

LOOP 202
South Mountain
Freeway

South Mountain Freeway FEIS/ROD Reevaluation #10

in Maricopa County, Arizona



Federal Highway Administration

ADOT

Arizona Department of Transportation

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Record of Decision

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The Federal Highway Administration (FHWA), in coordination with the Arizona Department of Transportation (ADOT), reevaluated the South Mountain Freeway, Interstate 10 (I-10, Papago Freeway) to I-10 (Maricopa Freeway) Final Environmental Impact Statement and Record of Decision per 23 Code of Federal Regulations § 771.29 to address adding a traffic interchange to the project, near Ivanhoe Street. Since the approval of the ROD on March 5, 2015, FHWA, with concurrence from ADOT, has determined that no substantial changes have occurred in social, economic, or environmental impacts of the proposed action that would substantially impact the quality of the human, socioeconomic, or natural environment. Therefore, the original environmental document remains valid for the proposed action.

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Abbreviation and Acronyms

AADT	Annual Average Daily Traffic
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
BE	Biological Evaluation
BIA	Bureau of Indian Affairs
C202P	Connect 202 Partners
CAT	Citizens Advisory Team
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CRMP	Cultural Resource Management Program
CWA	Clean Water Act
dBA	A-weighted decibel
DEIS	Draft Environmental Impact Statement
DLC	Dusty Lane Community
EJ	Environmental Justice
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
GRIC	Gila River Indian Community
FY	fiscal year
I-10	Interstate 10
IP	Individual Permit
LOS	level-of-service
MAG	Maricopa Association of Governments
MCDOT	Maricopa County Department of Transportation
MOVES	Motor Vehicle Emissions Simulator
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAP	Noise Abatement Policy
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
Phase I	Phase I Environmental Site Assessment
PJD	Preliminary Jurisdictional Determination
PM ₁₀	particulates 10 microns in diameter or less
POAQCQ	Project of Air Quality Concern Questionnaire

Reclamation	Bureau of Reclamation
ROD	Record of Decision
ROW	Right-of-Way
RTP	Regional Transportation Plan
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMF	South Mountain Freeway
SMPP	South Mountain Park/Preserve
STIP	State Transportation Improvement Program
TCEs	Temporary Construction Easements
THPO	Tribal Historic Preservation Office
TI	Traffic Interchange
TIP	Transportation Improvement Plan
USACE	U.S Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	U.S Fish and Wildlife Service
VMT	vehicle miles traveled
WAPA	Western Area Power Administration
WUS	Waters of the United States

1 Introduction and Project Description

The Federal Highway Administration (FHWA), in coordination with the Arizona Department of Transportation (ADOT), conducted a reevaluation of the South Mountain Freeway (SMF), Interstate 10 (I-10, Papago Freeway) to I-10 (Maricopa Freeway) Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) per 23 Code of Federal Regulations (CFR) § 771.129 to address adding a traffic interchange (TI) near the freeway's intersection with Ivanhoe Street near 43rd Avenue (see Figure 1-1) since the approval of the ROD on March 5, 2015.

At the time of the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD), collectively referred to as FEIS/ROD, a traffic interchange slightly west of 51st Avenue was included within the project scope. The intersection was offset and 51st Avenue was realigned to create a more perpendicular intersection that resulted in minimized right-of-way (ROW) needs. After the FEIS/ROD, ADOT determined that the design of this concept would impact two Gila River Indian Community (GRIC) well sites that were held in trust. ADOT does not have eminent domain authority to acquire these well sites, so the interchange was redesigned and relocated to Estrella Drive during final design. Relocating the 51st Avenue interchange to Estrella Drive resulted in a net decrease in total ROW needed for the project while still providing similar access and mobility to the area surrounding 51st Avenue and Estrella Drive (see Figure 1-2).

The area surrounding 51st Avenue and Estrella Drive is agricultural with a few low-density residential properties. The only major traffic generator in the area is the Vee Quiva Hotel and Casino located on GRIC land approximately 2 miles south and east of the Estrella Road traffic interchange. A concern shared by the City of Phoenix and Maricopa County (who maintain 51st Avenue and Estrella Drive outside of the ADOT ROW) is the potential traffic impacts at the existing rural-type intersections from casino traffic. The addition of a new TI near Ivanhoe Street is proposed for the purpose of improving traffic efficiency and operation by providing traffic relief at the adjacent Estrella Drive TI, reducing traffic along 51st Avenue, and addressing GRIC requests to improve access to GRIC lands (see Figure 1-2).

The freeway plans already included a bridge over Ivanhoe Street to accommodate access to the remaining homes north of the freeway within the Dusty Lane community (DLC). The DLC is a triangle shaped County island that includes a collection of approximately 30 large-lot residences bordered by the South Mountain Park/Preserve on the north and east and the SMF to the west. The DLC is accessed by a single road that connects to 51st Avenue, Dusty Lane, which is located along the GRIC boundary. Based on public outreach and discussions with the DLC, no direct access to the DLC would be constructed with the TI. Instead, access to the DLC would continue via existing Dusty Lane which would cross under the freeway at the Ray Road alignment and continue on the north side of the freeway to Ivanhoe Street. The GRIC plans to relocate Komatke Lane or construct a new arterial road that connects to the new TI to improve traffic flow on the GRIC arterial road system (see Figure 1-2).

This reevaluation document provides an overview of the SMF project, describes the environmental consequences of adding a TI near Ivanhoe Street, describes past and future public and agency outreach, and presents a conclusion related to adding the new TI to the SMF project (see section 2.1.3, *Description*, for the scope of work that this reevaluation addresses).

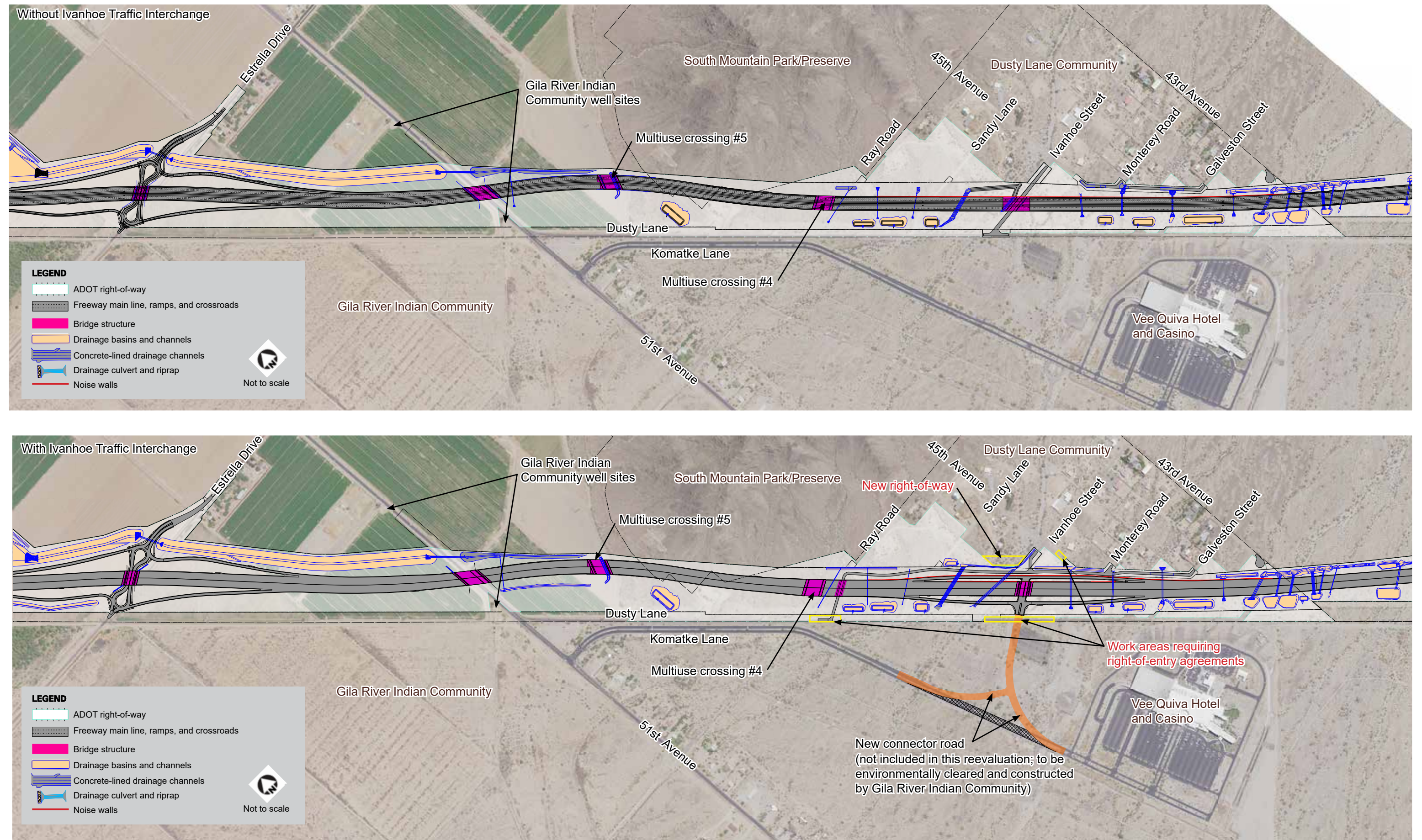
1.1 Project Location

The SMF project is a part of the Regional Freeway and Highway System in the southwestern portion of the Phoenix metropolitan area in Maricopa County, Arizona. The approximately 22-mile-long freeway will be constructed as an eight-lane divided, access-controlled facility, with four travel lanes in each direction. The Ivanhoe Street intersection with the SMF is located near the center of the SMF project on the west end of the South Mountain Park and Preserve (SMPP) (see Figure 1-1).

Figure 1-1. Overview Figure



Figure 1-2. Project Vicinity With and Without the Proposed Traffic Interchange



1.2 Approved Environmental Documentation

To date, several environmental studies have been conducted for the SMF project. The completed environmental documents approved by ADOT and FHWA include:

- Draft Environmental Impact Statement (DEIS) signed on April 16, 2013, and released to the public on April 26, 2013.
- FEIS signed on September 18, 2014, and released to the public on September 26, 2014.
- Errata to the FEIS signed on November 19, 2014 and released to the public on November 28, 2014 (the Errata was published to address public comments on the DEIS that were inadvertently omitted from the FEIS).
- ROD signed on March 5, 2015, and released to the public on March 13, 2015.
- SMF FEIS/ROD Reevaluation #1 signed February 19, 2016 addressed the addition of a local street connector and a pedestrian bridge.
- SMF FEIS/ROD Reevaluation #2 signed June 20, 2016 addressed the addition of remainder parcels to the Project ROW.
- SMF FEIS/ROD Reevaluation #3 signed August 10, 2016 addresses the addition of Chandler Boulevard: 27th Avenue to 19th Avenue.
- SMF FEIS/ROD Reevaluation #4 signed April 4, 2017, is for changing partial- parcel acquisitions to entire-parcel acquisitions between Vineyard Road and Lower Buckeye Road.
- SMF FEIS/ROD Reevaluation #5 signed June 5, 2017 addressed the need for the acquisition of 50 easements and new ROW locations for various minor construction modifications.
- SMF FEIS/ROD Reevaluation #6 signed June 19, 2017 addressed additional areas required for construction of the Salt River bridges.
- SMF FEIS/ROD Reevaluation #7 signed June 22, 2018 addressed the need for the acquisition of 73 new easement and/or ROW locations for various minor construction considerations.
- SMF FEIS/ROD Reevaluation #8 signed October 12, 2018 addressed the need for the acquisition of 19 easements and/or ROW locations for various minor construction considerations.
- SMF FEIS/ROD Reevaluation #9 signed November 7, 2018 addressed the need to add a TI at the freeway's intersection with 32nd Street.

The FEIS/ROD present a detailed description of anticipated impacts related to the SMF Selected Alternative. These key anticipated impacts presented in the FEIS/ROD are listed below. This reevaluation will cover impacts beyond those previously disclosed.

- The project will convert approximately 2,488 acres of land to a transportation use.
- The project is consistent with local and regional plans; however, it will introduce visual and noise intrusion adjacent to residential neighborhoods.
- Implementation of the project in the Western Section will result in adverse impacts on populations protected under Title VI and the environmental justice Executive Order; impacts will not, however, be disproportionately high or cause undue hardship when compared with such impacts on the general population.

- The project will result in the displacement of approximately 169 single-family homes, two apartment complexes with 680 total units, and 42 businesses.
- The City of Phoenix will experience an inconsequential reduction of annual property and sales tax revenue due to the conversion of land to a transportation use. Travel time savings for motorists in the region after completion of the project will be over \$200 million per year (in 2013 dollars).
- The project will not result in any exceedances of the health-based National Ambient Air Quality Standards (NAAQS).
- The project will require the placement of noise barriers in selected locations to reduce noise to levels that meet ADOT policy and FHWA regulations.
- The project will affect up to 122 water wells and 94 acres of floodplains.
- The project will impact Waters of the United States and require appropriate permitting approvals from the U.S. Army Corps of Engineers (USACE).
- The project will not affect any currently listed threatened and endangered species. However, the project will result in the conversion of cover, nesting areas, and food resources for wildlife provided by the natural plant communities found in the project area. The project will create a physical barrier that could, depending on design, decrease movement of wildlife to and from the South Mountains and Sierra Estrella. In response, multifunctional crossing locations have been identified to provide habitat connectivity under the freeway.
- The project will affect a number of National Register of Historic Places (NRHP)-eligible prehistoric and historic sites and the South Mountains Traditional Cultural Property.
- The project will convert 723 acres of prime and unique farmlands to a transportation use.
- The project will indirectly convert 177 acres of prime and unique farmlands to uses other than agriculture.
- The project will interact with five high-priority hazardous materials sites.
- Impacts on views from residential and rural uses include construction impacts, new traffic interchanges, and visibility of the new facility. Impacts will not change the low-to-moderate visual quality of views along the freeway.
- The project will provide benefits related to regional energy consumption.
- The project will result in the direct use of resources in the South Mountains afforded protection by Section 4(f) of the Department of Transportation Act of 1966. There is no feasible and prudent alternative that avoids use of the South Mountains.

1.3 Public and Agency Involvement

ADOT and FHWA undertook an extensive public and agency involvement program during the National Environmental Policy Act (NEPA) phase of the project. These key elements included:

- Publication of the Notice of Intent on April 20, 2001, in the Federal Register (66[77]:20345).
- Invitations sent in 2001 to USACE, U.S. Environmental Protection Agency (USEPA), U.S. Bureau of Indian Affairs (BIA), and U.S. Fish and Wildlife Service (USFWS) to be cooperating agencies were issued. USACE and BIA agreed to be federal cooperating agencies. USEPA and USFWS declined. In 2009, the Western Area Power Administration (WAPA) was invited, and agreed, to be a cooperating agency.

- Agency scoping letters were sent to 232 federal, State, and local agencies in October 2001. A 2- day agency scoping meeting was held later that month in Phoenix. Agencies were invited to participate in the project through monthly progress meetings during the project duration.
- Public scoping was initiated in November 2001 and included presentations at 23 neighborhood meetings and two public meetings.
- Between the public scoping kick-off through the release of the DEIS, over 200 presentations were made to neighborhood groups, homeowners' associations, chambers of commerce, village planning committees, trade associations, and other interested parties. Twelve public meetings were held.
- ADOT created a Citizens Advisory Team (CAT) made up of groups and organizations in the Study Area. The CAT worked as a voluntary, advisory team to provide advice and input to ADOT and FHWA. Approximately 60 CAT meetings were held, each open to the public.
- The DEIS was released to the public on April 26, 2013, beginning the 90-day comment period (the minimum requirement under NEPA is 45 days). A public hearing was held May 21, 2013, at the Phoenix Convention Center from 10 a.m. to 8 p.m. Six community forums were held in Study Area communities to supplement the public hearing. Additionally, an online public hearing was created for those who could not attend a meeting in person.
- Approximately 900 people attended one of the public events, almost 1,900 unique visitors viewed information from the online hearing, and the project team received over 8,000 comments.
- The FEIS was released to the public on September 26, 2014. A 60-day review period was provided. As a result of the publication of the errata, ADOT and FHWA extended the review period to December 29, 2014. During the review period for the FEIS and errata, approximately 250 comments were received.
- ADOT and FHWA worked in close coordination with the GRIC to hold a community forum on November 15, 2014, at the Boys & Girls Club, Gila River – Komatke. The GRIC developed the agenda and facilitated the forum, which consisted of introductions, a description of the comment opportunities and court reporters' roles, an introduction to the SMF video flyover simulation, and an "open-microphone" comment period. Other than invited guests, the meeting was open to only GRIC members. FHWA and ADOT project team members were guests at the forum and were in attendance to listen to comments. A translator was provided for those wishing to speak in the native O'odham language.

Since the ROD was approved on March 5, 2015, ADOT, FHWA, the Connect 202 Partners (C202P), or other stakeholders have continued an extensive public and agency involvement program, with the following key details:

- An open house meeting on June 15, 2016, at Pecos Community Center, 17010 S. 48th Street, Phoenix, was sponsored by State Representative Jill Norgaard in collaboration with State Representative Bob Robson, State Senator Jeff Dial, and City of Phoenix Councilman Sal DiCiccio. The purpose of the meeting was to provide a briefing on noise-abatement plans, traffic management and scheduling, bike paths, and aesthetics.
- A public open house meeting was held on August 24, 2016, at the Kings Ridge Preparatory Academy Cafeteria, 3650 S 64th Lane, Phoenix, to discuss the location and aesthetic treatment of the planned pedestrian bridge located between Broadway and Lower Buckeye Roads. Thirteen people attended the presentation and participated in a question and answer session.

- Three public meetings were held in 2016 to provide details and seek input on preliminary design plans, including information on the freeway's location, profile, interchange configurations and noise barrier locations, as well as initial concepts for landscaping and visual appearance:
 - September 27, 2016, at the Desert Vista High School, Multipurpose Room, 16440 South 32nd Street, Phoenix
 - September 28, 2016, at the Betty Fairfax High School, Multipurpose Room, 8225 South 59th Avenue, Laveen
 - October 6, 2016, at the Fowler Elementary School, Multipurpose Room, 6707 West Van Buren Street, Phoenix

Approximately 800 people participated in these meetings and the more than 660 comments, questions, e-mails and phone calls were collected by the Project team.

- A meeting for leaders from cities, regional agencies, schools, Title VI organizations, large employers, associations, and community public information officers was held December 20, 2016, at 411 North Roosevelt Avenue, Chandler, to provide a 6-month construction look ahead for the period between January 2017 and July 2017.
- Since September 2016 outreach has included the following:
 - 6113 stakeholders have been engaged through attending a public meeting or contacting the Project team.
 - 99 events were held, including presentation, briefings, community meetings and festivals.
 - 973 inquiries from members of the public have been received.
 - 548 public parties were contacted by the Project team to complete questionnaires and surveys.
 - 60 construction alerts have been issued for specific activities.
 - 4 notices have been issued in both English and Spanish to provide a 6-month look ahead for construction.
 - ADOT has issued media releases on average once per week since September 2016 to keep the public apprised of project updates.
 - Creation of a video on the project's use of rebar manufactured from scrap metal, saving 24,000 tons of mined ore, 13,000 tons of coal, and 1,000 tons of limestone.
 - A meeting was held by C202P on September 26, 2017 for the Rio Del Rey neighborhood and schools to provide updates on the Elwood Street pedestrian bridge: approximately 200 people attended.
 - An event was held by C202P on October 26, 2017 for the Laveen Area Homeowners Association, surrounding community, businesses and school representatives to discuss closures at Southern Avenue.
 - Information on the proposal to include a TI at 32nd Street and Ivanhoe Street was presented to the public and local stakeholders through newspaper advertisement, e-mail alerts, news release, and social media that was published or distributed May 2, 2018. Additionally, a study-specific webpage was published on the SMF project website on May 2, 2018.
- The USACE Los Angeles District held a public hearing on May 9, 2017 at the Boys and Girls Club of the East Valley, Gila River Branch-Komatke regarding the Corps consideration of the SMF Project's permit application under Section 404 of the Clean Water Act. Members from the GRIC were in

attendance as were local business and community members. Public comment was recorded in the form of transcribed verbal statement, written statement, e-mail and phone transcription.

- ADOT held an open house on May 22, 2018 at Desert Vista High School to discuss the 32nd Street TI. The open house was also used as a forum to update community members on SMF construction activities as well as allow for public input.
- ADOT held an open house on May 30, 2018 at the Laveen Elementary School District Office to discuss the Ivanhoe Street TI. The open house was also used as a forum to update community members on SMF construction activities as well as allow for public input.
- ADOT held an open house on June 23, 2018 at the Boys and Girls Club, Gila River Branch – Komatke, to discuss the Ivanhoe Street TI. The open house was also used as a forum to update community members on SMF construction activities as well as allow for public input.
- ADOT held meetings with DLC members on June 27 and July 10, 2018 to discuss issues and concerns related to possible Ivanhoe Street TI alternatives and access at Ivanhoe Street. There were 14 DLC members in attendance at the June meeting and 16 at the July meeting.
- FHWA sent agency and stakeholder NEPA scoping letters in July 2018, to 11 federal, State, tribal, and local agencies to introduce and request comments on the proposed 32nd Street and Ivanhoe Street TIs (see section 5, *Public/Agency Outreach*, for more discussion).

2 Description of Project Change

The FEIS/ROD references enhancement opportunities during final design to incorporate elements of importance to the local community during the final design stage of the project. Page 3-60 of the FEIS proposed these enhancement opportunities as follows:

Enhancement Opportunities

Construction and operation of any of the action alternatives would create opportunities for ADOT and local jurisdictions to identify additional enhancements. Examples of enhancements are both procedural and project-specific. A procedural enhancement could include the engagement of select members of the public to participate in the design phase or through public art projects in the corridor. A project-specific example might be the result of excess right-of-way (ROW) that may be suitable for other public infrastructure projects such as park-and-ride lots or bicycle/multiuse paths. During the design phase, ADOT, local municipalities, the Gila River Indian Community (Community), Valley Metro, and Maricopa Association of Governments (MAG) would work together to identify and create enhancement opportunities. MAG policy would determine how enhancements would be funded.

Based on coordination with the MAG, GRIC, Maricopa County Department of Transportation, elected officials, and the public after the ROD, ADOT has proposed additional scope items for the project including a new traffic interchange near Ivanhoe Street.

2.1 Background

During the third tier of the alternatives development and screening process for the DEIS (2001-2005), the project team evaluated where traffic interchanges accessing the local arterial streets should be located (see page 3-12 of the FEIS). In the initial stages for developing alternative alignments, interchanges were located at all major arterials generally spaced at 1-mile or greater intervals along the arterial street grid. A TI at Ivanhoe Street was not originally considered due to Ivanhoe Street not being a major arterial and an interchange was planned less than 1 mile away at 51st Avenue; therefore, an interchange at Ivanhoe Street in the subsequent DEIS and FEIS was not included. During final design, the interchange at 51st Avenue was relocated to the north at Estrella Drive to avoid two GRIC well sites that were held in trust. While the new TI at Estrella Drive still provided access and mobility to the area surrounding 51st Avenue and Estrella Drive, it caused concerns because of the potential traffic impacts at the existing rural-type intersections from casino traffic.

Because of City of Phoenix and Maricopa County concerns regarding potential traffic impacts at the existing rural-type intersections outside the ADOT ROW (e.g., Estrella Drive and 51st Avenue intersection) as well as GRIC access requests, FHWA and ADOT began an environmental study in 2018 to include a TI along the SMF near Ivanhoe Street to address access and traffic concerns. The study of this TI has also been supported by MAG.

As part of the environmental study, ADOT requested that C202P draft preliminary design plans to determine the feasibility of adding a TI near Ivanhoe Street. This environmental reevaluation was initiated to analyze any changes in environmental and social impacts of adding the proposed TI design, including any applicable regulatory changes since the approval of the FEIS/ROD.

2.2 Overview

The purpose of the Ivanhoe Street TI is to improve traffic efficiency and operation by providing traffic relief at the adjacent Estrella Drive TI, reduce traffic along 51st Avenue, and address GRIC requests to improve access to GRIC lands. Benefits of this TI would include:

- Relief of traffic congestion at Estrella Drive and 51st Avenue
- Improved access for residents and emergency vehicles in the general area, including the St. Johns/Komatke area
- More direct and efficient access for destination traffic to the GRIC community area and arterial road network, including the Vee Quiva Hotel and Casino
- The TI would not have direct access to the DLC in order to eliminate casino traffic from entering the DLC
- The Dusty Lane connection to 51st Avenue would remain open and available to access the DLC
- Noise barriers for the DLC as supported in an updated noise impact evaluation and negotiated with the DLC

2.3 Description

Since a grade-separated bridge over Ivanhoe Street was included in the FEIS/ROD (see page 3-47 of the FEIS) and remained in the plans through the development of the final design, the addition of the TI near Ivanhoe Street primarily requires the addition of on- and off-ramps from the freeway to a crossroad. To minimize new ROW, the proposed designs have reduced the spacing between the ramp intersections by using retaining walls.

Initially, ADOT presented one interchange concept to the public: a typical diamond interchange with access to the east (DLC) and west (GRIC). After receiving input from stakeholders, ADOT developed four additional alternative concepts (referred to as Concepts 1, 2, 3, and 4 in materials provided to stakeholders and the public) that were evaluated to mitigate impacts of the proposed traffic interchange:

1. Build the TI at Ivanhoe Street, but relocate the Dusty Lane Community access on to a new road that crosses under the freeway at Ray Road and connects to Sandy Lane. There would be no freeway access to the DLC.

This concept was eliminated based on stakeholder input and issues associated with the use of Sandy Lane for public travel.

2. Build the TI at Ivanhoe Street, but relocate Dusty Lane to the north side of the freeway between 51st Avenue and Ivanhoe Street. There would be no freeway access to the DLC

This concept was eliminated due to the impacts to the resources associated with the South Mountains that are eligible for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966.

3. Build the TI near multi-use crossing #3 to the southeast of the Dusty Lane Community. The DLC access would remain via Dusty Lane with a crossing under the freeway at Ivanhoe Street. There would be not freeway access to the DLC.

This concept was eliminated due to the impacts to the resources associated with the South Mountains that are eligible for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966.

4. Build the TI at Ivanhoe Street with a restricted access frontage road from Ivanhoe Street along 45th Avenue to Galveston Street. There would be freeway access to the DLC, though restricted.

This concept was eliminated based on stakeholder input with respect to the freeway access to the DLC.

After considering public agency and GRIC stakeholder input and DLC requests, the concept proposed for construction and included for detailed study in this reevaluation was a variation of concept #1 above (referred to as Concept 1A in materials released to stakeholders and the public). The proposed concept includes a separate access into the DLC along Dusty Lane to eliminate a direct connection to the TI. Dusty Lane would cross under the SMF at Ray Road and a new road would parallel the SMF to its connection to Ivanhoe Street. Other ancillary items associated with a TI such as drainage, lighting, striping, and crossroad improvements are addressed in the designs. Approximately 20,000 square feet of new ROW on the east side of the SMF, north of Ivanhoe Street, would be acquired from a private owner for the construction of the new parallel access road and extension of drainage structures.

The proposed design for the Ivanhoe Street TI is provided in Figure 1-2. Assessment of the environmental and social impacts for the proposed TI are presented in the following section. Minor changes in the design may further be developed based on unknown constraints such as specific on-site conditions and construction materials but are not anticipated to change the assessment in this reevaluation. Any larger changes that could impact or affect the results of this reevaluation would be coordinated through FHWA. Preliminary cost for the traffic interchange is approximately \$15 million.

The Ivanhoe Street TI would include the following changes to the SMF project scope of work:

- Adding on- and off-ramps on both sides of the SMF near Ivanhoe Street and a connector road that extends to the GRIC boundary to accommodate a planned GRIC road
- Constructing a new access road to serve the DLC that connects to Dusty Lane, passes under the SMF at Ray Road and continues along the east side of the SMF to Galveston Street
- Constructing a new bridge over Ray Road for the new access road
- Reconstructing local street intersections to connect to the new access road and TI
- Extending box culverts to accommodate TI ramps and the new access road
- Reconfiguring drainage ditches and drainage basins to accommodate TI ramps and the new access road
- Constructing a noise barrier on the east side of the SMF
- Constructing new retaining walls between TI ramps and the mainline
- Acquiring new ROW to accommodate the new access road and drainage structures

3 Environmental Consequences

This section presents an assessment of the environmental consequences that would occur or change as a result of adding a TI at Ivanhoe Street to the SMF project. Table 3-1 provides a summary of identified environmental changes and resources addressed.

All of the mitigation and commitments made in the FEIS/ROD for the project apply to the new TI presented in this reevaluation. Resources with anticipated changes in environmental impacts resulting from the addition of the Ivanhoe Street TI or requiring assessment for changes in the affected environment, are described in more detail following the table.

Table 3-1. Environmental Consequences Assessment for Addition of a Traffic Interchange at Ivanhoe Street

Setting/Resource Circumstance	Change in Affected Environment		Change in Environmental Impact		Additional Discussion Included
	Yes	No	Yes	No	
Land Use		X	X		Yes, see below
Social Conditions		X	X		Yes, see below
Environmental Justice and Title VI		X	X		Yes, see below
Displacements and Relocations		X		X	No
Economics		X	X		Yes, see below
Air Quality		X		X	Yes, see below
Noise		X	X		Yes, see below
Water Resources		X	X		Yes, see below
Floodplains		X		X	No
Waters of the United States		X	X		Yes, see below
Topography, Geology, Soils		X		X	No
Biological Resources		X		X	Yes, see below
Cultural Resources		X		X	Yes, see below
Prime and Unique Farmland		X		X	No
Hazardous Materials		X		X	Yes, see below
Visual Resources		X		X	No
Energy		X		X	No
Temporary Construction Impacts		X	X		Yes, see below
Material Sources and Waste Material		X		X	No
Section 4(f)/Section 6(f)		X		X	Yes, see below
Secondary and Cumulative Impacts		X		X	Yes, see below

3.1 Land Use

An approximately 0.44 acre parcel of additional land not originally identified in the FEIS/ROD and reevaluations would be acquired as new ROW for drainage features and converted to a transportation use for the SMF project. This land would be used to construct a culvert extension and drainage channels to accommodate the westbound TI on-ramp and new DLC access road. In addition, three work areas will require right-of-entry permits from the Maricopa County Department of Transportation (MCDOT). These work areas on existing paved roads are required to tie the newly constructed roads to existing road connections and to access an adjacent drainage channel during construction.

The new ROW would be acquired from a 6.36 acre private residential property that is located adjacent to the freeway ROW identified in the FEIS/ROD and/or previous FEIS reevaluations.

Land uses were identified through the use of aerial imagery on the Maricopa County Assessor's Office Parcel Viewer (Parcel Viewer 3.4, 2018). The portion of the residential parcel that would be acquired is undeveloped and is where natural drainage channels pass through the property. Although the use of this land would change from private residential property to a transportation use, the function as a drainage conveyance would remain the same. Since the land that would be permanently acquired as new ROW for the Ivanhoe Street TI is undeveloped property and functions for drainage, the use of this land would not result in a change in impacts (see Figure 1-2).

The additional ROW would be a small increase to the SMF project; impacts to land uses have been adequately disclosed in the FEIS/ROD. No new mitigation measures are warranted for impacts on land use beyond those already committed to in the ROD.

3.2 Social Conditions

A grade-separated bridge over Ivanhoe Street was addressed in the FEIS/ROD. Adding the TI at this location requires adding on- and off-ramps that connect the freeway to a road beneath the SMF. This road would connect to a road that would be designed and constructed by the GRIC on tribal land. The TI would not connect to Ivanhoe Street or provide direct access to the SMF for the DLC. The TI project would add an access road on the east side of the SMF, to replace access currently provided by Dusty Lane, for use by the DLC. The DLC access road would retain access from 51st Avenue along a section of Dusty Lane before crossing under the SMF at Ray Road, maintaining separate DLC access with no direct connection to the SMF as requested by DLC members (see Figure 1-2).

The purpose of the Ivanhoe Street TI is to improve traffic efficiency and operation by providing traffic relief at adjacent Estrella Drive TI, reduce traffic along 51st Avenue, and improve transportation access and mobility for the GRIC. Employees of local businesses in the general area are likely to benefit from the improved access and circulation as well as provide additional access and mobility options for residents. The DLC residents will maintain separate access into the DLC and reduce the potential for unwanted traffic within the neighborhood. The movement of traffic between a freeway and the local street network can lead to peak-hour traffic congestion at TI locations and nearby arterials resulting in increased traffic volumes and delays. Based on the traffic analysis completed for this reevaluation, the addition of the Ivanhoe Street TI is projected to reduce arterial traffic congestion for residents in the general area of the TI, primarily those that use 51st Avenue, the main nearby arterial, by redirecting traffic to and from GRIC destinations that would have otherwise used the Estrella Drive TI and 51st Avenue.

Other ancillary features associated with the Ivanhoe Street TI that will be introduced in the area would include lighting and signing. Although these features, as well as traffic due to the TI ramps, would be closer to homes, the impacts from noise, lighting, and visual impacts resulting from the Ivanhoe Street TI would not be noticeably increased from those that the FEIS/ROD addressed. The noise analysis in the FEIS indicated that residential properties in the Ivanhoe Street TI area would be eligible to be considered

for noise abatement and the public would continue to be encouraged to be involved in freeway-related noise issues through final design. Coordination with the DLC resulted in the design of noise barriers, within accepted guidelines, that exceed requirements to address noise impacts that are intended to also provide visual screening. The noise barrier wall will be constructed a consistent 14-foot height to provide a level of visual screening whereas the requirement to address noise impacts is a noise barrier wall varying from 10 to 14 feet in height, with a majority of the wall 10 to 12 feet high. Lighting will be addressed by ROD commitment VIS-4, which requires freeway lighting be designed to reduce illumination spillover onto residential areas.

Increased negative effects on community character as a result of the Ivanhoe Street TI would be minimal because the TI would remain mostly concealed within the SMF ROW and the current condition of retaining a separate access to 51st Avenue, as desired by the local community, would be maintained.

The movement of people, goods and services in the local area would be improved by adding the Ivanhoe Street TI as it would provide alternative routes within the local road network.

Construction of the TI at Ivanhoe Street would be a positive effect, compared to not including a TI at Ivanhoe Street, since it potentially reduces casino traffic from entering the local residential communities, reduces traffic along 51st Avenue, improves local GRIC access to and from SMF, and improves access for emergency vehicles. Effects of traffic, lighting, noise, and visual aspects on the local community as a result of adding the Ivanhoe Street TI, although increased, are minimal and these effects have been adequately disclosed in the FEIS/ROD.

The following measure would be implemented to restrict access from the interchange to DLC and to screen residential views from traffic along the Ivanhoe Street TI on- and off-ramps and at the ramp intersections:

- ADOT will provide visual screen walls between residential property and the proposed TI ramps and intersection from the end of the planned noise barriers on the westbound on- and off-ramps.

3.3 Title VI and Environmental Justice

The FEIS/ROD disclosed potential effects to Title VI and Environmental Justice (EJ) and populations. Title VI of the Civil Rights Act of 1964 is the federal law that protects individuals and groups from discrimination on the basis of their race, color, and national origin. The rights of women, the elderly, and the disabled are also protected under related statutes that fall under the umbrella of Title VI.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs that regulations, programs, policies, facilities, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations and that they achieve an equitable distribution of benefits and burdens from, in this case, the TI near Ivanhoe Street, which would be a federally funded facility. A summary of the outcomes of the Title VI and EJ review for the SMF project can be found in the prologue located on page xii of the FEIS and discussed below.

Based on comments from the DEIS, the FEIS was modified to discuss Title VI and EJ separately and to clarify how the conclusions in the Title VI and EJ section were reached. The clarification in that section supports the determination that there are no disparate impacts on minority groups protected by Title VI or disproportionately high and adverse impact on EJ populations.

To verify the findings in the FEIS/ROD as they pertain to adding the TI to the SMF and to establish whether the proposed action would disproportionately affect a Title VI or EJ populations, a basis for comparison was established. Maricopa County was identified as the area of comparison. This is also the basis of comparison utilized for the SMF project. Title VI and EJ populations were identified as those populations in census geographies where the percentage of the sensitive population is known to exceed

the percentage of an “identifiable group,” in accordance with FHWA guidance. To focus on potentially affected neighborhoods, the smallest unit of analysis of the studied populations, 2012-2016 census block-level data, was used to assess Title VI and EJ populations (see Figure 3-1).

3.3.1 Title VI

Census block-level data were used to identify minority, female head of household, elderly, and disabled populations. The percentages of minority populations for the Ivanhoe Street TI area and Maricopa County are shown in Table 3-2 and for the remaining sensitive populations in Table 3-3.

Compared with Maricopa County as a whole, the proposed Ivanhoe Street TI area census blocks show a greater percentage of all minority population categories, except for Asian American. Compared to Maricopa County percentages within the FEIS, there is an increase in “Hispanic or Latino” and “Black or African American” populations while the other populations have stayed the same or declined. The Council on Environmental Quality’s guidance defines a minority population as occurring if the minority population in the affected area exceeds 50 percent of, or is meaningfully greater than, the minority population in the general population or other appropriate unit of geographic analysis, for this reevaluation Maricopa County is that unit. The FEIS Title VI evaluations used a lower threshold for identifying populations by using the lesser of 1.5 times the unit of geographic analysis (Maricopa County) or 50 percent of the total Title VI populations for the SMF study area. Applying this criteria, minority populations of “Hispanic or Latino” and “American Indian and Alaskan Native” occur within census blocks in the Ivanhoe Street TI area. Based on results in the FEIS, the percentage of “Hispanic or Latino” population evaluated in the FEIS SMF study area was 67 percent greater than the average for Maricopa County. Based on the current data available, considering the three census blocks in Table 3-2, the “Hispanic or Latino” population is currently 62 percent greater than the average for Maricopa County, a 5 percent reduction in the percentage comparison of the “Hispanic or Latino” population revealed in the FEIS.

The FEIS acknowledged the “American Indian and Alaskan Native” population that occurs on the GRIC. As a basis of comparison, the evaluation for the FEIS showed 85.1 percent “American Indian and Alaskan Native” population on the GRIC compared to 73.8 percent within the census block CT 9410 shown in Table 3-2 that is entirely within the GRIC.

Minority populations that occur within the Ivanhoe Street TI census blocks have been identified and addressed in the FEIS. Data indicate that the percentage of “Hispanic or Latino” and “American Indian and Alaskan Native” populations associated with the Ivanhoe Street TI census blocks versus current Maricopa County percentages have declined when compared to the same minority population percentages versus Maricopa County percentages revealed for the SMF FEIS study area.

Table 3-2: Minority Populations in the proposed traffic interchange area

	Minority Populations (%)				
	Hispanic or Latino	Black or African American	American Indian and Alaskan Native	Asian American	Native Hawaiian or Other Pacific Islander
CT 9410, Block Group 1	20.5	0.5	73.8	1.0	1.8
CT 1166.11, Block Group 2	49.1	5.7	0.6	0.5	0.0
CT 1167.33, Block Group 1	9.3	0.0	2.8	2.5	0.0
Maricopa County	30.3 (24.8*)	5.0 (3.5*)	1.5 (1.5*)	3.8 (2.1*)	0.2 (0.1*)

Source: American Community Survey 5-year Estimates (2012-2016) at the block group level

Note: Numbers in red reflect values that are above the values for Maricopa County

*year 2000 U.S. Census Bureau percentage used for FEIS

Figure 3-1. Study Area Demographics

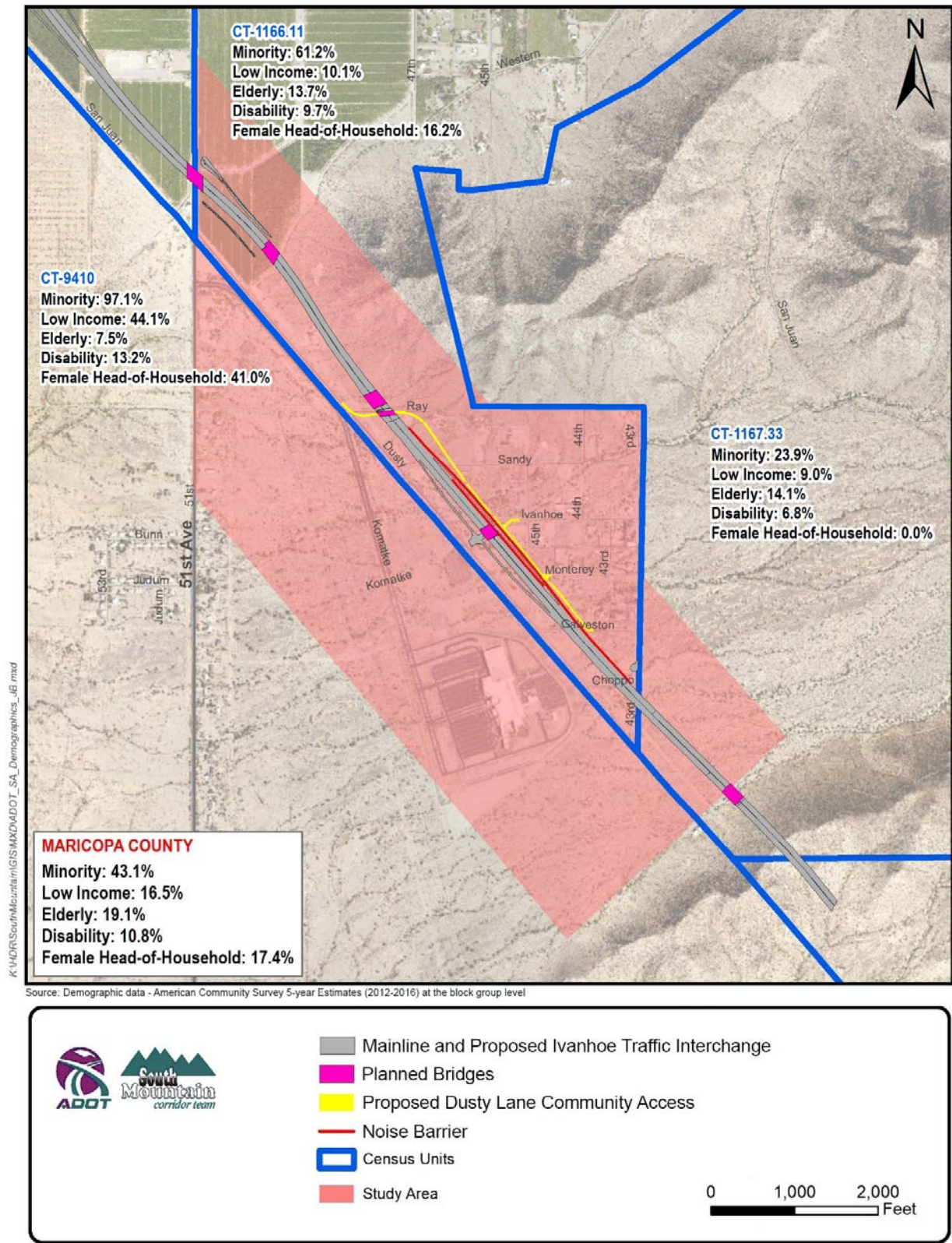


Table 3-3: Women, the elderly, and disabled in the proposed traffic interchange area

	Populations (%)		
	Percent Female Head of Household	Percent Elderly	Percent Disabled
CT 9410, Block Group 1	41.0	7.5	13.2
CT 1166.11, Block Group 2	16.2	13.7	9.7
CT 1167.33, Block Group 1	0.0	14.1	6.8
Maricopa County	17.4 (6.6*)	19.1 (11.7*)	10.8 (18.0*)

Source: American Community Survey 5-year Estimates (2012-2016) at the block group level

Note: Numbers in red reflect values that are above the values for Maricopa County

*year 2000 U.S. Census Bureau percentage used for FEIS

Data in Table 3-2 and 3-3 illustrates the diversity within the proposed Ivanhoe Street TI area. Compared with Maricopa County as a whole, the proposed TI area has a greater percentage of all protected populations discussed, except for elderly populations. Sensitive populations are higher than those in the surrounding County and outreach and mitigation has been completed to include these populations during the SMF design process.

3.3.2 Environmental Justice

Census block-level data were used to identify minority and low-income populations. The percentages of EJ populations for the Ivanhoe Street TI area and Maricopa County are shown in Table 3-4.

Table 3-4: Environmental Justice Populations in the proposed traffic interchange area

	Environmental Justice Populations (%)	
	Percent Below Poverty	Percent Minority
CT 9410, Block Group 1	44.1	97.1
CT 1166.11, Block Group 2	10.1	61.2
CT 1167.33, Block Group 1	9.0	23.9
Maricopa County	16.5 (11.8*)	43.1 (33.8*)

Source: American Community Survey 5-year Estimates (2012-2016) at the block group level

Note: Numbers in red reflect values that are above the values for Maricopa County

*year 2000 U.S. Census Bureau percentage used for FEIS

Data in Table 3-4 indicates that compared with Maricopa County as a whole, the proposed TI area has a greater percentage of minority and low income populations. These populations are higher than those in the surrounding County and outreach and mitigation has been completed to include these populations during the SMF design process.

3.3.3 Conclusion

The TI near Ivanhoe Street is within or adjacent to the ROW footprint analyzed in the SMF FEIS/ROD and does not result in any new adverse effects to any populations, including those protected under Title VI and EJ, that were not discussed in the SMF FEIS/ROD.

Displacements and Relocations

With the exception of the acquisition of an approximately 0.44 acre parcel of new ROW, adjacent to the SMF footprint, there are no property acquisitions for the TI. The parcel to be acquired is vacant, therefore, no displacements or relocations of residents or businesses would be required and therefore, there are no adverse effects to any populations, including those considered under EJ or Title VI.

Noise, Light and Visual Effects

The inclusion of the TI near Ivanhoe would not result in adverse effect as a result of noise. A noise barrier will be constructed along the DLC with or without a TI near Ivanhoe Street (see Figure 1-2). Therefore, there are no adverse effects due to noise to populations protected under EJ or Title VI. Similarly, visual impacts from the proposed ramps and other ancillary features such as signing and lighting associated with the TI would be largely concealed within the SMF ROW and the current condition of retaining a separate access to 51st Avenue, as desired by the local community, would be maintained. Therefore, the effects from the TI would not be noticeably increased from those that the FEIS/ROD addresses and provides measures and mitigation.

Transportation

The TI would not result in adverse effects from traffic. Rather, the TI would provide a benefit to all populations, including those protected under Title VI and EJ, by improving traffic efficiency and operation by providing traffic relief at the adjacent Estrella Drive TI, reducing traffic along 51st Avenue, and improving transportation mobility for the GRIC and all employers and residents in the general area of the TI.

Access and Community Services/Destinations

The TI would result in a change in how surrounding areas, particularly the GRIC, are accessed as opposed to what was discussed in the SMF FEIS/ROD. The TI would include on- and off-ramps that would connect the freeway to a tribal planned roadway that would serve the GRIC and its Vee Quiva Hotel and Casino. The inclusion of a TI near Ivanhoe would provide a benefit to the GRIC, its employees, and to patrons of this entertainment venue by providing a direct connection to/from the SMF.

The freeway plans already included a bridge over Ivanhoe Street to accommodate access to homes north of the freeway within the DLC. The DLC is accessed by a single road that connects to 51st Avenue, Dusty Lane, which is located along the GRIC boundary. The DLC is a rural residential neighborhood with no community facilities, such as churches, schools, parks, and places of employment.

Based on public outreach and discussions with the DLC, no direct access to the DLC would be constructed as part of the TI to avoid any increased traffic entering the community. Rather the TI project would add an access road on the east side of the SMF, to replace access currently provided by Dusty Lane, for use by the DLC. The DLC access road would retain access from 51st Avenue along a section of Dusty Lane before crossing under the SMF at Ray Road, maintaining separate DLC access with no direct connection to the SMF as requested by DLC. Although access to and from the DLC community would change, the change was requested by the DLC to eliminate casino traffic and maintain the rural-residential character of their community.

Additionally, the movement of people, goods and services in the local area would be improved by adding the Ivanhoe Street TI as it would provide alternative routes within the local road network. Because the TI near Ivanhoe is almost completely within the SMF ROW, no impacts to community cohesion as a result of the TI would occur.

There would be no changes to transit services in the area of the TI.

Construction Effects

The TI would have construction impacts that would affect all populations, including those protected under Title VI and EJ. Such impacts would be temporary and would not cause undue hardship on any one population, and they are spread amongst all populations, sensitive and non-sensitive. These construction impacts would be negligibly different than those for the SMF as discussed in FEIS/ROD and subsequent reevaluations and would be minimized through mitigation as outlined in the FEIS/ROD.

Participation of Affected Populations

A key component of Title VI and EJ compliance is public involvement and outreach. SMF has an extensive public involvement plan that outlines specific strategies to provide opportunities for participation by all affected populations, including Hispanic, Native American, and low-income communities. Specific activities to engage affected populations in the process include bilingual (English and Spanish) newsletters, printed materials available in English and Spanish, the availability of Spanish-speaking translators and team members at public meetings to facilitate comments, the availability of Native American language translators at public meetings to facilitate comments, and direct and ongoing communication with GRIC members and tribal leaders. This process has provided access to individuals who are limited English proficient, as required by FHWA.

ADOT received public input on the proposed Ivanhoe Street TI between May 2 and July 19, 2018 (see section 5, *Public/Agency Outreach*, for more detail). The public feedback included 588 comments. A summary of the open house and public involvement activities are provided in a document dated September 2018 (Loop 202 South Mountain Freeway – Ivanhoe Street Traffic Interchange Public Involvement Summary) (see Appendix G).

Benefits

Although there would be no adverse effects as a result of the TI near Ivanhoe Street, there would be considerable benefits to all communities, including those protected under Title VI and EJ. As described above, traffic would be reduced at the Estrella Drive TI and along 51st Avenue; access would be improved to the GRIC, particularly the Vee Quiva Hotel and Casino; access would not be provided directly to the DLC, thereby eliminating casino traffic in the community from the TI (alternate access is provided); residents and employees of local business in the general area would experience improved access and circulation.

Overall, the impacts from the proposed Ivanhoe Street TI project would not be substantially different from current impacts resulting from the SMF as disclosed in the FEIS/ROD because there are no new or more severe adverse effects as a result of the TI. Additionally, any negligible impacts as compared to the SMF, would be borne equally by all populations benefitting from the TI and are already being minimized by the mitigation measures outlined in the SMF FEIS/ROD.

Therefore, based on the discussions above, there are no adverse effects from the TI and therefore, no disproportionate adverse impacts to minority and low-income populations (EJ).

Additionally, based on the discussion above demonstrating that the TI would not result in adverse effects, there are no disparate impacts to Title VI populations.

No new mitigation measures are warranted beyond those already committed to in the ROD.

3.4 Economics

The 2014 FEIS/ROD disclosed the potential positive and negative effects on businesses near the SMF. The only major traffic generator in the area near the proposed Ivanhoe Street TI is the Vee Quiva Hotel and Casino located on GRIC land approximately two miles south and east of the Estrella Drive TI. The

Ivanhoe Street TI will improve access to GRIC lands, including the Vee Quiva Hotel and Casino via a planned GRIC road that would connect to the TI. Greater vehicular access into GRIC lands, including the St. Johns/Komatke area, would be expected to support GRIC long-term economic development and economic sustainability.

Economic impacts on GRIC businesses and future growth as a result of adding a TI at Ivanhoe Street is anticipated to be beneficial. There would be no new substantial negative economic impacts by adding a TI near Ivanhoe Street. Economic impacts as a result of the proposed Ivanhoe Street TI would not change from what was disclosed in the FEIS/ROD. No new mitigation measures are warranted beyond those already committed to in the ROD.

3.5 Air Quality

The FEIS/ROD discussed ozone, carbon monoxide (CO), particulate matter less than or equal to 10 microns in diameter (PM₁₀), Mobile-Source Air Toxics (MSATs), and construction emissions for general conformity. An analysis of PM₁₀, CO, and MSATs was included in the August 2014 Air Quality Technical Report for the SMF. The SMF was included in MAG's FY2014–2018 Transportation Improvement Program (TIP) and 2035 Regional Transportation Plan (RTP), which were found to conform to the ozone, CO, and PM₁₀ State Implementation Plans (SIPs) by the U.S. Department of Transportation on February 12, 2014.

Since the time of issuing the ROD, the following updates have occurred that may affect the potential air quality impacts:

- Modifying the project design and scope, triggering the need to re-determine project level conformity
- New MSATs guidance from FHWA released October 2016
- Applicable SIPs have updated Phoenix CO Maintenance Area's Second 10-year Maintenance plan approved January 2016

Since issuance of the ROD, Transportation Conformity (as it relates to ozone, CO and PM₁₀) and construction emissions have been re-evaluated for the Ivanhoe Street TI. Transportation Conformity, as required by the Clean Air Act, ensures that highway and transit projects do not produce new air quality concerns. Transportation Conformity requirements apply to any transportation-related criteria pollutants for which the project area has been designated a nonattainment or maintenance area for NAAQS, for transportation-related pollutants. This includes ozone, CO, and PM₁₀ for the SMF project. In addition to Transportation Conformity requirements, this re-evaluation addresses potential changes to the MSAT assessment, based on FHWA guidance updated since the FEIS MSAT analysis.

Conformity for Ozone

By adding the proposed TI to the SMF at Ivanhoe Street, there would be somewhat better access to and from addresses near Ivanhoe Street, thus tending to shorten trips that would otherwise need to use other interchanges (Estrella Drive, etc.) that are already included in the approved SMF. The proposed project to place a TI near Ivanhoe Street would tend to lessen congestion vs. without the TI and would have minimal effects on regional vehicle miles travelled (VMT). Both of these improvements will likely tend to reduce regional air pollutant emissions, including those from ozone precursors (nitrogen oxides and volatile organic compounds), associated with highway vehicle traffic.

Transportation Conformity requirements in 40 CFR 93, Subpart A, with respect to regional emissions budgets, are presumed to be met if the proposed project is included in a conforming (approved) RTP and TIP. The project is included in an approved RTP and TIP with regional conformity analysis, as amended and approved by FHWA on July 17, 2018. The latest State Transportation Improvement Program (STIP) amendment #36 was approved by FHWA and the Federal Transit Administration on August 18, 2018.

Conformity for Carbon Monoxide and PM₁₀ Hot-Spots

The FEIS included project-level hot-spot analyses for CO and PM₁₀, which were conducted for intersections and interchanges of the Preferred Alternative with the highest projected traffic volumes or the worst levels of service or both; these included the 40th Street TI, the Broadway Avenue TI, and the I-10 TI.

The SMF was included in MAG's FY2014–2018 TIP and 2035 RTP, which were found to conform to the ozone, CO, and PM₁₀ SIPs by the U.S. Department of Transportation on February 12, 2014.

The transportation conformity rule describes the requirements for project-level conformity determinations, which are:

- The project is included in a conforming plan and TIP.
- The project's design concept and scope have not changed significantly since the conformity determination was made for the plan and TIP from which the project derived.
- The conformity determination includes a hot-spot analysis in:
 - CO nonattainment and maintenance areas
 - PM (PM₁₀ and PM_{2.5}) nonattainment and maintenance areas (only for projects of air quality concern)
- The project complies with control measures in the PM SIP.

During interagency consultation, the SMF project required a PM₁₀ hot-spot analysis because the project was located in a PM₁₀ nonattainment area and was determined to be a project of air quality concern due to it being a new highway project with a significant number of diesel vehicles. A hot-spot analysis for CO was required for the SMF because Maricopa County is a CO maintenance area.

The conformity regulations require hot-spot analyses to address the year or years of peak emissions. Through the interagency consultation process, the design year of 2035 was selected as the analysis year when traffic volumes and VMT would be the greatest for the SMF project.

The proposed addition of the Ivanhoe Street TI to the SMF was evaluated to assess compliance with air quality goals and requirements. The design year for the current evaluation of the Ivanhoe Street TI was 2040.

Based on the 2040 traffic information the traffic volumes on the SMF, including diesel truck traffic, are similar to the 2035 traffic volumes; therefore, impacts on air quality for a 2040 evaluation will not change appreciably from 2035 impacts. Additionally, the three other TIs addressed in the FEIS all have higher projected traffic volumes / worse levels of service for the SMF compared to a TI near Ivanhoe. Therefore, the impacts resulting from the Ivanhoe Street TI are conservatively represented with the hot-spot analyses included in the FEIS. The traffic study for the Ivanhoe Street TI shows that adding this point of access will reduce both daily traffic volumes and delay at the Estrella Drive TI and 51st Avenue intersection, which would tend to reduce CO and PM₁₀ concentrations at this location as compared to the traffic levels for that interchange as represented in the FEIS.

A Project of Air Quality Concern Questionnaire (POAQCCQ) was prepared (see Appendix A) to assess the proposed project in relation to project types in 40 CFR 93.123(b) requiring a quantitative analysis of local particulate emissions (hot spots) in nonattainment or maintenance areas: the SMF is located within the *Phoenix PM-10 Nonattainment Area for PM₁₀*. Project types that have been specifically defined with potential to cause local air quality concerns include:

- Projects on new highways that have more than 125,000 annual average daily traffic (AADT) and 8 percent or more of the AADT is diesel truck traffic

- Expansion of a highway that affects a congested intersection that operates (or will operate, for a new intersection) at a Level-of-Service (LOS) of D, E, or F and that expansion has a significant increase in the number of diesel trucks
- Projects in areas or affecting sites that are identified in an applicable PM₁₀ implementation plan as sites of violation or possible violation

Traffic projections for 2040 for the road network within the study area were obtained from the MAG Regional Travel Demand Model. The traffic data indicates there will be no significant increase in the volume of diesel trucks on the SMF as a result of the Ivanhoe Street TI project. The highest traffic volumes projected on the freeway mainline in the area, just west of Ivanhoe Street, without the TI is 115,673 vehicles per day, including 23,415 diesel trucks, and with the TI is 116,016 vehicles per day, including 23,370 diesel trucks, a diesel truck decrease of 0.2 percent. The new interchange would provide access to a mostly rural area with a destination business component (hotel and casino), with limited land use activities that typically attract commercial truck traffic.

A traffic report was prepared October 10, 2018 that modeled the proposed Ivanhoe Street TI intersection for LOS. The report also modeled the nearby Estrella Drive TI which is already an approved part of the SMF. The results indicate that all of the intersections at these two TIs would operate at a LOS of C or better (the LOS estimates are A and B), with or without the Ivanhoe Street TI.

CO hotspots are required for projects affecting intersections that are at Level-of-Service D, E, or F, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes related to the project. Based on the updated traffic report this project does not require a CO quantitative hotspot analysis for transportation conformity.

The PM₁₀ implementation plan revision issued by MAG (*2012 Five Percent Plan for the Maricopa County Nonattainment Area*) was approved by the USEPA on May 30, 2014. This implementation plan does not identify the Ivanhoe Street area or interchanges in general, as sites of existing or potential violation. Additionally, the PM₁₀ hot-spot analyses for the SMF FEIS involved traffic interchanges with much higher total and diesel vehicle traffic levels. The intersections for the Ivanhoe Street traffic interchange have projected volumes of total traffic and diesel vehicle traffic less than the 40th Street and Broadway Avenue signalized intersections previously analyzed for PM₁₀ hot spots in the FEIS. Therefore, the prior analyses conducted for transportation conformity and NEPA purposes in the FEIS demonstrate that the proposed Ivanhoe Street traffic interchange would not cause or contribute to violations of the PM₁₀ NAAQS. Although the Ivanhoe Street TI ramps are approximately 30 to 60 feet closer to a residential neighborhood, the distance would not change conclusions for PM₁₀ hotspots. It is clear from the prior analyses that the proposed Ivanhoe Street traffic interchange is not a site of violation or potential violation of the PM₁₀ NAAQS.

Based on the 2040 traffic data and analysis, the proposed Ivanhoe Street TI is not a Project of Air Quality Concern and will not require a PM₁₀ hot-spot analysis. Interagency consultation was completed in accordance with 40 CFR 93.105 and the USEPA concurred on October 24, 2018 that the “project is not a project of air quality concern and does not require a particulate matter hot-spot analysis” (see Appendix A); MAG provided a verbal concurrence in a phone conversation with the ADOT Air & Noise Program Manager on October, 24 2018. There were no responses from the Arizona Department of Environmental Quality and Maricopa County Air Quality Department.

The Ivanhoe Street TI has been included in an approved RTP and TIP (July 17, 2018), considered for conformity, and is consistent with the air-quality goals for the area. The latest STIP amendment #36 was approved by FHWA and the Federal Transit Administration on August 18, 2018.

Since the 2014 ROD as noted above, the project was reevaluated to ensure that it maintains conformity with the SIPs. The proposed TI is located in the Phoenix (Maricopa County) serious PM₁₀ nonattainment

area, Phoenix-Mesa (Maricopa County) moderate eight-hour ozone marginal nonattainment area, and Phoenix (Maricopa County) CO maintenance area. Therefore, the following SIPs apply to the study area:

- 2012 *Five Percent Plan for the Maricopa County Nonattainment Area*, Approved by USEPA on June 10, 2014; effective July 10, 2014
- 2013 *Carbon Monoxide Maintenance Plan for the Maricopa County Area*, Approved by USEPA on March 3, 2016; effective April 4, 2016
- 2014 *Maricopa Eight-Hour Ozone Marginal Nonattainment Maintenance Area Plan*, Approved by USEPA on October 16, 2015; effective December 15, 2015.

The proposed Ivanhoe Street TI project is consistent with and would not impede compliance with these SIPs.

Mobile Source Air Toxics

A quantitative analysis of MSAT emissions was performed as part of the FEIS for the SMF. That analysis concluded that traffic-related MSAT emissions in the project study area in 2035, for the preferred alternative for SMF implementation, would be less than 1 percent higher than for the no-action alternative. It also concluded that MSAT emissions in 2035 would be considerably lower than baseline (2012) emissions.

The FHWA has updated their MSAT analysis policy/guidance since the FEIS/ROD. The current policy dated October 16, 2016, updated the prior policy from December 2012, by incorporating emissions estimates that take into account three additional USEPA rules to control motor vehicle emissions, using the latest version of the Motor Vehicle Emissions Simulator (MOVES 2014a) software. The latest updated policy shows that, consistent with the earlier policy and MOVES projections, MSAT emissions will drop dramatically in the coming decades, even with substantial increases in VMT.

Implementation of the proposed Ivanhoe Street TI project would not affect the MSAT conclusions from the FEIS/ROD with respect to the SMF project, in light of the latest FHWA guidance. In addition, the proposed Ivanhoe Street TI would have little effect on MSAT emissions, as the project would cause minimal changes in regional VMT and congestion. Based on this finding, there is no need for additional quantitative MSAT emissions analysis for the proposed Ivanhoe Street TI project.

Construction Emissions and General Conformity

The August 2014 Air Quality Technical Report information and disclosures in the FEIS/ROD for construction emissions remain valid and would not change as a result of construction of the Ivanhoe Street TI. As explained in the 2014 Air Quality Technical Report for the SMF, having a construction duration of less than 5 years, project construction-related emissions (other than those emissions associated with construction of dry stream crossings, as analyzed for General Conformity purposes) are exempt from PM₁₀ conformity analysis; therefore, no new mitigation measures are required for air quality concerns as a result of construction activities associated with the proposed Ivanhoe Street TI.

The addition of the Ivanhoe Street TI to the SMF would not include any additional (compared to the SMF project) stream crossings requiring USACE approval. However, drainage channels and a culvert associated with two permitted dry wash crossings north of Ivanhoe Street would require extending construction approximately 30 feet along the washes jurisdictional limits. The very slight increase in construction associated with the extended drainage work would not cause the construction-related emissions to exceed the General Conformity *de minimis* emissions thresholds. The prior General conformity emissions analysis for the SMF project showed total emissions from construction of all stream crossings combined to be far below the *de minimis* emissions thresholds. Therefore, General Conformity requirements of 40 CFR 93, Subpart B do not apply to the Ivanhoe Street TI project.

Conclusion

In summary, the conclusions from the FEIS Air Quality Technical Report are still valid with respect to the approved SMF project. Furthermore, the proposed new project to add the Ivanhoe Street TI does not require additional hot-spot analyses for CO or PM₁₀, does not require new MSAT emissions analysis, is consistent with the latest SIPs for the area, is a *de minimis* project and therefore exempt under General Conformity requirements (40 CFR 93, Subpart B), and last, meets all Transportation Conformity requirements (40 CFR 93, Subpart A). Impacts on air quality as a result of the proposed Ivanhoe Street TI would not change from what was disclosed in the FEIS/ROD. No new mitigation measures are warranted beyond those already committed to in the ROD.

3.6 Noise

Existing noise-sensitive land uses in the Ivanhoe Street TI area were identified using online land use data, aerial imagery, and site reconnaissance (see Figure 1-2 and the attached noise report in Appendix B). Existing land uses within the DLC are rural residential and undeveloped. Adjacent GRIC land uses are commercial and undeveloped. Noise levels are generally low in this rural area because of the minimal traffic and undeveloped surrounding land of the SMPP and GRIC.

The Noise Abatement Criteria (NAC) land use Categories B (residential) and E (other developed lands, properties, or activities not included in Categories A to D or F) (see Appendix B) on the eastern side of the SMF are the focus of this reevaluation. In total, 41 noise receivers were modeled and evaluated to determine the most effective potential noise barrier locations.

A 2014 noise report completed in support of the FEIS/ROD identified noise impacts and mitigation to reduce impacts at selected noise-sensitive receivers throughout the project corridor. It was stated in the report that additional noise analyses would need to be conducted as the design of the SMF further develops and that the results in the report should not be considered final. In Appendix C of that report, a footnote to table C-1 includes the statement “the determination of benefited receptors and cost calculations would be made during final design of the Selected Alternative”. In line with these stipulations, in 2016 the potential noise barrier along the general location of the DLC was evaluated based upon the available SMF design information; however, based on ADOT’s established Noise Abatement Policy (NAP), a noise barrier was not recommended because criteria had not been met.

After the proposal to add a TI at Ivanhoe Street and information was obtained from the public, ADOT conducted a new noise study in 2018 (see Appendix B). The noise study evaluated the new horizontal and vertical alignments of the SMF and assessed the location and number of receptors (any location where people are affected by traffic noise) based on the unique nature of the rural residential DLC. The noise model was revised to reflect the proposed TI ramps, noise models were rebuilt, and dimensions of potential noise barriers were reevaluated. The results are based on updated noise analysis requirements to determine the most effective and optimal location of a noise barrier while meeting all regulatory required feasibility and reasonableness criteria.

The ADOT 2011 NAP addresses noise abatement measures based on feasibility and reasonableness. Some key considerations in the assessment for abatement measures include:

- Barrier height should not normally be higher than 20 feet for a stand-alone structure.
- 50 percent of affected receptors must achieve a noise reduction of at least 5 A-weighted decibels (dBA) for highway traffic noise.
- The barriers should reduce predicted unmitigated noise levels by at least 7 dBA for benefited receptors closest to the transportation facility.
- The maximum cost of the abatement is \$49,000 per benefited receptor, with barrier costs calculated at \$35 per square foot or \$55 per square foot if constructed on a structure.

The ADOT 2011 NAP also addresses three reasonableness factors or “tests” that must be achieved in order for a noise abatement measure to be deemed reasonable. These are:

- Viewpoints or preferences of property owners and residents
- Noise reduction design goal
- Cost-effectiveness

In the course of establishing the most appropriate noise barrier locations and characteristics, every effort was made to balance maximum achievable noise reduction while achieving and maintaining its cost effectiveness. The planned barriers meet all feasibility and reasonableness criteria, including a cost-per-benefited-receptor below the ADOT NAP threshold of \$49,000. During the public involvement process, it was evident the DLC residents were overwhelmingly in favor of constructing a noise barrier; coordination with the DLC has led to incorporating resident’s input into the final solution. While the noise study revealed noise barriers ranging from 10 to 14 feet in height were appropriate, the decision to provide consistent 14-foot-high noise barriers for the DLC has been reached to address visual (line-of-sight) and aesthetic concerns and which are also feasible and meet cost-effectiveness criteria.

The noise barrier will be constructed with or without a TI at this location on the north side of the freeway from approximately 43rd Avenue to south of Ray Road (see Figure 1-2). The noise barrier will be 14 feet in height throughout, including safety barrier, and over 4,000 feet in length. No housing in close proximity to the Ivanhoe Street TI occurs on the south side of the freeway to warrant a noise barrier.

Measures to address noise impacts as defined in the FEIS/ROD have been applied to the proposed Ivanhoe Street TI and all noise criteria required by the ADOT NAP have been met. A noise barrier will be constructed along the DLC with or without a TI near Ivanhoe Street and are part of the design plans. No new mitigation measures are warranted for noise impacts as a result of the proposed Ivanhoe Street TI beyond those already committed to in the ROD.

3.7 Water Resources

The Ivanhoe Street TI would extend box culverts and relocate drainage ditches that are currently planned for the SMF (see Figure 1-2) along Waters of the United States (WUS) and uplands. Since the culverts and drainage ditches are part of the SMF project currently under construction, construction would comply with the post-construction water quality requirements and best-management practices as described in the ADOT Post-Construction Best Management Practices Program, per ROD commitment WRE-6. The culvert extension and drainage ditch relocations would not substantially impact WUS and uplands beyond what was currently planned for the SMF. Impacts on water resources have been adequately disclosed in the FEIS/ROD and subsequent USACE permitting described in section 3.8 below.

Although water runoff along the facility has the potential to affect surface waters, any effects on water resources are minimal because the only change is the extension of box culverts and repositioning of drainage features that were currently planned for the SMF. Also, flow characteristics are required to remain the same as what was studied for the SMF project. Therefore, effects to water resources have been adequately disclosed in the FEIS/ROD. No new mitigation measures are warranted for impacts on water resources as a result of the proposed Ivanhoe Street TI beyond those already committed to in the ROD.

3.8 Waters of the U.S.

A Preliminary Jurisdictional Determination (PJD) was submitted and approved by the USACE in March of 2014 (SPL-2002-00055-KAT) and subsequently revised in October 2017. The PJD identified 49 water crossings throughout the SMF corridor determined to be official WUS. An Individual Permit (IP) was issued for the SMF project on November 9, 2017 by the USACE pursuant to Section 404 of the Clean

Water Act (CWA). Since the SMF project final design occurs in stages and design changes are made based on many factors, the IP conditions allow modifications to the permit as SMF designs change. As design changes are made impacts to WUS are updated and submitted to USACE for approval. As a special condition of the IP, coordination with the GRIC and submission of drainage reports prior to construction is required as design progresses along the SMF, which includes the Ivanhoe Street TI area. The purpose of the drainage studies is to demonstrate that flows in WUS across the SMF ROW onto the GRIC maintain existing flow characteristics. The drainage design based on the Ivanhoe Street TI was presented to the GRIC and USACE as part of regular GRIC coordination meetings. GRIC comments were addressed and the GRIC expressed no exceptions to the drainage designs moving forward for the area that includes the Ivanhoe Street TI. Based on the schedule to incorporate a TI near Ivanhoe Street, the GRIC and USACE have agreed to complete basic modeling of the flows after the drainage plans are finalized and any changes that may be required would be corrected in the field. The potential changes in the field would be minor adjustments and may include revisions to drainage basins to mimic existing conditions of the flows directly upstream of the GRIC boundary and/or modifications to the drainage ditch system upstream from the SMF that are required to match existing flow conditions. Any changes would be required to adhere to FEIS/ROD commitments, Technical Provisions, or other agency agreements that may occur before construction. The USACE indicated that a basic hydraulics review to check and compare the before and after velocities and flows is likely all that would be required since previous drainage studies and coordination with GRIC and USACE for this area of the SMF have revealed that maintaining existing flow characteristics onto the GRIC can and would be met.

New ROW that falls outside of the limits of the previously approved SMF limits and PJD boundaries have not been accounted for in the PJD. The new ROW needed for the Ivanhoe Street TI includes WUS that will be affected by the extension of a culvert and relocation of a drainage channel currently planned for the SMF. Drainage adjustments resulting from the TI design would also cause additional impacts to other documented WUS within previously approved reevaluation limits that have not been accounted for in the PJD and IP.

A revision to the PJD and IP would be required for the changes occurring within WUS. Coordination with the USACE would need to occur to determine the appropriate course action. Per the IP, permitted work areas will be flagged and areas not permitted would be roped off to prevent the contractor from entering jurisdictional areas before authorization has been received. No work within WUS outside of the previously authorized limits can commence until all proper permits are in place as required by the CWA and ROD commitments WUS-1, WUS-6a, WUS-7, WUS-9, WUS-16, WUS-17 and WUS-18. The following new commitment will be implemented:

- ADOT will coordinate with the USACE to determine the appropriate course of action regarding any dredge and or fill work occurring in WUS outside of the issued IP (SPL-2002-00055-KAT) for the South Mountain Freeway project. No work within WUS affected by the Ivanhoe Street TI shall occur until approval is received from the USACE.

No additional new mitigation measures for WUS are warranted beyond those already committed to in the ROD.

3.9 Biological Resources

The new ROW required for the Ivanhoe Street TI, outside the SMF corridor, is part of a rural residential parcel. The new ROW is undeveloped and native habitat conditions occur along with two ephemeral washes that pass through the parcel. The new ROW provides some habitat for various wildlife species.

The USFWS Information, Planning, and Conservation system was accessed on September 19, 2018 (unofficial report) to evaluate any new effects outside of those considered in the Biological Evaluation (BE) completed in July 2014 and summarized in the FEIS. The results of the review revealed no new

Endangered Species Act (ESA)-protected species or any proposed or designated critical habitat within or near the project area since the July 2014 BE (see Appendix C). Because there has been no change in ESA-protected species concerns, the no effect determination on protected species remains valid.

The Arizona Game and Fish Department (AGFD) Online Environmental Review Tool was accessed on September 19, 2018 (HGIS-080453) to identify any new special status species documented within 3 miles of the project area since the July 2014 BE. No new special status species concerns were identified (see Appendix C).

As part of agency scoping for the proposed Ivanhoe Street TI, a letter was submitted to the AGFD in July 2018 for the purpose of introducing concepts for the proposed Ivanhoe Street TI and requesting comments. The AGFD responded by letter in August 2018 that identified concerns regarding the TI concepts (see section 5, *Public/Agency Outreach*, for additional information). Subsequent to this AGFD coordination, the TI design option addressed in this reevaluation was selected as the TI option proposed for construction. Overall the AGFD expressed concern that the proposed TI would route traffic across the mouth of multi-use crossings #4 and reduce or eliminate the functionality of the crossing for wildlife purposes. The proposed Ivanhoe Street TI would not change the condition where traffic passes in front of the mouth of multi-use crossings #4 because existing Dusty Lane would remain at that location with or without the Ivanhoe Street TI. Although not part of the Ivanhoe Street TI design, the AGFD expressed concern over a turn-around or cul-de-sac that is located at the end of 43rd Avenue south of Galveston Street and approximately 1/3 mile from multi-use crossing #3 (see Figure 1-2). AGFD is concerned that the turn-around would be used by people to park vehicles for access into SMPP and the human presence would inhibit wildlife use of multi-use crossing #3, greatly reducing the functionality of the crossing for wildlife. The purpose of the turn-around is to provide vehicles, including school buses, the ability to reverse direction without backing up or potentially trespassing on developed or undeveloped private property since the SMF blocks further travel along 43rd Avenue. Because residential properties occur along the streets, non-resident traffic such as delivery vehicles, buses, etc. must be provided a way to reverse direction. Signage prohibiting parking will be placed at the turn-around and other options to warn of a dead end street will be considered by ADOT based on coordination with MCDOT. Currently “No Access to South Mountain Park” signage exists along Dusty Road near the intersection with 51st Avenue and will be maintained.

A scoping letter response from MCDOT dated July 30, 2018, also identified the concern by DLC residents that the multi-use crossings in the area would attract recreationists; however, their concern was related to the use of their streets (likely including the turn-around) as trailhead access rather than increased use around the multi-use crossings. As described in Section 3.13 Section 4(f) Resources, the City of Phoenix South Mountain Trail System, Planning & Preservation, Draft Report 2017, shows future designated trails within SMPP where currently non-designated trails occur near the east side of the DLC (see Figure 3-2). The proposed Ivanhoe Street TI would not provide direct SMF access to the east side of the SMF where planned trail segments occur and the existing condition of a single road access along Dusty Lane into the DLC remains; therefore, the proposed TI does not alter SMPP/trail accessibility. Any potential park infrastructure (trailheads, parking, etc.) would be at the discretion of the City of Phoenix and Maricopa County.

A SMF Biology Coordination meeting was held on September 4, 2018 to discuss SMF updates related to wildlife fencing and multi-use crossings as well as the current Ivanhoe Street TI concept. AGFD, USFWS, and GRIC biologists were in attendance. The proposed Ivanhoe Street TI was described as well as the features to address excluding wildlife from the SMF. The noise barrier/screen walls in that location will be

used in place of wildlife fencing and cattle guards¹ would be used on the TI on- and off-ramps. In response to the use of cattle guards at the on- and off-ramps, AGFD requested that cattle guards be double-deep or electric, noting that deer can jump over single cattle guards. Although multi-use crossing #4 is not changing as a result of the proposed Ivanhoe Street TI, the crossing was discussed in light of AGFD concerns described in the paragraph above. It was stated that Dusty Lane and Komatke Lane would cross the mouth of multi-use crossing #4 regardless of the proposed Ivanhoe Street TI. The meeting attendees were reminded that the main use of multi-use crossing #4 is to allow connectivity for the Maricopa/Sun Circle Trail that previously crossed at Ray Road. It was agreed by the attendees that multi-use crossing #4 is not as valuable for wildlife connectivity due to the proximity of Komatke Lane and Dusty Lane. The turn-around at the end of 43rd Avenue was also discussed as a feature specifically for the SMF, not part of the proposed Ivanhoe Street TI, which is needed to provide vehicles the ability to reverse direction at the end of the street. It was noted that the turn-around would have signage to prohibit parking that would limit use of the turn-around as a point to access the SMPP.

The AGFD submitted a letter dated September 20, 2018 to provide comments on the SMF Biology Coordination meeting that was held on September 4, 2018. Comments were primarily in regard to the on-going coordination for wildlife related commitments in relation to SMF designs but comments specific to the Ivanhoe Street TI design that was presented at the meeting were also provided. The AGFD indicated they are most concerned about the turn-around at the SMPP boundary (end of 43rd Avenue) because of the proximity to multi-use crossing #3. AGFD believes that the turn-around will “lead to increased human traffic and use in the immediate vicinity of multi-use crossing #3 and will undermine the functionality of this crossing for wildlife passage.” The AGFD supports the proposed Ivanhoe Street TI design as presented in this reevaluation with the exception of the turn-around. The AGFD requested an alternative site for the turn-around that does not abut the SMPP and suggested the junction of Galveston Street and the end of the new DLC access road along the SMF. The AGFD requested, at a minimum, the addition of two more trail cameras at each multi-use crossing for the evaluation of wildlife crossing success and human use patterns at all multi-use crossings. AGFD indicated support of the use of noise barrier/screen walls as exclusionary measures but expressed concern with the proximity of the walls to traffic and shortage of wildlife escape mechanisms (jump outs) in this area. Because of this concern AGFD requested at least one additional pair of jump outs to accommodate the addition of the Ivanhoe Street TI proximity to multi-use crossing #3. The AGFD also suggested that double-deep cattle guards be placed on the connection road to the GRIC rather than on the TI ramps.

ADOT responded to AGFD in a letter dated September 27, 2018 to confirm the recommendations in the AGFD letter of September 20, 2018 particularly as it related to the proposed Ivanhoe Street TI versus the other coordination items for the SMF. Requests from AGFD that the letter was seeking to confirm included:

1. the addition of a pair of jump outs near the proposed TI
2. that a different location be selected for the turn-around on 43rd Avenue that wouldn't abut the SMPP to reduce the likelihood of recreational use near multi-use crossing #3 (It was noted in the letter that the turn-around was part of the SMF project prior the proposed TI and will be signed for no parking and that this public street end must be addressed so that vehicles are able to turn around since there is no other outlet.)
3. that the double-deep cattle guards proposed for the TI ramps be placed on the road that will provide access to the GRIC

¹ Cattle guards were selected, as agreed to during coordination with AGFD and GRIC, as a means to exclude wildlife from accessing the SMF where a crossroad causes a break in the wildlife exclusion fencing that parallels the SMF in the Center Segment. Cattle guards are highly effective and require less maintenance.

The AGFD replied in an e-mail to ADOT on September 28, 2018 with only one clarification to ADOT's letter which was for a wire fencing detail that was not related to the Ivanhoe Street TI.

Impacts on biological resources as a result of the proposed Ivanhoe Street TI would not change from what was disclosed in the SMF FEIS/ROD and BE. In accordance to the SMF Project technical provisions and mitigation measures outlined in the ROD, work associated with the SMF, to include the Ivanhoe Street TI, would be subject to provisions and measures that address protection of biological resources including coordination with AGFD, USFWS and GRIC to address biological concerns and requests as noted above. Coordination with the AGFD, USFWS and GRIC is an ongoing process that has led to many design changes as well as reconsideration of or modifications to agreements that were previously established in order to arrive at a better, workable solution in addressing wildlife concerns or to address unknown constraints. As an example, the current designs for the Ivanhoe Street TI have included cattle guards on the road that access the GRIC rather than on the TI ramps. In some cases providing mitigation may provide constraints where flexibility is preferable or necessary due to unknown constraints; however, based on coordination requests, the following new commitments will be implemented:

- ADOT will add two additional wildlife jump outs near the proposed traffic interchange that will increase the total number of jump outs to eight within the Center Segment. Jump outs shall be designed with a non-porous façade and AGFD personnel shall be invited into the field to provide input on the final locations of jump outs.
- ADOT will provide signage that clearly prohibits parking at the turn-around located at 43rd Avenue in the DLC.

No additional new mitigation measures for biological resources are warranted beyond those already committed to in the ROD.

3.10 Cultural Resources

The Ivanhoe Street TI area was previously surveyed for cultural resources. The GRIC's Cultural Resources Management Program (CRMP) covered most of the area during their survey of proposed South Mountain Freeway alignments. The results of the CRMP survey are reported in *"A Class III Cultural Resource Survey of Five Alternative Alignments in the South Mountain Freeway Corridor Study Area, Maricopa County, Arizona"* (GRIC) (Darling 2005). The Arizona State Historic Preservation Office (SHPO) concurred with the adequacy of the report (Jacobs [SHPO] to Greenspan [ADOT], January 23, 2006).

The remainder of the Ivanhoe Street TI area was surveyed by HDR Engineering for freeway ROW acquisition. The results of the HDR survey are reported in *"A Class III Cultural Resources Survey of 20 ADOT Parcels in Support of the 202L, South Mountain Freeway Project Environmental Impact Statement Reevaluation, Maricopa County, Arizona"* (Bartholomew and Brodbeck 2016). SHPO concurred with the adequacy of the report (Petty [FHWA] to Jacobs [SHPO] March 28, 2016, SHPO concurrence April 5, 2016).

Continuing Section 106 consultation for the SMF proposed Ivanhoe Street TI scope of work change was initiated on July 12, 2018 in accordance with the programmatic agreement developed between FHWA, SHPO, and ADOT (executed July 21, 2015) with the finding that an "adverse effect" determination was still appropriate for the overall SMF project. Consultation letters were mailed to 35 consulting parties (see Appendix D).

Responses were received from the Arizona State Land Department, Arizona State Museum, BIA, Bureau of Land Management, City of Phoenix-Pueblo Grande Museum, GRIC, Hopi Tribe, Bureau of Reclamation (Reclamation), and SHPO (see Appendix D). All responses were signature concurrences with the exception of the GRIC and Reclamation responses. The GRIC-Tribal Historic Preservation Office (THPO) provided a letter maintaining concurrence with a finding of adverse effect for this undertaking and

that GRIC-THPO concurrence is not to be interpreted as support for the SMF project. GRIC-THPO also reiterates that the GRIC identifies South Mountain as a Traditional Cultural Property and that the project is within the ancestral lands of the Four Southern Tribes. Reclamation responded that they reviewed the proposed project and they do not have any land in the Area of Potential Effects and they do not comment on projects for lands not under their jurisdiction.

Since the July 2018 continuing Section 106 consultation was completed for the proposed TI, new ROW and three areas where right-of-entry permits are required outside the limits of the FEIS/ROD and subsequent FEIS reevaluations was identified for the project that was not included in the continuing consultation. Although there are no known historic or prehistoric cultural resources present in the Ivanhoe Street TI location, continuing Section 106 consultation was reinitiated on November 7, 2018, to address the new ROW and three areas requiring right-of-entry permits.

Responses were received from the City of Avondale, BIA, City of Glendale, City of Phoenix Historic Preservation Office, City of Phoenix-Pueblo Grande Museum, GRIC, Hopi Tribe, and SHPO (see Appendix D). All responses were signature concurrences with the exception of the City of Glendale and GRIC responses. The City of Glendale responded via e-mail that they have no comment on the project. The GRIC-Tribal Historic Preservation Office (THPO) provided a letter maintaining concurrence with a finding of adverse effect for this undertaking and that GRIC-THPO concurrence is not to be interpreted as support for the SMF project. GRIC-THPO also reiterates that the GRIC identifies South Mountain as a Traditional Cultural Property and that the project is within the ancestral lands of the Four Southern Tribes.

There are no known historic or prehistoric cultural resources present in the Ivanhoe Street TI location. If previously unidentified cultural resources are encountered during any activity related to the SMF, the contractor shall stop work immediately and notify the ADOT Engineer per ROD commitment CUL-8. Impacts on cultural resources as a result of the proposed Ivanhoe Street TI would not change from what was disclosed in the FEIS/ROD. No new mitigation measures are warranted beyond those already committed to in the ROD.

3.11 Hazardous Materials

A Draft Initial Site Assessment for hazardous materials was completed in November 2012 and was updated in an addendum in June 2014 as part of the FEIS/ROD for the SMF project. Since the June 2014 addendum, a Phase I Environmental Site Assessment (Phase I) for hazardous materials was completed for the private parcel immediately adjacent to the new ROW, during acquisition of ROW for the SMF. The Phase I did not reveal any hazardous materials concerns. Although small portions of adjacent ROW could be considered covered under a Phase I if the land conditions were the same, since more than one year has passed since the completion of that Phase I, a new Phase I was completed for the 0.44 acre portion of ADOT Parcel 7-11543 that is required for new ROW (see Figure 1-2). Parcel 7-11543 is an undeveloped portion of private property where natural drainage channels occur. The Phase I investigation and report concluded there were no indications of recognized environmental conditions in connection with parcel 7-11543; therefore, there are no hazardous material concerns within the new ROW. The Phase I report was approved by ADOT on November 1, 2018 (see appendix E). The Phase I report noted that the “shelf life” of conforming Phase I documents is 180 days, and may be updated during the 180 days to 1 year timeframe but only if it is updated within the 180 day time frame. If greater than one year passes from the final report date, the Phase I effort would need to be repeated to remain in compliance with regulations.

During construction within Parcel 7-11543, if suspected hazardous materials are encountered during construction, work would stop at that location and ADOT would arrange for proper assessment, treatment, or disposal of those materials per ROD commitment HZM-7. Impacts on hazardous materials as a result of the proposed Ivanhoe Street TI would not change from what was disclosed in the FEIS/ROD. No new mitigation measures are warranted beyond those already committed to in the ROD.

3.12 Temporary Construction Impacts

New temporary traffic control may extend to the 45th Avenue intersection on Ivanhoe Street, an additional 0.05 mile from current construction, to address modifications for the Ivanhoe Street tie-in to SMF ramps and new Ivanhoe Street pavement striping. The Ivanhoe Street TI is located adjacent to the ROW limits described in the FEIS/ROD and are therefore in areas where temporary construction impacts have been disclosed. The FEIS/ROD disclosed impacts involving temporary construction noise and disruption to the traffic patterns and which are currently occurring along Ivanhoe Street as a result of SMF construction. Temporary construction impacts as disclosed in the FEIS/ROD will not be substantially increased as a result of constructing the Ivanhoe Street TI and no new mitigation measures are warranted beyond those already committed to in the ROD.

3.13 Section 4(f) Resources

An analysis of properties eligible for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C.303) was completed as part of this environmental reevaluation. Section 4(f) properties are any publicly owned parks and recreation areas (including trails), waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance.

Three properties are within the immediate project vicinity that were previously identified in the FEIS/ROD as eligible for Section 4(f) protection (see Figure 3-2). No new potential Section 4(f) properties were found. The previously identified Section 4(f) properties are:

- Phoenix SMPP
- South Mountains Traditional Cultural Property
- Section of Segment Seven of the Maricopa/Sun Circle Trail

The SMPP property is located along the northeastern side of the SMF and is adjacent to the eastern limits of the TI. This property is afforded protection under Section 4(f) as a publically-owned recreational property and as a historic property. The proposed Ivanhoe Street TI project would not require any property or include construction within the SMPP; therefore, there would be no direct use of this Section 4(f) property. Since the proposed Ivanhoe Street TI would remain within or immediately adjacent to the SMF limits, no proximity impacts are anticipated. The noise and visual impacts of the TI would be similar to the noise and visual impacts of the SMF as discussed in the FEIS/ROD. Because the overall project already results in a direct use to the SMPP, analysis to determine whether proximity impacts would result in constructive use is no longer applicable (23 C.F.R. § 774.15).

The South Mountains Traditional Cultural Property includes the isolated South Mountains range and its cultural features that hold cultural significance for the GRIC. The proposed Ivanhoe Street TI project would remain within the current SMF corridor and developed lands with the exception of a small parcel of rural residential property that would be acquired for new ROW from a private land owner. The proposed Ivanhoe Street TI would not cause new or more severe impacts to the South Mountains Traditional Cultural Property from what was disclosed in the FEIS/ROD.

The Maricopa/Sun Circle Trail, is a Maricopa County trail that passes through SMPP and is located near the north end of the Ivanhoe Street TI project limits. This trail currently connects to Ray Road on the east side of the SMF where a Maricopa County Parks and Recreation Department, Maricopa Trail – Sun Circle Trail map then shows the trail connecting to Dusty Lane and then north along a Salt River Project transmission line alignment. The Maricopa/Sun Circle Trail will cross under the SMF at multi-use crossing #4 that is being constructed as part of the SMF and was disclosed in the FEIS/ROD. As noted in the FEIS/ROD commitments, coordination with the County Parks and Recreation Department is required and has been on-going for the trail crossing at multi-use crossing #4. The City of Phoenix South Mountain Trail System, Planning & Preservation, Draft Report 2017, also shows future designated trails within

SMPP where currently non-designated trails occur near the east side of the DLC (see Figure 3-2). The proposed Ivanhoe Street TI would not provide a direct access to the east side of the SMF where planned trail segments occur; therefore, Dusty Lane remains as the only access into the DLC and the proposed TI would not alter SMPP/trail accessibility impacts addressed within the FEIS/ROD. Any potential park infrastructure (trailheads, parking, etc.) would be at the discretion of the City of Phoenix and Maricopa County. As disclosed in the FEIS, trails near freeway construction would be closed for limited periods of time for safety reasons. Such closures would constitute a temporary occupancy of land so minimal as to not constitute a Section 4(f) use. The Maricopa County Parks and Recreation Department concurred May 10, 2012 that temporary trail closures would constitute a temporary occupancy of land so minimal as to not constitute a Section 4(f) use (see Appendix 5-2, page A738 of the FEIS).

The construction of the Ivanhoe Street TI would permanently incorporate an approximately 0.44 acre parcel of residential property from within the South Mountains Traditional Cultural Property. Incorporating this small parcel of property would not cause new or more severe impacts to the South Mountains Traditional Cultural Property from what was disclosed in the FEIS/ROD. The TI project would not incorporate any additional land, permanently or temporarily, from eligible Section 4(f) properties or create proximity impacts. Impacts associated with the SMF project to this resource have already been mitigated as noted in the FEIS/ROD. The impacts as disclosed in the FEIS/ROD would not change as a result of construction of the Ivanhoe Street TI and no measures to minimize harm are warranted beyond those already committed to in the ROD.

Figure 3-2. Section 4(f) Properties



NOTE: South Mountains Traditional Cultural Property includes the entire mountain area and/or locations where cultural features occur

- Proposed Ivanhoe Traffic Interchange
- Planned bridges
- South Mountain Freeway FEIS and previous re-evaluation clearance limits
- Gila River Indian Community boundary

3.14 Secondary and Cumulative Impacts

Secondary impacts resulting from the construction of the proposed TI near Ivanhoe Street, would be primarily associated with the improved access to the GRIC. Although the hotel and casino adjacent to the TI has the potential to provide the setting that could lead to additional development, the access that the TI would provide is likely to increase the potential for that development. This increase in development would accelerate conversion of lands uses and increase economic activity of the area. The TI may be used by motorists to reroute for various reasons, such as to avoid traffic conditions due to accidents, which may cause an increase in traffic on the GRIC.

Cumulative impacts that may occur as a result of the increased development on GRIC lands would include the reduction of wildlife habitat in the region, adding to the reduction in wildlife connectivity between the South Mountains and the Sierra Estrella, and adding to the alteration of natural drainages in the area.

Secondary and cumulative impacts as a result of the proposed Ivanhoe Street TI are expected to be minor and would not change from what was disclosed in the FEIS/ROD. Mitigation measures included in the FEIS/ROD would help to address secondary and cumulative impacts.

4 New Commitments Related to the Ivanhoe Street TI

The commitments listed below will be implemented and tracked along with the commitments and mitigation measures presented in the ROD.

- ADOT will provide visual screen walls between residential property and the proposed TI ramps and intersection from the end of the planned noise barriers on the westbound on- and off-ramps.
- The contractor shall disclose future changes in rights-of-way and easement requirements for the Ivanhoe Street TI project to ADOT as they are identified.
- ADOT will coordinate with the USACE to determine the appropriate course of action regarding any dredge and or fill work occurring in WUS outside of the issued Individual Permit (SPL-2002-00055-KAT) for the SMF project
- ADOT will add two additional wildlife jump outs near the proposed traffic interchange that will increase the total number of jump outs to eight within the Center Segment. Jump outs shall be designed with a non-porous façade and AGFD personnel shall be invited into the field to provide input on the final locations of jump outs.
- ADOT will provide signage that clearly prohibits parking at the turn-around located at 43rd Avenue in the DLC.

5 Public/Agency Outreach

Since the approval of the ROD on March 5, 2015, FHWA and ADOT have consulted with affected stakeholders on various aspects of the SMF design. Because the introduction of the proposed TI is a change in the design, ADOT is completing this reevaluation to assess the environmental impacts that would result from adding the TI at Ivanhoe Street.

Public coordination and outreach to inform the public and stakeholders about the addition of the Ivanhoe Street TI included the following:

- ADOT held two open houses for the proposed Ivanhoe Street TI project. One was held on May 30, 2018 from 6:00 p.m. to 8:00 p.m. at the Laveen Elementary School District office, 5001 West Dobbins Road in Laveen. The second one was held on June 23, 2018 from 10:00 a.m. to 12:00 p.m. at the Boys and Girls Club, Gila River Branch – Komatke, 5047 West Pecos Road in Laveen. The open house allowed attendees to view renderings, provide feedback on the Ivanhoe Street TI. Attendees could speak one-on-one with project staff about the Ivanhoe Street TI environmental study. Attendees were encouraged to complete a questionnaire and comment form regarding the proposed TI.

Approximately 37 people attended the open house on May 30th and approximately 12 people attended on June 23rd. A total of 588 comments were received during the comment period through US mail, project telephone line, email, Open House comment form, and through the online questionnaire (available in both hardcopy and online versions). Common themes from comments expressed by the public included:

- Cost
- Construction
- Casino/Commercial access
- Residential access
- General opposition
- General support
- Safety
- Noise
- Environmental
- Bike/South Mountain Park Preserve access
- Light/Noise
- School access
- Traffic volumes

After the open house on May 30, 2018, the DLC requested a meeting with ADOT to discuss possible alternatives to the TI and access at Ivanhoe Street. Meetings were held on June 27 and July 10, 2018. There were 14 community members in attendance at the June meeting and 16 in the July meeting.

A summary of the open house and public involvement activities prepared in September 2018 are provided in a separate document (see Appendix G - Loop 202 South Mountain Freeway – Ivanhoe Street Traffic Interchange Public Involvement Summary) and will be posted on the project website included in the bullet below.

- Agency and stakeholder NEPA scoping letters were sent to 11 federal, State, tribal, and local agencies in July 2018 to introduce the proposed Ivanhoe Street TI and request comments. The public

participation for the proposed TIs included the open houses on May 30 and June 23 as mentioned above, as well as the information presented to the public and local stakeholders through a study-specific webpage on the SMF project website at [https://www.azdot.gov/projects/central-district-projects/loop-202-\(south-mountain-freeway\)/outreach/ivanhoe-street-study](https://www.azdot.gov/projects/central-district-projects/loop-202-(south-mountain-freeway)/outreach/ivanhoe-street-study). This information was posted on May 2, 2018 and was updated as information became available.

Agencies and stakeholders that were provided with scoping letters requesting comments or concerns included the following:

- Mr. Bryan Bowker, Regional Director, Western Regional Office - Bureau of Indian Affairs, Phoenix, Arizona
- Ms. Cecilia Martinez, Superintendent, Pima Agency – Bureau of Indian Affairs, Sacaton, Arizona
- Ms. Kathleen Johnson, Director, Environmental Protection Agency Region 9 – Enforcement Division, San Francisco, California
- Ms. Sallie Diebolt, Chief, Arizona Branch of U.S. Army Corps of Engineers, Phoenix, Arizona
- Field Supervisor, U.S. Fish & Wildlife Service – Arizona Ecological Services Office, Phoenix, Arizona
- Mr. Clay Crowder, Habitat Branch Chief, Arizona Game and Fish Department, Phoenix, Arizona
- Mr. Misael Cabrera, Director, Arizona Department of Environmental Quality, Phoenix, Arizona
- Mr. Stephen Roe Lewis, Governor, Gila River Indian Community, Sacaton, Arizona
- Mr. Ed Zuercher, City Manager, City of Phoenix, Phoenix, Arizona
- Ms. Joy Rich, County Manager, Maricopa County, Phoenix, Arizona
- Mr. Mike Hummel, General Manager, Salt River Project, Tempe, Arizona

The following is a summary of the responses to the scoping letters (see Appendix F).

- Staff with the BIA, Western Region, Transportation replied by e-mail on August 6, 2018, that they have no comments pertaining to the proposed TI at Ivanhoe Street and that they will reach out to the GRIC regarding Komatke Lane as that is BIA Route 242 on the National Tribal Transportation Facility Inventory.
- A representative for the BIA Pima Agency replied by e-mail on July 27, 2018, asking that planned activities, including additional evaluations of project effects, be coordinated directly with the GRIC and to continue to include BIA Pima Agency in project related correspondence. When ADOT/FHWA and GRIC have selected a final design, the BIA Pima Agency will work with all parties to ensure that all necessary ROW and NEPA documents specific to GRIC are appropriately addressed.
- The Arizona Branch of USACE replied by letter on August 14, 2018 describing USACE involvement on the SMF project as a cooperator. The USACE issued the Section 404 permit and have addressed previous EIS reevaluations. If a permit modification is needed, the USACE would need to consider any reevaluations to make a decision to modify the permit. Based on a review of the proposed TI and discussions held during design meeting with the USACE, ADOT, C202P, and the GRIC, it appears that additional impacts to WUS may be required to accommodate the new TI. The reevaluation should include a discussion of the effects to WUS and efforts to avoid or minimize impacts. Additional compensatory mitigation may be required if additional acreage is impacted. The letter also described the concern that the GRIC expressed regarding the SMF's

potential to adversely impact flow characteristics in the ephemeral drainages that flow onto the GRIC. A special condition had been added to the Section 404 permit requiring coordination with the GRIC and submission of drainage analysis reports before construction begins to show that existing flow characteristics would be maintained in WUS downstream. Since the proposed TI will impact the design and ongoing reviews, the reevaluation should discuss the efforts to coordinate with the GRIC and provide an update on the status of the reviews.

- The Habitat Evaluation and Lands Branch Chief from AGFD responded by letter dated August 6, 2018 that addressed proposed design concepts 1 and 4 as these were being advanced for consideration. Concept 1 and 1a provides indirect access to the SMPP. It also directs local residents and vehicles destined for SMPP access to drive northwest from Komatke Lane to 51st Avenue, north on 51st Avenue to Dusty Lane, and back southeast on Dusty Lane and under the freeway at Ray Road which would direct traffic across the mouth of multi-use crossing 4, reducing or eliminating functionality for wildlife crossing purposes. (Note: Dusty Lane, and Komatke Lane, currently cross the mouth of multi-use crossing 4 and would not change with the proposed Ivanhoe Street TI. This was subsequently conveyed to AGFD staff in a biology coordination meeting.)

AGFD commented on Concept 4 which is no longer considered for the proposed TI. AGFD expressed concern about the cul-de-sac that is shown at the end of 43rd Avenue, commenting that unless vehicular parking in the cul-de-sac and foot traffic into SMPP are identified as an indirect effect of the proposed concept, increased human presence will inhibit wildlife use of multi-use crossing 3. (Note: Subsequent coordination with AGFD staff provided clarification that the cul-de-sac is part of the SMF project and not part of the proposed Ivanhoe Street TI project and that the street must have a turn-around for traffic. The cul-de-sac would also have signage to prohibit parking.)

Overall the AGFD commented that the proposed concepts would route vehicles and increased human presence near the multi-use crossings. The AGFD recognizes the crossings as critical for maintaining wildlife permeability across the SMF and preventing complete isolation of a substantial piece of protected habitat. Overall these interchange concepts would negate the functionality of the multi-use crossings for wildlife and requests that proposed concepts be reevaluated to reduce impacts to wildlife permeability.

- Counsel for the GRIC provided a response by letter dated July 19, 2018, commenting that the GRIC has significant interest in the TI Study. The letter stated the GRIC supports the development of the proposed TI to improve access to GRIC lands, including the Vee Quiva Casino and surrounding area, as well as to mitigate traffic concerns at the Estrella Drive TI. A new TI would support the GRIC's long-term economic development goals and objectives, including supporting economic sustainability in partnership with tribal self-determination initiatives by providing greater vehicular access into GRIC lands. The GRIC's Department of Land Use Planning and Zoning Flood Control Engineering staff has reviewed the TI Study documents and is comfortable that GRIC lands and infrastructure will remain protected with the proposed TI in place.

The letter commented that of the alternatives under consideration, the GRIC supports either Option 1 or Option 1a as both of these options meet the purpose and need, provide desired access to GRIC lands and address concerns raised by residents located north of the proposed interchange area (Dusty Lane Community residents) that oppose the interchange providing direct access to their homes. The letter included comments against initial options that are no longer being considered for the proposed TI.

The GRIC commended ADOT on its public outreach efforts and appreciates ADOT accepting and considering public comments, including the GRIC's concern that the interchange design not adversely affect drainage and flooding on GRIC lands.

- The director of MCDOT responded by letter dated July 30, 2018, indicating support for the development of the South Mountain Freeway/202L as a regionally significant corridor. The letter noted that MCDOT was approached by the DLC who strongly expressed concerns regarding potential impacts from the SMF and the Ivanhoe Street TI. The DLC is an unincorporated Maricopa County community. Concerns that were highlighted include; not wanting a TI or direct TI access into the DLC, concerns that heavy water flows may be blocked by the SMF, fire hydrant access, noise wall height and length, local streets being used for trailhead access parking, concern for visual and noise impacts, and signage that would reduce impacts (engine braking, no parking, local access only). The letter stated that MCDOT has attended meetings that ADOT hosted for the DLC where many of these issues have been discussed. MCDOT requests "that consideration be given, and accommodation be provided when feasible, to the DLC concerns."

No additional responses were received.

Changes to the project related to the acquisition of new ROW and easements does not require an additional public hearing because the resulting change to impacts from those disclosed in the FEIS/ROD are not substantial, as discussed in the Environmental Consequences section of this reevaluation.

6 Conclusion and Recommendation

6.1 Conclusion

A Supplemental FEIS is not warranted for the following reasons:

- The proposed modifications are limited in scope and impacts are within, or adjacent to, the ROW footprint analyzed in the FEIS/ROD and reevaluations.
- As a result of the modifications to the project described herein, no substantial changes to the Selected Alternative and its related impacts identified in the FEIS/ROD will occur.

6.2 Recommendations

FHWA, in coordination with ADOT, reevaluated the SMF, Interstate 10 (I- 10, Papago Freeway) to I-10 (Maricopa Freeway) FEIS/ROD per 23 CFR § 771.129. FHWA, with concurrence from ADOT, has determined that no substantial changes have occurred in the social, economic, or environmental impacts of the proposed action that would substantially impact the quality of the human, socioeconomic, or natural environment. Therefore, the original environmental document remains valid for the proposed action.

Appendix A. Air Quality Assessment Memo for Ivanhoe Street Traffic Interchange, Project of Air Quality Concern Questionnaire and Consulting Party Correspondence

Appendix B. Noise Report

Appendix C. USFWS and Arizona Game and Fish Department Biology Database Results

Appendix D. Section 106 Consultation

Appendix E. Phase I Environmental Site Assessment

Appendix F. Agency NEPA Scoping Letter Responses

Appendix G. Loop 202 South Mountain Freeway – Ivanhoe Street Traffic Interchange Public Involvement Summary