shall use material sources from the Arizona Department of Transportation's *Contractor-Furnished Materials Sources List*. If the source that the contractor prefers to use is not on the Arizona Department of Transportation list, the contractor shall complete the Arizona Department of Transportation Environmental Planning's Material Source Environmental Analysis Application in accordance with the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 104 Material Sources (2021 Edition) (Stored Specifications 104 ENVIRO – 07/21 and 1001 MATL – 06/17/21), prior to using material from that source.
- Contractor-furnished material sources must go through a process to obtain environmental clearance for use on Arizona Department of Transportation projects. The material source owner or operator must submit a Material Source Environmental Analysis Application, with cultural survey and reports, to the Arizona Department of Transportation Environmental Planning. After receiving the completed application, the Arizona Department of Transportation Environmental Planning will initiate a cultural consultation process. Upon successful completion of this process, the material source will receive a tracking number and may be included on the Arizona Department of Transportation's *Contractor-Furnished Materials Sources List.*

- According to the Arizona Department of Transportation's *Standard Specifications for Road and Bridge Construction*, Section 107.11, Protection and Restoration of Property and Landscape (2021), "materials removed during construction operations, such as trees, stumps, building materials, irrigation and drainage structures, broken concrete, and other similar materials, shall not be dumped on either private or public property unless the contractor has obtained written permission from the owner or public agency with jurisdiction over the land. Written permission will not be required, however, when materials are disposed of at an operating, public dumping ground." Excess waste material and construction debris will be disposed of at sites supplied by the contractor, at a municipal landfill approved under Title D of the Resource Conservation and Recovery Act, at a construction debris landfill approved under Article 3 of Arizona Revised Statutes 49-241 (Aquifer Protection Permit) administered by the Arizona Department of Environmental Quality, or at an inert landfill.

P. Secondary Impacts

This section identifies potential secondary effects that could result from the proposed action.

Affected Environment

Reasonably foreseeable secondary impacts would primarily involve the relationship between I-10, local roads, and land use. The I-10 widening and TI improvements will increase I-10's traffic capacity and improve traffic operations and travel times on the freeway and local highways in the study area. See Section A, *Land Ownership, Jurisdiction, and Land Use*, in this part of the EA for a description of land uses in the study area.

Environmental Consequences

Selected Alternative

TRANSPORTATION AND LAND USE

Phoenix and Chandler would likely not be affected by induced land development because the land adjacent to and near the study area is fully built out, with little area available for infill development. The Selected Alternative could, however, encourage the development of the Loop 202/I-10 Growth Center as a mixed-use employment center, as described in Chandler's *General Plan* (see the *Land Use and Socioeconomic Report* in Appendix C).

The widening of I-10 and the improvements to the SR 387/SR 187/Pinal Avenue service TI could induce or increase the rate of new development in Casa Grande, which has a substantial amount of developable land planned for future residential, mixed-use, and commercial development.

The Community may consider the improved traffic operations and travel times with the Selected Alternative as an opportunity for future benefit and could include the I-10 project as part of future development plans to stimulate growth in the Community and accommodate demand for new development or businesses.

An important reasonably foreseeable future development in the Community that would benefit from the Selected Alternative is the planned full build-out of the Wild Horse Pass casino and entertainment complex (see Section B, *Social and Economic Considerations*). The planned development includes over 3,000 acres to be completed in various phases between 2030 and 2060 and would substantially increase event traffic in the northern section of the study area. ADOT's completion of the Selected Alternative is critical to the success of the Wild Horse Pass expansion.

An area in the Community that could be affected by induced development and a potential change in land use is the Seed Farm Road area, which is approximately 2 miles west of Sacaton—the Community's governmental and residential center. ADOT is proposing to construct a new TI at I-10 and Seed Farm Road as part of the Selected Alternative to replace the existing crossroad, at the request of the Community. A new TI will provide more direct access between I-10 and Sacaton.

The proposed TI will require 38.70 acres of new ADOT easement to build the new TI, all of which is classified as prime irrigated farmland by NRCS and is actively farmed by the Community (see Figure 29, *Seed Farm Road: existing land use*). Once the TI becomes operational, the area could experience demand for commercial development near the new TI—induced by the Selected Alternative. Should Community leaders determine that changing the land use at Seed Farm Road from agriculture to other land uses is in the Community's best interest, numerous acres of active farmland could be converted to other forms of development. Note that future land use in this area is identified as mixed-use development. Depending on the Community's future land use and development plans, farmland impacts may be considered a net positive, moderate to substantial in severity, and permanent in duration.

OTHER RESOURCES

Other secondary impacts induced by the Selected Alternative could include the following:

- improved access, which would assist the Community in realizing land use plans for the Wild Horse Pass area and other areas (including the mixed-use development envisioned for Seed Farm Road)
- loss of open space, vacant, or agricultural land (including prime and unique farmland) currently present in substantial amounts in the study area and the Community as a whole, which could occur at the TIs—such as Seed Farm Road—later in time after construction is completed and the improvements result in a more beneficial relationship between I-10, land use, and future development potential
- increased emissions of vehicular air pollutants and increased noise with additional development
- additional pressure on biological resources from induced development
- new discoveries of previously unknown cultural resources, such as archaeological sites, should new development occur at the TIs to take advantage of the I-10 widening and TI improvements
- changes in visual character in rural areas of the Community from potential new development at the improved TIs

No-Build Alternative

No secondary impacts would occur with the No-Build Alternative because the Selected Alternative would not be implemented. With the No-Build Alternative, travel demand is projected to increase substantially on I-10, resulting in continued degradation of LOS, longer travel times, and severe congestion in the study area by 2040.

Land use plans for the Community (including development at Wild Horse Pass and Seed Farm Road) may take longer to implement, or may not be fully realized because of access issues. Traffic impacts on local roads in the Community would likely result from increased congestion on the I-10 main line and the rerouting of traffic after crashes, or bypass and cut-through traffic seeking alternative routes.

Environmental Commitments and Mitigation Measures

No mitigation measures are required or applicable for secondary impacts by ADOT because such impacts would occur after the Selected Alternative is operational and would affect land or property that does not include ADOT easement or right-of-way.

Q. Cumulative Impacts

This section discusses the qualitative cumulative effects analysis for the proposed action, in accordance with CEQ regulations at 40 CFR Section 1508.7. The cumulative impact assessment evaluated the impacts of the Selected Alternative on a resource when viewed in the context of other *past*, *present*, and *reasonably foreseeable* actions in the area.

Affected Environment

The study area was evaluated for cumulative effects based on three discreet sections:

North Section – This section extends approximately 4 miles from the northern terminus at milepost 161 to the SR 347/Queen Creek Road TI. This is a highly urbanized area in Phoenix and Chandler and, to a lesser extent, in the northern part of the Community, which is less urbanized.

Middle Section – This section traverses the mostly undeveloped part of the Community from the SR 347/Queen Creek Road TI to the SR 387/SR 187/Pinal Avenue TI—a distance of 20 miles, which is the bulk of the study area.

South Section – This section exits the Community just south of the SR 387/SR 187/Pinal Avenue TI and enters the far northeastern section of Casa Grande and Pinal County unincorporated land to the southern terminus of the study area at milepost 187.1, for a length of 2 miles.

Past and present actions are those actions that have contributed and are contributing to the current condition of resources in the study area. Reasonably foreseeable future actions include those caused by implementation of the proposed action, other planned and programmed transportation projects, and other planned development likely to occur in the study area. Table 27 describes past and present actions and reasonably foreseeable actions in the study area that contribute to cumulative effects on the environment.

Table 27. Past and present actions and reasonably foreseeable actions

Past and present actions	Reasonably foreseeable actions
North section	
Establishment of the Community in 1859 (also includes the middle section of the study area)	Chandler Loop 202/I-10 Growth Center (between I-10, Kyrene Road, SR 202L, and Chandler Boulevard)
Chandler master-planned community – residential, recreational, and office park (also includes the middle section of the study area)	Community agriculture conversion to mixed-use development
State and local highways and roads (including SR 202L and SR 101L), utilities, and other infrastructure in Phoenix, Chandler, and the Community	Community build-out of the 3,000-acre Wild Horse Pass entertainment and event complex (west of I-10)
Development in Phoenix (residential, commercial, mixed-use, community, recreational) and in Chandler (manufacturing, warehousing, and distribution, commercial)	Community build-out of remaining open space between its northern boundary and the SR 347/Queen Creek Road TI (industrial and commercial uses east of I-10)

Table 27. Past and present actions and reasonably foreseeable actions

Past and present actions	Reasonably foreseeable actions
Development in the Community (gaming [Wild Horse Pass and Gila River-Lone Butte], entertainment, event, commercial, industrial park, and agricultural)	Community open space conversion to agriculture between the SR 347/Queen Creek Road TI and just south of the Riggs Road TI (west of I-10)
Middle section	
Community residential areas of Lower San Tan Village, Bapchule, Casa Blanca, Sacaton, and Black Water	San Carlos Irrigation Project rehabilitation project
Community agricultural development	West Pinal Freeway (SR 347 to I-10)
South section	
Casa Grande highway, street, utility, and infrastructure development	West Pinal Freeway (SR 347 to I-8), East-West Corridor (SR 347 to I-10, with new TI at Val Vista Road), Casa Grande Connector (I-10 to SR 287 [Korsten/Kleck Roads]), Selma Highway (Thornton Road to SR 287), Montgomery Road (East-West Corridor [Val Vista Road] to SR 84)
Casa Grande residential, commercial, and business development	Casa Grande street, utility, and infrastructure development
Pinal County large-lot residential development	Casa Grande residential (master-planned communities), commercial, and business development
Casa Grande Municipal Airport	Casa Grande Airport Industrial Park (SR 347 between Val Vista and McCartney Roads)
Central Arizona College	Central Arizona Commerce Park (northeastern corner of Commerce Drive and Peters Road)
Improvements to SR 347, SR 87, SR 187, SR 387, and SR 287	Phoenixmart International Business-to-Business Sourcing Center
—	Lucid Auto Manufacturing Plant
—	Attesa Motor Sports Raceway (south of Interstate 8 between Montgomery and Bianca Roads)
—	Dreamport Villages Theme Park (I-10 and Interstate 8 junction)
—	LKQ Auto Parts and Vehicle Recycling Company (northwestern corner of Thornton and Peters Roads)
Multiple sections	
I-10	Arizona Passenger Rail Corridor from Phoenix to Tucson (Maricopa, Pinal, and Pima Counties)
Union Pacific Railroad	North-South Freeway (U.S. Route 60 to I-10)

Notes: Community = Gila River Indian Community, I-10 = Interstate 10, SR = State Route, TI = traffic interchange

The classification of cumulative impacts, in accordance with FHWA guidance, is presented in Table 28.

Table 28. Cumulative impact classification

Impact category	Impact classification	Description
Type	Neutral, positive, or negative	Identifies whether cumulative impacts on a resource would be beneficial, adverse, or negligible (or would constitute no impact).
Intensity	Minor, moderate, or substantial	Evaluates the degree to which the cumulative impacts of past, present, and foreseeable actions would affect natural, human-made, and cultural resources.
Duration	Temporary or long-term	Assumes a long-term duration, unless otherwise specified.

Environmental Consequences

This qualitative assessment of cumulative impacts focused on how the Selected Alternative will contribute to regional effects on the transportation system, land use, and environmental resources near the study area.

Selected Alternative

A substantial amount of reasonably foreseeable development is likely to occur at two areas where current and future growth is planned: in the study area's northern section in the Community from its northern boundary to SR 347/Queen Creek Road including Wild Horse Pass Boulevard, and in the southern section in Casa Grande. Potential future development may also affect areas of existing agriculture in the Community in and near the study area. Data from MAG indicate that land classified as agriculture in the Community could be converted to mixed-use development at some point in the future. Given this context, Table 29 lists the potential cumulative impacts, as related to the Selected Alternative and other actions.

Table 29. Potential cumulative impacts

Resource	Location and Impact	Type, intensity, and duration of cumulative impact
Population and employment growth	*North Section*: Continuing economic growth at a rapid pace, particularly at the Wild Horse Pass entertainment complex, and the potential build-out of the Chandler Loop 202/I-10 Growth Center.	Positive, substantial, long-term
	Middle Section: The Community population is projected to grow slowly, at approximately 3 percent between 2018 and 2040; most of the employment growth is projected in the northern part of the Community.	Positive, minor, long-term impacts
	South Section: Population and employment are projected to grow upwards of 60 percent in Casa Grande by 2040. The future projects listed in Table 27 indicate that development of all types is planned in the area. This includes new and expanded highways, streets, and supporting infrastructure, along with new residential and business development.	Positive, substantial, long-term
Land use	*North Section*: Rapid transition from open space and vacant land to more urbanized uses in the Wild Horse Pass area by 2040.	Positive, substantial, long-term

Table 29. Potential cumulative impacts

Resource	Location and Impact	Type, intensity, and duration of cumulative impact
	Middle Section: Agricultural, open space, and vacant land are designated as future mixed-use development, based on future land use data from MAG, but no major growth plans or projects have been identified.	Positive, minor, long-term
	South Section: Future land use plans in Casa Grande are projecting a substantial conversion of agricultural, open space, and vacant land to residential, commercial, mixed-use, and some industrial uses by 2040.	Positive, substantial, long-term
Access and quality of life	*North Section*: Cumulative impacts include improved access from I-10 to the Wild Horse Pass entertainment complex and the likely build-out of the Chandler Loop 202/I-10 Growth Center. The build-out of Wild Horse Pass would improve the local and regional quality of life with additional entertainment and event venues.	Positive, moderate to substantial, long-term
	Middle Section: Improved access to housing, jobs, and community resources from I-10 and the West Pinal Freeway, and an improved general quality of life, including for minority, low-income, and other residents considered vulnerable populations in the Community.	Positive, substantial, long-term
	South Section: Improved access from the planned new and expanded highway and street projects identified in Table 27 and improved quality of life from expanded economic opportunities.	Positive, substantial, long-term
Air quality	*North and South Sections*: Planned growth would increase vehicular traffic in the nonattainment areas in Maricopa and Pinal Counties for particulate matter, which could further degrade air quality in these areas.	Negative, moderate, long-term
	Middle Section: This section of the study area in the Community is not in a particulate matter nonattainment area and substantial future growth is not anticipated.	Neutral, minor, long-term
Noise	*North Section*: The planned build-out of Wild Horse Pass and the Chandler Loop 202/I-10 Growth Center could increase noise from increased traffic, but no sensitive receptors—such as residential, recreational, or medical facilities—are in this part of the study area.	Neutral, no impact, long-term
	Middle Section: Substantial future growth is not anticipated and there are no sensitive receptors near the study area.	Neutral, no impact, long-term
	South Section: Increased vehicular noise is likely to occur in Casa Grande as new roads are built and existing roads are expanded, along with new residential and commercial development; also, increased short-term construction noise and other noise from urban uses in Casa Grande would occur.	Negative, moderate, long-term
Water quality	*North and South Sections*: Increased amount of impervious land surface would occur as undeveloped land becomes part of the built environment with new development in these sections, increasing the volume and rate of stormwater runoff, which could affect surface water quality and sediment loads. The use of Stormwater Pollution Preventions Plans during the development process would help offset negative impacts on water quality.	Negative, minor, long-term
	Middle Section: Substantial future growth is not anticipated, and any development that would occur would be minor.	Negative, minor, long-term
Flooding	*North Section*: Phoenix and Chandler are located in an area of moderate risk of flooding, based on FEMA floodplain mapping, but are protected from flooding by flood control structures.	Negative, minor, long-term

Table 29. Potential cumulative impacts

Resource	Location and Impact	Type, intensity, and duration of cumulative impact
	Middle Section: Substantial future growth is not anticipated, and any development that would occur would be minor; it is unknown whether there are areas at risk for flooding based on the lack of FEMA floodplain mapping in the Community.	Negative, minor, long-term
	South Section: Casa Grande is in an area that has a minimal risk of flooding, based on FEMA floodplain mapping.	Negative, minor, long-term
Farmland	*North Section*: Phoenix and Chandler are fully urbanized, and urbanization is occurring at a rapid pace in the northern part of the Community. Future land use plans—particularly at Wild Horse Pass—indicate this area would be nearly fully urbanized by 2040; substantial unique farmland soils are located there.	Negative, moderate, long-term
	Middle Section: The direct impact of constructing a new TI at Seed Farm Road, along with the potential secondary, induced impact of follow-on development, could result in the loss of prime irrigated and unique farmland soils on active agricultural land in this section of the Community. If existing agricultural land is converted to forms of mixed-use development based on future land use data from MAG, the cumulative impacts of additional agricultural land losses could also occur—although any losses may be offset by the 37,000 acres of land in the Community currently designated as agricultural.	Negative, moderate, long-term
	South Section: Prime farmland if irrigated soils are located in Casa Grande. The City's future land use and development plans indicate this area would become more urbanized with residential, commercial, and some industrial uses by 2040.	Negative, moderate, long-term
Biological resources	*North and South Sections*: The loss of wildlife and plant habitat would continue as open space and vacant land are rapidly developed into urbanized uses in the northern part of the Community, particularly as Wild Horse Pass implements its long-term build-out plans. The same situation would occur in Casa Grande by 2040 as the City continues its present and planned future build-out process.	Negative, moderate to substantial, long-term
	Middle Section: No major growth plans or projects have been identified in this part of the study area. Cumulative impacts regarding the loss of biological resources could result if development in this part of the Community occurs in the future.	Negative, minimal, long-term
Cultural resources	*North and South Sections*: Impacts on archaeological sites, historic buildings and structures, and other cultural resources would continue where land disturbance results from rapid land development, along with identification of new cultural resources in these areas, especially archaeological sites. Cumulative impacts from present and future development may be offset by mitigation through data recovery and information housed by the Arizona State Museum and Huhugam Heritage Center, where such sites may be identified during the planning and design phases prior to construction of projects listed in Table 27.	Negative, moderate, long-term
	Middle Section: No major growth plans or projects have been identified in this part of the study area. Cumulative impacts regarding the identification and mitigation of cultural resources could result if development in this part of the Community begins at some point in the future.	Negative, minimal, long-term

Notes: Community = Gila River Indian Community, FEMA = Federal Emergency Management Agency, I-10 = Interstate 10, MAG = Maricopa Association of Governments, TI = traffic interchange

To summarize, cumulative impacts are likely to occur with the Selected Alternative—when evaluated in the context of other past, present, and reasonably foreseeable actions in the area—as the northern section of the study area in the Community and the southern section in Casa Grande continue to rapidly urbanize.

The cumulative impacts regarding population and growth, conversion of land to higher and more valuable forms of use, and accessibility and quality of life are considered positive and substantial over the long term in these areas. The cumulative impacts regarding the loss of or adverse effect on natural resources are considered negative and moderate to minimal, depending on the location of present and future development. Most impacts on natural resources can be reduced through mitigation measures, best management practices, permits, municipal ordinances and oversight, and related means and methods aimed at protecting such resources over the long term.

In the middle section where only the Community is located, agricultural, open space, and vacant land are designated as future mixed-use development based on future land use data from MAG, but no major growth plans or projects have been identified. Cumulative impacts would be positive but minor for population and growth, land use conversion, and accessibility and quality of life. Cumulative impacts on natural resources and other types of impacts listed in Table 29 would be neutral or negative but minor.

No-Build Alternative

If the I-10 widening and improvements were not implemented, no contribution to cumulative effects by the Selected Alternative would occur. The No-Build Alternative would not, however, preclude other present activities and reasonably foreseeable projects from affecting natural and built environment resources in or near the study area. Most cumulative impacts would result from ongoing conversions of land to more intensive urban development. Additionally, with the No-Build Alternative, many highway and I-10 segments are forecast to operate at a very poor LOS, resulting in long-term adverse cumulative effects on the transportation system in and near the study area.

Environmental Commitments and Mitigation Measures

The evaluation of cumulative impacts does not require ADOT to implement mitigation measures to address such impacts. ADOT or the contractor will be responsible for the construction of the Selected Alternative, should that alternative be selected—not any additional development or projects in the study area. Project-specific mitigation measures proposed to address direct impacts will also inherently contribute to reducing overall cumulative impacts.

R. Conclusion

Table 30 summarizes the potential environmental impacts associated with the Recommended Build and No-Build Alternatives. Potential environmental impacts of the Selected Alternative were evaluated based on the context of the effects in the study area and the type (adverse or beneficial, direct or indirect), intensity (severity of the impact), and duration (short- or long-term) of such impacts based on the evaluation documented in this EA, as defined by CEQ regulations (40 CFR Section 1508.27).

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Land use	
The SA conforms to the general and comprehensive plans for land use, transportation, and future development in the jurisdictions surrounding the SA. The SA will convert approximately 81.02 acres of land to a long-term transportation use for I-10. Most of the land needed for additional easement is currently open space and vacant land, and these amounts will be similar for future land uses. The long-term impact will be minimal in intensity.	The No-Build Alternative would not result in changes to existing or future land use patterns or the acquisition of land in the study area. It would not conform to plans and policies established by regional planning organizations, ADOT, the Community, and municipalities regarding future development based on an efficient transportation system. It is expected that development would slow in locations where future traffic volumes would approach and/or exceed the maximum capacity of I-10 in the study area.
Social and economic considerations	
Land acquisitions	
The SA will convert approximately 81.02 acres of Community land at TIs and crossroads to a transportation use. Eighty-six percent of needed easement will be at the SR 587/Casa Blanca Road TI and Seed Farm Road. A total of 53.45 acres of undeveloped tribal land and 27.57 acres of undeveloped allotted lands will be affected. One business sign at Seed Farm Road will be relocated. The long-term impact will be of minimal intensity and the proposed project conforms to the Community's long-range planning and development efforts.	The No-Build Alternative would not result in the acquisition of tribal or allotted land in the study area because no new easement would be required for capacity expansion and other improvements on I-10.
Neighborhood continuity and community cohesion	
No residential developments nor the single residence near I-10 at milepost 174 will be adversely affected. Pedestrian and bicycle facilities will improve access and connection across I-10 at crossroads and TIs. Access to the few community services and facilities within a half mile of I-10 will be maintained during construction. Overall, the SA is anticipated to benefit communities through improved access locally and regionally, reduced travel times by alleviating congestion, enhanced mobility and local connectivity, and improved emergency service response times and incident management on I-10.	The No-Build Alternative would not result in community impacts, but as future development continues, local street/Community roads and access would be adversely affected by substantial increased traffic congestion by 2040.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Title VI of the Civil Rights Act	
The SA will not displace residents or businesses but may potentially result in short-term construction effects on minority and protected populations. The SA benefits, such as improved circulation, reduced travel times, shorter travel delays, and improved safety will accrue to both minority and non-minority communities.	The No-Build Alternative would not adversely affect minority and other protected populations, but such populations would also not obtain the benefits and opportunities afforded by a widened I-10 and improved TIs and crossroads.
Environmental justice	
The SA will not displace residents or businesses but may potentially result in short-term construction effects on minority and low-income populations that will not be disproportionately high and adverse compared to impacts borne by non-environmental justice populations in the study area. The SA benefits, such as improved circulation, reduced travel times, shorter travel delays, and improved safety will accrue to both environmental justice and non-environmental justice communities.	The No-Build Alternative would not adversely affect populations of environmental justice concern, but such populations would also not obtain the benefits and opportunities afforded by a widened I-10 and improved TIs and crossroads.
Community and business accessibility	
The SA will not directly affect community facilities or businesses, except for one business sign to be relocated. Short-term adverse impacts during construction will include potential detours at crossroads and TIs, traffic delays, construction equipment noise and vibration, and reduced air quality. Access to businesses and community facilities will be maintained at all times.	With the No-Build Alternative, population and employment growth and new economic development would continue between Phoenix and Tucson and I-10 would not be able to provide the improved mobility needed to meet future travel demand, hindering future economic development.
Cultural resources	
Archeological sites	
The SA will directly affect 26 archeological sites and 1 linear site eligible for the NRHP that have the potential for significant cultural deposits and features preserved subsurface. Also, historically documented canal alignments cross the SA and will require archaeological testing and data recovery to confirm their location, condition, and NRHP eligibility. Archaeological testing will be required to determine the condition and character of the subsurface cultural deposits and any adverse impacts on the archaeological and linear sites will require mitigation through archaeological data recovery. A programmatic agreement has been reviewed by consulting parties and has been executed. Archeological impacts will be permanent and will be of moderate intensity with mitigation. No archaeological or linear sites will be indirectly affected by the SA. Impacts on cultural resources will be moderate and permanent.	The No-Build Alternative would have no direct or indirect impacts on archaeological and linear sites in the study area because no ground-disturbing activity related to the SA would occur.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Traditional cultural properties	
Eight NRHP-eligible TCPs will be directly affected by the Selected Alternative. These TCPs are NRHP-eligible under Criteria A and D for their associations with significant events and data potential. However, it is anticipated that the Selected Alternative will not significantly alter the existing conditions pertaining to the freeway and its use and, accordingly, the current interaction between the existing conditions and these TCPs would generally remain unaltered by the Selected Alternative. Physical impacts on the TCPs would be mitigated with measures identified through consultation with the Community THPO and Community CRMP, which may minimally include archaeological testing, data recovery, and ethnographic investigation. Impacts to TCPs may require additional attention, such as traditional religious activities and additional ethnographic evaluation.	The No-Build Alternative would have no direct or indirect impacts on TCPs in the study area.
Architectural resources	
No architectural resources will be directly or indirectly affected by the SA.	The No-Build Alternative would have no direct or indirect impacts on architectural resources in the study area.
Section 4(f) properties	
One recreational Section 4(f) property and 32 historic Section 4(f) properties are within 0.25 mile of the SA. There will be no direct or constructive use of the recreational Section 4(f) property. The SA will permanently use 3 Section 4(f) properties (TCPs 14 and 18 and the Hohokam-Pima National Monument) by acquiring partial ROW from each of these properties. Use of the Hohokam-Pima National Monument and TCPs 14 and 18 will not result in removal of archaeological resources important for preservation in place and will not adversely affect the activities, features, or attributes qualifying these Section 4(f) resources for protection under Section 4(f). No constructive use of any Section 4(f) properties will occur. New visual elements will be consistent with the existing I-10 corridor and there will be no noise impacts in proximity to Section 4(f) properties. Two TCPs are outside the environmental footprint and access roads to the TCPs will be maintained at all times. Three TCPs are in proximity to the SA and will require protection measures during construction.	No impacts on Section 4(f) properties would occur under the No-Build Alternative because a new federally funded transportation facility would not be built.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Traffic and transportation	
In 2040, traffic in the study area is projected to increase by 39 percent as compared with existing (2019) traffic levels. Traffic on the I-10 main line will continue to operate at LOS F during the morning and afternoon commutes with the SA; however, the duration of delay will be substantially shorter from SR 347/Queen Creek Road to SR 387/SR 187/Pinal Avenue—between 1.2- and 14.5-minute time savings, depending on the I-10 segment. With the SA, the LOS and travel times at each of the TIs will improve generally to LOS A through C, and delays will drop to below 1 minute. The long-term impact on traffic and the transportation system with the SA will be beneficial for traveling motorists, businesses, and freight transportation locally, regionally, and nationally.	Travel demand would continue to increase considerably between current and 2040 conditions based on projected population and employment growth in the study area. LOS would degrade to LOS E and F on both the I-10 main line and at the TIs, and delays would increase substantially in some locations, reducing travel time reliability. Local Community mobility and safety would be negatively affected by the increased congestion and delay. I-10 is a Safety Corridor, and increased travel demand would likely result in additional crashes, weather-related incidents, and potentially continued diversion of traffic onto Community lands.
Air quality	
The SA will not cause or contribute to any new violation of any air quality standard in any area, increase the frequency or severity of any existing violation of any standard in any area, or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. Impacts are anticipated to be minimal and long term.	Under the No-Build Alternative, traffic volumes and traffic congestion are predicted to increase through 2040. Through improved engine technology and cleaner vehicle options, the No-Build Alternative would result in air quality improvements, although not to the extent of the SA.
Noise	
There are locations along I-10 where predicted noise levels exceed ADOT's mitigation criteria; however, based on ADOT's Noise Abatement Requirements, noise abatement at these locations will not meet reasonable and feasible requirements.	The No-Build Alternative would have no effect on noise levels.
Utilities	
The SA will affect existing utilities, resulting in the need to modify, relocate, and/or encase certain utilities before or during construction. Utility relocations could result in minor service disruptions during construction, with prior notice provided to local customers.	The No-Build Alternative would have no impact on existing utilities.
Visual resources	
The SA will result in permanent minor visual impacts from the loss of vegetation in the freeway median and the taller bridges. Only minor changes to viewer exposure or awareness are anticipated. Minor impacts (not considered adverse) will be intensified by built features such as taller bridges and expanded TIs for viewers who live within a few hundred feet of the project, predominantly near Nelson Road.	The No-Build Alternative would have no impact on visual quality or local character.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Floodplain and drainage considerations	
There are no federally mapped 100-year floodplains in the study area; however, there are 100-year flood hazard zones in the Community, but the SA is not anticipated to result in an adverse effect on the flood hazard zones. The SA will include the minor relocation of irrigation facilities at Gasline and Seed Farm Roads. The SA will not affect wells. The SA will either maintain or improve drainage patterns in the study area through the replacement and/or extension of existing culverts and pipes.	The No-Build Alternative would not affect existing floodplains, drainage, or surface water and groundwater resources. Continued development in the area may create the need for additional roadway improvements, which could affect off-site drainage in the future.
Clean Water Act Sections 404, 401, and 402 and National Pollutant Discharge Elimination System	
Section 404: The SA will permanently modify 46 existing drainage structures by replacing, improving, or expanding culverts and drainage pipes conveying potential waters of the United States across I-10. Impacts will be minor and are not expected to exceed 0.5 acre of permanent loss at any drainage; therefore, the SA is anticipated to be authorized under a Nationwide Permit. The Gila Drain, Little Gila Canal, and Southside Canal will not be affected. **Section 401:** Ten surface waters between mileposts 185.85 and 187.1 are anticipated to be conditionally certified by the Arizona Department of Environmental Quality. The 36 waters on Community lands will require Section 401 Water Quality Certification from the Community. **Section 402:** The SA will cause temporary disturbance of more than 1 acre of ground and will be constructed in accordance with a National Pollutant Discharge Elimination System Construction General Permit on Community lands and an Arizona Pollutant Discharge Elimination System Construction General Permit in the ADOT easement.	The No-Build Alternative would have no impact on Clean Water Act resources.
Biological resources	
Vegetation and wildlife	
The SA will permanently convert 193.7 acres of natural ground surface to impermeable surface, of which 5.9 acres will be undisturbed Sonoran Desertscrub habitat that contains Arizona protected native plants. Other permanent impacts will occur on previously disturbed ground surfaces (for example, median, crossroads). Construction will cause both temporary and permanent impacts on potentially suitable foraging, breeding, or dispersal habitat for wildlife species and will affect native plant species. However, all impacts will be minor, occurring in previously disturbed areas adjacent to I-10 and the crossroad TIs or within the I-10 median where the existing habitat is of low value to wildlife. Culvert structures will be maintained for medium-sized mammals known to use the project area, thereby preserving wildlife permeability in the area. The project area contains invasive plant species, which will be mitigated to prevent their spread.	The No-Build Alternative would have no impact on vegetation or wildlife.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Sensitive species	
Several sensitive species including Sonoran desert tortoise, western burrowing owls, cliff swallows, bats, migratory birds, and Community Focal Species, if present during construction, could be directly or indirectly affected by the SA. Impacts on these species will be temporary and minor with implementation of mitigation measures. Permanent loss of habitat for sensitive species may also result, although such losses will be minor because all habitat affected by the SA is of low value to wildlife compared with the ample high-quality habitat in surrounding areas. Although the SA may affect the aforementioned species or their habitats, impacts will be minor, and measures will be implemented to avoid or minimize those impacts. Therefore, the project may affect individuals of a sensitive species but is not likely to result in a trend toward federal listing or loss of viability.	The No-Build Alternative would have no impact on sensitive species.
Prime and unique farmland	
The SA will convert approximately 81.02 acres of prime and unique farmland soils to a transportation use. These impacts will occur primarily at Seed Farm Road (38.70 acres) and the SR 587/Casa Blanca Road TI (19.36 acres). This impact will be of long-term duration, but of minimal intensity given that the Community has approximately 37,000 acres of active farmland.	The No-Build Alternative would have no impact on farmland in the study area. Farming and agriculture in the Community would not benefit from the reduced travel times and congestion that the I-10 improvements would provide.
Hazardous materials	
No specific hazardous materials sites of concern are located in the study area. However, the risk of environmental impacts in the study area is moderate, based on the multiple vehicle crashes in the corridor, some of which likely involved the release of hazardous materials (specific locations and volumes cannot be determined). Impacts from hazardous materials as a result of crashes are anticipated to be minimal and short-term. Action levels of lead-based paint are present at the Dirk Lay Road and Gasline Road bridges. No asbestos was found in either bridge. The remaining bridges in the Selected Alternative have not been sampled for lead-based paint or asbestos but will be during final design.	No impacts on hazardous material sites would be associated with the No-Build Alternative because there would be no ground-disturbing activity associated with SA. With the No-Build Alternative, crashes that could involve hazardous materials releases would likely continue.
Materials sources and waste materials	
Approximately 1.6 million cubic yards of materials from an off-site location will be required to construct the SA. The transport, storage, use, and disposal of all such materials, including waste and construction debris, will be managed in accordance with ADOT standards.	The No-Build Alternative would have no impact related to the use of construction materials or waste sites.

Table 30. Summary of environmental impacts

Selected Alternative	No-Build Alternative
Secondary impacts	
The SA will improve traffic operations and travel times and could induce or increase the rate of land development adjacent to and near I-10—for example, the Loop 202 area, Wild Horse Pass, Casa Grande, and, if tribal leaders chose, on the Community. The new TI at Seed Farm Road will improve access to the Community's governmental and residential center and the conversion of 39 acres of farmland may prompt the Community to further develop its land. Depending on the Community's future land use and development plans, farmland impacts may be considered positive or negative, moderate to substantial in severity, and permanent in duration. Other potential secondary impacts as a result of induced development with the SA include: higher traffic volumes on Community roads; loss of open space, vacant, or agricultural lands; increased emissions of vehicular air pollutants; additional pressure on biological resources; new discoveries of unknown archaeological sites; and changes in visual character from rural.	No secondary impacts related to the I-10 expansion and improvements would occur with the No-Build Alternative because the SA would not be implemented. With the No-Build Alternative, travel demand is projected to increase substantially on I-10, resulting in continued degradation of LOS, longer travel times, and severe congestion in the study area by 2040.
Cumulative impacts	
Cumulative impacts are likely to occur as the northern section of the study area in the Community and the southern section in Casa Grande continue rapidly urbanizing, replacing agricultural, open space, and vacant land. The cumulative impacts related to population and growth, conversion of land to higher and more valuable forms of use, and accessibility and quality of life are considered positive and substantial over the long term. The cumulative impacts regarding the loss of or adverse effect on natural resources are considered negative and moderate, depending on the location of present and future development near the study area. In the middle section where only the Community is located, agricultural, open space, and vacant land are designated as future mixed-use development, based on future land use data from MAG, but no major growth plans or projects have been identified. Cumulative impacts will be positive but minor for population growth, land use conversion, and accessibility and quality of life. Cumulative impacts on natural resources and other types of impacts listed in Table 29 will be neutral or negative but minor. Most impacts on natural resources could be reduced through mitigation measures, best management practices, permits, municipal ordinances and oversight, and related means and methods aimed at protecting such resources over the long term.	If the widening and improvements to I-10 are not constructed, no contribution to cumulative effects by the SA would occur. The No-Build Alternative would not, however, preclude other present activities and reasonably foreseeable projects from affecting natural and built environment resources in or near the study area. Most cumulative impacts would result from ongoing conversions of land to more intensive urban development. Additionally, with the No-Build Alternative, many highway and I-10 segments are forecast to operate at a very poor LOS, resulting in long-term adverse cumulative effects on the transportation system in and near the study area.

Notes: ADOT = Arizona Department of Transportation, Community = Gila River Indian Community, I-10 = Interstate 10, LOS = level of service, MAG = Maricopa Association of Governments, NRHP = National Register of Historic Places, SA = Selected Alternative, SR = State Route, TCP = traditional cultural property, TI = traffic interchange, THPO = Tribal Historic Preservation Office

After carefully considering the environmental analysis in this Draft EA, ADOT is recommending the Selected Alternative with the following justification:

- The Selected Alternative will reduce congestion and travel time delay on I-10 by 2040 that is being driven by population and employment growth in Maricopa, Pinal, and Pima Counties.

- The Selected Alternative will improve I-10 passenger and freight traffic capacity and operations, and address incidents of traffic detouring off the I-10 main line onto Community lands.
- The Selected Alternative will improve the travel time reliability for regional and international freight transportation.
- The Selected Alternative could decrease the potential for vehicular crashes and accidents, which are higher on I-10 in the study area than statewide.
- Adverse impacts from the Selected Alternative will be mitigated (for example, cultural resources).
- There is strong public and agency support for the Selected Alternative.
- Overall, the Selected Alternative will benefit the Community and all travelers using I-10.

The Selected Alternative allows for necessary capacity and operational and design improvements at the I-10 TIs and crossroads that will benefit the region, state, and overall traveling public, such as those who live and work in the area, as well as visitors and commercial carriers who provide vital support to the state's economy. These benefits will not be realized by selecting the No-Build Alternative. ADOT acknowledges that the Selected Alternative is estimated to cost $779 million and will have environmental impacts; however, those impacts can be minimized or mitigated. The Selected Alternative will require the acquisition of 81.02 acres of undeveloped tribal and allotted land and the relocation of one business sign. The owners of tribal land or portions of allotted land parcels needed for additional ADOT easement will be compensated in accordance with the requirements of 25 CFR Part 169 – Rights-of-Way Over Indian Lands. Easement to be acquired from allotted parcels will be subject to BIA procedures and approval.

V. Public Involvement and Coordination

ADOT, in partnership with the Community, gathered input from agency representatives and members of the public regarding the need for capacity improvements on I-10, the alternatives being considered for such improvements, and the potential environmental impacts that may result from the improvements. The feedback helped ADOT make decisions regarding the alternative that would best meet the purpose and need of the proposed project while addressing agency and public concerns. This part of the EA describes the agency and public outreach efforts and the input received. It also provides information on opportunities for the public to review and comment on this EA and the DCR.

A public involvement plan (ADOT 2023) was prepared to outline the various outreach efforts to be conducted during the study. The plan included information regarding Title VI, minority, low-income, and limited English proficiency populations in the study area, so that public outreach efforts could be tailored to best engage area residents and stakeholders.

A. Agency Involvement

The agency outreach effort involved representatives from local, state, and federal agencies; councils of government; the Community; emergency service providers; utilities; and environmental stakeholder groups. It began with an agency scoping meeting held at the onset of the study and continued with additional agency and stakeholder meetings held throughout the course of the study. To date, over 100 stakeholder meetings have occurred, including bimonthly meetings with the Community, milestone progress meetings with BIA and stakeholders, and subject matter-specific meetings with agency representatives discussing topics such as easement needs, cultural resources, drainage, and wildlife permeability.

Agency Scoping Meeting

Prior to the public and agency scoping process, the study team collaborated with the Community to establish meeting plans and strategies, which were approved by Community leadership.

The study team sent a letter to agency representatives on September 10, 2019, to introduce the I-10 study and to invite them to an agency scoping meeting. Table 31 lists the agencies invited to the meeting.

Twenty-two people attended the agency scoping meeting held on October 2, 2019, at the Anthony B. Shelde Building (adjacent to Whirlwind Golf Club) near 5692 West North Loop Road in Phoenix. Participants provided input on the study schedule, the engineering and environmental analyses, and efforts to gather agency and public input throughout the study process.

Agency comments were received by mail and email regarding a wide range of topics, including impacts on infrastructure and on wildlife. Table 32 presents the agency comments received and ADOT’s responses.

Table 31. Agencies invited to October 2019 scoping meeting

Agencies invited to scoping meeting	
Local agencies	***Federal agencies***
• Maricopa County	• Federal Highway Administration[a]
• Pinal County[a]	• San Carlos Irrigation Project, U.S. Bureau of Indian Affairs
• City of Phoenix[a]	• U.S. Bureau of Indian Affairs
• City of Chandler[a]	• U.S. Fish and Wildlife Service
• City of Casa Grande	***Emergency services***
• City of Maricopa[a]	• Banner Casa Grande Medical Center
Councils of government	• Regional Fire & Rescue Department
• Maricopa Association of Governments[a]	***School districts***
• Central Arizona Governments	• Chandler Unified School District[a]
• Sun Corridor Metropolitan Planning Organization[a]	***Utilities***
State agencies	• San Carlos Irrigation and Drainage District
• Arizona Game and Fish Department	***Environmental stakeholder groups***
• Arizona Department of Public Safety	• Audubon Arizona
• Arizona State Land Department	• Center for Biological Diversity
Tribes	
• Gila River Indian Community[a]	

[a] Agency representative (or representatives) attended the scoping meeting.

Table 32. Agency scoping comments

Agency	Comment	Response
Arizona Game and Fish Department	Consider potential impacts on the western burrowing owl and conduct surveys for the owl prior to construction.	Suitable habitat for the owl is within and adjacent to the study area. ADOT will implement mitigation measures to avoid impacts on this species. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
	Consider potential impacts on roosting habitat for bats in bridges and conduct surveys prior to construction.	During final design, all structures that will be modified will be inspected to determine utilization by bats. Mitigation measures will be implemented as necessary. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.

Table 32. Agency scoping comments

Agency	Comment	Response
	For culvert reconstruction, follow the guidance in the Department's *Guidelines for Culvert Construction to Accommodate Fish & Wildlife Movement and Passage*.	ADOT completed a Biological Evaluation and Wildlife Connectivity Assessment to identify potential impacts on wildlife and to develop mitigation measures. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
Arizona Game and Fish Department (continued)	Minimize open trenches during construction and avoid leaving trenches open overnight; provide escape ramps for wildlife where necessary.	ADOT completed a Biological Evaluation and Wildlife Connectivity Assessment to identify potential impacts on wildlife and to develop mitigation measures. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
	Comply with the Arizona Native Plant Law, minimize ground disturbance, and reseed disturbed areas with native plant species.	ADOT will determine whether notification to the Arizona Department of Agriculture is needed prior to construction. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
	Address invasive species and the Migratory Bird Treaty Act in the study's biological report.	ADOT completed a Biological Evaluation and Wildlife Connectivity Assessment to identify potential impacts on wildlife and to develop mitigation measures. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
Arizona Department of Public Safety	Consider the redesign of overpasses to accommodate rush-hour traffic and heavy traffic during special events.	ADOT will address these issues as part of the traffic analysis conducted to support the facility design. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
Gila River Indian Community Office of the Governor	Identify and evaluate potential impacts on the Community, including its lands, natural and cultural resources, trust resources, viewsheds, and built environment, and identify measures to mitigate impacts.	ADOT has evaluated impacts on those resources and in several other areas, including hazardous materials, socioeconomic conditions, air quality, and noise. Mitigation measures have been identified as applicable. ADOT requested continued support from the Community in providing baseline data to support this study.
	Thoroughly evaluate and demonstrate the need for any additional easement on Community tribal or allotted trust lands.	ADOT evaluated and demonstrated the need for any additional easement required for the I-10 improvements.
	Be aware that the Community accepts ADOT's invitation to serve as a cooperating agency for the I-10 study.	ADOT is pleased that the Community has accepted the invitation and appreciates the Community's assistance to date with the study.
	Consider the function and condition of existing bridges and interchanges along I-10 in the Community, many of which are narrow with pavement in poor condition, ramps with steep grades, and with barriers and guard rails that do not meet current standards.	These issues were evaluated for each bridge and interchange, and ADOT identified needed improvements as part of the Selected Alternative. See Part III, *Alternatives*.
	Consider the need for a new TI at Seed Farm Road, which is included in the long-range transportation plan of the Community and MAG.	ADOT proposes to convert this location to an interchange as part of the Selected Alternative. FHWA would need to approve the addition of this interchange. See Part III, *Alternatives*.

Table 32. Agency scoping comments

Agency	Comment	Response
	Designate I-10 within the study area as a restricted route for the transport of hazardous or radioactive materials.	ADOT evaluated restricting hazardous and radioactive materials on this section of I-10, in accordance with federal criteria, and shared its findings with the Community. ADOT does not recommend a change to the current policy of allowing hazardous and radioactive materials to travel on I-10.
Gila River Indian Community Office of the Governor (continued)	Address potential impacts on the Pima-Maricopa Irrigation Project, San Carlos Irrigation Project, and Gila River Indian Irrigation and Drainage District.	ADOT does not anticipate any impacts on these irrigation facilities. If needed, any channels or canals that pass under I-10 that may be affected will be modified to ensure their continued function.
	Consider drainage patterns in the area, including flows from the Gila River.	The I-10 improvements are not expected to alter existing drainage patterns. A separate study of the I-10 bridges over the Gila River will include a detailed hydraulic analysis.
	Ensure that land surveys are completed by a surveyor who is qualified under the Certified Federal Surveyors Program and who also meets Community survey requirements.	ADOT will use a licensed surveyor from the Certified Federal Surveyors Program for all land retracement and right-of-way surveys.
	Consider the comments on wildlife impacts provided by the Community Department of Environmental Quality's Wildlife and Ecosystems Program.	ADOT completed a Biological Evaluation and Wildlife Connectivity Assessment to identify potential impacts on wildlife and to develop mitigation measures. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
	Analyze the placement of fiber optic cable along I-10. Engage with Gila River Telecommunications, Inc., on this issue.	ADOT is proposing a fiber optic trunk line along I-10 for the Freeway Management System as part of the Selected Alternative. See Part III, *Alternatives*. ADOT will coordinate with Gila River Telecommunications, Inc., to explore a possible joint use facility.
	Obtain a permit from the Community's Building Safety Department if new electrical meters are needed along I-10.	Should new electrical meters be needed, ADOT will include specifications in the construction documents regarding obtaining such a permit.
Gila River Indian Community Department of Environmental Quality, Wildlife and Ecosystems Program	Install fencing along I-10 that will prevent wildlife from approaching the roadway and maintain the fencing in perpetuity. Along certain portions of the I-10 corridor, use the appropriate type of fencing to block mule deer and desert tortoise.	ADOT completed a Biological Evaluation and Wildlife Connectivity Assessment to identify potential impacts on wildlife and to develop mitigation measures. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
	Design culvert and underpass improvements to accommodate the passage of wildlife, including coyote, bobcat, gray fox, kit fox, mule deer, javelina, feral horses, desert cottontail, black-tailed jackrabbit, skunks, and rodents. Additional wildlife with the potential to use underpasses include the Sonoran Desert tortoise, Tucson shovel-nosed snake, Gila monster, American badger, and snakes.	
	Use minimal lighting along I-10, only as safety requires. Lights should be directed to shine only on the roadway and should be of a type that is less attractive to wildlife.	

Table 32. Agency scoping comments

Agency	Comment	Response
	Evaluate bridges for use by bats and, if present, develop mitigation measures to avoid impacts during construction. New bridges should accommodate bats, and bridges with low levels of traffic passing underneath should be designed to also allow wildlife to cross underneath.	During final design, all structures that will be modified will be inspected to determine utilization by bats. Mitigation measures will be implemented as necessary. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
Gila River Indian Community Department of Environmental Quality, Wildlife and Ecosystems Program (continued)	Prior to construction, salvage native plants protected by the Community's Native Plant Ordinance and replant them in the project area or provide them to the Community for reuse elsewhere. Monitor plants relocated in the project area for 5 years.	ADOT's Roadside Development Section will coordinate with the Community to ensure compliance with the Native Plant Ordinance. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
	Survey the I-10 easement for exotic plant species and apply herbicide treatments to eliminate such plants and continue such treatments in perpetuity.	ADOT has developed mitigation measures to address noxious and invasive plant species. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation,* and Appendix I, *Biological Resources Information*.
	After the herbicide treatments to address exotic plants, reseed the I-10 easement with a mix of native plant species that will thrive in the area.	
	Establish a weed barrier (consisting of either a buffer space or a physical barrier) to prevent exotic and invasive plant species from entering the Community.	
	To address roadside trash and hazardous waste, develop a comprehensive waste control, removal, and response protocol in collaboration with Community resource managers and first responders and implement this protocol in perpetuity.	ADOT will coordinate with the Community on this issue.
Gila River Indian Community Department of Public Works	Be aware that the Community has water mains near I-10 at Nelson, Queen Creek, and Riggs Roads. The Community does not have sewer mains crossing I-10.	ADOT thanks the Community for the information.
MCDOT	Be aware that Riggs Road is owned and operated by MCDOT and crosses the study area. MCDOT requests continued involvement in the study to ensure MCDOT right-of-way impacts are known, minimal, and appropriately permitted.	ADOT will continue to involve MCDOT in the study and has emphasized minimizing right-of-way impacts related to the I-10 improvements. ADOT also acknowledges that Queen Creek Road is also a MCDOT-owned and -operated roadway.
San Carlos Irrigation and Drainage District	This project is outside of the limits of the San Carlos Irrigation and Drainage District.	ADOT thanks the District for the information.

Notes: ADOT = Arizona Department of Transportation, Community = Gila River Indian Community, FHWA = Federal Highway Administration, I-10 = Interstate 10, MAG = Maricopa Association of Governments, MCDOT = Maricopa County Department of Transportation, TI = traffic interchange

B. Public Involvement

Members of the public were invited to provide their initial feedback on the need for I-10 capacity improvements at a public scoping meeting held at the onset of the study in September 2019. Additionally, three Community scoping meetings were held in September 2019, during the week following the public scoping meeting.

Public and Gila River Indian Community Scoping Meetings

Public Scoping Meeting. Forty-three people attended the public scoping meeting held on September 19, 2019, at the Sacaton Boys and Girls Club, 116 South Holly Street in Sacaton. Meeting attendees were encouraged to view display boards and large-format maps and visit with study team members to share information about the study area. An area in the meeting room was available for attendees to submit written comments on a comment form or online through study-provided devices. Verbal comments could be submitted through a court reporter.

Community Scoping Meetings. Three Community scoping meetings were held during the week following the public scoping meeting. Each meeting was held in a different Community District, as follows:

- District 6 – September 25, 2019, Komatke Boys and Girls Club, 5047 West Pecos Road, Laveen
- District 1 – September 26, 2019, Uhks Kehl Multi-Purpose Building, 15747 North Shegoi Road, Coolidge
- District 4 – September 28, 2019, 3546 West Casa Blanca Road, Bapchule

Twenty-eight people attended the three meetings. An informal presentation provided the study background and the purpose of the scoping meeting. Meeting attendees were encouraged to view display boards and large-format maps and visit with study team members to share information about the study area. An area in the meeting room was available for attendees to submit written comments on a comment form or online through study-provided devices. Verbal comments could be submitted through a court reporter.

Credit: 2019 *Gila River Indian News* (GRIN)

The following sections describe how the public and Community scoping meetings were publicized, what information was available to meeting attendees, how attendees were asked to provide input, and what types of comments were received. Appendix L contains the public involvement summary report for the scoping effort.

Meeting Notices

Newspaper advertisements that provided an overview of the study, announced the scoping meetings, and gave information on how to comment were published in the following newspapers:

- *Arizona Republic* – September 4, 2019 (English-language ad)
- *Prensa Arizona* – September 5, 2019 (Spanish-language ad)
- *Gila River Indian News* – September 6, 2019 (English-language ad)

The advertisements noted that pursuant to Title VI, the ADA, and other nondiscrimination laws and authorities, ADOT does not discriminate on the basis of race, color, national origin, sex, age, or disability. Persons requiring a reasonable accommodation based on language or disability were provided with contact information to request such an accommodation.

Information about the scoping meetings was also posted on the study website: i10wildhorsepasscorridor.com

A news release was distributed by MAG on September 10, 2019, announcing the date and locations of the scoping meetings. The public scoping meeting details were posted on MAG's Facebook and Twitter pages prior to the meeting.

For the Community scoping meetings, a direct mailer was sent to 2,829 Community members to inform them of both the public scoping meeting and the three Community scoping meetings. The mailer (in English and Spanish) was sent on August 12, 2019. On social media, eight posts providing details regarding the Community scoping meetings and the associated comment period were placed on the Community's Facebook page between September 6 and October 3, 2019.

Informational Materials

Display boards were available for review at the scoping meetings, covering the following topics:

- welcome/orientation
- NEPA process
- study area map
- proposed project's purpose and need
- travel times on I-10
- potential study outcomes (build or no-build alternatives)
- project schedule and funding
- how to provide input

In addition to the display boards, meeting attendees were able to review large-scale maps of the I-10 corridor. One map had an aerial photograph background that provided a more detailed view of features along I-10 in the study area, and another map showed ongoing ADOT studies in other parts of central and southern Arizona.

Methods to Provide Input

Meeting attendees received a comment form (in both English and Spanish) that provided the deadline for submitting comments and an area for writing down comments. They could also provide verbal comments during the meeting to a court reporter. Attendees were asked to provide comments by October 3, 2019, for them to be included in the study record, and were notified of the following methods to submit comments:

- study website: i10wildhorsepasscorridor.com
- bilingual study telephone line: 602.522.7777
- email: i10wildhorsepasscorridor@hdrinc.com
- U.S. mail: I-10 Wild Horse Pass Corridor Study Team, c/o HDR, Inc., 20 E. Thomas Road, Suite 2500, Phoenix, AZ 85012

Comments Received

Scoping comments expressed support for the proposed I-10 improvements, citing reasons including congestion relief, improved travel times, and improved safety. Other comments, while expressing neither support nor opposition, asked for consideration of landowners and Community impacts. Table 33 summarizes the generalized comments received at the public and Community scoping meetings, by topic, and the study team's responses to the comments.

Table 33. Public and Community scoping comments

Topic	Comment	Response
Air quality	Concerns expressed regarding air pollution, including carbon monoxide and ozone pollution.	ADOT will verify the proposed project's conformity with regional air quality plans. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
	Comment encouraging ADOT and other organizations to take innovative approaches to capturing vehicle exhaust.	ADOT does not work on vehicle design issues. The proposed I-10 improvements are intended to improve air quality by reducing traffic congestion and delays.
Adjacent roadways	Question regarding whether SR 587 and Hunt Highway will be upgraded to address I-10 congestion.	The proposed project is focused on the I-10 corridor and does not include improvements on SR 587. The Hunt Highway is not under ADOT's jurisdiction.
Aesthetics	Suggestion to decorate the widened Gila River Bridge with emblems from the Community.	The Gila River Bridge widening is being studied as a separate effort by ADOT. Comments concerning the bridge will be provided to that study team.
Biological resources	Concern expressed about how the project would affect untouched lands and wildlife.	ADOT has considered impacts on wildlife and will minimize the need for additional easement and right-of-way. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
Gila River Indian Community impacts	Concerns expressed regarding overflow traffic coming into the Community after accidents on I-10, causing hazards related to congestion and speeding, and additional wear-and-tear on Community roads.	ADOT has included this issue as part of the purpose and need of the proposed project. See Part II, *Project Purpose and Need,* and Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.

Table 33. Public and Community scoping comments

Topic	Comment	Response
	Concern expressed about how I-10 construction would affect local traffic on the Community.	ADOT will prepare a traffic control and management plan in coordination with Community leaders to minimize congestion and travel time delays during construction. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
	Question about how Gila River Bridge project would affect Community members' access to Gila Butte (Aji Mountain).	The Gila River Bridge widening is being studied as a separate effort by ADOT. Comments concerning the bridge will be provided to that study team.
Gila River Indian Community impacts (continued)	Questions regarding how the widening would benefit the tribe.	The proposed project is needed to address traffic congestion, safety issues, and outdated facilities along the existing roadway. Increasing the capacity of I-10 will benefit the Community and all users of the facility. The Community documented its consensus with the Recommended Build Alternative, now the Selected Alternative, in a letter dated June 3, 2021 (see Appendix A, *Coordination and Correspondence*). Also see Part II, *Project Purpose and Need*.
	Questions regarding whether more access to I-10 would be provided on Community land to facilitate development of such land.	ADOT is proposing improvements to the 10 TIs/crossroads along I-10, ranging from full interchange replacement to widening of existing bridges. ADOT is proposing a new TI at Seed Farm Road and a reconfigured TI at SR 587/Casa Blanca Road, both of which will facilitate development in those areas, should the Community choose to pursue development. Both will need FHWA approval. See Part III, *Alternatives*.
	Request that ADOT coordinate with Community representatives regarding the I-10 improvements.	ADOT has invited the Community to serve as a cooperating agency for the study, and the invitation was accepted. Close coordination in the form of bimonthly meetings will occur for the duration of the study.
	Comment that ADOT should hold meetings with both tribes within the Community: the Maricopa and the Pee Posh.	The public scoping meetings held in September 2019 were widely advertised on the Community and were open to all members of the Community.
Construction schedule	Comments encouraging ADOT to accelerate the widening of I-10.	MAG has allocated $220 million for fiscal years 2022, 2023, and 2025 for initial improvements for the portion of the project located in Maricopa County. ADOT has allocated $514 million to the corridor over fiscal years 2021, 2023, 2024, and 2025.
	Suggestion to improve I-10 near the rest areas first.	The preliminary construction phasing identifies the first phase, pending funding, as I-10 between Gasline Road and SR 387/SR 187/Pinal Avenue—this is the portion of I-10 providing access to the rest areas.
Cultural resources	Comment regarding culturally sensitive areas along I-10.	ADOT has considered potential impacts on traditional cultural properties. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.

Table 33. Public and Community scoping comments

Topic	Comment	Response
	Question regarding whether the I-10 and Gila River Bridge improvements would affect Gila Butte (Aji Mountain).	ADOT has considered potential impacts on traditional cultural properties. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*. The Gila River Bridge widening is being studied as a separate effort by ADOT. Comments concerning the bridge will be provided to that study team.
Driver behavior	Comments about drivers speeding, weaving through traffic, and driving on the shoulders or median along I-10.	The Arizona Department of Public Safety is responsible for enforcing traffic laws along I-10. ADOT is proposing the I-10 improvements to reduce the traffic congestion that may lead to unsafe driving.
Economic development	Comment regarding I-10 as an important business corridor between Tucson and Phoenix.	ADOT has considered economic issues as part of this study, including the importance of freight mobility. See Part IV, *Affected Environment, Environmental Consequences, and Mitigation*.
Frontage roads	Suggestions to build frontage roads along I-10 so that traffic would not be routed through the Community after accidents.	Frontage roads along I-10 are not being proposed in this study. ADOT expects that fewer issues related to traffic and accidents will affect the Community with the proposed I-10 improvements because fewer detours onto Community land will occur, given that the wider roadway will offer more flexibility when dealing with traffic incidents on I-10. See Part IV, *Affected Environment and Environmental Consequences*.
Land use and ownership	Suggestion that the I-10 project should benefit Community landowners and their plans for redeveloping their land.	The proposed I-10 improvements, including new and upgraded TIs, were developed with Community support and will improve Community access and connectivity.
	Suggestion to develop land at I-10 and Casa Blanca Road and have developers pay for the TI improvements.	Any land acquired by ADOT for the proposed project will be used for a transportation purpose. Local jurisdictions will be responsible for permitting proposed developments and requiring developer-funded improvements.
	Suggestion to revitalize the old arts and crafts building on Casa Blanca Road.	Any land acquired by ADOT for the proposed project will be used for a transportation purpose. Local jurisdictions will be responsible for permitting building renovations. The proposed project will not affect the old arts and crafts building on Casa Blanca Road.
Public involvement	Requests to be added to the study mailing list.	Those who made these requests were added to the mailing list.
	Request that mailers announcing meetings be distributed in a timely manner.	ADOT has distributed mailers in advance of meetings. See Part V, *Public Involvement and Coordination*.
Roadway design	Suggestion to include wider shoulders, longer off-ramps, and emergency stop area with telephone.	ADOT's design for the I-10 improvements will adhere to current design standards, including wider shoulders and ramps of an appropriate length. However, ADOT's current design standards do not include the installation of telephones along its roadways. See Part III, *Alternatives*.
	Comment was made to fully replace the Gila River Bridge rather than just rehabilitating it.	The Gila River Bridge widening is being studied as a separate effort by ADOT. Comments concerning the bridge will be provided to that study team.

Table 33. Public and Community scoping comments

Topic	Comment	Response
	Suggestion to widen I-10 to include three lanes in each direction, plus an HOV lane.	ADOT is recommending widening I-10 to three lanes in each direction (adding one lane in each direction in the median), plus an additional HOV lane in each direction between SR 202L and Riggs Road. See Part III, *Alternatives*.
Safety	Suggestion to improve bridge and pavement to improve safety.	ADOT's design for the I-10 improvements will adhere to current design standards, including bridge and pavement standards. See Part III, *Alternatives*.
	Suggestion to add crossover points where traffic could be detoured to share the travel lanes in the other direction of I-10 after an accident.	ADOT expects that fewer issues related to traffic and accidents will affect the Community with the proposed I-10 improvements because fewer detours onto Community land will occur, given that the wider roadway will offer more flexibility when dealing with traffic incidents on I-10. See Part IV, *Affected Environment and Environmental Consequences*.
Safety (continued)	Suggestions to add cable barrier in median to prevent crossover accidents.	With the proposed improvements, ADOT will provide a barrier in the median between the two directions of traffic in accordance with current engineering standards because of the resulting narrower median.
	Concern expressed about visibility during dust storms and whether this will be addressed by the study.	ADOT is aware that dust storms are a concern along this portion of I-10 in Arizona and will consider this issue during the design evaluation.
	Suggestion to improve the I-10 median to make it easier for emergency vehicles to cross the median.	ADOT will consider this issue during the design evaluation.
SR 347/ Queen Creek Road	Comment was made regarding the traffic on SR 347 backing up when trying to merge onto I-10 during rush hour.	ADOT has considered improvements to TIs along I-10 as part of this study, including this specific issue. See Part III, *Alternatives*.
	Suggestion to add an overpass at SR 347 and Riggs Road, considering the traffic being generated by new homes being planned and built in Maricopa.	ADOT has considered improvements to TIs along I-10 as part of this study. See Part III, *Alternatives*.
Support	Comments expressed in support of the proposed I-10 improvements.	Comments noted.
Traffic interchanges	Suggestion to improve TIs to improve safety and alleviate traffic bottlenecks resulting from the increase in population in adjacent communities.	ADOT has considered improvements to TIs along I-10 as part of this study. See Part III, *Alternatives*.
	Suggestion to add off-ramp at Seed Farm Road.	ADOT proposes to convert this location to an interchange as part of the Selected Alternative. FHWA would need to approve the addition of this interchange. See Part III, *Alternatives*.
	Suggestion to add a new TI 1.5 mile south of Casa Blanca Road.	ADOT has considered the possibility of adding new TIs along I-10 as part of this study. The proposed TI at Seed Farm Road is approximately 3.5 miles south of Casa Blanca Road. See Part III, *Alternatives*.

Table 33. Public and Community scoping comments

Topic	Comment	Response
Truck traffic	Comment was made to designate a lane or lanes for trucks.	ADOT is recommending that I-10 be widened to three lanes in each direction to provide an additional lane for all types of traffic, making it easier to pass slow-moving vehicles. It is also proposing to add an HOV lane in each direction between SR 202L and Riggs Road to encourage carpooling by providing a designated lane for HOV vehicles.

Notes: ADOT = Arizona Department of Transportation, Community = Gila River Indian Community, FHWA = Federal Highway Administration, HOV = high-occupancy vehicle, I-10 = Interstate 10, MAG = Maricopa Association of Governments, SR = State Route, TI = traffic interchange

Public Meeting on Study Alternatives

A public information meeting was held on November 18, 2020, to present the alternatives developed to meet the purpose and need for the proposed project. Because of the COVID pandemic, the meeting was held virtually, with attendees calling in by phone or logging in by computer or mobile device. English- and Spanish-language meetings were held simultaneously. The English-language public meeting had 51 participants call in and 123 attend online, while the Spanish-language public meeting had 1 participant call in and 3 attend online. The total public meeting attendance was 178. The comment period for the study alternatives extended from October 21 to December 4, 2020.

Meeting Notices

Newspaper advertisements that provided an overview of the study, announced the public meeting and comment period, and gave information on how to comment were published in the following newspapers:

- *Gila River Indian News* – October 16, 2020 (English-language ad to “Save the Date”)
- *Chandler Arizonan* – October 18 and November 4, 2020 (English-language ads)
- *Tri-Valley Dispatch* – October 20 and November 3, 2020 (English-language ads)
- *Arizona Republic*, statewide edition – October 21, 2020 (English-language ad)
- *Ahwatukee Foothills News* – October 21 and November 4, 2020 (English-language ads)
- *Arizona Republic*, zone 5 (Southwest Valley), zone 10 (Tempe/Ahwatukee), and zone 6/12 (Chandler/Gilbert) editions – November 4, 2020 (English-language ads)
- *Prensa Arizona* – October 22 and November 5, 2020 (Spanish-language ads)

As with the scoping meetings, the public meeting advertisements noted ADOT’s compliance with Title VI, the ADA, and other nondiscrimination laws and authorities, and provided information for people to request a reasonable accommodation based on language or disability.

Information about the scoping meetings was also posted on the study website: i10wildhorsepasscorridor.com

A news release was distributed by MAG on October 21, 2020, announcing the date of the public meeting, how to participate by phone or online, and the public comment period—which extended from October 21 to December 4, 2020. ADOT distributed the public meeting information using its GovDelivery email system on November 4 and November 17, 2020. In terms of social media, the public meeting and comment period information was advertised through the following posts:

- ADOT – posted 3 times on Nextdoor, 7 times on Facebook, and 20 times on Twitter between November 13 and December 3
- MAG – posted 3 times on Twitter and 2 times on Facebook between November 10 and November 20
- Community – posted 5 times on Facebook and 1 time on Twitter between October 21 and November 17

Additionally, a direct mailer was sent by U.S. mail to 2,829 Community members to inform them of the public meeting and comment period. The mailer (in English and Spanish) was sent on October 21, 2020.

Informational Materials

Various materials were available online at the study website, and hard copies were available upon request:

- public meeting presentation and script (English and Spanish)
- frequently asked questions (English and Spanish)
- detailed alternatives and options exhibits
- alternatives/options evaluation criteria descriptions (English)
- summary evaluation tables for the alternatives and options (English)

Methods to Provide Input

The virtual public meeting was held using a telephone town hall service provider. Attendees were able to participate over the phone or online, in either English or Spanish. The meeting began with a welcome message and introductions to the study team panel members, followed by a prerecorded presentation in English or Spanish (depending on which meeting was joined), followed by a comment and question-and-answer session. Call-in participants were given 3 minutes to provide their verbal comments or to ask questions. A court reporter transcribed the verbal comments. Online participants were able to submit a written comment online using the question box under the online streaming player. Questions and comments submitted online were read aloud by the meeting host, and the study team panel members answered all questions submitted.

Participants were notified that comments and questions could also be submitted anytime during the formal public comment period using the following methods:

- study website, which provided an opportunity to comment through an interactive online map: i10wildhorsepasscorridor.com
- bilingual study telephone line: 602.522.7777
- email: i10wildhorsepasscorridor@hdrinc.com
- U.S. mail: I-10 Wild Horse Pass Corridor Study Team, c/o HDR, Inc., 20 E. Thomas Road, Suite 2500, Phoenix, AZ 85012

Participants were also notified that all study-related materials, including the presentation, were available online. A recording of the public meeting was posted to the study website shortly after the meeting.

Comments Received

The study team received 259 comments and/or expressed preferences during the public comment period (October 21 to December 4, 2020). Table 34 summarizes the comments received at the public meeting, by topic, and the study team's responses to the comments. Appendix L contains the public involvement summary report for the public meeting on the study alternatives.

Table 34. Comments received on study alternatives during public meeting and comment period

Topic	Comment	Response
I-10 build alternative support (six lanes)	Comments regarding the need to widen I-10 to three lanes in each direction (six lanes total) to improve traffic flow.	ADOT is recommending widening I-10 to three lanes in each direction (adding one lane in each direction in the median), plus an additional HOV lane in each direction between SR 202L and Riggs Road. See Part III, *Alternatives*.
	Concern expressed regarding the widening work being overdue.	ADOT acknowledges that I-10 in the study area is experiencing traffic congestion and is pursuing the proposed improvements to address the issue.
I-10 build alternative support (eight lanes)	Comments encouraging ADOT to "plan ahead" and widen I-10 to four lanes in each direction (eight lanes total), with the wider freeway able to handle future increases in traffic, thus avoiding another future project to add more lanes.	To minimize environmental and right-of-way impacts, ADOT is recommending widening I-10 to three lanes in each direction (adding one lane in each direction in the median), plus an additional HOV lane in each direction between SR 202L and Riggs Road. The design will accommodate future I-10 widenings, as appropriate. See Part III, *Alternatives*.
	Suggestion to have four lanes in each direction on I-10 and to prohibit large trucks and recreational vehicles from using the left two lanes.	ADOT is recommending that I-10 be widened to three lanes in each direction to provide an additional lane for all types of traffic, making it easier to pass slow-moving vehicles. It is also proposing to add an HOV lane in each direction between SR 202L and Riggs Road to encourage carpooling by providing a designated lane for HOV vehicles. The design will accommodate future I-10 widenings, as appropriate.

Table 34. Comments received on study alternatives during public meeting and comment period

Topic	Comment	Response
I-10 no-build alternative support	Comment that I-10 widening should not be built without a companion project for Phoenix to Tucson intercity rail.	ADOT completed a passenger rail study in 2016, examining the potential for rail service between Phoenix and Tucson. However, funding for the rail corridor has not been identified. Additional information may be found at: https://azdot.gov/planning/transportation-programs/state-rail-plan/passenger-rail-study-tucson-phoenix
I-10 congestion, growth, safety	Comments regarding the high volume of traffic on I-10 and safety concerns related to the insufficient number of lanes.	ADOT has identified traffic congestion and safety as two elements of the proposed project's purpose and need. See Part II, *Project Purpose and Need*.
Crossroad/ interchange build alternative support	Comments that current crossroads/TIs along I-10 are inadequate and should be developed to their full capacity as part of the proposed improvements.	ADOT is proposing improvements to the 10 crossroads/TIs along I-10, ranging from full interchange replacement to widening of existing bridges. See Part III, *Alternatives*.
Crossroad and interchange congestion, growth, safety	Comments regarding the need for improvements at existing crossroads and interchanges, considering the growth in traffic.	ADOT is proposing improvements to the 10 crossroads/TIs along I-10 to address existing and forecast traffic levels. See Part III, *Alternatives*.
	Comment that Community members need an additional access point on I-10 to accommodate those who work off the reservation.	ADOT proposes to build a new interchange at Seed Farm Road as part of the Selected Alternative. FHWA would need to approve the addition of this interchange. See Part III, *Alternatives*.
Environmental	Comment that adding more lanes to I-10 in the median would minimize impacts on the surrounding desert.	ADOT is recommending that I-10 be widened into the median. Minimizing the amount of additional land needed for the I-10 improvements was an important consideration during the alternatives development process.
	Question regarding how ADOT would deal with situations where human remains or sacred objects may be encountered during construction, and whether a tribal archaeology study would be completed.	ADOT will complete an archaeological study of areas that will be disturbed by construction and will require that any human remains or sacred objects be treated in accordance with federal and state laws regarding such discoveries. See Part IV, *Affected Environment and Environmental Consequences*.
	Concern expressed regarding whether the I-10 improvements would cause more traffic and accidents on the Community.	ADOT expects that fewer issues related to traffic and accidents will affect the Community with the proposed I-10 improvements because fewer detours onto Community land will occur, given that the wider roadway will offer more flexibility when dealing with traffic incidents on I-10. See Part IV, *Affected Environment and Environmental Consequences*.
	Question regarding whether more pollution would result on the Community as a result of the I-10 improvements.	The proposed I-10 improvements are not expected to result in any violations of local and regional air quality standards for traffic-related pollutants. During construction, the contractor will be required to use dust abatement measures. See Part IV, *Affected Environment and Environmental Consequences*.
Miscellaneous design details	Comment regarding the need for a barrier between the two directions of traffic on the highway.	With a reduced median width, ADOT will provide a barrier between the two directions of traffic, as appropriate and in accordance with current engineering standards.

Table 34. Comments received on study alternatives during public meeting and comment period

Topic	Comment	Response
Coordination with Community	Comment that the I-10 improvements should not proceed without the approval of the Community.	ADOT has coordinated extensively with the Community regarding the proposed improvements. Because most of I-10 in the study area crosses an easement granted by the Community, ADOT understands that coordinating closely with the Community's leadership regarding the planned improvements is necessary.
Schedule	Question regarding whether there would be a way to accelerate construction once the environmental study is done.	MAG has allocated $220 million for fiscal years 2022, 2023, and 2025 for initial improvements for the portion of the project located in Maricopa County. ADOT has allocated $514 million to the corridor over fiscal years 2021, 2023, 2024, and 2025.

Notes: ADOT = Arizona Department of Transportation, Community = Gila River Indian Community, FHWA = Federal Highway Administration, HOV = high-occupancy vehicle, I-10 = Interstate 10, MAG = Maricopa Association of Governments, SR = State Route, TI = traffic interchange

C. Public Hearing

Agency representatives and members of the public were invited to review and comment on the Draft EA and the DCR. The comment period began on August 19, 2022, and ended on October 9, 2022. During the comment period, three in-person public hearings and one virtual public hearing (where attendees could attend online or by telephone) provided an opportunity for further review and comment:

- **In-person public hearing #1**: Wednesday, September 7, 2022, 5:30 p.m. to 7:30 p.m.
  Valley Christian High School
  6900 W. Galveston St.
  Chandler, AZ 85226
- **In-person public hearing #2**: Tuesday, September 13, 2022, 5:30 p.m. to 7:30 p.m.
  Vista Grande High School
  1556 N. Arizola Rd.
  Casa Grande, AZ 85122
- **In-person public hearing #3**: Thursday, September 15, 2022, 5:30 p.m. to 7:30 p.m.
  District 4 Multipurpose Building
  2230 N. Home Run Dr.
  Sacaton, AZ 85147
- **Virtual public hearing**: Tuesday, September 20, 2022, 5:30 p.m. to 9 p.m.
  Online: bit.ly/WHP-EN
  Phone: +1-408-418-9388
  English-language meeting number (access code): 2484 471 6549

Spanish-language meeting number (access code): 2490 170 8079
Webinar password: WHP2022 (9472022 from phones)

The same information was provided at each public hearing. Attendees were able to make written or verbal comments at the hearings.

The three in-person public hearings began with an open house, followed by a formal presentation, then the formal public comments and a return to the open house. The hearing locations were divided into two areas.[1] In Area 1, attendees were encouraged to view display boards, visualizations, and large-format maps. Study team members were available to answer questions. Laptops, iPads, and comment forms were available so that attendees could submit written comments on a comment form. In Area 2, following the formal presentation, speakers who had registered to make a formal public comment could speak to a listening panel consisting of ADOT and MAG staff. All public statements were recorded by a court reporter. An audience area was also available, and attendees were welcome to listen to others speak.

The virtual public hearing began with a formal presentation, followed by a question-and-answer session, then formal public comments. These steps were then repeated for people who called or logged in later.

Public hearing materials included the following:

- comment forms (English and Spanish)
- Title VI/civil rights information and self-identification cards (English and Spanish)
- participant guide (English and Spanish)
- large-format maps of the I-10 corridor and the TIs/crossroads
- display boards
- visualizations (English and Spanish)

The formal presentations at all four public hearings provided information on the following topics:

- Welcome
- Public Hearing Format
- Hearing Schedule
- Public Hearing Ground Rules
- Agenda
- I-10, Loop 202 to SR 387 Study
- Range of Alternatives
- Recommended Build Alternative (RBA)
- Recommended Build Alternative: I-10 Freeway
- Recommended Build Alternative: Crossroad Examples
- Recommended Alternative (RA)
- Alternatives Screening Process

[1] The September 15 public hearing held at the Community's District 4 had three areas: two areas for the informational components and one area for the formal public comments.

- Study Purpose and Need
- NEPA Requirements
- NEPA Disclosure
- What is the No-Build Alternative?
- Project Funding Status
- Next Steps
- Public Comment Period: Aug. 19 – Oct. 9
- Instructions For Giving Formal Public Comments

Interested parties could review and make comments on the Draft EA and DCR by:

- attending one of the public hearings listed above and providing written or verbal comments
- accessing, reviewing, and providing online comments on the Draft EA and DCR on the study website: i10wildhorsepasscorridor.com
- emailing comments to ADOT at: i10wildhorsepasscorridor@hdrinc.com
- calling: 1-602-522-7777
- mailing comments to ADOT at:
  I-10 Wild Horse Pass Corridor Study Team
  c/o HDR
  20 E. Thomas Rd., Suite 2500
  Phoenix, AZ 85012

All comment methods were considered equal. All agency, tribal, and public comments received by ADOT during the public comment period were considered and incorporated in the I-10 Final DCR and in the Final EA and finding of no significant impact, if applicable, along with ADOT responses to the comments. Appendix N of this Final EA provides the public hearing report, which includes the public comments received and ADOT's responses.

Printed versions of the Draft EA and DCR were available for review at the following locations and electronically at the I-10 study website (i10wildhorsepasscorridor.com). Select technical reports associated with the Draft EA were available upon request by emailing i10wildhorsepasscorridor@hdrinc.com or calling 1-602-522-7777.

- Casa Grande Public Library (phone: 1-520-421-8710)
  449 N. Drylake St.
  Casa Grande, AZ 85122
- Ironwood Library (phone: 1-602-262-4636)
  4333 E. Chandler Blvd.
  Phoenix, AZ 85048

- Gila River Indian Community Governance Center (phone: 1-520-562-9500)
  525 W. Gu U Ki Rd.
  Sacaton, AZ 85147
- Gila River Indian Community District 1 (phone: 1-520-215-2110)
  15747 N. Shegoi Rd.
  Coolidge, AZ 85128
- District 2 Service Center (phone: 1-520-562-3450)
  8070 Park St.
  Sacaton, AZ 85147
- District 3 Service Center (phone: 1-520-562-3334)
  18 E. Pima St.
  Sacaton, AZ 85147
- Gila River District 4 Service Center/Multipurpose Bldg. (phone: 1-520-418-3661)
  2230 N. Home Run Dr.
  Sacaton, AZ 85147
- District 5 Multi Service Center (phone: 1-520-315-3441)
  3456 W. Casa Blanca Rd.
  Bapchule, AZ 85121
- Gila River Indian Community District 6 Komatke Center (phone: 1-520-550-3805)
  5230 St. Johns Rd.
  Laveen Village, AZ 85339
- Gila River Indian Community District 7 Service Center (phone: 1-520-430-4780)
  8035 S. 83rd Ave.
  Laveen Village, AZ 85339

D. Ongoing Activities

As ADOT continues the process of design, engineering, and construction of the Selected Alternative, the public will have additional opportunities to provide input and comments on the project, such as during final design. As the I-10 project proceeds, ADOT will continue to update the project website, *i10wildhorsepasscorridor.com*, to provide information about the project and to obtain additional feedback from the public.

E. Conclusion

Since the start of the environmental process in 2019, ADOT has fulfilled NEPA requirements with respect to agency coordination and public involvement. To engage all segments of the public in each step of the EA process, ADOT has used numerous communication tools, met with interested parties upon request, held advertised meetings, and implemented other actions to identify opinions, seek information on key issues, and obtain input on the proposed I-10 improvements. To engage traditionally underserved communities, ADOT has used the following strategies, as identified in the public involvement plan (ADOT 2023), which will continue as the Selected Alternative proceeds to final design and construction:

- Develop contacts, mailing lists, and other means to initiate and continue communication.
- Conduct interviews, including one-on-one meetings, with local groups and leaders.
- Initiate intergovernmental collaboration.
- Display ADOT's nondiscrimination language on all advertisements and other tools used to publicize public meetings to inform people of their rights to receive accommodations at no cost when needed.
- Select meeting locations that are accessible by public transportation, if and when possible.
- Share information, with permission, at religious centers and common meeting places.
- Host public meetings at practical times and dates based on profile data and past input.
- Use graphics, visuals, and simulation videos, when feasible, to explain information.
- Provide multiple methods for community members to obtain information and provide input on a project. Be aware that some may lack access to technology, so provide a call-in option for virtual meetings and use both digital and non-digital engagement methods.
- Conduct a limited English proficiency four-factor analysis to determine limited English proficiency needs and translate materials based on the analysis results.
- Provide materials in other languages and formats upon request (with reasonable advance notice).
- Use ADOT's Foreign Language Vendor List or volunteer interpreters/translators to engage limited English proficiency individuals, as needed.
- Use "I Speak" language identification cards during direct outreach efforts.
- Provide nondiscrimination brochures, posters, and voluntary self-identification survey cards in both English and Spanish at all ADOT public meetings, hearings, and events. At virtual meetings, provide these notices in the presentation.

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