The 90-day comment period on the Draft Environmental Impact Statement (DEIS) for the South Mountain Freeway began on April 26, 2013, and closed on July 24, 2013. During that period, 8,221 comments were submitted to the Arizona Department of Transportation (ADOT) and Federal Highway Administration through various media, including the ADOT project Web site, e-mails, telephone hotline, letters, and oral and written testimony.

The comment documents and responses are presented side-by-side in this appendix. Comments are organized alphabetically by the affiliation of the commenter (see Table of Contents). Anonymous comments are located at the end of the Citizen Comments and Responses section. Comments received after the July 24, 2013, deadline are at the end of the entire document.

The responses are structured to be comprehensive and address the content of the comments. The reader may be referred to other similar responses and/or the text in the DEIS or Final Environmental Impact Statement (FEIS); this is done to create a more concise response section and to help guide the reader to the sections of the DEIS and FEIS where the information about the content of the comment is contained.

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United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

Filed Electronically
24 July 2013

Alan Hansen
Team Leader, Planning, Environment,
Air Quality and Right-of-Way (PEAR)
USDOT-FHWA
Arizona Division
4000 N. Central Avenue
Phoenix, AZ 85012

Subject: Draft Environmental Impact Statement and Section 4(f) Evaluation for the Proposed South Mountain Freeway (Loop 202), Interstate 10 (Papago Freeway) to Interstate 10 Maricopa Freeway), Maricopa County, AZ

Dear Mr. Hansen:

Thank you for the opportunity to review the Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for South Mountain Freeway (Loop 202) Phoenix, Arizona. The Department of the Interior has reviewed the document, and offers these comments for your consideration and use.

SECTION 4(f) COMMENTS

We acknowledge that this project will constitute direct use of public parklands and will also have adverse effects to historic properties. We further understand that you are preparing a Programmatic Agreement (PA) in consultation with the Arizona State Historic Preservation Office and other consulting parties to minimize adverse effects to historic properties.

Following our review of the Section 4(f) Evaluation, we concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document, and that all measures have been taken to minimize harm to these resources. Please note however, that this concurrence is contingent upon successful completion of the PA among the consulting parties.

SECTION 6(f) COMMENTS

We have reviewed the subject Draft Environmental Impact Statement for any possible relationship to or conflict with the Land and Water Conservation Fund (LWCF) and the Urban Park and Recreation Recovery grant programs within the State of Arizona and have the following comment:
There are Land and Water Conservation Fund (LWCF) projects within or near the study area that could be affected by this project. These include the following LWCF Grants:
- 04-00013, South Mountain Park
- 04-00552, Development of Vista Park and Acquisition South Mountain Parcel
- 04-00548, Acquisition - Parcel 49 Phoenix Mountain Preserve

We recommend consultation directly with the official who administers the LWCF program in Arizona to determine any potential conflicts with Section 6(f)(3) of the LWCF Act (Public Law 88-578, as amended.) This section states: “No property acquired or developed with assistance under this section shall without the approval of the Secretary (of the Interior), be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.”

The Administrator for the LWCF program in the state of Arizona is Ms. Doris Pulsifer, Chief, Resources and Public Programs, Arizona State Parks, 1300 West Washington Street, Phoenix, Arizona 85007. Ms. Pulsifer’s phone number is 602-542-7172 and her email is dpulsifer@azstateparks.gov.

We appreciate the opportunity to review this document. Should you have questions about the Section 4(f) comments, please contact Cheryl Eckhardt at 303.909.2851 and for Section 6(f) comments, please contact Kelly Pearce at 402.661.1552.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc:
Director, OEPC
OEPC Staff Contact: Dave Sire
David Hurd, NPS
Roxanne Runkel, NPS
Cheryl Eckhardt, NPS
Kelly Pearce, NPS

The referenced Land and Water Conservation Fund projects are associated with the Phoenix South Mountain Park/Preserve. No property acquired or developed with assistance under Section 6(f) would be used for the proposed project. The proposed South Mountain Freeway would pass through the park’s southwestern edge. The portion of the park that would be used for the proposed freeway would be 31.3 acres of the park’s 16,600 acres (0.2 percent). During the design phase, the Arizona Department of Transportation would consult directly with the City of Phoenix to identify and purchase replacement land. Replacement land would not exceed a 1:1 ratio unless the Arizona Department of Transportation and City of Phoenix determine jointly that exceeding the 1:1 ratio would be in the best interests of both parties (see page 5-23 of the Final Environmental Impact Statement).
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Karla Petty
Arizona Division Administrator
Federal Highway Administration
4000 North Central Avenue, Suite 1500
Phoenix, AZ 85012

Subject: South Mountain Freeway Project, Maricopa County, Arizona [CEQ20130104]

Dear Ms. Petty,

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the South Mountain Freeway Project. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

As stated in the DEIS, the South Mountain Freeway Project is a proposal to build a new 8-lane freeway extending approximately 22 to 24 miles from the Interstate 10 and Santan Freeway interchange westward through the community of Ahwatukee, paralleling the Gila River Indian Community (GRIC) border. The DEIS has identified a preferred alternative which is estimated to displace 845 housing units, including 680 multifamily units and 165 single family residences.

The project represents a new highway alignment in a heavily urbanized area currently designated as nonattainment for particulate matter less than 10 microns in diameter (PM10). It is therefore critically important that potential impacts to air quality be accurately analyzed, disclosed, and reduced as much as possible. The DEIS does not provide the information needed to assess the potential significance of the air quality impacts of the proposed action. In view of the area’s current designation as nonattainment for PM10, it is essential to accurately assess and disclose potential PM10 hotspot impacts, as well as determine whether the project meets the transportation conformity requirements of the Clean Air Act. The Act and its implementing regulations provide that a project may not cause or contribute to any new or localized violation of a national ambient air quality standard (NAAQS), increase the frequency or severity of any existing violations, or delay timely attainment of the NAAQS (CAA section 176(c)(1)(B) and 40 CFR 51.116(a)). The analysis found in the DEIS does not provide the information necessary to make an accurate determination of PM10-related impacts. It also does not sufficiently address other potential air quality issues of concern. The EPA is available to work with FHWA and other agencies to complete needed analyses as this effort moves forward.

The DEIS presents no stand-alone emissions analyses of the portion of the project that introduces new general purpose lanes, despite indications from the carbon monoxide (CO) hotspot analysis that...
Concentrations of criteria pollutants will increase relative to current levels, along with increased emission of mobile source air toxics (MSATs). The potential increase indicated by the analysis would occur despite the fact that per-vehicle emissions are declining substantially over time. Instead, the DEIS presents an estimated value of emissions that combines the impact of the new freeway alignment with emissions from the adjacent, and existing, I-10 freeway. This methodology does not provide the information needed to disclose, analyze, and potentially mitigate the actual emissions anticipated from a new highway segment. Additionally, we believe the analysis of congestion and emissions impacts from the No Action alternative includes estimates of congestion and vehicle miles traveled (VMT) that are higher than appropriate considering relevant facts and analysis. As a result, the relative benefits of all Action alternatives when compared to a future No Action alternative are likely to be overstated.

We also note that no air toxics risk assessment has been provided, even though there is a documented history of local public concerns and requests to ADOT and FHWA for analysis of the potential health effects from the proposed new freeway. We do not believe the reasoning provided in the DEIS for not providing such an assessment is compelling, especially in light of the history of requests for such analysis. Risk assessments for air toxics from vehicle traffic have been included in many published studies as well as in EISs for other projects. EPA has emission and air quality models that can be used to predict concentrations of air toxics at receptors near the project, and we would be happy to assist ADOT and FHWA in using the models, which are available on EPA’s web site.

Based upon this lack of information important to analyzing the project’s potentially significant impacts on air quality, EPA has rated the South Mountain Freeway DEIS as “3” – Inadequate Information (see Enclosure 1: “Summary of Rating Definitions and Follow-Up Action”). EPA believes the following information would serve as the basis for a robust and meaningful air quality analysis: 1) Assessment and disclosure of potential PM 0.1% impacts and confirmation of whether the project meets the Clean Air Act’s transportation conformity requirements; 2) Emissions analyses that present the emission of the South Mountain Freeway corridor separate from those of I-10, along with updated traffic forecasting for the No Action alternative; and 3) A robust air toxics risk assessment that addresses potential health effects from the proposed new freeway.

We recommend this information be circulated in a Supplemental DEIS for public comment, in accordance with NEPA and CEQ’s NEPA Implementation Regulations. EPA respectfully requests the opportunity to review this information and provide ADOT and FHWA our feedback before a Supplemental DEIS is published. In the attached detailed comments, we also provide recommendations regarding the assessment of impacts to children’s health, environmental justice, aquatic resources and other issues we recommend be addressed in the NEPA document.

We appreciate the opportunity to review this DEIS and look forward to working with ADOT and FHWA to address the issues outlined in this letter. If you have any questions, please refer staff to Clifton Meek at (415) 972-3378 or to Angeles Herrera, Associate Director in our Communities and Ecosystems Division, at 415-972-3144. Please send a copy of the Supplemental DEIS to this office (mail code CED-2) when it is electronically filed with our Washington, D.C. office.
Sincerely,

Jared Blumenfeld

Enclosures
(1) Summary of EPA Rating Definitions
(2) EPA’s detailed comments on the South Mountain Freeway DEIS

cc via email: Alan Hansen, Federal Highway Administration
Rebecca Yedlin, Federal Highway Administration
John Haikowski, Arizona Department of Transportation
Ralph Ellis, Arizona Department of Transportation
Chauv Hill, Arizona Department of Transportation
Kathleen Tucker, U.S. Army Corps of Engineers
Kelly Wolff-Krauter, Arizona Game and Fish Department
Steve Spangle, U.S. Fish and Wildlife Service
Ondrea Barber, Gila River Indian Community
Dennis Smith, Maricopa Association of Governments
### SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

**ENVIRONMENTAL IMPACT OF THE ACTION**

**"LO"** (Lack of Objections)
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**"EC"** (Environmental Concerns)
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

**"EO"** (Environmental Objections)
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**"EU"** (Environmentally Unsatisfactory)
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### ADEQUACY OF THE IMPACT STATEMENT

**Category 1**” (Adequate)
EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2**” (Insufficient Information)
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

**Category 3**” (Inadequate)
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

A new 22- to 24-mile 8-lane freeway in the greater Phoenix area has the potential to negatively affect regional air quality, which is particularly important in light of the existing air quality challenges facing Phoenix and recent efforts to address PM10 undertaken by the Maricopa Association of Governments, Maricopa County Air Quality Department, and Arizona Department of Environmental Quality. Portions of Maricopa County (Phoenix PM10 nonattainment area) are federally designated as serious nonattainment for the 1987 PM10 NAAQS. Currently, the area is violating the 24-hour PM10 NAAQS of 150 µg/m3. Further, while Maricopa County is currently designated attainment/unclassifiable for the 2006 24-hour and 1997 annual PM2.5 NAAQS of 35 µg/m3 and 15 µg/m3, respectively, monitors in the Phoenix area measure concentrations that approach the new 2012 annual PM2.5 NAAQS of 12 µg/m3. Moreover, the Phoenix area is federally designated as “marginal” nonattainment area for the 2008 Ozone NAAQS and continues to violate the 8-hour Ozone NAAQS of 0.075 ppm. Portions of Maricopa County are also maintenance for the CO NAAQS. Therefore, it is critical that the project’s assessment of potential air quality impacts be accurate and thorough. As described below, EPA provides comments and recommendations concerning our finding that the DEIS did not adequately assess and identify potential air quality impacts from the new proposed freeway.

Transportation Conformity

As the project is both 1) located in a PM10 nonattainment area that continues to experience exceedances of the PM10 NAAQS, and 2) needs a PM10 hot-spot analysis according to the transportation conformity regulation at 40 CFR 93.123, it is critical to accurately assess and identify potential PM10 hotspot impacts, as well as determine whether or not the project meets transportation conformity requirements found in the Clean Air Act. However, the DEIS does not do so adequately, and EPA has identified substantial deficiencies in the current draft analysis that preclude the ability to determine whether the project complies with transportation conformity requirements.

First, since the analysis presented is a qualitative one, rather than a quantitative one, the DEIS should clarify when the analysis started and whether the analysis was begun during the grace period for quantitative analyses. Furthermore, the DEIS seems to indicate that the years 2020 and 2035 are being examined but does not clearly explain why these years are chosen for analysis. Section 93.116(a) of the transportation conformity rule requires that PM hot-spot analyses consider the full time frame of an area’s transportation plan. To meet this requirement and the general requirements in Section 93.123(c)(1), hot-spot analyses should include the year(s) within the transportation plan during which peak emissions from the project are expected and any new NAAQS violation or worsening of an existing violation would most likely occur due to the impacts of the project and background concentrations in the project area.

While the DEIS provides some information about increases in vehicles, information about total numbers of vehicles and the numbers of diesel trucks on the proposed highway is not easily found in the narrative. Complete traffic data for the proposed project should be included in a PM hot-spot analysis, regardless of whether the analysis is qualitative or quantitative. This section of the DEIS does not provide the necessary traffic data for the proposed project.

The first sentence of the detailed comments states, “A new 22- to 24-mile 8-lane freeway in the greater Phoenix area has the potential to negatively affect regional air quality.” The Clean Air Act requires that transportation plans, programs, and projects that are developed, funded, or approved by departments of transportation and metropolitan planning organizations will not cause new or worsen existing violations of certain transportation-related National Ambient Air Quality Standards and will not delay timely attainment of any National Ambient Air Quality Standards or any required interim emissions reductions or milestones. The U.S. Environmental Protection Agency issued the transportation conformity regulations (40 Code of Federal Regulations § 93) to implement the Clean Air Act requirements. The conformity regulations require that the metropolitan planning organization’s transportation plan and Transportation Improvement Program must include the specific federal projects in the regional emissions analysis that must not exceed a certain emissions level for the area. As noted in the Final Environmental Impact Statement on page 4-76, the Preferred Alternative is included in the Maricopa Association of Governments’ conforming plan and program. The Preferred Alternative has complied with all requirements related to regional emissions required by the Clean Air Act and 40 Code of Federal Regulations § 93 and has demonstrated that it would not “negatively affect regional air quality.”
not include the average daily traffic (ADT) of the new highway, or the number of trucks within overall traffic volumes. Without this information clearly presented, it is difficult to assess whether the air quality monitor chosen as the comparison for the draft qualitative PM hot-spot analysis represents the expected traffic from the project.

The DEIS should state which method from the 2006 EPA-FHWA PM qualitative guidance was used, (i.e., “Comparison to another location with similar characteristics,” from Section 4.1 A of the 2006 guidance). Page 4-68 of the DEIS states that the monitoring locations used for the PM10 qualitative analysis were the Central Phoenix and the Greenwood monitoring sites because they “most closely resemble the characteristics of the Buckeye Road and Baseline Road Interchanges in 2035.” This choice of monitoring sites requires further explanation. When comparing the project location to other monitoring locations in the area, the Buckeye monitor may better represent project characteristics such as nearby traffic activity and surrounding land use. Given the contribution of fugitive dust sources to the concentrations of PM10, the monitors referenced in the analysis may underestimate fugitive dust present at the source as they appear to represent central Phoenix, with little proximity to the arid land surfaces near the proposed project.

In addition, the draft qualitative PM10 hot-spot analysis does not address whether transportation-related construction emissions should be considered in the analysis. Section 93.123(c)(5) of the conformity rule states that construction-related PM emissions due to a particular project are not required to be included in a hot-spot analysis if such emissions are considered temporary (i.e., emissions which occur only during the construction phase and last five years or less at any individual site). It is unclear whether the current draft analysis has met this requirement or whether the period of construction and the emissions that would be generated were considered in the selection of analysis years for this project.

Similar issues regarding the MOVES grace period and the analysis years apply for the CO analysis included in the DEIS. It is unclear from the DEIS when the project-level CO analysis started in relation to the grace period for the latest version of the MOVES model (MOVES2010). The DEIS states that the CO analysis was performed for the existing condition (2010) and for the action and No-Action alternatives in the design year (2035). However, the year of peak emissions must be examined in a hot-spot analysis, which is not necessarily the design year.

Given the magnitude of the proposed project and its potential to negatively affect regional and local air quality, we provide the following recommendations:

Recommendations:

- Address the deficiencies in the current qualitative PM10 hot-spot analysis, and demonstrate how a revised qualitative analysis complies with CAA conformity requirements for the PM10 NAAQS. Clearly explain and document how the qualitative analysis complies with applicable requirements of the CAA and transportation conformity regulations for conducting a hot-spot analysis. Completing a quantitative PM hot-spot analysis that meets applicable requirements and is fully documented is an option that continues to be available as well. EPA guidance for a quantitative PM analysis is available and can be used.1 EPA is available to coordinate with

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1 "Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas,” EPA420-R-06-002, March 2006.

2 See http://www.epa.gov/otaq/stateresources/transconf/policy/420b106640.pdf for details on completing such analyses.

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The U.S. Environmental Protection Agency’s detailed comments summarize the requirements for project-level conformity and imply that they should have been addressed in the Draft Environmental Impact Statement. Section 93.104(d) of the conformity regulations states that a project-level conformity determination is required before a project is adopted, accepted, approved, or funded. To clarify this point, the Federal Highway Administration in May 2003 issued guidance onClarification of Transportation Conformity Requirements for FHWA/FTA Projects Requiring Environmental Impact Statements, stating that projects that are evaluated through an environmental impact statement process are encouraged to include a project-level conformity determination in the Final Environmental Impact Statement, but a final conformity determination is required before the record of decision is signed. (This guidance is posted on the U.S. Environmental Protection Agency’s Web site at <epa.gov/otaq/stateresources/transconf/policy/dot052003.pdf>.) The U.S. Environmental Protection Agency’s comments provide detailed information on the required content for the project-level conformity determination; these comments do not reflect a shortcoming with respect to the Draft Environmental Impact Statement since no project-level conformity documentation is required to be included in the Draft Environmental Impact Statement. 40 Code of Federal Regulations § 93.111(c) was followed to conduct a qualitative analysis for particulate matter (PM_{2.5}) for the Preferred Alternative. This analysis complied with National Environmental Policy Act requirements for the development of the Draft Environmental Impact Statement. In December 2010, the U.S. Environmental Protection Agency established transportation conformity guidance for performing quantitative particulate matter (PM_{2.5}) and PM_{10} hot-spot analyses for transportation projects and established a 2-year grace period. The U.S. Environmental Protection Agency conformity guidance continues to allow qualitative particulate matter (PM_{2.5}) hot-spot conformity analyses for analyses that were started before or during the grace period and if the final environmental document for the project is issued no more than 3 years after issuance of the draft environmental document. A particulate matter (PM_{2.5}) qualitative analysis was performed for this project because the initial air quality technical analysis report for the proposed action was produced in October 2005. The Final Environmental Impact Statement has been updated with a quantitative analysis for particulate matter (PM_{2.5}) to ensure that a state-of-the-art analysis is completed for the Preferred Alternative. The results of the analysis are summarized in the prologue to the Final Environmental Impact Statement (page xxii) and are more fully described beginning on page 4-68 of the Final Environmental Impact Statement in Section 3 of the air quality technical report (see sidebar on page 4-2 of the Final Environmental Impact Statement for information on how to review the report).

Thus, the particulate matter (PM_{2.5}) analysis demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones.
ADOT and FHWA through interagency consultation to confirm use of accurate modeling methodology, assumptions, and data for the analysis:
- Clearly indicate what the year(s) of peak emissions is expected to be, including supporting information for why that year(s) will result in peak emissions. Include a table with 2020 total ADT, 2020 diesel truck numbers, 2035 ADT, and 2035 diesel truck numbers, or other year(s) where peak emissions are expected. Provide complete traffic information for the new project and provide the source of this data, or provide a page number if this data is found elsewhere in the DEIS.
- Clarify, including a specific date, when the project-level CO and PM10 hot-spot analyses began.
- EPA believes this is a project of local air quality concern that needs a PM10 hot-spot analysis, but we recommend additional documentation in the conformity section. Discuss why, for PM10, this is a “project of air quality concern” under 40 CFR 93.123(b)(1), including a reference to the number of diesel vehicles expected on the freeway in the analysis year(s) of peak emissions.
- Clearly which method from the 2006 EPA-DOT PM qualitative guidance was used, i.e., “Comparison to another location with similar characteristics,” from Section 4.1 A of the 2006 guidance. If this method was relied on, provide additional discussion of how the location selected for comparison represents the proposed project.
- As stated in the Air Quality Technical Report provided to our agency on June 15, 2013, ADOT and FHWA will be completing a “final transportation conformity determination” prior to releasing the Final EIS. EPA recommends initiating interagency consultation with our agency prior to the development of the draft transportation conformity analysis, as we believe consultation with EPA prior to the draft analysis will allow for important feedback regarding analysis and methodology.
- In addition, due to the extended construction phase of the project, additional explanation and documentation is needed that 40 CFR 93.123(c)(5) is met.

Emissions Analyses and Traffic Forecasting
The air quality impacts presented in the DEIS for the entire alignment of the South Mountain Freeway corridor are not adequately assessed. The analysis incorporated existing I-10 emissions with emissions anticipated from the project into a “sub-area” which does not permit a clear understanding of emissions from the new freeway alignment, separate from the current setting. For example, the emission trends presented in Chapter 4 convey the conclusion that the preferred alternative reduces emissions throughout the study area. However, the DEIS presents no emissions analyses of the South Mountain Freeway corridor itself, despite indications from the CO hotspot analyses (tables 4-31 and 4-32) that concentrations of criteria pollutants along the Pecos Road corridor will increase above current levels (in spite of falling CO emission factors over time), and indications that MSAT emissions will be higher in the future. Since the South Mountain Freeway corridor is the area to be most heavily affected, not presenting the emissions along the corridor prevents the public and decisionmakers from gaining a clear understanding of the extent of impacts from the different Alternatives and the potential basis for reducing impacts.

Recommendations:
- Emissions analyses should be revised with the South Mountain Freeway corridor modeled independently of I-10 and other roads.

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<td>4</td>
<td>Air Quality</td>
<td>As noted on page 4-76 of the Final Environmental Impact Statement, the year of highest particulate matter (PM$_{10}$) emissions is expected to be the year of highest vehicle miles traveled, 2035. According to the Maricopa Association of Governments 2012 Five Percent Plan for Attainment of the PM-10 Standard for the Maricopa County Nonattainment Area, the largest single source category is paved road dust, including track-out, at 20 percent. By contrast, on-road mobile vehicle exhaust, tire wear, and brake wear contribute 6 percent. The relative contribution of these emissions is expected to represent about the same contribution in the future; therefore, the highest projected vehicle miles traveled occur in the design year, 2035. The analysis year(s) was determined through the process established by the Arizona Department of Transportation interagency consultation procedures [40 Code of Federal Regulations § 93.105(c)(1)(i)]. The selection of 2035 as the peak year of emissions is appropriate. Vehicle miles traveled for 2025 and 2035 may be found in Table 4-36 on page 4-81 of the Final Environmental Impact Statement. The traffic information used in the modeling was obtained from the Maricopa Association of Governments travel demand model.</td>
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<td>Air Quality</td>
<td>The air quality analysis for the project, including the particulate matter (PM$<em>{10}$) hot-spot analysis, began in the summer of 2005. The initial air quality technical report, which included discussions of both particulate matter (PM$</em>{10}$) and carbon monoxide, was completed in October 2005 (see sidebar on page 4-2 of the Final Environmental Impact Statement for information on how to review the report).</td>
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<td>6</td>
<td>Air Quality</td>
<td>The transportation conformity rule [40 Code of Federal Regulations § 93.123(b)(1)(i)] defines projects of local air quality concern as new highway projects that have a significant number of diesel vehicles and expanded highway projects that have a significant increase in the number of diesel vehicles. According to the Draft Environmental Impact Statement page 3-19, annual average daily traffic on the Preferred Alternative would range from 120,000 to 175,000 vehicles per day. Revised forecasts provided by the Maricopa Association of Governments and presented in the Final Environmental Impact Statement page 3-19 confirm that annual average daily traffic in some areas would range from approximately 117,000 to 190,000 vehicles per day and projected heavy diesel trucks would range from approximately 3,800 to 17,000 per day. Because this would be a new facility with approximately 3,800 to 17,000 diesel trucks per day, it was determined that this is a project of local air quality concern and a quantitative particulate matter (PM$_{10}$) hot-spot analysis was conducted for the Final Environmental Impact Statement.</td>
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ADOT and FHWA through interagency consultation to confirm use of accurate modeling methodology, assumptions, and data for the analysis.

- Clearly indicate what the year(s) of peak emissions is expected to be, including supporting information for why that year(s) will result in peak emissions. Include a table with 2020 total ADT, 2020 diesel truck numbers, 2035 ADT, and 2035 diesel truck numbers, or other year(s) where peak emissions are expected. Provide complete traffic information for the new project and provide the source of this data, or provide a page number if this data is found elsewhere in the DEIS.
- Clarify, including a specific date, when the project-level CO and PM10 hot-spot analyses began.
- EPA believes this is a project of local air quality concern that needs a PM10 hot-spot analysis, but does not recommend additional documentation in the conformity section. Discuss why, for PM10, this is a “project of air quality concern” under 40 CFR 93.123(b)(1), including a reference to the number of diesel vehicles expected on the freeway in the analysis year (s) of peak emissions.
- Clarify which method from the 2006 EPA-DOT PM qualitative guidance was used, i.e., “Comparison to another location with similar characteristics.” From Section 4.1 A of the 2006 guidance. If this method was relied on, provide additional discussion of how the location selected for comparison represents the proposed project.
- As stated in the Air Quality Technical Report provided to our agency on June 15, 2013, ADOT and FHWA will be completing a “final transportation conformity determination” prior to releasing the Final EIS. EPA recommends initiating interagency consultation with our agency prior to the development of the draft transportation conformity analysis, as we believe consultation with EPA prior to the draft analysis will allow for important feedback regarding analysis and methodology.
- In addition, due to the extended construction phase of the project, additional explanation and documentation is needed that 40 CFR 93.123(c)(5) is met.

Emissions Analyses and Traffic Forecasting

The air quality impacts presented in the DEIS for the entire alignment of the South Mountain Freeway corridor are not adequately assessed. The analysis incorporated existing I-10 emissions with emissions anticipated from the project into a “sub-area” which does not permit a clear understanding of emissions from the new freeway alignment, separate from the current setting. For example, the emission trends presented in Chapter 4 convey the conclusion that the preferred alternative reduces emissions throughout the study area. However, the DEIS presents no emissions analyses of the South Mountain Freeway corridor itself, despite indications from the CO hot-spot analyses (tables 4-31 and 4-32) that concentrations of criteria pollutants along the Pecos Road corridor will increase above current levels (in spite of falling CO emission factors over time), and indications that MSAT emissions will be higher in the future. Since the South Mountain Freeway corridor is the area to be most heavily affected, not presenting the emissions along the corridor prevents the public and decisionmakers from gaining a clear understanding of the extent of impacts from the different Alternatives and the potential basis for reducing impacts.

Recommendations:
- Emissions analyses should be revised with the South Mountain Freeway corridor modeled independently of I-10 and other roads.

This comment is applicable only to qualitative particulate matter (PM10) hot-spot analyses. Although a particulate matter (PM10) qualitative analysis was included in the Draft Environmental Impact Statement, a quantitative particulate matter (PM10) hot-spot analysis was completed for the Final Environmental Impact Statement in accordance with the U.S. Environmental Protection Agency’s 2013 Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM10 and PM10 Nonattainment and Maintenance Areas. See page 4-76 of the Final Environmental Impact Statement and Section 3 of the air quality technical report for more information (see sidebar on page 4-2 of the Final Environmental Impact Statement for information on how to review the report).

The transportation conformity determination reflected on page 4-76 of the Final Environmental Impact Statement is consistent with the Maricopa Association of Governments Conformity Analysis for the FY 2014-2018 Transportation Improvement Program and the 2035 Regional Transportation Plan, January 2014 (see Final Environmental Impact Statement Appendix 4-3) and the project-level particulate matter (PM10) hot-spot analysis. The U.S. Environmental Protection Agency was a consulting party in the development of the transportation conformity processes; the U.S. Environmental Protection Agency had the opportunity to comment on the carbon monoxide and particulate matter (PM10) analyses as part of its comments on the Draft Environmental Impact Statement. Subsequent to issuance of the Draft Environmental Impact Statement, the U.S. Environmental Protection Agency was provided an opportunity to review the particulate matter (PM10) analyses. The U.S. Environmental Protection Agency was consulted on background concentrations for the particulate matter (PM10) analysis, and was provided an opportunity to review and comment on the air quality technical report and the modeling files and assumptions used in the Final Environmental Impact Statement carbon monoxide and particulate matter (PM10) analyses.

The transportation conformity rule in 40 Code of Federal Regulations § 93.123(c)(5) states that hot-spot analyses are not required to consider construction-related activities that cause temporary increases in emissions. Temporary increases are defined as those that occur only during the construction phase and last 5 years or less at any individual site. The project is identified in the Fiscal Year 2014-2018 Transportation Improvement Program and the 2035 Regional Transportation Plan using several different project identification numbers by construction segment (47518, 43086, 43087, 11305, 15671, 19029, 17193, 6458, 1790, 6919, and 47857). The Arizona Department of Transportation is evaluating construction delivery methods for the proposed freeway. One concept is to deliver it as a single design-build project. This method would expedite the construction duration for the entire project to around 3 to 3.5 years. Another concept would be to deliver the project in a more traditional method, breaking the 22-mile corridor into nine segments (each 1 to 3 miles long) and constructing them in phases. Each segment would be under construction for 1 to 3 years and the total construction duration for the entire corridor would be 5 to 6 years. A discussion of construction implementation is provided beginning on page 3-59 of the Final Environmental Impact Statement. Any particular area of the Preferred Alternative would not be expected to see construction activities beyond an approximate 2-year period; therefore, the construction effects described above would be temporary and would not require additional analysis.
ADOT and FHWA through interagency consultation to confirm use of accurate modeling methodology, assumptions, and data for the analysis.

- Clearly indicate what the year(s) of peak emissions is expected to be, including supporting information for why that year(s) will result in peak emissions. Include a table with 2020 total ADT, 2020 diesel truck numbers, 2035 ADT, and 2035 diesel truck numbers, or other year(s) where peak emissions are expected. Provide complete traffic information for the new project and provide the source of this data, or provide a page number if this data is found elsewhere in the DEIS.

- Clarify, including a specific date, when the project-level CO and PM10 hot-spot analyses began.

- EPA believes this is a project of local air quality concern that needs a PM10 hot-spot analysis, but ADOT does not recommend additional documentation in the conformity section. Discuss why, for PM10, this is a “project of air quality concern” under 40 CFR 93.123(b)(1), including a reference to the number of diesel vehicles expected on the freeway in the analysis year(s) of peak emissions.

- Clarify which method from the 2006 EPA-DOT PM qualitative guidance was used, i.e., “Comparison to another location with similar characteristics,” from Section 4.1 A of the 2006 guidance. If this method was relied on, provide additional discussion of how the location selected for comparison represents the proposed project.

- As stated in the Air Quality Technical Report provided to our agency on June 15, 2013, ADOT and FHWA will be completing a “final transportation conformity determination” prior to releasing the Final EIS. EPA recommends initiating interagency consultation with our agency prior to the development of the draft transportation conformity analysis, as we believe consultation with EPA prior to the draft analysis will allow for important feedback regarding analysis and methodology.

- In addition, due to the extended construction phase of the project, additional explanation and documentation is needed that 40 CFR 93.123(c)(5) is met.

Emissions Analyses and Traffic Forecasting

The air quality impacts presented in the DEIS for the entire alignment of the South Mountain Freeway corridor are not adequately assessed. The analysis incorporated existing I-10 emissions with emissions from the South Mountain Freeway corridor itself, despite indications from the CO hotspot analyses (tables 4-31 and 4-32) that peak emissions are expected to increase by more than 50% compared to current levels in the Pecos Road corridor. The preferred alternative reduces emissions throughout the study area. This also presents a clear understanding of the extent of impacts from the different Alternatives and the potential basis for reducing impacts.

Recommendations:

- Emissions analyses should be revised with the South Mountain Freeway corridor modeled independently of I-10 and other roads.

11 Air Quality

Under the Federal Highway Administration’s December 2012 Interim Mobile Source Air Toxics (MSAT) Guidelines, mobile source air toxics emissions assessments in the agency’s National Environmental Policy Act documents are designed to evaluate emissions changes attributable to the project in question plus other roadways affected by the project (e.g., where traffic volumes would change if the project were built). The reason for this approach is to capture changes in emissions attributable to the project within the Study Area, which is a more reliable indicator of potential changes in health risk than estimating changes in emissions on just the Preferred Alternative alone. The Draft Environmental Impact Statement included an overall project study area, along with two “subareas” reflecting the eastern and western ends of the project corridor, in an attempt to address public concerns about potential emissions changes.

The U.S. Environmental Protection Agency states that “not presenting the emissions along the corridor prevents the public and decision makers from gaining a clear understanding of the extent of impacts from the different Alternatives and the potential basis for reducing impacts.” In addition to the information above, reporting emissions for the corridor alone would not provide an understanding of impacts because there is no “emissions budget” for the corridor that defines an acceptable level of emissions and no other guidance to help the Federal Highway Administration, U.S. Environmental Protection Agency, or the public to determine whether a given amount of emissions represents a potential health risk. Likewise, an emissions estimate for the corridor itself does not help decision makers determine whether mitigation resources should be directed toward reducing corridor emissions or be applied to some more pressing environmental impact.

Increases in traffic volumes attributable to a project do not necessarily result in an increase in emissions over time because the U.S. Environmental Protection Agency’s emissions control regulations and fleet turnover play an important role. In the U.S. Environmental Protection Agency’s MOVES model, emissions rates for mobile source air toxics drop by 80 to 90 percent between 2012 and 2025, by 80 to 90 percent between 2012 and 2025, and provide the source of this data, or provide a page number if this data is found elsewhere in the DEIS.

Releases from the project within the Study Area, which is a more reliable indicator of potential changes in health risk than estimating changes in emissions on just the Preferred Alternative alone. The Draft Environmental Impact Statement included an overall project study area, along with two “subareas” reflecting the eastern and western ends of the project corridor, in an attempt to address public concerns about potential emissions changes.

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Recommendations:

- Emissions analyses should be revised with the South Mountain Freeway corridor modeled independently of I-10 and other roads.

11 Air Quality

While the Final Environmental Impact Statement does not produce emissions estimates for the Preferred Alternative itself, the carbon monoxide analysis presented on page 4-65 of the Draft Environmental Impact Statement and updated on page 4-76 of the Final Environmental Impact Statement represents the project carbon monoxide concentrations along the project corridor, including those proposed interchange locations along the Preferred Alternative. This also applies to the particulate matter (PM2.5) hot-spot analysis discussed on page 4-76 of the Final Environmental Impact Statement. Both of these analyses demonstrate that the National Ambient Air Quality Standards would not be exceeded at worst-case locations along the project corridor. The mobile source air toxic analysis presented beginning on page 4-70 of the Draft Environmental Impact Statement and updated beginning on page 4-77 of the Final Environmental Impact Statement is an estimated inventory of mobile source air toxic emissions for the entire Study.
### Health Effects

The proposed South Mountain Freeway will place a high-volume roadway adjacent to hundreds of residences and several schools. Although the DEIS did not analyze the number of residences remaining within a designated “buffer of impact” (i.e. within 500 feet of the centerline or edge of the new highway alignment), the document does state that the preferred alternative will displace 845 units, including 680 multifamily residences and 165 single family residences. This is an indication of the urbanized footprint of the proposed project and raises a question regarding the number of remaining residences within close distance of the new highway. It also raises the importance of fully assessing, disclosing, and identifying mitigation measures to address the potential health-related impacts to the residences and several schools. Although the DEIS did not analyze the number of residences remaining within a designated “buffer of impact” (i.e. within 500 feet of the centerline or edge of the new highway alignment), the document does state that the preferred alternative will displace 845 units, including 680 multifamily residences and 165 single family residences. This is an indication of the urbanized footprint of the proposed project and raises a question regarding the number of remaining residences within close distance of the new highway. It also raises the importance of fully assessing, disclosing, and identifying mitigation measures to address the potential health-related impacts to the remaining adjacent residences. Further, as proposed, the new highway alignment will place 8 lanes of high-volume freeway traffic adjacent to Gila River Indian Community (GRIC) land, where little development, residences, or sensitive receptors currently exist. The disclosure of the potential health impacts of the highway within the EIS process could assist the future of GRIC land-use planning and zoning decisions regarding the types of land uses that will be appropriate directly adjacent to the new freeway.

In addition to the requirement of NEPA to evaluate and disclose such impacts, FHWA has received numerous public comments expressing concern about the potential health impacts in their communities related to air pollution emitted by construction and operation of the proposed South Mountain Freeway (see Chapter 6 appendices). EPA also received request letters asking us to require ADOT and FHWA to assess health impacts of the proposed freeway. We discussed these requests during a call with ADOT and FHWA on February 23, 2010. The DEIS currently does not address these.

### Recommendations:

- Present congestion impacts and emissions for the No Action alternative using updated socioeconomic projections that do not assume completion of the South Mountain Freeway (with appropriate caveats about uncertainty).
- Present the comparison of impacts from the Action and No Action alternatives to reflect the likely differences in land use (e.g., residential and commercial development) between the Action and No Action alternatives.

### Comments:

- Emissions trends from the South Mountain Freeway corridor should be presented, by themselves, in addition to emissions along other road links (e.g., I-10).

Chapters 1 and 4 of the DEIS appear to overstate traffic problems and emissions resulting from the No Action alternative and the benefits of the Action alternatives. The population projections employed in the DEIS are based on pre-recession projections, and now exceed the current highest population projections for Maricopa County by Arizona’s Office of Employment and Population Statistics. As a result, the forecasted traffic problems and emissions associated with all alternatives in the DEIS are likely higher than what is reasonably expected to occur based on more current data. Additionally, the congestion issues and emissions that the DEIS describes as a result of the No Action alternative include more trips and more congestion than are reasonable to expect. As a result, the relative benefits of Action alternatives are also likely to be overstated. This overestimate occurs because the travel model forecasts for the Action and No Action alternatives employ the same socioeconomic projections from the Maricopa Association of Governments, which are based on municipal master plans. The underlying master plans assume that the South Mountain Freeway is completed, and do not have land use plans that represent the No Action alternative.

### Code Comment Document

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<td>12</td>
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### Issue Response

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<td>11</td>
<td>Area. Such an inventory would be incomplete without the inclusion of emissions from Interstate 10 because Interstate 10 is within the Study Area, and because, as noted above, emissions changes in the Study Area, accounting for changes in traffic and emissions on all roadways affected by a proposed project, are a more reliable indicator of changes in health risk.</td>
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<td>12</td>
<td>Section 93.110 of the U.S. Environmental Protection Agency transportation conformity rule requires that the population and employment projections used in a conformity analysis be the most recent estimates that have been officially approved by the metropolitan planning organization. The Maricopa Association of Governments is the metropolitan planning organization for the Maricopa County nonattainment and maintenance areas. In accordance with the Arizona Governor’s Executive Order 2011-04, county-level population projections used for all State agency planning purposes were updated by the Arizona Department of Administration in December 2012, based on the 2010 U.S. Census. The Arizona Department of Administration projections for Maricopa County were distributed to smaller geographic areas by the Maricopa Association of Governments using the latest available data, including general plans for local jurisdictions, and a state-of-the-art land use model system called AZSMART. The nationally-recognized UrbanSim microsimulation model was integrated into AZSMART and used to allocate county projections of population and employment to regional market areas based upon the pre-existing location of these activities, land consumption, and transportation system accessibility. The allocation from market areas to land use parcels was accomplished with UrbanSim, which simulates real-estate development based on measures such as accessibility to employment, adjacent land uses, highway access, and proximity to other development. Population, households and employment (socioeconomic) projections at the land use parcel level in the Maricopa Association of Governments planning area were aggregated to Traffic Analysis Zones using AZSMART. The subcounty socioeconomic projections developed with the AZSMART model were approved by the Maricopa Association of Governments Regional Council in June 2013. The traffic analysis zones socioeconomic projections take into account the transportation improvements contained in the conforming Maricopa Association of Governments Transportation Improvement Program and Regional Transportation Plan in effect at the time the projections were approved. As required by the U.S. Environmental Protection Agency, the Maricopa Association of Governments approved population and employment projections were used to estimate auto and transit trips, vehicle miles of travel, and congestion for each analysis year in the 2014 Maricopa Association of Governments Conformity Analysis and the Final Environmental Impact Statement for the South Mountain Freeway. The methodology used to prepare the socioeconomic projections is described in the Maricopa Association of Governments Conformity Analysis for the FY 2014-2018 Transportation Improvement Program and the 2035 Regional Transportation Plan, January 2014 (see Appendix 4-3), which was approved by the U.S. Department of Transportation on February 12, 2014.</td>
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Recommendations:
- Present congestion impacts and emissions for the No Action alternative using updated socioeconomic projections that do not assume completion of the South Mountain Freeway (with appropriate caveats about uncertainty).
- Present the comparison of impacts from the Action and No Action alternatives to reflect the likely differences in land use (e.g., residential and commercial development) between the Action and No Action alternatives.

Health Effects

The proposed South Mountain Freeway will place a high-volume roadway adjacent to hundreds of residences and several schools. Although the DEIS did not analyze the number of residences remaining within a designated “buffer of impact” (i.e. within 500 feet of the centerline or edge of the new highway alignment), the document does state that the preferred alternative will displace 845 units, including 680 multifamily residences and 165 single family residences. This is an indication of the urbanized footprint of the proposed project and raises a question regarding the number of remaining residences within close distance of the new highway. It also raises the importance of fully assessing, disclosing, and identifying mitigation measures to address the potential health-related impacts to the remaining adjacent residences. Further, as proposed, the new highway alignment will place 8 lanes of high-volume freeway traffic adjacent to Gila River Indian Community (GRIC) land, where little development, residences, or sensitive receptors currently exist. The disclosure of the potential health impacts of the highway within the EIS process could assist the future of GRIC land-use planning and zoning decisions regarding the types of land uses that will be appropriate directly adjacent to the new freeway.

In addition to the requirement of NEPA to evaluate and disclose such impacts, FHWA has received numerous public comments expressing concern about the potential health impacts in their communities related to air pollution emitted by construction and operation of the proposed South Mountain Freeway (see Chapter 6 appendices). EPA also received request letters asking us to require ADOT and FHWA to assess health impacts of the proposed freeway. We discussed these requests during an interagency call with ADOT and FHWA on February 23, 2010. The DEIS currently does not address these.

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The U.S. Environmental Protection Agency comments request "an air toxics risk assessment that assesses potential health impacts of the project and characterizes exposures to and risks from the pollutants of concern."><br>

The U.S. Environmental Protection Agency previously recommended an air toxics risk assessment in an e-mail dated March 12, 2010, and provided two examples from projects in California. The Federal Highway Administration reviewed these materials and provided an extensive response on May 6, 2010. In its response, the Federal Highway Administration provided information on concerns with air quality risk assessment as it relates to highway projects; identified limitations with the two example California studies, including use of a cancer risk factor for diesel particulate matter that has not been adopted or approved by the U.S. Environmental Protection Agency in the Integrated Risk Information System; and pointed out that both of the California examples identified very low risk if diesel particulate matter is excluded. The U.S. Environmental Protection Agency’s comments on the Draft Environmental Impact Statement were silent with regard to the Federal Highway Administration’s conclusions in its May 6, 2010, review of these studies. |
community concerns. A new freeway would significantly increase the exposure of the surrounding community to mobile source air pollution, including diesel emissions. As many studies suggest this increased exposure is problematic to health, the DEIS should include an air toxics risk assessment that assesses potential health impacts of the project and characterizes exposures to and risks from the pollutants of concern. This analysis could be useful for decision makers by indicating areas where future risk would be elevated, and further mitigation could be considered.

EPA does not agree with the characterization in the DEIS of available modeling tools for conducting emissions and dispersion modeling and risk assessment. The uncertainties in modeling discussed between pages 4-68 and 4-76 have been well-known factors in risk assessment since at least 1983 (http://www.epa.gov/risk_assessment/history.htm), and EPA’s risk assessment guidance includes much discussion of these uncertainties, including low-dose extrapolation, and how modeling results may be characterized and assessed in view of these uncertainties. EPA’s guidelines on risk assessment have been the subject of numerous reviews by EPA’s Scientific Advisory Board and the National Research Council.

Recommendations:

- Analyze and discuss the potential health impacts from the construction and operation at full build out of the new proposed 8-lane freeway to possible receptors along the new corridor.
- The supplemental EIS should describe all sensitive receptors that may be impacted, along with possible mitigation measures to reduce impacts.
- Coordinate with GRIC to disclose potential health impacts from the new freeway corridor so that information will be available to GRIC to assist with land-use and zoning decisions along GRIC lands that are adjacent to the new corridor.
- Available data and methodology for assessing health impacts are provided below.

All of the existing tools and guidance needed to perform a risk characterization for air toxics are available for free on EPA’s web site:

- Emissions of air toxics from individual road links may be modeled with MOVES (http://www.epa.gov/otaq/models/moves/index.htm).
- AERMOD may be used to model ambient concentrations of toxics at locations in the project area, given emissions from MOVES. For guidance on how to conduct such analyses, consult the document, “Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas.” (http://www.epa.gov/otaq/waterresources/transconf/projectlevel-hotspot.htm#pm-hotspot)
- Given ambient concentrations of air toxics, risk characterization can be done using EPA guidance and data:
  - EPA’s Air Toxics Risk Assessment Reference Library (http://www.epa.gov/ttn/fera/risk_atra_main.html) describes how to conduct risk assessment “at the facility and community scale.” Volume 1 of the library describes the process and basic technical tools for these analyses, and Volume 2 describes detailed procedures for source-specific or facility-specific risk assessment.
  - EPA’s IRIS web site (http://www.epa.gov/IRIS/), referenced on page 4-69, includes the “individual unit risk estimates,” also known as “potencies” or “slope factors,” which may be employed in the process of cancer risk assessment, and reference concentrations for noncancer risk assessment.

The Role of Health Risk Assessment in a National Environmental Policy Act Context

The Federal Highway Administration’s National Environmental Policy Act documents are developed under two guiding regulations: the Council on Environmental Quality’s National Environmental Policy Act regulations applicable to all federal agencies (40 Code of Federal Regulations Parts 1500–1508) and the Federal Highway Administration’s implementing regulations governing Federal Highway Administration National Environmental Policy Act documents (23 Code of Federal Regulations Part 771). In its mobile source air toxics guidance, the Federal Highway Administration discusses 40 Code of Federal Regulations Part 1502.22 and acknowledges that while much work has been done to assess the overall health risk of mobile source air toxics, analytical tools and techniques for assessing project-specific health outcomes as a result of lifetime exposures to mobile source air toxics remain limited. These limitations impede the ability to evaluate the potential health risks attributable to exposure to mobile source air toxics as part of the decision-making process in the National Environmental Policy Act context. However, as with any analysis that the Federal Highway Administration conducts for National Environmental Policy Act purposes, the Federal Highway Administration’s approach for mobile source air toxic analysis in National Environmental Policy Act documents is informed not just by 40 Code of Federal Regulations Part 1502.22, but by all applicable Council on Environmental Quality requirements.

The appropriateness of air toxics health risk assessment as an analysis method for National Environmental Policy Act documents is discussed below, in the context of Council on Environmental Quality requirements for these documents. In addition to the 40 Code of Federal Regulations Part 1502.22 provisions regarding uncertainty and limitations discussed in the Federal Highway Administration’s MSAT Interim Guidance Appendix C, three other provisions of the Council on Environmental Quality regulations are particularly relevant to the topic of health risk assessment:

40 Code of Federal Regulations § 1500.1(b): NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.

40 Code of Federal Regulations § 1502.1: An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

40 Code of Federal Regulations § 1502.2: (a) Environmental impact statements shall be analytic rather than encyclopedic. (b) Impacts shall be discussed in proportion to their significance. (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations.

Section 1500.1(b) states that information for decision making must be of high quality and based on accurate scientific analysis. Air toxics health risk assessments can involve large uncertainties. The mobile source air toxic health risk assessment uncertainty builds on itself—each step of the analysis involves uncertainties, including modeling traffic and then modeling emissions, and using this estimated output to model dispersion/concentrations, which provide information for...
**Recommendations:**

- Evaluate the potential direct, indirect, and cumulative health impacts of the construction and operation of the various project alternatives on children’s health. Obtain and discuss relevant health data (e.g., asthma data) for children living near the proposed project area, if available.

The analysis should consider the following:

- Potential respiratory impacts, including asthma, from air pollutant emissions and generation of fugitive dust;
- Potential noise impacts to health and learning, especially in areas where the project is located near homes, schools, childcare centers and parks; and
- Potential impacts from the use of chemicals, such as dust suppressants, and hazardous materials to children living near the proposed project areas.

- The population of children living within the affected communities and potential impacts to children’s health should be added to the discussion on pages 4-29 through 4-38.

- Additional sensitive receptors, including private schools, charter schools, preschools, and childcare centers, should be added to Figure 5-6, and a discussion of the potential project impacts, including air quality and noise, to these sensitive receptors should be included.

- Further evaluate the proposed project alternatives in order to compare potential impacts to children’s health. Clearly identify the project alternatives that have the least impact to children, as well as those alternatives that have the least impact on areas already significantly impacted by existing air pollution, high disease rates, and indicators of social vulnerability.

- If necessary, exposure modeling can be performed using models available from EPA’s website:
  - The Air Pollutants Exposure Model ([http://www.epa.gov/ttn/fera/human_apex.html](http://www.epa.gov/ttn/fera/human_apex.html))
  - The Hazardous Air Pollutant Exposure Model ([http://www.epa.gov/ttn/fera/human_hapem.html](http://www.epa.gov/ttn/fera/human_hapem.html))

- Another document that can address exposure modeling is EPA’s Exposure Factors Handbook ([http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252](http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252)).

Children’s Environmental Health and Safety

Executive Order 13045 on Children’s Health and Safety directs each Federal agency, to the extent permitted by law, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address these risks. Analysis and disclosure of these potential effects under NEPA is necessary because some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to environmental health and safety risks. Although the DEIS identifies communities and public schools located near the proposed project area, the DEIS does not clearly address the potential direct, indirect, and cumulative impacts of the project on children’s health.

**EPA’s Health Effects Notebook for Hazardous Air Pollutants** also includes information on some of the MSATs, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrylamide, and POMs ([http://www.epa.gov/ttn/fera/human_apexes.htm](http://www.epa.gov/ttn/fera/human_apexes.htm)).


**Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens** ([http://epa.gov/cancer/guidelines/gcra.html](http://epa.gov/cancer/guidelines/gcra.html))

If necessary, exposure modeling can be performed using models available from EPA’s website:

- The Air Pollutants Exposure Model ([http://www.epa.gov/ttn/fera/human_apex.html](http://www.epa.gov/ttn/fera/human_apex.html))
- The Hazardous Air Pollutant Exposure Model ([http://www.epa.gov/ttn/fera/human_hapem.html](http://www.epa.gov/ttn/fera/human_hapem.html))

Another document that can address exposure modeling is EPA’s Exposure Factors Handbook ([http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252](http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252)).
As discussed above and in Appendix C of the Federal Highway Administration’s mobile source air toxic guidance, results from the health risk assessment would be influenced more by the uncertainty introduced into the process through assumptions and speculations rather than by genuine insight into the actual health impacts directly attributable to mobile source air toxic exposure associated with a project. Therefore, outcomes of such a health risk assessment do not provide useful information for decision makers, as required by Section 1502.1. The Federal Highway Administration emissions analysis meets the requirement to produce information that is useful for both disclosure and decision making because it allows the public and decision makers to see which alternative has less mobile source air toxic emissions, with much less uncertainty than a health risk assessment.

Given the uncertainty of a mobile source air toxic health risk assessment, the Federal Highway Administration instead addresses the potential impacts of mobile source air toxics through an emissions assessment in its National Environmental Policy Act documents. For smaller projects with a lower likelihood of a meaningful impact, this discussion is qualitative. For larger projects, emissions analysis is conducted. The Federal Highway Administration approach is consistent with the Council on Environmental Quality’s direction in Section 1502.2(b) to discuss impacts in proportion to their significance. The results of an emissions analysis can be summarized concisely in a National Environmental Policy Act document and provide useful information for decision makers (e.g., an alternative that has lower emissions is likely to be “better” from a mobile source air toxics health risk standpoint than one that has higher emissions).

While the U.S. Environmental Protection Agency and the Federal Highway Administration both agree on the usefulness of addressing mobile source air toxics in National Environmental Policy Act documents for highway projects, the agencies disagree about the value of health risk assessment as a method for doing so. This issue has arisen in National Environmental Policy Act consultation for many highway projects around the country and is not unique to the proposed project. In its comment letter, the U.S. Environmental Protection Agency is treating the lack of a mobile source air toxic health risk assessment as a technical deficiency, stating that the National Environmental Policy Act document cannot provide a “robust and meaningful air quality analysis” without one. For the reasons described above, a mobile source air toxics health risk assessment is not a “robust and meaningful” method for assessing individual highway projects. As outlined in the Federal Highway Administration’s guidance and elsewhere in this response to comments, health risk assessment for mobile source air toxics is not necessary in meeting applicable Council on Environmental Quality regulatory requirements for National Environmental Policy Act documents, nor would the results from the health risk assessment provide additional information over a mobile source air toxic emission assessment for decision makers.

Another consideration with respect to health impacts is that the Preferred Alternative would also reduce in-vehicle mobile source air toxics exposure as opposed to the No-Action Alternative. The U.S. Environmental Protection Agency has found that in-vehicle benzene concentrations were between 2.5 and 40 times higher than nearby ambient concentrations, based on a review of studies discussed in the Regulatory Impact Analysis for the U.S. Environmental Protection Agency’s 2007 mobile source air toxics rule-making (Final Regulatory Impact Analysis, Environmental Protection Agency 420-R-07-002, 3-17 [February 2007]). Construction of the Preferred Alternative would result in a reduction in benzene exposure to drivers and passengers for two reasons: decreased travel times...
Children’s Environmental Health and Safety

Executive Order 13045 on Children’s Health and Safety directs each Federal agency, to the extent permitted by law, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and to ensure that their policies, programs, activities, and standards address these risks. Analysis and disclosure of these potential effects under NEPA is necessary because some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to environmental health and safety risks. Although the DEIS identifies communities and public schools located near the proposed project area, the DEIS does not clearly describe the potential direct, indirect, and cumulative impacts of the project on children’s health.

Recommendations:

- Evaluate the potential direct, indirect, and cumulative health impacts of the construction and operation of the various project alternatives on children’s health.
- Obtain and discuss relevant health data (e.g., asthma data) for children living near the proposed project area, if available.
- The analysis should consider the following:
  - Potential respiratory impacts, including asthma, from air pollutant emissions and generation of fugitive dust;
  - Potential noise impacts to health and learning, especially in areas where the project is located near homes, schools, childcare centers and parks; and
  - Potential impacts from the use of chemicals, such as dust suppressants, and hazardous materials to children living near the proposed project areas.
- The population of children living within the affected communities and potential impacts to children’s health should be added to the discussion on pages 4-29 through 4-38.
- Additional sensitive receptors, including private schools, charter schools, preschools, and childcare centers, should be added to Figure 5-6, and a discussion of the potential project impacts, including air quality and noise, to these sensitive receptors should be included.
- Further evaluate the proposed project alternatives in order to compare potential impacts to children’s health. Clearly identify the project alternatives that have the least impact to children, as well as those alternatives that have the least impact on areas already significantly impacted by existing air pollution, high disease rates, and indicators of social vulnerability.
- If necessary, exposure modeling can be performed using models available from EPA’s website: o The Air Pollutants Exposure Model (http://www.epa.gov/ttn/fera/human_apex.html)
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o Another document that can address exposure modeling is EPA’s Exposure Factors Handbook (http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252).

The Federal Highway Administration determined that a supplemental environmental impact statement is not required at this time because there were no changes to the proposed action that will result in significant environmental impacts not evaluated in the Draft Environmental Impact Statement. The Federal Highway Administration determined that a supplemental environmental impact statement is not required at this time because there were no changes to the proposed action that will result in significant environmental impacts not evaluated in the Draft Environmental Impact Statement.
the topic of health effects on neighborhoods and adjacent schools (see page 6-12 of the Draft Environmental Impact Statement).

The Draft Environmental Impact Statement evaluated Clean Air Act criteria air pollutant concentrations in Maricopa County and the Phoenix area (see pages 4-58 to 4-62 of the Draft Environmental Impact Statement). With regard to air quality impacts, the Draft Environmental Impact Statement addressed children’s health impacts within the broader discussion regarding health impacts under the National Ambient Air Quality Standards. Clean Air Act § 109(b)(1) requires the U.S. Environmental Protection Agency to promulgate primary National Ambient Air Quality Standards at levels that allow an adequate margin of safety and are requisite to protect the public health. As noted by the U.S. Environmental Protection Agency in its 2013 rulemaking for particulate matter, Clean Air Act § 109’s legislative history demonstrates that the primary standards are “to be set at the maximum permissible ambient air level … which will protect the health of any [sensitive] group of the population” (78 Federal Register 3086 and 3090) (quoting S. Rep. No. 91-1196, 91st Cong., 2 Sess. 10 [1970]) (alterations in original). Accordingly, the Draft Environmental Impact Statement National Ambient Air Quality Standards-based evaluation of criteria air pollutants included a health-based review of sensitive populations, including children, given the National Ambient Air Quality Standards’ inherent consideration of those factors. Furthermore, the National Ambient Air Quality Standards-based assessment ensures adequate consideration of health-based issues as “[t]he requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information … and to protect against hazards that research has not yet identified” (78 Federal Register 3090).

Sensitive receivers for noise and air are already included in the air quality and noise analyses in accordance with State and federal guidance. Both sections, Air Quality and Noise, beginning on Final Environmental Impact Statement pages 4-68 and 4-88, respectively, have addressed requirements under the National Environmental Policy Act. As stated on page 4-89 of the Final Environmental Impact Statement, over 220 sensitive receivers were evaluated at exterior locations from a traffic noise perspective. All of the receivers represent noise-sensitive land uses in proximity to the proposed project, including homes, schools, and parks, and these receivers would have higher noise levels than similar facilities more distant from the proposed action.

In response to comments by the U.S. Environmental Protection Agency, each modeled school was reexamined to determine whether noise impacts would result from the proposed freeway and whether appropriate mitigation of these impacts was provided. Of the nine schools modeled in the analysis for the Draft and Final Environmental Impact Statements, all were predicted to exceed the Arizona Department of Transportation Noise Abatement Criteria (see Table 4-40, beginning on page 4-93). Mitigation, in the form of noise walls, was proposed for all schools. After applying this mitigation, all schools except one were mitigated according to the Arizona Department of Transportation noise policy. According to Arizona Department of Transportation policy, noise mitigation should achieve a reduction of 5 to 7 A-weighted decibels and result in a noise level of less than 64 A-weighted decibels for residential and similar areas. These criteria were not reached for one school (receiver 67, Santa Maria Elementary School) because the policy limits wall heights to 20 feet. A wall taller than 20 feet would be required to bring levels at this receiver down to 64 A-weighted decibels. However, a 5-decibel reduction would be

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| 15   |       | the topic of health effects on neighborhoods and adjacent schools (see page 6-12 of the Draft Environmental Impact Statement). The Draft Environmental Impact Statement evaluated Clean Air Act criteria air pollutant concentrations in Maricopa County and the Phoenix area (see pages 4-58 to 4-62 of the Draft Environmental Impact Statement). With regard to air quality impacts, the Draft Environmental Impact Statement addressed children’s health impacts within the broader discussion regarding health impacts under the National Ambient Air Quality Standards. Clean Air Act § 109(b)(1) requires the U.S. Environmental Protection Agency to promulgate primary National Ambient Air Quality Standards at levels that allow an adequate margin of safety and are requisite to protect the public health. As noted by the U.S. Environmental Protection Agency in its 2013 rulemaking for particulate matter, Clean Air Act § 109’s legislative history demonstrates that the primary standards are “to be set at the maximum permissible ambient air level … which will protect the health of any [sensitive] group of the population” (78 Federal Register 3086 and 3090) (quoting S. Rep. No. 91-1196, 91st Cong., 2 Sess. 10 [1970]) (alterations in original). Accordingly, the Draft Environmental Impact Statement National Ambient Air Quality Standards-based evaluation of criteria air pollutants included a health-based review of sensitive populations, including children, given the National Ambient Air Quality Standards’ inherent consideration of those factors. Furthermore, the National Ambient Air Quality Standards-based assessment ensures adequate consideration of health-based issues as “[t]he requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information … and to protect against hazards that research has not yet identified” (78 Federal Register 3090). Sensitive receivers for noise and air are already included in the air quality and noise analyses in accordance with State and federal guidance. Both sections, Air Quality and Noise, beginning on Final Environmental Impact Statement pages 4-68 and 4-88, respectively, have addressed requirements under the National Environmental Policy Act. As stated on page 4-89 of the Final Environmental Impact Statement, over 220 sensitive receivers were evaluated at exterior locations from a traffic noise perspective. All of the receivers represent noise-sensitive land uses in proximity to the proposed project, including homes, schools, and parks, and these receivers would have higher noise levels than similar facilities more distant from the proposed action. In response to comments by the U.S. Environmental Protection Agency, each modeled school was reexamined to determine whether noise impacts would result from the proposed freeway and whether appropriate mitigation of these impacts was provided. Of the nine schools modeled in the analysis for the Draft and Final Environmental Impact Statements, all were predicted to exceed the Arizona Department of Transportation Noise Abatement Criteria (see Table 4-40, beginning on page 4-93). Mitigation, in the form of noise walls, was proposed for all schools. After applying this mitigation, all schools except one were mitigated according to the Arizona Department of Transportation noise policy. According to Arizona Department of Transportation policy, noise mitigation should achieve a reduction of 5 to 7 A-weighted decibels and result in a noise level of less than 64 A-weighted decibels for residential and similar areas. These criteria were not reached for one school (receiver 67, Santa Maria Elementary School) because the policy limits wall heights to 20 feet. A wall taller than 20 feet would be required to bring levels at this receiver down to 64 A-weighted decibels. However, a 5-decibel reduction would be
Children’s Environmental Health and Safety

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Recommendations:

- Evaluate the potential direct, indirect, and cumulative health impacts of the construction and operation of the various project alternatives on children’s health. Obtain and discuss relevant health data (e.g., asthma data) for children living near the proposed project area, if available.

The analysis should consider the following:

- Potential respiratory impacts, including asthma, from air pollutant emissions and generation of fugitive dust;
- Potential noise impacts to health and learning, especially in areas where the project is located near homes, schools, childcare centers and parks; and
- Potential impacts from the use of chemicals, such as dust suppressants, and hazardous materials to children living near the proposed project areas.

- The population of children living within the affected communities and potential impacts to children’s health should be added to the discussion on pages 4-29 through 4-38.
- Additional sensitive receptors, including private schools, charter schools, preschools, and childcare centers, should be added to Figure 5-6, and a discussion of the potential project impacts, including air quality and noise, to these sensitive receptors should be included.
- Further evaluate the proposed project alternatives in order to compare potential impacts to children’s health. Clearly identify the project alternatives that have the least impact to children, as well as those alternatives that have the least impact on areas already significantly impacted by existing air pollution, high disease rates, and indicators of social vulnerability.

- If necessary, exposure modeling can be performed using models available from EPA’s website:
  - The Air Pollutants Exposure Model (http://www.epa.gov/ttn/fera/human_apex.html)
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  - Another document that can address exposure modeling is EPA’s Exposure Factors Handbook (http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?dirid=2&6252)

Children’s Health

Children’s Health provided by the 20-foot wall proposed in this area. It is important to note that this receiver would be affected only by the W71 Alternative, which is not the Preferred Alternative.

The Arizona Department of Transportation noise policy also states that noise abatement shall be considered if “substantial increases” (defined as a 15 A-weighted decibel or greater increase) are predicted. Of the nine schools modeled, substantial increases were predicted at six schools. As discussed above, however, noise walls would reduce noise levels at all schools according to the Arizona Department of Transportation noise policy, with the exception of Santa Maria Elementary School, which would be affected only by the W71 Alternative, which is not the Preferred Alternative. According to the Federal Highway Administration’s 1995 Highway Traffic Noise Analysis and Abatement Policy and Guidance, in most cases, if the exterior area can be protected, the interior will also be protected.

Likewise, as noted on page 4-65 of the Draft Environmental Impact Statement, over 700 receptors were modeled for carbon monoxide concentrations. Receiver placement met the criteria for selecting modeling locations as specified in 40 Code of Federal Regulations § 93.123(a). The carbon monoxide analysis was updated in the Final Environmental Impact Statement. Although a qualitative analysis of particulate matter (PM<sub>10</sub>) was presented in the Draft Environmental Impact Statement, a quantitative project-level particulate matter (PM<sub>10</sub>) hot-spot analysis is included in the Final Environmental Impact Statement. The results of the air quality updates are summarized in the prologue to the Final Environmental Impact Statement (page xii) and are more fully described beginning on page 4-68 of the Final Environmental Impact Statement. Thus, the particulate matter (PM<sub>10</sub>) analysis demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. Through analysis, the Federal Highway Administration has determined that the proposed project would not produce disproportionate impacts to children.
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<tr>
<td>15</td>
<td>Identify mitigation measures to reduce impacts from the proposed project’s construction and operation to schools and child care centers near the proposed project area, including measures identified in the voluntary EPA School Siting Guidelines (<a href="http://www.epa.gov/schools/siting/download.html">http://www.epa.gov/schools/siting/download.html</a>), and voluntary EPA Guidelines for States: Development and Implementation of a School Environmental Health Program (<a href="http://www.epa.gov/schools/ehguidelines/index.html">http://www.epa.gov/schools/ehguidelines/index.html</a>). Engage local school districts, child care providers, and others to discuss mitigation measures.</td>
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<td>17</td>
<td>Recommendations:</td>
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<td>• Implement a strong anti-idling policy at all construction sites, and limit idling of heavy equipment and trucks to less than five minutes.</td>
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<td></td>
<td>• Larger Tier 4 construction equipment will be more widely available in 2015. To the extent practicable, starting in 2015, limit construction equipment to EPA’s Tier 4 emission standards.</td>
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<td>• Commit to the use of construction equipment powered by alternative fuels (i.e., biodiesel, compressed natural gas, and electricity) where feasible.</td>
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<td></td>
<td>• Train construction contractors and their employees on air quality impacts from construction activities and potential health risks to nearby receptors, and ways to reduce emissions (no idling, using PM filters, using alternative fuels, etc.).</td>
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<tr>
<td>18</td>
<td>Displacement</td>
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<td>Page 4-39 states that the preferred alternative will displace 165 single family residences and 680 multifamily residences, for a total of 845 displaced units. While this represents the fewest single family homes affected (other alternatives range in impacts from between 710 to 969 when adding the Eastern and Western alignments), the preferred alignment is the only alignment that will affect multifamily residences (other alternatives will affect no multifamily residences). The DEIS discussion of displacements focuses mainly on single residences being affected and lacks important detail regarding multifamily residential impacts. Page 4-40 states a rental vacancy rate of 9% for the displaced multifamily residences, based on 2009 data. It is unclear what opportunities exist currently for the potentially displaced 680 multifamily residences. The Environmental Justice Analysis on page 4-38 states that the “availability of replacement housing” for Section 8 vouchers is not easily quantified. It is therefore unclear to what extent low-income and/or minority populations will be affected by the project. Additional mitigation and/or community outreach, and assistance may be necessary to offset relocation impacts.</td>
</tr>
<tr>
<td>19</td>
<td>Environmental analyses conducted for and documented in the Draft Environmental Impact Statement comply with the Federal Highway Administration’s regulations for implementing the National Environmental Policy Act at 23 Code of Federal Regulations § 771. Limiting trucks and equipment to 5 minutes of idling would be unsafe and inefficient. In the Phoenix area, equipment operators depend on air conditioning. Shutting down equipment would place equipment operators in danger of hyperthermia. In addition, shutting down equipment requires a cooling down period to allow hydraulic fluid to cool and a corresponding period to allow the fluid to warm to operating temperatures after a restart. As a result, shutting down and restarting equipment could actually result in more idling, not less.</td>
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<tr>
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<td>Environmental analyses conducted for and documented in the Draft Environmental Impact Statement comply with the Federal Highway Administration’s regulations for implementing the National Environmental Policy Act at 23 Code of Federal Regulations § 771, however, to address the comment from the U.S. Environmental Protection Agency, the following contractor mitigation measure has been added to the Final Environmental Impact Statement on page 4-173: “To the extent practicable, construction equipment that meets the U.S. Environmental Protection Agency’s Tier 4 emission standards shall be used.”</td>
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<td>Environmental analyses conducted for and documented in the Draft Environmental Impact Statement comply with the Federal Highway Administration’s regulations for implementing the National Environmental Policy Act at 23 Code of Federal Regulations § 771; however, to address the comment from the U.S. Environmental Protection Agency, the following Phoenix Construction District mitigation measure has been added to the Final Environmental Impact Statement on page 4-173: “Where feasible, construction equipment powered by alternative fuels (e.g., biodiesel, compressed natural gas, electricity) shall be used.”</td>
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The noise analyses conducted for and documented in the Final Environmental Impact Statement complies with the Federal Highway Administration’s regulations for conducting noise analysis in 23 Code of Federal Regulations § 772. The Federal Aid Highway Act of 1970 required the Federal Highway Administration to develop highway traffic noise standards for use in the planning and design of new highway projects. These standards were promulgated by the Federal Highway Administration on February 8, 1973, and are currently contained in 23 Code of Federal Regulations Part 772. According to 23 Code of Federal Regulations § Part 772.11(c)(2)(iv), an indoor analysis shall be done only after exhausting all outdoor analysis options; therefore, interior noise levels were not specifically assessed in the Draft Environmental Impact Statement or the Final Environmental Impact Statement. Sensitive receivers for noise were included in the noise analysis in accordance with State and Federal guidance. The section, Noise, beginning on Final Environmental Impact Statement page 4-88 has addressed requirements under the National Environmental Policy Act. As stated on page 4-89 of the Final Environmental Impact Statement, over 220 sensitive receivers were evaluated at exterior locations from a traffic noise perspective. All of the receivers represent noise-sensitive land uses in proximity to the proposed project, including homes, schools, and parks, and these receivers would have higher noise levels than similar facilities more distant from the project.

In response to comments by the U.S. Environmental Protection Agency, each modeled school was reexamined to determine whether noise impacts would result from the proposed freeway and whether appropriate mitigation of these impacts was provided. Of the nine schools modeled in the analysis for the Draft and Final Environmental Impact Statements, all were predicted to exceed the Arizona Department of Transportation Noise Abatement Criteria (see Table 4-40, beginning on page 4-93). Mitigation, in the form of noise walls, was proposed for all schools. After applying this mitigation, all schools except one were mitigated according to the Arizona Department of Transportation noise policy. According to Arizona Department of Transportation policy, noise mitigation should achieve a reduction of 5 to 7 A-weighted decibels and result in a noise level of less than 64 A-weighted decibels for residential and similar areas. These criteria were not reached for one school (receiver 67, Santa Maria Elementary School) because the policy limits wall heights to 20 feet. A wall taller than 20 feet would be required to bring levels at this receiver down to 64 A-weighted decibels. However, a 5-decibel reduction would be provided by the 20-foot wall proposed in this area. It is important to note that this receiver would be affected only by the W71 Alternative, which is not the Preferred Alternative.
to non-tolled roads. This has potential implications for analyses of air quality, noise, and environmental justice, as well as additional potential indirect and cumulative impacts. It is unclear whether any toll feasibility studies were conducted for the proposed South Mountain Freeway, and there is no discussion in the DEIS of the current toll feasibility studies on adjacent roadways.

Recommendations:
- Disclose results of any toll feasibility study conducted for the proposed project. If no toll feasibility study was conducted, provide a discussion as to why.
- Provide details of current toll feasibility studies being conducted on nearby roadways. Include a discussion of how future tolling on these roadways could affect traffic and associated impacts on the South Mountain Freeway.

Coordination with Gila River Indian Community and Impacts to Sacred Sites

The DEIS describes extensive coordination with the Gila River Indian Community (GRIC) and a history of considering a possible freeway alignment on GRIC lands. We understand that there is still interest within the GRIC community for analyzing a possible freeway alignment on GRIC lands that would avoid the impacts to sacred sites that will result from the current preferred alignment. While we understand that there may never be one alignment route fully supported by the entire tribal community and government, we encourage ADOT and FHWA to continue to work closely with GRIC to reduce impacts to sacred sites and traditional cultural properties to the greatest extent possible.

Further, there are many resources regarding the potential health impacts of locating sensitive receptors adjacent to freeways as well as the benefits of smart growth and location efficient housing. ADOT and FHWA should disclose these potential near-roadway health impacts and ensure GRIC has access to the most current information available regarding optimizing land use decisions and safeguarding health in the face of a potential new freeway directly adjacent to GRIC land.

Recommendations:
- Continue to work closely with GRIC to reduce the proposed project impacts to sacred sites and traditional cultural properties.
- Evaluate all mitigation measures suggested by GRIC to determine their effectiveness and feasibility. Identify where implementation of GRIC mitigation measures has been rejected and provide a discussion of the reasons for rejection.
- Provide all resources available to GRIC regarding near-roadway health impacts and land-use planning and zoning recommendations for lands adjacent to a new highway.
- Should additional alignment alternatives on GRIC land become feasible as a result of tribal approval, these alternatives should be studied in detail and all impacts disclosed in the supplemental DEIS.

Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations.

According to 40 Code of Federal Regulations § 1502.9(a), the agency shall make substantial increases shall be considered if “substantial increases” (defined as a 15 A-weighted decibel or greater increase) are predicted. Of the nine schools modeled, substantial increases were predicted at six schools. As discussed previously, however, noise walls would reduce noise levels at all schools according to Arizona Department of Transportation noise policy, with the exception of Santa Maria Elementary School, which would be affected only by the W71 Alternative, which is not the Preferred Alternative. According to the Federal Highway Administration’s 1995 Highway Traffic Noise Analysis and Abatement Policy and Guidance, in most cases, if the exterior area can be protected, the interior will also be protected.

The noise analysis has been updated for the Final Environmental Impact Statement using the most recent Arizona Department of Transportation and Federal Highway Administration policy and traffic projections provided by the Maricopa Association of Governments in November 2013. This updated analysis begins on page 4-88 of the Final Environmental Impact Statement, but no substantial differences between the analysis presented in the Draft Environmental Impact Statement and the Final Environmental Impact Statement resulted. Therefore, no substantial differences in mitigation between the Draft Environmental Impact Statement and Final Environmental Impact Statement were recommended and no mitigation methods other than noise walls were necessary. It is also important to note that the Arizona Department of Transportation noise analysis process is not complete. As design advances, should an action alternative be selected, additional modeling would occur to further refine the mitigation used for the project (see Figure 4-30 on page 4-100 of the Final Environmental Impact Statement).

23 Tolling

According to 40 Code of Federal Regulations § 1502.9(a), the agency shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action. Tolling in relation to the project is disclosed in both Chapters 1 and 3 of the Draft and Final Environmental Impact Statements. In 1996, a consortium of private companies proposed to build a South Mountain Freeway as a toll road. The consortium later withdrew its proposal, saying the project was not financially feasible. The proposal is documented in the Alignment Recommendation, South Mountain Corridor Loop 202, as noted on page 1-8 of the Draft Environmental Impact Statement. Tolling has not been considered for the current study. The project would be completely funded through federal sources and a local ½-cent sales tax, as programmed in the Arizona Department of Transportation 5-year Transportation Facilities Construction Program and the Maricopa Association of Governments Regional Transportation Plan; therefore, tolling is not required to fund the proposed action.

24 Tolling

According to 46 Federal Register 18026 (March 23, 1981), the environmental impact statement must discuss reasonably foreseeable actions. These are actions that are likely to occur or are probable, rather than those that are merely possible. The Maricopa Association of Governments has completed recent studies of the feasibility of implementing congestion pricing, also known as managed lanes or high-occupancy toll lanes, on the region’s freeways (see 2035 Regional Transportation Plan, Maricopa Association of Governments, January 2014). While these types of tolling are being considered in the Phoenix metropolitan area, there is no history of performance in the region by which to assess the effects on the proposed freeway.
to non-tolled roads. This has potential implications for analyses of air quality, noise, and environmental justice, as well as additional potential indirect and cumulative impacts. It is unclear whether the current study was completed for the proposed South Mountain Freeway, and there is no discussion in the DEIS of the current toll feasibility studies on adjacent roadways.

**Recommendations:**
- Disclose results of any toll feasibility study conducted for the proposed project. If no toll feasibility study was conducted, provide a discussion as to why.
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Further, there are many resources regarding the potential health impacts of locating sensitive receptors adjacent to freeways as well as the benefits of smart growth and location efficient housing. ADOT and FHWA should disclose these potential near-roadway health impacts and ensure GRIC has access to the most current information available regarding optimizing land use decisions and safeguarding health in the face of a potential new freeway directly adjacent to GRIC land.

**Recommendations:**
- Continue to work closely with GRIC to reduce the proposed project impacts to sacred sites and traditional cultural properties.
- Evaluate all mitigation measures suggested by GRIC to determine their effectiveness and feasibility. Identify where implementation of GRIC mitigation measures has been rejected and provide a discussion of the reasons for rejection.
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- Should additional alignment alternatives on GRIC land become feasible as a result of tribal approval, these alternatives should be studied in detail and all impacts disclosed in the supplemental DEIS.

**Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. ADOT and FHWA should ensure that they are addressing environmental justice issues as part of their environmental impact statement process.

**Recommendations:**
- Should additional alignment alternatives on GRIC land become feasible as a result of tribal approval, these alternatives should be studied in detail and all impacts disclosed in the supplemental DEIS.

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<th>Code</th>
<th>Issue</th>
<th>Response</th>
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<tbody>
<tr>
<td>25</td>
<td>Cultural Resources</td>
<td>Section 106 of the National Historic Preservation Act requires a government-to-government relationship between the Federal Government and Indian tribes as described beginning on page 4-140 of the Final Environmental Impact Statement. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and requires consultation with tribal authorities. Consultation has occurred with Gila River Indian Community government officials, the Tribal Historic Preservation Officer, the Cultural Resource Management Program, other tribes, and the State Historic Preservation Office and has led to concurrence from the Gila River Indian Community Tribal Historic Preservation Office and the State Historic Preservation Office on National Register of Historic Places eligibility recommendations (including traditional cultural properties such as the South Mountains), project effects, and proposed mitigation and measures to minimize harm. This consultation has been ongoing and will continue until any commitments in a record of decision are completed.</td>
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<tr>
<td>26</td>
<td>Cultural Resources</td>
<td>Section 106 of the National Historic Preservation Act requires a government-to-government relationship between the Federal Government and Indian tribes as described beginning on page 4-140 of the Final Environmental Impact Statement. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and requires consultation with tribal authorities. Consultation has occurred with Gila River Indian Community government officials, the Tribal Historic Preservation Officer, the Cultural Resource Management Program, other tribes, and the State Historic Preservation Office and has led to concurrence from the Gila River Indian Community Tribal Historic Preservation Office and the State Historic Preservation Office on National Register of Historic Places eligibility recommendations (including traditional cultural properties such as the South Mountains), project effects, and proposed mitigation and measures to minimize harm. This consultation has been ongoing and will continue until any commitments in a record of decision are completed.</td>
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(Response 26 continues on next page)
to non-tolled roads. This has potential implications for analyses of air quality, noise, and environmental justice, as well as additional potential indirect and cumulative impacts. It is unclear whether any toll feasibility study was conducted for the proposed South Mountain Freeway, and there is no discussion in the DEIS of the current toll feasibility studies on adjacent roadways.

**Recommendations:**

- Disclose results of any toll feasibility study conducted for the proposed project. If no toll feasibility study was conducted, provide a discussion as to why.
- Provide details of current toll feasibility studies being conducted on nearby roadways. Include a discussion of how future tolling on these roadways could affect traffic and associated impacts on the South Mountain Freeway.

**Coordination with Gila River Indian Community and Impacts to Sacred Sites**

The DEIS describes extensive coordination with the Gila River Indian Community (GRIC) and a history of considering a possible freeway alignment on GRIC lands. We understand that there is still interest within the GRIC community for analyzing a possible freeway alignment on GRIC lands that would avoid the impacts to sacred sites that will result from the current preferred alignment. While we understand that there may never be one alignment route fully supported by the entire tribal community and government, we encourage ADOT and FHWA to continue to work closely with GRIC to reduce impacts to sacred sites and traditional cultural properties to the greatest extent possible.

Further, there are many resources regarding the potential health impacts of locating sensitive receptors adjacent to freeways as well as the benefits of smart growth and location efficient housing. ADOT and FHWA should disclose these potential near-roadway health impacts and ensure GRIC has access to the most current information available regarding optimizing land use decisions and safeguarding health in the face of a potential new freeway directly adjacent to GRIC land.

**Recommendations:**

- Continue to work closely with GRIC to reduce the proposed project impacts to sacred sites and traditional cultural properties.
- Evaluate all mitigation measures suggested by GRIC to determine their effectiveness and feasibility. Identify where implementation of GRIC mitigation measures has been rejected and provide a discussion of the reasons for rejection.
- Provide all resources available to GRIC regarding near-roadway health impacts and land-use planning and zoning recommendations for lands adjacent to a new highway.
- Should additional alignment alternatives on GRIC land become feasible as a result of tribal approval, these alternatives should be studied in detail and all impacts disclosed in the supplemental DEIS.

**Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations.

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<td>26</td>
<td>Land Use</td>
<td>Statement beginning on page 4-143, and measures to minimize harm to the South Mountains Traditional Cultural Property are discussed on page 5-27 of the Final Environmental Impact Statement. No mitigation was “rejected” as part of the environmental impact statement process. Certain community factions and members of the Gila River Indian Community have supported the selection of the No-Action Alternative; however, to be clear, such a recommendation is not a form of mitigation. This is comprehensively discussed in the section, Cultural Resources, beginning on page 4-128, and in Chapter 5, Section 4(f) Evaluation, beginning on page 5-1 of the Draft Environmental Impact Statement. The Gila River Indian Community submitted comments on the Draft Environmental Impact Statement in a letter dated July 3, 2013. This letter and the responses to the Gila River Indian Community comments may be found beginning on page B38 of Appendix 7, Volume III, to the Final Environmental Impact Statement.</td>
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<td>27</td>
<td>Land Use</td>
<td>“Near-roadway health impacts” is a broad topic that encompasses air quality and other environmental and social effects, including noise. For air quality, the Draft and Final Environmental Impact Statements present information about the Preferred Alternative compared with the No-Action Alternative that is applicable to both tribal and non-tribal lands. The carbon monoxide analysis presented on page 4-65 of the Draft Environmental Impact Statement and updated on page 4-75 of the Final Environmental Impact Statement represents projected carbon monoxide concentrations along the project corridor, including those proposed interchange locations along the South Mountain Freeway corridor. The Final Environmental Impact Statement also includes a quantitative particulate matter (PM)) hot-spot analysis that is discussed on page 4-76. The carbon monoxide and particulate matter (PM)) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. The emission modeling developed for the proposed action estimated that for the mobile source air toxics study area, there would be little difference in total annual emissions of mobile source air toxics emissions between the Preferred and No-Action Alternatives (less than a 1 percent difference) in 2025 and 2035. Regardless of alternative, modeled mobile source air toxics emissions would decrease by more than 80 percent relative to 2012 levels, despite a 47 percent increase in vehicle miles traveled in the Study Area compared with 2012 conditions (see discussion beginning on page 4-77 of the Final Environmental Impact Statement). The Federal Highway Administration does not have land use planning or zoning authority. Its Office of Planning does publish some resources related to smart growth, health in transportation planning, and other related topics; see <a href="http://www.dot.gov/planning/">http://www.dot.gov/planning/</a>. The Gila River Indian Community can also benefit from the experience of many local governments in the Phoenix area that have already made land use and zoning decisions for vacant land adjacent to both new and existing roadway facilities.</td>
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to non-tolled roads. This has potential implications for analyses of air quality, noise, and environmental justice, as well as additional potential indirect and cumulative impacts. It is unclear whether any toll feasibility study was conducted for the proposed South Mountain Freeway, and there is no discussion in the DEIS of the current toll feasibility studies on adjacent roadways.

**Recommendations:**
- Disclose results of any toll feasibility study conducted for the proposed project. If no toll feasibility study was conducted, provide a discussion as to why.
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The DEIS describes extensive coordination with the Gila River Indian Community (GRIC) and a history of considering a possible freeway alignment on GRIC lands. We understand that there is still interest within the GRIC community for analyzing a possible freeway alignment on GRIC lands that would avoid the impacts to sacred sites that will result from the current preferred alignment. While we understand that there may never be one alignment route fully supported by the entire tribal community and government, we encourage ADOT and FHWA to continue to work closely with GRIC to reduce impacts to sacred sites and traditional cultural properties to the greatest extent possible.

Further, there are many resources regarding the potential health impacts of locating sensitive receptors adjacent to freeways as well as the benefits of smart growth and location efficient housing. ADOT and FHWA should disclose these potential near-roadway health impacts and ensure GRIC has access to the most current information available regarding optimizing land use decisions and safeguarding health in the face of a potential new freeway directly adjacent to GRIC land.

**Recommendations:**
- Continue to work closely with GRIC to reduce the proposed project impacts to sacred sites and traditional cultural properties.
- Evaluate all mitigation measures suggested by GRIC to determine their effectiveness and feasibility. Identify where implementation of GRIC mitigation measures has been rejected and provide a discussion of the reasons for rejection.
- Provide all resources available to GRIC regarding near-roadway health impacts and land-use planning and zoning recommendations for lands adjacent to a new highway.
- Should additional alignment alternatives on GRIC land become feasible as a result of tribal approval, these alternatives should be studied in detail and all impacts disclosed in the supplemental DEIS.

**Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations.

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<td>28</td>
<td>Alternatives</td>
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<td>In accordance with 40 Code of Federal Regulations § 1502.14, the Arizona Department of Transportation and Federal Highway Administration explored and evaluated all reasonable alternatives. Page 2-10 of the Draft Environmental Impact Statement discusses the path forward should alternatives on Gila River Indian Community land become available for study. Any alternative on Gila River Indian Community land must consider tribal sovereignty. Tribal sovereignty is based in the inherent authority of Native American tribes to govern themselves. While this notion of sovereignty is manifested in many areas, generally Native American land is held in trust by the United States. Native American communities have the authority to regulate land uses and activities on their lands. States have very limited authority over activities within tribal land (see page 2-1 of the Final Environmental Impact Statement). From a practical standpoint, this means that the Arizona Department of Transportation and Federal Highway Administration do not have the authority to survey tribal land, make land use (including transportation) determinations directly affecting tribal land, or condemn tribal land for public benefit through an eminent domain process.</td>
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and low-income populations. There is a growing body of evidence that low-income and minority communities are more vulnerable to pollution impacts than other communities, including deficits of community capacity that make the effects of environmental pollution more burdensome. Environmental justice concerns may arise from the potential human health, ecological, social, cultural, and economic impacts associated with a proposed project. According to the DEIS (page 4-167), the communities within the study area have a much higher minority composition (68%) compared to Maricopa County (41%). The DEIS states that all action alternatives would have direct but not disproportionate impacts on populations with environmental justice characteristics (see page 4-175), but this appears to be a premature and unsupported conclusion. The current analysis does not consider the full suite of potential impacts from the proposed project and how these impacts may disproportionately affect minority, low-income, and indigenous populations. The environmental justice analysis should reference air quality, noise, and other potential project impacts to communities living near the proposed alignments.

Recommendations:
- Identify and document all environmental and human health impacts that may have a disproportionately high impact on minority populations, low-income populations, and/or indigenous populations. The environmental justice analysis should evaluate the direct, indirect, and cumulative impacts of each project alternative to these populations, and identify whether there may be disproportionately high and adverse human health or environmental effects. The analysis should incorporate relevant demographic, socioeconomic, environmental and health data, if available, to fully understand potential project impacts.
- Evaluate the localized impacts from the construction and operation of each project alternative and how these impacts affect minority, low-income, and indigenous communities located near proposed project alignments. Communities that are closer to the proposed project alignments are at a higher risk of near-roadway exposure. Near-roadway exposure to air pollution is linked to a variety of adverse health outcomes including asthma and adverse birth and child health outcomes.
- Identify appropriate mitigation measures to reduce or eliminate any adverse impacts to minority, low-income and indigenous populations throughout the project’s construction and operation. Clearly identify project alternatives with the least impact to these populations.
- Mitigation measures should be developed through open, collaborative processes that include the public and affected communities. Identifying mitigation measures responsive to community concerns and supported by affected communities could further protect these communities from any disproportionate and adverse impacts.


29 Environmental Justice
Executive Order 12898 on environmental justice requires that environmental justice principles be considered in federal programs, policies, and activities. In preparing the Draft Environmental Impact Statement, a careful and comprehensive review was undertaken to evaluate whether the project would have disproportionately high and adverse effects on minority populations, low-income populations, and/or indigenous populations. As required by Federal Highway Administration Order 6640.23A, a disproportionately high and adverse effect on a minority or low-income population means the adverse effect is predominantly borne by such population or is appreciably more severe or greater in magnitude on the minority or low-income population than the adverse effect suffered by the non-minority or non-low-income population.

In undertaking this evaluation as to whether the project would result in disproportionately high and adverse impacts on minority, low-income, and/or indigenous populations, in accordance with Federal Highway Administration Order 6640.23A, the beneficial and adverse effects of the project on the overall population, and on minority, low-income, and indigenous populations in particular, were reviewed in the sections of the Draft Environmental Impact Statement pertaining to Land Use, Social Conditions, Displacements and Relocations, Economic Impacts, Air Quality, Noise, Cultural Resources, Visual Resources, Prime and Unique Farmlands, and Temporary Construction Impacts. Consistent with the National Environmental Policy Act, mitigation was proposed to address potential adverse impacts of the project for the overall population in the Study Area, including minority populations, low-income populations, and/or indigenous populations. It was determined that there would be no disproportionately high and adverse effects on minority populations, low-income populations, and/or indigenous populations.

The section, Title VI and Environmental Justice, beginning on page 4-29 in the Draft Environmental Impact Statement, presents acceptable methods, data, and assumptions to assess the potential for disproportionate adverse effects from the proposed action on certain populations including minority and low-income populations. In light of the comments received, the environmental justice and Title VI analyses in the Draft Environmental Impact Statement were reviewed, and the Final Environmental Impact Statement has been revised to discuss environmental justice and Title VI separately and to clarify how the conclusions in the Environmental Justice and Title VI section were reached (see pages 4-41 and 4-45 of the Final Environmental Impact Statement). The Final Environmental Impact Statement also clarifies potential impacts on minority, low-income, and/or indigenous populations in sections other than the Environmental Justice and Title VI section. For example, in the Noise section, the number of receivers affected that are located in census blocks or census block groups with environmental justice populations are identified (see text beginning on page 4-89 of the Final Environmental Impact Statement).

With this clarification, conclusions on the subject in the Draft Environmental Impact Statement were validated in so far as there would be no disproportionately high and adverse impacts on minority, low-income, and/or indigenous environmental justice populations or disparate impacts to minority groups protected by Title VI. Potential impacts from each alternative are discussed in the Final Environmental Impact Statement. To the extent this comment suggests that a health risk assessment is required, the Arizona Department of Transportation and Federal Highway Administration respectfully disagree, as explained in response code #14.
and low-income populations. 6 There is a growing body of evidence that low-income and minority communities are more vulnerable to pollution impacts than other communities, including deficits of health and education, poorer physical and social conditions, and economic factors. Environmental justice concerns may arise from the potential human health, ecological, social, cultural, and economic impacts associated with a proposed project. According to the DEIS (page 4-167), the communities within the study area have a much higher minority composition (68%) compared to Maricopa County (41%). The DEIS states that all action alternatives would have direct but not disproportionate impacts on populations with environmental justice characteristics (see page 4-175) but this appears to be a premature and unsupported conclusion. The current analysis does not consider the full suite of potential impacts from the proposed project and how these impacts may disproportionately affect minority, low-income, and indigenous populations. The environmental justice analysis in the DEIS focuses mainly on relocations and displacements. The environmental justice analysis should reference air quality, noise, and other potential project impacts to communities living near the proposed alignments.

Recommendations:

- Identify and document all environmental and human health impacts that may have a disproportionately high impact on minority populations, low-income populations, and/or indigenous populations. The environmental justice analysis should evaluate the direct, indirect, and cumulative impacts of each project alternative to these populations, and identify whether there may be disproportionately high and adverse human health or environmental effects. The analysis should incorporate relevant demographic, socioeconomic, environmental, and health data, if available, to fully understand potential project impacts.
- Evaluate the localized impacts from the construction and operation of each project alternative and how these impacts affect minority, low-income, and indigenous communities located near proposed project alignments. Communities that are closer to the proposed project alignments are at a higher risk of near-roadway exposure. Near-roadway exposure to air pollution is linked to a variety of adverse health outcomes including asthma and adverse birth and childhood outcomes.
- Identify appropriate mitigation measures to reduce or eliminate any adverse impacts to minority, low-income and indigenous populations throughout the project’s construction and operation. Clearly identify project alternatives with the least impact to these populations.
- Mitigation measures should be developed through open, collaborative processes that include the public and affected communities. Mitigation measures should be responsive to community concerns and supported by affected communities in order to protect these communities from any disproportionate and adverse impacts.


29 Environmental Justice

The comment makes reference to indigenous populations. As shown in Table 4-10, “Environmental Justice Population Percentages, Affected Study Area Jurisdictions,” on page 4-30 of the Final Environmental Impact Statement, indigenous populations are accounted for in the impact analyses. Further, Chapter 2, Gila River Indian Community Coordination, discloses the comprehensive nature of coordination efforts with the Gila River Indian Community. Important to note is the history of the draft study on Gila River Indian Community land. For much of the study, the Gila River Indian Community did not permit any form of impact analyses of resources on its land as is its right as a sovereign nation (see page 2-1 of the Draft Environmental Impact Statement), and it did not wish to have any information about the Gila River Indian Community disclosed in the Draft Environmental Impact Statement. In 2007, right-of-entry was granted but expired 1 year later. In 2010, the permit was reissued to study an alignment on Gila River Indian Community land (which is discussed at length in Chapter 3, Alternatives) but was withdrawn once consideration by the Gila River Indian Community for a Gila River Indian Community-located alignment was withdrawn. Despite the Gila River Indian Community’s directive to neither study nor report on Gila River Indian Community resources and assets, the potential for such impacts is highly unlikely. Populations would not be directly affected by the proposed action.

As detailed in the Cultural Resources section starting on page 4-128 of the Draft Environmental Impact Statement, the proposed action may pose indirect impacts such as altered access to places of tradition. The Draft Environmental Impact Statement, however, includes a detailed review of alternatives considered to avoid impacts to cultural resources, including the South Mountains. See the Chapter 5 section, Avoidance Alternatives for Public Parkland Resources of the South Mountains Afforded Protection under Section 4(f), beginning on page 5-16 of the Draft Environmental Impact Statement; Chapter 2, Gila River Indian Community Coordination; and Chapter 3, Alternatives. Additionally, mitigation developed in consultation with the Gila River Indian Community and other tribes has been committed to ensure that access to places of tradition would be preserved (see page 5-27 in the Draft Environmental Impact Statement). Further, in addition to the overall public hearing outreach efforts, Gila River Indian Community members also had specific access to Gila River Indian Community-specific outreach, which are detailed on pages 6-24 of the Final Environmental Impact Statement.

30 Environmental Justice

Executive Order 12898 and Title VI of the Civil Rights Act of 1964 are discussed on pages 4-29 through 4-38 of the Draft Environmental Impact Statement and pages 4-29 through 4-45 of the Final Environmental Impact Statement. Please see the response to the above comment. The impacts from the construction and operation of the action alternatives were subjected to analyses with respect to both the overall population and minority, low-income, and indigenous communities located near proposed project alignments. In light of the comments received, the environmental justice and Title VI analyses in the Draft Environmental Impact Statement were reviewed, and the Final Environmental Impact Statement has been revised to discuss environmental justice and Title VI separately and to clarify how the conclusions in the Environmental Justice and Title VI section were reached. Regarding the statement concerning the impacts associated with construction and implementation of each action alternative, potential impacts on all population segments located near the proposed freeway are described in the Draft and Final Environmental Impact Statements. For example, the air quality assessment for the
and low-income populations. There is a growing body of evidence that low-income and minority communities are more vulnerable to pollution impacts than other communities, including deficits of both a physical and social nature that make the effects of environmental pollution more burdensome. Environmental justice concerns may arise from the potential human health, ecological, social, cultural, and economic impacts associated with a proposed project. According to the DEIS (page 4-167), the communities within the study area have a much higher minority composition (68%) compared to Maricopa County (41%). The DEIS states that all action alternatives would have direct but not disproportionate impacts on populations with environmental justice characteristics (see page 4-175) but this appears to be a premature and unsupported conclusion. The current analysis does not consider the full suite of potential impacts from the proposed project and how these may disproportionately affect minority, low-income, and indigenous populations. The environmental justice analysis in the DEIS focuses mainly on relocations and displacements. The environmental justice analysis should reference air quality, noise, and other potential project impacts to communities living near the proposed alignments.

Recommendations:
- Identify and document all environmental and human health impacts that may have a disproportionately high impact on minority populations, low-income populations, and/or indigenous populations. The environmental justice analysis should evaluate the direct, indirect, and cumulative impacts of each project alternative to these populations, and identify whether there may be disproportionately high and adverse human health or environmental effects. The analysis should incorporate relevant demographic, socioeconomic, environmental and health data, if available, to fully understand potential project impacts.
- Evaluate the localized impacts from the construction and operation of each project alternative and how these impacts affect minority, low-income, and indigenous communities located near proposed project alignments. Communities that are closer to the proposed project alignments are at a higher risk of near-roadway exposure. Near-roadway exposure to air pollution is linked to a variety of adverse health outcomes including asthma and adverse birth and childhood outcomes.
- Identify appropriate mitigation measures to reduce or eliminate any adverse impacts to minority, low-income and indigenous populations throughout the project’s construction and operation. Clearly identify project alternatives with the least impact to these populations.
- Mitigation measures should be developed through open, collaborative processes that include the public and affected communities. Identifying mitigation measures responsive to community concerns and supported by affected communities could further protect these communities from any disproportionate and adverse impacts.


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<tr>
<td>31</td>
<td>Environmental Justice and Title VI</td>
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proposed freeway analyzes impacts from carbon monoxide and particulate matter (PM10) and followed U.S. Environmental Protection Agency guidelines. No violations of either the carbon monoxide or particulate matter (PM10) standards were identified, even at worst-case locations along the project corridor. Thus, the carbon monoxide and particulate matter (PM10) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. For mobile source air toxics, the analysis showed that for the Study Area, constructing the freeway would have a marginal effect on annual emissions in 2025 and 2035 (less than a 1 percent difference in total annual emissions between the Preferred Alternative and No-Action Alternative). Regardless of alternative, modeled mobile source air toxics emissions would decrease by more than 80 percent relative to 2012 levels, despite a 47 percent increase in vehicle miles traveled in the Study Area compared with 2012 conditions (see discussion beginning on page 4-77 of the Final Environmental Impact Statement). The air quality analyses were updated for the Final Environmental Impact Statement, including a quantitative particulate matter (PM10) analysis, and are more fully described beginning on page 4-68 of the Final Environmental Impact Statement. Congestion relief resulting from the proposed freeway would provide localized air quality emissions reductions on area freeways and arterial streets and at interchanges, benefiting users of area highways and those living near congested roads. To the extent this comment suggests that a health risk assessment is required, the Arizona Department of Transportation and Federal Highway Administration respectfully disagree, as explained in response code #14.

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<td>Response Appendix</td>
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| 31   | Environmental Justice | Executive Order 12898 and Title VI of the Civil Rights Act of 1964 are discussed on pages 4-29 through 4-38 of the Draft Environmental Impact Statement and pages 4-29 through 4-45 of the Final Environmental Impact Statement. As detailed in the Draft Environmental Impact Statement, there would be no distinct disproportionately high and adverse impacts on minority populations, low-income populations, and/or indigenous environmental justice populations or disparate impacts to minority groups protected by Title VI, such as additional mitigation, beyond the mitigation measures proposed in the Draft and Final Environmental Impact Statements, is not required. See Environmental Justice and Title VI, beginning on page 4-29 of the Draft and Final Environmental Impact Statements. The beneficial and adverse effects of the project on the overall population, and on minority, low-income, and indigenous environmental justice populations or disparate impacts to minority groups protected by Title VI, were reviewed for in the sections of the Draft Environmental Impact Statement pertaining to Land Use, Social Conditions, Displacements and Relocations, Economic Impacts, Air Quality, Noise, Cultural Resources, Visual Resources, Prime and Unique Farmlands, and Temporary Construction Impacts. The impacts of the various alternatives on the overall population as well as minority, low-income, and indigenous environmental justice populations or disparate impacts to minority groups protected by Title VI were also addressed. The conclusions were summarized in the section "Environmental Justice and Title VI", beginning on page 4-29 of the Final Environmental Impact Statement. In light of the comments received, the environmental justice and Title VI analyses in the Draft Environmental Impact Statement were reviewed, and the Final Environmental Impact Statement has been revised to discuss environmental justice and Title VI separately and to clarify how the conclusions in the Environmental Justice and Title VI section were reached. | (Response 31 continues on next page)
Impacts to Aquatic Resources

All of the Western Section alternatives involve placing a roadway bridge over the Salt River and the construction of piers in the channel, with stated impacts varying from 17 to 26 acres depending on which alternative is chosen. The Salt River channel functions as a surface water conveyance system and provides attenuation of flood flows, as well as sediment and nutrient retention from discharge flows, thus serving a valuable water quality function. The Eastern Section alternative involves potential filling of 51 ephemeral washes that originate in the Phoenix South Mountain Park and drain to the south or west, with a potential hydrological connection to the Gila River. Ephemeral washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Washes provide hydrologic connectivity within the watershed, facilitating the movement of water, sediment, nutrients, wildlife, and plant propagules throughout the watershed. Washes are responsible for a large portion of basin ground-water recharge in arid and semi-arid regions through channel infiltration and transmission losses. These ephemeral systems contribute to the biogeochemical functions of waters within their watershed by storing, cycling, transforming, and transporting elements and compounds. Ephemeral washes also provide habitat for breeding, shelter, foraging and movement of wildlife.8

The DEIS does not provide sufficient information to determine accurate impacts to aquatic resources. Acreage of waters impacted appears to be estimated and not accurately delineated. While the DEIS states that all waters were determined to be jurisdictional in 2003, a current jurisdictional determination by the U.S. Army Corps of Engineers (Corps) has not been made. Furthermore, the DEIS does not provide an estimate of the indirect effects to waters that may result from the proposed project. The project proposes to alter the natural surface hydrology though the construction of detention basins and diversions around the freeway to convey and store stormwater originating upgradient of the freeway as well as from the freeway itself. The elimination of washes on the northern side of the freeway may result in additional lost acreage of waters to the south. Other potential indirect effects include: 1 changes to hydrology; 2 changes to sediment transport; 3 decreases in water quality/quantity from the impairment of floodplain and ecosystem services including water filtration, groundwater recharge, and flood attenuation; 4 disruption of hydrological and ecological connectivity; 5 loss of wildlife and plant habitat due to the consolidation and elimination of washes; and 5 decreases in biodiversity and ecosystem stability.

Clean Water Act Compliance

The basic premise of the Clean Water Act Section 404 permitting program is that no discharge of dredged or fill material into waters of the United States shall be permitted if (1) a practicable alternative exists that is less damaging to the aquatic environment, or (2) the discharge would cause the nation’s waters to be significantly degraded (40 CFR 230). When applying for a Section 404 permit, an applicant must demonstrate that the proposed action is the least environmentally damaging (LEDPA), while also not causing or contributing to significant degradation of the aquatic ecosystem.

As described in the DEIS, the preferred alternative, W59, impacts 26 acres of the Salt River Channel, as compared with 19 acres and 17 acres for the other two alternatives. The DEIS states that the W59 alternative will ultimately have minimal impacts to waters since it involves placing only bridge piers in the river channel. However, the DEIS does not evaluate the specific impacts under each alternative or demonstrate how the preferred alternative, despite having a greater acreage of impacts, is the LEDPAt. Additionally, the current alternative analysis does not address the impacts to the functional values of waters that would be impacted under each alternative, and does not include an analysis of design crossings (e.g., bridges and culverts) to address avoidance and minimization of impacts.

**Recommendations:**
- Include the findings of a Corps of Engineers’ verified jurisdictional delineation for the project.
- Include an alternatives analysis which demonstrates that the preferred alternative is the least environmentally damaging practicable alternative, including an analysis of indirect impacts to waters.
- Include a functional assessment of impacted waters for each alternative, discuss how those functions will be impacted, and explore mitigation measures to maintain functions.
- Provide hydrological modeling to demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes, or the excavation of large amounts of sediment.
- Provide a comprehensive discussion of mitigation measures, including:
  - A description of how impacts will be avoided or minimized.
  - Consideration of a commitment to maintain natural washes, in their present location and natural form and including adequate natural buffers, to the maximum extent practicable.
  - An analysis of avoidance and minimization options for each alternative, such as the use of bridges and soft bottom culverts.
  - A mitigation plan to compensate for any unavoidable impacts to waters of the United States.

**Wildlife Habitat and Connectivity**

The DEIS recognizes that there is growing support for maintaining habitat connectivity as it pertains to wildlife movement, and notes that significant work has already been completed in Arizona to identify essential landscape linkages for wildlife. The DEIS identifies the Salt River, as well as the area between South Mountain and the Sierra Estrella Mountains, as potentially important linkage areas for wildlife movement in the project area. The DEIS further acknowledges that the proposed freeway would cross the Salt River in an area proposed for future habitat restoration. This restoration project, known as the Rio Salado Oeste project, is a major river restoration project that would result in a continuous riparian corridor, connecting riparian and wetland habitats downstream with similar areas upstream. Currently, riparian areas in this stretch of the river are limited, and include the adjacent Pee Posh wetland and bald eagle breeding area, as well as several gravel pit ponds. The DEIS does not clearly demonstrate how the project alternatives could adversely affect these wildlife corridors and proposed restoration activities, or how impacts to these features will be addressed. Further, the DEIS provides little discussion of the many opportunities for the project to enhance habitat connectivity in the project area through the use of wildlife overcrossings, exclusionary fencing, and other design commitments that have been successful in facilitating the safe movement of wildlife across other Arizona roadway projects. This is particularly important in light of the projects proposal to cut through multiple

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<th>Code</th>
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<tr>
<td>32</td>
<td>Waters of the United States</td>
<td>As required under 33 Code of Federal Regulations § 323.3, as and documented on page 108 of the Draft Environmental Impact Statement, a commitment was made between publication of the Draft Environmental Impact Statement and Final Environmental Impact Statement to revisit the field delineation of waters of the United States. The results of this effort are discussed in the prologue to the Final Environmental Impact Statement (page xvi) and are more fully described on page 4-116 of the Final Environmental Impact Statement. A field delineation of jurisdictional waters for the Preferred Alternative (E1 and W59) was conducted in the summer of 2013 to identify jurisdictional waters and to define the jurisdictional limits for the Clean Water Act Section 404 permitting. A preliminary jurisdictional determination was submitted to the U.S. Army Corps of Engineers in January 2014 in accordance with U.S. Army Corps of Engineers and Arizona Department of Transportation guidelines. The U.S. Army Corps of Engineers approved the jurisdictional determination in March 2014. The U.S. Army Corps of Engineers has been engaged in the environmental impact statement process for the proposed action since its inception (earl comments as part of the scoping process, as an example, are cited on page 6-3 of the Draft Environmental Impact Statement). As a cooperating agency, the U.S. Army Corps of Engineers has had regular representation at project meetings, has reviewed early versions of the purpose and need and alternatives chapters, and has collaborated closely with the project team in assessing pertinent impacts. This is discussed on page 3-27 of the Draft Environmental Impact Statement, under the section, Compliance with Section 404(b)(1) Guidelines, as well as in the agency’s lack of substantive comments on the Administrative Draft Environmental Impact Statement. In short, the U.S. Army Corps of Engineers has been an active participant in and supportive of the environmental impact statement process undertaken.</td>
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<tr>
<td>33</td>
<td>Waters of the United States</td>
<td>According to Clean Water Act Section 404(b)(1), the U.S. Army Corps of Engineers is required to select the least environmentally damaging practicable alternative after considering cost, existing technologies, and logistics in light of the overall project purpose, in cases where an individual permit is required. As noted on page 4-110 of the Draft Environmental Impact Statement, the U.S. Army Corps determined that the Preferred Alternative in the proposed action (as required by Section 404(b)(1). Based on the results of the field delineation of waters of the United States conducted during the summer of 2013 and subsequent consultation with the U.S. Army Corps of Engineers, disturbances to individual jurisdictional waters were confirmed to require an individual permit for the proposed action (see page 4-118 of the Final Environmental Impact Statement). However, only washes within the E1 Alternative would require an individual permit. Disturbances to jurisdictional waters caused by construction of the Western Section action alternatives would be within the limits for Nationwide Permit Number 14, Linear Transportation Projects. Furthermore, the Draft Environmental Impact Statement concluded that, although the area of impact for the Preferred Alternative in the Western Section is higher than the other action alternatives when comparing the acreage of the bridge design needed to cross the water, the actual physical impact on jurisdictional waters in the region would be negligible because the only permanent disturbances would be from bridge pier placement. This is because the smaller pier placements would occupy far less area than the acreage numbers based on the area of the bridge design needed to cross the waterways that were the source of comparison between right-of-way footprints among action alternatives in the Draft Environmental Impact Statement. As noted on page 4-117 of the Final</td>
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As described in the DEIS, the preferred alternative, W59, impacts 26 acres of the Salt River Channel, as compared with 19 acres and 17 acres for the other two alternatives. The DEIS states that the W59 alternative will ultimately have minimal impacts to waters since it involves placing only bridge piers in the river channel. However, the DEIS does not evaluate the specific impacts under each alternative or demonstrate how the preferred alternative, despite having a greater acreage of impacts, is the LEAPDA. Additionally, the current alternative analysis does not address the impacts to the functional values of waters that would be impacted under each alternative, and does not include an analysis of design crossovers (e.g., bridges and culverts) to address avoidance and minimization of impacts.

Recommendations:
- Include the findings of a Corps of Engineers’ verified jurisdictional delineation for the proposed project.
- Include an alternatives analysis which demonstrates that the preferred alternative is the least environmentally damaging practicable alternative, including an analysis of indirect impacts to waters.
- Include a functional assessment of impacted waters for each alternative, discuss how those functions will be impacted, and explore mitigation measures to maintain functions.
- Provide hydrological modeling to demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes, or the excavation of large amounts of sediment.
- Provide a comprehensive discussion of mitigation measures, including:
  - A description of how impacts will be avoided or minimized.
  - Consideration of a commitment to maintain natural washes, in their present location and natural form and including adequate natural buffers, to the maximum extent practicable.
  - An analysis of avoidance and minimization options for each alternative, such as the use of bridges and soft bottom culverts.
  - A mitigation plan to compensate for any unavoidable impacts to waters of the United States.

Wildlife Habitat and Connectivity

The DEIS recognizes that there is growing support for maintaining habitat connectivity as it pertains to wildlife movement, and notes that significant work has already been completed in Arizona to identify essential landscape linkages for wildlife. The DEIS identifies the Salt River, as well as the area between South Mountain and the Sierra Estrella Mountains, as potentially important linkage areas for wildlife movement in the project area. The DEIS further acknowledges that the proposed freeway would cross the Salt River in an area proposed for future habitat restoration. This restoration project, known as the Rio Salado Oeste project, is a major river restoration project that would result in a continuous riparian corridor, connecting riparian and wetland habitats downstream with similar areas upstream. Currently, riparian areas in this stretch of the river are limited, and include the adjacent Peck Slough wetland breeding area, as well as several gravel pit ponds. The DEIS does not clearly demonstrate how the project alternatives could adversely affect these wildlife corridors and proposed restoration activities, or how impacts to these features will be addressed. Further, the DEIS provides little discussion of the many opportunities for the project to enhance habitat connectivity in the project area through the use of wildlife crossings, exclusionary fencing, and other design commitments that have been successful in facilitating the safe movement of wildlife across other Arizona roadway projects. This is particularly important in light of the projects proposal to cut through multiple wetlands bald eagle breeding area, as well as several gravel pit ponds. The DEIS does not clearly delineations approved by the U.S. Army Corps of Engineers).

The lack of prudent and feasible alternatives to the E1 Alternative means that avoidance of waters of the United States would not be practicable; therefore, in consultation with the U.S. Army Corps of Engineers during project design, minimization of impacts would be achieved and unavoidable impacts would be mitigated to the extent reasonable and practicable. These steps are outlined beginning on page 4-118 of the Final Environmental Impact Statement and the U.S. Army Corps of Engineers has concurred with this approach.

As noted on page 4-107 of the Draft Environmental Impact Statement, if an action alternative were to become the Selected Alternative, it would need comprehensive hydrologic, hydraulic, sediment transport, and erosion-related assessments regarding potential 100-year flood effects associated with ephemeral washes. Results would provide information necessary to make a determination regarding what mitigation measures would need to be implemented. Measures may include physical structures associated with the freeway such as culverts. These measures would be determined during the design phase.
### Code 37: Biological Resources/Waters of the United States

- Riparian and wetland habitat would be replaced in compliance with the Section 404 Clean Water Act nationwide permit received for the proposed action in the Salt River, as required by 33 Code of Federal Regulations § 323.3. This information is noted on page 4-118 of the Final Environmental Impact Statement. As noted on page 4-15 of the Draft Environmental Impact Statement, the City of Phoenix is aware of, has planned for, and has incorporated the proposed South Mountain Freeway in the City of Phoenix General Plan and in conceptual plans for the Rio Salado Oeste project (see Project Features Map in Appendix 4-8 of the Final Environmental Impact Statement). As noted on page 4-15 of the Draft Environmental Impact Statement and as agreed upon by the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix, the project team would continue to consult with those entities to coordinate design efforts to minimize impacts on the proposed uses of the Rio Salado Oeste project (see Appendix 4-8 of the Final Environmental Impact Statement).

### Code 38: Scoping

- Early and open scoping pursuant to 40 Code of Federal Regulations § 1501.7 is documented throughout the Draft and Final Environmental Impact Statements. Coordination efforts with the U.S. Fish and Wildlife Service and Arizona Game and Fish Department are documented throughout the Biological Resources section of the Final Environmental Impact Statement. Connectivity is planned to allow wildlife movement beneath the freeway. This is described in the text box, "Habitat Connectivity and the Proposed Action", on page 4-137 and in the section, Habitat Connectivity, on page 4-137 of the Final Environmental Impact Statement. Crossing structures are planned along major movement corridors (see Figure 4-38, on page 4-126, and the discussion on page 4-137 of the Final Environmental Impact Statement) and would provide connectivity between the South Mountains and the Sierra Estrella. Wildlife-friendly culvert design information would be considered during the design of the drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement). The Federal Highway Administration and Arizona Department of Transportation have submitted the Biological Evaluation to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and Gila River Indian Community's Department of Environmental Quality to continue coordination regarding wildlife concerns as a result of the freeway's potential implementation.

### Code 39: Biological Resources

- The National Environmental Policy Act does not require the proposed action to improve the baseline condition. In correspondence, the Arizona Game and Fish Department (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor and that future planned development in the areas affected (supported by data presented in the sidebar, "Existing versus planned land use", on page 4-3 of the Final Environmental Impact Statement, showing the projected conversion of land in the Study Area to nonagricultural uses) will continue to inhibit movement between the South Mountains and the Sierra Estrella. Further, the comment requests enhancement of movement corridors, which indicates the historic habitat has already been adversely affected. Therefore, the current state of habitat limits is the baseline condition under consideration. It is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions. Text beginning on page 4-138 of the Final Environmental Impact Statement discusses mitigation commitments for the proposed action, including continued coordination with the U.S. Fish and Wildlife Service and Arizona Game and Fish Department on wildlife crossing design.

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**Recommendations:**

- Provide additional qualitative information on any unavoidable impacts to wildlife movement corridors and proposed restoration activities in the Salt River.
- Document coordination with Fish and Wildlife Service and Arizona Department of Game and Fish regarding appropriate avoidance, wildlife crossings, and mitigation measures to address these impacts.
- Include specific design commitments that: 1) remove wildlife movement barriers; 2) enhance use of identified wildlife corridors; and 3) provide crossings with suitable habitat and topography to accommodate multiple species.
- Describe specific project elements that would be constructed to enable wildlife connectivity, including types of features and approximate locations.
- Commit to replacing any riparian and wetland habitat anticipated to be lost as a result of this project prior to project construction in order to avoid impacting occupancy and productivity of the adjacent Pec Posh bald eagle breeding area.
- Provide further details regarding how stormwater runoff from the proposed freeway could be used in irrigating future restoration projects.

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The ridgelines of South Mountain in an area known to be the last remaining connection for wildlife to move between South Mountain and the Sierra Estrella Mountains.

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Existing versus planned land use

- Beginning on page 4-3 of the Final Environmental Impact Statement, the City of Phoenix General Plan and in conceptual plans for the Rio Salado Oeste project (see Project Features Map in Appendix 4-8 of the Final Environmental Impact Statement). As noted on page 4-15 of the Draft Environmental Impact Statement and as agreed upon by the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix, the project team would continue to consult with those entities to coordinate design efforts to minimize impacts on the proposed uses of the Rio Salado Oeste project (see Appendix 4-8 of the Final Environmental Impact Statement).

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ridgelines of South Mountain in an area known to be the last remaining connection for wildlife to move between South Mountain and the Sierra Estrella Mountains.

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- Describe specific project elements that would be constructed to enable wildlife connectivity, including types of features and approximate locations.
- Commit to replacing any riparian and wetland habitat anticipated to be lost as a result of this project prior to project construction in order to avoid impacting occupancy and productivity of the adjacent Pee Posh bald eagle breeding area.
- Provide further details regarding how stormwater runoff from the proposed freeway could be used in irrigating future restoration projects.

These elements are discussed on pages 4-137 and 5-27 of the Final Environmental Impact Statement. Potential locations of multiuse crossings are presented in Figure 4-38 on page 4-126 of the Final Environmental Impact Statement.

The general and special conditions of the Section 404 Individual Permit obtained pursuant to 33 Code of Federal Regulations § 323.3 would minimize impacts on waters of the United States to the extent practicable. The Bald and Golden Eagle Protection Act protects bald eagles in the Study Area. Riparian and wetland habitat would be replaced in compliance with any Clean Water Act permit conditions as noted beginning on page 4-118 of the Final Environmental Impact Statement. This compliance is sufficient for the purposes of the environmental impact statement process. The Pee Posh bald eagle breeding area is discussed in the Draft Environmental Impact Statement on page 4-124, but not by name. The eagle information has been updated based on comments received on the Draft Environmental Impact Statement and may be found on page 4-136 of the Final Environmental Impact Statement; however, the discussion of impacts resulting from the action alternatives is largely unchanged from page 4-124 of the Draft Environmental Impact Statement. Namely, although the action alternatives are not expected to affect the nesting activities of these eagles because of the project’s distance from the nest, the project may affect their foraging behavior along the Salt River when foraging opportunities exist near action alternatives.

As discussed on page 4-125 of the Draft Environmental Impact Statement, the City of Phoenix and U.S. Army Corps of Engineers have anticipated a South Mountain Freeway crossing of the Rio Salado Oeste restoration project and view stormwater runoff from the proposed freeway as an opportunity to “irrigate” the river habitat. Also as discussed on page 4-125 of the Draft Environmental Impact Statement, as planning would progress, the City of Phoenix and U.S. Army Corps of Engineers have agreed to coordinate with the Arizona Department of Transportation on enhancement opportunities for the proposed action (see Appendix 4-8 in the Final Environmental Impact Statement).
Comment noted. Responses to specific comments are provided on the following pages.
The Gila River Indian Community (Community or GRIC) submits its comments on the Draft Environmental Impact Statement (DEIS) for the proposed South Mountain 202 Freeway Project (Project). The Community is a Federally-recognized Indian Nation located south of Phoenix, Arizona, with reservation lands encompassing approximately 372,000 acres and approximately 21,000 enrolled members. The eastern section of the proposed Project is adjacent to the Community’s Reservation border.

In February 2012, the Community held a referendum to allow tribal members to vote on whether the eastern portion of the Project should be built on Community land, be built off Community land, or not be built at all. Community members voted in favor of the Arizona Department of Transportation (ADOT) not building the Project. Therefore, it is the firm position of the Community that ADOT should select the No-Action Alternative to avoid irreversible impacts to cultural resources and Traditional Cultural Properties (TCPs) and to protect the health, safety, welfare, and environment of the Community and its members.

While the Community maintains its position that ADOT should not build the Project, as discussed in more detail in Sections II and III below, the Community also believes that the DEIS is deficient in several key respects. First, ADOT has failed to adequately analyze an alternative that avoids impacts to South Mountain. Second, the DEIS fails, in many environmental resource areas, to adequately analyze the impacts of the Project on the Community’s Reservation and its members.

1. **GRIC SUPPORTS THE NO ACTION ALTERNATIVE**

The Community has significant concerns regarding the impacts of the Eastern Section of the Project on the Community’s environment, cultural resources, and TCPs. Unlike the Western Section of the Project, where ADOT studied five alternative alignments, the DEIS studied only one alignment in the Project’s Eastern Section. The Eastern Alignment alternative, known as E-1, travels along the northern boundary of the Community’s Reservation. Because the DEIS fails to include any other build alternatives in the Eastern Section, the No Action Alternative is the only alternative evaluated in the DEIS that will provide adequate protections to the Community and its resources.

Alternative E-1 will have an acceptable impact on South Mountain, one of the Community’s most significant and important TCPs that figure prominently in oral traditions of the Community. Traditional cultural properties are defined as historic sites that are important because of “their association with cultural practices or beliefs of a living community that (a) are noted in the community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (National Register Bulletin 38). In addition, as identified in the DEIS, the cultural significance of South Mountain causes it to be protected under Section 106 of the National Historic Preservation Act.

2

**Comment noted. Specific comments are addressed below.**

3 **Alternatives**

Several action alternatives were subject to the alternatives development and screening process; not just the E1 Alternative and alternatives located on the Community (Figure 3-6 on page 3-10 of the Final Environmental Impact Statement illustrates a representation of such alternatives).

Ultimately, the other alternatives (besides the E1 Alternative) were eliminated from further study in the screening process and the Gila River Indian Community decided not to give permission to develop alternatives on its land (see Final Environmental Impact Statement page 3-25). The E1 Alternative when combined with the W59, W71, and W101 (and its options) Alternatives in the western section represents three distinct action alternatives from project termini to project termini, and therefore, represents a full range of reasonable alternatives for detailed study in the Draft and Final Environmental Impact Statements.

Therefore, the Arizona Department of Transportation, with concurrence from the Federal Highway Administration, identified the E1 Alternative as the eastern section of the Preferred Alternative (which includes the W59 Alternative in the western section of the Study Area). In reaching its determination, the Arizona Department of Transportation sought to balance its responsibilities to address regional mobility needs while being fiscally responsible and sensitive to local communities.

The comment stating the Draft Environmental Impact Statement’s failure to address many environmental resource areas is addressed by specific comments appearing below.

4 **Alternatives**

The No-Action Alternative was included in the Draft and Final Environmental Impact Statements for detailed study to compare impacts of the action alternatives with the consequences of doing nothing (impacts can result from choosing to do nothing). As stated on page 3-40 of the Final Environmental Impact Statement, the No-Action Alternative would not satisfy the purpose and need of the proposed action because it would result in further difficulty in gaining access to adjacent land uses, increased difficulty in gaining access to Interstate and regional freeway systems from the local arterial street network, increased levels of congestion-related impacts, continued degradation in performance of regional freeway-dependent transit services, increased trip times, and higher user costs. Further, the No-Action Alternative would be inconsistent with Maricopa Association of Governments’ and local jurisdictions’ long-range planning and policies.
Since the beginning of the environmental impact statement process, the Federal Highway Administration and Arizona Department of Transportation have been carrying out cultural resources studies and engaging in ongoing dialogue with the Gila River Indian Community Tribal Historic Preservation Office regarding the identification and evaluation of places of religious and cultural importance to the tribe that may be adversely affected by the proposed freeway. Such places are referred to as traditional cultural properties. As a result of these discussions and of studies conducted by the Gila River Indian Community’s Cultural Resource Management Program, the Gila River Indian Community has identified traditional cultural properties that are eligible for listing in the National Register of Historic Places. In certain cases, listing these properties on the National Register of Historic Places may offer them protection under Section 4(f) of the Department of Transportation Act. The traditional cultural properties identified are culturally important to other Native American tribes as well. For more discussion of traditional cultural properties, see the section, Cultural Resources, beginning on page 4-140 of the Final Environmental Impact Statement and pages 5-26 through 5-28.

Section 106 of the National Historic Preservation Act requires a government-to-government relationship between the Federal Government and Indian tribes as described beginning on page 4-140 of the Final Environmental Impact Statement. Section 106 requires that federal agencies take into account the effects of their undertakings on historic properties. This process requires consultation with tribal authorities. Consultation has occurred with Gila River Indian Community government officials, the Tribal Historic Preservation Officer, the Cultural Resource Management Program, many different tribal authorities, and the State Historic Preservation Office. The consultation has resulted in concurrence from the Gila River Indian Community Tribal Historic Preservation Office and the State Historic Preservation Office on National Register of Historic Places eligibility recommendations (including traditional cultural properties), project effects, and proposed mitigation and measures to minimize harm. This consultation has been ongoing and will continue until any commitments in a record of decision are completed.

If feasible, avoidance of historic properties is always the Federal Highway Administration and Arizona Department of Transportation's first option. As summarized in Figure 5-2 on page 5-4 of the Final Environmental Impact Statement, numerous alignment adjustments were made to avoid use of existing and planned Section 4(f) resources such as the South Mountains Traditional Cultural Property. Additional information on the South Mountains Traditional Cultural Property (Muhadagi Doag) is provided in the Section 106 consultation letters in Appendix 2-1. This information was included in the confidential traditional cultural property technical report prepared for the study that was not made available to the public. As discussed on page 5-18 of the Final Environmental Impact Statement, many alternatives were examined to avoid the use of the South Mountains Traditional Cultural Property; however, only the E1 Alternative was deemed to be prudent and feasible by the Federal Highway Administration. The U.S. Department of the Interior reviewed the Draft Environmental Impact Statement and commented, "Following our review of the Section 4(f) Evaluation, we concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document, and that all measures have been taken to minimize harm to these resources. Please note, however, that this concurrence is contingent upon successful completion of the Programmatic Agreement among the consulting parties." (See page B4 in Appendix 7, Volume III, of the Final Environmental Impact Statement.)
South Mountain (also known as Mountain Home, South Mountain's traditional name from the story of creation) stands prominently within the landscape of the Community's Reservation, and is central to the Community's traditional and spiritual respect for the natural mountain and vast ecosystem. Community elders have reaffirmed valuable cultural information regarding tribal members' use of the South Mountain area through oral tradition, which continuously updates and removes the tribe's ties with the land through stories and songs.

The physical impact on land designated as part of the South Mountains has been minimized through design, and much has already been done to mitigate that effect. Access to the mountain would be maintained and multiple other mitigation measures would be implemented due in part to suggestions made by the Gila River Indian Community itself. The proposed mitigation for the South Mountains Traditional Cultural Property is discussed in the Final Environmental Impact Statement on page 4-134, and measures to minimize harm to the South Mountains Traditional Cultural Property are discussed on page 5-27 of the Final Environmental Impact Statement.

The Gila River Indian Community coordinated referendum and its results are described on page 2-8 of the Final Environmental Impact Statement. Section 106 of the National Historic Preservation Act requires a government-to-government relationship between the Federal Government and Indian tribes as discussed beginning on page 4-140 of the Final Environmental Impact Statement. Section 106 requires that federal agencies take into account the effects of their undertakings on historic properties. This process requires consultation with tribal authorities. Consultation has occurred with Gila River Indian Community government officials, the Tribal Historic Preservation Officer, the Cultural Resource Management Program, many different tribal authorities, and the State Historic Preservation Office. The consultation has resulted in concurrence from the Gila River Indian Community Tribal Historic Preservation Office and the State Historic Preservation Office on National Register of Historic Places eligibility recommendations (including traditional cultural properties), project effects, and proposed mitigation and measures to minimize harm. This consultation has been ongoing and will continue until any commitments in a record of decision are completed.

The Final Environmental Impact Statement, after consultation and coordination efforts, accommodates and preserves (to the fullest extent possible from the available alternatives) access to the South Mountains for religious practices. A very small portion of the mountain would be impacted by the proposed freeway (less than 0.03 percent of the total area). Although the Final Environmental Impact Statement describes the impact on the South Mountains as adverse, Native Americans would not be kept from practicing their beliefs, access to the mountain would be maintained, and mitigation measures would be implemented based on input from members of the Community.

As discussed on page 4-186 of the Final Environmental Impact Statement, the proposed action may contribute to cumulative cultural resources impacts. However, the proposed action and other major planned transportation projects would potentially create preservation in place (enhancement) opportunities not typically associated with private-sector development projects. The opportunity to preserve in place would be the result of federal and State regulations promoting preservation of such resources when associated with a publicly funded project; these federal and State regulations generally are not applied to privately funded projects. Although the types of impacts would be typical of those experienced in constructing and operating other parts of the region's freeway system, some of these impacts would be effectively mitigated through the implementation of enhancement and management plans and other strategies.
The Federal Highway Administration and Arizona Department of Transportation have listened closely to members of the Gila River Indian Community and their concerns. A summary of this information is provided in the Final Environmental Impact Statement on page 4-141. As acknowledged in the comment, the identification of the two prehistoric villages, Villa Buena [AZ T:12:9 (ASM)] and Pueblo del Alamo [AZ T:12:52 (ASM)], and the South Mountains Traditional Cultural Property and contributing components, the assessment of the importance of these properties to the Gila River Indian Community, and the assessment of impacts on these properties included consultation with staff from the Gila River Indian Community’s Tribal Historic Preservation Office and Cultural Resource Management Program and resulted in the concurrence of the Gila River Indian Community at each of these steps (see Table 4-47 beginning on page 4-145 of the Final Environmental Impact Statement). Adverse effects on Villa Buena and Pueblo del Alamo, two traditional cultural properties in the western portion of the Study Area, would be prevented through implementation of an enhancement and management plan developed in consultation with the Gila River Indian Community’s Tribal Historic Preservation Officer and Cultural Resource Management Program (see 4-143 of the Final Environmental Impact Statement).

Cultural Resources

Although some modern impacts have occurred since the establishment of the City of Phoenix, the South Mountain range continues to hold its religious and cultural significance. Each of the

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Section 106 requires federal agencies to consider the effects of their actions on historic properties (such as the South Mountains Traditional Cultural Property) and provide the Advisory Council on Historic Preservation an opportunity to comment on federal projects prior to implementation. As outlined in Title 36 of the Code of Federal Regulations, Part 800, “Protecting Historic Properties,” the National Historic Preservation Act Section 106 review process encourages, but does not mandate, protection or preservation. Sometimes there is no way for a needed project to proceed without harming historic properties (such as the South Mountains Traditional Cultural Property). As described in the Final Environmental Impact Statement, Sections 2, 3, and 5, the examination of possible avoidance alternatives was comprehensive.

Section 106 review does, however, ensure that preservation values are factored into federal agency planning and decisions. Because of Section 106, federal agencies must assume responsibility for the consequences of their actions on historic properties and be publicly accountable for their decisions. The Final Environmental Impact Statement fully discloses those consequences in Chapter 4, Affected Environment, Environmental Consequences, and Mitigation, and in Chapter 5, Section 4(f) Evaluation. If feasible, avoidance of historic properties is always the Federal Highway Administration and Arizona Department of Transportation’s first option. As summarized in Figure 5-2 on page 5-4 of the Final Environmental Impact Statement, numerous alignment adjustments were made to avoid use of existing and planned Section 4(f) resources such as the South Mountains Traditional Cultural Property. As discussed on page 5-18 of the Final Environmental Impact Statement, many alternatives were examined to avoid the use of the South Mountains Traditional Cultural Property; however, none of these alternatives were deemed to be prudent and feasible by the Federal Highway Administration. The Department of the Interior reviewed the Draft Environmental Impact Statement and commented, “Following our review of the Section 4(f) Evaluation, we concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document, and that all measures have been taken to minimize harm to these resources. Please note, however, that this concurrence is contingent upon successful completion of the Programmatic Agreement among the consulting parties.” (See page B4 in Appendix 7, Volume III, of the Final Environmental Impact Statement.)

The physical impact on land designated as part of the South Mountains has been minimized through design and much has already been done to mitigate that effect. Access to the mountain would be maintained and multiple other mitigation measures would be implemented due in part to suggestions made by the Gila River Indian Community itself.

For example, the Federal Highway Administration and Arizona Department of Transportation made a commitment to provide funds for the Gila River Indian Community to conduct a full evaluation of the South Mountains Traditional Cultural Property;see pages 4-147 and 4-158 of the Draft and Final Environmental Impact Statements, respectively). Documentation of these efforts is in a letter from the Lieutenant Governor of the Gila River Indian Community to the Administrator of the Arizona Division of the Federal Highway Administration, dated June 23, 2010 (see page A348 of Appendix 2-1 of the Final Environmental Impact Statement). In this letter, the Gila River Indian Community submitted a proposal for the “Evaluation of Traditional Cultural Property and Adverse Effects of Transportation Corridor Development posed by the proposed construction of the current Pecos Alignment of the South Mountain Freeway.” The proposed mitigation for the South Mountains Traditional Cultural Property is discussed in the Final Environmental Impact Statement on page 4-145, and measures to minimize harm to the South Mountains Traditional Cultural Property are discussed on page 5-27 of the Final Environmental Impact Statement.
Alternatives

Several action alternatives were subject to the alternatives development and screening process, not just the E1 Alternative and alternatives located on the Community (Figure 3-6 on page 3-10 of the Final Environmental Impact Statement illustrates a representation of such alternatives).

Ultimately, the other alternatives (besides the E1 Alternative) were eliminated from further study in the screening process and the Gila River Indian Community decided not to give permission to develop alternatives on its land (see Final Environmental Impact Statement page 3-25). The E1 Alternative when combined with the W59, W71, and W101 (and its options) Alternatives in the western section represents three distinct action alternatives from project termini to project termini, and therefore, represents a full range of reasonable alternatives for detailed study in the Draft and Final Environmental Impact Statements.

Therefore, the Arizona Department of Transportation, with concurrence from the Federal Highway Administration, identified the E1 Alternative as the eastern section of the Preferred Alternative (which includes the W59 Alternative in the western section of the Study Area). In reaching its determination, the Arizona Department of Transportation sought to balance its responsibilities to address regional mobility needs while being fiscally responsible and sensitive to local communities. In addition, throughout the study process, the No-Action Alternative was studied in detail. The No-Action Alternative would avoid the types of impacts the action alternatives would cause on the South Mountains.

If feasible, avoidance of historic properties is always the Federal Highway Administration and Arizona Department of Transportation's first option. As summarized in Figure 5-2 on page 5-4 of the Final Environmental Impact Statement, numerous alignment adjustments were made to avoid use of existing and planned Section 4(f) resources. As discussed on page 5-18 of the Final Environmental Impact Statement, many alternatives were examined to avoid the use of the South Mountains Traditional Cultural Property; however, none of these alternatives were deemed to be prudent and feasible by the Federal Highway Administration. The Department of the Interior reviewed the Draft Environmental Impact Statement and commented, “Following our review of the Section 4(f) Evaluation, we concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document, and that all measures have been taken to minimize harm to these resources. Please note, however, that this concurrence is contingent upon successful completion of the Programmatic Agreement among the consulting parties.” (See page B4 of Appendix 7, Volume III, of the Final Environmental Impact Statement.)

The physical impact on land designated as part of the South Mountains has been minimized through design, and much has already been done to mitigate that effect. Access to the mountain would be maintained, and multiple other mitigation measures would be implemented due in part to suggestions made by the Gila River Indian Community itself. For example, the Federal Highway Administration and Arizona Department of Transportation made a commitment to provide funds for the Gila River Indian Community to conduct a full evaluation of the South Mountains Traditional Cultural Property (see page 4-159 of the Final Environmental Impact Statement). Documentation of these efforts is in a letter from the Lieutenant Governor of the Gila River Indian Community to the Administrator of the Arizona Division of the Federal Highway Administration, dated June 23, 2010 (see page A348 of Appendix 2-1 of the Final Environmental Impact Statement). In this letter, the Gila River Indian Community submitted a proposal for the “Evaluation of Traditional Cultural
Property and Adverse Effects of Transportation Corridor Development posed by the proposed construction of the current Pecos Alignment of the South Mountain Freeway. The proposed mitigation for the South Mountains Traditional Cultural Property is discussed in the Final Environmental Impact Statement on page 4-143, and measures to minimize harm to the South Mountains Traditional Cultural Property are discussed on page 5-27 of the Final Environmental Impact Statement. Chapter 1, Purpose and Need, of the Final Environmental Impact Statement examines the purpose and need for the proposed action in terms of defining a transportation problem. In doing so, assumptions associated with the past need for the freeway were discounted as part of the environmental impact statement process. The results of the purpose and need analyses included the determination that a transportation problem (similar to the type of problem that has been represented in past Regional Transportation Plans) still exists in the area and that this problem is similar to transportation problem that existed in prior years. The alternatives analyses considered numerous modal alternatives, and it was concluded through the screening process that a road facility would be the appropriate modal choice to address the transportation problem defined.

The analyses in the Draft Environmental Impact Statement used socioeconomic and traffic projections at the regional analysis zone and traffic analysis zone levels. At the time of publication of the Draft Environmental Impact Statement, Census 2010-based socioeconomic data at the regional analysis zone and traffic analysis zone levels had not been adopted by the Maricopa Association of Governments and were not available to the project team. Therefore, the data used in the Draft Environmental Impact Statement were the most appropriate information available. The Maricopa Association of Governments approved new population, employment, housing, and traffic projections in June 2013. The new data are presented in the Final Environmental Impact Statement beginning on page 1-11. While new projections based on the 2010 Census showed lower anticipated population and vehicle miles traveled in 2035 than the previous projections, the need for the freeway has not changed. The traffic analysis demonstrated that the proposed project is needed today and will continue to be needed into the future.

Although the comment indicates that the discussion in the Draft Environmental Impact Statement is too brief, the document is a summary of a series of technical reports that provide sufficient information to convey the process of screening and reasons for elimination consistent with Federal Highway Administration for National Environmental Policy Act implementation. Technical reports are also available for public examination upon request. The alternative development and screening process as described in Chapter 3 was comprehensive in its nature. While alternatives eliminated are summarized in the chapter, the analyses as documented in the supporting project files and Appendices were appropriate and comprehensive.

The complete list of avoidance alternatives for the Section 4(f) resources associated with the South Mountains includes the No-Action Alternative, Gila River Indian Community Alternatives, U.S. Route 60 Extension Alternative, Interstate 10 Spur Alternative (and Options), Riggs Road Alternative, and State Route 85/Interstate 8 Alternative in addition to the Bridge and Tunnel Alternatives. Descriptions of these can be found in the context of the alternatives development and screening process beginning on page 3-9 of the Final Environmental Impact Statement and in the context of avoidance alternatives for the Section 4(f) resources associated with the South Mountains beginning on page 5-16 of the Final Environmental Impact Statement.)
Alternatives

Based on the comment received, the proposed alternative is considered in the alternative screening process presented in the Final Environmental Impact Statement (see text beginning on page 3-7). The proposed alternative, named the US 60 Extension to Interstate 10 (Papago Freeway) in the Final Environmental Impact Statement, would result in similar benefits and impacts as the U.S. Route 60 Extension and Interstate 10 Spur, which were presented in the Draft Environmental Impact Statement. The project team subjected the proposed alternative to the screening process and criteria applied to other alternatives as described in beginning on page 3-3 of the Final Environmental Impact Statement. The project team found the alternative presented in the comment would cause substantial traffic performance impacts on Interstate 10 (Maricopa Freeway) and U.S. State Route 60 (Superstition Freeway), would not address the needs based on regional travel demand and existing and projected transportation system deficiencies (which were updated with Census 2010-based socioeconomic data presented in the Final Environmental Impact Statement beginning on page 1-11), would result in thousands of residential displacements and over one hundred business displacements, would adversely affect the communities in the South Mountain Village by constructing a barrier between schools, parks, and residences, and would not be consistent with local or regional planning. For these reasons, the alternative was eliminated from detailed study (see Table 3-5 on page 3-12 of the Final Environmental Impact Statement).

Alternatives

As noted in the sidebar on page 4-3 of the Final Environmental Impact Statement, impacts on the Gila River Indian Community from the proposed action as presented in the Final Environmental Impact Statement are based on data available to the general public and on field observation as appropriate. Discussions in the Final Environmental Impact Statement are limited to only those areas where impacts would occur. This condition was agreed upon by the Gila River Indian Community and is a response to the level of information made available to the project team by the Gila River Indian Community (see page 2-10 of the Final Environmental Impact Statement).

Air Quality

The Draft and Final Environmental Impact Statements present information and analyses about the proposed action and the enhanced conditions when compared against the No-Action Alternative and document that the proposed action would not cause substantial adverse air quality effects. The Draft and Final Environmental Impact Statements account for potential effects when considering both adverse and beneficial impacts. The Draft and Final Environmental Impact Statements provide in-depth discussion of potential air quality impacts of the proposed alternatives. The carbon monoxide and particulate matter (PM$_{10}$) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. The Draft Environmental Impact Statement provided the results of modeling for each of the seven priority mobile source air toxics, in both the Eastern and Western Subareas, and compared relative mobile source air toxics emissions that would result (Response 12 continues on next page)
from three different potential alternatives (W59, W71, W101) as compared with the No-Action Alternative. It also included modeling of mobile source air toxics emissions in the overall mobile source air toxics study area assuming the W59 Alternative (see pages 4-70 to 4-74 of the Draft Environmental Impact Statement) along with implementation of recent U.S. Environmental Protection Agency mobile source air toxics rules. This analysis was also updated beginning on page 4-77 of the Final Environmental Impact Statement.

Based on the carbon monoxide, particulate matter (PM$_{10}$), and mobile source air toxics analyses, the Federal Highway Administration concluded that the project would not cause substantial adverse impacts on air quality. The carbon monoxide and particulate matter (PM$_{10}$) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. For mobile source air toxics, the analysis showed that for the Study Area, constructing the freeway would have a marginal effect on annual emissions in 2025 and 2035 (less than a 1 percent difference in total annual emissions between the Preferred Alternative and No-Action Alternative). With the Preferred Alternative in 2035, modeled mobile source air toxics emissions would decrease by 57 percent to more than 90 percent, depending on the pollutant, despite a 47 percent increase in vehicle miles traveled in the Study Area compared with 2012 conditions.

The air quality technical report can be reviewed on the project Web site at <southmountainfreeway.com>.

Meteorological information was considered in the air quality analyses [Air Quality Assessment: South Mountain Freeway (SR 202L), dated March 1, 2013] conducted for the proposed action. Data from the Maricopa County Air Quality Department and from the Gila River Indian Community monitoring station were compared with two, 1-month studies conducted during the winter of 2006 and the spring of 2007 along Pecos Road in the Study Area. According to the Arizona Department of Transportation, 2013, Air Quality Assessment South Mountain Freeway 202L Draft Report, review of wind data from the Gila River Indian Community monitoring site at St. Johns suggests that during the morning hours and associated with mountain drainage air flows and stable atmospheric conditions, the wind flows from the southeast and follows the Gila River channel to the north. Locations to the east of St. Johns will tend to have a flow from the easterly component as the air flows from the east to the lower elevations along the Gila River. During the warmer hours with improved mixing, the flows typically follow the river channel and come from the north and northwest toward the south and southeast. Although these warmer-hour flows would move pollutants toward the Gila River Indian Community, as noted earlier, the pollutants would be below the National Ambient Air Quality Standards at their highest concentrations and these low levels of pollutants would continue to disperse as they moved toward the Gila River Indian Community.
The mobile source air toxics analysis presented beginning on page 4-70 of the Draft Environmental Impact Statement and updated beginning on page 4-77 of the Final Environmental Impact Statement is an estimated inventory of mobile source air toxics emissions for the entire Study Area.

The requested information on vehicle miles traveled may be found in the Draft Environmental Impact Statement in Tables 4-34 and 4-35 on pages 4-72 and 4-73, respectfully. The vehicle miles traveled presented in the Draft Environmental Impact Statement were revised with traffic projections provided by the Maricopa Association of Governments in November 2013. These revised vehicle miles traveled are presented in the Final Environmental Impact Statement in Tables 4-34 through 4-36 on pages 4-80 and 4-81.

Air Quality

As discussed on page 4-76 of the Final Environmental Impact Statement, federally funded or approved transportation projects must meet applicable air quality analyses requirements of Section 176(c) of the Clean Air Act. The results of the analysis are summarized in the prelude to the Final Environmental Impact Statement (page xii) and are more fully described beginning on page 4-68 of the Final Environmental Impact Statement. The carbon monoxide and particulate matter (PM$_{10}$) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones.

The analysis performed for mobile source air toxics used an inventory approach, and total tonnages for mobile source air toxics emissions (including diesel particulate matter) may be found in the Draft Environmental Impact Statement, in Tables 4-34 and 4-35 on pages 4-72 and 4-73, and in the Final Environmental Impact Statement in Tables 4-34 through 4-36 on pages 4-80 and 4-81.

Air Quality

As noted on page 4-65 of the Draft Environmental Impact Statement, over 700 locations within the Study Area were modeled at various distances from the proposed road's centerline for existing traffic conditions and roadway configurations for Interstate 10, for major arterial street intersections near the proposed action alternatives, and for areas located at the proposed action alternatives' interchanges. These locations were chosen to meet the criteria for selecting modeling locations as specified in Title 40 Code of Federal Regulations § 93.123(a) and to represent the areas of highest concentrations. The analysis demonstrated that none of the action alternatives would violate the National Ambient Air Quality Standards, including those modeled locations at proposed fully directional interchanges along the Gila River Indian Community boundary.

The air quality analyses were updated for the Final Environmental Impact Statement, including a quantitative particulate matter (PM$_{10}$) analysis, and are more fully described beginning on page 4-68 of the Final Environmental Impact Statement. Despite including conservative background levels, concentrations of air pollutants violating National Ambient Air Quality Standards were not predicted. The carbon monoxide analysis results presented in Table 4-32 on page 4-76 of the Final Environmental Impact Statement and the particulate matter (PM$_{10}$) analysis results presented in Table 4-33 on page 4-77 of the Final Environmental Impact Statement show concentrations at the proposed freeway. Existing levels are represented by the background levels.
The mobile source air toxics analysis conducted for the Final Environmental Impact Statement demonstrated that total mobile source air toxics emissions would decline by 57 percent to more than 90 percent between 2012 and 2035 even though traffic is expected to increase by 47 percent (Final Environmental Impact Statement Table 4-36 on page 4-81). The mobile source air toxics analysis results presented in Tables 4-34 through 4-36 on pages 4-80 and 4-81 of the Final Environmental Impact Statement show emissions predicted with the Preferred (W59/E1) and No-Action Alternatives.

As noted on page 4-62 of the Draft Environmental Impact Statement, the Maricopa County 2008 Periodic Emissions Inventory attributes only 34 percent of particulate matter (PM$_{2.5}$) emissions to on-road mobile sources. Also on page 4-62 of the Draft Environmental Impact Statement, the Federal Highway Administration attributed less than 40 percent of national diesel particulate matter emissions in 1999 to on-road sources.

Although the qualitative particulate matter (PM$_{2.5}$) hot-spot analysis performed in the Draft Environmental Impact Statement met 40 Code of Federal Regulations § 93.111(c), the Arizona Department of Transportation and Federal Highway Administration have updated the qualitative analysis to a particulate matter (PM$_{2.5}$) quantitative analysis for the Final Environmental Impact Statement to ensure that a state-of-the-art analysis is completed for the proposed action. The quantitative project-level particulate matter (PM$_{2.5}$) hot-spot analysis prepared for the proposed project is summarized in the prologue to the Final Environmental Impact Statement (page xii) and is more fully described beginning on page 4-68 of the Final Environmental Impact Statement. The carbon monoxide and particulate matter (PM$_{2.5}$) analyses demonstrated that the proposed freeway would not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones.

A particulate matter (PM$_{2.5}$) analysis (qualitative or quantitative) is not required and was not performed because the area is in attainment for the particulate matter (PM$_{2.5}$) National Ambient Air Quality Standards.
The mobile source air toxics emissions information presented in the Draft and Final Environmental Impact Statements demonstrates that mobile source air toxics emissions at the Study Area level would be much lower in the future. The U.S. Environmental Protection Agency's MOVES model also predicts lower mobile source air toxics emissions in the future. This model includes the effects of various control programs in the generation of emission factors for future years that are considered "reasonably foreseeable" future actions. Because the model includes these emission control programs in the generation of emission factors, it is not possible, and would be unacceptable to the U.S. Environmental Protection Agency, to disable these control program assumptions in the model.

Increases in traffic volumes attributable to a project do not necessarily result in an increase in emissions over time because the U.S. Environmental Protection Agency's emissions control regulations and fleet turnover also play a role. In the U.S. Environmental Protection Agency's MOVES model, emissions rates for mobile source air toxics drop by 80 to 90% between 2012 and 2025. The effects of these reductions are apparent from the mobile source air toxics analysis conducted for the Final Environmental Impact Statement; in the mobile source air toxics study area, total mobile source air toxics emissions would decline by 57 to more than 90% even though traffic is expected to increase by 47 percent (Final Environmental Impact Statement Table 4-36 on page 4-81).

The Draft Environmental Impact Statement provided the results of modeling for each of the seven priority mobile source air toxics, in both the Eastern and Western Subareas, and compared relative mobile source air toxics emissions that would result from three different potential alternatives (W59, W71, W101) as compared with the No-Action Alternative. It also included modeling of mobile source air toxics emissions in the overall mobile source air toxics study area assuming the W59 Alternative (see pages 4-70 to 4-74 of the Draft Environmental Impact Statement) along with implementation of recent U.S. Environmental Protection Agency mobile source air toxics rules.

During the period when the project has been under review, the U.S. Environmental Protection Agency has issued two rules on controlling mobile source air toxics emissions from motor vehicles (66 Federal Register 17229 [March 29, 2001] and 72 Federal Register 8427 [February 26, 2007]). In those rules, the U.S. Environmental Protection Agency examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline program, its national low emission vehicle standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. As a result, the U.S. Environmental Protection Agency adopted controls on gasoline and passenger vehicles that significantly reduce emissions of benzene and other mobile source air toxics such as 1,3-butadiene; formaldehyde; acetaldehyde; acrolein; and naphthalene; as well as significant reductions in emissions of particulate matter from passenger vehicles. On March 3, 2014, the U.S. Environmental Protection Agency also promulgated new "Tier 3" vehicle and fuel regulations, which will produce additional reductions of mobile source air toxics pollutants. Since these reductions have not yet been incorporated into the U.S. Environmental Protection Agency's emissions model, they are not accounted for in the South Mountain Freeway analysis.

While the Federal Highway Administration did not produce stand-alone emissions estimates for the South Mountain Freeway corridor, the carbon monoxide analysis presented on page 4-65 of the Draft Environmental Impact Statement and updated...
on page 4-75 of the Final Environmental Impact Statement represents projected carbon monoxide concentrations along the project corridor, including those proposed interchange locations along the South Mountain Freeway corridor. This also applies to the particulate matter (PM$_{10}$) hot-spot analysis that is discussed on page 4-76 of the Final Environmental Impact Statement. The carbon monoxide and particulate matter (PM$_{10}$) analyses demonstrated that the proposed freeways do not contribute to any new localized violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards or any required interim emissions reductions or other milestones. The mobile source air toxics analysis presented beginning on page 4-70 of the Draft Environmental Impact Statement and updated beginning on page 4-77 of the Final Environmental Impact Statement is an estimated inventory of mobile source air toxics emissions for the entire Study Area. Such an inventory would be incomplete without the inclusion of emissions from other Study Area roads because these roads are within the Study Area and human exposure would be a combination of the emissions from all roads in the Study Area. It is stated on page S-14 of the Final Environmental Impact Statement that “For all action alternatives, increased traffic volumes would produce elevated mobile source air toxic emissions near the proposed action. The action alternatives would reduce congestion and improve regional traffic conditions, which would reduce regional mobile source air toxic emissions. Additionally, overall mobile source air toxic levels would decline from existing levels because of compliance with strategies identified by the U.S. Environmental Protection Agency’s national control programs.”

Health Risk Assessment

The Federal Highway Administration’s National Environmental Policy Act documents are developed under two guiding regulations: the Council on Environmental Quality’s National Environmental Policy Act regulations applicable to all federal agencies (40 Code of Federal Regulations Parts 1500–1508) and the Federal Highway Administration’s implementing regulations governing Federal Highway Administration National Environmental Policy Act documents (23 Code of Federal Regulations Part 771). In its mobile source air toxics guidance, the Federal Highway Administration discusses 40 Code of Federal Regulations Part 1502.22 and acknowledges that while much work has been done to assess the overall health risk of mobile source air toxics, analytical tools and techniques for assessing project-specific health outcomes as a result of lifetime exposures to mobile source air toxics remain limited. These limitations impede the ability to evaluate the potential health risks attributable to exposure to mobile source air toxics as part of the decision-making process in the National Environmental Policy Act context. However, as with any analysis that the Federal Highway Administration conducts for National Environmental Policy Act purposes, the Federal Highway Administration’s approach for mobile source air toxic analysis in National Environmental Policy Act documents is informed not just by 40 Code of Federal Regulations Part 1502.22, but by all applicable Council on Environmental Quality requirements. The appropriateness of air toxics health risk assessment as an analysis method for National Environmental Policy Act documents is discussed below, in the context of Council on Environmental Quality requirements for these documents. In addition to the 40 Code of Federal Regulations Part 1502.22 provisions regarding uncertainty and limitations discussed in the Federal Highway Administration’s MSAT Interim Guidance Appendix C, three other provisions of the Council on Environmental Quality regulations are particularly relevant to the topic of health risk assessment:
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<th>Comment Document</th>
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<tr>
<td>18</td>
<td>40 Code of Federal Regulations § 1500.1(b): NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.</td>
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<td>40 Code of Federal Regulations § 1502.1: An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.</td>
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<td>40 Code of Federal Regulations § 1502.2: (a) Environmental impact statements shall be analytic rather than encyclopedic. (b) Impacts shall be discussed in proportion to their significance. (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations.</td>
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<td>Section 1500.1(b) states that information for decision making must be of high quality and based on accurate scientific analysis. Air toxics health risk assessments can involve large uncertainties. The mobile source air toxic health risk assessment uncertainty builds on itself—each step of the analysis involves uncertainties, including modeling traffic and then modeling emissions, and using this estimated output to model dispersion/concentrations, which provide information for estimating or assuming exposures to those concentrations, and finally predicting health outcomes. Major uncertainties are associated with traffic and emissions projections over a 70-year period, and dispersion models are typically held to a “factor of 2” performance standard. Health impacts of mobile source air toxics in the U.S. Environmental Protection Agency Integrated Risk Information System are based on a 70-year lifetime exposure, which introduces significant uncertainty (e.g., on average, people in the United States change residence approximately once every 8 years and change jobs once every 3). Finally, as noted above, the U.S. Environmental Protection Agency’s Integrated Risk Information System provides toxicity (risk) values for various pollutants and routes of exposure; in a health risk assessment, the Federal Highway Administration would compare calculated concentrations of mobile source air toxic pollutants to the Integrated Risk Information System values to estimate health risk. In the Integrated Risk Information System, the U.S. Environmental Protection Agency states the toxicity values are believed to be accurate to within an order of magnitude (a factor of 10). The total cumulative uncertainty involved in highway project health risk assessment is much larger than the change in emissions attributable to projects (typically a few percentage points). In this context, the information would not necessarily have a strong nexus to the requirements for high-quality information and accurate scientific analysis.</td>
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<td>Section 1500.1(b) also directs agencies to focus their National Environmental Policy Act analysis and documentation on issues that are truly significant to the action in question. In the context of mobile source air toxics, the Federal Highway Administration must consider whether changes in mobile source air toxic emissions attributable to a project have the potential for significant health risk. Using cancer risk as an example, the U.S. Environmental Protection Agency estimates that the overall risk of cancer in the United States is approximately 330,000 in a million, and that air toxics (from all sources) are responsible for a risk of approximately 50 in a million. In its most recent mobile source air toxics rule-making, the U.S. Environmental Protection Agency estimated mobile source air toxic cancer risk, after implementation of emissions controls, at approximately 5 in a million.</td>
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| 18   | (cont.) | (or 0.0015 percent of overall cancer risk from any cause). For the Preferred Alternative, the mobile source air toxic emissions analysis for the Study Area found little difference in total annual emissions of mobile source air toxic emissions between the Preferred and No-Action Alternatives (less than a 1 percent difference) in 2025 and 2035. With the Preferred Alternative in 2035, modeled mobile source air toxic emissions would decrease by more than 80 percent, depending on the pollutant, despite a 47 percent increase in vehicle miles traveled in the Study Area compared with 2012 conditions (see the discussion beginning on page 4-77 of the Final Environmental Impact Statement).

In summary, available information from the U.S. Environmental Protection Agency indicates that mobile source air toxics are a small component of overall cancer risk, and the analysis for the Final Environmental Impact Statement indicates both that the Preferred Alternative would result in a small change in the emissions contributing to this risk and that emissions will decline by a large amount regardless of alternative.

As discussed above and in the air quality technical report, results from the health risk assessment would be influenced more by the uncertainty introduced into the process through assumptions and speculations rather than by genuine insight into the actual health impacts directly attributable to mobile source air toxic exposure associated with a project. Therefore, outcomes of such a health risk assessment do not provide useful information for decision makers, as required by Section 1502.1. The Federal Highway Administration emissions analysis meets the requirement to produce information that is useful for both disclosure and decision making because it allows the public and decision makers to see which alternative has less mobile source air toxic emissions, with much less uncertainty than a health risk assessment.

Given the uncertainty of a mobile source air toxic health risk assessment, the Federal Highway Administration instead addresses the potential impacts of mobile source air toxics through an emissions assessment in its National Environmental Policy Act documents. For smaller projects with a lower likelihood of a meaningful impact, this discussion is qualitative. For larger projects, emissions analysis is conducted. The Federal Highway Administration approach is consistent with the Council on Environmental Quality’s direction in Section 1502.2(b) to discuss impacts in proportion to their significance. The results of an emissions analysis can be summarized concisely in a National Environmental Policy Act document and provide useful information for decision makers (e.g., an alternative that has lower emissions is likely to be “better” from a mobile source air toxics health risk standpoint than one that has higher emissions). While the U.S. Environmental Protection Agency and the Federal Highway Administration both agree on the usefulness of addressing mobile source air toxics in National Environmental Policy Act documents for highway projects, the agencies disagree about the value of health risk assessment as a method for doing so.

(Response 18 continues on next page)
Another consideration with respect to health impacts is that the Preferred Alternative would also reduce in-vehicle mobile source air toxics exposure as opposed to the No Action Alternative. The U.S. Environmental Protection Agency has found that in-vehicle benzene concentrations were between 2.5 and 40 times higher than nearby ambient concentrations, based on a review of studies discussed in the Regulatory Impact Analysis for the U.S. Environmental Protection Agency’s 2007 mobile source air toxics rule-making (Final Regulatory Impact Analysis, Environmental Protection Agency 420-R-07-002, 3-17 [February 2007]). Construction of the Preferred Alternative would result in a reduction in benzene exposure to drivers and passengers for two reasons: decreased travel times (motorists would spend less time in traffic to reach their destinations) and lower emissions rates (attributable to speed improvements). Reducing on-road exposure would provide a health benefit for motorists using the roadway network. Congestion relief resulting from the proposed freeway would provide localized air quality emissions reductions on area freeways and arterial streets and at interchanges, benefiting users of area highways and those living near congested roads.
19 Water Resources

As described in the Final Environmental Impact Statement in Chapter 2 and elaborated on in appropriate sections of Chapter 4, evaluation of impacts on resources located on Gila River Indian Community land were limited to visual inspection as permitted and as restricted by the Gila River Indian Community. As to drainage, as noted in Chapter 3 of the Final Environmental Impact Statement, the design of the proposed action is such as to not alter drainage onto Gila River Indian Community land. Further, the Rio Salado Oeste restoration project will restore habitat and flow conditions within the Salt River channel, including beneath the freeway bridge. The Pee Posh wetland area is discussed in the Draft Environmental Impact Statement on page 4-124, but not by name. A discussion of the Pee Posh wetlands was added to the Final Environmental Impact Statement on page 4-126. The Pee Posh wetlands would not be directly affected by any of the alternatives, and the future condition of the Pee Posh wetlands is likely to improve as a result of the restoration project.

20 Biology

The Pee Posh bald eagle breeding area is discussed in the Draft Environmental Impact Statement on page 4-124, but not by name. The information provided in the comment was taken into consideration in the development of a Biological Evaluation that was prepared and submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and Gila River Indian Community Department of Environmental Quality. The Biological Evaluation addresses threatened and endangered species and the breeding eagles in the Pee Posh wetlands, in conformance to the Bald and Golden Eagle Protection Act. The action alternatives are not expected to affect the eagles’ nesting activities because of the project’s distance from the nest. The project may affect the eagles’ foraging behavior along the Salt River when foraging opportunities exist near action alternatives. The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
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<tr>
<td>21</td>
<td>Hazardous Materials</td>
<td>The Boundary Site was investigated and included in early drafts of the Initial Site Assessment, when the E1 Alternative and the on-Gila River Indian Community Alignment were both still under consideration. The limits of the remediated site overlapped the on-Gila River Indian Community Alignment. The E1 Alternative, however, is located farther north and east than the on-Gila River Indian Community Alignment and does not share any footprint with the Boundary Site. Given the remediated nature of the site, its distance from the Preferred Alternative, and its position downgradient (downhill) from the Preferred Alternative, the Boundary Site was not included in the final Initial Site Assessment or the Draft Environmental Impact Statement.</td>
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The transport of hazardous materials continues to be a topic of discussion for the Project. While the I-10 Alignment is not located on the Community, it parallels the northern boundary of the Community and has the real potential to create impacts on Community lands. The DEIS briefly explains the transport of hazardous materials on the Regional Freeway System and the procedures ADOT incorporates to restrict hazardous material transport through particular areas. The transport of hazardous materials at or near the Community’s boundary will continue to be of concern, and potential impacts on the Community were not adequately addressed in the DEIS. Further hazardous waste transport studies conducted by ADOT will serve as the basis for improved emergency response planning as well as increased safety for the Community.

The Hazardous Materials section beginning on page 4-152 specifically addresses the potential interaction with known hazardous waste sites during the construction phase of the Project. The Draft EIS does not address the transportation of hazardous materials during the operational phase of the proposed freeway. Mitigation measures should be addressed to avoid, reduce, and ultimately mitigate environmental impacts should there be an incident involving hazardous materials/hazardous waste.

5. General Environmental Comments

In addition to the environmental comments included above, the Community would also like to call special attention to what may be seen as common public and private nuisance issues such as noise and light pollution and visibility issues that may impact residents and wildlife in Community areas along the proposed highway corridor. While the impacts may seem minimal based on ADOT standards, the true impacts may be much more significant in this area of the Community, in which many cases are pristine undisturbed desert. The Project will likely increase the potential for encroachment, trespassing, illegal dumping, etc. on Community lands. These impacts are not specifically addressed in the DEIS.

6. Public Safety/Emergency Response

Related to the Community’s hazardous materials comments in sub-section 4 above, the Community has public safety concerns that were not adequately addressed in the DEIS regarding the potential impacts from routing hazardous materials and other cargo so close to the Community’s Reservation boundary. Routing all of the West Valley’s hazardous cargo along the proposed route to gain access to I-10 South and East presents the potential for hazardous material incidents, which, by their very nature – i.e., spill, fire, or explosion – will affect surrounding lands. Similarly, this routing could result in increased vehicular accidents along the Reservation boundary. The State does not have the resources to adequately respond to such incidents without the use of local jurisdictions; while the state has experts and responders, these responders cannot handle these incidents alone. Despite the fact that the I-10 alignment is located within the City of Phoenix, the Community would be one of the first responders to any incident along the extension from the east to the west up to S17 Avenue and Dobson Road based upon the Community’s mutual aid partnership with Phoenix. The Community cannot respond alone and would need to rely on its local emergency services for assistance.

### Code: 22

**Issue:** Hazardous Materials

The Final Environmental Impact Statement discloses the context and intensity of the perceived impact noted in the comment. Arizona highways, as are most highways across the United States, are open to all kinds of traffic, so long as the cargo being carried is in accordance with U.S. Department of Transportation regulations for the specific type of cargo. The Arizona Department of Transportation has a few locations in the state with hazardous cargo restrictions, but these restrictions are based on emergency response issues or roadway design limitations specific to that location. For example, the Interstate 10 Deck Park Tunnel has certain hazardous cargo transport restrictions because of the limited ability for emergency responders to address a hazardous materials incident in the tunnel. The South Mountain Freeway, if implemented, is expected to operate under the same rules as other similar facilities in the state; transport of hazardous cargo would be expected to be permissible (see text box on page 4-166 of the Final Environmental Impact Statement).

Hazardous materials commodity flow studies and other information are used by emergency response planners (such as the Arizona State Emergency Response Commission statewide and the Maricopa County Local Emergency Planning Commission for Maricopa County) as one of the elements considered when developing emergency response plans. If the plan were amended, it would be made available to the Arizona Department of Transportation.

In the event of an incident with a hazardous materials issue on a State or federal highway, the emergency responders contact the Arizona Department of Transportation’s Traffic Operations Center to report the incident. The Traffic Operations Center then contacts the Arizona Department of Transportation’s Safety and Risk Management group, which responds to the accident scene and assesses needs in concert with the Incident Commander from the responding agency with jurisdiction. If requested, the Arizona Department of Transportation can assist cleanup activities by engaging specialty subcontractors with whom the Arizona Department of Environmental Quality has contracts for such support. The Arizona Department of Transportation’s Safety and Risk Management group’s charge is primarily public health protection, with cleanup support being secondary.
Noise and visual resources are addressed in the Noise and Visual Resources sections of Chapter 4 of the Draft Environmental Impact Statement on pages 4-80 and 4-165, respectively, and on pages 4-88 and 4-167 of the Final Environmental Impact Statement, respectively.

The noise analysis conducted for and documented in the Draft and Final Environmental Impact Statements complied with the Federal Highway Administration’s regulations for conducting noise analyses in 23 Code of Federal Regulations § 772. The noise analysis was updated for the Final Environmental Impact Statement using the most recent Federal Highway Administration and Arizona Department of Transportation transportation policy and traffic projections provided by the Maricopa Association of Governments. No substantial differences between the analyses presented in the Draft and the Final Environmental Impact Statements resulted. This report may also be found on the project Web site at <azdot.gov/southmountainfreeway>.

Without noise mitigation, noise levels from the proposed South Mountain Freeway are predicted to range from 61 A-weighted decibels to 78 A-weighted decibels at the nearest homes, depending on the distance from the freeway. Noise mitigation was estimated to reduce those noise levels to a range of 55 A-weighted decibels to 64 A-weighted decibels for most of the areas (see Final Environmental Impact Statement beginning on page 4-91). Because of topography, local street traffic, or other engineering constraints in a few areas, estimated noise levels would not be reduced as much and would be as high as 64 A-weighted decibels to 70 A-weighted decibels in those areas.

As discussed on page 4-136 of the Final Environmental Impact Statement, most impacts on wildlife would occur in the Eastern Section of the Study Area where there is more undeveloped land and more natural habitat. During construction activities, noise disturbance would represent a short-term impact on wildlife that would vary by location and intensity and that may affect bird and mammal activities such as nesting and foraging. During freeway operation, the increase in traffic noise would be a long-term impact on wildlife that would vary in intensity depending on factors such as time of day and day of the week. The long-term increase in traffic noise may affect the ability of some animals to avoid predators, communicate, and find food when near the proposed highway. Impacts on biological resources during operation of the proposed freeway would also include vehicle-wildlife collisions and an increase in the effects of habitat fragmentation attributable to wildlife avoidance of activity associated with the freeway. Although not recognized by the Federal Highway Administration as mitigation, rubberized asphalt would be used as the top level of paving; it is discussed on Final Environmental Impact Statement beginning on page 4-91.

As discussed on page 4-169 of the Final Environmental Impact Statement, in determining visual impacts of the proposed freeway, attention was given to sensitive views along the E1 Alternative, including views from Phoenix South Mountain Park/Preserve, views from residential areas in Ahwatukee Foothills Village, views from the Gila River Indian Community, and views of the major road cuts at the western end of Phoenix South Mountain Park/Preserve. Page 4-170 of the Final Environmental Impact Statement discusses a host of mitigation measures that the Arizona Department of Transportation might employ to avoid creating visual impacts, reduce such impacts, or otherwise mitigate visual impacts associated with the proposed project.
As discussed in several locations within the Final Environmental Impact Statement (see, for example, page 4-178), the Arizona Department of Transportation would provide and maintain right-of-way fencing between the proposed freeway and the Gila River Indian Community boundary. This fencing would likely minimize any encroachment, trespassing, and illegal dumping on Gila River Indian Community land.

Creating a truck bypass is not a goal of the proposed action. The proposed freeway is part of a transportation system developed to improve mobility in the region by increasing capacity and allowing traffic—including truck traffic—to access a segment of the "loop" system (see pages 1-21, 1-22, 3-1, and 3-3 of the Final Environmental Impact Statement) in the Phoenix metropolitan area. The proposed South Mountain Freeway would be a commuter corridor, helping to move local traffic. As with all other freeways in the region, trucks would use it for the through-transport of freight, for transport to and from distribution centers, and for transport to support local commerce. Nevertheless, the primary user vehicles of the proposed freeway would be automobiles. The Maricopa Association of Governments regional travel demand model projects that truck traffic would represent approximately 10 percent of the total traffic on the proposed freeway, similar to what is currently experienced on other regional freeways such as Interstate 10, State Route 101L, and U.S. Route 60. As disclosed in the Final Environmental Impact Statement, it is expected that "true" through-truck traffic (not having to stop in the metropolitan area) would continue to use the faster, designated, and posted bypass system of Interstate 8 and State Route 85 (see page 3-64 of the Final Environmental Impact Statement).

Hazardous materials commodity flow studies and other information are used by emergency response planners (such as the Arizona State Emergency Response Commission statewide and the Maricopa County Local Emergency Planning Commission for Maricopa County) as one of the elements considered when developing emergency response plans. If the plan were amended, it would be made available to the Arizona Department of Transportation.

In the event of an incident with a hazardous materials issue on a State or federal highway, the emergency responders contact the Arizona Department of Transportation’s Traffic Operations Center to report the incident. The Traffic Operations Center then contacts the Arizona Department of Transportation’s Safety and Risk Management group, which responds to the accident scene and assesses needs in concert with the Incident Commander from the responding agency with jurisdiction. If requested, the Arizona Department of Transportation can assist cleanup activities by engaging specialty subcontractors with whom the Arizona Department of Environmental Quality has contracts for such support.

The Arizona Department of Transportation’s Safety and Risk Management group’s charge is primarily public health protection, with cleanup support being secondary. If the Gila River Indian Community were unprepared to respond to emergency situations on the proposed facility, the Arizona State Emergency Response Commission could coordinate regional responses from other Local Emergency Planning Commissions in the region that may have more resources.
The Arizona Department of Transportation has developed an “Alternate Route Plan” for all State-operated roads, including highways, freeways, and Interstate highways. The plan is amended prior to opening of a new facility to include alternate routes for incidents on the new facility as well as conditions in which the new facility would be the alternate route for incidents on other State-operated roads. The alternate route plan is reviewed by Arizona Department of Public Safety, Arizona Department of Transportation, and local agencies.

The Arizona Department of Transportation is not permitted to identify a local road as an alternate route on a dynamic message sign without an agreement from the agency that operates that road. At this time, there are no agreements in place with any local agencies. However, the use of local roads to avoid an incident is permitted and occurs regularly at the discretion of the motorist. If a local agency would like to encourage the use of a specific road during an incident on a State road, it would need to provide this information to the Arizona Department of Transportation and formally agree to allow the Arizona Department of Transportation to display the local road as an alternate route on a dynamic message sign.

The primary goal of the Arizona Department of Transportation and the Arizona Department of Public Safety is to clear the road and open it back to normal traffic operation as soon as possible. The South Mountain Freeway project includes funding for the full array of intelligent transportation system infrastructure (cameras, loop detectors, ramp meters, etc.). This would allow the Arizona Department of Transportation to quickly respond to incidents and notify members of the traveling public of downstream conditions so they can use an alternate State road to avoid the incident.

The effects of the proposed action on the local roadway network are accounted for in Chapters 1 and 3 of the Draft Environmental Impact Statement. Cut-line analysis was undertaken to assess the effects of the action and No-Action alternatives on the existing and reasonably foreseeable future road network (as conveyed in jurisdictional long-range plans). The Gila River Indian Community opted not to disclose plans for any roadway network plans now or in the future.
Acquisitions and Relocations

Property acquisition and relocation assistance to displaced individuals and businesses is governed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. This process outlines determination of property values through the acquisition process. The process requires government agencies to provide just compensation (fair market value) for any acquired property. The acquisition process includes consideration of impacts to access, partial acquisitions, determining values of remaining parcels, and special needs of relocated businesses or individuals (e.g., elderly or disabled).

For example, if a relocated business required specific zoning, approvals or permits, permit fees, or closure or abandonment processes, these would be considered in property negotiations. Property acquisition procedures are described in detail on the Arizona Department of Transportation’s Web site, in the Right-of-Way Group Acquisition Section, at <azdot.gov>. This section of the Arizona Department of Transportation Web site includes a link to the Arizona Department of Transportation’s Right-of-Way Procedures Manual, which has an extensive discussion of the whole process. For further discussion, see page 4-51 of the Final Environmental Impact Statement. For questions on specific properties, contact the Arizona Department of Transportation Right-of-Way Group at (602) 712-6922.

Alternatives

The Arizona Department of Transportation has designated the 59th Avenue connection (W59 Alternative) with Interstate 10 (Papago Freeway) as the Preferred Alternative for the proposed freeway in the Western Section of the Study Area. The project team considered the input of all stakeholders—including regional leaders, municipalities, members of the public, and members of the South Mountain Citizen’s Advisory Team—before identifying the W59 Alternative as the Preferred Alternative (see pages 3-65 and 3-68 of the Final Environmental Impact Statement). The W59 Alternative was seen as the best option to balance fiscal responsibility, regional mobility needs, community sensitivity, and additional considerations such as consistency with long-range planning goals, economic and environmental impacts, and public and agency input. Precise areas of impacts would be determined as the project design progresses, if an action alternative were to be the Selected Alternative. The Arizona Department of Transportation has met with the Salt River Pima-Maricopa Indian Community to discuss its concerns, and these meetings would continue.

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Re: Salt River Pima-Maricopa Indian Community comments for the Loop 202 South Mountain Freeway Study Draft Environmental Impact Study (EIS)

Dear Mr. Hollkowski,

The Salt River Pima-Maricopa Indian Community (the “Community”), a federally recognized Indian tribe, has a longstanding relationship with the Arizona Department of Transportation (ADOT) that originated because of transportation planning and development in the East Valley that affected lands within and adjacent to the Community’s borders. As a business and land owner in the West Valley, we are aware of the changes in the region that require additional transportation planning and development. Although we support ADOT’s long range transportation planning with the Loop 202 South Mountain project, the Community is aware that such plans and decisions will have impacts to one of our businesses and lands in the West Valley and that it is necessary to express our views.

The Community owns and operates the Phoenix Cement Company ("PCC") which has operated a facility at 67th Avenue and Southern Avenue since 1987. PCC is a division of tribal government and the Community directly benefits from its business operations. We have a full scale mining operation at this location, inclusive of aggregate crushing, screening, washing operations as well as scale facilities and ready mixed concrete batching and mixing plants. This operation is PCC’s sole operation for servicing its west side customer base. Importantly, revenue generated from PCC helps to provide for the welfare of our members.

The Community has reviewed the Loop 202 South Mountain Freeway Study Draft EIS with interest and we would like to share our comments to be included in the public record and to be given consideration by ADOT before any final decision is issued.

First, the Community recognizes that the W59 Alternative, designated as the Preferred Alternative, will directly impact all or a portion of our business operations at 67th Avenue and Southern Avenue. As a result, the Community would like the opportunity to communicate more directly with you,
as an impacted stakeholder, on the specific land acquisition along 59th Avenue for the W59 Alternative to better understand the direct impacts to our business. Based on the information we have to date, we are not opposed to the W59 Alternative as long as we are given the opportunity to consult with you about this preferred route and consider options, including whether a soil cement beam in the river bed could allow us to salvage a portion of our operations.

Second, the Community supports the W71 Alternative as our most favored route. Due to the potential impact the W59 may have on the operations of PCC we believe this route to be more suitable while still providing a viable option for a southern corridor.

Third, the Community would support the W101 Alternative Route as our second choice.

Those brief comments are intended to give the general position of the Salt River Pima-Maricopa Indian Community during this 90-day public comment period to review the Draft EIS of the Loop 202 South Mountain Freeway Study and we look forward to working with you to achieve a mutually beneficial solution.

Sincerely,

Diane Enoz
President
STATE AGENCY AND ELECTED OFFICIALS COMMENTS AND RESPONSES
As noted on page 4-1 of the Final Environmental Impact Statement, during the design stage of project development, changes in regulatory requirements may occur or changes to previously assessed resource impacts could be discovered that would require modifications to mitigation. Final commitment to mitigation measures would be made in a record of decision and would include the commitment for the Arizona Department of Transportation and Federal Highway Administration to continue to coordinate with the Arizona Game and Fish Department during the design phase to develop appropriate measures to mitigate potential impacts related to the project; however, any additional efforts would be beyond the scope of the National Environmental Policy Act.

The proposed freeway is consistent with maps included in the referenced Maricopa Association of Governments Desert Spaces: An Open Space Plan for the Maricopa Association of Governments, and with regional planning efforts, as discussed in Chapter 5 of the Final Environmental Impact Statement (see Phoenix South Mountain Park/Preserve section beginning on page 5-14 of the Final Environmental Impact Statement). We perceive the comment to mean that the project does not conform to the goals stated in the Maricopa Association of Governments Desert Spaces: An Open Space Plan for the Maricopa Association of Governments, such as the use of low-impact construction technology in the South Mountains area and maintaining wildlife connectivity across the network of identified open spaces. The Arizona Game and Fish Department requests that additional mitigation considerations be given to habitat loss and/or degradation resulting from the project. It is also important to understand that the City of Phoenix planning efforts since the mid-1980s illustrate an awareness of the potential for the proposed South Mountain Freeway to affect Phoenix South Mountain Park/Preserve. In 1989, the South Mountain Park Master Plan was adopted by the Phoenix City Council. The master plan shows the freeway alignment as adopted by the State Transportation Board in 1988. In 1990, the South Mountain Preserve Act was ratified by the Arizona Legislature. The Act did not apply to roadways through a designated mountain preserve if the roadway was in the State Highway System prior to August 15, 1990. The proposed South Mountain Freeway was in the State Highway System prior to 1990. Records prior to the Act suggest a primary reason for the exception was to allow the proposed freeway to go through Phoenix South Mountain Park/Preserve (see Final Environmental Impact Statement page 5-14).

The project team examined alternatives to avoid the Phoenix South Mountain Park/Preserve, but did not identify any feasible and prudent alternatives to avoid the use of the park. The portion of the park that would be used for the proposed freeway would be 31.3 acres, or approximately 0.2 percent of the park’s approximately 16,600 acres (see Final Environmental Impact Statement pages 5-38 and 5-31). The Arizona Department of Transportation continues to work with park stakeholders to minimize use of park resources. The Measures to Minimize Harm section beginning on page 5-23 of the Final Environmental Impact Statement includes measures addressing concerns raised in the comment. The Arizona Department of Transportation and Federal Highway Administration would continue to work with partners including the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community’s Department of Environmental Quality, during the design phase to continue to develop these measures (including the provision of replacement lands and the design of multifunctional crossings that would allow wildlife passage across the proposed freeway alignment at natural drainages and that would allow Gila River Indian Community members to gain access to important traditional locations within the South Mountains). Given these considerations, the proposed freeway is consistent with regional planning efforts.
The section, General Impacts on Vegetation, Wildlife, and Wildlife Habitat, beginning on page 4-136 of the Final Environmental Impact Statement, respectively, discusses the effects of the proposed action and its alternatives on vegetation, wildlife, and wildlife habitat. The conclusion for diminished wildlife resources accounts for general effects that would also apply to species of greatest conservation need. Those species of greatest conservation need that have the potential to occur in the Study Area have been added to Table 4-43 that begins on page 4-129 of the Final Environmental Impact Statement. These species were also addressed in a Biological Evaluation that was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and Gila River Indian Community Department of Environmental Quality. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). Connectivity is planned to allow wildlife movement beneath the freeway in multiuse crossings (see page 4-137 of the Final Environmental Impact Statement).

The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

Connectivity is planned to allow wildlife movement beneath the freeway. This is described in the text box, “Habitat Connectivity and the Proposed Action,” on page 4-125 and in the section, Habitat Connectivity, on page 4-137 of the Final Environmental Impact Statement. Crossing structures are planned along major movement corridors (see Figure 4-38, on page 4-126, and the discussion on page 4-137 of the Final Environmental Impact Statement) and would maintain connectivity between the South Mountains and the Sierra Estrella.

The comments on the Draft Environmental Impact Statement contradict previous communication with the Arizona Game and Fish Department for the project. The last formal communication received from the Arizona Game and Fish Department in 2006 (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor as well as by planned development in that area. Data presented in the Draft and Final Environmental Impact Statements corroborate this statement (see the sidebar, “Existing versus planned land use,” on page 4-3 of both documents); a large percentage of the land in the Study Area is projected to be converted to nonagricultural uses in the foreseeable future. The above-referenced 2006 letter from the Arizona Game and Fish Department also stated that mule deer are believed to have been extirpated from the area. There was no mention of concerns regarding bighorn sheep. The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife such as mule deer and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species.
South Mountain DEIS
July 24, 2013

South Mountain are mostly undisturbed as opposed to the eastern portions and provide habitat for larger species like mule deer and bighorn sheep. Bighorn sheep are historic to this area and are currently found in the adjacent Sierra Estrella Mountains. This is a potential opportunity where the project could actually restore diversity by taking measures to preserve and improve connectivity between these mountain ranges, promoting mule deer movement and helping return bighorn sheep to historic habitat and providing washable wildlife opportunities that would have tremendous support from the viewing public.

The DEIS presents plans for multi-functional crossings using underpasses; however, “multi-functional” crossings fail to facilitate movement for many wildlife species. Previous (Arizona State Route 68, ADOT SP 5458: http://www.azdot.gov/TED/ATRC/publications/project_reports/PDF/AZ388.pdf) and current studies (U.S. Highway 93, Twin Peaks) on Arizona highways show that high human use of underpasses inhibits the realization of intended wildlife connectivity and permeability. A 2011 study in the Netherlands had limited success with overpasses designed specifically with segregated pedestrian and wildlife channels. However, there was clear indication that human use was inhibiting wildlife utilization of monitored overpasses and significantly impacting behavior of target species. The Department supports placing crossing underpasses in the drainage areas (washes, etc.) for facilitating movement for wildlife only, not constructing multi-use crossings. Underpasses may accommodate a diversity of species; however, allowing or promoting human, equestrian, and/or OHV use would severely limit wildlife connectivity. The crossings (and crossing approaches) for hiking, equestrian, and mountain bicyclists should be located in a different area or separated from the wildlife crossing and crossing approach areas.

The Department recommends overpasses where the proposed alignment intersects the major ridgelines of South Mountain to allow for movement of larger game and other species, while decreasing risk to public safety. Overpasses are proving to be successful in moving larger species, as documented in the US Highway 93 study. Single span bridges have been shown to improve connectivity for deer in Arizona (SR 260: http://ndt.itsr.com/SR/4669064660/46644/AZ260.pdf), but fail short of mitigating the fragmentation effects that roads have on the deer. Underpasses improved the deer passage rate on SR 260 from 3% to 16%, but 84% of crossing attempts remained unsuccessful. Bighorn sheep have been documented using underpasses opportunistically, but again they do not alleviate the barrier effects of roads on bighorn sheep. On SR 68, 20 months of monitoring 3 underpasses revealed only 32 bighorn sheep ram crossings (none by ewes or lambs). Over 1200 crossings by rams, ewes, and lambs were documented on the US 93 overpasses during a similar 20 month period. Such functionality falls far short of movement requirements to maintain viable bighorn sheep and mule deer populations in the South Mountain area. Overpasses in Arizona have been shown to pass large numbers of bighorn sheep and deer, along with other species, safely across highways thereby maintaining a permeable landscape.

Wildlife connectivity across the proposed project corridor is a concern, and multifunctional crossing structures are planned at locations where natural movement corridors occur along major drainages. The U.S. Route 93 study area is not similar to the South Mountains in that the undeveloped land along U.S. Route 93 provided habitat for an existing population of large mammals. For the U.S. Route 93 project, the largest remaining population of desert bighorn sheep in the Southwest occurred in the area and would have been adversely affected by the highway unless mitigation measures were in place. In that instance, the overpass mitigation was in direct response to a known large mammal population that would be adversely affected. The mitigation was justified in terms of the degree of impact that would have resulted from the highway’s construction and operation. In the case of the South Mountains, communication from the Arizona Game and Fish Department in 2006 (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) states that bighorn sheep are believed to have been extirpated from the area; bighorn sheep are not mentioned and are known to not occur in Phoenix South Mountain Park/Preserve. Further, historic habitat has already been adversely affected in the area; therefore, the current state of habitat limits the baseline condition under consideration.

The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife such as mule deer and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
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| 7    | **We do not dispute the potential benefit of conducting a “multi-year” study to locate wildlife mitigation measures. However, it is also important to recognize that such studies need to be conducted in areas exhibiting priority wildlife-related highway safety and connectivity issues; the section of the highway corridor proposed parallel to Pecos Road was not identified as a linkage zone within the 2006 Arizona Wildlife Linkages Assessment or the 2012 Maricopa County Wildlife Connectivity Assessment. It would likely exhibit relatively low wildlife-vehicle collision incidence in the future given the low wildlife densities found within this portion of the corridor. The 2012 Maricopa County Wildlife Connectivity Assessment did identify a movement corridor at the southwestern end of Phoenix South Mountain Park/Preserve. Multifunctional crossing structures proposed in this area would allow continued wildlife connectivity in this area.**  
Wildlife species in the Study Area (including mule deer, mountain lion, and javelina) are commonly found in the urban interface. They are generally not reluctant to use structures crossing beneath roadways; this is partially attributable to the fact that the most common times of use for humans and wildlife tend to occur at different times of the day. The proposed crossings would be located at washes, which are the most likely wildlife movement corridors given topography and resources. In addition to these larger crossings, culverts at smaller washes would serve as connection points for smaller wildlife. Culverts would generally be placed in natural drainage areas that are not heavily used by humans. Some past research indicates that human use of wildlife passages may affect wildlife use to varying degrees. The most well-known example of this research focused on crossings of the Trans-Canada Highway in Banff National Park. The results of the extensive research on the Trans-Canada Highway did not show that human use has a dramatic impact on wildlife use of the Banff structures, which has been substantial and continues to increase. In Arizona, research by the Arizona Game and Fish Department along State Route 260 found highly compatible use of a dual-use (multifunctional) underpass that linked the communities of Christopher Creek and Hunter Creek. This particular underpass exhibited some of the most diverse and substantial wildlife use of the underpasses monitored during the long-term project (Dodd et al. 2012). Along State Route 77, a Wildlife Technical Advisory Committee closely scrutinized this issue for the two planned wildlife passages that will be built within a similar urban-influenced landscape in and adjacent to Oro Valley. The Wildlife Technical Advisory Committee evaluated all available information and determined that the temporal patterns of human (daytime) versus wildlife (crepuscular and nocturnal) use are not expected to result in a significant degree of incompatibility. Furthermore, such dual-use, multifunctional structures situated within urban-influenced landscapes, in this instance adjacent to Phoenix South Mountain Park/Preserve with its extensive trail network, offer effective and efficient use of limited taxpayer funds.  

For culverts, the Department recommends avoiding long, dark and narrow pipes and culverts, as they may discourage species from entering. Utilize straight culverts through which approaching animals can see light. Avoid turns and curves in culvert layout. For longer culverts, use vertical pipes or slotted drains to illuminate the interior of the culvert. Avoid extreme slopes as they prevent effective movement; maintain 5:10% slopes for multiple species.  

Design all drainage structures to maintain a natural substrate. Avoid rip-up as it would prevent or discourage entrance into the culvert for many species. If an erosion mitigation structure is necessary, a gutter side ramp could be constructed to facilitate movement. Measures should be taken to make drainage structures as short as possible, if necessary cut the slopes closer to the roadway and use guard rails.  

Specific design features of the proposed action would be established during the final design process. The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife such as mule deer and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement). |
Biology, Plants, and Wildlife

The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway’s potential implementation. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
In Closing
The Department appreciates the opportunity to provide comment on the DEIS. We look forward to working closely with the project team for further discussion on comprehensive mitigation and design plans for the structures necessary to facilitate connectivity and permeability for wildlife. If you have questions about this letter, please contact Kelly Wolff-Krauter @ 480-324-3550 or kwolf-krauter@azgfd.gov.

Sincerely,

Ray Francis
Habitat Bench Chief

Cc: Rod Lucas, Regional Supervisor
    Laura Cana, Project Evaluation Program Supervisor
    Ray Schweinsburg, Wildlife Contract Program Supervisor
    Clifton Meek, US EPA

10 Biology, Plants, and Wildlife

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Biology, Plants, and Wildlife

Information noted.

**Anthropods at South Mountain Park/Preserve**

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<td>16</td>
<td>Monarch Butterfly</td>
</tr>
<tr>
<td>17</td>
<td>Sphene Moth</td>
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**Birds at South Mountain Park/Preserve**

<table>
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<tr>
<td>11</td>
<td>Biology, Plants, and Wildlife</td>
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Information noted.

**Birds**

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<tbody>
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<tr>
<td></td>
<td><strong>Reptiles and Amphibians at South Mountain Park/Preserve</strong></td>
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<tr>
<td></td>
<td><strong>Desert Tortoise</strong>* Gopherus agassizii</td>
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<td></td>
<td><strong>Regal Horned Lizard</strong>* Phrynosoma solare</td>
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<tr>
<td></td>
<td><strong>Short-horned Lizard</strong>* Phrynosoma douglassi</td>
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<td><strong>Side-blotched Lizard</strong>* Uta stansburiana</td>
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<td><strong>Dusky-tailed Lizard</strong>* Callisaurus draconoides</td>
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<td><strong>Dune Iguana</strong>* Dipsosaurus dorsalis</td>
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<td></td>
<td><strong>Desert Spiny Lizard</strong>* Sceloporus magister</td>
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<td><strong>Collared Iguana</strong>* Crotaphytus spp.</td>
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<tr>
<td></td>
<td><strong>Western Banded Geckos</strong>* Coleonyx variegatus</td>
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<td></td>
<td><strong>Chuckwalla</strong>* Sauromalus obesus</td>
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<td><strong>Gila Monster</strong>* Heloderma suspectum</td>
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<td><strong>Western Banded Geckos</strong>* Coleonyx variegatus</td>
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<td><strong>Western Whiptail</strong>* Cnemidophorus tigris</td>
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<tr>
<td></td>
<td><strong>Common Kingsnake</strong>* Lampropeltis getulus</td>
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<tr>
<td></td>
<td><strong>Arizona Coral Snake</strong>* Micrurus lemniscatus</td>
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<td></td>
<td><strong>Gopher Snake</strong>* Pituophis melanoleucus</td>
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<td><strong>Arizona Ridge-nosed Rattlesnake</strong>* Crotalus willardi</td>
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<td><strong>Black-necked Garter Snake</strong>* Thamnophis cyrtopsis</td>
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<tr>
<td></td>
<td><strong>Western Territorial Garter Snake</strong>* Thamnophis elegans</td>
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<td><strong>Western Rattlesnake</strong>* Crotalus viridis</td>
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<td><strong>Western Diamondback Rattlesnake</strong>* Crotalus atrox</td>
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<td><strong>Mohave Rattlesnake</strong>* Crotalus scutulatus</td>
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<td><strong>Sidewinder Rattlesnake</strong>* Crotalus cerastes</td>
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<td><strong>Spotted Rattlesnake</strong>* Crotalus mitchelli</td>
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<td></td>
<td><strong>Tiger Rattlesnake</strong>* Crotalus tigris</td>
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<td></td>
<td><strong>Black-tailed Rattlesnake</strong>* Crotalus molossus</td>
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<tr>
<td></td>
<td><strong>Western Spadefoot toad</strong>* Pelobatidae spadefoot</td>
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<tr>
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<td><strong>American Bullfrog</strong>* Rana catesbeiana</td>
<td></td>
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<tr>
<td></td>
<td><strong>King Snake</strong>* Lampropeltis getula</td>
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The section, *General Impacts on Vegetation, Wildlife, and Wildlife Habitat*, beginning on page 4-136 of the Final Environmental Impact Statement, explains that the project would result in a decrease in resources for species that occur in and adjacent to the Study Area. It also describes additional short-term impacts related to construction. The analysis generally describes the effects on species of greatest conservation need that may occur in the vicinity. Most of the Study Area has a moderate-to-low value for species of greatest conservation need on HabiMap, including the western end of the South Mountains. The exception is the area along the Salt River corridor, where there are higher values for riparian species. The project is designed with a bridge over the Salt River to minimize effects on riparian habitats. Those species of greatest conservation need that have the potential to occur in the Study Area have been added to Table 4-43 that begins on page 4-129 of the Final Environmental Impact Statement. These species were also addressed in a Biological Evaluation that was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and Gila River Indian Community’s Department of Environmental Quality. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement).
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<tr>
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<td>South Mountain (Loop 202)</td>
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<tr>
<td></td>
<td>July 11, 2013</td>
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<tr>
<td></td>
<td>Lincoln's Sparrow</td>
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<tr>
<td></td>
<td>Mexican Free-tailed Bat</td>
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<td></td>
<td>Pacific Wren</td>
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<td></td>
<td>Pueblan Mountain's Big-eared Bat</td>
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<td>Pocketed Free-tailed Bat</td>
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<td>Royal Horned Lizard</td>
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<td>Sonoran Mud Turtle</td>
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<td>Sulfur-tailed Flycatcher</td>
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<td>Savannah Sparrow</td>
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<td>Scorpion Cooper's</td>
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<td>Sonoran Desert Tortoise</td>
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<td>Sonoran Whiptail</td>
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<td>Spotted Salamander</td>
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<td>Tiger Salamander</td>
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<td>Tucson Horned Lizard</td>
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<td>Variegated Sunskink</td>
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<td>Western Fence Lizard</td>
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<td>Western Screech Owl</td>
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<td>Western Yellow-bellied Rattlesnake</td>
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<td>Western Wood Pecker</td>
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<td></td>
<td>Yuma Clapper Rail</td>
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<td>Yuma Night Heron</td>
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<td>Yuma Short-nosed Snake</td>
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As noted on page 4-138 of the Final Environmental Impact Statement, during the design phase, if an action alternative were to become the Selected Alternative, the threatened and endangered species list would be reviewed to determine whether an update to address species would be needed. The wildlife connectivity is recognized (see “Habitat Connectivity and the Proposed Action” text box and Habitat Connectivity section on page 4-137 as well as the Mitigation section beginning on page 4-138 of the Final Environmental Impact Statement). The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

The Sonoran desert tortoise and Tucson shovel-nosed snake were analyzed in the Biological Evaluation and coordination on mitigation of impacts would occur during the design phase. Discussion of the Tucson shovel-nosed snake is included on page 4-135 in the Final Environmental Impact Statement.
The need for maintaining wildlife connectivity is recognized (see "Habitat Connectivity and the Proposed Action" text box and Habitat Connectivity section on page 4-137 as well as the Mitigation section beginning on page 4-138 of the Final Environmental Impact Statement). The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
### Vegetation and Crossing Structure Design Recommendations:

To promote wildlife connectivity and achieve true mitigation of the freeway, crossing structures, culverts in particular, should be as large as possible. They should have native native subsoil floors with low stature vegetative cover or openings and natural lighting through as much of the structure as possible. Grated slots can boost ambient light in smaller culverts (Grandmaison 2012).

Maintaining natural vegetation along the approach and exits of structures and natural substrates through culverts has demonstrated increased wildlife use. Vegetation provides wildlife with security cover (Grandmaison 2012). The Department recommends a non-clear cut approach to wash habitats during construction and post-construction restoration.

Scouring is common on the downstream side of concrete or pipe culverts along washes. The changes in elevation from floodway bottom to culvert/pipe bottom often compromise wildlife access through the culvert/pipe. Tortoises have been shown to be particularly sensitive to this situation on Highway 87. The Department recommends design solutions that prevent scour and promote access and safe passage by small mammals, reptiles and amphibians.

### Wildlife Monitoring/Research:

The Department recommends research on wildlife movement to optimize design and placement of crossing structures that fit the need of the local wildlife and their movement patterns and reduce impact to and address human health and safety issues. Evaluation of crossing structure utilization is critical to determine effectiveness and to identify any design modifications that would increase effectiveness. Such assessments also allow the determination of suitability as a future mitigation measure for additional roadway expansions and new projects.

Information gained from evaluation should be used to help decide timing and future stops towards mitigating increasing levels of development and traffic volume in the planning area as it relates to managing connectivity for the long-term. There are several approaches that should be considered during the design of drainage and crossing structures for the freeway.

### Code 15

**Biology, Plants, and Wildlife**

The issue of wildlife connectivity is recognized (see "ery" text box and Habitat Connectivity section on page 4-137 as well as the Mitigation section beginning on page 4-138 of the Final Environmental Impact Statement). The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway.

### Code 16

**Biology, Plants, and Wildlife**

We do not dispute the potential benefit of conducting a “multi-year” study to locate wildlife mitigation measures. However, it is also important to recognize that such studies need to be conducted in areas exhibiting priority wildlife-related highway safety and connectivity issues. The section of the highway corridor where the multiuse crossings are proposed was not identified as a linkage zone within the 2006 Arizona Wildlife Linkages Assessment; however, it was identified as a movement corridor in the 2012 Maricopa County Wildlife Connectivity Assessment. Wildlife species in the Study Area (including mule deer, mountain lion, and javelina) are commonly found in the urban interface and are generally not reluctant to use structures crossing beneath roadways. This is partially attributable to the fact that the most common times of use for humans and wildlife tend to occur at different times of the day. The proposed crossings are located at washes, which are the most likely wildlife movement corridors given topography and resources. In addition to these larger crossings, culverts at smaller washes would serve as connection points for smaller wildlife. Culverts would generally be placed in natural drainage areas that are not heavily used by humans. Some past research indicates that human use of wildlife passages may affect wildlife use to varying degrees. The most well-known example of this research focused on crossings of the Trans-Canada Highway in Banff National Park. The results of the extensive research on the Trans-Canada Highway did not show that human use has a dramatic impact on wildlife use of the Banff structures, which has been substantial and continues to increase. In Arizona, research by the Arizona Game and Fish Department along State Route 260 found highly compatible use of a dual-use (multifunctional) underpass that linked the communities of Christopher Creek and Hunter Creek. This particular underpass exhibited some of the most diverse and substantial wildlife use of the underpasses monitored in the long-term project (Dodd et al. 2012).

Along State Route 77, a Wildlife Technical Advisory Committee closely scrutinized this issue for the two planned wildlife passages that will be built within a similar urban-influenced landscape in and adjacent to Oro Valley. The Wildlife Technical Advisory Committee evaluated all available information and determined that the temporal patterns of human (daytime) versus wildlife (crepuscular and nocturnal) use are not expected to result in a significant degree of incompatibility. Furthermore, such dual-use, multifunctional structures situated within urban-influenced landscapes, in this instance adjacent to Phoenix South Mountain Preserve with its extensive trail network, offer effective and efficient use of limited taxpayer funds.
No stock tanks have been identified near the action alternative corridors; therefore, none would be removed nor would access to stock tanks be affected by the proposed action.

The Draft Environmental Impact Statement addressed the Pee Posh eagles, although not by name, on page 4-124. A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened and endangered species. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). The Biological Evaluation also addressed the breeding eagles in the Pee Posh wetlands in conformance to the Bald and Golden Eagle Protection Act.

As noted on page 3-41 of the Final Environmental Impact Statement, a rolling profile would be used for the proposed freeway. Page 3-47 of the Final Environmental Impact Statement shows the proposed profile for the E1 Alternative. The proposed profile would be elevated above the existing ground level throughout most of this section of the proposed project. A rolling profile is preferable economically for balancing construction cut and fill material. It provides operational benefits because it is the type of freeway drivers are familiar with and it also permits efficient drainage solutions, thereby reducing the amount of land needed.

The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife such as mule deer and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
As noted on page 4-15 of the Final Environmental Impact Statement, the City of Phoenix is aware of, has planned for, and has incorporated the proposed South Mountain Freeway in the City of Phoenix General Plan and in conceptual plans for the Rio Salado Oeste project. As noted on page 4-15 of the Final Environmental Impact Statement and as agreed upon by the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix, the project team would continue to consult with those entities to coordinate design efforts with the Rio Salado Oeste project.

As noted on page 4-16 of the Final Environmental Impact Statement, single-family residential uses were generally not considered compatible with transportation corridors because the action alternatives would introduce visual, air quality, noise, and other intensive impacts on a comparatively sensitive land use; may isolate portions of planned communities; or may limit access to infrastructure and services. Undeveloped land near a transportation corridor was deemed compatible or incompatible largely based on its planned land use, determined by zoning and the jurisdiction’s adopted general plan.

Drainage patterns would not be diverted from their downstream connection on the Gila River Indian Community. The drainage features of the E1 Alternative would be designed such that drainage basins and channels on the north side of the freeway would collect runoff from the freeway and allow suspended sediment to settle. As the system continues to receive runoff, the basins and channels would overflow into channels that would direct flows under the freeway and onto Gila River Indian Community land in the same location as existing drainages from the South Mountains (see page 4-106 of the Final Environmental Impact Statement).
### Biology, Plants, and Wildlife

**22** The concrete-lined irrigation canals in the Study Area are typically narrow and steep-sided and contain water for only short periods during field irrigation. The water velocity, steep sides, and short duration of water delivery in the concrete-lined canals do not constitute a reliable or appropriate water source for wildlife compared with unlined canals or standing water sources that may be available. The steep canal sides and velocities can be a danger to wildlife. This was clarified in the Final Environmental Impact Statement on page 4-127.

We agree that a lack of observations does not equate to absence. The Draft Environmental Impact Statement lists numerous species and habitat types found in the Study Area and also states that wildlife abundance and diversity are related to the extent and variety of habitats in the area, implying that habitat variability in the area outside of Phoenix South Mountain Park/Preserve could support species diversity.

The list of species was expanded in the Final Environmental Impact Statement and text was added to reflect that agricultural fields provide habitat for additional species (see pages 4-127 and 4-128, respectively).

**23** The description of the mountain lion was changed in the Final Environmental Impact Statement on page 4-127 to read, “AGFD has stated that lions should be considered an animal with the potential to occur in SMPP, which could represent a portion of its home range, but not a resident animal.”

As noted on page 4-128 of the Final Environmental Impact Statement, although wild horses are present on Gila River Indian Community land, the habitat assessment concluded no suitable habitat for wild horses exists within the Study Area. However, like Interstate 10, which passes through the Gila River Indian Community and where wild horses are known to occur, the proposed freeway would be lined with right-of-way fencing that would prevent vehicular collisions with wild horses and burros.

**24** The Draft Environmental Impact Statement addressed the Pee Posh eagles, but not by name, on page 4-124. A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened and endangered species. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). The Biological Evaluation also addressed the breeding eagles in the Pee Posh wetlands in conformance with the Bald and Golden Eagle Protection Act.
The Sonoran Desert toad was added to the list of species occurring in the Study Area in the Biological Evaluation. Table 4-44 of the Draft Environmental Impact Statement indicates that these bat species may occur throughout the Study Area; this was updated to "may occur" in the Final Environmental Impact Statement (see Table 4-43 on pages 4-129 to 4-132). Surveys to determine the presence and distribution of the wide range of species, including bat species, is beyond the scope of the proposed project. Designing bridges for bat habitat is not a standard accommodation that the Arizona Department of Transportation currently provides. The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department through the design process (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

As noted on page 4-126 of the Final Environmental Impact Statement, suitable habitat did not exist within the right-of-way of or immediately adjacent to any action alternative at the time the study was completed. If conditions change over time and suitable habitat for the Yuma clapper rail were to exist within the right-of-way of or immediately adjacent to a Selected Alternative—should it be an action alternative—surveys would be completed and, if appropriate, consultation with the U.S. Fish and Wildlife Service would occur.

A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service through the design process (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened, endangered, and candidate species, including the yellow-billed cuckoo. The potential for impacts on suitable habitat for the yellow-billed cuckoo within the right-of-way of the Preferred Alternative was addressed in the Biological Evaluation. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). If appropriate, surveys would be completed and consultation with the U.S. Fish and Wildlife Service would occur as the project progresses through design.

A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened, endangered, and candidate species, including the Sonoran desert tortoise. The information used to prepare the analysis in the Draft Environmental Impact Statement (page 4-122) was based on 2011 information retrieved from the Arizona Game and Fish Department (Gopherus agassizii, draft unpublished abstract compiled and edited by the Heritage Data Management System, Phoenix). Current information

Page 4-122

Lack of documentation in not an accurate indication of Yuma clapper rail absence. Prior to construction, a series of targeted surveys should be completed at all water bodies for Yuma clapper rail to verify presence/absence. As with the impacts to wetlands and bald eagle foraging habitat, and impacts to potential Yuma clapper rail habitat should be avoided when possible, and minimized and mitigated for (offset) when impacts are unavoidable.

Yellow-billed cuckoo (YBCU) occurrence data should be updated to include recent (summer 2013) documentation along the restored riparian habitat on the Salt River proximal to the Audubon Rio Salado center on Central Avenue. Given the close documented occurrence on either side of the study area and the suitable habitat within the study area, the Department would like to see the project specify mitigation for YBCU habitat including the presence of any existing mature riparian trees (cottonwoods and willows in particular), planting additional cottonwoods and willows, and securing water availability in perpetuity so that these riparian communities will persist and thrive.

In June of 2011, the Sonoran desert tortoise was designated as Gopherus agassizii a separate species from Gopherus agassizii rather than merely a distinct population. While predation is certainly a factor in population trends for long-lived species like tortoises, and coyotes have been a factor in some Mohave desert tortoise populations, there is no indication that predation rates on Sonoran desert tortoises have increased above historic rates (unless considering conflicts with domestic and feral dogs). Nor have studies shown predation to cause Sonoran tortoise population crashes or declines in systems without significant anthropogenic impacts. So predation probably doesn’t belong on the list of threats to the species. However, Upper Respiratory Tract Disease is a significant concern for Sonoran desert tortoises. The disease can

(Response 28 continues on next page)
The intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of the crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of the Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through the signs posted.

The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway's potential implementation. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

A mitigation measure to conduct a preconstruction survey for the Sonoran desert tortoise, where appropriate and according to the most recent guidelines from the Arizona Game and Fish Department or U.S. Fish and Wildlife Service, has been added to the Final Environmental Impact Statement on page 4-138.

If an action alternative were to be selected that includes a bridge within the limits of the Rio Salado Oeste restoration project (between 19th and 83rd avenues), the project team would continue to consult with the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix to coordinate design efforts (see page 4-15 of the Final Environmental Impact Statement). However, it is important to note that it is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions.

The need for mitigation related to impacts on waters of the United States has not been determined, but could involve payment of in-lieu fees for use in restoration of habitat within the Salt River.

### Biology, Plants, and Wildlife

If an action alternative were to be selected that includes a bridge within the limits of the Rio Salado Oeste restoration project (between 19th and 83rd avenues), the project team would continue to consult with the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix to coordinate design efforts (see page 4-15 of the Final Environmental Impact Statement). However, it is important to note that it is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions.

The need for mitigation related to impacts on waters of the United States has not been determined, but could involve payment of in-lieu fees for use in restoration of habitat within the Salt River.

### Table 4-45

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<td>28 (cont.)</td>
<td>on threats and connectivity strategies was included in the Biological Evaluation. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). The intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of the crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of the Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through the signs posted. The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway's potential implementation. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement). A mitigation measure to conduct a preconstruction survey for the Sonoran desert tortoise, where appropriate and according to the most recent guidelines from the Arizona Game and Fish Department or U.S. Fish and Wildlife Service, has been added to the Final Environmental Impact Statement on page 4-138. If an action alternative were to be selected that includes a bridge within the limits of the Rio Salado Oeste restoration project (between 19th and 83rd avenues), the project team would continue to consult with the Bureau of Land Management, U.S. Army Corps of Engineers, and City of Phoenix to coordinate design efforts (see page 4-15 of the Final Environmental Impact Statement). However, it is important to note that it is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions. The need for mitigation related to impacts on waters of the United States has not been determined, but could involve payment of in-lieu fees for use in restoration of habitat within the Salt River.</td>
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See above comments regarding yellow-billed cuckoo and Sonoran desert tortoise.

In addition, clarification is needed for the Tucson shovel-nosed snake (TNSN), as the habitat description in the DEIS:

The Tucson shovel-nosed snake is known in all directions of South Mountain. The absence of documented occurrences within the project area is likely due to the lack of surveys and the difficulty associated with surveying and documenting these snakes. However, the Department’s HabitAT tool (http://www.habitat.org/habitat) shows areas of modeled TNSN habitat traversing the project area in several locations with large patches immediately adjacent to the project area. This is inconsistent with the DEIS implication that no TNSN habitat exists in the study area: TNSN habitat is described as “arid, interior, lowland, drier habitat” and its occurrence is described as “No soft, sandy soils with sparse grasses-common habitat.” This purported habitat requirement is inaccurate, and reflects a widespread misconception that the soils are always soft and sandy where this species occurs. Shovel-nosed snakes also occur on firm soils in creosote bush flats, where they apparently use small mammal burrows frequently, rather than “swimming” through sand, for which they are well known. They don’t appear to be completely restricted to creosote flats, either, as it would be reasonable to assume they might also occupy habitats adjacent to major floodplains (e.g., sandy soils associated with the inselberg floodplain). If there are any creosote flats within the project area, there is the potential for Tucson shovel-nosed snakes. The study area is traversed by large swaths of flat creosote—mesquite communities, so there is a distinct possibility that TNSN occur within these areas of overlap. Since there is potential for TNSN within the study area and survey methods are unproven, ADOT mitigation should include working with the Department to establish appropriate pre-construction survey methods and road mortality mitigation measures such as funneling barrier, culvert lighting, underpasses and culvert substrate, and structure approach substrate.

A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened, endangered, and candidate species, including the Tucson shovel-nosed snake. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement).

The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway’s potential implementation. Wildlife-friendly design information would be considered during the design of the drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

A description of riparian plant communities was added in the Plant Community section of the Final Environmental Impact Statement (see page 4-126).

The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service through the design process (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).
We do not dispute the potential benefit of conducting a “multi-year” study to locate wildlife mitigation measures. However, it is also important to recognize that such studies need to be conducted in areas exhibiting priority wildlife-related highway safety and connectivity issues. The section of the highway corridor where the multiuse crossings are proposed was not identified as a linkage zone within the 2006 Arizona Wildlife Linkages Assessment or the 2012 Maricopa County Wildlife Connectivity Assessment, and likely would exhibit relatively low wildlife-vehicle collision incidence in the future given low wildlife densities found within this portion of the corridor. The 2012 Maricopa County Wildlife Connectivity Assessment did identify a movement corridor at the southwestern end of Phoenix South Mountain Park/Preserve. A large bridge proposed for the roadway in this area would allow continued wildlife connectivity in this area.

Depending on the design of the proposed road drainage system, the amount of water entering the Salt River can be greater using roadside channels that collect and direct water that would otherwise infiltrate soils or collect in natural depressions. Highway runoff is generally not harmful compared with general urban runoff (Federal Highway Administration 2012) that also flows into the Salt River; however, there can still be a potential threat to the surrounding ecosystem. With proper treatments such as detention and vegetated treatments, runoff has the potential to benefit habitat in the Salt River.

The picture of the “typical large-animal crossing” was replaced in the Final Environmental Impact Statement (see page 4-137).

A noise wall along the entire length of the project would not be feasible. The impact on wildlife hearing would be similar to other freeway facilities in the Phoenix metropolitan area.
The reference to “former gravel pits” was changed to “gravel pits” on page 4-127 in the Final Environmental Impact Statement because these are still in operation with active mining permits. Since the final design of the proposed freeway has not begun, it is not known what specific modifications would be made to a particular gravel pit; however, it is anticipated that modifications could include partial filling if the pit is not bridged or avoided.

The text on page 4-126 of the Draft Environmental Impact Statement regarding use of the pits by birds refers to the pits being used as a water source, not to potential modification of the water source for the pits or channel of the Salt River. A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened, endangered, and candidate species, including the Yuma clapper rail and yellow-billed cuckoo. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). The Biological Evaluation also addressed the breeding eagles in the Pee Posh wetlands in conformance to the Bald and Golden Eagle Protection Act. While there is suitable habitat for the Yuma clapper rail and yellow-billed cuckoo in the Study Area, no suitable habitat was identified within or immediately adjacent to the anticipated right-of-way for any of the action alternatives. This discrepancy was corrected in the Final Environmental Impact Statement on page 4-134.

Limited research has been conducted on the relationships of highways, traffic volume, noise, and impacts on wildlife. Some studies have alluded to noise as being harmful to wildlife populations, but most information to date has documented impacts on songbirds (Reijnen et al. 1995a, 1996) where densities next to highways were lower for 60 percent of the species, and species richness was a third lower. The “noise effect zone” adjacent to highways varied greatly by vegetative type (Reijnen et al. 1995b) as well as traffic volume (Reijnen et al. 1995a). These factors then relate to the noise impact distance on wildlife, extending 0.25 mile (1,320 feet) with 8,000 to 15,000 vehicles per day, 0.40 mile (2,112 feet) with 15,000 to 30,000 vehicles per day, and 0.75 mile (3,960 feet) with greater than 30,000 vehicles per day (Forman and Deblinger 2000; Forman et al. 1997). As such, with the projected high use of the corridor, noise impacts from traffic are anticipated to have a considerable effect on all species of wildlife, ranging from song birds to eagles to large mammals including mule deer, and may limit their use of adjacent habitats.

As noted above, potential impacts on habitat in the Salt River channel would be associated with construction of a bridge if an action alternative were to become the Selected Alternative. There would be short-term impacts associated with construction, but long-term impacts on connectivity are unlikely because the bridge design would be similar to existing bridges constructed across the Salt River channel in terms of a high openness ratio and natural substrate.
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<td>34</td>
<td>Biology, Plants, and Wildlife</td>
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The text box on page 4-137 of the Final Environmental Impact Statement has been updated to include discussion of reduced permeability and habitat fragmentation.

The comments on the Draft Environmental Impact Statement contradict previous communication with the Arizona Game and Fish Department for the project. The last formal communication from the Arizona Game and Fish Department in 2006 (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor and planned development in the Study Area. Data presented in the Draft and Final Environmental Impact Statements corroborate this statement (see the sidebar, “Existing versus planned land use,” on page 4-3 of both documents). A large percentage of the land in the Study Area is projected to be converted to nonagricultural uses in the foreseeable future. The above-referenced 2006 letter from the Arizona Game and Fish Department also stated that mule deer are believed to have been extirpated from the area. There was no mention of concerns with bighorn sheep.

The Federal Highway Administration and Arizona Department of Transportation have committed to providing mitigation by including multifunctional crossing structures designed for wildlife such as mule deer and for limited human use, potential fencing to guide wildlife to the crossing structures, and culverts designed for connectivity for smaller species.

The intent of the term “migration” was to make the distinction between true seasonal migration versus dispersal or movement within a home range, for which there was public confusion early in the study process. However, the sentence, “With respect to vehicle-wildlife collisions, no major migration corridors were documented in the Study Area” which appears on page 4-126 of the Draft Environmental Impact Statement was removed from the Final Environmental Impact Statement.

See Figure 3-25 on page 3-47 of the Draft Environmental Impact Statement for the location of the structures. Figure 4-38 on page 4-126 of the Final Environmental Impact Statement also includes the multifunctional structures.

The intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of the Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through signs posted.
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<td>35</td>
<td>Biology, Plants, and Wildlife</td>
<td>The statement regarding the potential for the No-Action Alternative to result in greater fragmentation, habitat loss, and animal-vehicle collisions was removed from the text of the Final Environmental Impact Statement.</td>
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<td>36</td>
<td>Biology, Plants, and Wildlife</td>
<td>Comment noted.</td>
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<tr>
<td>37</td>
<td>Biology, Plants, and Wildlife</td>
<td>Comment noted and discussed earlier. Wording was changed as suggested (see page 4-138 of the Final Environmental Impact Statement). The intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through signs posted. The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway’s potential implementation. Wildlife-friendly design information would be considered during the design of the drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).</td>
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A mitigation measure to conduct a preconstruction survey for the Tucson shovel-nosed snake and Sonoran desert tortoise, where appropriate and according to the most recent guidelines from the Arizona Game and Fish Department or U.S. Fish and Wildlife Service, was added to the Final Environmental Impact Statement on page 4-138.

The Federal Highway Administration and Arizona Department of Transportation are committed to continuing coordination during the design process with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns related to the proposed project (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement). Specific mitigation measures related to treatment of Sonoran desert tortoises during construction would be developed during the design phase of the project as more became known about likely construction methods and the likely frequency of encountering tortoises and other species during construction.

A mitigation measure to conduct a preconstruction survey for the Tucson shovel-nosed snake, where appropriate and after consultation with the Arizona Game and Fish Department, was added to the Final Environmental Impact Statement on page 4-138.

The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway’s potential implementation. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

The intent of the term “migration” was to make the distinction between true seasonal migration versus dispersal or movement within a home range, for which there was public confusion early in the study process. However, the sentence, “With respect to vehicle-wildlife collisions, no major migration corridors were documented in the Study Area” that appears on page 4-126 of the Draft Environmental Impact Statement was removed from the Final Environmental Impact Statement.

The Conclusions section, on page 4-127 of the Draft Environmental Impact Statement, included the statement that “construction” would cause short-term noise disturbance. The following sentence indicated that “operation” of the freeway would cause noise disturbance to wildlife. A noise wall along the entire length of the project would not be feasible. The impact on wildlife hearing would be similar to that of other freeway facilities in the Phoenix metropolitan area. No justification for this request is provided in the comment.

The Conclusions section, on page 4-127 of the Draft Environmental Impact Statement, included habitat fragmentation as an impact that would result from operation of the freeway.

The Arizona Department of Transportation’s best management practices for erosion and pollution control such as revegetation, which are part of the Arizona Department of Transportation’s standard practices, affect all levels of biological concern in general, not just wildlife.
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<td>39</td>
<td>Code Comment Document</td>
<td>The No-Action Alternative discussion on page 4-126 of the Draft Environmental Impact Statement referred to private property (non-Gila River Indian Community land). All property along the E1 Alternative is private property with the exception of an approximately 0.3-mile segment of Phoenix South Mountain Park/Preserve that borders the Gila River Indian Community along a section of creosote flats. These private properties, including the ridges on the western end of the South Mountains, are zoned for residential land use. Recent development history in this area of the South Mountains strongly suggests a potential for the trend to continue and the possibility of greater wildlife impacts.</td>
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<td>40</td>
<td>Biology, Plants, and Wildlife</td>
<td>The Draft Environmental Impact Statement does not conclude that the &quot;pre-freeway&quot; development period resulted in greater habitat loss than would be the case in the &quot;with-freeway&quot; period. The text indicated when the greatest loss occurred during the &quot;pre-freeway&quot; period, implying that this loss continued in the &quot;with-freeway&quot; period. The text in the Final Environmental Impact Statement has been revised to clarify this point (see page 4-183).</td>
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<td>41</td>
<td>Biology, Plants, and Wildlife</td>
<td>The intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of the Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through signs posted. The Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service regarding wildlife concerns as a result of the freeway's potential implementation. Wildlife-friendly design information would be considered during the design of drainage and crossing structures for the freeway (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement). As suggested in an earlier comment by the Arizona Game and Fish Department, &quot;...the Department would like to clarify that without mitigation, most of the planned residential, commercial, and transportation developments will individually have substantive negative impacts on wildlife connectivity.&quot; Because this mitigation is not guaranteed, and because of development trends noted in earlier responses, it is reasonable to assume that continued development of this urban landscape will result in reduced wildlife populations.</td>
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Biology, Plants, and Wildlife
Cumulative impacts on wildlife are discussed beginning on page 4-174 of the Final Environmental Impact Statement. Induced growth is discussed as a secondary impact on page 4-173. The discussion concludes that the proposed action would occur in an area planned for urban growth as established in local jurisdictions’ land use planning activities for the last 25 years. As such, the proposed action would not provide new or substantially improved access to a large, undeveloped geographic area. Therefore, the action alternatives are not expected to induce growth in the region.
The mitigation measures for biological resources are presented in greater detail beginning on page 4-138 of the Final Environmental Impact Statement. Additional mitigation measures for the Sonoran desert tortoise and the Tucson shovel-nosed snake have been included. More detailed mitigation measures would be developed during the design process in coordination with agency partners, including the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community's Department of Environmental Quality, as described in the mitigation measures. Regarding wildlife concerns as a result of the freeway's potential implementation, the Federal Highway Administration and Arizona Department of Transportation have committed to continue coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service through the design process (see Mitigation, beginning on page 4-138 of the Final Environmental Impact Statement).

It may seem counter intuitive that constructing a new freeway in an area would not provide substantially improved access to areas along the freeway. However, when the area where the freeway and interchanges would be constructed is in an area that is already planned for development and the existing road network is established, the access conditions would be similar since the land use plan directs the opportunity for access. In this case, the City of Phoenix General Plan has defined the future land uses and roadway system in the Study Area adjacent to the action alternatives outside Gila River Indian Community land. The Gila River Indian Community also has a development plan that identifies development along the northern border of the Gila River Indian Community, regardless of the proposed freeway. The Cumulative Impacts section on page 4-183 of the Final Environmental Impact Statement reiterates the finding that the freeway would not substantially improve access to the geographic area as substantiated in those future development plans. The text of the Draft Environmental Impact Statement does not state or infer that there would be positive consequences for wildlife from overall traffic use by induced travel.

The Western Section alternatives do not appear to be equal in terms of disruption to nesting bald eagle foraging. Please include this summary in the Chapter 4 CONCLUSIONS.

The alteration of drainage patterns on the Eastern Section may substantially impact wildlife habitat and wildlife access to water resources. This was not addressed in terms of wildlife impacts. Please expand the EIS to include such discussion.

Literature Cited

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<tr>
<td>Attachment</td>
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Grandmaison, D. 2012. Wildlife Linkage Research in Pima County – Crossing structures and fencing to reduce wildlife mortality. Arizona Game and Fish Department, Phoenix, Arizona.


South Mountain (Loop 202)  


1 forum open, so no build. Do not build Loop 202. Thank you.

If there's anyone in the auditorium that would like to speak, please make sure you've registered at the front desk. Your name will appear on the screen and we'll call you up in the order that you register.

Again, if there's anyone in the ballroom who would like to speak, please make sure you register at the front desk.

Mr. Gallego.

Mr. Gallego, you have three minutes, here's the timer. Please begin.

Mr. Gallego: Thank you. My name is Ruben Gallego, I'm a resident of South Mountain. I live right next to the mountain, I'm also the state representative for the area that would be impacted by this freeway. I represent the Laveen area, South Mountain, Gila River Indian Community, as well as portions of the west side of Phoenix. I'm here in support of the 202 highway, not only as a resident, but also as a representative of the people in the district. For years I've been hearing about complaints in terms of traffic and traffic congestion. A lot of the jobs that are currently being...
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<td>created in this area -- I'm sorry, that are currently</td>
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<td>being created in Arizona, especially in Maricopa County,</td>
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<td>are not in this area and a lot of my families have to</td>
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<td>drive long ways to get to work, and right now the way to</td>
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<td>do that is through surface streets and a lot that is</td>
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<td>taking up a lot of their time in stop-and-go traffic.</td>
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<td>This highway would make it a lot more convenient for them</td>
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<td>to actually get to the places of work, employment, as</td>
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<td>well as healthcare opportunities, which aren't available</td>
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<td>in this -- right currently in this area.</td>
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<td>I have ran for office twice and have always</td>
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<td>talked about the highway and from my understanding of at</td>
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<td>least the electorate, they are in the positive manner for</td>
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<td>the construction of this highway. And my personal</td>
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<td>experience just living down there, we do need the highway</td>
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<td>to, you know, for one, just for me trying to get in and</td>
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<td>out of this area is very difficult. If there is any kind</td>
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<td>of car accident on the I-10 to I-17, a lot of times those</td>
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<td>state troopers or police will send traffic -- will end up</td>
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<td>using our roads as traffic relievers, so our roads end up</td>
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<td>getting congested every time something does happen and,</td>
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<td>22</td>
<td>you know, that's not very fair to us. We're trying to</td>
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<td>live normal lives, but it'll happen at least once a week</td>
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<td>that if there's a rollover by a truck or something else</td>
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<td>of that nature, they will be using our surface streets to</td>
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be moving east to west, which would not happen if we had another reliever such as the Loop 202 around the mountain. With that, again, I strongly speak in support of the South Mountain freeway and I hope that we can get it done as soon as possible. Thank you.

MR. GEPPERT: Hello. Thank you for allowing public comment. I appreciate the opportunity to speak. I am in favor of the alternative that connects to the west 101, any of those three alternatives just from a traffic flow perspective. The preferred alternative goes directly into where everything gridlocks at both rush hours, so I would appreciate if it could be moved as far west as possible so that trucks needing to bypass the downtown area won’t be a part of the congestion so much as the ones that are currently going to bottleneck if it goes through the 51 corridor. Thank you for the time and I appreciate you taking those thoughts into consideration.

THE FACILITATOR: Thank you, sir.

Mr. Bivvins, you have three minutes, here's the timer.
June 25, 2013

Re: South Mountain Freeway
Comment on Environmental Impact Statement

Dear Sirs:

The City of Chandler would like to express our support for the proposed South Mountain Freeway between Chandler and the West Valley. Chandler residents would benefit greatly by the completion of this Freeway. We believe that is an excellent regional project that has significant congestion and air quality benefits to the entire Phoenix region. Given the magnitude of the regional benefits we fully support the immediate advancement of the design and construction of the South Mountain Freeway.

The South Mountain Freeway would provide an alternate route for Chandler and other East Valley drivers to get to the West Valley. Currently, the only choice is to use I-10 through central Phoenix. This section of I-10 is already at or near capacity, resulting in significant traffic delays and a negative impact on regional air quality.

The South Mountain Freeway would provide an excellent alternative to the using I-10 through central Phoenix. It is estimated that about 140,000 vehicles per day will utilize the South Mountain Freeway. This shift in traffic will ease congestion on I-10, thus reducing commute times and improve air quality for the entire Valley.

Comment noted.
June 25, 2013
Page 2

This project was approved by the voters in Maricopa County in 1995 and
again in 2004, and has been studied for several years. This construction
will create over 10,000 jobs and have $2 billion investment in the local
economy.

With the environmental documents concluding that this project benefits
the region, it is now time to build the South Mountain Freeway.

Respectfully,

[Signature]

Jay Tirshnaey
Mayor
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<td>The City of Litchfield Park</td>
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<td>June 13, 2013</td>
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<td>Mr. John Hallkowski</td>
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<td>ADOT Director</td>
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<td>205 South 17th Avenue, MD 100A</td>
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<td>Phoenix, Arizona 85007-3213</td>
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<tr>
<td></td>
<td>Dear Mr. Hallkowski:</td>
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<td>Please accept this letter and the attached resolution as the City of Litchfield Park’s participation in the public comment of the South Mountain review process.</td>
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<td>On May 15, 2013, the City of Litchfield Park City Council adopted Resolution 13-345 to support the citizens of Maricopa County and the passage of Prop 300 and Prop 400 for construction of the South Mountain Freeway. As stated in the Resolution, the Litchfield Park City Council supports the construction of the South Mountain Freeway for the mobility and economic development of the region for future generations. As a personal note, I support the W59 Alternative (Preliminary Preferred) route as the location of the South Mountain Freeway.</td>
</tr>
<tr>
<td></td>
<td>Thank you for the opportunity to express the views of the Litchfield Park City Council and that of mine as Mayor of Litchfield Park.</td>
</tr>
<tr>
<td></td>
<td>Sincerely,</td>
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<tr>
<td></td>
<td>Mayor</td>
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<td></td>
<td>cc: Members of Council</td>
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<td>Enclosure: Resolution 13-345</td>
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<th>Response</th>
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<tr>
<td>1</td>
<td></td>
<td>Comment noted.</td>
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CITY OF LITCHFIELD PARK
RESOLUTION NO. 13-345

A RESOLUTION OF THE MAYOR AND COMMON COUNCIL OF THE CITY OF LITCHFIELD PARK, ARIZONA, SUPPORTING THE CITIZENS OF MARICOPA COUNTY AND THE PASSAGE OF PROP 300 AND PROP 400 FOR CONSTRUCTION OF THE SOUTH MOUNTAIN FREEWAY.

WHEREAS, the South Mountain Freeway has received overwhelming support by the citizens of Maricopa County as part of two regional elections, the Proposition 300 election in 1985 and the Proposition 400 election in 2001, and

WHEREAS, the South Mountain Freeway is a legacy project in the Regional Transportation Plan with identified funding in the Transportation Improvement Program, and

WHEREAS, a design concept report was completed by the Arizona Department of Transportation (ADOT) in 1988 defining the alignment for the freeway, and

WHEREAS, in 2001, the Federal Highway Administration and ADOT embarked on an Environmental Impact Statement to analyze the purpose and need for the proposed freeway and to study alignments and associated environmental impacts for the freeway and the Draft EIS is now complete for public review and comment; and

WHEREAS, the Draft EIS indicates that the freeway will carry traffic in the range of 137,000 to 142,000 vehicles per day by 2050, which is comparable to current use on the Loop 101 and existing segments of the Loop 202, and

WHEREAS, the South Mountain Freeway will provide an important link for the Southeast and Southwest Valleys, promoting commerce in both regions of the Valley and helping to avoid the current bottleneck at the Broadway curve on Interstate 10, and

WHEREAS, many West Valley local municipalities, businesses, and residents have been proactive participants and supporters of the South Mountain Freeway project which will mitigate traffic congestion and stimulate economic growth in the region, and

WHEREAS, not building the South Mountain Freeway will contribute to increased congestion on local arterial roadways such as Baseline, Southern and Broadway Roads, and

WHEREAS, an alternative route is needed to Interstate 10 when accidents occur which occasionally close Interstate 10 for several hours at a time,

NOW THEREFORE, BE IT RESOLVED THAT THE CITY OF LITCHFIELD PARK supports the construction of the South Mountain Freeway for the mobility and economic development of the region for future generations.

PASSED AND ADOPTED by the Common Council of the City of Litchfield Park, Maricopa County, Arizona, this 16th day of November, 2013.

ATTEST:

Mary K. Evans, MMC, City Clerk

APPROVED AS TO FORM:

Curtis Goodwin, Sullivan, Udest & Scheff, PLC
City Attorneys
By: Susan D. Goodwin
June 13, 2013

Mr. John Jalkowski
ADOT Director
206 South 17th Avenue, MD 100A
Phoenix, Arizona 85007-3213

Dear Mr. Jalkowski:

As City Manager for the City of Litchfield Park, I want to express my appreciation for the opportunity to participate in the public comment for the support of the South Mountain Freeway.

The South Mountain Freeway will provide an important link for the Southeast and Southwest Valleys, promoting commerce in both regions of the Valley and help to resolve the current bottleneck at the Broadway curve and Interstate 10. Upon reviewing the proposed alternatives for the South Mountain Freeway, I believe that the W59 Alternative (Preliminary Preferred) best suits the needs of the region and is the best alignment when considering all the contributing factors.

Thank you for the opportunity to participate in the public comment for the support of the South Mountain Freeway.

Sincerely,

Darryl H. Crossman
City Manager

cc: Mayor Thomas L. Schoaf
    Members of Council

Comment noted.
The City of Phoenix has reviewed the Initial Location/Design Concept Report (DCR) and Draft Environmental Impact Statement (EIS) for State Route Loop 202 (South Mountain Freeway) Interstate 10 (Mesa/Visway) to Interstate 10 (Papago Freeway) and has prepared a list of questions, comments and concerns that address public transportation and development of this freeway.

In general, the City of Phoenix concurs with the overall findings in the Initial DCR and Draft EIS and fully supports the recommended Preferred Alternative WSG Alignment for the proposed SR Loop 202. There are, however, specific areas of concern along the preferred alignment that impact various upcoming City funded projects and Phoenix area residents that should be considered and factored into the project as the final reports are developed. These include the following:

SR Loop 202 (South Mountain Freeway): Location/Design Concept Report
Street Transportation Department

**General Comments**

- Proposed traffic interchanges should be consistent with the most current City Street Classification Map, lane assignments, and cross sections.

- Procurement of the overall project, should consider potential City interaction for planning, designing and constructing cross roads to accommodate new traffic.

-- Comments received that are specific to the South Mountain Freeway Location/Design Concept Report have been forwarded to the design team for response in the South Mountain Freeway Location/Design Concept Report comment resolution process. As appropriate, responses to these comments are included in this document.

Draft Environmental Impact Statement comments are addressed below.

1. **Design**

   Comments received that are specific to the South Mountain Freeway Location/Design Concept Report have been forwarded to the design team for response in the South Mountain Freeway Location/Design Concept Report comment resolution process. As appropriate, responses to these comments are included in this document.

   Draft Environmental Impact Statement comments are addressed below.

2. **Design**

   Page 3-51 of the Final Environmental Impact Statement includes information related to proposed traffic interchanges. Coordination with the City would continue through final design to ensure consistency between the proposed freeway and City road network.

3. **Design**

   Coordination with the City would continue through final design to ensure consistency between the proposed freeway and City road network. Enhancement opportunities are discussed on page 3-60 of the Final Environmental Impact Statement.
<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>4</td>
<td>Design Coordination with the City would continue through final design to ensure consistency between the proposed freeway and City road network. Enhancement opportunities are discussed on page 3-60 of the Final Environmental Impact Statement.</td>
</tr>
<tr>
<td>5</td>
<td>Design Coordination with the City would continue through final design to ensure consistency between the proposed freeway and City road network. Potential utility impacts are discussed beginning on page 4-175 of the Final Environmental Impact Statement.</td>
</tr>
<tr>
<td>6</td>
<td>Design Yes, more information related to the system traffic interchange is provided beginning on page 3-48 of the Final Environmental Impact Statement.</td>
</tr>
<tr>
<td>7</td>
<td>Design Currently, no off-ramps are planned at Roosevelt Street. Coordination with the City and Valley Metro would continue through final design. Enhancement opportunities are discussed on page 3-60 of the Final Environmental Impact Statement.</td>
</tr>
<tr>
<td>8</td>
<td>Design Currently, there are not plans for direct high-occupancy vehicle ramps connecting to the 40th Street park-and-ride lot due to right-of-way constraints. There is a planned connection from the westbound on-ramp to the south entrance. Coordination with the City and Valley Metro would continue through final design to identify opportunities for integrating transit facilities. Enhancement opportunities are discussed on page 3-60 of the Final Environmental Impact Statement.</td>
</tr>
<tr>
<td>9</td>
<td>Design Currently, there are not plans for direct high-occupancy vehicle ramps connecting to the future Baseline Road park-and-ride lot. Coordination with the City and Valley Metro would continue through final design to identify opportunities for coordinating land acquisition and integrating transit facilities. Enhancement opportunities are discussed on page 3-60 of the Final Environmental Impact Statement.</td>
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<tr>
<td>10</td>
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<td>11</td>
<td>Agency Coordination</td>
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<td>Trucks</td>
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<td>14</td>
<td>Alternatives</td>
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(Response 14 continues on next page)
the overall conclusions of the Draft Environmental Impact Statement in terms of purpose and need, evaluation of lane and alignment changes, responsiveness of the proposed freeway to purpose and need, and traffic conditions with the action and No-Action alternatives. The W59 Alternative in combination with the E1 Alternative was identified as the Preferred Alternative. The analyses and conclusions are reflected in the Final Environmental Impact Statement (see Chapter 3, Alternatives).

**Design**  
As described in the Draft and Final Environmental Impact Statements on page 3-23 in the section, Alignment Description, the frontage roads would allow direct access to properties, which would include business properties. The specifics of how access would be provided would be determined during the final design process on a property-by-property basis in collaboration with City of Phoenix staff, property owners, and other appropriate stakeholders. Generally, the description of alternatives must be developed to a sufficient level to allow for meaningful comparison of alternatives but not be so specific in design as to limit flexibility in minor changes in design after completion of the environmental impact statement process. In text beginning on pages 4-45 and page 4-51 of the Draft and Final Environmental Impact Statements, respectively, under the section, Displacements and Relocations, further information is provided describing the Arizona Department of Transportation responsibilities in providing access to adjacent properties.

Yes, there is a potential to examine the possibility of using excess lands for transit uses. Consideration of this possibility has been a common practice for other major transportation facilities in the metropolitan area. In text beginning on pages 4-45 and page 4-51 of the Draft and Final Environmental Impact Statements, respectively, under the section, Displacements and Relocations, mitigation is presented to coordinate with local jurisdictions to use excess lands for alternative public uses. The discussion of enhancement opportunities is further described in the Draft and Final Environmental Impact Statements on page 3-60 in the section, Enhancement Opportunities.
• Include car ownership and transit-dependency in the demographic figures in maps 4-10 through 4-14.

• Pg. S-36 and S-69 “The W59 Alternative would provide more direct access to downtown Phoenix.” Add to this point, ability to make convenient connections to all transit modes and routes in the central city.

• Pg. 3-38 Decisional Criterion, “What other general transportation effects would the proposed freeway have?” Can this bullet point be expounded on, possibly adding specifics to the opportunities for freeway transit services, such as specific locations for park-and-ride lots adjacent to the freeway, addition of HOV lane access for express/rapid bus routes, further study of ROW for rail, etc.

• Table 1-2 Under Transit, provide a summary of the T2000 Tax/Plan, include detailed language such as 4/10 of a percent sales tax, 20 year life of tax, Federal Funding match, and estimated $200 million for bus and $600 million for light rail.

• Pg. 3-02 Right-of-way needed for Action Alternatives, add a point about right-of-way for transit purposes.

• Figure 3-29 add dashed line depicting future Capital A-10 LRT on north side of I-10.

• Pg. 3-60 Enhancement Opportunities, this area should be expanded with more detail about how the excess ROW may be suitable for other public infrastructure projects such as park-and-ride lots.

• Figure 4-4 Planned Developments 2009 map shows the abundance of Residential near the W59 Alternative and Baseline Road. A park-and ride in the area works well with the General Plan by focusing park-and-ride location near residential use and the Laveen Village Core.

SR Loop 202 (South Mountain Freeway): Location/Design Concept Report

• Page 5:1 Incorrect reference to Section 4(f) in first paragraph.

• Page 5-09 Figure 5-S should include Laveen Area Conveyance Channel (LACC) trails and for parks on Figure 5-7.

• Page 5:12 Three City of Phoenix undeveloped park sites are missing: 50th Ave/Olney - APN 300-02-030 and 55th Ave/Gwen St - APNs 300-13-510 and 300-13-752

• Page 5-15 Figure 5-9 graphics are located in the wrong areas in numerous instances and some are noted as being outside the park. The trails represented on this figure are not accurate or current.

• Page 5:20 Center column, second paragraph should read: “The Tunnel Alternatives do not...”
Review of Initial Location/Design and Draft for State Route 202, (South Mountain Freeway) Interchange 10 (Maricopa Freeway) to Interstate 10 (Papago Freeway)

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<tr>
<td>23</td>
<td>Sufficient detail is provided in the Draft and Final Environmental Impact Statements regarding the subject matter. The possibility of using excess lands for transit uses would be considered through the design process. Consideration of this possibility has been a common practice for other major transportation facilities in the metropolitan area. In text beginning on page 4-45 and page 4-51 of the Draft and Final Environmental Impact Statements, respectively, under the section, Displacements and Relocations, mitigation is presented to coordinate with local jurisdictions to use excess lands for alternative public uses. The discussion of enhancement opportunities is further described on page 3-60 in the section, Enhancement Opportunities, in the Draft and Final Environmental Impact Statements.</td>
</tr>
<tr>
<td>24</td>
<td>Compatibility of a public land use such as a park-and-ride facility with other land uses (both existing and planned) is a local jurisdictional issue associated with land use planning. The possibility of using excess lands for transit uses would be considered through the design process. Consideration of this possibility has been a common practice for other major transportation facilities in the metropolitan area. In text beginning on page 4-45 and page 4-51 of the Draft and Final Environmental Impact Statements, respectively, under the section, Displacements and Relocations, mitigation is presented to coordinate with local jurisdictions to use excess lands for alternative public uses. Also, text in the section, Enhancement Opportunities, on page 3-60 of the Draft and Final Environmental Impact Statements, provides additional information regarding enhancement opportunities associated with the proposed action.</td>
</tr>
<tr>
<td>25</td>
<td>The reference on page 5-1 of the Draft Environmental Impact Statement is correct. The reference to Section 4(f) is referring to the situation where a Section 4(f) resource, such as the Phoenix South Mountain Park/Preserve, received Land and Water Conservation Fund Act assistance.</td>
</tr>
<tr>
<td>26</td>
<td>The Laveen Area Conveyance Channel’s primary purpose is not recreation, but flood control; therefore, the channel does not qualify for protection under Section 4(f).</td>
</tr>
<tr>
<td>27</td>
<td>These undeveloped parks were added to Figure 5-7 on pages 5-12 and 5-13 of the Final Environmental Impact Statement. As noted on page 5-13 of the Final Environmental Impact Statement, these parks would be avoided by the proposed freeway.</td>
</tr>
<tr>
<td>28</td>
<td>The trail information shown in Figure 5-8 on page 5-15 of the Final Environmental Impact Statement was digitized from a City of Phoenix pamphlet obtained at Phoenix South Mountain Park/Preserve. Information in Figure 5-8 on page 5-15 of the Final Environmental Impact Statement was obtained from a detailed Phoenix South Mountain Park/Preserve hiking map. On August 15, 2013, a Phoenix South Mountain Park/Preserve Ranger confirmed that this information reflects current conditions.</td>
</tr>
<tr>
<td>29</td>
<td>On page 5-20 of the Final Environmental Impact Statement, the sentence was changed from: “The Tunnel Alternatives do no avoid direct use of a resource afforded protection under Section 4(f), the desired outcome of this alternative development.” to: “The Tunnel Alternatives would not avoid direct use of a resource afforded protection under Section 4(f), the desired outcome of this alternative development.”</td>
</tr>
</tbody>
</table>
On page 5-23 of the Final Environmental Impact Statement, the bullet was changed from:
“During the design phase, ADOT would consult directly with the Phoenix City Manager’s office to identify and implement other design measures, when possible, to further reduce land needed for the proposed action. The City Manager’s office represents its constituents, including the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, and Arizona Horsemen’s Association.” to:
“During the design phase, ADOT would consult directly with the Phoenix City Manager’s office to identify and implement other design measures, when possible, to further reduce land needed for the proposed action. The City Manager’s office represents its constituents, including the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, Phoenix Parks and Recreation Board, and Arizona Horsemen’s Association.”

On page 5-24 of the Final Environmental Impact Statement, the bullet was changed from:
“During this period, ADOT would consult directly with the Phoenix City Manager’s office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee and Phoenix Mountains Preservation Council in establishing a slope treatment plan for cut slopes through the ridgelines, with the clear intent to blend as well as would be possible the cut slopes with the South Mountains’ natural setting.” to:
“During this period, ADOT would consult directly with the Phoenix City Manager’s office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, Phoenix Parks and Recreation Board, and Arizona Horsemen’s Association in establishing a slope treatment plan for cut slopes through the ridgelines, with the clear intent to blend as well as would be possible the cut slopes with the South Mountains’ natural setting.”
On page 5-25 of the Final Environmental Impact Statement, the sentence was changed from:

"However, for the proposed action through SMPP, ADOT would consult directly with the Phoenix City Manager’s office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee and the Phoenix Mountains Preservation Council and with Community representatives to develop the aesthetic treatment of landscaping and structures through the park/preserve."

to:

"However, for the proposed action through SMPP, ADOT would consult directly with the Phoenix City Manager’s office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee, Phoenix Parks and Recreation Board, and the Phoenix Mountains Preservation Council and with Community representatives to develop the aesthetic treatment of landscaping and structures through the park/preserve."

And the bullet was changed from:

"During the design phase, ADOT would consult directly with the Phoenix City Manager’s office (which represents its constituents, including the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, and Arizona Horsemen’s Association), Community delegates, Maricopa County, and assigned staff from the Arizona Department of Public Safety and the Arizona Game and Fish Department (AGFD) to finalize design features and locations of the crossings.”

to:

"During the design phase, ADOT would consult directly with the Phoenix City Manager’s office (which represents its constituents, including the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, Phoenix Parks and Recreation Board, and Arizona Horsemen’s Association), Maricopa County, Arizona Department of Public Safety, U.S. Fish and Wildlife Service (USFWS), Arizona Game and Fish Department (AGFD), and the Community’s Department of Environmental Quality to finalize design features and locations of the crossings designed to provide access to SMPP.”

On page 5-25 of the Final Environmental Impact Statement, the sentence was changed from:

"The cuts would be located in a remote portion of SMPP, not near any trails and barely visible from any of the more readily used trails.”

to:

"The trails are more than ¼ mile from the alignment. In a remote portion of SMPP, the larger of the two SMPP road cuts would be visible—but not intrusively so—from two secondary trails and from San Juan Road and would be minimally discernible from one of the more heavily used trails.”
Review of Initial Location/Design Report and DEIR for SR Loop 202
(South Mountain Freeway) to Interstate 10 (Maricopa Freeway)

Page 5

- Page 6-23 Last column, first paragraph add the Phoenix Parks and Recreation Board.
- Page 5-24 Last column, second paragraph add the Phoenix Parks and Recreation Board.
- Page 6-25 First column and second column add the Phoenix Parks and Recreation Board where advisory groups are mentioned. Also, the center column and continuing to the last column, last sentence is not a factual statement. Trails are near the larger of the two cuts for the proposed project within SMPP and these cuts will be visible from both trails and from San Juan Road.

SR Loop 202 (South Mountain Freeway): Location/Design Concept Report

Water Services Department

- Page ES-1: Table ES 1 lists several COP Streets project but no WSD projects. We have a couple in the area.
- Page 3.31/3.32 Correct zip code to 85003
- Page 8.32: How will gravity sewers span on the bridges? Most are deep and may be below the proposed freeway. Confirm in design.
- Page 3:2: Funding was added for Storm Drain siphons? COP does not like sewer siphons.
- Page 3-32: Note for large diameter water mains that are PCCP (Prestressed Concrete Cylinder Pipe). COP requires 4’ undisturbed soil to be maintained in all directions around the main. These are sensitive pipes that get structural support for the soil. Additionally, all pipes need to be checked for additional loading with changes in the fill or removal of existing fill.
- Page 3-32: Same as above for water relocations. Is the contingency item storm drain siphons or vertical relocations of water mains?
- Page 3-36: Can you please provide me a copy of the Blasting Issues with the City of Phoenix South Mountain Water Transmission Main Report?

Appendix A:

- Add water and sewer mains to plan and profile sheets.
- Extra protection will be required around all Prestressed Concrete Cylinder Pipe (PCCP) water mains.
- Mains will require evaluations for fill and cut situations.
- Coordination will be required for bridge and wall footings and loading around mains.
- Several locations will require removal and new w/s mains as structures are removed with the new ROW.
- WSD is in design for a new 36” water main to be located in Buckeye Rd. Construction is anticipated to start in the next year.
- Continued coordination will be required as the freeway design progresses.

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<tr>
<td>33</td>
<td>Design</td>
<td>The list of projects will be updated in the Final Location/Design Concept Report to include the existing and planned Water Services Department projects. Coordination with the City would continue through final design to minimize impacts on City water and sewer facilities.</td>
</tr>
<tr>
<td>34</td>
<td>Design</td>
<td>Coordination with the City would continue through final design to minimize impacts on City water and sewer facilities. The comments provided will be considered during the design of the proposed freeway. Information related to the design of the proposed freeway is discussed beginning on page 3-54 of the Draft and Final Environmental Impact Statements.</td>
</tr>
<tr>
<td>35</td>
<td>Agency/Coordination</td>
<td>A copy of the requested document was provided to the City.</td>
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</table>
36

Section 4(f) and Section 6(f)

In Figure 5-4 of the Final Environmental Impact Statement, on page 5-7, the last bullet in the Description column has been changed from: “Owned by FCDMCe” to: “Owned by the City of Phoenix.” In addition, the footnote “Flood Control District of Maricopa County” was removed and the footnote for “Arizona Department of Transportation” was changed from an “f” to an “e.”

37

Noise

As noted on pages 4-161 and 4-173 of the Draft and Final Environmental Impact Statements, respectively, steps would be taken to minimize noise impacts from construction activities, if an action alternative were selected. These measures would include:

- All equipment exhaust systems would be in good working order.
- Properly designed engine enclosures and intake silencers would be used.
- Equipment would be maintained on a regular basis.
- New equipment would be subject to new product emission standards.
- Stationary equipment would be located as far away from sensitive receivers as possible.
- Construction-related noise generators would be shielded from noise receivers (e.g., use temporary enclosures to shield generators or crushers, take advantage of site conditions to provide topographic separation).
- Construction alerts would be distributed to keep the public informed of construction activities and a toll-free number for construction-related complaints would be provided.
- During the design phase, hours of operation would be evaluated to minimize disruptions during construction.

38

Public Involvement

During construction, the Arizona Department of Transportation would hold information meetings at the beginning of construction activities regarding the upcoming improvements and work schedules. The public can be informed through construction updates/newsletters, project information hotlines, Web sites, periodic meetings, project offices, and radio and newspaper.

39

Visual

The Arizona Department of Transportation Roadside Development Section is responsible for assigning a wide range of standard treatment applications and wall materials, including color, to noise barriers and other structures. Typically the community where the wall would be constructed would work closely with its City Architect or planning department to decide on a theme for the wall. Usually, this can be accomplished by using the Arizona Department of Transportation’s standard applications. As an example, for State Route 101 Loop (Pima Freeway) in Scottsdale, the City of Scottsdale chose to add public art to the noise barriers. The City’s intent went above and beyond the Arizona Department of Transportation’s guidelines of reasonable aesthetic treatment and, therefore, the Arizona Department of Transportation did not fund the aesthetic portion of the project. The Arizona Department of Transportation and the City of Scottsdale entered into an intergovernmental agreement for the purposes of allowing Scottsdale rights to design and construct artistic embellishment on the Arizona Department of Transportation-supplied noise barrier. The Arizona Department of Transportation provided the funds for construction of the noise barriers themselves, but the City of Scottsdale provided the funds to cover the aesthetic portion of the walls. Draft Environmental Impact Statement pages 4-158 and 4-159 and pages 4-170 and 4-171 of the Final Environmental Impact Statement explain the process municipalities might take to achieve the desired aesthetic treatment for noise barriers or other structures.
The comment reflects a concern regarding possible impacts on neighborhood cohesion of the Rio Del Rey community in the vicinity of 62nd Avenue and Broadway Road. After passage of Proposition 300 in 1985 (information about Proposition 300 is presented on page 1-9 of the Final Environmental Impact Statement), local jurisdictions, through planning efforts, sought to preserve corridors where segments of the Regional Freeway and Highway System freeways were to be located. As shown in Detail B of Figure 3-32 on page 3-56 of the Final Environmental Impact Statement, Local Street Realignments, W59 Alternative (Preferred Alternative), Western Section, such a swath of land was set aside with the intention that a freeway would pass through the area. The land has been vacant for almost 30 years. The referenced community developed around the planned freeway corridor in phases between 2001 and 2005. This suggests in approving the subdivision, the developers were made aware of the future freeway development and should have disclosed this information to potential homebuyers. Text in the text box entitled Freeway Awareness, beginning on page 4-12 of the Final Environmental Impact Statement, describes the obligation of the local jurisdictions, land developers, and the Arizona Department of Transportation in disclosing information about planned transportation facilities near proposed developments. Therefore, through the phased development of the community on each side of a known, planned-for freeway location, the project developers created a basis for community separation. The corridor is fenced off between 61st and 62nd avenues, and the conversion to the freeway use would not occur until sometime after 2014, if an action alternative were the Selected Alternative. There are two bus routes with stops at 60th Avenue and Elwood Street and 60th Avenue and Warner Street. It is the policy of the school district to discourage children from walking to school (although it is reported that some children still do walk to school) and to bus all the children to school using routes along the major arterial streets.

Table 4-9, Impacts on Community Character and Cohesion, Action Alternatives, beginning on page 4-24 of the Final Environmental Impact Statement, addresses community cohesion impacts. Criteria for determining such impacts are presented in the sidebar entitled, Cohesion and character of communities, on page 4-21 of the Final Environmental Impact Statement. It is noted therein that one form of cohesion impact is the elimination of neighborhood access to commercial areas, schools, parks, or other community amenities. In this case, alternative pedestrian access would be provided at the service traffic interchanges and arterial street crossings at Broadway and Lower Buckeye roads (although children walking to school would be discouraged and bus routes provided). Pedestrian facilities provided at those crossings would be designed to meet applicable design standards established in part for the safe use of those facilities, and, therefore, access would not be eliminated. This alternative pedestrian access would be provided during construction and after the freeway were built, if an action alternative were to become the Selected Alternative; however, pedestrian facilities near potential freeway construction would be closed for limited periods of time for safety reasons. Such closures would be temporary and would occur only during construction activities.

### Letters from Rio Dell Rey Phase I Community & Riveraside Elementary School District No.2

**June 24, 2003**

**RE: Safe Paths to School**

*John Hill*

ADOT

1111 West Jackson Street

Phoenix, AZ 85007


> Be aware of introduction, my name is Joe Vigil and I am a 30 year resident of the Rio Del Rey community located on 62nd Avenue and Broadway. I want to express my concern for the safety of the children in our community. With the expansion of the new freeway coming through our community very soon, the freeway will divide both of the communities and will create a hardship for children to get to school safely. I am asking the ADOT agency to consider the placement of a vehicular bridge as actual children in both Rio Del Rey communities can safely travel to school.

Your consideration and attention to this issue is greatly appreciated.

Respectfully,

Joe Vigil

Rio Dell Rey Phase I Community, 4222 W. Encinas Lane, Phoenix, AZ 85043, (602) 558-4750

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<tr>
<td>40</td>
<td>Neighborhoods/Communities</td>
<td>The comment reflects a concern regarding possible impacts on neighborhood cohesion of the Rio Del Rey community in the vicinity of 62nd Avenue and Broadway Road. After passage of Proposition 300 in 1985 (information about Proposition 300 is presented on page 1-9 of the Final Environmental Impact Statement), local jurisdictions, through planning efforts, sought to preserve corridors where segments of the Regional Freeway and Highway System freeways were to be located. As shown in Detail B of Figure 3-32 on page 3-56 of the Final Environmental Impact Statement, Local Street Realignments, W59 Alternative (Preferred Alternative), Western Section, such a swath of land was set aside with the intention that a freeway would pass through the area. The land has been vacant for almost 30 years. The referenced community developed around the planned freeway corridor in phases between 2001 and 2005. This suggests in approving the subdivision, the developers were made aware of the future freeway development and should have disclosed this information to potential homebuyers. Text in the text box entitled Freeway Awareness, beginning on page 4-12 of the Final Environmental Impact Statement, describes the obligation of the local jurisdictions, land developers, and the Arizona Department of Transportation in disclosing information about planned transportation facilities near proposed developments. Therefore, through the phased development of the community on each side of a known, planned-for freeway location, the project developers created a basis for community separation. The corridor is fenced off between 61st and 62nd avenues, and the conversion to the freeway use would not occur until sometime after 2014, if an action alternative were the Selected Alternative. There are two bus routes with stops at 60th Avenue and Elwood Street and 60th Avenue and Warner Street. It is the policy of the school district to discourage children from walking to school (although it is reported that some children still do walk to school) and to bus all the children to school using routes along the major arterial streets.</td>
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<td>Regardless of the subdivision development history and the alternative pedestrian access, additional text was added into Final Environmental Impact Statement Table 4-9 on page 4-24 for the W59 Alternative in the heading column, <strong>Effect on Community Cohesion</strong>, to read “Would displace residences within the Rio Del Rey subdivision, an area of census blocks that contain minority populations.” In the section, <strong>Mitigation</strong>, beginning on page 4-23 of the Final Environmental Impact Statement, a measure was added to the text to read “ADOT would coordinate with appropriate City of Phoenix officials during the final design process to consider and identify, if appropriate, enhancements such as a pedestrian overpass to reduce possible pedestrian-related impacts. During that process, if mitigation is warranted, the operations, maintenance, and liabilities of the facilities would be passed on to the local jurisdictions.” The following was added to Table S-4 on page S-18 of the Final Environmental Impact Statement: “ADOT would coordinate with the City of Phoenix to consider and identify, if appropriate, measures to reduce possible pedestrian-related impacts.”</td>
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Review of Initial Location/OCR and OBS for State Route 208L
(South Mountain Freeway) Interstate 10 (Maricopa Freeway)
to Interstate 10 (Papago Freeway)

Page 8

June 24, 2013

RE: Safe Bridge to School

To whom it may concern:

By way of introduction, my name is Patty Lopez-Vijay and I am a 10 year resident of the Rio Del Rey community located on 62nd Avenue and Broadway. I would like to express my concern for the safety of the children in our community. With the expansion of the new freeway coming through our community very soon, I am asking if the ADOT, City of Phoenix and any other interested agencies/developers will consider the placement of a pedestrian bridge so that children in both the Del Rey communities can safely travel from home to school.

You consideration and attention to this issue is greatly appreciated.

Respectfully,

[Signature]

Patty Lopez-Vijay

Rio Del Rey Phase I Community, 8222 W. Encinas Lane, Phoenix, AZ 85045, (602) 838-6782
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Review of Initial Location/SCR and DUIS for State Route 202L  
(South Mountain Freeway) Interstate 10 (Maricopa Freeway)  
to Interstate 10 (Papago Freeway)

Page 9

**Letter regarding the 2070s at Drakeway for the Rio Del Rey communities. I see another con but are asking for them to send it to Top.**

---

**[Email Address]**  
City of Phoenix, Neighborhood Services  
1300 N 20th Ave, 4th Floor  
SE 2-5a-3/90  
ojas@phoenix.gov

--- Forwarded by [Email Address] on 06/07/2013 12:53 PM ----

**[Email Address]**  
To: [Email Address]  
06/07/2013 12:53 PM

--- Subject: Letter to KDOT

Good day,

Our school district operates two schools that feed into our high school. Due to the safety of the students, we ask that kids walk to school safely. To ensure that all students are safe on their way to school, we are asking that you consider an alternative route for students to walk to school.

The current route is safe and offers a smooth transition for students. We value the safety and well-being of all students and believe this route is the best option for them.

Please consider this change in route to ensure the safety of our students. We appreciate your understanding and support in making this change.

Thank you for your cooperation.

Sincerely,

[Signature]

[Name]

[Title]

[School District]
Review of Initial Location DCR and DEIS for State Route 202L
(South Mountain Freeway) Interstate 10 (Maricopa Freeway)
to Interstate 10 (Papago Freeway)

Page 10

To whom it may concern. My son is going to be going to school during the construction of the new freeway and my concern is that during this time there is no safe path for the kids to travel. Being the President of the HOA, this is a very big concern for the community. It is necesary that something can be constructed to help us as we wish to keep the freeway and it's noise away from the school. Could the HOA contact me at any time.

Tony Chan
Treasurer
E-mail: CH202832094@msn.com
P.O. Box 202832
Phoenix, AZ 85032

To: Omar Baeloumwire DCR
cc: Baeloumwire DCR

Subject: Safe route to school.

Another e-mail regarding the South Mountain Freeway DCR.

[Email body]

To: Omor Baeloumwire DCR
cc: Baeloumwire DCR

Subject: Safe route to school.
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```plaintext
Dear Ms. Siddo,

I am writing to request a "safe route to school" bridge be included by ADOT in the I-1023 construction between Broadway and Lower Buckeye.

I am a resident of the Rio Del Rey community. The construction of the freeway will divide the community and impede traffic between the school and residences. A bridge would allow students to continue their education services uninterrupted and alleviate some of the hardships borne during construction of the freeway.

I appreciate your consideration in this matter.

Sincerely,

John Tyler
Math Teacher | Adobe Mountain School
311 P.M. | State Officer Liaison | [email] | [phone] |
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Review of Initial Location of ICR and DCR for State Route 2021
(South Mountain Freeway - Interstate 10 (Maricopa Freeway)
to Interstate 16 (Pasago Freeway)

Page 13

RIVERDALE ELEMENTARY SCHOOL DISTRICT NO. 2
SCHOOL 11TH AVENUE
Phoenix, Arizona, 85007

Thursday, June 27, 2013
RE: Safe Path to School

Chase Hill
Arizona Department of Transportation
4361 West Union Street
Phoenix, AZ 85087

Mr. Hill, Riverside Elementary School District #2 has been in existence since 1973. We have been the center of our community and continue to provide services to our students and parents that are needed within our boundaries. As the city has approved additional housing developments within our school boundaries, it is imperative that we plan accordingly in the design of the proposed freeway. Our student population will increase further by 2030. This will worsen pedestrian traffic to and from the schools. Proposed satellite academies. The proposed freeway will cut through our site. Dell Ray Community leaving a major portion of our students crossing the freeway.

We are recommending that ADE restrict the safety of our students by blocking a pedestrian bridge within the vicinity of 62nd Avenue and Broadway. This will present a safety threat for our students to and from school.

Please feel free to contact me if you need any additional information to support this recommendation.

Sincerely,

Jane A. Hill
Superintendent of Schools
Riverside Elementary School District #2

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...
While the E1 Alternative is adjacent to the largely residential areas of Ahwatukee Foothills Village (to the north), a freeway has been planned in this location for many years (see pages 4-17 and 4-21 of the Final Environmental Impact Statement). Where existing residential uses are adjacent to the proposed freeway, noise mitigation would be implemented according to the Arizona Department of Transportation policy (see page 4-88 of the Final Environmental Impact Statement).

Prospective home buyers and members of the church built after the freeway was conceived, according to State law, should have been informed of the proposed facility. (Sellers are obligated by Arizona common law to disclose all known material facts about a property to the buyer.)

If a well were adversely affected by construction activities, the well might need to be abandoned or the well owner would be compensated by drilling a new well according to State regulations/standards. (See text box on page 4-108 of the Final Environmental Impact Statement.) The well replacement program as outlined by State law would be implemented by the Arizona Department of Transportation to effectively mitigate well impacts associated with its projects throughout the region.

The proposed South Mountain Freeway would pass through the park’s southwestern edge. Section 4(f) of the Department of Transportation Act extends protection to significant publicly owned public parks, recreation areas, and wildlife and waterfowl refuges, as well as significant historic sites, whether they are publicly or privately owned. This protection stipulates that those facilities can be used for transportation projects only if there is no prudent and feasible alternative to using the land and the project includes all possible planning to minimize harm to the land [see Final Environmental Impact Statement, Chapter 5, Section 4(f) Evaluation]. The project team examined alternatives to avoid the Phoenix South Mountain Park/Preserve, but did not identify any feasible and prudent alternatives to avoid impacts on the park. The Arizona Department of Transportation continues to work with park stakeholders to minimize impacts and address concerns. Measures to minimize harm to the park were developed (see Final Environmental Impact Statement, starting on page 5-23). The portion of the park that would be used for the proposed freeway would be 31.3 acres, or approximately 0.2 percent of the park’s approximately 16,600 acres (see Draft and Final Environmental Impact Statements page 5-31). Phoenix South Mountain Park/Preserve would remain the largest municipally owned park in the United States. Nine-tenths of a mile of the proposed freeway would pass through the park’s southwestern edge (see page 5-14 of the Final Environmental Impact Statement). The activities that make the park a highly valued resource (recreational activities, interaction with the Sonoran Desert) would remain.
me because I'm over on 74th Avenue. That’s pretty much
all I have.

* * *

UNIDENTIFIED SPEAKER: I think they're a
little late in doing this, but I hope they do do this at
some point. I don't see any reason not to do this. I
think in Phoenix, in general, they wait until it's too
late to do some of this planning. So I think with all
the information available, it's very overwhelming. But
this project is definitely needed and just to alleviate
some of the stress downtown with traffic and help have
alternative ways of getting to West Phoenix other than
driving through Central Phoenix.

So I'm a native to Ahwatukee, and this has
been something on the burner for a while now and hasn't
come to fruition, so I think that's my statement.

I don't see any reason why they haven't
built it around. I think of all the new opportunities,
it will — housing and jobs and stuff, just build it and
they will come kind of thing. If they build a freeway,
there might not be anything there now, but why wait until
everything is there and then build it — not aggressive
or proactive, but that's basically it.

* * *

MR. NOWAKOWSKI: Michael Nowakowski. I am
a city councilman for the City of Phoenix for District 7, which happens to be in the location of the South Mountain Freeway. And one of the concerns I have here is that the Valley commuters have to wait a long time in traffic jams; that the I-10 is hours and hours of waiting, and coming in and out of town, that we're going to end up being another Los Angeles and that we need to complete the 202; that putting in the so-called South Mountain Freeway will relieve all of that; that we need to make sure that traffic moves smoothly and that it's not congested.

We're also looking at two different votes. People voted back in, I think it was 1985 and in 2004, to build the freeway, and it's about time that we do so; that people were promised in 2001 that it was -- the freeway, that they would break ground on the freeway. Now we're at 2013 and it hasn't broken ground, and it's impacting in the City of Phoenix because of our infrastructure. Our infrastructure is all based on the freeway itself, so we can't complete all of our streets and sidewalks and connect the west to east boundaries. It was completed in the Laveen area, the north to south; but there is a delay on the east to west because we're not sure if the freeway is going in. If it does go in, we want to make sure we're not building...
1 recommending -- or that's why I as a city council member
2 are recommending to build it on city property.
3
4 Pecos Road has already been cleared for
5 that, the majority has already been bought. If you drive
6 down the I-10, you will see the stack for the Pecos Road
7 and the rest of the 202. The 202 will -- this portion of
8 the South Mountain Freeway will connect what is the
9 missing link between the East Valley and the West Valley.
10 It will complete the whole 202.
11
12 We're the 6th largest city in the country
13 and not having a freeway that's connected creates this
14 congestion and has motorists on freeways for hours just
15 idling, and I think that's worse for our environment than
16 not building a freeway.
17
18 On top of all of that, we're looking at
19 30,000 jobs, and it'll probably be the biggest stimulus
20 project in the state of Arizona that we're going to have,
21 close to almost $2 billion. So it's something that's
22 going to bring revenues for the state, something that's
23 going to bring jobs for the state, and the other thing is
24 it's going to basically relieve the traffic that we have
25 and reduce the air pollution and that's one of the things
26 that we need.
27
28 Also, if you look in the Laveen and South
29 Phoenix areas, we have low income individuals that have

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<td>On top of all of that, we're looking at 30,000 jobs, and it'll probably be the biggest stimulus project in the state of Arizona that we're going to have, close to almost $2 billion. So it's something that's going to bring revenues for the state, something that's going to bring jobs for the state, and the other thing is it's going to basically relieve the traffic that we have and reduce the air pollution and that's one of the things that we need.</td>
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1 streets in the wrong area.
2 The other thing is that the residents out
3 in the Laveen area are still waiting for all the
4 different amenities, like restaurants, hospitals, things
5 for families, just movie theaters and all of that. And
6 every time we try to advocate for businesses to move to
7 Laveen, they're saying that once the freeway is decided
8 that's when they'll make the decision to bring in those
9 types of businesses, hospitals, and other things that are
10 needed.
11 If you look at the City of Phoenix, south
12 of the Rio Salado, there's not a hospital. And shame on
13 us that we don't have a hospital south of the river. And
14 this freeway will bring a hospital south of the river, if
15 it's built.
16 The other concerns we're hearing out there
17 is the whole concern of the residency, that they don't
18 want the freeway to be built on the reservation, so that
19 means that we have to build it on the foothills of the
20 South Mountain. And basically we're looking at about a
21 17,000-acre park, and we're going to probably touch about
22 30 acres of that park or of the mountain, because we
23 can't build it on the reservation.
24 They have taken some of the votes and they
25 have been voted down. That's why the City of Phoenix is
no ways to get to a hospital if there's an emergency. So having a freeway will bring a hospital closer to individuals. Instead of driving at least 20 minutes away, you'll have a hospital within five to ten minutes. You'll just have people with disabilities that have no way of getting to a hospital also, and this will bring a hospital for that. So for low income people, people from disability, and for minorities, it'll bring not only a hospital but good paying jobs also. That's it. Just build that damn freeway.

PAULA FLECK: Paula Fleck. I just wanted to add that I heard a woman get up and speak and mention that she believed that adding the 202 would cause emphysema. And I'm a respiratory therapist, and I can tell you that emphysema is not caused by pollution from the 202. Over 90 percent of it is caused by smoke like cigarettes or any kind of thing you would smoke. About, I'd say, five percent would be from secondhand smoke or working in a job where you're around a lot of chemicals, directly exposed and not protecting yourself with the mask, and about one percent of it is caused by alpha-1-antitrypsin. Those are rough numbers. But I'll tell you this is from my schooling, as well as what I've seen working in a...