APPENDIX 4-1

ADOT RELOCATION ASSISTANCE PROGRAM POLICY

Appendix 4-1, ADOT Relocation Assistance Program Policy, provides the full ADOT policy on relocation assistance. This policy defines how ADOT complies with Title VI of the Civil Rights Act of 1964, which prohibits any action undertaken by ADOT to treat any person or group unfairly on the grounds of race, color, national origin, sex, age, or disability. Also included are two brochures that explain 1) your rights and benefits as a displaced person under the federal relocation assistance program; and 2) the process for acquiring real property for federal and federal-aid programs and projects.

PRIORITY

The Arizona Department of Transportation assures full compliance with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. Title VI of the Civil Rights Act requires that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity of the Arizona Department of Transportation. Related nondiscrimination statutes added sex, age, and disability. A program or activity is defined as all of the operations of a department or agency of a State government.

ASSURANCE

The State of Arizona (hereinafter referred to as the "Recipient") HEREBY AGREES THAT as a condition to receiving any Federal financial assistance from the Department of Transportation it will comply with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d-42 U.S.C. 2000d-4 (hereinafter referred to as the Act), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the Regulations) and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, gender, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, and HEREBY GIVES ASSURANCE THAT it will promptly take any measures necessary to effectuate this agreement. This assurance is required by subsection 21.7 (a)(1) of the Regulations, a copy of which is attached.

More specifically and without limiting the above general assurance, the Arizona DOT hereby gives the following specific assurances with to its Federal-aid Highway Program.

1. That the Arizona DOT agrees that each "program" and each "facility" as defined in subsections 21.23(e) and 21.23 (b) of the Regulations, will be (with regard to a "program") conducted, or will be (with regard to a "facility") operated in compliance with all requirements imposed by, or pursuant to, the Regulations.

2. That the Arizona DOT shall insert the following notifications in all solicitations for bids for work or material subject to the Regulations...
and made in connection with all Federal-aid Highway Program and, in adapted form in all proposals for negotiated agreements:

The State of Arizona, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d-42 U.S.C. 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, gender, age, or disability in consideration for an award.

3. That the Arizona DOT shall insert the clauses of Appendix A of this assurance in every contract subject to the Act and the Regulations.

4. That the Arizona DOT shall insert the clauses of Appendix B of this assurance, as a covenant running with the land, in any deed from the United States effecting a transfer of real property, structures, or improvements thereon, or interest therein.

5. That where the Arizona DOT constructs a facility, or part of a facility, the assurance shall extend to the entire facility and facilities operated in connection therewith.

6. That where the Arizona DOT acquires real property or an interest in real property, the assurance shall extend to rights to space on, over or under such property.

7. That the Arizona DOT shall include the appropriate clauses set forth in Appendix C of this assurance, as a covenant running with the land, in any future deeds, leases, permits, licenses, and similar agreements entered into by the Arizona DOT with other parties: (a) for the subsequent transfer of real property acquired or improved under the State Transportation Improvement Program; and (b) for the construction or use of or access to space on, over or under real property acquired, or improved under the State Transportation Improvement Program.

8. That this assurance obligates the Arizona DOT for the period during which Federal financial assistance is extended, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property or interest therein or structures or improvements thereon, in which case the assurance obligates the Arizona DOT or any transferee for the longer of the following periods: (a) the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or (b) the period during which the Arizona DOT retains ownership or possession of the property.

9. The Arizona DOT shall provide for such methods of administration for the program as are found by the Secretary of Transportation of the official to whom he delegates specific authority to give reasonable guarantee that it, other recipients, subgrantees, contractors, subcontractors, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Act, the Regulations and this assurance.

10. The Arizona DOT agrees that the United States has right to seek judicial enforcement with regard to any matter arising under the Act, the Regulations, and this assurance.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Arizona DOT by the Department of Transportation under the Federal-aid Highway Program and is binding on it, other recipients, subgrantees, contractors, subcontractors, transferees, successors in the interest and other participants in the Federal-aid Highway Program. The person or persons whose signatures appear below are authorized to sign this assurance on behalf of the Arizona DOT.

DATED ____________________ ARIZONA DOT

[Signature of Authorized Official]

Attachments
Appendices A, B, and C
Department of Transportation
APPENDIX A

During the performance of this contract, the contractors, for itself, its assignees and successors in the interest (hereinafter referred to as the "contractor") agrees as follows:

(1) Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (herein, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(2) Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, national origin, gender, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligation under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, gender, age, or disability.

(4) Information and Reports: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts other sources of information, and its facilities as may be determined by the State of Arizona or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the State of Arizona, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the State of Arizona shall imposed such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

(a) withholding of payments to the contractor under the contract until the contractor complies and/or
(b) cancellation, termination or suspension of the contract in whole or in part.

(6) Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the State of Arizona or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the contractor may request the State of Arizona to enter into such litigation to protect the interests of the State of Arizona, and, in addition, the contractor may require the United States to enter into such litigation to protect the interests of the United States.
APPENDIX B

The following clauses shall be included in any and all deeds effecting or recording the transfer of real property, structures or improvements thereon, or interest therein from the United States.

(Granting Clause)

NOW, THEREFORE, the Department of Transportation, as authorized by law, and upon the condition that the State of Arizona will accept title to the lands and maintain the project constructed thereon, in accordance with Title 23, United States Code, the Regulations for the Administration of Federal Aid for Highways and the policies and procedures prescribed by the Federal Highway Administration of the Department of Transportation and, also in accordance with and in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter referred to as the Regulations) pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat.; 42 U.S.C. 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the State of Arizona all the right, title and interest of the Department of Transportation in and to said lands described to Exhibit "A" attached hereto and made a part hereof.

(Habendum Clause)

TO HAVE AND TO HOLD said lands and interests therein unto the State of Arizona and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and shall be binding on the State of Arizona, its successors and assigns.

The State of Arizona, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, the (1) no person shall on the grounds of race, color, national origin, gender, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over or under such lands hereby conveyed, and (2) that the State of Arizona shall use the lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department shall have a right to re-enter said lands and facilities on said land, and the above described land and facilities shall hereon revert to and vest in and become the absolute property of the Department of Transportation and its assigns as such interest existed prior to this instruction.*

* Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to effectuate the purposes of Title VI in the Civil Rights Act of 1964.
APPENDIX C

The following clauses shall be included in all deeds, licenses, leases, permits or similar instruments entered into by the State of Arizona pursuant to the provisions of Assurance 7(a).

The (grantee, licensee, lessee, permittee, etc., as appropriate) for himself, his heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add “as a covenant running with the land”) that in the event facilities are constructed, maintained or otherwise operated on the said property described in this (deed, license, lease, permit, etc.) for a purpose for which a Department of Transportation program or activity is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

That in the event of breach of any of the above nondiscrimination covenants, the State of Arizona shall have the right to terminate the (license, lease, permit, etc.) and to re-enter and repossess said land the facilities thereon, and the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

The following shall be included in all deeds, licenses, leases, permits, or similar agreement entered into by the State of Arizona pursuant to the provisions of Assurance 6(b).

The (grantee, licensee, permittee, etc., as appropriate) for himself, his personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds, and leases add “as a covenant running with the land”) that (1) no person on the grounds of race, color, national origin, gender, age, or disability shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over or under such land and the furnishing of services thereon, no person on the grounds of race, color, national origin, gender, age, or disability shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

That in the event of breach of any of the above nondiscrimination covenants, the State of Arizona shall have the right to re-enter said land and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of the State of Arizona and its assigns.

Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to effectuate the purposes of Title VI in the Civil Rights Act of 1964.
ARIZONA DEPARTMENT OF TRANSPORTATION

TITLE VI OPERATING PROCEDURES

STAFFING

The Arizona Department of Transportation has established a Civil Rights Office to administer civil rights related programs. The Civil Rights Office is a part of the Transportation Services Group, which reports to the Chief of Staff. The Civil Rights Administrator has direct access to the Director and Deputy Director. Organizational charts for the agency and for the Civil Rights Office are attached.

Title 23 of the Code of Federal Regulations, part 200.9 (b)(2), requires state departments of transportation to have an adequately staffed civil rights unit. The Civil Rights Office is staffed by the Administrator, an Equal Opportunity Specialist IV, three Equal Opportunity Specialists III, an Equal Opportunity Specialist II, an Administrative Secretary and a half-time clerical aide. All of the professionals participate in investigations when needed.

The Civil Rights Administrator serves as the Title VI Coordinator. The Administrator is responsible for initiating and monitoring Title VI activities and preparing reports. The Administrator is assisted by one of the Equal Opportunity Specialists.

The department has elected to use the interdisciplinary approach to implementing its Title VI program. The Title VI Team is composed of liaisons from relevant program areas: Transportation Planning, Environmental Planning, Engineering Consultant Services, Right of Way, and Contracts and Specifications. In some cases, there is more than one liaison. The liaisons meet on a quarterly basis and more often if necessary. The team assists in conducting reviews, investigating complaints, and defining issues. Some of the metropolitan planning organizations have also appointed liaisons.

The Title VI Coordinator, assisted by staff and the Title VI Team, has the following responsibilities:

1. Investigate Title VI complaints promptly and in accordance with complaint procedures which follows.

2. Develop a program to conduct Title VI reviews of program areas including reviewing procedures to collect statistical data (i.e., race, color, national origin, gender, age, and disability) of participants in, and beneficiaries of State highway programs.

3. Conduct annual reviews of special emphasis program areas, such as Transportation Planning, Environmental Planning, and Right-of-Way, to determine the effectiveness or program area activities at all levels.

4. Conduct Title VI reviews of cities, counties, consultant contractors, suppliers, universities, colleges, planning agencies, and other recipients of Federal-aid funds.

5. Review State program directives in coordination with State program officials and, where applicable, include Title VI and related requirements.

6. Conduct training on Title VI and related statutes for State program and civil rights officials.

7. Prepare a yearly report of Title VI accomplishments for the past year, goals for the next year and an updated Title VI implementing plan.

8. Develop Title VI information for dissemination to the general public and, where appropriate, in languages other than English.

9. Establish procedures for pre and post grant approval reviews of State programs and applicants for compliance with Title VI requirements such as highway location, design and location, and persons seeking contracts with the State.

10. Establish procedures to identify and eliminate discrimination when found to exist.

11. Establish procedures for promptly resolving deficiency status and reducing to writing the remedial action agreed to be necessary, within a period not to exceed 90 days.

COMPLAINTS PROCESS

Any person who believes that he or she, individually, as a member of any specific class of persons, or in connection with any minority contractor, has been subjected to discrimination prohibited by Title VI of Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 may file a
complaint. The basis of the complaint must be (a) unequal treatment because of race, color, national origin, gender, age and/or disability, or (b) noncompliance with Title VI rules or guidelines adopted thereunder.

The Arizona Department of Transportation has the principal responsibility for processing, investigating, and resolving any complaint arising within or as a result of its operations, its contractors or its subrecipients. Complaints may be filed with the ADOT Director or Civil Rights Office, the U. S. Department of Transportation (USDOT), the Federal Highway (FHWA), the Federal Transit Administration (FTA), the Federal Aviation Administration (FAA). ADOT will use the interdisciplinary approach and involve the Title VI Liaisons in the investigation. In the event the complaint is against ADOT, FHWA will conduct or contract for the investigation or, if a class action complaint, a review.

Complaints must be filed within 180 days of the date of the alleged act of discrimination or, where there has been a continuing course of conduct, the date on which that conduct was discontinued.

Complaints must be filed in writing and must be signed by the complainant and/or complainant's representative. The complaint must describe the facts and circumstances surrounding the claimed discrimination. If the complaint is verbal, a representative of the ADOT Civil Rights Office will assist the person in reducing the complaint to writing and submit the written version of the complaint to the person for signature.

When a complaint is filed directly with ADOT, the appropriate agency (FHWA, FTA, or FAA) will be notified within ten (10) working days of the allegations. The following information will be included in every notification to the appropriate office:

• Name, address, and telephone number of the complainant or representative.
• Name(s) and address(es) of alleged discrimination officials.
• Basis of complaint (i.e., race, color, national origin, gender, age, disability).
• Date of alleged discriminatory act(s).
• Date complaint was received by ADOT.

• A statement of the complaint.
• Other agencies (state, local, or federal) with which the complaint has been filed.
• An explanation of the actions ADOT has taken or proposed to resolve the issues raised in the complaint.

Within ten (10) days, the ADOT Civil Rights Administrator will acknowledge receipt of the allegation, inform the complainant of action taken or proposed action to process the allegation, and advise the complainant of other avenues of redress available.

Within sixty (60) days, the Civil Rights Administrator will conduct and complete an investigation of the allegation, and based on the information obtained, will render a recommendation for action in a report of findings to the ADOT Director. The Transportation Division of the Attorney General's Office will be consulted during the course of the investigation and the preparation of the report.

Within ninety (90) days from the allegation's receipt, the ADOT Director will notify the complainant in writing of the final decision reached, including the disposition of the matter. This notification will advise the complainant of the avenues of appeal if dissatisfied with the decision. A copy of the decision and summary of findings will be provided to the FHWA Division Office.

All Title VI complaints will be resolved by informal means whenever possible. Such informal attempts and their results will be summarized in the report of findings.

The ADOT Civil Rights Administrator will periodically inform the FHWA Division Office regarding the status of any complaints.

When an allegation has been directly filed with another agency, the ADOT Civil Rights Administrator will be informed and coordinate any action needed by ADOT to resolve the complaint.

If a complaint or the ensuing investigation reveals any factor, element, or omission within the Department's procedures as contributory to the situation causing the complaint, the Civil Rights Administrator will initiate prompt action to amend the procedure to preclude future complaints arising from the same cause. Procedures for promptly resolving deficiency status and reducing to writing necessary remedial action will be established within 90 days.
The Civil Rights Office will maintain a complete file on each Title VI complaint, investigation and final resolution. Any individual having filed a complaint or participated in the investigation of a complaint will not be subjected to any form of intimidation or retaliation. Individuals who believe they have been subjected to intimidation or retaliation must follow the procedures described above.

**TITLE VI PROGRAM AREAS**

**General Guidelines**

Division Directors and subordinate staff are responsible for being in compliance with the requirements of Title VI and related statutes. If, during a review of the program area, deficiencies are found, the deficiencies will be pointed out to the appropriate liaison for corrective action. Corrective action must occur within 90 days. A follow up review will be conducted to ensure deficiencies are being corrected. All finding recommendations and progress made in implementing corrective action will be thoroughly documented.

The guidelines for conducting reviews of program areas are attached in Appendix 4-2.

**Transportation Planning**

The Transportation Planning Division (TPD) is part of ADOT's comprehensive planning process. Data from various management information systems and source documents are used to enhance management operations and decision making. TPD's Planning Team conducts various studies to support the comprehensive planning process. The two primary types of studies are Multimodal Corridor Profile Analysis and Small Area Transportation Studies.

Multimodal Corridor Profile Analysis studies focus on multimodal corridors of statewide significance. The goal of these studies is to develop specific strategies that include all transportation modes to accommodate the transportation needs in the key corridors in Arizona. Public involvement is a very important component of these studies. Open House Public Meetings are held at key points in the study process. Additionally, the scope of work specifically states that Title VI issues, including environmental justice, will be addressed.

Small Area Transportation studies are a partnership between ADOT and local jurisdictions. These studies are managed by the local jurisdictions and ADOT requires that the scope of work explicitly state the Title VI issues will be addressed as part of the development of the local jurisdictions' transportation plan. Public involvement is also a very important part of these efforts. Typically at least one member of the Technical Advisory Committee is from the general public. Public meetings are also held as a part of the Small Area Transportation study process.

The Title VI Coordinator and TPD's liaisons work closely with local officials of the Metropolitan Planning Organizations (MPO) and Councils of Governments (COG) to ensure compliance with the Title VI requirements. The Title VI Coordinator provides training, coordinates efforts with the local governments and community organizations on potential Title VI issues, and investigates complaints. The following actions may be taken by the Title VI Coordinator, with assistance from the liaison, in the planning process in order to ensure effective implementation and compliance with Title VI:

- Participate and provide local governments with Title VI information and training.
- Assist the MPO's, COG's and the community in general in establishing Title VI priorities for plans, programs and projects.
- Work closely with the MPO's, COG's and the community in general to create an awareness of the specific requirements of Title VI and especially to assure that the methods used are applied equitably to all groups of people.
- Participate in public meetings, when possible, to create an awareness of Title VI and to ensure the benefits are equally accessible to all.
- Conduct reviews of the statewide transportation planning programs to determine the process for considering community needs.
- Review public participation processes to ensure efforts are taken to reach out and encourage the participation of the transportation disadvantaged.
Environmental Planning

The Environmental Planning Section implements and maintains an environmental planning program, in compliance with state and federal environmental and civil rights laws and regulations, to obtain appropriate environmental approval for proposed highway projects. The section researches and evaluates social, economic, and environmental impacts of proposed highway projects. Environmental documents, including mitigation for identified impacts, are also prepared and processed.

The Title VI Coordinator reviews all Environmental Impact Statements (EIS) and Environmental Assessments (EA) to ensure Title VI and environmental justice issues are addressed. Guidance on Title VI and environmental justice is attached as Appendix _. The Title VI Coordinator, with assistance from the liaison, takes the following actions to ensure compliance:

- Monitor reports to ensure appropriate statistical data is included.
- If adverse impacts are identified, evaluate the mitigative measures to assure they are applied in an equitable manner to those people affected.
- Review public meeting and public hearing notices, press releases, advertisements, etc., to determine if all segments of the impacted communities are being notified of proposed or pending projects.
- Attend public meetings, when possible, to discuss Title VI information and to ensure the meetings are held so all segments of the impacted communities can participate.

Right of Way

The Right of Way Section is responsible for acquiring all real property and real property rights necessary for construction and maintenance of all federal and state highways, maintenance camps, and other transportation-related purposes. Right of Way administers all matters relating to the management and disposal of all Department-owned property and the Relocation Assistance Program.

The Title VI Coordinator, with assistance with the liaison, with Right of Way to:

- Make certain persons who are being relocated are treated in an equitable manner in terms of fair payment for property acquired, relocation assistance, and timely notification of the rights and avenues of appeal. This includes providing information in other languages and alternative formats.
- Monitor procedural methods used in land appraisals, acquisitions, negotiations, selection of comparables, application of cost factors, and relocation activities to ensure activities are uniformly applied to all impacted and potentially impacted persons.
- Monitor activities to ensure minority and low-income populations are not adversely impacted.
- Monitor reports to ensure appropriate statistical information is being collected and maintained.

Engineering Consultant Services

The Title VI Coordinator, with assistance from the liaison, is responsible for the following:

- Monitoring the selection process to ensure Disadvantaged Business Enterprises (DBE’s) have the maximum opportunity to participate in consultant contracts.
- Monitor prequalification requirements to ensure they are equally applied to all firms.
- Monitor scopes-of-work, when feasible, to ensure Title VI and environmental justice issues are addressed.

Contracts and Specifications

The Title VI Coordinator is responsible for the following with respect to bidding construction contracts:
• Take steps to ensure DBE’s are included on the listing to receive bid advertisements for highway construction jobs.
• Monitor bid bond requirements to ensure they are applied to all construction firms.
• Evaluate all federal aid construction contracts with DBE requirements for compliance with contract specifications.
• Monitor prequalification requirements to ensure they are equally applied to all firms.

**Procurement**

The Title VI Coordinator works with Procurement to ensure the process of selection consultants and/or vendors is done so in a nondiscriminatory manner. This includes research and other projects funded in whole or in part with federal funds. Procurement also participates in a variety of trade fairs to explain the process of doing business with ADOT to small businesses.

**Roadside Development/Transportation Enhancement Program**

Funding is available for transportation enhancement activities or projects that add community or environmental value to a completed or underway transportation project. The funding is designed to encourage activities and projects that more creatively integrate transportation facilities into their surrounding communities and natural environment. The program is divided into two programs. One is for projects associated with the State highway system and the other for local projects.

The Title VI Coordinator works with the liaison from Roadside Development to ensure the process of selecting transportation enhancement projects is done so in a nondiscriminatory manner.

**SUBRECIPIENT REVIEWS**

The Title VI Coordinator will require annual reports from subrecipients. Subrecipients include cities, counties, consultant contractors, suppliers, universities, colleges, planning agencies such as MPO’s and COG’s, and other recipients.

Subrecipients such as cities, counties, and planning agencies such as MPO’s and COG’s must submit the following information by August 1 of each year. Semi annual reviews may be conducted of larger organizations. The reports will contain the following information and will be maintained in the Civil Rights Office.

• Assurances
• Statistical breakdown of communities’ populations
• Beneficiaries of projects – identify the race/ethnicity/gender/age, disability of those who will benefit from projects and, specifically, the mobility benefits such as pedestrian, bicycles, automobiles, and transit which will result
• Effects of transportation programs within the community: transportation, social, and other beyond mobility
• Process for public participation, specifically discussing efforts to reach out and to ensure participation of the transportation disadvantaged
• Composition of advisory boards having an impact on transportation programs, indicating the race, ethnicity, gender, age and disability of the members
• A listing of all complaints, claims and lawsuits alleging discrimination
• Process for identifying and eliminating procedures which result in discrimination and correcting deficiencies within 90 days
• A listing of pending applications for federal assistance

The Title VI Coordinator will review subrecipients reports to determine which reviews will be conducted during the next year.

Subrecipients such as consultants, contractors, suppliers, universities, and colleges, will maintain the following information:

• Assurances
• Statistical breakdown of organizations such as the EEO 1 report
• Information by race, ethnicity, gender, disability showing the extent to which members of minority groups are beneficiaries of programs
• A listing of all complaints, claims and lawsuits alleging discrimination
• Processes for identifying and eliminating procedures which result in discrimination and correcting deficiencies within 90 days
• A listing of pending applications for federal assistance.

**TRAINING**

The Title VI Coordinator will conduct training with the Title VI liaisons, MPO’s, COG’s, and other interested individuals on an annual basis. All
INTRODUCTION

Government programs designed to benefit the public as a whole often result in acquisition of private property, and sometimes in the displacement of people from their residences, businesses, nonprofit organizations, or farms.

To provide uniform and equitable treatment for persons displaced, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and amended it in 1987. This law, called the Uniform Act, is the foundation for the information discussed in this brochure.

Acquisition and relocation policies and provisions for all Federal and federally assisted programs and projects are contained in the government-wide rule published in the Federal Register on January 4, 2005. The rules are reprinted each year in the Code of Federal Regulations (CFR), Title 49, Part 24. All Federal, State, local government agencies, and others receiving Federal financial assistance for public programs and projects that require the acquisition of real property must comply with the policies and provisions set forth in the Uniform Act and the regulation.

The acquisition itself does not need to be federally funded for the rules to apply. If Federal funds are used in any phase of the program or project, the rules of the Uniform Act apply.

Section 1 of this brochure provides information about relocation assistance advisory service. Section 2 contains information important to you if you are being displaced from a residence. Section 3 contains information for displaced businesses, farms, and nonprofit organizations.

IMPORTANT TERMS USED IN THIS BROCHURE

Agency
Relocation assistance advisory services and payments are administered at the local level by an Agency responsible for the acquisition of real property and/or the displacement of people from property to be used for a federally funded program or project. The Agency may be a Federal agency, a State agency, a local agency, such as a county or a city, or a person carrying out a program or project with Federal financial assistance. The Agency may contract with a qualified individual or firm to administer the relocation program. However, the Agency remains responsible for the program.

If you are required to move as a result of a Federal or federally assisted program or project, a relocation counselor will contact you. The counselor will answer your specific questions and provide additional information you may need. If you have a disability that prevents you from reading or understanding this brochure, you will be provided appropriate assistance. You should notify the sponsoring Agency if you have special requirements for assistance.

This brochure explains your rights as an owner of real property to be acquired for a federally funded program or project. The requirements for acquisition of property are explained in a brochure entitled Acquisition, Acquiring Real Property for Federal and Federal-aid Programs and Projects. Acquisition and relocation information can be found on the Federal Highway Administration Office of Real Estate Services website www.fhwa.dot.gov/realestate
Alien Not Lawfully Present
The law provides that if a displaced person is an alien not lawfully present in the United States such person is not eligible for relocation payments or assistance under the Uniform Relocation Assistance and Real Property Acquisition Policies Act, unless ineligibility would result in exceptional and extremely unusual hardship to the alien’s spouse, parent, or child, and such spouse, parent or child is a citizen or an alien lawfully admitted for permanent residence.

Business
Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease, and rental of personal or real property; or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property; or for the sale of services to the public; or solely for the purpose of the Uniform Act, an outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

Displaced Person
Any person (individual, family, partnership, association or corporation) who moves from real property, or moves personal property from real property as a direct result of (1) the acquisition of the real property, in whole or in part, (2) a written notice from the Agency of its intent to acquire, (3) the initiation of negotiations for the purchase of the real property by the Agency, or (4) a written notice requiring a person to vacate real property for the purpose of rehabilitation or demolition of improvements, provided the displacement is permanent and the property is needed for a Federal or federally assisted program or project.

Farm
Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator’s support.

Nonprofit Organization
A public or private entity that has established its nonprofit status under applicable Federal or State law.

Program or Project
An activity or series of activities undertaken by a Federal agency, or an activity undertaken by a State or local agency with Federal financial assistance in any phase of the activity.

Small Business
A business having not more than 500 employees working at a site which is the location of economic activity and which will be acquired for a program or project, or is displaced by a program or project. A site occupied solely by an outdoor advertising sign(s) does not qualify for purposes of the reestablishment expense benefit.
SECTION 1 – RELOCATION ADVISORY SERVICES

A relocation counselor will contact you and offer relocation assistance service.

Any individual, family, business or farm displaced by a Federal or federally assisted program shall be offered relocation assistance services for the purpose of locating a suitable replacement property. Relocation services are provided by qualified personnel employed by the Agency. It is their goal and desire to be of service to you, and assist in any way possible to help you successfully relocate.

Remember, your relocation counselor is there to help and advise you, so please be sure to make full use of the counselor’s services. Do not hesitate to ask questions and be sure you fully understand all your rights and benefits.

An individual with a disability will be provided the assistance needed to locate and move to a replacement dwelling or site. The individual should notify the Agency of any special requirements for assistance.

RESIDENTIAL ASSISTANCE

A relocation counselor from the Agency will contact and interview you to find out your needs. Relocation services and payments will be explained in accordance with your eligibility. During the initial interview your housing needs and desires will be determined as well as your need for assistance.

The counselor will offer assistance and provide a current listing of comparable properties. You will be provided a written determination of the amount of replacement housing payment for which you qualify. The counselor can supply information on other Federal and State programs in your area.

Transportation will be offered to inspect housing referrals. The Agency will provide counseling or help you get assistance from other sources as a means of minimizing hardships in adjusting to your new location.

You cannot be required to move unless at least one comparable decent, safe, and sanitary (DSS) replacement dwelling is made available to you.

Please let your counselor know if you locate a replacement dwelling so that it can be inspected to assure that it meets DSS standards.

BUSINESS, FARM, AND NONPROFIT ORGANIZATION ASSISTANCE

A relocation counselor from the Agency will contact and interview you to find out your needs and replacement site requirements and estimate the time needed to accomplish the move. Relocation services and payments will be explained in accordance with your eligibility. It is important to explain to the counselor any anticipated problems. During the initial interview the relocation counselor will ask many questions to determine your financial ability to accomplish the move, including lease terms and other obligations.

The counselor will help determine the need for outside specialists to plan, move, and reinstall personal property. The counselor will identify and resolve any issues regarding
what is real estate and what is personal property to be relocated. The counselor will explore and provide advice as to possible sources of funding and assistance from other local, State, and Federal agencies. In addition, as needed, the relocation counselor will maintain listings of commercial properties and farms.

The goal is to achieve a successful relocation back into the community.

Social Services Provided By Other Agencies

Your relocation counselor will be familiar with the services provided by other public and private agencies in your community. If you have special problems, the counselor will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you. Make your needs known in order that you may receive the help you need.

MOVING COSTS

If you qualify as a displaced person, you are entitled to reimbursement of your moving costs and certain related moving expenses. Displaced individuals and families may choose to be paid either on the basis of actual, reasonable moving costs and related expenses, or according to a fixed moving cost schedule. To assure your eligibility and prompt payment of moving expenses, you should contact the relocation counselor from the Agency before you move.

Actual, Reasonable Moving Costs

You may be paid for your actual, reasonable moving costs by a professional mover plus related expenses, or you may move yourself. Reimbursement will be limited to a 50-mile distance in most cases. Related expenses involved in the move may include:

- Packing and unpacking personal property.
- Disconnecting and reconnecting household appliances.
- Temporary storage of personal property.
- Insurance while property is in storage or transit.
- Transfer of telephone service and other similar utility reconnections.
- Other expenses considered eligible by the Agency.
All expenses must be considered necessary and reasonable by the Agency and supported by paid receipts or other evidence of expenses incurred.

Fixed Moving Cost Schedule

You may choose to be paid on the basis of a fixed moving cost schedule established for your State of residence. The amount of the payment is based on the number of rooms in your dwelling. Your relocation counselor will be able to tell you the exact amount you will be eligible to receive if you select this option. The schedule is designed to include all of the expenses incurred in moving, including those services that must be purchased from others.

If you are the owner of a displaced mobile home, you may be entitled to a payment for the cost of moving the mobile home to a replacement site on an actual cost basis. Displaced mobile home occupants (owners or tenants) may also be eligible for a payment for moving personal property from the mobile home such as furniture, appliances and clothing on an actual cost basis, or on the basis of a moving cost schedule. For a complete explanation of all moving cost options involving a mobile home, please discuss the matter with your relocation counselor.

REPLACEMENT HOUSING

There are three types of replacement housing payments: purchase supplement, rental assistance, and downpayment. To understand replacement housing payments you first need to become familiar with the terms Comparable; Financial Means; Decent, Safe, and Sanitary (DSS); and Last Resort Housing.

Comparable
A comparable replacement dwelling must be DSS and functionally equivalent to your present dwelling. While not necessarily identical to your present dwelling, a comparable replacement dwelling should provide for the same utility and function as the dwelling from which you are being displaced. In addition, a comparable replacement dwelling should be:

• Adequate in size to accommodate the occupants (e.g., you and your family).
• Located in an area that is not subject to unreasonable adverse environmental conditions.
• Located in an area that is not less desirable than your present location with respect to public utilities and commercial and public facilities.
• Reasonably accessible to your place of employment.
• Located on a site that is typical in size for residential development with normal site improvements.
• Currently available on the private market.
• Within your financial means.

Financial Means
For a homeowner, if a purchase supplement is needed and provided, in addition to the acquisition price for your dwelling, then the replacement dwelling is considered to be within your financial means.
For a tenant, the monthly rent and estimated average monthly utility (electricity, gas, other heating and cooking fuels, water and sewer) cost for a comparable replacement dwelling is considered to be within financial means if, after receiving rental assistance, this amount does not exceed the base monthly rent (including average monthly utility cost) for the dwelling from which the tenant is displaced.

The Agency may need to calculate the base monthly rent using 30% of the displaced tenant’s total monthly gross household income, if that income qualifies as low income in accordance with established low income amounts determined by the U.S. Department of Housing and Urban Development (HUD).

The Agency will also evaluate the amounts designated for shelter and utilities for a tenant that receives government assistance.

The rental assistance payment will be computed using the lesser of the three (rent and average monthly utility cost; 30% of the total monthly gross household income for a qualified low income tenant; or the total amount designated for shelter and utilities for a tenant receiving government assistance). To ensure the maximum benefit, it is important to provide the Agency appropriate evidence of total monthly household income when asked. There are some amounts that are not included as monthly household income, including income earned by dependents. The Agency will explain this procedure in greater detail.

Decent, Safe, and Sanitary
The DSS standard means the replacement dwelling meets the minimum requirements established by Federal regulations and conforms to applicable local housing and occupancy codes. The dwelling shall:

- Be structurally sound, weathertight, and in good repair.
- Contain a safe electrical wiring system adequate for lighting and other devices.
- Contain a heating system capable of sustaining a healthful temperature (approximately 70 degrees Fahrenheit) except in those areas where local climatic conditions do not require such a system.
- Be adequate in size with respect to the number of rooms and area of living space to accommodate the displaced person.
- Contain a well-lighted and ventilated bathroom providing privacy to the user and containing a sink, bathtub or shower stall, and a toilet, all in good working order and properly connected to appropriate sources of water and sewage drainage system.
- Contain a kitchen area with a fully usable sink, properly connected to potable hot and cold water and to a sewage drainage system, with adequate space and utility connections for a stove and refrigerator.
- Have unobstructed egress to safe, open space at ground level.
The Agency must provide comparable replacement housing, that is DSS and within your financial means, before you are required to move. The Agency may provide the necessary housing in a number of ways, such as:

- Making a replacement housing payment in excess of the maximum $5,250 or $22,500 statutory limits.
- Purchasing an existing comparable residential dwelling and making it available to you in exchange for your dwelling.
- Moving and rehabilitating a dwelling and making it available to you in exchange for your property.
- Purchasing, rehabilitating or reconstructing an existing dwelling to make it comparable to your property.
- Purchasing land and constructing a new replacement dwelling comparable to your dwelling when comparables are not otherwise available.
- Purchasing an existing dwelling, removing barriers or rehabilitating the structure to accommodate a handicapped displaced person when a suitable comparable replacement dwelling is not available.
- Providing a direct loan which will enable you to construct or contract for the construction of a decent, safe, and sanitary replacement dwelling.

Freedom of Choice
All eligible displaced persons have the freedom of choice in the selection of a replacement dwelling. The Agency will not require you, without your written consent, to accept a replacement dwelling provided by the Agency. If you decide not to accept the replacement housing offered by the Agency, you may secure a replacement dwelling of your choice but it must meet the DSS standard.

If you are eligible for Last Resort Housing, your relocation counselor will thoroughly explain the program to you.

Length of Occupancy – Basic Occupancy Requirements
The type of payment you are eligible for depends on whether you are an owner or a tenant, and how long you have lived in the property being acquired prior to the initiation of negotiations. “Length of occupancy” simply means counting the number of days that you occupied the dwelling before the date of initiation of negotiations by the Agency for the purchase of the property.

The term “initiation of negotiations” is usually the date the Agency makes the first personal contact with the owner of real property, or his/her representative, to provide a written offer to purchase the property being acquired.

Owners who were in occupancy 180 days or more prior to the initiation of negotiations may be eligible for a purchase supplement or a rental assistance payment.

Tenants who were in occupancy 90 days or more prior to the initiation of negotiations may be eligible for a rental assistance payment or a downpayment.
Owners who were in occupancy 90 days to 179 days prior to the initiation of negotiations, may be eligible for a rental assistance payment or a downpayment, however, the downpayment cannot exceed the amount you would have received if you had been a 180-day owner.

If you were in occupancy at the time of the initiation of negotiations, but less than 90 days prior to that date, you are considered a displaced person entitled to relocation assistance advisory services and moving payments. You may be entitled to a rental assistance payment if comparable replacement rental housing is not available within your financial means. The Agency will use the financial means test described earlier in this brochure. This involves checking to see if you qualify as low income using the HUD definition. If so, and you are required to pay rent and utilities in excess of 30% of your average monthly gross household income for a comparable replacement dwelling unit, you may be eligible for a rental assistance payment under Last Resort Housing because comparable replacement housing is not available within your financial means. You should meet with your relocation counselor for an explanation of the relocation benefits that you may be eligible to receive.

REPLACEMENT HOUSING – PURCHASE SUPPLEMENT

For Owner Occupants of 180 Days or More

If you are an owner and occupied your home for 180 days or more immediately prior to the initiation of negotiations for your property, you may be eligible - in addition to the fair market value of your property - for a supplemental payment for costs necessary to purchase a comparable DSS replacement dwelling. The Agency will compute the maximum payment you are eligible to receive. You must purchase and occupy a DSS replacement dwelling within one year. A purchase supplement has three components: a price differential, an amount for increased mortgage interest and incidental expenses. The purchase supplement is in addition to the acquisition price paid for your property.

Price Differential

The price differential payment is the amount by which the cost of a replacement dwelling exceeds the acquisition cost of the displacement dwelling.

Increased Mortgage Interest

You may be reimbursed for increased mortgage interest costs if the interest rate on your new mortgage exceeds that of your present mortgage. To be eligible your acquired dwelling must have been encumbered by a bona fide mortgage which was a valid lien for at least 180 days prior to the initiation of negotiations.
Incidental Expenses

You may be reimbursed for other expenses such as reasonable costs incurred for title search, recording fees, and certain other closing costs, but not for prepaid expenses such as real estate taxes and property insurance.

Example of a Price Differential Computation

**Example A:** Assume the Agency purchases your property for $100,000. After a thorough study of available comparable residential properties on the open market, the Agency determines that a comparable replacement property will cost $116,500. If you purchase a DSS replacement property for $116,500, you will be eligible for a price differential payment of $16,500.

**Example B:** If you purchase a DSS replacement property costing more than $116,500, you pay the difference as shown in Example B.

**Example C:** If your purchase price is less than $116,500, the price differential payment will be based on your actual cost.

<table>
<thead>
<tr>
<th>Agency Computation of Maximum Price Differential Payment</th>
<th>Cost of Comparable Replacement Property</th>
<th>Maximum Price Differential Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example A</td>
<td>$116,500</td>
<td>$16,500</td>
</tr>
<tr>
<td>Example B</td>
<td>$125,000</td>
<td>$25,000 $16,500</td>
</tr>
<tr>
<td>Example C</td>
<td>$114,000</td>
<td>$14,000 $16,500</td>
</tr>
</tbody>
</table>

**Comparison of DSS Replacement Property and Displacement Property**

Price Differential Payment may be any amount up to $16,500.
REPLACEMENT HOUSING – RENTAL ASSISTANCE

180-Day Owners Who Elect to Rent

A rental computation will be computed based on a determination of the fair market rent for the acquired dwelling compared to a comparable rental dwelling available on the market. The difference will be multiplied by 42. In no circumstances will the rental assistance payment exceed the amount the owner would have received as a price differential described previously.

For Owner Occupants and Tenants of 90 Days or More

Owner occupants and tenants of 90 days or more may be eligible for a rental assistance payment. To be eligible for a rental assistance payment, tenants and owners must have been in occupancy at least 90 days immediately preceding the initiation of negotiations for the acquisition of the property.

This payment is designed to enable you to rent a comparable decent, safe, and sanitary replacement dwelling for a 42-month period. If you choose to rent a replacement dwelling and the cost of rent and utilities are higher than you were paying, you may be eligible for a rental assistance payment. The Agency will determine the maximum payment you may be eligible to receive in accordance with established procedures.

The rental assistance payment will be paid in a lump sum unless the Agency determines that the payment should be paid in installments. You must rent and occupy a DSS replacement dwelling within one year to be eligible.

Example

Assume you have been paying $500 per month rent for the dwelling unit occupied by you and purchased by the Agency. You also pay $150 per month for utilities (electricity, gas, other heating and cooking fuels, water, and sewer). The rental assistance payment computation always includes the cost of basic utilities (electricity, gas, other heating and cooking fuels, water, and sewer), as well as the cost of rent. If rent includes utilities, a separate computation is not necessary.

After a study of the rental market, the Agency determines that replacement rental unit, that is DSS and comparable to your unit, is available for $600 per month. It is estimated that average monthly utility costs for the replacement unit will be $175 per month. The maximum rental assistance payment you can receive is $125 per month for a 42-month period, or a total of $5,250.
Example A: If you select a DSS replacement dwelling unit that rents for $650 per month plus $175 for utilities, despite the availability of comparable DSS replacement rental units that rent for $600 per month plus $175 for utilities, you will receive the maximum amount computed by the Agency, or $5,250. You will be required to pay the additional $50 per month yourself.

Example B: If you select a DSS replacement dwelling unit that rents for more than your present unit, but less than amount determined by the Agency as necessary to rent a comparable unit, your payment will be based on actual cost. For example, assume you select a replacement dwelling unit that rents for $575 per month plus $165 for utilities. On the basis of actual cost, you will be eligible for a payment of $90 per month for 42 months, or $3,780.

<table>
<thead>
<tr>
<th>Agency Computation of Maximum Rental Assistance Payment</th>
<th>Rent You are Currently Paying</th>
<th>Plus Cost for Utilities You are Paying</th>
<th>$500</th>
<th>+$150</th>
<th>$650</th>
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<tbody>
<tr>
<td>Rent for a Comparable DSS Dwelling</td>
<td>$600</td>
<td>+$175</td>
<td>$775</td>
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<tr>
<td>Estimated Cost for Utilities</td>
<td>$5,250</td>
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<td></td>
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<tr>
<td>Difference ($775-650=$125) x 42 months</td>
<td>$5,250</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Maximum Rental Assistance Payment</td>
<td>$5,250</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Example A

Actual Rent for DSS Replacement Property
Plus Estimated Cost for Utilities
$650
+ $175
$825
Difference ($825-650=$125) x 42 months
$7,350
Rental Assistance Payment
$5,250

Example B

Actual Rent for DSS Replacement Property
Plus Estimated Cost for Utilities
$575
+ $165
$740
Difference ($740-650=$90) x 42 months
$3,780
Rental Assistance Payment
$3,780
REPLACEMENT HOUSING – DOWNPAYMENT

Owner Occupants of 90 to 179 Days and Tenants of 90 Days or More

Owner occupants of 90 to 179 days and tenants of 90 days or more may be eligible for a downpayment and incidental expenses. The Agency will determine the maximum downpayment you may be eligible to receive based on its computation for a rental assistance payment. However, the payment for a displaced owner occupant shall not exceed the amount that would have been received by a 180-day owner for the same property.

To be eligible for the full amount of the downpayment assistance payment, the entire payment must be used to purchase a DSS replacement dwelling. The payment may be utilized for a downpayment toward the purchase price and/or eligible incidental expenses. Incidental expenses include the reasonable costs of title search, recording fees, and certain other closing costs but do not include prepaid expenses such as real estate taxes and property insurance. You may be eligible for the reimbursement of loan origination or loan assumption fees if such fees are normal to real estate transactions in your area and do not represent prepaid interest. The combined amount of the downpayment and incidental expenses cannot exceed the amount the Agency computed as your maximum rental assistance payment.

The relocation counselor will explain how the Agency determines the maximum downpayment assistance payment.

DSS REMINDER

It is very important to remember that the replacement dwelling you select must meet the basic DSS standard. Do not execute a sales contract or a lease agreement until a representative from the Agency has inspected and certified in writing that the dwelling you propose to purchase or rent meets the DSS standard. Please do not jeopardize your right to receive a replacement housing payment by moving into a substandard dwelling.

FAIR HOUSING LAWS

Title VI of the Civil Rights Act of 1964 and Title VIII of the Civil Rights Act of 1968 set forth the policy of the United States to provide, within constitutional limitations, for fair housing throughout the United States. These Acts and Executive Order 11063 make discriminatory practices in the purchase and rental of residential units illegal if based on race, color, religion, sex, or national origin.

Whenever possible, a minority person shall be given reasonable opportunity to relocate to a DSS replacement dwelling which is not located in an area of minority concentration, that is within their financial means. This policy does not require an Agency to provide a displaced person with a larger payment than is necessary to enable the person to relocate to a comparable replacement dwelling.
SECTION 3 – BUSINESS, FARM, AND NONPROFIT ORGANIZATIONS

MOVING COST REIMBURSEMENT

Owners or tenants may be paid on the basis of actual, reasonable moving costs and related expenses or, under certain circumstances, a fixed payment. Actual, reasonable moving expenses may be paid when the move is performed by a professional mover or if you move yourself. Related expenses, such as personal property losses, expenses in finding a replacement site, and reestablishment expenses may also be reimbursable.

You must provide the Agency with an inventory of the personal property to be moved and advance notice of the approximate date of the move, unless the Agency specifically tells you these notices are not necessary.

The Agency has the right to inspect the personal property at the displacement and replacement sites, and to monitor the move.

Actual Cost Move

You may be paid the actual, reasonable and necessary cost of your move when the move is performed by a professional mover or when you elect to move yourself, however, all your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and reinstalling relocated machinery, equipment and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not an inclusive list of moving related expenses. Your relocation counselor will provide you with a complete explanation of reimbursable expenses.

Estimated Cost Move

If you agree to take full responsibility for all or part of the move of your operation, the Agency may approve a payment not to exceed the lower of two acceptable bids or estimates obtained by the Agency from qualified moving firms, moving consultants, or a qualified Agency staff employee. A low cost or uncomplicated move may be based on a single bid or estimate at the Agency's discretion. The advantage of this moving option is that it relieves you from documenting all moving expenses because the payment is limited to the amount of the lowest acceptable bid or estimate. The Agency may make the payment without additional documentation.

Direct Loss of Tangible Personal Property

Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment is based on the lesser of the value of the item for continued use at the displacement site less the proceeds from its sale, or the estimated cost of moving the item. Your relocation counselor will explain this procedure in detail if this is a consideration for you.
Low Value High Bulk Property

If an Agency considers a personal property item to be of low value and high bulk, and moving costs are disproportionate to its value (such as minerals, metals, rock, or topsoil), the allowable moving cost payment shall not exceed the lesser of the amount which would be received if the property were sold at the site, or, the replacement cost of a comparable quantity delivered to the new business location.

Searching Expenses for Replacement Property

Displaced businesses, farms, and nonprofit organizations are entitled to reimbursement for actual, reasonable expenses incurred in searching for a replacement property, not to exceed $2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; and other expenses determined to be reasonable and necessary by the Agency.

Fees paid to real estate agents or brokers to locate a replacement site may be reimbursed, exclusive of any commissions or fees related to the purchase of the site. Commissions and fees related to the purchase of a replacement site are not eligible relocation expenses and will not be reimbursed.

RELATED ELIGIBLE EXPENSES

In addition to the moving expenses listed above, costs for these items may be reimbursed if the Agency determines they are actual, reasonable, and necessary:

- Connection to available nearby utilities from the right-of-way to improvements at the replacement site.
- Professional services to determine a site’s suitability for the displaced person’s operation.
- Impact fees or one time assessments for heavy utility usage as determined necessary by the Agency.

Please discuss this with your relocation counselor before incurring these costs to assure that they are reimbursable.

REESTABLISHMENT EXPENSES

A small business, farm, or nonprofit organization may be eligible for a payment, not to exceed $10,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site. To qualify, the business, farm, or nonprofit organization must have not more than 500 employees working at the site who will be displaced by a program or project.

Reestablishment expenses may include, but are not limited to:
- Repairs or improvements to the replacement real property required by Federal, State, and local laws, codes or ordinances.
• Modifications to the replacement real property to make the structure(s) suitable for the operation.
• Construction and installation costs of exterior advertising signs.
• Redecoration or replacement such as painting, wallpapering, paneling, and carpeting when required by the condition of the replacement site.
• Advertising the replacement location.
• Estimated increased costs of operation at the replacement site during the first two years for items such as: lease or rental charges; personal or real property taxes; insurance premiums; utility charges (excluding impact fees).
• Other items that the Agency considers essential for reestablishment.

FIXED PAYMENT FOR ACTUAL MOVING EXPENSES (IN LIEU PAYMENT)

Displaced businesses, farms, and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than $1,000 nor more than $20,000.

For a business to be eligible for a fixed payment, the Agency must determine the following:

• Business owns or rents personal property that must be moved due to the displacement.
• Business cannot be relocated without a substantial loss of its existing patronage.
• Business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity which are under the same ownership and are not being displaced by the Agency.
• Business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Eligibility requirements for nonprofit organizations are slightly different than business requirements. The computation for nonprofit organizations differs in that the payment is...
computed on the basis of average annual gross revenues less administrative expenses for the two year period specified. If you are interested in a fixed payment, please consult your relocation counselor for additional information.

Computation of Your Fixed Payment

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable years immediately preceding the taxable year in which it was displaced, or a two-year period deemed more representative by the Agency. You must provide the Agency with proof of net earnings to support your claim. Proof of net earnings can be documented by income tax returns, certified financial statements, or other reasonable evidence acceptable to the Agency.

Fixed Payment Example

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
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</thead>
<tbody>
<tr>
<td>Annual Net Earnings</td>
<td>$16,500</td>
<td>$18,500</td>
<td></td>
</tr>
<tr>
<td>Average annual net earnings</td>
<td>$16,500 + $18,500 = $35,000 / 2 = $17,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Payment</td>
<td>$17,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PROJECT OFFICE

The Agency may establish a relocation office near the project. Project relocation offices are usually open during hours convenient to persons being displaced, including evening hours when necessary. If the Agency opens a project office, the staff will be happy to assist you, answer questions, and will maintain various types of information.

RELOCATION PAYMENTS ARE NOT CONSIDERED TO BE INCOME

No relocation payment received will be considered as income for the purpose of the Internal Revenue Code. No relocation payment received will be considered income for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other Federal law (except for any Federal law providing low-income housing assistance).

RIGHT TO APPEAL

Any aggrieved person may file a written appeal with the head of the Agency if the person believes the Agency has failed to properly determine his or her eligibility for relocation assistance advisory services, or the amount of a relocation payment.

If you have a grievance, you will be given a prompt and full opportunity to be heard. You will also have the right to be represented by legal counsel or other representative in connection with the appeal, but solely at your own expense.
The Agency will promptly review your appeal and consider all pertinent justification and information available to ensure a fair and full review. The Agency will provide you with a written determination as well as an explanation of the decision. If you are still dissatisfied with the relief granted, the Agency will advise you of your right to seek judicial review of the Agency decision.

An alien not lawfully present in the United States shall not be eligible to receive relocation payments or any other assistance provided under 49 CFR Part 24.

This brochure is provided to assist you in understanding your rights and benefits. If you have questions regarding your relocation please contact your sponsoring Agency representative.

Additional information on Federal relocation and acquisition requirements, the law, and the regulation can be found at www.fhwa.dot.gov/realestate
INTRODUCTION

Government programs designed to benefit the public as a whole often result in acquisition of private property and, sometimes, in the displacement of people from their residences, businesses or farms. Acquisition of this kind has long been recognized as a right of government and is known as the power of eminent domain. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation.

To provide uniform and equitable treatment for persons whose property is acquired for public use, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and amended it in 1987. This law, called the Uniform Act, is the foundation for the information discussed in this brochure.

Revised rules for the Uniform Act were published in the Federal Register on January 4, 2005. The rules are reprinted each year in the Code of Federal Regulations (CFR), Title 49, Part 24. All Federal, State and local government agencies, as well as others receiving Federal financial assistance for public programs and projects, that require the acquisition of real property, must comply with the policies and provisions set forth in the Uniform Act and the regulation.
The acquisition itself does not need to be federally-funded for the rules to apply. If Federal funds are used in any phase of the program or project, the rules of the Uniform Act apply. The rules encourage acquiring agencies to negotiate with property owners in a prompt and amicable manner so that litigation can be avoided.

This brochure explains your rights as an owner of real property to be acquired for a federally-funded program or project. The requirements for relocation assistance are explained in a brochure entitled Relocation, Your Rights and Benefits as a Displaced Person under the Federal Relocation Assistance Program.

Acquisition and relocation information can be found on the Federal Highway Administration Office of Real Estate Services website: [www.fhwa.dot.gov/realestate](http://www.fhwa.dot.gov/realestate)

The agency responsible for the federally-funded program or project in your area will have specific information regarding your acquisition. Please contact the sponsoring agency to receive answers to your specific questions.

### IMPORTANT TERMS USED IN THIS BROCHURE

#### Acquisition
Acquisition is the process of acquiring real property (real estate) or some interest therein.

#### Agency
An agency can be a government organization (Federal, State, or local), a non-government organization (such as a utility company), or a private person using Federal financial assistance for a program or project that acquires real property or displaces a person.

#### Appraisal
An appraisal is a written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

#### Condemnation
Condemnation is the legal process of acquiring private property for public use or purpose through the agency’s power of eminent domain. Condemnation is usually not used until all attempts to reach a mutually satisfactory agreement through negotiations have failed. An agency then goes to court to acquire the needed property.

#### Easement
In general, an easement is the right of one person to use all or part of the property of another person for some specific purpose. Easements can be permanent or temporary (i.e.,
limited to a stated period of time). The term may be used to describe either the right itself or the document conferring the right. Examples are: permanent easement for utilities, permanent easement for perpetual maintenance of drainage structures, and temporary easement to allow reconstruction of a driveway during construction.

Eminent Domain
Eminent domain is the right of government to take private property for public use. In the U.S., just compensation must be paid for private property acquired for federally-funded programs or projects.

Fair Market Value
Fair market value is market value that has been adjusted to reflect constitutional and other legal requirements for public acquisition.

Interest
An interest is a right, title, or legal share in something. People who share in the ownership of real property have an interest in the property.

Just Compensation
Just compensation is the price an agency must pay to acquire real property. An agency official must make the estimate of just compensation to be offered to you for the property needed. That amount may not be less than the amount established in the approved appraisal report as the fair market value for your property. If you and the agency cannot agree on the amount of just compensation to be paid for the property needed, and it becomes necessary for the agency to use the condemnation process, the amount determined by the court will be the just compensation for your property.

Lien
A lien is a charge against a property in which the property is the security for payment of a debt. A mortgage is a lien. So are taxes. Customarily, liens must be paid in full when the property is sold.

Market Value
Market value is the sale price that a willing and informed seller and a willing and informed buyer agree to for a particular property.

Negotiation
Negotiation is the process used by an agency to reach an amicable agreement with a property owner for the acquisition of needed property. An offer is made for the purchase of property in person, or by mail, and the offer is discussed with the owner.

Person
A person is an individual, partnership, corporation, or association.

Personal Property
In general, personal property is property that can be moved. It is not permanently attached to, or a part of, the real property. Personal property is not to be included and valued in the appraisal of real property.
Program or Project
A program or project is any activity or series of activities undertaken by an agency where Federal financial assistance is used in any phase of the activity.

Waiver Valuation
The term waiver valuation means an administrative process for estimating fair market value for relatively low-value, non-complex acquisitions. A waiver valuation is prepared in lieu of an appraisal.

PROPERTY APPRAISAL

An agency determines what specific property needs to be acquired for a public program or project after the project has been planned and government requirements have been met.

If your property, or a portion of it, needs to be acquired, you, the property owner, will be notified as soon as possible of (1) the agency’s interest in acquiring your property, (2) the agency’s obligation to secure any necessary appraisals, and (3) any other useful information.

When an agency begins the acquisition process, the first personal contact with you, the property owner, should be no later than during the appraisal of the property.

An appraiser will contact you to make an appointment to inspect your property. The appraiser is responsible for determining the initial fair market value of the property. The agency will have a review appraiser study and recommend approval of the appraisal report used to establish the just compensation to be offered to you for the property needed.

You, or a representative that you designate, will be invited to accompany the appraiser when the appraiser inspects your property. You can point out any unusual or hidden features of the property that the appraiser could overlook. At this time, you should advise the appraiser if any of these conditions exist:

- There are other persons who have ownership or interest in the property.
- There are tenants on the property.
- Items of real or personal property that belong to someone else are located on your property.
- The presence of hazardous material, underground storage or utilities.
Acquiring Real Property For Federal and Federal-Aid Programs and Projects

This is your opportunity to tell the appraiser about anything relevant to your property, including other properties in your area that have recently sold. The appraiser will inspect your property and note its physical characteristics. He or she will review sales of properties similar to yours in order to compare the facts of those sales with the facts about your property. The appraiser will analyze all elements that affect value.

The appraiser must consider normal depreciation and physical deterioration that has taken place. By law, the appraiser must disregard the influence of the future public project on the value of the property. This requirement may be partially responsible for any difference in the fair market value and market value of your property.

The appraisal report will describe your property and the agency will determine a value based on the condition of the property on the day that the appraiser last inspected it, as compared with other similar properties that have sold.

JUST COMPENSATION

Once the appraisal of fair market value is complete, a review appraiser from the agency will review the report to ensure that all applicable appraisal standards and requirements are met. When they are, the review appraiser will give the agency the approved appraisal to use in determining the amount of just compensation to be offered for your real property. This amount will never be less than the fair market value established by the approved appraisal.

If the agency is only acquiring a part of your property, there may be damages or benefits to your remaining property. Any allowable damages or benefits will be reflected in the just compensation amount. The agency will prepare a written offer of just compensation for you when negotiations begin.

Buildings, Structures and Improvements

Sometimes buildings, structures, or other improvements are located on the property to be acquired. If they are real property, the agency must offer to acquire at least an equal interest in them if they must be removed or if the agency determines that the improvements will be adversely affected by the public program or project.

An improvement will be valued as real property regardless of who owns it.
Tenant-Owned Buildings, Structures and Improvements

Sometimes tenants lease real property and build or add improvements for their use. Frequently, they have the right or obligation to remove the improvements at the expiration of the lease term. If, under State law, the improvements are considered to be real property, the agency must make an offer to the tenants to acquire these improvements as real property.

In order to be paid for these improvements, the tenant-owner must assign, transfer, and release to the agency all right, title, and interest in the improvements. Also, the owner of the real property on which the improvements are located must disclaim all interest in the improvements.

For an improvement, just compensation is the amount that the improvement contributes to the fair market value of the whole property, or its value for removal from the property (salvage value), whichever amount is greater.

A tenant-owner can reject payment for the tenant-owned improvements and obtain payment for his or her property interests in accordance with other applicable laws. The agency cannot pay for tenant-owned improvements if such payment would result in the duplication of any other compensation otherwise authorized by law.

If improvements are considered personal property under State law, the tenant-owner may be reimbursed for moving them under the relocation assistance provision.

The agency will personally contact the tenant-owners of improvements to explain the procedures to be followed. Any payments must be in accordance with Federal rules and applicable State laws.

EXCEPTIONS TO THE APPRAISAL REQUIREMENT

The Uniform Act requires that all real property to be acquired must be appraised, but it also authorizes waiving that requirement for low value acquisitions.

Regulations provide that the appraisal may be waived:

- If you elect to donate the property and release the agency from the obligation of performing an appraisal, or
- If the agency believes the acquisition of your property is uncomplicated and a review of available data supports a fair market value likely to be $10,000 or less, the agency may prepare a waiver valuation, rather than an appraisal, to estimate your fair market value.

If the agency believes the acquisition of your property is uncomplicated and a review of available data supports a fair market value likely to be over $10,000 but less than $25,000, the agency may prepare a waiver valuation rather than an appraisal to estimate your fair market value, however, if you elect to have the agency appraise your property, an appraisal will obtained.
THE WRITTEN OFFER

After the agency approves the just compensation offer they will begin negotiations with you or your designated representative by delivering the written offer of just compensation for the purchase of the real property. If practical, this offer will be delivered in person by a representative of the agency. Otherwise, the offer will be made by mail and followed up with a contact in person or by telephone. All owners of the property with known addresses will be contacted unless they collectively have designated one person to represent their interests.

An agency representative will explain agency acquisition policies and procedures in writing, either by use of an informational brochure, or in person.

The agency’s written offer will consist of a written summary statement that includes all of the following information:

• The amount offered as just compensation.
• The description and location of the property and the interest to be acquired.
• The identification of the buildings and other improvements that are considered to be part of the real property.

The offer may list items of real property that you may retain and remove from the property and their retention values. If you decide to retain any or all of these items, the offer will be reduced by the value of the items retained. You will be responsible for removing the items from the property in a timely manner. The agency may elect to withhold a portion of the remaining offer until the retained items are removed from the property.

Any separately held ownership interests in the property, such as tenant-owned improvements, will be identified by the agency.

The agency may negotiate with each person who holds a separate ownership interest, or, may negotiate with the primary owner and prepare a check payable jointly to all owners.

The agency will give you a reasonable amount of time to consider the written offer and ask questions or seek clarification of anything that is not understood.

If you believe that all relevant material was not considered during the appraisal, you may present such information at this time. Modifications in the proposed terms and conditions of the purchase may be requested. The agency will consider any reasonable requests that are made during negotiations.
Partial Acquisition

Often an agency does not need all the property you own. The agency will usually purchase only what it needs.

If the agency intends to acquire only a portion of the property, the agency must state the amount to be paid for the part to be acquired.

In addition, an amount will be stated separately for damages, if any, to the portion of the property you will keep.

If the agency determines that the remainder property will have little or no value or use to you, the agency will consider this remainder to be an uneconomic remnant and will offer to purchase it. You have the option of accepting the offer for purchase of the uneconomic remnant or keeping the property.

Agreement Between You and the Agency

When you reach agreement with the agency on the offer, you will be asked to sign an option to buy, a purchase agreement, an easement, or some form of deed prepared by the agency. Your signature will affirm that you and the agency are in agreement concerning the acquisition of the property, including terms and conditions.

If you do not reach an agreement with the agency because of some important point connected with the acquisition offer, the agency may suggest mediation as a means of coming to agreement. If the agency thinks that a settlement cannot be reached, it will initiate condemnation proceedings.

The agency may not take any action to force you into accepting its offer. Prohibited actions include:

- Advancing the condemnation process.
- Deferring negotiations.
- Deferring condemnation.
- Delaying the deposit of funds with the court for your use when condemnation is initiated.
- Any other coercive action designed to force an agreement regarding the price to be paid for your property.

ACQUISITIONS WHERE CONDEMNATION WILL NOT BE USED

An agency may not possess the power of eminent domain. Or an agency has the power of eminent domain but elects not to use it for a program or project. If this is the case, you will be informed in writing, before negotiations begin, that the agency will not condemn your property if you and the agency fail to reach agreement. Before making you an offer, the agency will inform you, in writing, of what it believes to be
the fair market value for the property it would like to acquire. An owner, in this situation, is not eligible for relocation assistance benefits. Tenants on the property may be eligible for relocation benefits.

**PAYMENT**

The next step in the acquisition process is payment for your property. As soon as all the necessary paperwork is completed for transferring title of the property, the agency will pay any liens that exist against the property and pay your equity to you. Your incidental expenses will also be paid or reimbursed.

Incidental expenses are reasonable expenses incurred as a result of transferring title to the agency, such as:

- Recording fees and transfer taxes.
- Documentary stamps.
- Evidence of title, however, the agency is not required to pay costs required solely to perfect your title or to assure that the title to the real property is entirely without defect.
- Surveys and legal descriptions of the real property.
- Other similar expenses necessary to convey the property to the agency.

Penalty costs and other charges for prepaying any preexisting recorded mortgage entered into in good faith encumbering the real property will be reimbursed.

The pro rata share of any prepaid real property taxes that can be allocated to the period after the agency obtains title to the property or takes possession of it, will be reimbursed.

If possible, the agency will pay these costs directly so that you will not need to pay the costs and then claim reimbursement.

**POSSESSION**

The agency may not take possession of your property unless:

- You have been paid the agreed purchase price, or
- In the case of condemnation, the agency has deposited with the court an amount for your benefit and use that is at least the amount of the agency’s approved appraisal of the fair market value of your property, or
- The agency has paid the amount of the court award of compensation in the condemnation proceeding.
If the agency takes possession while persons still occupy the property:

- All persons occupying the property must receive a written notice to move at least 90 days in advance of the required date to move. In this context, the term person includes residential occupants, homeowners, tenants, businesses, non-profit organizations, and farms.

- An occupant of a residence cannot be required to move until at least 90 days after a comparable replacement dwelling has been made available for occupancy. Only in unusual circumstances, such as when continued occupancy would constitute a substantial danger to the health or safety of the occupants, can vacating of the property be required in less than 90 days.

SETTLEMENT

The agency will make every effort to reach an agreement with you during negotiations. You may provide additional information, and make reasonable counter offers and proposals for the agency to consider.

When it is in the public interest, most agencies use the information provided as a basis for administrative or legal settlements, as appropriate.

CONDEMNATION

If an agreement cannot be reached, the agency can acquire the property by exercising its power of eminent domain. It will do this by instituting formal condemnation proceedings with the appropriate State or Federal court.

If the property is being acquired directly by a Federal agency, the condemnation action will take place in a Federal court and Federal procedures will be followed.

If the property is being acquired by anyone else that has condemnation authority, the condemnation action will take place in State court and the procedures will follow State law.

In many States, a board of viewers or commissioners, or a similar body, will initially determine the amount of compensation you are due for the property. You and the agency will be allowed to present information to the court during these proceedings.

If you or the agency are dissatisfied with the board’s determination of compensation, a trial by a judge or a jury may be scheduled. The court will set the final amount of just compensation after it has heard all arguments.
Litigation Expenses

Normally, the agency does not reimburse you for costs you incur as a result of condemnation proceedings. The agency will reimburse you, however, under any of the following conditions:

• The court determines that the agency cannot acquire your property by condemnation.

• The condemnation proceedings are abandoned by the agency without an agreed-upon settlement.

• You initiate an inverse condemnation action and the court agrees with you that the agency has taken your real property rights without the payment of just compensation, or the agency elects to settle the case without further legal action.

• The agency is subject to State laws that require reimbursement for these or other condemnation costs.

The information is provided to assist you in understanding the requirements that must be met by agencies, and your rights and obligations. If you have any questions, contact your agency representative.

Additional information on Federal acquisition requirements, the law and the regulation can be found at www.fhwa.dot.gov/realestate
APPENDIX 4-2

APPENDIX 4-2, Five Percent Plan for Attainment of the 24-Hour PM-10 Standard, presents the U.S. Environmental Protection Agency’s proposal to approve the state implementation plan revision for the Maricopa County PM$_{10}$ nonattainment area. The approved plan shows Maricopa County in conformance with Clean Air Act requirements for PM$_{10}$ as of December 2012.

**Environmental Protection Agency**

Approved and Promulgation of Implementation Plans—Maricopa County PM$_{10}$ Nonattainment Area; Five Percent Plan for Attainment of the 24-hour PM$_{10}$ Standard

**Agency:** Environmental Protection Agency (EPA)

**Action:** Proposed rule.

**Summary:** The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) revision submitted by the State of Arizona to meet Clean Air Act (CAA) requirements applicable to the Maricopa County (Phoenix) PM$_{10}$ nonattainment area. The approved plan shows Maricopa County in conformance with Clean Air Act requirements for PM$_{10}$ as of December 2012.
As a serious PM-10 nonattainment area, the state has proposed a new attainment deadline of no later than December 31, 2031, CAA section 189(d)(2). Moreover, CAA section 189(d)(2) authorizes EPA to grant up to a 5-year extension of that attainment deadline if certain conditions are met by the state. In order to obtain the extension, the state must make a SIP submission showing that: (1) Attainment by the applicable attainment date would be impracticable; and (2) the state complied with all requirements associated with the area in the implementation plan for the area; and (3) the delays are due to the most stringent requirements (MSR) that are included in the implementation plan of any state or are state or federally implemented in the specific area. Arizona requested an attainment date extension under CAA section 189(d) for the Maricopa County PM-10 Nonattainment Area from December 31, 2010 to December 31, 2031.

On July 10, 2010, EPA approved the Maricopa County PM-10 Plan for the Maricopa County PM-10 Nonattainment Area as meeting requirements for such areas in CAA sections 189(d) and (t), including the requirements for implementation of best available control measures (BACM) and MSRs in section 189(d)(2). The Maricopa County SIP, as proposed, has been approved and submitted to EPA by ASRB on May 3, 2012. MAAG adopted and ASRB submitted the 2012 Five Percent Plan specifically to address the CAA requirements in section 189(d) for the Maricopa PM-10 Nonattainment Area. EPA’s review of the Five Percent Plan found it to be complete by July 20, 2012. EPA is proposing to approve the submission as meeting the requirements of section 189(d) of the act in today’s action.

II. Overview of Applicable CAA Requirements

As a serious PM-10 nonattainment area that failed to meet its applicable attainment deadline, December 31, 2008, the Maricopa PM-10 Nonattainment Area is a serious PM-10 nonattainment area with a 1996, PM-10 annual NAAQS which requires that the state submit plans within 12 months after the applicable attainment date, plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction of PM-10 PM-10 precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared within the area. The general planning and control requirements for all attainment plans are found in CAA sections 159 and 189, which establish control requirements and standards for all pollutants in such areas. In CAA sections 189 and 189.5, EPA has issued General Preamble and the Four General Preambles to provide guidance in states for meeting the CAA’s requirements for the PM-10 NAAQS. The General Preamble mainly addresses the requirements for serious nonattainment areas and the Addendum addresses the requirements for serious nonattainment areas. EPA has also issued other guidance documents related to PM-10 plans which are discussed and cited below. The specific PM-10 plan requirements addressed by this proposed action are summarized below.

A. Inventory Requirements

CAA section 170(d)(5) requires that the implementation plan contain an inventory of all emissions of PM-10 NAAQS. The inventory describes the emissions, the sources, the prevailing meteorological conditions, and the area.

B. Emission Reduction Measures

CAA section 170(d)(10) requires that the implementation plan provide for implementation of best available control measures (BACM) and measures that would be impracticable or not reasonably be required by the Administrator for the purpose of attaining the PM-10 NAAQS. The BACM are further described in various CAA part D sections.

C. Reasonable Further Progress and Quantitative Milestones

CAA section 170(d)(1) requires that the implementation plans demonstrate reasonable further progress (RFP) as defined in section 171(b). Section 171(b) defines RFP as “the annual incremental reduction in emissions of the relevant air pollutant as are required by this part (part D) or Title I if reasonably necessary to be made for the purpose of attaining the NAAQS.” RFP represents the level of progress required to demonstrate progress towards attainment of the NAAQS. RFP can be met through a combination of measures that are designed to accomplish a reduction in emissions of a pollutant that is appropriate to meet the requirement of the NAAQS.

D. Costing Measures

CAA section 170(d)(10) requires that the implementation plan provide for implementation of best available control measures (BACM) and measures that would be impracticable or not reasonably be required by the Administrator for the purpose of attaining the PM-10 NAAQS. The BACM are further described in various CAA part D sections.

E. Transportation Conformity and Motor Vehicle Emissions

Transportation conformity is required by section 170. The conformity rule (40 CFR part 93, subpart A) requires that transportation plans, programs, and projects confirm in state air quality plans that transportation activities do not result in new, significant increases in criteria pollutants or in a deterioration of the attainment status of any area in which significant levels of such pollutants occur. The conformity rule also includes the criteria and procedures for determining whether or not they do so. 

In addition, CAA section 189(d)(3) specifically applies to the PM-10 NAAQS that require that an implementation plan contain quantitative milestones which will be achieved every three years which will demonstrate that PM-10 is being brought.

F. Adequate Authority

CAA section 170(d)(10) requires that the implementation plan provide for implementation of best available control measures (BACM) and measures that would be impracticable or not reasonably be required by the Administrator for the purpose of attaining the PM-10 NAAQS. The BACM are further described in various CAA part D sections.

III. Evaluation of the Maricopa County Five Percent Plan

A. Emissions Inventory

The Maricopa County Five Percent Plan provides a comprehensive summary of emissions for the Maricopa County PM-10 Nonattainment Area. The plan describes the emissions, the sources, the prevailing meteorological conditions, and the nonattainment area.

B. Emission Reduction Measures

The Maricopa County Five Percent Plan includes measures that are sufficiently comprehensive, covering all nonattainment area plans to include a comprehensive, accurate, and current inventory of actual emissions from all sources of the relevant pollutant or pollutants in the area. Our inventory analysis of the Maricopa County Five Percent Plan uses the comprehensive emissions inventory for the Maricopa County PM-10 Nonattainment Area.

C. Reasonable Further Progress and Quantitative Milestones

The Maricopa County Five Percent Plan contains a comprehensive summary of RFP for the Maricopa County PM-10 Nonattainment Area.

D. Costing Measures

The Maricopa County Five Percent Plan contains a comprehensive summary of costsing measures for the Maricopa County PM-10 Nonattainment Area.

E. Transportation Conformity and Motor Vehicle Emissions

The Maricopa County Five Percent Plan includes a summary of transportation conformity for the Maricopa County PM-10 Nonattainment Area.

F. Adequate Authority

The Maricopa County Five Percent Plan includes a comprehensive summary of adequate authority for the Maricopa County PM-10 Nonattainment Area.
In the case of a nonattainment project involving PM-10 emissions, EPA has proposed to find that the 2012 Five Percent Plan allows for the remaining exceedances to be considered a high wind event. EPA’s analysis indicates the inventory do not include emissions of PM-10 during those exceedances. EPA’s proposed analysis demonstrates that ADEQ provided the documentation and criteria that exceedances on those days meet the high wind event criteria. EPA’s proposed analysis also includes the exceedances 2008 PM-10 NAAQS based on the monitors operated by ADEQ, MAG, and Maricopa County Air Quality Control District (PCAQCD). This is consistent with attainment of the standard projected by the state in the 2012 Five Percent Plan.

Nonattainment Area that fails to attain the 2008 PM-10 NAAQS for exceedances to be considered violations because they are not the result of exceptional events. EPA cannot propose to find that exceedances are not the result of exceptional events because the exceedances were not a result of high wind events.

2. Monitoring Data Showing Attainment

EPA is also taking into account the fact that monitoring data recorded at air quality stations in the Maricopa County PM-10 NAAQS nonattainment area shows that exceedances for the years 2009-2012, 2011-2012, 2012-2013, and 2013-2014 were based on exceedances over a three-year period. For these reasons, EPA concurs that ADEQ’s determination of the Maricopa County PM-10 NAAQS nonattainment area that the requirements of 40 CFR 49.10 are satisfied and are therefore consistent with the standard as of December 31, 2012.

The Salt River-Maricopa Indian Community operates three PM-10 monitoring stations on tribal land within the Maricopa County PM-10 NAAQS nonattainment area. EPA does not consider exceedances to be violations because they are not the result of exceptional events. EPA cannot propose to find that exceedances are not the result of exceptional events because the exceedances were not a result of high wind events.
The baseline inventory values are derived from the 2008 PM-10 inventory as adjusted by population and economic growth factors from the University of Arizona Five Percent Plan, at 1.5-5, 5-10, and 1.5-5-10 PM-10 emission levels after taking into account reductions attributable to adopted control measures, specifically, Rules 215, 210, 211, and 216, and the Dust Action General Permit. See Table 6-34 through 6-36, p. 5-7, Table 3-6. See Table 3-6. "Annual reduction targets" in the numerical distance between the plan's targeted level and that currently achieved (from the 2008 PM-10 inventory) is the "cumulative reduction" at the attainment year of 2012, as projected in the plan. The goal is to meet the budget requirements established in Table 6-22 of the 2012 Five Percent Plan at 6-34 through 6-36. This analysis does not include the data for FY 2008 through 2012. 2012 Five Percent Plan demonstrates compliance with the five percent reduction requirement by comparing the cumulative reductions from the Dust Action General Permit and increased effectiveness of the Maricopa County rules against the total five percent reductions each year. Most of the required reductions were achieved from 2008 through 2012, meeting the EPA's demonstration targets. The EPA approves this approach as it eliminates the environmental benefits of the reductions.

The purpose of contingency measures is to ensure that additional emission reductions beyond those relied on in the attainment and RFP demonstrations are available to address contingency measures. The attainment Plan at 6-34 through 6-36, Fig. 6-6. The trend is more significant reductions are from paving and increased effectiveness of the cleanup of fugitive dust, lime framing, and increased effectiveness of the reductions that occurred during the years 2008 through 2012. The analysis required for the five percent demonstration provides annual emission targets between the base year 2007 and the attainment year of 2012. Five percent annual targets are consistent with RFP for the area. These annual totals show a steady downward trend in emissions that reiterate this interpretation. If EPA approves that the measures described in the 2012 Five Percent Plan.

Transportation Conformity and Motor Vehicle Emissions.

Transportation conformity is required by CAA section 176(c)(9) requires that transportation plans, programs, and projects confirm to state air quality impact planning and projections to achieve the standards and the implementation of measures to ensure that transportation-related emissions do not contribute to the attainment of the NAAQS 8-36. EPA proposes that by showing annual reductions to be achieved in light of the Maricopa County Rules 215, 210, 211, and 216 (Non-Traditional PM-10 Emission Standards). See Table 6-36 through 6-36. The trend is more sharply downward in the initial years and then diminishing. Table 3-36. EPA proposes that the contingency measures can be implemented and further action of the EPA is necessary to ensure that these demonstration in the 2012 Five Percent Plan.

E. Contingency Measures.

EPA requires that the contingency demonstration plan in Table 6-22 of the 2012 Five Percent Plan at 6-34 through 6-36. The trend is more sharply downward in the initial years and then diminishing. Table 3-36. EPA proposes that the contingency measures can be implemented and further action of the EPA is necessary to ensure that these demonstration in the 2012 Five Percent Plan.

F. Summary:

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Appendix 4-2

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B. Paperwork Reduction Act

This action does not include an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. Burden is defined at 5 CFR 1320.35(b).

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small non-profit organizations, and small governmental jurisdictions. This rule will not have a significant economic impact on a substantial number of small entities because SIP approvals or disapprovals are made under section 129 and subchapter I, part D of the Clean Air Act and that part of the Clean Air Act does not apply to this rule. Therefore, the proposed Federal approval of the SIP does not create any new requirements, I certify that this action will not have a significant economic impact on a substantial number of small entities.

Moreover, due to the nature of the Federal-State relationship under the Clean Air Act, preparation of flexibility analysis would contribute little to the inquiry into the economic reasonableness of any State action. The Clean Air Act itself is SIP-based. EPA’s actions concerning this action are consistent with Title II of the RFA, 42 U.S.C. 423e, 245.35-36 (1976); 42 U.S.C. 7410(f).

D. Unfunded Mandates Reform Act

Under section 203 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act"), signed into law on March 23, 1995, EPA must propose a budgetary impact statement to accompany any proposed rule that includes a Federal mandate that may result in costs to State, local, or tribal governments in the aggregate, or in the private sector, of more than $100 million or more. Under section 205, EPA must select the most effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 205 requires that EPA inform and advise any small governmental entity that may be significantly or uniquely impacted by the rule. EPA has determined that a proposed approval action does not include a Federal mandate that may result in costs to State, local, or tribal governments in the aggregate, or in the private sector, of more than $100 million or more. The place allotted for the Federal approval of the SIP would not create any new requirements and, accordingly, no additional costs to State, local, or tribal governments, or to the private sector, result from this action.

E. Executive Order 13132, Federalism

Executive Order 13132 (64 FR 43265, August 10, 1999) revises and replaces Executive Order 12871 (Federalism) and 12075 (Enhancing the Applicability of Other Statutes to Tribal Governments). Executive Order 13132 requires EPA to determine the appropriate level of government for the regulation. The Order requires that the regulation have substantial direct effects on the Indian Tribes and must not have tribal implications, as specified in the Order. The following decision was made to apply to this rule. This rule does not have substantial direct effects on the Indian Tribes and must not have tribal implications, as specified in the Order.

F. Executive Order 13179, Coordination With Indian Tribal Governments

Executive Order 13179, entitled “Consultation and Coordination with Indian Tribal Governments” (68 FR 47249, September 9, 2003), requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” This proposed rule does not have tribal implications, as specified in Executive Order 13179. It will not have substantial direct effects on tribal governments, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes. Therefore, this Order does not apply to this rule. However, even though this Order is not in play on this action, and that plan does not apply to Indian Country, there are four tribes located in the non-attainment area, each of which has imposed special control measures on its own in order to reduce PM-10 concentrations. EPA informed tribal environmental staff regarding the proposed approval so that the tribes could inform their leadership and participate in the public comment process if desired. EPA specifically solicits additional comments on this proposed rule from tribal governments.

G. Executive Order 13504, Protection of Children from Environmental Health Risks and Safety Risks

EPA is committed to protecting children from environmental risks and safety risks. EPA’s policies for addressing this risk are in section 6 of the Executive Order 13504, 70 FR 59908, October 18, 2005. EPA’s policies for this rule to address health or safety risks are not applicable to this action, because this proposed regulation has federalism implications, as specified in the Order. This rule does not have substantial direct effects on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct effects on State and local governments, or that alters the relationship between the national government and the States, unless the regulation is required by statute, unless the Federal Government is the primary source of funding, or unless the Federal Government has taken into account the effect of the regulation in light of its purpose and intended effects. This proposed rule is not required by statute, the Federal Government does not have primary funding responsibility, and the Federal Government has taken into account the effect of the regulation in light of its purpose and intended effects.

H. Executive Order 13211, Actions to Address Environmental Justice Impacts

Section 12 of the National Technological Transfer and Advancement Act (NTTAA) of 1995 requires Federal agencies to evaluate and take into account the feasibility of using voluntary consensus standards when developing a new standard. The NTTAA also requires that EPA must consult with relevant non-profit organizations and Federal agencies before finalizing a rule implementing a Federal standard. This rule does not have substantial direct effects on States, on the relationship between the national government and States, or on the distribution of power and responsibilities among the various levels of government.

This rule does not have substantial direct effects on States, on the relationship between the national government and States, or on the distribution of power and responsibilities among the various levels of government. Therefore, this rule does not apply to the NTTAA.

Section 12 of the National Technology Transfer and Advancement Act (NTTAA) of 1995 requires Federal agencies to evaluate existing technical standards when developing a new standard. The NTTAA also requires that EPA must consult with relevant non-profit organizations and Federal agencies before finalizing a rule implementing a Federal standard. This rule does not have substantial direct effects on States, on the relationship between the national government and States, or on the distribution of power and responsibilities among the various levels of government. Therefore, this rule does not apply to the NTTAA.

Section 1905(a)(1) of title 42, United States Code, requires that before taking action under this title, the Administrator shall consult with the appropriate State, local, and tribal governments. To the extent required by this statute, the Administrator has consulted with the appropriate State, local, and tribal governments.

I. Environmental Protection Agency

Agency: Environmental Protection Agency

 ACTION: Notice of proposed rulemaking;
 reopening of comment period.

SUMMARY: The EPA is requesting the public comment period on the notice of proposed rulemaking entitled "Approval and Promulgation of Implementation Plans; Washington, Kent, Snohomish and Skagit Second 10-Year PM2.5 Limited Maintenance Plan," published on December 26, 2010. A commenter requested additional time to review the proposed and propose comments. In response to this request, the EPA is reopening the comment period.

DATES: For the proposed rule published October 26, 2010, (EPA-B-10-OAR-0767), comments must be received in writing by March 16, 2011.

ADDRESSES: Submit your comments, by any of the following methods:

• www.regulations.gov: Follow the instructions for commenting online.
• Email: DLeight@epa.gov
• Mail: Jeff Hunt, EPA Region 10, 1200 30th Avenue, Suite 900, Seattle, WA 98101
• Hand Delivery/Courier/Electronic FAX: EPA Region 10, 1200 30th Avenue, Suite 900, Seattle, WA 98101. Attention: Jeff Hunt, Office of Air and Waste Management, Air Programs, Mail Code 2115F. Faxes and emails are received and processed at the time the transmission reaches the EPA. For more information, contact the Docket on 206-524-2009. Under Federal law, comments cannot be accepted for the Docket during normal holidays or special arrangements made for submission of comments. Instructions: Direct your comments to the Docket ID No. OAR–2010-0269. Comments received will be included in the record and will be available for public inspection. Wherever personal information is furnished, unless...
2014 MAG CONFORMITY ANALYSIS

Appendix 4-3, 2014 MAG Conformity Analysis, presents the 2014 MAG Conformity Analysis for the fiscal year 2014-2018 MAG Transportation Improvement Program and the 2035 MAG Regional Transportation Plan.
2014 MAG CONFORMITY ANALYSIS

FOR THE

FY 2014-2018 MAG TRANSPORTATION IMPROVEMENT PROGRAM

AND THE

2035 MAG REGIONAL TRANSPORTATION PLAN

January 2014

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EXECUTIVE SUMMARY

This report presents the 2014 MAG Conformity Analysis for the FY 2014-2018 MAG Transportation Improvement Program and the 2035 MAG Regional Transportation Plan. The Maricopa Association of Governments is the designated Metropolitan Planning Organization (MPO) for Maricopa County and portions of Pinal County including Apache Junction, Florence, and Maricopa. As a result of this designation, MAG prepares the Transportation Improvement Program and Regional Transportation Plan, and the associated conformity analyses. The FY 2014-2018 MAG Transportation Improvement Program and 2035 MAG Regional Transportation Plan includes an expanded MAG region in 2013. The FY 2014-2018 MAG Transportation Improvement Program serves as a detailed guide for preservation, expansion, and management of public transportation services. The 2035 MAG Regional Transportation Plan covers FY 2014 through FY 2035 providing the blueprint for future transportation investments in the region. The Regional Transportation Plan includes funding for freeways and highways, streets, regional bus and high capacity transit, as well as bicycle and pedestrian facilities, commensurate with available funding. This conformity analysis supports a finding of conformity on the FY 2014-2018 MAG Transportation Improvement Program and 2035 Regional Transportation Plan for the Maricopa Association of Governments metropolitan planning area.

On May 9, 2013, the MAG Metropolitan Planning Area Boundary was expanded due to the 2010 Census urbanized area updates. For transportation planning and programming purposes, the Federal Highway Administration regulations state that at a minimum, the Metropolitan Planning Area must encompass the entire existing urbanized area boundary as well as the contiguous geographic area(s) likely to become urbanized within the next 20 years. The updated urbanized area boundary for the MAG region included areas within Pinal County. Due to this expansion, the MAG Regional Council amended the MAG By-laws to recognize the new Metropolitan Planning Area Boundary and to provide for new members from Pinal County within the new boundary. The MAG Metropolitan Planning Area Boundary now includes the Town of Florence, City of Maricopa, the portion of the Gila River Indian Community within Pinal County, and unincorporated areas within Pinal County.

Also, on May 6, 2013, the new Sun Corridor Metropolitan Planning Organization was designated in the Pinal County area. The Sun Corridor Metropolitan Planning Area Boundary includes the cities of Casa Grande, Eloy, Coolidge, and unincorporated areas of Pinal County.

Both the MAG Metropolitan Planning Area Boundary and the Sun Corridor Metropolitan Planning Area Boundary include portions of the West Pinal PM-10 Nonattainment Area and
West Central Pinal PM-2.5 Nonattainment Area located in Pinal County. Both nonattainment areas are covered by the boundaries of the two metropolitan planning organizations. Consequently, transportation conformity is required to be demonstrated for both nonattainment areas by both metropolitan planning organizations. Please refer to Figure ES-1.

On July 1, 2013, the Federal Highway Administration notified the Governor of a transportation conformity lapse in the West Pinal PM-10 Nonattainment Area, effective July 2, 2013. The new West Pinal PM-10 Nonattainment Area had been designated by the Environmental Protection Agency, effective July 2, 2012. The Clean Air Act §176(c)(6) requires a metropolitan long range transportation plan and transportation improvement program conformity determination within twelve months of the effective date of an area being designated nonattainment. The twelve month conformity grace period had lapsed.

To provide assistance to the new Sun Corridor Metropolitan Planning Organization, MAG has prepared the initial conformity analysis for the PM-10 and PM-2.5 nonattainment areas in Pinal County, to enable transportation projects in both metropolitan planning organizations to proceed. At a June 17, 2013 meeting with the Arizona Department of Transportation, Sun Corridor Metropolitan Planning Organization and MAG, there was general concurrence that MAG would prepare the initial conformity analysis. The Maricopa Association of Governments is working through a cooperative effort with the Arizona Department of Transportation, Sun Corridor Metropolitan Planning Organization, and Pinal County on the conformity analysis necessary to remove the conformity lapse.

The 2014 MAG Conformity Analysis for the FY 2014-2018 MAG Transportation Improvement Program and the 2035 MAG Regional Transportation Plan includes results of the regional emissions analysis for carbon monoxide, eight-hour ozone, and PM-10 for the Maricopa County region as well as PM-10 for the West Pinal PM-10 Nonattainment Area and PM-2.5 and NOx for the West Central Pinal PM-2.5 Nonattainment Area located in Pinal County. Summarized below are the applicable federal criteria or requirements for conformity determinations, the conformity tests applied, regional emissions analysis results, and an overview of the organization of this report. Figures presenting the conformity test results and transportation control measure funding in the FY 2014-2018 MAG Transportation Improvement Program are provided at the end of the Executive Summary.

CONFORMITY REQUIREMENTS

The federal transportation conformity rule (40 Code of Federal Regulations Parts 51 and 93) specifies criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. The federal transportation conformity rule was first promulgated in 1993 by EPA, following the passage of amendments to the federal Clean Air Act in 1990. The federal transportation conformity rule has been revised several times since its initial release to reflect both EPA rule changes and court opinions. The transportation conformity rule and court opinions are summarized in Chapter 1.
The conformity rule applies nationwide to “all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan” (40 CFR 93.102). At this time, portions of Maricopa County are designated as a nonattainment or maintenance area with respect to federal air quality standards for three criteria pollutants, carbon monoxide (CO), eight-hour ozone, and particulate matter less than or equal to ten microns in diameter (PM-10), and portions of Pinal County are designated as a nonattainment area with respect to PM-10 and particulate matter less than or equal to 2.5 microns in diameter (PM-2.5). Metropolitan transportation plans, programs, and projects in the nonattainment or maintenance areas of both counties must satisfy the requirements of the federal transportation conformity rule. Under the federal transportation conformity rule, the principal criteria for a determination of conformity for transportation plans and programs are:

1. The TIP and Regional Transportation Plan must pass an emissions budget test with a budget that has been found to be adequate or approved by EPA for transportation conformity purposes, or interim emissions tests;
2. The latest planning assumptions and emission models in force at the time the conformity analysis begins must be employed;
3. The TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and,
4. Consultation.

Consultation generally occurs at the beginning of the conformity analysis process, on the proposed models, associated methods, and assumptions for the upcoming analysis and the projects to be assessed, and at the end of the process, on the draft conformity analysis report. The final determination of conformity for the TIP and RTP is the responsibility of the Federal Highway Administration and the Federal Transit Administration.

The conformity tests specified in the federal transportation conformity rule are: (1) the emissions budget test, and (2) interim emissions tests. For the emissions budget test, predicted emissions for the TIP and RTP must be less than or equal to the motor vehicle emissions budget specified in the approved air quality implementation plan or the emissions budget found by EPA to be adequate for transportation conformity purposes. If there is no approved air quality plan for a pollutant for which the region is in nonattainment or no emissions budget found to be adequate for transportation conformity purposes, interim emissions tests apply.

### MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

For the Maricopa County nonattainment and maintenance areas, separate tests were conducted for carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NOx), and PM-10. Budget tests were performed for the Maricopa County nonattainment and maintenance areas using EPA approved budgets or budgets found adequate by EPA for transportation conformity purposes. On March 9, 2005, EPA published the final rule in the Federal Register approving the MAG 2003 Carbon Monoxide Maintenance Plan, including the conformity budgets, effective April 8, 2005. On June 13, 2012, EPA approved the MAG 2007 Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012. In addition, on July 25, 2002, EPA approved the Revised MAG 1999 Serious Area Particulate Plan for PM-10 including the 2006 PM-10 motor vehicle emissions budget, effective August 26, 2002. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process. In the 2014 MAG Conformity Analysis, MAG conducted the conformity analysis with the budgets from the submitted plans. On December 5, 2013, EPA found the conformity budget in the MAG 2012 Five Percent Plan for PM-10 adequate for transportation conformity purposes, effective December 20, 2013.

Chapter 1 summarizes the applicable air quality implementation plans and conformity tests for carbon monoxide, eight-hour ozone, and PM-10. For the 2014 MAG Conformity Analysis for the FY 2014-2018 MAG TIP and RTP, the emissions budget test was applied using the approved conformity budgets from the Carbon Monoxide Maintenance Plan. For eight-hour ozone, the emissions budget tests were performed for volatile organic compounds (VOC) and nitrogen oxides (NOx) using the approved conformity budgets from the MAG Eight-Hour Ozone Plan. For PM-10, the emissions budget test was applied using the approved conformity budget from the Serious Area Particulate Plan for PM-10.

#### Results of the Conformity Analysis

For the 2014 MAG Conformity Analysis, a regional emissions analysis was conducted for carbon monoxide, the eight-hour ozone precursors (volatile organic compounds and nitrogen oxides), and PM-10 for the years: 2015, 2025, and 2035. All analyses were conducted using the latest planning assumptions and emissions models in force at the time the conformity analysis started on September 29, 2013. The major conclusions of the 2014 MAG Conformity Analysis are:

- For carbon monoxide, the total vehicle-related emissions associated with implementation of the TIP and Regional Transportation Plan for the analysis years 2015, 2025, and 2035 are projected to be less than the approved 2015 emissions budget. The applicable conformity test for carbon monoxide is therefore satisfied. The results of the regional emissions analysis for carbon monoxide are presented in Figure ES-2.
- For eight-hour ozone, the total vehicle-related volatile organic compound and nitrogen oxide emissions associated with implementation of the TIP and Regional Transportation Plan for the ...
Transportation Plan for the analysis years of 2015, 2025, and 2035 are projected to be less than the approved 2008 emissions budgets. The applicable conformity tests for eight-hour ozone are therefore satisfied. The results of the regional emissions analysis for eight-hour ozone are presented in Figures ES-3 and ES-4.

• For PM-10, the total vehicle-related emissions associated with implementation of the TIP and Regional Transportation Plan for the analysis years of 2015, 2025, and 2035 are projected to be less than the approved 2006 emissions budget and less than the adequate 2012 emissions budget. The conformity test for PM-10 is therefore satisfied. The results of the regional emissions analysis for PM-10 are presented in Figure ES-5.

• A review of the implementation status of TCMs in applicable air quality plans has indicated that the TIP and Regional Transportation Plan will provide for the timely implementation of the TCMs and there are no obstacles to the implementation of any TCM. The current status of TCMs identified in applicable air quality implementation plans is documented in Chapter 5 of this report. Figure ES-6 presents the total funding programmed in the TIP for transportation projects and programs that implement transportation control measures and other air quality measures.

• Consultation has been conducted in accordance with federal requirements.
Figure ES-3: Eight-Hour Ozone: Volatile Organic Compounds (VOC) Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Thursday in June: Episode Day Conditions

VOC Emissions (metric tons/day)

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<td>48.0</td>
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<td>32.2</td>
</tr>
</tbody>
</table>

Figure ES-4: Eight-Hour Ozone: Nitrogen Oxides (NOx) Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Thursday in June: Episode Day Conditions

NOx Emissions (metric tons/day)

<table>
<thead>
<tr>
<th>Year</th>
<th>2008 Budget</th>
<th>2015</th>
<th>2025</th>
<th>2035</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>138.2</td>
<td>94.6</td>
<td>56.9</td>
<td>54.6</td>
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</table>
Figure ES-5: PM-10 Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Annual Average Day Conditions

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (metric tons/day)</th>
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<tbody>
<tr>
<td>2006</td>
<td>59.7</td>
</tr>
<tr>
<td>2012</td>
<td>54.9</td>
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<td>2015</td>
<td>43.7</td>
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<tr>
<td>2025</td>
<td>45.4</td>
</tr>
<tr>
<td>2035</td>
<td>50.1</td>
</tr>
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</table>

The EPA adequacy finding on the 2012 conformity budget in the MAG 2012 Five Percent Plan for PM-10 does not supersede EPA’s approval of the 2006 conformity budget in the approved Revised 1999 Serious Area Particulate Plan for PM-10. As a practical matter, however, the budget in the Five Percent Plan for PM-10 will be controlling because it is a lower value.


November 22, 2013 EPA Letter on Adequacy Finding for Maricopa County PM-10 Nonattainment Area.

Figure ES-6: Transportation Control Measure Funding in the FY 2014-2018 MAG Transportation Improvement Program

Figures are in millions of dollars

- Traffic Flow Improvements, $60.1
- Rideshare/Trip Reduction, $20.1
- Freeway Management System/HOV Lanes, $42.9
- Bicycle and Pedestrian Travel, $72.2
- Regional Public/Rapid Transit, $970.0

Total Transportation Control Measure Funding in the TIP = $1,183 million

An additional $28.3 million is programmed for paving dirt streets and street sweepers.
For the Pinal County nonattainment areas, there are no adequate or approved motor vehicle emissions budgets for conformity. Therefore, the conformity interim emissions tests were applied. The build/no-build tests were conducted for PM-10 for the West Pinal PM-10 Nonattainment Area and for PM-2.5 and NOx for the West Central Pinal PM-2.5 Nonattainment Area for the analysis years of 2015, 2025, and 2035. For each test, the required emissions estimates were developed using the transportation and emission modeling approaches required under the federal transportation conformity rule and summarized in this document.

For PM-10, for each analysis year the projected emissions for the build scenario are not greater than the projected emissions for the no-build scenario. Since the PM-10 emissions predicted for the build scenarios are not greater than the PM-10 emissions predicted for the no-build scenarios, the conformity interim emission test is satisfied. It is also reasonable to expect the build emissions would not exceed the no-build emissions for the time periods between the analysis years. The results of the regional emissions analysis for PM-10 are presented in Figure ES-7.

For PM-2.5, for each analysis year the projected emissions for the build scenario are not greater than the projected emissions for the no-build scenario. Since the PM-2.5 emissions predicted for the build scenarios are not greater than the PM-2.5 emissions predicted for the no-build scenarios, the conformity interim emission tests are satisfied. It is also reasonable to expect the build emissions would not exceed the no-build emissions for the time periods between the analysis years. The results of the regional emissions analysis for PM-2.5 are presented in Figure ES-8.

For NOx, for each analysis year the projected emissions for the build scenario are not greater than the projected emissions for the no-build scenario. Since the NOx emissions predicted for the build scenarios are not greater than the NOx emissions predicted for the no-build scenarios, the conformity interim emission tests are satisfied. It is also reasonable to expect the build emissions would not exceed the no-build emissions for the time periods between the analysis years. The results of the regional emissions analysis for NOx are presented in Figure ES-9.

![PM-10 Results for Conformity Interim Emission (Build/No-Build) Test](image-url)
Figure ES-8: PM-2.5 Results for Conformity Interim Emission (Build/No-Build) Test
Pinal County PM-2.5 Nonattainment Area

PM-2.5 Emissions (Kilograms/day)

<table>
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<th>Year</th>
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<th>No-Build</th>
</tr>
</thead>
<tbody>
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<td>32</td>
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<td>23</td>
<td>24</td>
</tr>
<tr>
<td>2035</td>
<td>29</td>
<td>31</td>
</tr>
</tbody>
</table>

Build  No-Build

Figure ES-9: NOx Results for Conformity Interim Emission (Build/No-Build) Test
Pinal County PM-2.5 Nonattainment Area

NOx Emissions (Kilograms/day)

<table>
<thead>
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<th>No-Build</th>
</tr>
</thead>
<tbody>
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<td>860</td>
<td>916</td>
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<tr>
<td>2035</td>
<td>833</td>
<td>908</td>
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</table>

Build  No-Build
The report is organized into six chapters. Chapter 1 provides an overview of the applicable federal and state conformity rules and requirements, air quality implementation plans, and conformity test requirements. Chapter 2 contains a discussion of the latest planning assumptions. Chapter 3 includes a summary of the transportation model characteristics, key socioeconomic data, and other data related to the land use and transportation system forecasts, and Chapter 4 describes the air quality modeling used to estimate emission factors and mobile source emissions. Chapter 5 contains the documentation required under the federal transportation conformity rule for transportation control measures. The results of the conformity analysis for the MAG FY 2014-2018 Transportation Improvement Program and 2035 MAG Regional Transportation Plan and the new Pinal County nonattainment areas are provided in Chapter 6.

Excerpts from the applicable air quality plans, consultation documentation, and other related information are contained in the appendices. The transcript of the public hearing conducted on the draft report as well as the MAG response to the comments received on the conformity analysis during the 30-day consultation period on the draft report are provided in the appendices.

1 FEDERAL AND STATE REGULATORY REQUIREMENTS

The Maricopa Association of Governments is the designated Metropolitan Planning Organization (MPO) for Maricopa County and portions of Pinal County including Apache Junction, Florence, and Maricopa. As a result of this designation, MAG prepares the Transportation Improvement Program and Regional Transportation Plan, and the associated conformity analyses. The FY 2014-2018 MAG Transportation Improvement Program and 2035 MAG Regional Transportation Plan includes an expanded MAG region in 2013. The FY 2014-2018 MAG Transportation Improvement Program serves as a detailed guide for preservation, expansion, and management of public transportation services. The 2035 MAG Regional Transportation Plan covers FY 2014 through FY 2035 providing the blueprint for future transportation investments in the region. The Regional Transportation Plan includes funding for freeways and highways, streets, regional bus and high capacity transit, as well as bicycle and pedestrian facilities, commensurate with available funding. In addition, this conformity analysis supports a finding of conformity on the FY 2014-2018 MAG Transportation Improvement Program and 2035 MAG Regional Transportation Plan for the Maricopa Association of Governments metropolitan planning area.

On May 9, 2013, the MAG Metropolitan Planning Area Boundary was expanded due to the 2010 Census urbanized area updates. For transportation planning and programming purposes, the Federal Highway Administration regulations state that at a minimum, the Metropolitan Planning Area must encompass the entire existing urbanized area boundary as well as the contiguous geographic area(s) likely to become urbanized within the next 20 years. The updated urbanized area boundary for the MAG region included areas within Pinal County. Due to this expansion, the MAG Regional Council amended the MAG By-laws to recognize the new Metropolitan Planning Area Boundary and to provide for new members from Pinal County within the new boundary. The MAG Metropolitan Planning Area Boundary now includes the Town of Florence, City of Maricopa, the portion of the Gila River Indian Community within Pinal County, and unincorporated areas within Pinal County.

Also, on May 6, 2013, the new Sun Corridor Metropolitan Planning Organization was designated in the Pinal County area. The Sun Corridor Metropolitan Planning Area Boundary includes the cities of Casa Grande, Eloy, Coolidge, and unincorporated areas of Pinal County.

Both the MAG Metropolitan Planning Area Boundary and the Sun Corridor Metropolitan Planning Area Boundary include portions of the West Pinal PM-10 Nonattainment Area and...
West Central Pinal PM-2.5 Nonattainment Area located in Pinal County. Both nonattainment areas are covered by the boundaries of the two metropolitan planning organizations. Consequently, transportation conformity is required to be demonstrated for both nonattainment areas by both metropolitan planning organizations. Please refer to Figure 1.

On July 1, 2013, the Federal Highway Administration notified the Governor of a transportation conformity lapse in the West Pinal PM-10 Nonattainment Area, effective July 2, 2013. The new West Pinal PM-10 Nonattainment Area had been designated by the Environmental Protection Agency, effective July 2, 2012. The Clean Air Act §176(c)(6) requires a metropolitan long range transportation plan and transportation improvement program conformity determination within twelve months of the effective date of an area being designated nonattainment. The twelve month conformity grace period had lapsed.

To provide assistance to the new Sun Corridor Metropolitan Planning Organization, MAG has prepared the initial conformity analysis for the PM-10 and PM-2.5 nonattainment areas in Pinal County, to enable transportation projects in both metropolitan planning organizations to proceed. At a June 17, 2013 meeting with the Arizona Department of Transportation, Sun Corridor Metropolitan Planning Organization and MAG, there was general concurrence that MAG would prepare the initial conformity analysis. The Maricopa Association of Governments is working through a cooperative effort with the Arizona Department of Transportation, Sun Corridor Metropolitan Planning Organization, and Pinal County on the conformity analysis necessary to remove the conformity lapse.

The criteria for determining conformity of transportation programs and plans under the federal transportation conformity rule (40 Code of Federal Regulations Parts 51 and 93) and the applicable conformity tests for the Maricopa County nonattainment and maintenance areas and Pinal County nonattainment areas are summarized in this chapter. The 2014 MAG Conformity Analysis for the FY 2014-2018 MAG Transportation Improvement Program (TIP) and the 2035 MAG Regional Transportation Plan (RTP) was prepared based on these criteria and tests. Presented first is a review of the development of the applicable conformity rule and guidance procedures, followed by a summary of conformity rule requirements, air quality designation status, conformity test requirements, and analysis years.
FEDERAL AND STATE CONFORMITY RULES

Clean Air Act Amendments

Section 176(c) of the Clean Air Act (CAA, 1990) requires that Federal agencies and Metropolitan Planning Organizations (MPOs) not approve any transportation project, program, or plan which does not conform with the approved State Implementation Plan (SIP). The 1990 amendments to the Clean Air Act expanded Section 176(c) to more explicitly define conformity to an implementation plan to mean:

Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The expanded Section 176(c) also provided conditions for approval of transportation plans, programs, and projects; requirements that the Environmental Protection Agency (EPA) promulgate conformity determination criteria and procedures no later than November 15, 1991; and a requirement that States submit their conformity procedures to EPA by November 15, 1992. The initial November 15, 1991 deadline for conformity criteria and procedures was not met by EPA.

Federal Rule

Supplemental interim conformity guidance was issued on June 7, 1991 (EPA/U.S. DOT, 1991a and 1991b) for carbon monoxide, ozone, and particulate matter less than or equal to ten microns in diameter. The applicable period of this guidance was designated as Phase I of the interim period. EPA subsequently promulgated the Conformity Final Rule, in the November 24, 1993 Federal Register (EPA, 1993). The Rule became effective on December 27, 1993. The federal Transportation Conformity Final Rule has been revised several times since its initial release. The first set of amendments, finalized on August 7, 1995. (EPA, 1995a) aligned the dates of conformity lapses due to SIP failures with the application of Clean Air Act highway sanctions for certain ozone areas and all areas with disapproved SIPs with a protective finding.

The second set of amendments was finalized on November 14, 1995 (EPA, 1995b). This set allowed any transportation control measure (TCM) from an approved SIP to proceed during a conformity lapse, and aligned the date of conformity lapses with the date of application of Clean Air Act highway sanctions for any failure to submit or submissions of an incomplete control strategy SIP. The second set also corrected the nitrogen oxides provisions of the transportation conformity rule consistent with the Clean Air Act and previous commitments made by EPA. Finally, the amendments extended the grace period for areas to determine conformity to a submitted control strategy SIP, and established a grace period for determining conformity on transportation plans and programs in recently designated nonattainment areas. This grace period was later overturned in Sierra Club v. EPA in November 1997.

The third set of amendments was finalized August 15, 1997 (EPA, 1997a). These amendments streamlined the conformity process by eliminating the reliance on the classification system of “Phase II interim period,” “transitional period,” “control strategy period,” and “maintenance period” to determine whether the budget test and/or emission reduction tests apply. The amendments also changed the time periods during which the budget test and the build/no-build test are required.

To incorporate provisions from the Sierra Club v. EPA court decision, EPA promulgated an amendment to the transportation conformity rule on April 10, 2000 that eliminated a one-year grace period for new nonattainment areas before conformity applies (EPA, 2000). Then on August 6, 2002, the EPA promulgated an amendment to the transportation conformity rule which requires conformity to be determined within 18 months of the effective date of the EPA Federal Register notice on an individual area's initial SIP submission and established a one-year grace period before conformity is required in areas that are designated nonattainment for a given air quality standard for the first time (EPA, 2002b).

On July 1, 2004, EPA published the final rule, Transportation Conformity Rule Amendments for the New Eight-Hour Ozone and PM-2.5 National Ambient Air Quality Standards and Miscellaneous Revisions for Existing Areas; Transportation Conformity Rule Amendments - Response to Court Decision and Additional Rule Changes (EPA, 2004a). The rule describes transportation conformity requirements for the new eight-hour ozone and fine particulate matter (PM-2.5) standards. The rule also incorporates existing EPA and United States Department of Transportation (U.S. DOT) guidance that implements the March 2, 1999, court decision and provides revisions that clarify the existing regulation and improve its implementation. On July 20, 2004, EPA issued a Federal Register notice that corrects two errors in the preamble to the July 1, 2004 final rule.

On February 14, 2006, EPA and U.S. DOT jointly issued guidance on the implementation of the transportation conformity-related provisions from the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The transportation bill, which became law on August 10, 2005, made several changes to the transportation conformity provisions in Section 176(c) of the Clean Air Act. On January 24, 2008, EPA issued a final rule on the transportation conformity amendments to implement the conformity provisions contained in SAFETEA-LU (EPA, 2008a). A summary of the key conformity provisions are:

- Additional time is provided for areas to redefine conformity of existing transportation plans and programs from 18 months to two years after the date that EPA finds a motor vehicle emissions budget to be adequate or approves an...
A577

Appendix 4-3

implementation plan that establishes a motor vehicle emissions budget, or when EPA promulgates an implementation plan that establishes or revises a motor vehicle emissions budget.

- The requirement for frequency of conformity determinations on updated transportation plans and programs is changed from three to four years, except when the MPO elects to update a transportation plan or program more frequently, or when the MPO is required to determine conformity after EPA finds a motor vehicle emissions budget to be adequate or approves an implementation plan that establishes a motor vehicle emissions budget, or when EPA promulgates an implementation plan that establishes or revises a motor vehicle emissions budget.

- Conformity determinations for transportation plans shall include the final year of the transportation plan as a horizon year, or optionally, after consultation with the air pollution control agency and the public and consideration of comments, the MPO may elect the longest of the following periods: the first 10-year period of the transportation plan; the latest year in the implementation plan that contains a motor vehicle emissions budget; the year after the completion date of a regionally significant project if the project is included in the transportation improvement program or the project requires approval before the subsequent conformity determination.

- In addition, if the MPO elects to determine conformity for a period less than the last horizon year of the transportation plan, the conformity determination must include a regional emissions analysis for the last year of the transportation plan and for any year shown to exceed emission budgets from a previous conformity determination, for information only. The analysis years selected for the 2014 MAG Conformity Analysis are described later in this section, and include the last year of the 2035 MAG Regional Transportation Plan.

- Allows the substitution of transportation control measures in an implementation plan that achieve equivalent or greater emissions reductions than the control measure to be replaced and that are consistent with the schedule provided for control measures in the plan. The substitution or addition of a transportation control measure shall not require a new conformity determination for the transportation plan or a revision of the implementation plan.

- An additional 12 month grace period is provided after a missed deadline before conformity lapses on a transportation plan or program. This provision applies to two types of conformity determination deadlines: the deadline resulting from the requirement to determine conformity for the transportation plan and program at regular intervals and the deadlines resulting from the requirement for a conformity redetermination within two years of an EPA action approving or finding a motor vehicle emissions budget adequate.

- Requires a conformity SIP amendment addressing requirements from Title 40 CFR sections 93.105, 93.122(a)(4)(i), and 93.125(c) of the federal transportation conformity regulations.

On March 14, 2012, EPA published the Transportation Conformity Rule Restructuring Amendments. This rule restructured sections 40 CFR 93.109 and 93.119 so that they apply to any new or revised federal air quality standard. The rule also allows any nonattainment area that EPA determines has clean air quality data to satisfy transportation conformity test requirements by using on-road emissions from the most recent year of clean data as the budgets for that standard rather than using the interim emissions tests per 40 CFR 93.119 (EPA, 2012b).

State Rule

State rules for transportation conformity were adopted on April 12, 1995, by the Arizona Department of Environmental Quality (ADEQ), in response to requirements in Section 176(c)(4)(C) of the Clean Air Act as amended in 1990 (ADEQ, 1995). These rules became effective upon their certification by the Arizona Attorney General on June 15, 1995 and, as required by the federal conformity rule, were submitted to EPA as a revision to the State transportation conformity SIP.

To date, a State transportation conformity SIP has not received approval by EPA. Section 51.390(b) of the federal conformity rule states: “Following EPA approval of the State conformity provisions (or a portion thereof) in a revision to the applicable implementation plan, conformity determinations would be governed by the approved (or approved portion of the) State criteria and procedures.” The federal transportation conformity rule therefore still governs, as a transportation conformity SIP has not yet been approved for this area.

The State rule specifies that MPOs (i.e., MAG, for this region) must develop specific conformity guidance and consultation procedures and processes. MAG has developed and adopted two conformity guidance documents to meet State requirements. MAG developed the “Transportation Conformity Guidance and Procedures” document, which was adopted initially on September 27, 1995 by the MAG Regional Council. The document was revised by the MAG Regional Council on March 27, 1996 (MAG, 1996b). This guidance document addresses both the determination of “regional significance” status for individual transportation projects, and the process by which regionally significant projects may be approved.

MAG also developed the “Conformity Consultation Processes” document, which was adopted on February 28, 1996 by the MAG Regional Council (MAG, 1996a). This guidance document details the public and interagency consultation processes to be used
in the development of regional transportation plans, programs, and projects within the Maricopa County nonattainment and maintenance areas.

Case Law

On November 14, 1997, the U.S. Court of Appeals for the District of Columbia issued an opinion in Sierra Club v. EPA involving the 1995 transportation conformity amendment that allowed new nonattainment areas a one-year grace period. Under this ruling, conformity applied as soon as an area was designated nonattainment. The EPA issued a final rule on April 10, 2000 in the Federal Register deleting 40 CFR 93.102(d) that allowed the grace period for new nonattainment areas (EPA, 2000). Then, on October 27, 2000, the FY 2001 EPA Appropriations bill included an amendment to Section 176(c) of the Clean Air Act that adds the one-year grace period to the statutory language.

On March 2, 1999, the U.S. Court of Appeals for the District of Columbia issued an opinion in Environmental Defense Fund v. EPA involving the 1997 transportation conformity amendments. In general, the court struck down 40 CFR 93.120(a)(2) which permitted a 120-day grace period after disapproval of a SIP; determined that the EPA must approve a "safety margin" prior to its use for conformity in 40 CFR 93.124(b); concluded that a submitted SIP budget must be found by EPA to be adequate, based on criteria found in 40 CFR 93.118(e)(4) before it can be used in a conformity determination; and ended a provision that allowed “grandfathered” projects to proceed during a conformity lapse. Following the court ruling, the EPA and U.S. DOT issued guidance to address implementation of conformity requirements based on the court findings. The EPA issued guidance contained in a May 14, 1999 memorandum (EPA, 1999c). In addition, the U.S. DOT issued guidance on June 16, 1999 that incorporates all U.S. DOT guidance in response to the court decision in a single document (U.S. DOT, 1999). On July 1, 2004, transportation conformity rule amendments were published in the Federal Register to incorporate provisions of the Environmental Defense Fund v. EPA court decision.

On October 20, 2006, the U.S. Court of Appeals for the District of Columbia filed an opinion vacating a provision of the transportation conformity rule at 40 CFR 93.109(e)(2)(v) that allowed areas to use the interim emission tests instead of the one-hour budgets. All other provisions regarding the use of the interim emissions tests remain unaffected by the court decision. Table 1 summarizes the criteria for conformity determinations for transportation projects, programs, and plans, as specified in amendments to the federal conformity rule.

CONFORMITY RULE REQUIREMENTS

The federal regulations identify general criteria and procedures that apply to all transportation conformity determinations, regardless of pollutant and implementation plan status. These include:

1) Conformity Tests — Sections 93.118 and 93.119 specify emission tests (budget and interim emissions) that the TIP and RTP must satisfy in order for a determination of conformity to be found. The final transportation conformity rule requires a submitted SIP motor vehicle emissions budget to be affirmed as adequate by EPA prior to use for making conformity determinations. The budget must be used on or after the effective date of EPA’s finding of adequacy.

2) Methods / Modeling:

Latest Planning Assumptions — Section 93.110 specifies that conformity determinations must be based upon the most recent planning assumptions in force at the time the conformity analysis begins, which is “the point at which the MPO or other designated agency begins to model the impact of the proposed transportation plan or TIP on travel and/or emissions. New data that becomes available after an analysis begins is required to be used in the conformity determination only if a significant delay in the analysis has occurred, as determined through interagency consultation”. This section of the conformity rule also requires reasonable assumptions to be made regarding transit service and changes in projected fares. All analyses were conducted using the latest planning assumptions and emissions models in force at the time the conformity analysis started on September 29, 2013.

Latest Emissions Models — Section 93.111 requires that the latest emission estimation models specified for use in SIPs must be used for the conformity analysis.

3) Timely Implementation of TCMs — Section 93.113 provides a detailed description of the steps necessary to demonstrate that the TIP and RTP are providing for the timely implementation of TCMs, as well as demonstrate that the plan and/or program is not interfering with this implementation. TCM documentation is included in Chapter Five of the Conformity Analysis.

4) Consultation — Section 93.105 requires that the conformity determination be made in accordance with the consultation procedures outlined in the federal regulations. These include:

- MAG is required to provide reasonable opportunity for consultation with local air quality and transportation agencies, state air and transportation agencies, the U.S. DOT and EPA (Section 93.105(c)(1)).

- MAG is required to establish a proactive public involvement process which provides opportunity for public review and comment prior to taking formal action on a conformity determination (Section 93.105(e)).
TABLE 1.
CONFORMITY CRITERIA FROM THE FINAL RULE

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<td>CO and PM-10</td>
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</table>

Source: Adapted from (EPA, 2012c), Section 93.109(b), “Table 1 - Conformity Criteria”.

Under the interagency consultation procedures, the RTP is prepared by MAG staff with guidance from the MAG Transportation Policy Committee, the MAG Management Committee, and the MAG Regional Council. Copies of the final Draft are provided to MAG member agencies and others, including the Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Arizona Department of Transportation (ADOT), ADEQ, Valley Metro/RPTA, City of Phoenix Public Transit Department, Pinal County Air Quality Control District (PCAAQCD), Central Arizona Governments (CAG), Sun Corridor Metropolitan Planning Organization, Maricopa County Air Quality Department (MCAQD), and EPA. The RTP is required to be publicly available and an opportunity for public review and comment is provided.

The TIP is prepared by MAG staff with the assistance of the MAG modal committees, Transportation Review Committee, and Transportation Policy Committee. Copies of the Draft TIP are provided to MAG member agencies and others, including FTA, FHWA, ADOT, ADEQ, Valley Metro/RPTA, City of Phoenix Public Transit Department, MCAQD, CAG, PCAAQCD, Sun Corridor Metropolitan Planning Organization, and EPA for review. As with the RTP, the TIP is required to be publicly available and an opportunity for public review and comment is provided.

AIR QUALITY PLANS AND DESIGNATIONS

Maricopa County Nonattainment and Maintenance Areas

Portions of Maricopa County are currently designated as nonattainment or maintenance for the National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), eight-hour ozone, and particulate matter less than or equal to ten microns in diameter (PM-10). Air quality plans have been prepared to address carbon monoxide, one-hour ozone, eight-hour ozone, and PM-10:

- The Revised MAG 1999 Serious Area Carbon Monoxide Plan, reflecting the repeal of the remote sensing program by the Arizona Legislature in 2000, was submitted to EPA in March 2001 and approved by EPA effective April 8, 2005;
- The MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA in June 2003 and approved by EPA effective April 8, 2005;
- The MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area was submitted to EPA in April 2013.
• The EPA approved and promulgated a Revised 1998 15 Percent Rate of Progress Plan for Ozone (Revised ROP FIP) for the Maricopa County nonattainment area, effective August 5, 1999;

• The Serious Area Ozone State Implementation Plan for Maricopa County was prepared by ADEQ and submitted to EPA in December 2000 to meet the Serious Area requirements. No budget is contained in the Serious Area Ozone Plan. EPA approved the Serious Area Ozone Plan, effective June 14, 2005;

• The MAG 2004 One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA in May 2004 and approved by EPA effective June 14, 2005;

• The MAG 2007 Eight-Hour Ozone Plan for the Maricopa Nonattainment Area was submitted to EPA by June 15, 2007 and approved by EPA effective July 13, 2012;

• The MAG 2009 Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area was submitted to EPA in March 2009;

• The Revised MAG 1999 Serious Area Particulate Plan for PM-10 was submitted to EPA in February 2000 and approved by EPA effective August 26, 2002;

• The MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA by December 31, 2007. On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona withdrew the Five Percent Plan from EPA consideration. On February 9, 2011, EPA published a notice of withdrawal of the May 30, 2008 adequacy finding on the PM-10 motor vehicle missions budget from the Five Percent Plan, effective January 31, 2011. On February 14, 2011, EPA made a finding that Arizona failed to submit the plan as required under the Clean Air Act, which triggered the sanctions clocks and obligation to impose a federal implementation plan if a new complete plan is not submitted. This EPA finding began an 18-month clock for mandatory application of sanctions and a two-year clock for a Federal Implementation Plan. The EPA published a corrected notice of withdrawal on February 28, 2011; and

• The MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA on May 25, 2012. On July 20, 2012, EPA issued a completeness finding that stopped the 18-month clock for mandatory application of sanctions. On April 19, 2013 and August 23, 2013, EPA proposed approval of several statutes included in the MAG 2012 Five Percent Plan for PM-10 that regulate PM-10 emissions from fugitive dust sources. On January 14, 2014, the Environmental Protection Agency signed a notice proposing to approve the MAG 2012 Five Percent Plan for PM-10.

The boundaries of the nonattainment and maintenance areas are identified below, followed by a summary of the attainment status for each pollutant for the Maricopa County region.

Nonattainment and Maintenance Boundaries

Maricopa County nonattainment and maintenance areas are shown in Figure 2. The carbon monoxide maintenance area boundary encompasses 1,614 square miles (approximately 20 percent) of the County. This boundary was originally defined in 1974.

On March 9, 2005, EPA published a final rule redesignating portions of Maricopa County to attainment for carbon monoxide and also removed the Gila River Indian Community from the Maricopa County maintenance area, effective April 8, 2005 (EPA, 2005a).

Portions of the Maricopa County area, including the Gila River Indian Community, were designated nonattainment for one-hour ozone in September 1979. On June 14, 2005, EPA redesignated the area to attainment for one-hour ozone. The associated designations and classifications for the one-hour standard were revoked on June 15, 2005. On November 10, 2005, EPA published a direct final rule to correct the boundary of the Phoenix metropolitan one-hour ozone nonattainment area to exclude a portion of the Gila River Indian Community, effective January 9, 2006.

On April 15, 2004, EPA designated an eight-hour ozone nonattainment area located mainly in Maricopa County and Apache Junction in Pinal County. On April 30, 2004, EPA published the air quality designations and classifications for the 1997 eight-hour ozone standard that includes T1N, R6E and sections 1 through 12 of T1S, R8E in Pinal County (EPA, 2004b). This eight-hour ozone nonattainment area covered approximately 4,880 square miles.

In 2008, EPA strengthened the eight-hour ozone standard. On April 30, 2012, EPA published the final rule designating nonattainment areas for the 2008 eight-hour ozone standard. For the 2008 eight-hour ozone nonattainment area, the existing nonattainment area boundary for the 1997 eight hour ozone standard for the Maricopa County nonattainment area was expanded to the west and southwest. The new boundary is shown in Figure 2. The 2008 eight-hour ozone nonattainment area covers approximately 5,018 square miles.

Consistent with conformity test requirements at 40 CFR 93.109(c)(2)(iii)(B), the regional emissions analysis compares the projected emissions from the 2008 eight-hour ozone nonattainment area for each analysis year with the budgets from the EPA-approved MAG 2007 Eight-Hour Ozone Plan.

Following promulgation of the PM-10 standard in 1987, EPA identified a larger PM-10 nonattainment area in 1990. The PM-10 nonattainment area encompasses 2,916 square...
miles, consisting of a 48 by 60 mile rectangular grid encompassing eastern Maricopa County, plus a six by six mile section that includes a portion of the City of Apache Junction in Pinal County.

**Attainment Status**

Following the requirements of the 1990 Clean Air Act Amendments, EPA initially identified the MAG region as a "Moderate" nonattainment area for the eight-hour CO standard, with a design value of 12.6 parts per million (ppm), exceeding the current NAAQS of 9.0 ppm. The standard was not achieved by the Clean Air Act deadline of December 31, 1995. The area was reclassified to "Serious" by operation of law with an effective date of August 28, 1996 (EPA, 1996b). The new carbon monoxide attainment date was December 31, 2000. No violations of the carbon monoxide standard have occurred since 1996. The State, in a July 23, 1999 letter, requested a carbon monoxide attainment determination from EPA.

In June 2003, the MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA. The CO Maintenance Plan demonstrated that all Clean Air Act requirements have been met and requested that EPA redesignate the area to attainment for carbon monoxide. On September 22, 2003, EPA published a final attainment determination for the carbon monoxide standard (EPA, 2003). On March 9, 2005, EPA published the final rule in the Federal Register approving the Revised MAG 1999 Serious Area Carbon Monoxide Plan and the Carbon Monoxide Maintenance Plan and designating the carbon monoxide area to attainment, effective April 8, 2005 (EPA, 2005a).

In April 2013, the MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area was submitted to EPA. This plan satisfies Section 175A(b) of the Clean Air Act that requires an additional plan revision for maintaining the primary air quality standard for ten years after the expiration of the initial ten-year period be submitted to EPA eight years after redesignation of the area to attainment.

Under the 1990 Clean Air Act Amendments, the Maricopa County nonattainment area was classified as "Moderate" for the one-hour ozone standard. The standard was not achieved by the deadline of November 19, 1996. On November 6, 1997, EPA reclassified the area to "Serious" for ozone (EPA, 1997b), effective February 13, 1998 (EPA, 1998a). The new ozone attainment date was November 19, 1999. Prior to EPA’s revocation of the one-hour ozone standard in 2005, no violations of the one-hour ozone standard had occurred since 1996. The State, in a February 21, 2000 letter, requested an ozone attainment determination. On May 30, 2001, the Environmental Protection Agency published a final attainment determination for the one-hour ozone standard (EPA, 2001a).

The MAG 2004 One-hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA in May 2004. The MAG One-Hour Ozone Maintenance Plan demonstrated that all Clean Air Act requirements had been
met and requested that EPA redesignate the area to attainment for one-hour ozone. On June 14, 2005, EPA published the final rule in the Federal Register approving the One-Hour Ozone Maintenance Plan and redesignating the one-hour ozone area to attainment (EPA, 2005b). EPA revoked the one-hour ozone standard on June 15, 2005.


In 2008, EPA strengthened the eight-hour ozone standard. On April 30, 2012, EPA published the final rule designating nonattainment areas for the 2008 eight-hour ozone standard. For the 2008 eight-hour ozone nonattainment area, the existing nonattainment area boundary for the 1997 eight hour ozone standard for the Maricopa County nonattainment area was expanded to the west and southwest.

Under Section 107(d)(4) of the 1990 Clean Air Act Amendments, the PM-10 nonattainment area was initially classified as “Moderate,” with an attainment deadline of December 31, 1994. The standard was not achieved by that date. EPA reclassified the region to “Serious” in May 1996, with an effective date of June 10, 1996 (EPA, 1996a). The new attainment date for PM-10 was December 31, 2001 for Serious areas; however, the Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area contained a request to extend the attainment date to December 31, 2006, as allowed in the Clean Air Act Amendments (MAG, 2000). In the July 25, 2002 Federal Register, the Environmental Protection Agency published the final approval of the Revised MAG 1999 Serious Area Particulate Plan for PM-10, including the request to extend the attainment date to December 31, 2006 (EPA, 2002a).

On May 25, 2007, EPA issued a final rule finding that the Maricopa County nonattainment area did not attain the PM-10 standard by December 31, 2006. In accordance with Section 189(d) of the Clean Air Act, MAG prepared a Five Percent Plan for PM-10 that was submitted to EPA by December 31, 2007 (MAG, 2007b). On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona withdrew the Five Percent Plan from EPA consideration. On February 9, 2011, EPA published a notice of withdrawal of the May 30, 2008 adequacy finding on the PM-10 motor vehicle missions budget from the Five Percent Plan, effective January 31, 2011. On February 14, 2011, EPA made a finding that Arizona failed to submit the plan as required under the Clean Air Act, which triggered the sanctions clocks and obligation to impose a federal implementation plan if a new complete plan is not submitted. This EPA finding began an 18-month clock for mandatory application of sanctions and a two-year clock for a Federal Implementation Plan. The EPA published a corrected notice of withdrawal on February 28, 2011.

The MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA on May 25, 2012. On July 20, 2012, EPA issued a completeness finding that stopped the 18-month clock for mandatory application of sanctions. On January 14, 2014, the Environmental Protection Agency signed a notice proposing to approve the MAG 2012 Five Percent Plan for PM-10.

In addition, on July 18, 1997 EPA promulgated federal air quality standards for PM-2.5. On January 5, 2005, EPA published a notice designating the Maricopa County area as an attainment area for PM-2.5, effective April 5, 2005.

Pinal County Nonattainment Areas

On February 3, 2011, EPA published the final rule designating a portion of Pinal County as nonattainment for the 2006 24-hour PM-2.5 standard based on 2006-2008 data, effective March 7, 2011. The West Central Pinal PM-2.5 Nonattainment Area covers approximately 323 square miles in the west central part of Pinal County.

Also, on May 31, 2012, EPA published the final rule designating the West Pinal PM-10 nonattainment area, effective July 2, 2012. EPA classified the nonattainment area as moderate. The West Pinal PM-10 Nonattainment Area covers approximately 1,326 square miles in the western half of Pinal County.

Nonattainment Boundaries

As shown in Figure 3, portions of the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area are located within the metropolitan planning area boundaries of both MAG and the Sun Corridor Metropolitan Planning Organization.

Attainment Status

At the time of designation, EPA indicated that the State of Arizona is required to submit a SIP for the West Central Pinal PM-2.5 Nonattainment Area within three years following the March 7, 2011 effective date. On September 4, 2013, EPA published in the Federal Register a determination that the West Central Pinal PM-2.5 Nonattainment Area has attained the 2006 24-hour PM-2.5 standard based on clean data at the monitor during the 2010-2012 monitoring period.

In the May 31, 2012 final rulemaking, EPA indicated that the State of Arizona is required to submit a revision to the SIP for the West Pinal PM-10 Nonattainment Area within 18 months following the July 2, 2012 effective date.
CONFORMITY TEST REQUIREMENTS

Maricopa County Nonattainment and Maintenance Areas

Specific conformity test requirements established for the carbon monoxide maintenance area and the eight-hour ozone and PM-10 nonattainment areas are summarized below. The Carbon Monoxide Redesignation Request and Maintenance Plan, submitted to EPA in June 2003, contained 2006 and 2015 emissions budgets for carbon monoxide. These carbon monoxide budgets were found to be adequate by EPA on September 29, 2003. On March 9, 2005, EPA published the final rule in the Federal Register approving the Carbon Monoxide Maintenance Plan, including the emissions budgets, effective April 8, 2005. In April 2013, the MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area was submitted to EPA. The new 2025 conformity budget in this plan will be used, if EPA finds it to be adequate or approves the plan. In this case, the 2025 budget will be utilized in addition to the 2015 budgets already approved by EPA.

The MAG 2007 Eight-Hour Ozone Plan, submitted to EPA by June 15, 2007, contained 2008 conformity budgets for the ozone precursors, VOC and NOx. These emission budgets were found to be adequate by EPA, effective November 9, 2007. On June 13, 2012, EPA approved the MAG 2007 Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012. The MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan was submitted to EPA in March 2009. The maintenance plan established 2025 conformity budgets for VOC and NOx. These budgets will be used, if EPA finds them to be adequate or approves the Eight-Hour Ozone Maintenance Plan. In this case, the 2025 conformity budgets for ozone precursors will be utilized in addition to the 2008 budgets established by the MAG 2007 Eight-Hour Ozone Plan.

The Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA in February 2000. This Plan established a PM-10 conformity budget of 59.7 metric tons per day for the attainment year of 2006. EPA approved the Revised MAG 1999 Serious Area PM-10 Plan and the conformity budget, effective August 26, 2002.

The MAG 2007 Five Percent Plan for PM-10 was submitted to EPA by December 31, 2007. This plan established a PM-10 conformity budget for the attainment year of 2010. The conformity budget was found to be adequate by EPA on July 1, 2008. On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona withdrew the Five Percent Plan from EPA consideration. On February 9, 2011, EPA published a notice of withdrawal of the May 30, 2008 adequacy finding on the PM-10 motor vehicle missions budget from the Five Percent Plan, effective January 31, 2011. On February 14, 2011, EPA made a finding that Arizona failed to submit the plan as required under the Clean Air Act, which triggered the sanctions clocks and obligation to impose a federal implementation plan if a new complete plan is not submitted. This EPA finding began an 18-month clock.

The MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA on May 25, 2012. On July 20, 2012, EPA issued a completeness finding that stopped the 18- and 24-month clocks for the mandatory application of sanctions. On April 19, 2013 and August 23, 2013, EPA proposed approval of several statutes included in the MAG 2012 Five Percent Plan for PM-10 that regulate PM-10 emissions from fugitive dust sources. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process. In the 2014 MAG Conformity Analysis, MAG conducted the conformity analysis with the budgets from the submitted plans. On December 5, 2013, EPA found the conformity budget in the MAG 2012 Five Percent Plan for PM-10 adequate for transportation conformity purposes, effective December 20, 2013.

The descriptions of the conformity tests that were performed for carbon monoxide, eight-hour ozone, and PM-10, as part of the 2014 MAG Conformity Analysis, are detailed below.

**Carbon Monoxide**

The MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was submitted to the EPA in July 1999 (MAG, 1999). The MAG 1999 Serious Area Carbon Monoxide Plan used the required EPA emissions model to assess the emission reduction measures required to demonstrate attainment and established a CO emissions budget of 411.6 metric tons per day for 2000 for the modeled area. The EPA issued a notice of adequacy effective December 14, 1999 in the Federal Register finding that the submitted CO motor vehicle emissions budget contained in the MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was adequate for transportation conformity purposes (EPA, 1999b).

The Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was submitted to EPA in March 2001 (MAG, 2001). The Revised Plan reflected the repeal of the Random Onroad Testing Requirements (Remote Sensing Program) from the Vehicle Emissions Inspection Program by the Arizona Legislature in 2000. The Revised Plan used the required EPA emissions model to assess the emission reduction measures required to demonstrate attainment and established a CO emissions budget of 412.2 metric tons per day for 2000 for the modeled area. The EPA issued a notice of adequacy in the Federal Register on October 17, 2001, finding that the submitted CO motor vehicle emissions budget contained in the Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was adequate for transportation conformity purposes (EPA, 2001b). The conformity budget for CO of 412.2 metric tons per day replaced the previous budget of 411.6 metric tons per day.

In June 2003, the MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan was submitted to EPA (MAG, 2003). The CO Maintenance Plan used the EPA-approved MOBILE6 emissions model to develop a 2006 emissions budget for carbon monoxide of 699.7 metric tons per day and a 2015 budget of 662.9 metric tons per day. EPA found the 2006 and 2015 budgets to be adequate for conformity purposes, effective October 14, 2003. The 2006 budget applies to horizon years from 2006 through 2014 and the 2015 budget, to horizon years after 2014. The regional emissions analysis projected for the TIP and RTP must be less than or equal to these budgets.

On September 22, 2003, EPA published a final attainment determination for the carbon monoxide standard (EPA, 2003). In addition, on March 9, 2005, EPA published the final rule in the Federal Register approving the Revised MAG 1999 Serious Area Carbon Monoxide Plan and the MAG Carbon Monoxide Redesignation Request and Maintenance Plan as part of the redesignation of Maricopa County to an attainment area for carbon monoxide, effective April 8, 2005 (EPA, 2005a).

In April 2013, the MAG 2013 CO Maintenance Plan for the Maricopa County Area was submitted to EPA (MAG, 2013). The MAG 2013 CO Maintenance Plan used the EPA-approved MOVES model to develop a 2025 mobile source emissions budget of 559.4 metric tons per day. When EPA finds the new budget to be adequate or approves the MAG 2013 CO Maintenance Plan, the new 2025 CO budget will be applied to conformity horizon years of 2025 and beyond. Until this occurs, the EPA-approved 2015 budget will continue to be used for horizon years of 2015 and beyond.

**Eight-Hour Ozone**

On May 21, 2012, EPA published the final rule implementing the 2008 eight-hour ozone standard and also revoking the 1997 eight-hour ozone standard for transportation conformity purposes one year after the effective date of designations for the 2008 ozone standard (i.e., July 20, 2013). No backsliding will result from the revocation for purposes of transportation conformity, as areas designated nonattainment for the 1997 ozone standard will be required to use any existing adequate or approved motor vehicle emissions budgets for a prior ozone standard when determining conformity for the 2008 ozone standard until budgets for the 2008 ozone standard are either found adequate or are approved. This section discusses the conformity test requirements for the Maricopa nonattainment area for the 2008 eight-hour ozone standard. Ozone is a secondary pollutant, generated by chemical reactions in the atmosphere involving volatile organic compounds (VOC) and nitrogen oxides (NOx). The Eight-Hour Ozone Plan for the Maricopa Nonattainment Area (MAG, 2007a) addresses the 1997 eight-hour ozone standard of 0.08 parts per million and establishes conformity budgets for VOC and NOx in the modeled attainment year of 2008. The 2008 emissions budgets for the eight-hour ozone nonattainment area are 67.9 metric tons per day for VOC and 138.2 metric tons per day for NOx. EPA published a Federal Register notice finding these budgets to be adequate, effective November 9, 2007. On June 13, 2012, EPA approved the MAG 2007...
Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012 (EPA, 2012d).

The MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area (MAG, 2009) was submitted to EPA in March 2009. The Maintenance Plan establishes conformity budgets for VOC and NOx in the modeled maintenance year of 2025. The 2025 emissions budgets for the eight-hour ozone nonattainment area are 43.8 metric tons per day for VOC and 101.8 metric tons per day for NOx. If EPA publishes a Federal Register notice finding these new ozone precursor budgets to be adequate or approves the Maintenance Plan, both the 2008 and 2025 budgets for VOC and NOx will be used.

For the 2008 eight-hour ozone nonattainment area, the existing nonattainment area boundary for the 1997 eight-hour ozone standard for the Maricopa County nonattainment area was expanded to the west and southwest. Consistent with conformity test requirements at 40 CFR 93.109(c)(2)(iii)(B), the regional emissions analysis compared the projected emissions from the 2008 eight-hour ozone nonattainment area for each analysis year with the budgets from the EPA-approved MAG 2007 Eight-Hour Ozone Plan.

**PM-10**

The Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA in February, 2000. This Plan established a PM-10 conformity budget of 59.7 metric tons per day for the attainment year of 2006. EPA approved the Revised MAG 1999 Serious Area PM-10 Plan, effective August 26, 2002.

As required by Clean Air Act Section 189(d), the MAG 2007 Five Percent Plan for PM-10 was submitted to EPA by December 31, 2007. The Plan established a PM-10 emissions budget for onroad mobile sources in the modeled attainment year of 2010. The 2010 conformity budget for PM-10 in the Plan was 103.3 metric tons per day for the PM-10 nonattainment area. EPA published a Federal Register notice finding the PM-10 budget to be adequate, effective July 1, 2008.


On May 25, 2012, the MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA. The 2012 budget established in this Plan is 54.9 metric tons per day. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process. In the 2014 MAG...
ANALYSIS YEARS

Maricopa County Nonattainment and Maintenance Areas

In selecting analysis years for the Maricopa County nonattainment and maintenance areas, which have EPA-approved mobile source emissions budgets, the conformity rule (Section 93.118(d)) requires that: (1) if the attainment year is in the time frame of the transportation plan, it must be modeled; (2) the last year forecast in the transportation plan must be an analysis year; and (3) analysis years may not be more than ten years apart. For the 2014 MAG Conformity Analysis, onroad mobile source emissions of carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NOx), and PM-10 were estimated for the analysis years 2015, 2025, and 2035. These three years were used to compare mobile source emissions with EPA-approved budgets for CO, VOC, NOx and PM-10.

The year 2015 was modeled for CO, because there is an EPA-approved emissions budget for the maintenance year of 2015 in the MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan (MAG, 2003). The year 2015 was also modeled for VOC and NOx since 2015 is the attainment year for the 2008 eight-hour ozone standard, and for PM-10. The year 2025 was modeled for VOC and NOx, because it is the maintenance year in the Eight-Hour Ozone Redesignation Request and Maintenance Plan (MAG, 2009). The year 2025 was modeled for CO, since it is the maintenance year in the MAG 2013 Carbon Monoxide Maintenance Plan (MAG, 2013). The year 2025 was also modeled for PM-10, because it is an intermediate year that meets the federal conformity requirement that analysis years be no more than ten years apart. The year 2035 was modeled for all pollutants, since it is the last year of the 2035 MAG Regional Transportation Plan.

Pinal County Nonattainment Areas

In selecting build/no-build analysis years for the Pinal County nonattainment areas, which do not have mobile source emissions budgets, the conformity rule (Section 93.118(g)) indicates that the years must be more than ten years apart, the first year must be no more than five years beyond the year in which the conformity determination is being made, and the last year must be aligned with the transportation plan (i.e., the 2035 MAG Regional Transportation Plan which contains some projects in the Pinal nonattainment areas). These three criteria are met by the years 2015, 2025 and 2035. For the 2014 MAG Conformity Analysis, mobile source emissions were estimated for the build and no-build scenarios for 2015, 2025 and 2035. PM-10 emissions (exhaust, tire wear and brake wear) were estimated for the Pinal PM-10 nonattainment area, while PM-2.5 (exhaust, tire wear, brake wear, and reentrained dust from paved and unpaved roads) and nitrogen oxide exhaust emissions were estimated for the Pinal PM-2.5 nonattainment area.

2 LATEST PLANNING ASSUMPTIONS

The Clean Air Act states that “the determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates.” On January 18, 2001, the U.S. DOT issued guidance developed jointly with EPA to provide additional clarification concerning the use of latest planning assumptions in conformity determinations (U.S. DOT, 2001). In December 2008, EPA published revisions to the 2001 guidance entitled, “Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations” (EPA, 2008b).

Key elements of this guidance are identified below:

- Areas are strongly encouraged to review and strive towards regular five-year updates of planning assumptions, especially population, employment, and vehicle registration assumptions.

- The latest planning assumptions must be derived from the population, employment, travel and congestion estimates that have been most recently developed by the MPO (or other agency authorized to make such estimates) and approved by the MPO.

- Conformity determinations that are based on information that is older than five years should include written justification for not using more recent information. For areas where updates are appropriate, the conformity determination should include an anticipated schedule for updating assumptions.

The latest planning assumptions used in the 2014 MAG Conformity Analysis are summarized in Table 2. The methodology and scheduled updates for the planning assumptions are discussed below.

The conformity regulations (EPA, 2012c) indicate that “the conformity determination…must be based upon the most recent planning assumptions in force at the time the conformity analysis begins…as determined through the interagency consultation process.” It has been determined through the consultation process that the “time that the conformity analysis begins” is the day that the first traffic assignment is submitted for travel demand modeling for the 2014 MAG Conformity Analysis. For this conformity analysis, “time that the conformity analysis begins” was September 29, 2013.
In accordance with the Governor’s Executive Order 2011-04, official county socioeconomic projections based on the 2010 U.S. Census have been developed by the Arizona Department of Administration (ADOA). The ADOA methodology is described at http://www.workforce.az.gov/pubs/demography/AzonaPaulationProjections2012.pdf. ADOA completed the county level projections in December 2012. MAG prepared subcounty socioeconomic projections for Maricopa County that were adopted by the MAG Regional Council in June 2013. The Central Arizona Governments (CAG) also approved subcounty population projections for Pinal County, based on the official ADOA projections, in June 2013.

The travel and speed estimates produced by the MAG transportation models for the analysis years in the 2014 MAG Conformity Analysis are based on the MAG and CAG subcounty population and employment projections that are consistent with the ADOA projections and the 2010 U.S. Census.

Methodology

ADOA prepared the official Arizona population projections by county, using 2010 U.S. census data as the base. MAG used official ADOA population projections consistent with the 2010 U.S. Census. These projections for Maricopa County were distributed to smaller geographic areas by MAG using the latest available data and a state-of-the-art land use model system called AZ-SMART. The nationally-recognized UrbanSim microsimulation model was integrated into AZ-SMART and used to allocate county projections of households and employment to regional market areas based upon the pre-existing location of these activities, land consumption, and transportation system accessibility. The allocation of population and employment from market areas to land use parcels was accomplished with UrbanSim, which simulates real-estate development and locates population and employment based on measures such as accessibility to employment, adjacent land uses, highway access, and proximity to other development, et cetera.

Population and employment at the land use parcel level in the MAG planning area were aggregated to TAZs using AZ-SMART. The subcounty socioeconomic projections developed with the AZ-SMART model were approved by the MAG Regional Council in June 2013.

Since the MAG transportation modeling area includes Pinal County, in collaboration with the Central Arizona Governments (CAG), MAG has also prepared socioeconomic projections for Pinal County. MAG prepared projections by Municipal Planning Area (MPA) using ADOA population control totals for Pinal County. The projections by MPA were approved by the CAG Regional Council in June 2013. MAG then prepared the projections at the traffic analysis zone (TAZ) level by controlling to the MPA control totals approved by CAG. AZ-SMART, the MAG socioeconomic modeling system, was utilized to produce the

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<th>TABLE 2. LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS</th>
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| Mag models | The highway models were validated using 2010-2013 data. The models were calibrated using 2008-2009 national survey data and 2008-2009 national survey data. The models were validated using 2010-2013 data. The models were calibrated using 2008-2009.

| Measures | Latest Implementation Status of Commitments in Prior SIPs |
|---------------------------------------------------------------|
| Vehicle Registrations | July 2013 validation of commitments to ADOT. |
| Vehicle Miles of Travel | NA |
| Traffic Counts | NA |
| Hours of Travel | NA |
| Speeds | NA |

| Implementation | Vehicle Registrations | Latest Implementation Status of Commitments in Prior SIPs |
|-------------------------------------------------|-------------------------------------------------|
| Modeled | Vehicle Registrations | Latest Implementation Status of Commitments in Prior SIPs |
| Modeled | Vehicle Registrations | Latest Implementation Status of Commitments in Prior SIPs |

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MPA and TAZ projections for Pinal County. The TAZ projections have been reviewed by CAG and its member agencies.

Next Scheduled Update

In June 2011, the Arizona Department of Administration (ADOA) was designated as the State agency responsible for preparing official population estimates and projections for the State of Arizona. The next update of the TAZ socioeconomic projections for Maricopa County will be based on the official ADOA county-level projections, required by Executive Order 2011-04. It is anticipated that ADOA will provide the next set of county level projections, based on Census data, to MAG in 2015 and MAG will prepare the subcounty level projections for Maricopa County for approval by the MAG Regional Council within six months after receiving the county level projections from ADOA.

TRAFFIC COUNTS

The highway traffic volumes estimated by the MAG transportation models were validated in 2013 for the 2011 base year, using approximately 3,300 traffic count locations collected by MAG in 2011 and 49 million traffic speed records purchased from NOKIA for calendar year 2011. MAG transportation models have been re-calibrated in 2012-2013 based on the travel surveys conducted in 2008-2012. New model validations are based on the model runs with updated socioeconomic input files and recalibrated transportation models. Use of the most recent traffic counts to validate the models is consistent with the federal conformity guidance which strongly encourages areas to update the planning assumptions for network-based travel models at least every five years (EPA, 2008b).

Methodology

MAG uses TransCAD software, as well as custom developed programs, to perform travel demand modeling. TransCAD provides a geographic information systems (GIS) interface that facilitates transportation modeling. The MAG transportation models follow a traditional four-step process: trip generation, trip distribution, mode choice, and traffic/transport assignment. Trip generation determines the number of person trips produced and attracted by traffic analysis zone. Trip distribution links the productions and attractions by TAZ. The nested logit mode choice model determines the number of person trips allocated to automobile and transit modes. The mode choice model is sensitive to highway and transit travel times, as well as pricing variables. Highway and transit route choice is determined in the assignment step, based on operating costs, travel times, and distances. Capacity-restrained traffic assignments are performed for the AM peak period, mid-day, the PM peak period, and night time. A feedback loop between traffic assignment and trip distribution is utilized to achieve near-equilibrium highway speeds. Revised documentation of the transportation models, reflecting results of the FY 2013 recalibration, is currently under development.

Next Scheduled Update

Region-wide traffic counts are typically collected by MAG every 2-4 years and commercial speed data is normally purchased every 1-2 years, if funding is available.

VEHICLE MILES OF TRAVEL

MAG completed recalibration of the regional transportation model in 2013. The models were recalibrated using new socioeconomic data based on the latest Arizona Department of Administration (ADOA) population projections and 2010 Census data. The recalibration of the models is based on data from a 2008-2009 household travel survey, 2010-2011 regional transit on-board survey, two 2012 special generator travel surveys (ASU and regional airports), traffic counts and speed data collected in 2011, as well as the latest American Community Survey Data and Public Use Microdata Sample. New 2011 GPS truck data and new commercial commodity flow data were also purchased to develop and recalibrate the truck model. The external travel model was also recalibrated in 2011 based on the 2006 external travel study. The base year for the model calibration and validation is 2011.

The transportation models simulate peak and daily traffic volumes on more than 30,000 highway links, as well as the transit trips on bus and light rail routes. Vehicle miles of travel (VMT) by link, output by the highway assignment process, are input to the MAG MOVESLink model used to estimate onroad mobile source emissions for conformity analyses.

Transportation model estimates of vehicle volumes are validated using actual traffic counts. The MAG transportation models were validated against approximately 3,300 traffic counts collected in 2011 for the 2011 base year. Table 3 summarizes the validation results by area type for freeways and arterials. Both the R-squared (R$^2$) and Percent Root Mean Square Error (% RMSE) statistics indicate that there is a good fit between transportation model-estimated 2011 weekday traffic volumes and traffic count data.

In previous MAG conformity analyses, transportation model estimates of VMT were reconciled with the VMT reported by the Highway Performance Monitoring System (HPMS) in order to comply with Section 93.122(b) of the Transportation Conformity Regulations. These regulations require that regional emissions analyses in serious, severe, and extreme ozone nonattainment areas and serious carbon monoxide nonattainment areas, with urbanized area populations over 200,000, meet certain network-based modeling requirements, including reconciliation of modeled VMT with HPMS.

Since EPA approved the MAG Carbon Monoxide and One-Hour Ozone Redesignation Request and Maintenance Plans in 2005, the Maricopa area is no longer a serious nonattainment area for carbon monoxide or one-hour ozone. In addition, the area was not classified as a serious, severe or extreme nonattainment area for the 1997 eight-hour...
TABLE 3.
AGGREGATED MODEL VALIDATION RESULTS
MODEL-ESTIMATED 2011 WEEKDAY VOLUMES VS. 2011 TRAFFIC COUNTS

<table>
<thead>
<tr>
<th>Area Type</th>
<th>R²</th>
<th>% RMSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>0.977</td>
<td>23.9%</td>
</tr>
<tr>
<td>Outlying CBD</td>
<td>0.975</td>
<td>20.8%</td>
</tr>
<tr>
<td>Mixed Urban</td>
<td>0.936</td>
<td>29.0%</td>
</tr>
<tr>
<td>Suburban</td>
<td>0.898</td>
<td>41.0%</td>
</tr>
<tr>
<td>Rural</td>
<td>0.953</td>
<td>40.3%</td>
</tr>
<tr>
<td>All</td>
<td>0.960</td>
<td>28.3%</td>
</tr>
</tbody>
</table>

The requirement to reconcile travel demand model output to HPMS traffic volumes does not apply to the Pinal County nonattainment areas, because the urbanized area population is less than 200,000. In addition, the areas are in nonattainment for particulates, rather than ozone or carbon monoxide.

The MAG FY 2014 Unified Planning Work Program establishes a three-year on-call contract for the travel data collection and subsequent MAG model recalibration and updates. New travel surveys are scheduled for the 2014-2016 calendar years with subsequent model recalibration and updates.

SPEEDS

Speeds obtained from the capacity-restrained traffic assignments are “fed-back” in the travel demand modeling chain. The trip distribution, mode choice, and traffic assignment steps of the chain are executed until PM peak period trip tables and link volumes are in equilibrium. In addition to vehicle miles of travel, the MAG transportation models calculate system performance measures such as vehicle hours of travel and volume to capacity ratios.

Periodically, MAG conducts speed studies or purchases commercial speed data to compare model-estimated speeds with empirical data. MAG purchased 2011 speed data from NOKIA that was used to update the speeds estimated by the MAG transportation models in 2013, as discussed in the Methodology section below.

Methodology

MAG used the 2011 NOKIA region-wide speed data and ADOT freeway detector data to improve the speed estimates produced by the transportation models. Comparisons of ozone standard and has not violated this standard since 2005. Effective July 20, 2012, the Maricopa area was classified as a marginal nonattainment area for the new, more stringent, 2008 eight-hour ozone standard. In the future, if the Maricopa area is classified as serious, severe or extreme for a more stringent eight-hour ozone standard, the VMT estimated by the transportation models will be reconciled against HPMS VMT for the most recent model calibration year.

Next Scheduled Update

The requirement to reconcile travel demand model output to HPMS traffic volumes does not apply to the Pinal County nonattainment areas, because the urbanized area population is less than 200,000. In addition, the areas are in nonattainment for particulates, rather than ozone or carbon monoxide.

As indicated above, the requirements of Section 93.122(b) do not apply to the Maricopa County nonattainment or maintenance areas or the Pinal County nonattainment areas. Therefore, reconciliation of modeled VMT with HPMS is not required for the 2014 MAG Conformity Analysis. However, it is important to note that the most recent comparison of model-estimated and HPMS VMT for the travel demand model calibration year of 2011 concluded that the model and HPMS VMT estimates were nearly identical.

The Maricopa area was classified as a marginal nonattainment area for the new, more stringent, 2008 eight-hour ozone standard. In the future, if the Maricopa area is classified as serious, severe or extreme for a more stringent eight-hour ozone standard, the VMT estimated by the transportation models will be reconciled against HPMS VMT for the most recent model calibration year.
2011 transportation model-estimated speeds with speeds obtained from NOKIA 2011 speed data are illustrated in Figures 4 through 11. Estimated versus observed speeds by area type for arterials and freeways are shown for four time periods: A.M. peak (6 am to 9 am), mid-day (9 am to 2 pm), P.M. peak (2 pm to 6 pm), and night time (6 pm - 6 am).

In the transportation modeling area, the TransCAD-estimated speeds for arterials and freeways are within nine percent of the observed peak and off-peak speeds for all area types and the maximum difference in overall speeds is five miles per hour, with most of the speeds having a much smaller difference. The differences in speed by time period, functional class, and area type, shown in Figures 4 through 11, demonstrate that the model-estimated speeds are in reasonable agreement with observed arterial and freeway speeds during all of the peak and off-peak time periods.

**Next Scheduled Update**

MAG has purchased private-sector speed data for 2012. The data is being processed and will be used in ongoing model updates. New model validations will be based on the model runs with updated input files and recalibrated transportation models.

**VEHICLE REGISTRATIONS**

Vehicle registrations for Maricopa and Pinal Counties in July 2013 are the latest provided to MAG by the Motor Vehicle Division of the Arizona Department of Transportation (ADOT). In the 2014 MAG Conformity Analysis, the July 2013 registrations were input to the latest version of MOVES to estimate on-road mobile source emissions. MOVES derives the vehicle population and age distribution for estimating wintertime CO emissions from the July 2013 registrations. The vehicle registration data provided by ADOT has been converted to MOVES format. MAG will use newer vehicle registration data when provided by ADOT.
IMPLEMENTATION MEASURES

Maricopa County Nonattainment and Maintenance Areas

For the Maricopa County nonattainment and maintenance areas, emission reduction credit was assumed for the committed measures in the applicable SIPs, including the measures shown in Table 4. The emission reductions assumed for these committed measures reflect the latest implementation status of all measures for which emission reduction credits were assumed in the applicable SIPs. As required by the conformity rule, the applicable transportation control measures (TCMs) are fully documented in Chapter 5.

Emission reduction credit was applied for committed control measures and committed contingency measures contained in the applicable MAG air quality plans. Credit may also be taken for Congestion Mitigation and Air Quality Improvement (CMAQ) projects in the MAG Transportation Improvement Program, if credit for these measures was not quantified in the air quality plans. In addition, emission reduction credit for strengthening of existing control measures or implementation of new control measures, specifically identified in the MAG TIP or RTP, was incorporated into the analysis, where appropriate. Chapter 4 describes the assumptions made in calculating emission reduction credit for committed measures in the MAG air quality plans.

Pinal County Nonattainment Areas

Since no State Implementation Plan (SIP) revisions have been submitted to EPA for the Pinal County nonattainment areas, emission reductions were assumed for sources in these areas that are currently controlled by Arizona state laws. For the 2014 MAG Conformity Analysis, a six percent reduction was applied to PM-10 emissions from vehicles traveling on agricultural unpaved roads in the Pinal PM-10 nonattainment area. This reduction reflects requirements of the Arizona Agricultural Best Management Practices (BMPs) that apply to all moderate PM-10 nonattainment areas in the state. The Agricultural BMPs went into effect when EPA designated West Pinal to be a moderate PM-10 nonattainment area, effective July 2, 2012.

The six percent reduction is based on assumptions used in calculating agricultural unpaved road emissions in the 2008 Periodic Emissions Inventory for PM-10 prepared by the Maricopa County Air Quality Department (MCAQD, 2011). The six percent reduction was applied in each conformity analysis year for both the build and no-build scenarios in the Pinal PM-10 nonattainment area.

In addition, PM-10 emission reduction credit was taken in the Pinal PM-10 nonattainment area for projects that are scheduled to pave unpaved roads. These projects are identified in Chapter 4. The emission reductions due to BMPs and paving projects were not applied to the Pinal PM-2.5 nonattainment area, because unpaved road emissions are not part of the conformity analysis for that area.
### TABLE 4. COMMITTED MEASURES IN THE MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

<table>
<thead>
<tr>
<th>Measure #</th>
<th>Reference</th>
<th>Measure Description</th>
<th>Pollutant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CO Maintenance Plan(^1)</td>
<td>CARB Phase 2 with 3.5 Percent Oxygenate in Winter</td>
<td>CO</td>
</tr>
<tr>
<td>2</td>
<td>Eight-Hour Ozone Maintenance Plan(^2)</td>
<td>Summer Fuel Reformulation with 7 psi from May 1 through September 30</td>
<td>VOC, NOx</td>
</tr>
<tr>
<td>3</td>
<td>CO Maintenance Plan</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>CO, VOC, NOx</td>
</tr>
<tr>
<td>4</td>
<td>CO Maintenance Plan</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>CO, VOC, NOx</td>
</tr>
<tr>
<td>5</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>Serious Area PM-10 Plan(^3)</td>
<td>CO, VOC, NOx, PM-10</td>
</tr>
<tr>
<td>6</td>
<td>CC Maintenance Plan</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>CO, VOC, NOx</td>
</tr>
<tr>
<td>7</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>Coordinate Traffic Signal Systems</td>
<td>CO, VOC, NOx, PM-10</td>
</tr>
<tr>
<td>8</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>Increase Waiver Repair Limit Options</td>
<td>CO, VOC, NOx</td>
</tr>
<tr>
<td>9</td>
<td>Eight-Hour Ozone Maintenance Plan</td>
<td>Federal Heavy Duty Diesel Vehicle Emissions Standards</td>
<td>VOC, NOx</td>
</tr>
</tbody>
</table>

\(^1\) Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area, May 2003 (MAG, 2003).

\(^2\) Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area, February 2009 (MAG, 2009).

\(^3\) Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, February 2000 (MAG, 2000).

\(^4\) The EPA approved these measures effective June 14, 2005 in the Final Rule Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Arizona; Redesignation of Phoenix to Attainment for the 1-Hour Ozone Standard. Federal Register, June 14, 2005, Vol.70, No. 113, p. 34362.

### 3 TRANSPORTATION MODELING

The transportation modeling performed for the 2014 MAG Conformity Analysis for the FY 2014-2018 MAG Transportation Improvement Program and 2035 MAG Regional Transportation Plan is based on the latest planning assumptions, as required in the federal conformity rule (40 CFR 93.110) and documented in Chapter 2. A summary of the transportation model characteristics, key socioeconomic data, and other data related to the land use and transportation system forecasts is provided in this chapter.

#### TRANSPORTATION MODELS

MAG regional transportation modeling is performed using TransCAD software for both highway and transit network assignments. The transportation models forecast AM peak period, mid-day, PM peak period, and night time vehicle traffic, as well as daily transit ridership, for the MAG transportation modeling area. The transportation modeling area currently contains 3,009 traffic analysis zones and covers an area of approximately 16,080 square miles. The latest calibration of the highway models was completed in 2013, using data from the 2008-2009 household travel survey. The base year for the validations was 2011. The latest validation of the highway models was completed in 2013, using approximately 3,300 traffic counts collected in 2011. The transit models were re-calibrated in 2013 based on data from the 2010-2011 on-board bus survey. The MAG truck model, volume delay functions, and external travel model were updated and recalibrated in 2012-2013 based on the 2011 NOKIA speed data, 2011 truck ATRI data, 2009 Transsearch data, and 2008 External Travel Survey.

The MAG transportation models exhibit the following characteristics, which are consistent with the federal transportation conformity rule (Section 93.122(b)):

- The traffic volumes simulated by the MAG transportation models were validated in 2013 against approximately 3,300 traffic counts collected in 2011. This validation demonstrated a good statistical fit between actual and model-estimated daily traffic volumes, as measured by an overall percent root mean square error of 28.3 percent. Revised documentation of the transportation models, reflecting results of the 2013 recalibration, is currently under development.

- The population, households, and employment inputs to the travel demand models are based on the Arizona Department of Administration (ADOA)
population projections consistent with the 2010 U.S. Census. The official Maricopa County socioeconomic projections based on ADOA county projections were approved by the MAG Regional Council in June 2013. The Pinal County socioeconomic projections were approved by the Central Arizona Governments (CAG) Regional Council in June 2013. These projections were prepared using the AZ-SMART land use model system and UrbanSim.

- The population and employment projections used in the conformity analysis are consistent with the transportation system alternatives considered. In the MAG land use models, transportation system accessibility influences the allocation of population and employment to smaller geographic areas. The UrbanSim model was integrated into AZ-SMART and used to allocate county projections of households and employment to regional market areas based upon the pre-existing location of these activities, land consumption, and transportation system accessibility, expressed in terms of PM peak travel times. These congested travel times are derived from an appropriate capacity-restrained traffic assignment for each forecast year. The allocation of population and employment from market areas to land use parcels is accomplished with UrbanSim. UrbanSim uses transportation system accessibility measures, such as proximity to the closest highway, in determining the likelihood that a land use parcel will develop during a given forecast interval. AZ-SMART also aggregates population, households, and employment projections by land use parcel to the TAZ-level for input to the transportation models. Congested travel times output by the transportation models are “fed-back” into the land use models to ensure that there is consistency between the transportation system assumptions and the land use projections.

- The transportation models perform capacity-restrained traffic assignments. Restrained assignments are produced for the AM peak period, mid-day, PM peak period, and night time, with volumes and congestion estimated for each period.

- Speeds obtained from the capacity-restrained traffic assignments are “fed-back” in the travel demand modeling chain. The trip distribution, mode choice, and traffic assignment steps of the chain are executed until PM peak period trip tables and link volumes are in equilibrium (percent root mean square error of five percent or less). The travel impedances used in the mode choice model include travel times and costs associated with each of the following modes: auto-drivers, carpools (2 and 3+ persons), and transit, (i.e., shuttle bus, local bus, express bus, and light rail, commuter rail).

- The travel impedances used in the trip distribution and traffic assignment steps of the MAG travel demand modeling are a composite function of highway travel times and costs. The nested logit mode choice model is sensitive to highway and transit travel times, as well as pricing variables.

- As a result of the feedback loop in the MAG travel demand modeling process, the final peak and off-peak speeds are sensitive to the capacity-restrained volumes on each highway segment represented in the network. Data from the MAG 2011 commercial speed data set were used to ensure that the capacity-restrained speeds and delays output by the transportation models are consistent with empirical data. Figures 3 through 10 provide a comparison of observed and model-estimated speeds for the peak and off-peak periods. For both freeways and arterials, the TransCAD-estimated speeds are within nine percent of the observed speeds for all area types and the maximum difference in overall speeds is five miles per hour, but most are substantially lower. This indicates that the capacity-restrained speeds produced by the transportation models are in reasonable agreement with the most recently-collected empirical data.

SOECIOECONOMIC PROJECTIONS

Section 93.110 of the federal conformity rule requires that the population and employment projections used in the conformity analysis be the most recent estimates that have been officially approved by the Metropolitan Planning Organization (i.e., MAG for the Maricopa County nonattainment and maintenance areas). The 2014 conformity analysis is based on socioeconomic projections that were approved by the MAG Regional Council and Central Arizona Governments (CAG) in June 2013.

In accordance with the Arizona Governor’s Executive Order 2011-04, the population projections used for all State agency planning purposes were updated by the Arizona Department of Administration (ADOA) consistent with the 2010 U.S. Census. MAG then prepared socioeconomic projections by traffic analysis zone (TAZ), based on the ADOA county-level population projections. MAG allocated the projections for Maricopa County to TAzs using the AZ-SMART model system. The official Maricopa County socioeconomic projections based on ADOA county projections were approved by the MAG Regional Council in June 2013.

In addition, socioeconomic projections for Pinal County were prepared by MAG utilizing AZ-SMART and were approved by the Central Arizona Governments (CAG). The projections by Municipal Planning Area (MPA) for Pinal County were approved by the CAG Regional Council in June 2013 and the TAZ projections are based upon the approved MPA projections.

The TAZ population, households and employment projections take into account the transportation improvements contained in the conforming TIP (FY 2011-2015) and RTP (2010 Update) in effect at the time the projections were approved. For the 2014 MAG Conformity Analysis, the projections of population, households, and employment by TAZ were input to the MAG transportation models to estimate auto and transit trips, VMT, and congestion for each analysis year.
TRAFFIC ESTIMATES

This section describes the development of the highway and transit networks that were used to perform the 2014 MAG Conformity Analysis for the FY 2014-2018 Transportation Improvement Program and 2035 MAG Regional Transportation Plan. A summary of the population, employment, and travel characteristics for the MAG transportation modeling area for each “build” scenario in the 2014 MAG Conformity Analysis is presented in Table 5. The vehicle miles of travel forecasts for each of the pollutant specific modeling areas for Maricopa and Pinal Counties are presented in Appendix C.

Transportation Network Assumptions

Not all of the street and freeway projects included in the TIP qualify for inclusion in the highway network. Projects which call for study, design, right-of-way acquisition, or non-capacity improvements are not included in the networks. When these projects result in actual facility construction projects, the associated capacity changes are coded into the network, as appropriate. Since the networks define capacity in terms of the number of through traffic lanes, only construction projects that increase the lane-miles of through traffic are included. Generally, MAG highway networks include only the one-mile grid system of streets, plus freeways. This includes all streets classified as arterials, as well as some collectors.

Traffic on collectors and local streets not explicitly coded on the highway network are simulated in the models by using “centroid connectors”. These represent collectors, local streets and driveways which connect a neighborhood to a regionally significant roadway. Centroid connectors also include travel occurring on public and private unpaved roads and alleys.

Highway Networks

The network used in the 2015, 2025 and 2035 no-build scenarios for the Pinal County nonattainment areas contains regionally significant highways open to traffic by December 31, 2012. In addition, the no-build network includes regionally significant projects in the Pinal County PM-10 nonattainment area, regardless of funding source, that meet one of the following criteria: are under construction, undergoing right of way acquisition, programmed in FY 2011 of the conforming MAG TIP, or have completed the National Environmental Policy Act (NEPA) process. These criteria comply with Section 93.119(h) of EPA conformity regulations.

The 2015, 2025 and 2035 networks used in the conformity budget analyses for the Maricopa nonattainment and maintenance areas and as the build scenarios for the Pinal County nonattainment areas assume implementation of all qualifying highway projects in the FY 2014-2018 MAG Transportation Improvement Program (TIP) and 2035 MAG Regional Transportation Plan (RTP), as well as other regionally significant projects to be implemented in the Pinal County area.

TABLE 5.

TRAFFIC NETWORK COMPARISON FOR BUILD SCENARIOS EVALUATED FOR THE 2014 MAG CONFORMITY ANALYSIS

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population* (thousands)</th>
<th>Total Employment* (thousands)</th>
<th>Average Weekday VMT* (millions)</th>
<th>Average PM Peak Period Speedc</th>
<th>Freeway Lane Milesd</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>4,794</td>
<td>2,014</td>
<td>107.3</td>
<td>37.2</td>
<td>4,736</td>
</tr>
<tr>
<td>2025</td>
<td>5,916</td>
<td>2,650</td>
<td>136.0</td>
<td>36.4</td>
<td>5,286</td>
</tr>
<tr>
<td>2035</td>
<td>7,038</td>
<td>3,149</td>
<td>166.7</td>
<td>35.3</td>
<td>5,817</td>
</tr>
</tbody>
</table>

* Population and employment estimates are for the 16,080 square mile transportation modeling area in Maricopa and Pinal Counties. Total population includes resident population in households and group quarters, transient population and seasonal population. Total employment includes number of workers in public, retail, office, industrial, work-at-home, construction, non-site based and other land use employees.

b Vehicle miles of travel (VMT) is obtained from the summation of VMTs in the AM, Mid-Day, PM and Night Time from the “build” traffic assignments for the transportation modeling area.

c Average speed on freeways, HOV lanes, expressways, arterials, ramps and collector-distributor roads in the transportation modeling area during the P.M. peak period.

d Freeways, expressways, ramps, HOV lanes, and collector-distributor roads are included in the lane miles reported for freeways in the transportation modeling area.
The 2015 network includes highway projects in the TIP scheduled to be open to traffic by December 31, 2015. The 2025 network includes highway projects in the RTP through the year 2025, as well as projects in the TIP. The 2035 assumes implementation of all highway projects in the RTP, as well as all qualifying highway projects in the TIP. It is important to note that the “build” transportation modeling networks include the regionally significant highway projects in the Maricopa County nonattainment and maintenance areas, as well as the Pinal County nonattainment areas.

Coding Conventions

Specific coding conventions or criteria are applied to determine whether a project qualifies for highway network coding. This results in coding of all arterial streets and some collectors. The coding conventions are:

1. Capacity-related projects on existing links or extensions of existing links on the base highway network are coded in future networks. This includes projects on freeways, the mile-street grid, and half-mile streets already on the base network.

2. Capacity-related projects which are not on links or extensions of links in the base network are coded, if the street is considered a logical part of the one-mile street grid system. If the project is on a half-mile street, it is considered for inclusion on a case-by-case basis. The key factors considered in making this assessment include:
   • the density of current and future development and travel in the area of the project;
   • whether the change may be accommodated without increasing the number of zones; and
   • whether the change is consistent with standard network coding practices.

Transit Networks and Operations

Transit networks are input to the mode choice step of the MAG transportation models to determine the number of person trips made by transit, which in turn, removes vehicle trips from the highways. For all analysis years, the bus and rail networks reflect the latest planning information available at the time the conformity analysis began.

Maricopa Nonattainment and Maintenance Areas

The most recent information on transit ridership and operating policies is provided by Valley Metro/Regional Public Transportation Authority (Valley Metro/RPTA, 2012). Information on current transit fares is provided in Table 6 (Valley Metro/RPTA, 2013b).

<table>
<thead>
<tr>
<th>Table 6: SUMMARY OF TRANSIT FARES FOR VALLEY METRO SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Valley Metro Service</strong></td>
</tr>
<tr>
<td>Local Bus/LINK/Light Rail</td>
</tr>
<tr>
<td>1-Ride</td>
</tr>
<tr>
<td>All Day Pass</td>
</tr>
<tr>
<td>All Day Pass (purchased on-board)</td>
</tr>
<tr>
<td>7-Day</td>
</tr>
<tr>
<td>15-Day</td>
</tr>
<tr>
<td>31-Day</td>
</tr>
<tr>
<td>Semester Pass</td>
</tr>
<tr>
<td>Express/Rapid Bus</td>
</tr>
<tr>
<td>1-Ride</td>
</tr>
<tr>
<td>All Day Pass</td>
</tr>
<tr>
<td>All Day Pass (purchased on-board)</td>
</tr>
<tr>
<td>31-Day</td>
</tr>
</tbody>
</table>

Note: Reduced fares are available to persons with disabilities, seniors age 65 and older, Medicare card holders, and youths ages 6 through 18. Youths age 5 and under ride for free when accompanied by a fare-paying caretaker or guardian age 18 or older (Valley Metro/RPTA, 2013b).
The information on fares and transit operations in this section of the conformity analysis is provided to address federal transportation conformity requirements.

Current Fixed Route Service

Valley Metro fixed route scheduled service is provided to an area of approximately 266 square miles within the MAG region by Avondale, Chandler, Gilbert, Glendale, Goodyear, Guadalupe, Litchfield Park, Mesa, Peoria, Phoenix, RPTA, Scottsdale, Tempe, Tolleson, and the Sun City area of Maricopa County. In addition, the METRO 20-mile light rail system connects the cities of Phoenix, Tempe, and Mesa. According to Valley Metro, there were 57 local routes providing fixed route service, 15 express bus routes, one limited stop route, five RAPID commuter express routes, and circulator routes located in Avondale, Glendale, Mesa, Phoenix, Scottsdale, and Tempe. Based on the FY 2012 Transit Performance Report for the period ending June 30, 2012, there were 57,489,998 fixed route boardings and 13,553,490 light rail boardings. In FY 2012, there were 73,045,336 system total boardings including fixed route, light rail, paratransit (856,347 boardings) and vanpools (1,145,501 boardings), an increase of 5.16 percent from FY 2011.

Other Existing Transit Services


The Maricopa County Special Transportation Services department operates prescheduled service. Transportation is provided for eligible persons, which includes seniors, persons with disabilities, and low income individuals, for specific trip purposes in portions of Maricopa County unserved by other systems. This service provides public transportation to individuals in outlying areas of the region. Vanpool service operated by Valley Metro is discussed in Chapter 5, which reviews transportation control measures that have been implemented in the region.

In addition, 17 shuttle and circulator transit services have been implemented across the region with different operating schedules, including: Tempe Free Local Area Shuttle (FLASH) and Tempe Orbit serving various neighborhoods in the city including the Arizona State University campus area; Phoenix Business Circular 19th Avenue Connector, Phoenix Downtown Area Shuttle (DASH) serving the Downtown Phoenix-Copper Square area; Ahwatukee Local Explorer (ALEX) serving Ahwatukee and west Chandler areas; Phoenix Maryvale Area Ride for You (MARY) serving the Maryvale area of Phoenix; Sunnyslope Neighborhood Circulator (SMART) serving the Sunnyslope area of Phoenix; Glendale Urban Shuttle (GUS) providing transit in the Glendale Central Corridor; Mesa Downtown BUZZ, and the Miller Road Trolley, Downtown Trolley, and Neighborhood Trolley serving areas of Scottsdale.

Recent Transit Service Changes

Valley Metro/Regional Public Transportation Authority reports a number of transit service changes in FY 2012. The changes are as follows:

- Services reductions on local routes 40, 96, and 108;
- Route eliminations on local routes 76 and 131 and on rural route 660 Wickenburg;
- New routes included the 563 Buckeye Express, circulator routes on Scottsdale Miller Road Trolley and Avondale ZOOM, and the local route 251 on 51st Avenue.

Pinal Nonattainment Areas

The City of Coolidge operates the Cotton Express that provides fixed route bus service and curb-to-curb paratransit service in Coolidge. The Cotton Express is a local circulator that provides bus service between neighborhoods and business, schools, and government offices. Fares range from $1.25 for one-way, $2.50 for daily, and $45.00 for monthly fare for age 12 to adult.

The City of Coolidge also operates the Central Arizona Regional Transit (CART) bus system that provides regional transportation services in central Pinal County including Florence, Coolidge, and Casa Grande. Fares range from $2.00 for one-way, $4.00 for daily, $80.00 for monthly, and $120.00 for local and regional month fare for ages 13 to 54. Table 7 provides a summary of the transit fares for the Cotton Express and the Central Arizona Regional Transit bus system.

The MAG transportation models and the highway and transit networks described above are utilized to estimate daily vehicle travel and transit ridership in the MAG transportation modeling area. The primary input to the air quality modeling process is transportation model estimates of daily vehicle traffic and speeds on each highway link, along with the attendant link lengths and coordinate data, for each nonattainment and maintenance area. A detailed description of the MAG emissions models is provided in Chapter 4.
### Table 7.
**Summary of Transit Fares for Cotton Express and Central Arizona Regional Transit Services**

<table>
<thead>
<tr>
<th>Fixed Route Transit Services in Pinal County</th>
<th>Fares</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cotton Express</strong></td>
<td></td>
</tr>
<tr>
<td>One-way</td>
<td>$1.25</td>
</tr>
<tr>
<td>Daily</td>
<td>$2.50</td>
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<tr>
<td>7-Day</td>
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<tr>
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<tr>
<td><strong>Central Arizona Regional Transit</strong></td>
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<tr>
<td>One-way</td>
<td>$2.00</td>
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<tr>
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<tr>
<td>Monthly</td>
<td>$80.00</td>
</tr>
<tr>
<td>Local &amp; Regional Monthly</td>
<td>$120.00</td>
</tr>
</tbody>
</table>

Note: For the Cotton Express, reduced fares are available to those age 3 to 11; age 2 and younger ride free. In addition, paratransit fares are available for adults over 55. For the Central Arizona Regional Transit service, lower fares apply to children 12 and under or students, and lower month as well as lower local and regional month fares apply to senior/disabled 55 and up.

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### 4 Air Quality Modeling

For the 2014 MAG Conformity Analysis, the models which have been used to estimate carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NOx), and particulates (PM-10 and PM-2.5) are MOVES2010b, for motor vehicle emission factors; AP-42, for emission factors from reentrained dust produced by vehicles traveling on paved and unpaved roads; and MOVESLink, for the calculation of spatially and temporally allocated onroad vehicle emissions using the emission factors from the above models and travel and speed data from the TransCAD transportation model.

In December 2009, EPA issued policy guidance on the use of MOVES2010 for transportation conformity, indicating that there would be a two-year grace period before MOVES2010 would be required for new conformity determinations (EPA, 2009). In the March 2, 2010 Federal Register, EPA announced the release of MOVES2010, which triggered the start of a two-year grace period which ended on March 2, 2012 (EPA, 2010). In March of 2012, EPA extended the grace period for one year (EPA, 2012a). Conformity analyses that begin after March 2, 2013 are required to use MOVES2010 for new transportation plan and TIP conformity determinations and regional emissions analyses. Since the 2014 MAG Conformity Analysis began after March 2, 2013, MOVES2010b was used to estimate motor vehicle emission factors.

In the 2014 MAG Conformity Analysis, modeling assumptions from the latest air quality plans submitted to EPA have been used to perform the 2014 MAG Conformity Analysis. The latest planning assumptions have been substituted for modeling inputs used in these air quality plans, as appropriate. Regional emissions have been estimated for the conformity analysis years of 2015, 2025, and 2035. The conformity rule requirements for the selection of the analysis years are summarized in Chapter 1.

MAG conducted interagency consultation in August 2013 on the transportation conformity processes, including the models, associated methods, and assumptions to be applied in the 2014 MAG Conformity Analysis. Appendix B contains copies of the consultation correspondence.

Air quality modeling for the 2014 MAG Conformity Analysis was performed for two different sets of nonattainment and maintenance areas: the Maricopa County nonattainment and maintenance areas and the Pinal County nonattainment areas. The conformity analysis for the Maricopa County areas involves the comparison of 2015, 2025 and 2035 emissions with EPA-approved budgets for the Carbon Monoxide Maintenance Area and the Ozone and PM-10 Nonattainment Areas. The conformity analysis for the Pinal County areas...
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involves a comparison of build and no-build emissions in 2015, 2025 and 2035 for the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area. The air quality modeling assumptions for the Maricopa and Pinal areas are described separately in this chapter.

MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

For the Maricopa County nonattainment and maintenance areas, air quality modeling inputs not dependent on the MAG Transportation Improvement Program or Regional Transportation Plan or the latest planning assumptions were derived from the Carbon Monoxide Redesignation Request and Maintenance Plan (MAG, 2013) for CO; the Eight-Hour Ozone Redesignation Request and Maintenance Plan (MAG, 2009) for VOC and NOx; and the MAG 2012 Five Percent Plan (MAG, 2012) for PM-10. The modeling efforts have been kept as consistent as possible among the pollutants modeled. Some differences in the modeling assumptions are necessary due to the different time periods modeled for different pollutants (e.g., temperatures, fuel properties).

On January 18, 2001, the U.S. DOT issued guidance developed jointly with EPA to provide additional clarification concerning the use of latest planning assumptions in conformity determinations. In December 2008, EPA published revisions to the 2001 guidance entitled “Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations” (EPA, 2008b). The guidance indicates that periodic inventory updates may be used as a source for recent modeling data.

The most recent periodic inventory available for carbon monoxide is the 2008 Periodic Emissions Inventory for Carbon Monoxide for the Maricopa County, Arizona, Nonattainment Area (MCAQD, 2012a). This inventory represents an annual average day rather than the episode days used in the CO attainment and maintenance plans. Since the conformity budgets were established using episode days, it is more appropriate to use the 2013 CO Maintenance Plan modeling assumptions in the conformity analysis.

On January 18, 2001, the U.S. DOT issued guidance developed jointly with EPA to provide additional clarification concerning the use of latest planning assumptions in conformity determinations. In December 2008, EPA published revisions to the 2001 guidance entitled “Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations” (EPA, 2008b). The guidance indicates that periodic inventory updates may be used as a source for recent modeling data.

The most recent periodic inventory available for ozone is the 2008 Periodic Emissions Inventory for Ozone Precursors for the Maricopa County, Arizona, Nonattainment Area (MCAQD, 2012b). The periodic inventory provides VOC and NOx emissions for the eight-hour ozone nonattainment area. The periodic inventory represents an annual average day rather than the episode days used in the 2009 Eight-Hour Ozone Monitoring Plan. Since the conformity budgets were established using these episode days, it is more appropriate to use the 2009 Eight-Hour Ozone Maintenance Plan modeling assumptions in the conformity analysis.

The most recent periodic inventory available for PM-10 is the Revised 2008 Periodic Emission Inventory for PM-10 for the Maricopa County, Arizona, Nonattainment Area (MCAQD, 2011). This inventory was used in developing the 2008 base case emissions for the MAG 2012 Five Percent Plan for PM-10. Assumptions from the MAG 2012 Five Percent Plan that were used in estimating PM-10 emissions for the MAG 2014 Conformity Analysis are documented in the PM-10 section below.

The MOVES2010b and MOVESLink models and input assumptions used in estimating onroad vehicle emissions for the Maricopa County maintenance and nonattainment areas are described in the next two sections.

MOVES2010b

MOVES2010b is a model developed by EPA for the purpose of estimating motor vehicle emission factors for specified vehicle fleet, fuel, temperature, and speed conditions. This model is used to estimate carbon monoxide, ozone precursor, and particulate (exhaust, tire wear, and brake wear) motor vehicle emission factors for the Maricopa County nonattainment and maintenance areas.

The MOVES2010b model generates estimates of motor vehicle emission factors in units of grams of pollutant emitted per vehicle mile of travel. MOVES2010b uses a locally-derived motor vehicle registration distribution (by model year) of 30 years. For the 2014 MAG Conformity Analysis, July 2013 vehicle registrations for Maricopa County, obtained from the Arizona Department of Transportation, were used as input to MOVES2010b. MOVES2010b also incorporates fleet turnover to newer, cleaner vehicles over time, which counters the increase in regional emissions that occur with growth in vehicle miles of travel. Other factors, such as fuel quality and vehicle speed, are also important.

Inspection and maintenance (I/M) program benefits were assumed in the modeling. The I/M runs reflect the provisions of the enhanced inspection program which was implemented in January 1995 and the measure “Phased-in I/M Cutpoints” (see Table 4), implemented in January 2000. The cutpoint values used are the MOVES2010b default Phase 2 cutpoints. For the three model years modeled in this analysis, it was assumed that the onboard diagnostic (OBD) test would be used for the model year 1996 and newer vehicles with an exemption for all vehicles of the current plus four model years.

MOVES2010b runs were weighted to account for vehicles driving in the modeling area that do not participate in the I/M program. Therefore, each modeled scenario required runs with and without the I/M program benefits. For this analysis, it was assumed that 91.6 percent of eligible onroad vehicles participate in the I/M program. This fraction reflects an increase in the participation in the I/M program due to implementation of the measure, “Tougher Registration Enforcement” (see Table 4). For all scenarios modeled for this analysis, the inputs for each run included oxygenated gasoline with an assumed market share of 100 percent ethanol. The gasoline volatility and average oxygen content of the ethanol blend gasoline were based on fuel inspection data provided to MAG by the Arizona Department of Weights and Measures.

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The most recent periodic inventory available for carbon monoxide is the 2008 Periodic Emissions Inventory for Carbon Monoxide for the Maricopa County, Arizona, Nonattainment Area (MCAQD, 2012a). This inventory represents an annual average day rather than the episode days used in the CO attainment and maintenance plans. Since the conformity budgets were established using episode days, it is more appropriate to use the 2013 CO Maintenance Plan modeling assumptions in the conformity analysis.

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The MOVES2010b runs that reflected the I/M program assumed vehicle waiver rates of 1.3 percent or 1.0 percent, dependent upon model year. These fractions reflected the lower waiver rates resulting from the implementation of the measure, “One Time I/M Waiver” (see Table 4). The output from the MOVES2010b model includes emission factors by hour, roadway facility type, pollutant, and area type.

The MOVES2010b input files shown in Appendix P were used to calculate carbon monoxide emission factors for the conformity analysis year of 2015. This represents one example of the MOVES2010b input files which vary by pollutant and analysis year.

MOVESLink

MOVESLink software processes link data files output by the MAG transportation model, TransCAD. The program calculates emissions for roadway links in the MAG highway networks. Traffic volumes for four time periods (AM peak, mid-day, PM peak, and night time) for each link are converted into hourly volumes based upon traffic count data collected in Maricopa County in 2007. Hourly emission factors are developed by running MOVES2010b for each facility type, area type, and vehicle class using link speeds by time of day.

The transportation models are designed to model average weekday traffic patterns, which typically do not represent conditions on the specific episode day used to demonstrate attainment or maintenance and establish the conformity budget. As a result, MOVESLink applies day of the week and month of the year conversion factors that are consistent with the MAG 2013 Maintenance Plan for CO and the 2009 Eight-Hour Ozone Redesignation Request and Maintenance Plan for VOC and NOx. PM-10 emissions are assumed to represent an annual average day.

The transportation model inputs to MOVESLink consist of database formatted files that contain link-specific data and a node coordinate definitions file. MOVESLink also requires as input:
- A table containing adjustment factors used to allocate traffic volumes for four time periods to hourly traffic volumes.
- A matrix of emission factors for a range of hours, facility types, area types, and vehicle classes (generated by the MOVES model).
- The ratio of vehicles participating in the I/M program.
- The year being modeled.

The next three sections discuss the air quality modeling assumptions for each pollutant for which conformity in the Maricopa County maintenance and nonattainment areas has been performed. These pollutants are carbon monoxide, ozone (VOC and NOx) and PM-10.

Carbon Monoxide

For the 2014 MAG Conformity Analysis for the Maricopa area, the applicable test for carbon monoxide consists of the emissions budget test, as discussed in Chapter 1. The 2003 Carbon Monoxide Maintenance Plan includes a 2006 budget of 699.7 metric tons per day and a 2015 budget of 662.9 metric tons per day. These budgets represent the motor vehicle emissions for carbon monoxide based on episode day conditions. On September 29, 2003, EPA found the motor vehicle emissions budgets contained in the 2003 Carbon Monoxide Maintenance Plan to be adequate for conformity purposes, effective October 14, 2003. On March 9, 2005, EPA published the final rule in the Federal Register approving the Carbon Monoxide Maintenance Plan, including the conformity budgets, effective April 8, 2005. Since the first conformity analysis year in the 2014 MAG Conformity Analysis is 2015, the CO emissions estimated for 2015, 2025 and 2035 are compared with the EPA-approved 2015 CO budget of 662.9 metric tons per day.

MAG submitted a second CO maintenance plan to EPA in March 2013 that establishes a 2025 conformity budget of 559.4 metric tons per day (MAG, 2013). If EPA takes action to find this budget to be adequate or approves the 2013 CO Maintenance Plan before the 2014 MAG Conformity Analysis is approved by the U.S. Department of Transportation (DOT), conformity with the new 2025 budget would be required. To ensure that this conformity analysis is approvable by DOT, Table 12 shows that the 2025 and 2035 CO emissions are also less than the 2025 budget proposed in the 2013 CO Maintenance Plan.

Vehicle registrations from July 2013, obtained from the Arizona Department of Transportation, were used as input to MOVES2010b for CO. Regional onroad emissions were modeled using the TransCAD (traffic), MOVES2010b (emission factors), and MOVESLink (emissions allocation) models.

The overall modeling approach used in this analysis is consistent with that used to develop the 2025 CO emissions budget in the 2013 CO Maintenance Plan. The MOVES2010b model was used to estimate carbon monoxide emission factors. Traffic data (vehicle miles of travel and speeds by link) were generated by the TransCAD transportation model. The MOVESLink program was used to derive VMT by link for the CO maintenance area from the TransCAD transportation model output and calculate emissions using MOVES2010b emission factors and the traffic assignment data. Committed control measures from the 2003 CO Maintenance Plan were included in the conformity analysis, as appropriate. These measures are listed in Table 4 and detailed descriptions can be found in the 2003 CO Maintenance Plan (MAG, 2003).

The CO outputs from MOVESLink include an hourly, gridded onroad mobile source emissions file and several summary files containing emissions and traffic data in the maintenance area. The CO analysis reflects a Friday in December, consistent with the analysis used to set the CO budgets.
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Eight-Hour Ozone

For the 2014 MAG Conformity Analysis, the applicable test for eight-hour ozone consists of the emissions budget tests for volatile organic compounds (VOC) and nitrogen oxides (NOx), as discussed in Chapter 1. The Eight-Hour Ozone Plan for the Maricopa Nonattainment Area (MAG, 2007a) establishes conformity budgets for VOC and NOx in the modeled attainment year of 2008. The 2008 emission budgets for the eight-hour ozone nonattainment area are 67.9 metric tons per day for VOC and 138.2 metric tons per day for NOx. EPA published a Federal Register notice finding these budgets to be adequate, effective November 9, 2007. On June 13, 2012, EPA approved the MAG 2007 Eight-Hour Ozone Plan, including the emissions budgets, effective July 13, 2012.

MAG also submitted an Eight-Hour Ozone Maintenance Plan to EPA in March 2009 (MAG, 2009). The Maintenance plan establishes 2025 budgets for VOC (43.8 metric tons per day) and NOx (101.8 metric tons per day). If EPA takes action to find these budgets to be adequate or approves the 2009 Eight-Hour Ozone Maintenance Plan before the 2014 MAG Conformity Analysis is approved by the U.S. DOT, conformity with the new 2025 budget would be required. To ensure that this conformity analysis is approvable, Table 12 shows that the 2025 and 2035 VOC and NOx emissions are also less than the 2025 budget proposed in the 2009 Eight-Hour Ozone Maintenance Plan.

EPA published the final rule designating boundaries for the 2008 eight-hour ozone standard on April 30, 2012. This rule expanded the boundary of the Maricopa eight-hour ozone nonattainment area by approximately 138 square miles. The VOC and NOx emissions calculated for all conformity analysis years represent the larger 2008 eight-hour ozone area.

The MOVES2010b model was used to estimate VOC and NOx emission factors. Traffic data (vehicle miles of travel and speeds by link) were generated by the TransCAD transportation model. The MOVESLink program was used to derive VMT by link for the eight-hour ozone nonattainment area from the TransCAD transportation model output and calculate emissions using MOVES2010b emission factors and the traffic assignment data. Committed control measures were included in the conformity analysis, as appropriate. These measures are listed in Table 4 and detailed descriptions can be found in the 2007 Eight-Hour Ozone Plan.

Vehicle registrations from July 2013 obtained from the Arizona Department of Transportation were used as input to MOVES2010b. Temperatures and various adjustment factors from the 2009 Eight-Hour Ozone Maintenance Plan were also used for consistency. The MOVES2010b runs performed for the ozone analysis were very similar to those performed for the CO analysis, except that conditions were changed to reflect the summer of the given year rather than winter. Differences included temperature, fuel data, and the season modeled.

The outputs from the MOVES2010b model include emission factors specific to hour of the day, area type, facility type, and domain temperatures. VOC and NOx emissions were also output by MOVES2010b separately depending upon the source type, such as exhaust running, evaporative resting, and crankcase evaporative emissions. These emission factors were used by the MOVESLink program to estimate the motor vehicle emissions for the eight-hour ozone nonattainment area. The VOC and NOx analysis reflects a Thursday in June, consistent with the analysis used to set the 2007 Eight-Hour Ozone Plan budgets.

PM-10

For the 2014 MAG Conformity Analysis, the applicable conformity test for PM-10 is the emissions budget test, as discussed in Chapter 1. The Revised MAG 1999 Serious Area PM-10 Plan established a 2006 motor vehicle emissions budget of 59.7 metric tons per day for the PM-10 nonattainment area (MAG, 2000). EPA approved the Revised MAG 1999 Serious Area PM-10 Plan, effective August 26, 2002. The motor vehicle emissions budget includes PM-10 emissions from exhaust, tire wear, brake wear, unpaved roads, paved roads and road construction.

MAG submitted a 2012 Five Percent Plan for PM-10 to EPA in May 2012 (MAG, 2012). The Five Percent Plan establishes a 2012 PM-10 budget of 54.9 metric tons per day for the PM-10 nonattainment area. On December 5, 2013, EPA found the PM-10 budget in the MAG 2012 Five Percent Plan to be adequate for transportation conformity purposes, effective December 20, 2013. Therefore, Table 12 shows that the 2015, 2025, and 2035 PM-10 emissions are less than this new conformity budget.

July 2013 vehicle registrations obtained from the Arizona Department of Transportation were used as input to MOVES2010b for PM-10. MOVES2010b and MOVESLink were applied to estimate PM-10 emissions from vehicle exhaust, tire wear, and brake wear. AP-42 equations were applied to estimate PM-10 emissions from vehicles traveling on paved and unpaved roads. In addition, PM-10 emissions from road construction were calculated for each analysis year.

The assumptions used in calculating PM-10 emissions from these sources are described in the subsections that follow. The final subsection discusses the emission reductions that have been assumed for the Maricopa County PM-10 nonattainment area in the 2014 MAG Conformity Analysis.

Exhaust, Tire Wear and Brake Wear

The MOVES2010b model was used to estimate PM-10 emission factors from exhaust, tire wear, and brake wear. Traffic data (vehicle miles traveled and speeds by link) were generated by the TransCAD transportation model. GIS was used to derive VMT by link for the PM-10 nonattainment area. The MOVESLink model was used to calculate emissions for the PM-10 nonattainment area using MOVES2010b emission factors and the traffic data.

The MOVESLink system processes emissions for the PM-10 nonattainment area by combining the link and node data (i.e., volumes, speeds, link locations, facility type, area...
type) from the TransCAD transportation model with the PM-10 emission factors (specific to facility type, hour, etc.) generated by the MOVEs2010b model. Other inputs to MOVESLink include the ratios for weighting the I/M and non-I/M emission factors and optional flags to apply control measure effects. The PM-10 analysis reflects an annual average day, consistent with the analysis performed to establish the budget in the Revised MAG 1999 Serious Area PM-10 Plan.

On May 19, 2004, EPA issued a Federal Register notice requiring the use of AP-42 in SIPs and conformity determinations that start on or after the two-year grace period of May 19, 2006 (EPA, 2004c). The EPA AP-42 equations were used to estimate PM-10 emissions due to reentrained dust from unpaved and paved roads.

PM-10 emission factors for reentrained dust from vehicles traveling on unpaved and paved roads in the Maricopa County PM-10 nonattainment area are calculated using the latest equations found in Sections 13.2.2 and 13.2.1.3, respectively, of AP-42, EPA Compilation of Air Pollutant Emission Factors. The AP-42 equation for paved roads was revised by EPA in January 2011.

The AP-42 equations for unpaved and paved roads are used to estimate PM-10 emission factors in grams per vehicle miles of travel (VMT). These emission factors are multiplied by unpaved and paved road VMT in the Maricopa County PM-10 nonattainment area to estimate uncontrolled PM-10 emissions from unpaved and paved roads. The assumptions used to estimate AP-42 emission factors and VMT for unpaved and paved roads are described in the next two sections.

Unpaved Roads

The AP-42 equation that calculates PM-10 emission factors for unpaved road fugitive dust requires as input the road surface material silt content, road surface moisture content, average vehicle speeds, and the annual number of wet days (with at least 0.01 inch of precipitation). For unpaved roads in the Maricopa County PM-10 nonattainment area, the silt content is 11.9 percent, the moisture content is 0.5 percent, and the average vehicle speeds are 25 mph for public unpaved roads, 20 mph for private unpaved roads, and 10 mph for unpaved alleys. These inputs to the AP-42 equations for unpaved roads are consistent with the assumptions used in the MAG 2012 Five Percent Plan for PM-10 (MAG, 2012).

During the period 2008-2012, there was an annual average of 32 days with at least 0.01 inch of precipitation in the Maricopa County area. This annual number of wet days, derived from National Weather Service data collected at Sky Harbor Airport, is also input to the AP-42 equation to calculate unpaved road emission factors.

The AP-42 emission factors for unpaved roads are multiplied by the VMT on public and private unpaved roads and alleys in the Maricopa County PM-10 nonattainment area. The vehicle miles of travel for public unpaved roads are derived from the 2009 MAG Unpaved Road Inventory (URI) (MAG, 2010). According to the URI, there were 613.4 miles of public unpaved roads in the PM-10 nonattainment area in 2009. MAG utilized 2009 traffic counts on unpaved roads, supplemented by Geographic Information Systems (GIS) image recognition techniques, to estimate the daily VMT on public unpaved roads in 2009.

In February 2011, MAG conducted additional traffic counts on a random sample of unpaved roads and alleys in the PM-10 nonattainment area. MAG also conducted a comprehensive inventory of private unpaved roads in the PM-10 nonattainment area that was completed in September 2011.

The 2011 inventory indicated that there were 927.3 miles of private unpaved roads in the PM-10 nonattainment area. Based on updated information received in August 2012, the private unpaved road inventory was increased to 974.6 miles. The 2011 inventory indicated that 28 percent of the private unpaved roads were stabilized. In addition, the 2011 traffic counts indicated that 26 vehicles travel on private unpaved roads on an average weekday. This value is multiplied by 0.93 to convert to annual average daily traffic (AADT).

Due to the economic recession’s dampening effect on construction activity, private unpaved road VMT is assumed to remain constant between 2011 and 2013. Using historical data on the growth of private unpaved roads between 2002 and 2013 and projected housing growth rates between 2010 and 2040, MAG has estimated that the annual increase in new private unpaved road miles will be 0.9 percent per year. After 2013, the 2014 MAG Conformity Analysis assumes that the recession has ended and private unpaved road mileage is increased by 0.9 percent per year.

MAG also used GIS to estimate that there were 650 miles of unpaved alleys in the PM-10 nonattainment area in 2009. The VMT on unpaved alleys is obtained by multiplying the miles of unpaved roads by the average daily traffic. The average daily traffic for unpaved roads, obtained from 2011 alley traffic counts, is four vehicles per day, which is used to estimate uncontrolled emissions (i.e., before applying reductions attributable to alley paving projects). The VMT on unpaved alleys is held constant for all conformity analysis years.

The VMT on public unpaved roads is also held constant for all conformity analysis years to estimate uncontrolled emissions (i.e., before applying reductions attributable to paving projects). The PM-10 emissions produced by public unpaved roads with 150 ADT or more is reduced by 50 percent to reflect the Maricopa County Rule 310.01 requirement that these roads needed to be paved or stabilized by June 10, 2004. It is assumed that these high volume dirt roads are being stabilized with dust suppressants that have a control efficiency of 50 percent.

The AP-42 equation, input assumptions, and resulting PM-10 emission factors for unpaved public roads, private roads and alleys are documented in Appendix R. Appendix R also identifies the VMTs and total uncontrolled emissions attributable to unpaved roads in the Maricopa County PM-10 nonattainment area.
Paved Roads

The AP-42 equation that calculates PM-10 emission factors for paved road fugitive dust requires as input the road surface silt loading, the average weight of vehicles traveling on paved roads, and the annual number of wet days (with at least 0.01 inch of precipitation). For the silt loadings, paved roads are split into three classes: freeways, with a silt loading of 0.02 grams per square meter; high-traffic arterials (non-freeways carrying 10,000 vehicles or more per average weekday), with a silt loading of 0.067 grams per square meter; and low-traffic arterials (non-freeways carrying less than 10,000 vehicle per average weekday), with a silt loading of 0.23 grams per square meter. These silt loadings are consistent with the MAG 2012 Five Percent Plan for PM-10.

Since the silt loadings are stratified by road type, vehicle weights are estimated separately for freeways, high-traffic arterials and low-traffic arterials. The average vehicle weights for freeways (3.71 tons) and arterials (2.83 tons) were calculated using 2013 vehicle registrations for Maricopa County; VMT for medium and heavy duty trucks and all vehicle types in the PM-10 nonattainment area, derived from a 2011 traffic assignment, and an average vehicle weight of 3.18 tons (EPA default value) for all road types.

During the period 2008-2012, there were an average of 32 days with at least 0.01 inch of precipitation in Maricopa County. This annual number of wet days, derived from National Weather Service data collected at Sky Harbor Airport, is also input to the AP-42 equation to calculate paved road emission factors.

The AP-42 equation for paved roads uses the assumptions above to estimate PM-10 emission factors in grams per vehicle mile of travel (VMT). The AP-42 emission factors for paved roads are multiplied by the VMT for the PM-10 nonattainment area, which is derived from the MAG TransCAD transportation model for each conformity analysis year.

The AP-42 equation, input assumptions, and resulting PM-10 emission factors for freeways, high-traffic arterials, and low-traffic arterials are documented in Appendix R. Appendix R also identifies the VMTs and total uncontrolled emissions attributable to paved roads in the Maricopa County PM-10 nonattainment area.

Road Construction

As required by Section 93.122(e) of the federal transportation conformity rule, PM-10 emissions from road construction were estimated for each conformity analysis year. Road construction emissions were estimated using the methodology in the MAG 2012 Five Percent Plan, with the exception of an updated rule effectiveness rate. The methodology for calculating rule effectiveness, developed by the Maricopa County Air Qualify Department (MCAQD) in coordination with EPA Region IX staff, is documented in Appendix 3 of the 2008 PM-10 Periodic Emissions Inventory (MCAQD, 2011). MCAQD reported to MAG in May 2013 that the rule effectiveness for Rule 310 had declined from 94 to 93 percent between 2011 and 2012. The 2012 road construction emissions in the Maricopa PM-10 nonattainment area, estimated using a 93 percent rule effectiveness rate, are held constant for all conformity analysis years.

Emission Reductions

The 2014 MAG Conformity Analysis for the Maricopa County PM-10 nonattainment area includes credit for measures and projects that reduce PM-10 emissions. The projects that reduce unpaved and paved road emissions are described below. The PM-10 emission reductions associated with these projects are shown in Appendix R.

PM-10 Certified Street Sweepers - In the 2014 MAG Conformity Analysis, emission reduction credit is taken for PM-10 certified street sweepers purchased with MAG Congestion Mitigation and Air Quality Improvement (CMAQ) funds between January 1, 2001 and December 31, 2009. During this nine-year period, MAG member agencies purchased 123 PM-10 certified sweepers to replace conventional sweepers, increase the frequency of sweeping, and expand the area swept in the PM-10 nonattainment area. An inventory conducted by MAG for the period ending June 30, 2010 indicated that 23 of these sweepers were no longer in service as of December 31, 2009. The methodology used in calculating the benefit of these 100 sweepers in 2010 is consistent with that used in the MAG 2012 Five Percent Plan for PM-10. In conformity years after 2010, the benefit of PM-10 certified sweepers is increased based on the growth in VMT on non-freeways located in the PM-10 nonattainment area.

In addition, an ADOT contract, effective February 20, 2010, identifies the specific freeways, ramps and frontage roads in the PM-10 nonattainment area that are being swept with PM-10 certified sweepers, as well as the required sweeping frequency. The emission reduction credit for sweeping the roads identified in the ADOT contract was calculated for 2012. For all conformity analysis years after 2012, the credit is increased proportionally to the growth in VMT on the roads in the PM-10 nonattainment area that are being swept by the ADOT contractor. The VMT on these roads is derived from the TransCAD model output for each conformity analysis year.

Unpaved Road and Alley Projects - For the 2014 MAG Conformity Analysis, reduction credit was also taken for projects completed between January 1, 2008 and December 31, 2012 that paved or reduced speed limits on unpaved roads and alleys in the PM-10 nonattainment area. The emission reductions for projects completed by December 31, 2012 are consistent with those used in the MAG 2012 Five Percent Plan for PM-10. Credit for these projects is applied to all conformity analysis years.

In addition, the 2014 MAG Conformity Analysis takes credit for paving projects programmed in the MAG Transportation Improvement Program (TIP). Credit for TIP projects that pave unpaved roads and alleys prior to FY 2013 is taken in 2015; credit for TIP paving projects programmed in FY 2013-2018 is taken in the 2025 and 2035 conformity analysis years.
Chapter 9 of the 2035 MAG Regional Transportation Plan (RTP) indicates that ten miles of unpaved roads will be paved each year in the PM-10 nonattainment area. The 2014 MAG Conformity Analysis assumes that ten miles will be paved each year beginning in 2019 and continuing through 2035, the last year of the RTP.

Paved Road Projects - For the 2014 MAG Conformity Analysis, reduction credit was taken for projects completed between January 1, 2008 and December 31, 2012 that paved unpaved shoulders and overlaid roads with rubberized asphalt in the PM-10 nonattainment area. The emission reductions for projects completed by December 31, 2012 are consistent with those used in the MAG 2012 Five Percent Plan for PM-10. Credit for these projects is applied to all conformity analysis years.

**PINAL COUNTY PM-10 AND PM-2.5 NONATTAINMENT AREAS**

The air quality modeling assumptions for the three pollutants for which conformity in the Pinal County nonattainment areas has been performed are discussed below. These pollutants are PM-10, PM-2.5 and NOx.

For the 2014 MAG Conformity Analysis, the applicable conformity tests for PM-10 in the Pinal PM-10 nonattainment area and PM-2.5 and NOx in the Pinal PM-2.5 nonattainment area are the build/no-build analyses for 2015, 2025 and 2035, as discussed in Chapter 1. Pinal County vehicle registrations for July 2013, obtained from the Arizona Department of Transportation, were used as input to MOVES2010b for all three pollutants. MOVES2010 and MOVESLink were applied to estimate vehicle emissions for PM-10, PM-2.5 and NOx. AP-42 equations were used to estimate PM-10 emission factors from vehicles traveling on paved and unpaved roads in the Pinal PM-10 nonattainment area.

Paved and unpaved road emissions were not estimated for the Pinal PM-2.5 nonattainment area, because Section 93.119(f)(8) of the EPA Transportation Conformity Regulations indicates that reentrained road dust only needs to be included in the conformity analysis for PM-2.5 nonattainment areas if EPA or the Arizona Department of Environmental Quality have made a finding and notified MAG and the U.S. Department of Transportation that these sources are a significant contributor to the PM-2.5 problem.

Road construction emissions were not included in the conformity analysis for the PM-10 nonattainment area, because Section 93.122(e)(2) of the Transportation Conformity Regulations states: “In PM10 nonattainment and maintenance areas with implementation plans which identify construction-related fugitive PM10 as a contributor to the nonattainment problem, the regional PM10 emissions analysis shall consider construction-related fugitive PM10 and shall account for the level of construction activity, the fugitive PM10 control measures in the applicable implementation plan, and dust-producing capacity of the proposed activities.” The MAG 2014 Conformity Analysis began on September 29, 2013. The Arizona Department of Environmental Quality issued the proposed Arizona State Implementation Plan Revision for the West Pinal County PM-10 Nonattainment Area for 30-day public review and comment on November 7, 2013. Because no implementation plan for the Pinal County nonattainment area was available on the date that the MAG 2014 Conformity Analysis began, the requirement to include road construction emissions does not apply.

Traffic data (vehicle miles of travel and speeds by link) were generated with the TransCAD transportation model. GIS was used to derive VMT by link for the Pinal PM-10 and PM-2.5 nonattainment areas. The MOVESLink model was used to calculate emissions for each nonattainment area using MOVES2010b emission factors and the traffic data. The analysis for both the Pinal PM-10 and PM-2.5 nonattainment areas reflects data on an annual average day.

The MOVES2010b and MOVESLink models used in estimating onroad vehicle emissions for the Pinal County nonattainment areas are described in the next two sections. For the West Pinal PM-10 nonattainment area, output of the MOVESLink model represents PM-10 emissions from vehicle exhaust, tire wear and brake wear. For the West Central Pinal PM-2.5 nonattainment area, the MOVESLink output represents vehicle exhaust emissions for nitrogen oxides (NOx) and exhaust, tire wear and brake wear emissions for PM-2.5.

PM-10 emission factors for reentrained dust from vehicles traveling on unpaved and paved roads in the Pinal PM-10 nonattainment area are calculated using the latest equations found in Sections 13.2.2 and 13.2.1.3, respectively, of AP-42, EPA Compilation of Air Pollutant Emission Factors. The AP-42 equation for paved roads was revised by EPA in January 2011. The unpaved and paved road emission factors are multiplied by vehicle miles of travel to estimate unpaved and paved road emissions. The last two sections discuss the assumptions used to calculate particulate emissions from unpaved and paved roads in the Pinal PM-10 nonattainment area.

**MOVES2010b**

MOVES2010b is a model developed by EPA for the purpose of estimating motor vehicle emission factors for specified vehicle fleet, fuel, temperature, and speed conditions. This model is used to estimate particulate (exhaust, tire wear, and brake wear) emission factors for the Pinal PM-10 and PM-2.5 nonattainment areas and nitrogen oxide (NOx) exhaust emission factors for the Pinal PM-2.5 nonattainment area.

The MOVES2010b model generates estimates of motor vehicle emission factors in units of grams of pollutant emitted per vehicle mile of travel. MOVES2010b uses a locally-derived motor vehicle registration distribution (by model year) of 30 years. For the 2014 MAG Conformity Analysis, July 2013 vehicle registrations for Pinal County, obtained from the Arizona Department of Transportation, were used as input to MOVES2010b. MOVES2010b also incorporates fleet turnover to newer, cleaner vehicles over time, which counters the increase in regional emissions that occur with growth in vehicle miles of travel. Other factors, such as fuel quality and vehicle speed, are also important.
Inspection and maintenance (I/M) program benefits were assumed for the portion of Area A which is located in the Pinal PM-10 nonattainment area. The I/M runs reflect the provisions of the enhanced inspection program which was implemented in January 1995 and the measure "Phased-in Emission Test Cutpoints" (see Table 4), implemented in January 2000. The cutpoint values used are the MOVES2010b default Phase 2 cutpoints. For the three horizon years modeled in this analysis, it was assumed that the onboard diagnostic (OBD) test would be used for the model year 1996 and newer vehicles with an exemption for all vehicles of the current plus four model years.

MOVES2010b outputs were weighted to account for vehicles driving in the Pinal PM-10 nonattainment area that do not participate in the I/M program. Therefore, each modeled scenario required runs with and without the I/M program benefits. For this analysis, it was assumed that 91.6 percent of eligible onroad vehicles participate in the I/M program within the Area A portion of the Pinal PM-10 nonattainment area. This fraction reflects an increase in the participation in the I/M program due to implementation of the measure, "Tougher Enforcement of Vehicle Registration and Emission Test Compliance" (see Table 4). For all scenarios modeled for this analysis, the inputs for each run included oxygenated gasoline with an assumed market share of 100 percent ethanol. The gasoline volatility and average oxygen content of the ethanol blend gasoline were based on fuel inspection data provided to MAG by the Arizona Department of Weights and Measures. The MOVES2010b runs that reflected the I/M program in Area A assumed vehicle waiver rates of 1.3 percent or 1.0 percent, dependent upon model year. These fractions reflected the lower waiver rates resulting from the implementation of "One Time Waiver from Vehicle Emissions Test" (see Table 4). The output from the MOVES2010b model includes emission factors by hour, roadway facility type, pollutant, and area type.

MOVESLink software processes link data files output by the MAG transportation model, TransCAD. The program calculates emissions for roadway links in the MAG highway networks. Traffic volumes for four time periods (AM peak, mid-day, PM peak, and night time) for each link are converted into hourly volumes based upon traffic count data collected in Maricopa County in 2007. Hourly emission factors are developed by running MOVES2010b for each facility type, area type, and vehicle class using link speeds by time of day. The transportation model inputs to MOVESLink consist of database formatted files that contain link-specific data and a node coordinate definitions file. MOVESLink also requires as input:

- A table containing adjustment factors used to allocate traffic volumes for four time periods to hourly traffic volumes.
- A matrix of emission factors for a range of hours, facility types, area types, vehicle classes, and vehicle ages (generated by the MOVES model).
- The ratio of vehicles participating in the I/M program.
- The year being modeled.

**Unpaved Roads**

The AP-42 equation that calculates PM-10 emission factors for unpaved road fugitive dust requires as input the road surface material silt content, road surface moisture content, average vehicle speed, and the annual number of wet days (with at least 0.01 inch of precipitation). The unpaved roads in the Pinal PM-10 nonattainment area are stratified by four categories (agricultural, public, private and trails) and a number of subcategories. The silt content, moisture content and speeds shown in Table 8 are inputs to the AP-42 equation for unpaved roads. These 2008 data were provided to MAG by the Pinal County Air Quality Control District in July 2013.

During the period 2008-2012, there was an annual average of 31 days with at least 0.01 inch of precipitation in Pinal County. This annual number of wet days, derived from Arizona Meteorological Network (AZMET) data collected in the City of Maricopa and City of Coolidge, is also input to the AP-42 equation to calculate unpaved road emission factors for the Pinal PM-10 nonattainment area.

The annual average daily traffic (AADT) and miles of unpaved roads by subcategory in the Pinal PM-10 nonattainment area are shown in Table 8. The AADT and miles represent 2008 data provided to MAG by the Pinal County Air Quality Control District in July 2013.

The AADT is multiplied by the miles to calculate VMT. The VMT is multiplied by the AP-42 emission factor to obtain the PM-10 unpaved road emissions for trails and each agricultural, public and private unpaved road subcategory. The daily unpaved road emissions calculated using AP-42 represent uncontrolled PM-10 emissions. The uncontrolled 2008 unpaved road emissions are held constant for all conformity analysis years.

Since no State Implementation Plans (SIPs) have been submitted to EPA for the Pinal County nonattainment areas, emission reductions are assumed for sources in Pinal County that are currently controlled by Arizona state laws. For the 2014 MAG Conformity Analysis, a six percent reduction has been applied to fugitive dust emissions from agricultural unpaved roads for the build and no-build scenarios in all conformity analysis years. This reduction reflects requirements of the state Agricultural Best Management Practices (BMPs) that apply to all moderate PM-10 nonattainment areas in Arizona. The Agricultural BMPs went into effect when EPA designated the West Pinal area to be a moderate nonattainment area for PM-10, effective July 2, 2012.
The six percent reduction in agricultural unpaved road emissions is consistent with assumptions in the 2008 PM-10 Periodic Emissions Inventory for the Maricopa County, Arizona, Nonattainment Area, prepared by the Maricopa County Air Quality Department (MCADQ, 2011). This reduction is applied to both the build and no-build scenarios in each conformity analysis year (i.e., 2015, 2025, 2035).

The emissions from public unpaved roads are reduced in the build scenario to take credit for paving projects scheduled for implementation in the Pinal PM-10 nonattainment area. These fifteen paving projects and their implementation years are listed in Table 9.

The benefit of these projects is calculated using the AP-42 emission factor for public unpaved roads multiplied by the length and average daily traffic (ADT) of the road to be paved. The mileage and ADT for each paving project are shown in Table 9. The ADT is multiplied by 0.93 to convert to annual average daily traffic (AADT).

The AP-42 unpaved road emission benefit for each project is reduced by 1.47 grams per mile to account for the paved road emission rate of vehicles traveling on the newly paved road. To be conservative, this rate assumes that the newly-paved road does not have a paved shoulder or curb and gutter. If a traffic count has not been performed on the unpaved road, an ADT of 140 vehicles per day is assumed. This represents the average ADT for all public unpaved roads in the Pinal PM-10 nonattainment area in 2008.

The total PM-10 emissions reduction due to the paving projects is applied to the 2025 and 2035 build scenarios, based on the year of implementation. Credit for the paving projects implemented in FY 2016-2023 is applied in 2025; credit for the projects implemented in FY 2016-2034 is applied in 2035.

Paved Roads

The AP-42 equation that calculates PM-10 emission factors for paved road fugitive dust requires as input the road surface silt loading, the average weight of vehicles traveling on paved roads, and the number of wet days (with at least 0.01 inch of precipitation). The road surface silt loadings used for the Pinal PM-10 nonattainment area are 0.02 g/m² for freeways, 0.067 g/m² for high-traffic arterials, and 0.23 g/m² for low-traffic arterials and the average vehicle weights are 3.53 tons on freeways and 2.65 tons on arterials. These silt loadings and vehicle weights are consistent with assumptions in the MAG 2012 Five Percent Plan for PM-10 (MAG, 2012).

During the period 2008-2012, there was an annual average of 31 days with at least 0.01 inch of precipitation in Pinal County. This annual number of wet days, derived from AZMET data collected in the City of Maricopa and City of Coolidge, is also input to the AP-42 equation to calculate paved road emission factors for the Pinal PM-10 nonattainment area.
The resulting AP-42 emission factors are multiplied by the 2008 VMT for the Pinal PM-10 nonattainment area produced by the Arizona Department of Transportation using the TransCAD model. The TransCAD output is multiplied by 0.92 to convert from average weekday to annual average daily traffic. The total VMT is stratified by freeway, high-traffic arterials and low-traffic arterials using the percent of VMT for each of these categories in the Pinal PM-10 nonattainment area, obtained by applying GIS to a MAG 2011 traffic assignment. The resultant 2008 paved road emissions are consistent with the estimate in the Draft 2008 Periodic Emissions Inventory for PM-10, currently being developed by the Arizona Department of Environmental Quality for the Pinal PM-10 nonattainment area (Sierra Research, 2013).

For the conformity analysis years of 2015, 2025 and 2035, paved road emissions for the build and no-build scenarios are increased based on the growth in VMT estimated by the MAG TransCAD model for the Pinal PM-10 nonattainment area, relative to 2008. In 2025 and 2035, paved road emissions for the build scenario are higher than the no-build scenario. This increase is more than offset by the emission reductions attributable to the projects in Table 9 that pave unpaved roads in the Pinal PM-10 nonattainment area.

### TABLE 9.
**PAVING PROJECTS IN THE PINAL COUNTY PM-10 NONATTAINMENT AREA**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Fiscal Year</th>
<th>Location</th>
<th>Miles</th>
<th>ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coolidge</td>
<td>2022</td>
<td>Bartlett Rd: Hwy 87 to 5th Street</td>
<td>0.46</td>
<td>31</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2023</td>
<td>Randolph Rd: Hwy 87 to Vail Rd</td>
<td>1.00</td>
<td>140</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2027</td>
<td>Macrae Rd: Coolidge Ave to Martin Rd</td>
<td>1.08</td>
<td>118</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2027</td>
<td>Macrae Rd: Coolidge Ave to Vah Ki Inn Rd</td>
<td>1.01</td>
<td>174</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2027</td>
<td>McCartney Rd: La Palma Rd to Sunshine Blvd</td>
<td>1.01</td>
<td>140</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2027</td>
<td>Signal Peak Rd: Woodruff Rd to McCartney Rd</td>
<td>1.00</td>
<td>140</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2028</td>
<td>McCartney Rd: Sunshine Blvd to Eleven Mile Corner</td>
<td>1.00</td>
<td>140</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2030</td>
<td>Macrae Rd: Vah Ki Inn Rd to Hwy 87</td>
<td>1.02</td>
<td>130</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2030</td>
<td>Val Vista Rd: Signal Peak Rd to 1/4 mi east of Curry Rd</td>
<td>1.28</td>
<td>57</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2031</td>
<td>Val Vista Rd: Macrae Rd to 1/4 mi east of Curry Rd</td>
<td>1.21</td>
<td>67</td>
</tr>
<tr>
<td>Coolidge</td>
<td>2034</td>
<td>Eleven Mile Corner Rd: Bartlett to Randolph Rd</td>
<td>1.47</td>
<td>140</td>
</tr>
<tr>
<td>Eloy</td>
<td>2016</td>
<td>Houser Rd: Frontier to Eleven Mile Corner</td>
<td>1.60</td>
<td>140</td>
</tr>
<tr>
<td>Florence</td>
<td>2025</td>
<td>Cooper Rd: Magma to Judd</td>
<td>1.00</td>
<td>500</td>
</tr>
<tr>
<td>Florence</td>
<td>2026</td>
<td>Canal Rd: Valley Farms to Hilscocx</td>
<td>1.00</td>
<td>140</td>
</tr>
<tr>
<td>Maricopa</td>
<td>2018</td>
<td>Bolwin Rd: Hartman Rd to Murphy Rd</td>
<td>1.00</td>
<td>140</td>
</tr>
</tbody>
</table>
5 TRANSPORTATION CONTROL MEASURES

This chapter provides an update of the current status of transportation control measures identified in applicable implementation plans. Requirements of the federal conformity rule relating to transportation control measures (TCMs) are presented first, followed by a review of the applicable air quality implementation plans and TCM findings for the FY 2014-2018 MAG Transportation Improvement Program (TIP) and 2035 MAG Regional Transportation Plan. A review of the funding and current status of TCM implementation is presented. The chapter concludes with a measure-by-measure assessment of the current status of each transportation control measure.

FEDERAL CONFORMITY RULE REQUIREMENTS FOR TCMs

The federal conformity rule (40 CFR 93.113) requires that the TIP and Regional Transportation Plan “must provide for the timely implementation of TCMs in the applicable implementation plan.” The federal definition for the term “transportation control measure” is provided in 40 CFR 93.101:

“any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in Section 108 of the CAA [Clean Air Act], or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart.”

In the federal conformity rule, the definition provided for the term “applicable implementation plan” is:

“Applicable implementation plan is defined in section 302(q) of the CAA and means the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 110, or promulgated under section 110(c), or promulgated or approved pursuant to regulations promulgated under section 301(d) and which implements the relevant requirements of the CAA.”

TCM Requirements For A Transportation Plan

The EPA regulations in 40 CFR 93.113(b) indicate that transportation control measure requirements for transportation plans are satisfied if two criteria are met:

(1) The transportation plan, in describing the envisioned future transportation control measures and technology-based measures:

(i) programs for improved public transit;
(ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
(iii) employer-based transportation management plans, including incentives;
(iv) trip-reduction ordinances;
(v) traffic flow improvement programs that achieve emission reductions;
(vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
(vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;
(viii) programs for the provision of all forms of high-occupancy, shared-ride services;
(ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
(x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
(xi) programs to control extended idling of vehicles;
(xii) programs to reduce motor vehicle emissions, consistent with title II, which are caused by extreme cold start conditions;
(xiii) employer-sponsored programs to permit flexible work schedules;
(xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
(xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest. For purposes of this clause, the Administrator shall also consult with the Secretary of the Interior; and
(xvi) program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.
system, provides for the timely completion or implementation of all TCMs in the applicable implementation plan which are eligible for funding under Title 23 U.S.C. or the Federal Transit Laws, consistent with schedules included in the applicable implementation plan.

(2) Nothing in the transportation plan interferes with the implementation of any TCM in the applicable implementation plan."

TCM Requirements For A Transportation Improvement Program

Similarly, in 40 CFR Section 93.113(c), EPA specifies three TCM criteria applicable to a transportation improvement program:

“(1) An examination of the specific steps and funding source(s) needed to fully implement each TCM indicates that TCMs which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws are on or ahead of the schedule established in the applicable implementation plan, or, if such TCMs are behind the schedule established in the applicable implementation plan, the MPO and DOT have determined that past obstacles to implementation of the TCMs have been identified and have been or are being overcome, and that all state and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval of funding of TCMs over other projects within their control, including projects in locations outside the nonattainment or maintenance area;

(2) If TCMs in the applicable implementation plan have previously been programmed for federal funding but the funds have not been obligated and the TCMs are behind the schedule in the implementation plan, then the TIP cannot be found to conform:
   • if the funds intended for those TCMs are reallocated to projects in the TIP other than TCMs, or
   • if there are no other TCMs in the TIP, if the funds are reallocated to projects in the TIP other than projects which are eligible for federal funding intended for air quality improvement projects, e.g., the Congestion Mitigation and Air Quality Improvement Program; and

(3) Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan."
maintenance year of 2025. However, no emission reduction credit is taken for these TCMs in conformity.

Submitted Implementation Plans for Carbon Monoxide

Two other submitted carbon monoxide plans provide information on additional transportation control measures. All TCMs for which emission reduction credit was taken in submitted carbon monoxide plans have been incorporated into the base year traffic assignment for the conformity analysis.

The MAG 1987 Carbon Monoxide Plan provides a comprehensive implementation schedule in Chapter Seven (pages 7-1 through 7-84) for all of the control measures of that Plan. Chapter Eight of the MAG 1987 CO Plan assessed the expected effectiveness of each measure. These chapters are located in Appendix D of the conformity analysis.

In the MAG 1993 Carbon Monoxide Plan, the control measures and implementation schedule are contained in Chapter Eight (pages 8-1 through 8-68). Chapter Nine of the MAG 1993 CO Plan presents an assessment of the expected effectiveness of each measure. These chapters are located in Appendix E. Similarly, Chapter Two of the MAG 1993 Carbon Monoxide Plan Addendum contains a description of additional measures provided under Arizona House Bill 2001 (see Appendix F).

Applicable Implementation Plan for Ozone

Although there is no applicable implementation plan for ozone that specifies TCMs for this region, measures included in submitted plans for ozone are reviewed for informational purposes in this report. These measures have been implemented and any resulting creditable emission reduction benefits have been incorporated into the base year traffic assignment for the conformity analysis.

Submitted Implementation Plans for Ozone

Although there is no applicable implementation plan for ozone that specifies TCMs for this region, measures included in submitted plans for ozone are reviewed for informational purposes in this report. These measures have been implemented and any resulting creditable emission reduction benefits have been incorporated into the base year traffic assignment for the conformity analysis.

The selected control strategies in the 1978 Nonattainment Area Plan for CO and Photochemical Oxidants in the Maricopa County Urban Planning Area (BAQC, 1978) are contained in Chapter Four (pages 4-1 through 4-18) of that document. Chapter Five of that Plan addressed the expected impact of the selected control strategies. These chapters are provided in Appendix H. The 1978 Plan contained five transportation-related measures, of which only two would be considered TCMs under the EPA definition: Carpooling - Voluntary Program; and Modified Work Schedules - Voluntary Program.

TCMs from the 1987 MAG Ozone Plan for the Maricopa County Area have been documented in Appendix I of the conformity analysis. The MAG 1993 Ozone Plan and 1993 Ozone Plan Addendum contain additional TCMs that would reduce ozone related emissions, and these measures are documented in Appendices J and K.

The Serious Area Ozone State Implementation Plan for Maricopa County was submitted to EPA in December 2000 by the Arizona Department of Environmental Quality (ADEQ, 2000). This Plan contains a list of control measures; however no new TCMs are introduced on this list.

Applicable Implementation Plan for PM-10

On July 25, 2002, the EPA took final action to approve the Revised MAG 1999 Serious Area Particulate Plan for PM-10. A measure-by-measure review of TCMs contained in the Revised MAG 1999 Serious Area PM-10 Plan is provided later in this chapter. A comprehensive implementation schedule for all of the transportation control measures is provided in Chapter Seven (pages 7-1 through 7-285) of the Revised MAG 1999 Serious Area PM-10 Plan. An assessment of the expected effectiveness of each measure is located in Chapter V of the Technical Support Document of the Revised MAG 1999 Serious Area Particulate Plan for PM-10. These chapters are contained in Appendix M. The only TCM for which emission reduction credit was taken in the Serious Area PM-10 Plan was “Coordinate Traffic Signal Systems”.

Submitted Implementation Plans for PM-10

In addition, three submitted plans for PM-10, described below, are reviewed for information on transportation control measures. All TCMs in the submitted and applicable PM-10 plans have been implemented and any resulting creditable emissions reduction benefits have been incorporated into the base year traffic assignment for the conformity analysis.
On August 3, 1998, EPA promulgated a PM-10 Moderate Area Federal Implementation Plan (EPA, 1998b), effective September 2, 1998, but this Plan did not introduce any TCMs. The MAG 1988 Particulate Plan for PM-10, provides a comprehensive implementation schedule in Chapter Seven (pages 7-1 through 7-108) for all of the control measures of that Plan. Chapter Eight of the MAG 1988 PM-10 Plan assessed the expected effectiveness of each measure. These chapters are located in Appendix N. In the MAG 1991 Particulate Plan for PM-10 for the Maricopa County Area and 1993 Revisions, the control measures and implementation schedule are contained in Chapter Seven (see Appendix O).

In accordance with Section 189(d) of the Clean Air Act, the MAG 2007 Five Percent Plan for PM-10 was submitted to EPA by December 31, 2007. On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona voluntarily withdrew the Five Percent Plan from EPA consideration.

On May 25, 2012, the MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA. The new MAG 2012 Five Percent Plan for PM-10 contains a wide variety of existing control measures and projects that have been implemented to reduce PM-10 and a new measure designed to reduce PM-10 during high risk conditions, including high winds. While the 2007 PM-10 Plan was withdrawn, a wide range of control measures in that plan continue to be implemented to reduce PM-10 and have been resubmitted (see Appendix L). The MAG 2012 Five Percent Plan does not include any TCMs.

TCM FINDINGS FOR THE TIP AND REGIONAL TRANSPORTATION PLAN

Currently, MAG estimates that all TCMs in the applicable SIPs have been implemented for several years and any ongoing TCMs are on schedule and there are no obstacles to implementation of the TCMs. In addition, Table 10 confirms that considerable resources are being allocated to projects above and beyond the TCMs and other committed measures from applicable Plans. Therefore, the TIP and Regional Transportation Plan provide for the timely implementation of the TCMs in the applicable air quality plans and nothing in the TIP or RTP interferes with the implementation of any TCM in an applicable implementation plan.

A measure-by-measure assessment of individual transportation control measures in the applicable and other submitted plans is provided below. Some of the TCMs in the plans were implemented in the short term and have been fully implemented for several years. Their completed implementation is therefore assumed in the base year set of assumptions in the traffic assignments for the TIP and 2035 MAG Regional Transportation Plan. The TIP provides continued funding for many such TCMs (e.g. trip reduction, transit, bikeway improvements, ridesharing, and freeway management systems), which now have been implemented to a significantly greater degree than committed originally.

### TABLE 10. PROGRAMMED TRANSPORTATION PROJECTS THAT IMPLEMENT TCMS AND OTHER AIR QUALITY MEASURES

<table>
<thead>
<tr>
<th>SIP CATEGORY</th>
<th>FY 2014 FUNDING</th>
<th>FY 2014-2018 FUNDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($ MILLIONS)</td>
<td>($ MILLIONS)</td>
</tr>
<tr>
<td>Regional Public/Rapid Transit</td>
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<td></td>
</tr>
<tr>
<td>Transit</td>
<td>Capital $200.3</td>
<td>Operating $100.3</td>
</tr>
<tr>
<td></td>
<td>20.4</td>
<td></td>
</tr>
<tr>
<td>Education and Outreach Programs, and Vanpools</td>
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<td></td>
</tr>
<tr>
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*This amount includes only the funding for travel demand projects listed in the FY 2014-2018 MAG Transportation Improvement Program.
In addition, the transportation plan assumes or specifically calls for TCM implementation at current or expanded levels, consistent with adopted TCM commitments. The plan specifically addresses transit service, high occupancy vehicle lanes, demand management programs, and bicycle and pedestrian facility needs. Moreover, continued reliance on alternative modes of travel is reflected in the projected levels of vehicle traffic used in the determination of facility needs and funding priorities.

A listing of projects and programs from the TIP which implement transportation control measures and other air quality measures is provided in Table 10. It should be noted that not all of the projects listed in the table correspond to specific implementation of commitments, because additional TCM implementation over and above SIP committed levels will be taking place.

Throughout the process of preparing the 2014 MAG Conformity Analysis for the FY 2014-2018 TIP and RTP, no impediments to the timely implementation of adopted TCMs have been identified. With respect to funding, the MAG region obligates approximately 100 percent of its available federal Congestion Mitigation and Air Quality (CMAQ) improvement budget. In addition, the information provided in Table 10 provides an indication that considerable resources are being allocated to TCMs and other measures that will result in significant air quality benefits, beyond those represented by TCM commitments in applicable Plans.

MEASURE-BY-MEASURE TCM ASSESSMENT

Transportation control measure documentation used in conjunction with the conformity assessment of the TIP and Regional Transportation Plan is provided below. The numbering system used to identify control measures is consistent with the list of TCMs in Section 108 of the Clean Air Act.

Programs for Improved Public Transit

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 3, 4, and 10
1993 Carbon Monoxide Plan*, measures 1a, 1b, and 1c
1993 Carbon Monoxide Plan Addendum*, measure I-1
Revised 1999 Serious Area Carbon Monoxide Plan, measure 24
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan*

1987 Ozone Plan*, measures 3, 4, and 10
1993 Ozone Plan*, measures 1a, 1b, and 1c
1993 Ozone Plan Addendum*, measure I-1
One-Hour Ozone Maintenance Plan

Eight-Hour Ozone Plan
Eight-Hour Ozone Maintenance Plan*
1988 PM-10 Plan, measures 18, 19, and 25
1991 PM-10 Plan with 1993 Revisions, measures 18, 19, and 25
Revised 1999 Serious Area PM-10 Plan, measure 25
2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

Local commitments in the MAG 1987 CO Plan and 1987 Ozone Plan demonstrated widespread support for short- and long-range transit improvements, including park and ride lot improvements coordinated through the RPTA. The MAG 1993 CO Plan and 1993 Ozone Plan includes commitments for programs for improved public transit and local commitments for an expansion of public transportation services. New funding sources for transit improvements represented approximately a seven percent increase to base service levels. In addition, several jurisdictions advocated park-and-ride lots to support the public transit network.

The commitments from local governments for the Serious Area plans include initiatives addressing mass transit alternatives. For example, a number of cities worked in a cooperative effort with MAG, RPTA, and FTA to conduct feasibility studies for high capacity transit corridors within the metropolitan area. The studies evaluated the feasibility of options such as light rail, bus ways, and commuter rail.

Several local governments have made public transit improvements beyond commitments made in air quality plans. For example, in September 1996, Tempe voters approved the Transit 2000 Plan increasing the local sales tax by .4 percent over 20-years. The Transit 2000 Plan provides for light rail rapid transit, extended hours of local bus service, increased dial-a-ride service, additional express bus service, and other transit improvements. In November 2001, Glendale voters approved a half-cent sales tax for transportation improvements including increased bus service, light rail transit, and dial-a-ride. Also, in September 2005, Peoria voters approved a sales tax increase of 0.3 percent that will be dedicated to transportation improvements, including the addition of fixed route bus lines.

On November 2, 2004, voters approved Proposition 400 that extends the half-cent sales tax for transportation improvements. The Regional Transportation Plan provides the blueprint for the implementation of Proposition 400, including future public transit improvements.
In addition, for the Conformity Analysis, MAG reports on the recent changes to the transit system. In December 2008, the 20-mile Light Rail Transit (LRT) Minimum Operating Segment began service from Bethany Home Road and 19th Avenue into downtown Phoenix and from downtown Phoenix to downtown Tempe and Arizona State University, and continuing to the intersection of Main Street and Sycamore in Mesa. Chapter 3 provides a list of transit service changes reported by Valley Metro/RPTA in FY 2012.

Impact of TIP and RTP:

The FY 2014-2018 MAG Transportation Improvement Program contains a listing of 184 proposed capital transit projects estimated to cost a total of $861.7 million. The funding for proposed capital transit projects programmed for FY 2014 is approximately $220.3 million. Also, for the period covered in the TIP, 65 transit projects for operations are programmed at $108.3 million. It is concluded that implementation of the TIP will directly support transit improvements. A description on the planned transit facilities is located in Chapter 10 of the RTP.

(ii) Restriction of Certain Roads or Lanes to, or Construction of Such Roads or Lanes for Use by, Passenger Buses or High Occupancy Vehicles

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 5, 14, 15, and 16
1993 Carbon Monoxide Plan, measures 2a, 2b, and 2c
Revised 1999 Serious Area Carbon Monoxide Plan, measure 55
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan

1987 Ozone Plan*, measures 5, 14, 15, and 16
1993 Ozone Plan*, measures 2a, 2b, and 2c
Revised 1999 Serious Area Ozone Plan, measure 55
Eight-Hour Ozone Maintenance Plan

1988 PM-10 Plan, measures 20, 29, 30, and 31
1991 PM-10 Plan with 1993 Revisions, measures 20, 29, 30, and 31
Revised 1999 Serious Area PM-10 Plan, measure 76
2012 Five Percent Plan for PM*

* = EPA approval pending

Measure Status:

The Arizona Department of Transportation, in cooperation with local jurisdictions, is responsible for the construction of the planned MAG Freeway System. An implementation schedule for High Occupancy Vehicle (HOV) lanes and ramps on freeways was specified in the MAG 1987 CO Plan and 1987 Ozone Plan. The MAG 1993 CO Plan and 1993 Ozone Plan identified additional HOV lanes and ramps programmed by ADOT.

The 1993 CO Plan and the 1993 Ozone Plan both indicate that State and local governments will analyze traffic projections and bus frequency on a periodic basis to determine the feasibility of the restriction of certain roads or lanes to or the construction of roads or lanes for use by passenger buses or high occupancy vehicles. This measure could include fixed lanes for buses and carpools, fixed lanes for buses and carpools on freeways, and high occupancy vehicle ramps which by-pass freeway ramp meter signals.

In the Serious Area plans, the commitments from the State and local governments include the promotion of high occupancy vehicle lanes and by-pass ramps through rideshare activities. The Regional Public Transportation Authority indicated that as new facilities open, rideshare activities will be coordinated with employers affected by the Maricopa County Trip Reduction Program and the general public.

High occupancy vehicle lane improvements continue to be implemented beyond the commitments made in air quality plans. As of 2013, there are approximately 232 centerline miles of High Occupancy Vehicle facilities on regional freeways. As new HOV facilities open, Valley Metro/RPTA continues to coordinate the promotion of park-and-ride and rideshare activities.

Impact of TIP and RTP:

The 2035 MAG Regional Transportation Plan directly contributes to the implementation of this measure by providing funds for the construction of HOV lanes. Chapter 8 of the Regional Transportation Plan contains specific HOV policies and priorities that have been adopted to support this measure.

(iii) Employer-Based Transportation Management Plans, Including Incentives

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 12 and 13
1993 Carbon Monoxide Plan*, measures 3a, 3b, 3c, 3d, 3e, 3f and 3g
Revised 1999 Serious Area Carbon Monoxide Plan, measures 38 and 52
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan*

1987 Ozone Plan*, measures 12 and 13
1993 Ozone Plan*, measures 3a, 3b, 3c, 3d, 3e, 3f and 3g
One-Hour Ozone Maintenance Plan
Eight-Hour Ozone Plan
Eight-Hour Ozone Maintenance Plan*

1988 PM-10 Plan, measures 27 and 28
1991 PM-10 Plan with 1993 Revisions, measure 22
Revised 1999 Serious Area PM-10 Plan, measures 56 and 73
2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

For the MAG 1987 CO Plan and 1987 Ozone Plan, several local governments made commitments to either review the results, consider, or support preferential parking for carpools and vanpools from the MAG Model Trip Reduction Study.

In the MAG 1993 CO Plan and 1993 Ozone Plan, several jurisdictions indicated an ongoing commitment to employer rideshare incentives including passage of ordinances and expanded training at employer sites. Several cities indicated an ongoing commitment to mandatory employee parking fees and preferential parking for carpools and vanpools. Maricopa County and the Arizona Department of Transportation provide preferential parking for carpools and vanpools. Commitments also included the encouragement of vanpools for County and State employees.

In the Serious Area plans, the commitments from the State and local governments include measures supporting employer rideshare program incentives and the trip reduction program. To encourage municipal employees to use alternative modes of transportation, several local governments indicated that they would be offering incentives such as preferential parking, gift drawings, and subsidized bus passes, and emergency ride home service, and telecommuting options. In addition, the Regional Public Transportation Authority (RPTA) indicated that the agency would provide formal training, employer assistance, facilitate transportation coordinator associations, and provide information to Trip Reduction Program employers.

The Trip Reduction Program was mandated by Arizona legislation in 1988 and is administered by Maricopa County. All employers with 50 or more employees are required to participate in the Trip Reduction Program. Elements of the Trip Reduction Program include employer training and facilitation of Transportation Coordinators Associations conducted by Regional Public Transportation Authority.

MAG increased the annual allocation of federal funding for the program from $250,000 in FY 1988 to $420,000 in FY 1991, and to $460,000 annually beginning in FY 1993. Then, beginning in FY 2000, an additional $200,000 was added for an expanded Regional Rideshare and Telework Program of $660,000. In fiscal years 2014 through 2017 of the TIP, the amount programmed for Regional Rideshare is $660,000.

In the most recent Maricopa County Trip Reduction Program Annual Report for the fiscal year ending June 30, 2012, the Trip Reduction Program applied to 1,170 companies with over 683,513 employees and students participating in the survey at 3,013 sites across Maricopa County. Valley Metro/RPTA staff have played an important role in the success of the Maricopa County Trip Reduction Program through the training of employer transportation coordinators. As of FY 2013, there are five Transportation Coordinator Associations in the region. In addition, the Valley Metro/RPTA administers the Regional Rideshare and Telework Program that provides an internet-based service for instant carpool matching for the general public. The Arizona Department of Administration conducts the Travel Reduction Program to approximately 23,000 non-university state employees in Maricopa County.

Impact of TIP and RTP:

A major portion of funding for this TCM is through the FY 2014-2018 MAG Transportation Improvement Program that includes an annual amount of $962,347 for the Trip Reduction Program and $135,000 for the state Travel Reduction Program. In fiscal years 2014 through 2017 of the TIP, the Regional Rideshare and Telework Program amount is $660,000. In addition, FY 2015 includes a lump sum for MAG Air Quality and Travel Demand Management Programs. The amounts indicated above include only monies specified in the TIP and not funds that the programs may receive from other sources. Chapter 18 of the Regional Transportation Plan provides for continued consideration of demand management programs. A copy the latest Maricopa County Regional Trip Reduction Program Annual Report Executive Summary for the period July 1, 2011 - June 30, 2012 (MCAGD, 2012c) and the 2013 Transportation Demand Management Survey Executive Summary (Valley Metro/RPTA, 2013a) are attached in Appendix Q.

(iv) Trip Reduction Ordinances

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measure 7
1993 Carbon Monoxide Plan*, measure 4
1993 Carbon Monoxide Plan Addendum*, measure I-3
Revised 1999 Serious Area Carbon Monoxide Plan, measures 38 and 52
Appendix 4-3 • A615

Impact of TIP and RTP:

This TCM receives strong support through funding in the FY 2014-2018 MAG Transportation Improvement Program for the Regional Rideshare and Telework Program, the Maricopa County Trip Reduction Program, and the state Travel Reduction Program. Combined, the programs have been allocated funds totaling $6.8 million for fiscal years 2014-2017 in the TIP. This total only includes funding specified in the TIP and not funds that the programs may receive from other sources. Chapter 18 of the Regional Transportation Plan provides for continued consideration of demand management programs.

(v) Traffic Flow Improvement Programs That Achieve Emission Reductions

Submitted Plans and Measures:

- 2003 Carbon Monoxide Maintenance Plan
- 2013 Carbon Monoxide Maintenance Plan*
- 1987 Ozone Plan*, measure 7
- 1993 Ozone Plan*, measure 4
- 1993 Ozone Plan Addendum*, measure I-3
- One-Hour Ozone Maintenance Plan
- Eight-Hour Ozone Plan
- Eight-Hour Ozone Maintenance Plan*
- 1988 PM-10 Plan, measure 22
- 1991 PM-10 Plan with 1993 Revisions, measure 22
- Revised 1999 Serious Area PM-10 Plan, measures 56 and 73
- 2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

The Maricopa County Travel Reduction Program was established by the Arizona Legislature in 1988, with the goal of reducing the number of single occupant vehicle trips by five percent annually. Originally, the program affected employers with 100 or more employees at a work site. In 1992, the program was expanded to include employers with 75 or more employees at a site. Arizona House Bill 2001, enacted in November 1993, required Maricopa County to adopt and enforce a strengthened Travel Reduction Program Ordinance by May 31, 1994. The strengthened ordinance applies to all employers with 50 or more employees at a single worksite throughout the Maricopa County area. The annual goals are increased from a five percent to a ten percent reduction in employee single occupant vehicle trips or commuter vehicle miles of travel. The ordinance contains annual goals for five years. More recently, the ordinance has been modified to provide employers with opportunities to accomplish equivalent reductions through alternative means.

The commitments from the State and local governments for the Serious Area plans include measures supporting employer rideshare program incentives and the trip reduction program. Several commitments indicate incentives and promotional activities to increase awareness and participation in alternative modes of transportation and work schedules. The Regional Public Transportation Authority indicated efforts to provide training and promotional materials to employers required to participate in the Maricopa County Trip Reduction Program.

According to the latest annual report available, in FY 2012 the Trip Reduction Program applied to over 1,100 companies with over 683,513 employees and students participating in the survey at over 3,000 sites across Maricopa County.

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In April 2001, MAG approved the first comprehensive ITS Strategic Plan and ITS Architecture for the region. This Plan has provided direction for ITS implementation within the region. The Regional ITS Architecture, which is part of the Plan, played a direct role in the identification of ITS projects for programming in the five-year Transportation Improvement Program.

The TCMs “Coordinate Traffic Signal Systems” and “Develop Intelligent Transportation Systems” are supported by several jurisdictions in the Serious Area plans. Commitments include the development of Intelligent Transportation Systems (ITS), the coordination of traffic signal systems, and other intersection improvements to reduce traffic congestion. A general summary of the commitments, and current projects that implement the TCM above the level committed to in the plans, are provided below.

**ITS Projects and Freeway Management System Improvements**

Several municipalities mentioned the effort to coordinate local traffic signals with the Freeway Management System (FMS) implemented by ADOT, the responsible agency for traffic management on MAG-area freeways. The FMS consists of electronic variable message signs, signals for metering traffic flow at ramps, closed circuit television cameras, vehicle detectors, and a telecommunication network that links all these devices to a Traffic Operations Center. According to the 2035 MAG Regional Transportation Plan, as of late 2012 the coverage of the regional FMS is approximately 150 miles. It is estimated that by 2023 the total FMS coverage of regional freeways will be approximately 225 miles.

**Traffic Signal System Coordination**

Effective December 31, 1988, traffic signal synchronization has been required by Arizona law for municipalities and for ADOT roadways with traffic volumes exceeding 15,000 vehicles per day. AzTech, a federally funded ITS project launched by the region in 1996, has integrated a number of local traffic management systems. According to the January 2012 AzTech Traffic Management Performance Measures, there are 13 traffic management centers in the region with arterial traffic management infrastructure covering 3,000 signals of which 75 percent are connected to a Traffic Management Center. In the region, traffic on arterial streets is also managed with the assistance of 60 Dynamic Message Signs and 475 Closed Circuit Television cameras.

**Intersection Improvements**

Implementation of intersection improvements have continued at major intersections as a method to reduce traffic congestion and improve traffic flow. Some jurisdictions reported other traffic control techniques such as bus pull-outs to reduce congestion at major intersections.

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**Impact of TIP and RTP:**

Implementation of this measure is strongly supported through the FY 2014-2018 MAG Transportation Improvement Program. For FY 2014, a total of $20.6 million for traffic flow improvements is included in the TIP. For the period covered by the TIP, a total of $60.1 million is programmed for these projects. In addition, the TIP includes funds totaling $16.4 million in FY 2014 and $42.9 million over the next five years for traffic flow improvements on freeways, including FMS projects. Chapter 17 of the 2035 MAG Regional Transportation Plan provides for continued consideration of transportation systems and operations management programs. On November 2, 2004, voters approved Proposition 400 that extends the half-cent sales tax for improvements identified in the Regional Transportation Plan, including arterial and freeway operation improvements.

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**Submitted Plans and Measures:**

- 1987 Carbon Monoxide Plan, measure 10
- 1993 Carbon Monoxide Plan*, measure 6
- Revised 1999 Serious Area Carbon Monoxide Plan, measure 53
- 2003 Carbon Monoxide Maintenance Plan
- 2013 Carbon Monoxide Maintenance Plan*
- 1987 Ozone Plan*, measure 10
- 1993 Ozone Plan*, measure 6
- One-Hour Ozone Maintenance Plan
- Eight-Hour Ozone Maintenance Plan*
- 1988 PM-10 Plan, measure 25
- 1991 PM-10 Plan with 1993 Revisions, measure 25
- Revised 1999 Serious Area PM-10 Plan, measure 74
- 2012 Five Percent Plan for PM-10*

* = EPA approval pending

**Measure Status:**

The 1987 CO and Ozone Plans contain commitments from many jurisdictions agreeing to assist and cooperate in the location of park-and-ride lots. Similarly, in the 1993 CO and Ozone Plans, State and several local jurisdictions committed to...
promote and expand park-and-ride lots and to seek out agreements with owners of major facilities such as shopping centers and institutions for the placement of park-and-ride lots.

The commitments from the State and local governments for the Serious Area CO and PM-10 plans include measures in which the RPTA will continue to work with member jurisdictions, private entities, and employers in the development, design, and implementation of new park-and-ride facilities.

A large number of park-and-ride lots are already operational in the Maricopa County area. There are approximately 15 transit centers and 48 park-and-ride facilities that support public transit. The RPTA works with employers and Transportation Management Associations to promote park-and-ride lots as a means to encourage ridesharing and use of public transit.

In addition, implementation of park-and-ride lots continues to occur beyond commitments made in the air quality plans. In January 2001, MAG completed the MAG Park and Ride Site Selection Study to identify a regional system of park-and-ride lots to support the regional express bus system, carpooling, and vanpooling. The recommended system included ten sites for near-term development and ten sites for long-term development. Additional recommendations addressed design guidelines and criteria for lot development, a management and operations plan for the lots, and programming and implementation strategies.

Impact of TIP and RTP:

The FY 2014-2018 MAG Transportation Improvement Program has programmed $17.7 million for the implementation of four park-and-ride lots. In support of park-and-ride facilities, Chapter 10 of the Regional Transportation Plan provides for continued consideration of public transit, including planned bus facilities and service improvements.

(vii) Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentrations, Particularly During Periods of Peak Use

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measure 23
1993 Carbon Monoxide Plan*, measures 8a, 8b, and 8c
1993 Carbon Monoxide Plan Addendum*, measure II-9
Revised 1999 Serious Area Carbon Monoxide Plan, measures 39 and 51
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan*
1987 Ozone Plan*, measures 6 and 11
1993 Ozone Plan*, measures 8a, 8b, and 8c
1993 Ozone Plan Addendum*, measure II-9
One-Hour Ozone Maintenance Plan
Eight-Hour Ozone Plan
Eight-Hour Ozone Maintenance Plan*
1988 PM-10 Plan, measures 21 and 26
Revised 1999 Serious Area PM-10 Plan, measures 57 and 72
2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

In the 1987 CO Plan, 1988 PM-10 Plan, and MAG 1993 CO and Ozone Plans, several jurisdictions in the MAG region indicated they would agree to consider the implementation of truck restrictions during peak periods. In the 1993 CO Plan, a jurisdiction indicated that it restricted truck loading operations on downtown streets during peak hours would continue to enforce its existing restrictions on deliveries into the downtown area during peak hours (7:00 to 9:00 am, and 4:00 to 6:00 pm). Also, another jurisdiction indicated that it currently has an ordinance in place to restrict truck deliveries by place. There are approximately 16 miles of city streets with truck use restrictions in cities in Maricopa County.

Impact of TIP and RTP:

The construction of transportation facilities and provisions of transportation services which are programmed in the FY 2014-2018 MAG Transportation Improvement Program will not affect the schedule or effectiveness of this measure. Chapters 17 and 18 of the Regional Transportation Plan provide for continued consideration of Systems Management and Operations and Demand Management, respectively.

(viii) Programs for the Provision of All Forms of High-Occupancy, Shared Ride Services

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 6 and 11
1993 Carbon Monoxide Plan*, measures 8a, 8b, and 8c
1993 Carbon Monoxide Plan Addendum*, measure II-9
Revised 1999 Serious Area Carbon Monoxide Plan, measures 39 and 51
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan*
1987 Ozone Plan*, measures 6 and 11
1993 Ozone Plan*, measures 8a, 8b, and 8c
1993 Ozone Plan Addendum*, measure II-9
One-Hour Ozone Maintenance Plan
Eight-Hour Ozone Plan
Eight-Hour Ozone Maintenance Plan*
1988 PM-10 Plan, measures 21 and 26
Revised 1999 Serious Area PM-10 Plan, measures 57 and 72
2012 Five Percent Plan for PM-10*

* = EPA approval pending
**Measure Status:**

The MAG 1987 CO Plan and the MAG 1993 CO and Ozone Plans contain commitments requiring the expansion of the MAG Regional Rideshare Program, Park-and-Ride Programs, and Financial Incentives Including Zero Bus Fares. Several jurisdictions indicated that park-and-ride lots would be coordinated with the Arizona Department of Transportation, Regional Public Transportation Authority, and local businesses. The 1993 CO Plan Addendum includes a measure to pay for the administrative cost associated with the public transportation subsidy program for state employees. A description of Park-and-Ride Programs are reviewed in Transportation Control Measure number “vi”. A description of each measure is provided below.

Ridesharing programs in the Maricopa County area include the Regional Rideshare and Telework Program and Travel Reduction Program. The Regional Rideshare and Telework Program, conducted by Valley Metro/Regional Public Transportation Authority, maintains an internet-based service for instant carpool matching for the general public and for employers required to participate in the Trip Reduction Program. In addition, the Regional Rideshare and Telework Program emphasizes the need to reduce emissions through using alternative transportation modes and alternative work schedules.

The commitments from State and local governments for the Revised Serious Area CO and PM-10 Plans include measures supporting preferential parking for carpools and vanpools and encouraging the use of vanpooling.

MAG increased the annual allocation of federal funding for the program from $250,000 in FY 1988 to $420,000 in FY 1991, and to $460,000 annually beginning in FY 1993. Beginning in FY 2000, an additional $200,000 was added for expansion of the Regional Rideshare Program. RPTA has also expanded program marketing to employers as part of the existing Trip Reduction Program administered by Maricopa County. This involves organizations with 50 or more employees or students, affecting an estimated 1,170 companies and 3,013 sites in FY 2012 (MCAQD, 2012c). The RPTA also provides assistance to five Transportation Coordinators Associations operating in the region. In addition, Maricopa County has reported that approximately 41 employers in the Trip Reduction Program were subsidizing employee participation in vanpool programs for the year ending September 2012.

As of July 2013, the ADOA provided a 50 percent public transit subsidy to approximately 6,282 state employees who participated in the Platinum Plus Bus Card Program. In addition, through the Travel Reduction Program, the Arizona Department of Administration encourages all non-university state employees in Maricopa County to use carpools, vanpools, public transit, and alternative work schedules.

**Impact of TIP and RTP:**

The FY 2014-2018 MAG Transportation Improvement Program provides federal Congestion Mitigation and Air Quality Improvement (CMAQ) funding for implementation of the Regional Rideshare and Telework Program and the Travel Reduction Program. An amount of $660,000 is programmed for the Regional Rideshare and Telework Program in FY 2014-2017. In addition, FY 2018 includes a lump sum for MAG Air Quality and Travel Demand Management Programs. The Travel Reduction Program is programmed at $135,000 annually in the TIP. In addition, the TIP includes $10.5 million to provide capital funding for vanpooling. Ride sharing is promoted by the provision of HOV lanes, implemented through the TIP. Chapter 18 of the Regional Transportation Plan provides for continued consideration of demand management programs.

**Submitted Plans and Measures:**

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<td>PM-10*</td>
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* = EPA approval pending

**Measure Status:**

The 1987 CO and Ozone Plan as well as the 1993 CO Plan indicated that pedestrian malls were being considered in the downtown plans for various cities and towns in the MAG area. Auto free zones and pedestrian malls can be used to reduce traffic congestion and air pollution on a localized basis. The successful
Establishment of auto free zones and pedestrian malls is dependent upon high transit accessibility, good circulation design of adjacent arterials, and parking management.

The commitments from the state and local governments for the Revised Serious Area CO and PM-10 Plans include strengthening of initiatives to encourage pedestrian travel. Several jurisdictions have supported this measure through: linkage of activity centers with sidewalks; establishing pedestrian routes in residential areas, and creating links between subdivisions and commercial development.

The MAG Regional Off-Street System (ROSS) Plan was adopted by the MAG Regional Council in February 2001. The ROSS Plan provides guidance to MAG member agencies in creating an off-street non-motorized transportation system utilizing an extensive number of canal banks, utility line easements, and flood control channels.

In 2007, MAG developed the MAG Regional Bikeway Master Plan, which incorporates a 1999 MAG Regional Bicycle Plan, Alternative Solutions to Pedestrian Mid-block Crossings at Canals, and the 2001 ROSS Plan. With these planning efforts, many improvements have taken place beyond commitments made in air quality plans.

Impact of TIP and RTP:

The construction of transportation facilities and provisions of transportation services which are programmed in the FY 2014-2018 MAG Transportation Improvement Program will not affect the schedule or effectiveness of this measure. Chapter 12 of the Regional Transportation Plan, Bicycles and Pedestrians, provides for continued consideration of this measure.

(x) Programs for Secure Bicycle Storage Facilities and Other Facilities Including Bicycle Lanes, for the Convenience and Protection of Bicyclists, in Both Public and Private Areas

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 27 and 28
1993 Carbon Monoxide Plan*, measures 10a and 10b
1993 Carbon Monoxide Plan Addendum*, measure II-7
Revised 1999 Serious Area Carbon Monoxide Plan, measures 43 and 44
2003 Carbon Monoxide Maintenance Plan
2013 Carbon Monoxide Maintenance Plan*

1987 Ozone Plan*, measures 27 and 28
1993 Ozone Plan*, measures 10a and 10b
1993 Ozone Plan Addendum*, measure II-7
One-Hour Ozone Maintenance Plan
Eight-Hour Ozone Plan
Eight-Hour Ozone Maintenance Plan*

1988 PM-10 Plan, measures 42 and 43
1991 PM-10 Plan with 1993 Revisions, measures 42 and 43
Revised 1999 Serious Area PM-10 Plan, measures 61 and 62
2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

In the 1993 CO and Ozone Plans, a number of jurisdictions indicated a commitment to improve bicycle facilities through the construction of additional miles of bike paths, striping of bike lanes on arterial and collector streets, and installation of additional bike racks and lockers to encourage bicycle use.

The commitments from the state and local governments for the Serious Area CO and PM-10 Plans include initiatives by most cities and towns in the region to encourage bicycle travel and develop bicycle travel facilities. Several jurisdictions indicated that bicycle travel would be encouraged through establishing bike lanes with new road development and by signing and striping bikeway routes along arterials, collectors, and local routes, by promoting bicycle use newsletters and Bike-to-Work Weeks, by encouraging private developers and businesses to include bike racks, lockers, and showers at work sites and other facilities.

The general level of planning and commitment for encouraging bicycle use and providing bicycle support facilities has increased substantially beyond the commitments made in the air quality plans. Phoenix, for example, has expanded its bikeway system to approximately 500 miles in 2007.

At the regional level, MAG established a Regional Bicycle Task Force in 1990. This task force guided the development of the Regional Bicycle Plan, which was adopted as part of the MAG Long Range Regional Transportation Plan in July 1992. The MAG Regional Bicycle Plan was updated in 1999. Creating a regional off-street multi-use path/trail plan was identified as an important future planning activity during the Regional Bicycle Plan Update in 1999. The MAG Regional Off-Street System (ROSS) Plan reveals a region-wide system of off-street paths/trails for non-motorized transportation along existing rights-of-ways and easements, such as canal banks, utility line easements and flood control channels. These types of rights-of-way and easements intersect numerous arterial streets where local daily
destinations are typically located. The goal of the ROSS Plan is to help make bicycling and walking viable options for daily travel trips using off-street opportunities.

To further encourage safe bicycling, the Regional Bicycle Task Force oversees the update of the Regional Bikeways Map. Updated in alternating years, the map shows existing, locally-designated bicycling facilities, and is provided for free distribution. The first map was created in 1994, and updated in 1997. Several hundred thousand maps have been distributed. The map includes bicycle lanes and paths, designated bicycle routes on roadways, popular undesignated routes, and off-street transportation trails.

In 2012, the MAG Bicycle and Pedestrian Committee completed an update of the Regional Bikeways Map. Of the approximately 23,000 miles of roadway in the region, the map shows 1,541 miles of bicycle lanes, 532 miles of bicycle routes, 342 miles of paved shoulders, and 900 miles of paved and unpaved transportation trails. The MAG Regional Bicycle Plan also encourages the development of bicycle parking and shower facilities at appropriate daily trip destinations.

Impact of TIP and RTP:

The implementation of the FY 2014-2018 MAG Transportation Improvement Program will directly support the goal of increased bicycle use. Funding for bicycle and multiuse path projects totals $18.0 million in FY 2014 and $47.8 million over the period of the TIP. Specific projects to be funded each year are recommended to the MAG Management Committee by the MAG Bicycle and Pedestrian Committee, for approval by the MAG Regional Council.

In addition, the provision of new bicycle lanes or facilities is often included as part of various road improvement projects, rather than being implemented and programmed separately as a bicycle project. Chapter 12 of the Regional Transportation Plan provides an overview of bicycle transportation and the continued development of bicycle facilities.

(xii) Programs to Control Extended Idling of Vehicles

Submitted Plans and Measures:

- 1987 Carbon Monoxide Plan, measure 41
- 1993 Carbon Monoxide Plan*, measure 11
- Revised 1999 Serious Area Carbon Monoxide Plan, measure 33
- 2003 Carbon Monoxide Maintenance Plan
- 2013 Carbon Monoxide Maintenance Plan*

- 1987 Ozone Plan*, measure 41
- 1993 Ozone Plan*, measure 11
- One-Hour Ozone Maintenance Plan
- Eight-Hour Ozone Plan
- Eight-Hour Ozone Maintenance Plan*

- 1988 PM-10 Plan, measure 54
- 1991 PM-10 Plan with 1993 Revisions, measure 54
- Revised 1999 Serious Area PM-10 Plan, measure 34
- 2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

In the MAG 1993 CO Plan, Carefree and Tolleson indicated that they would take steps to address emissions from idling at drive-up window facilities. Information provided to MAG by Sierra Research, a leading consultant in the field of vehicular emissions, indicates that vehicles with catalytic converters may produce more emissions during engine start-up than engine idling for brief periods. The Sierra Research report concluded that banning the use of drive-up window facilities would not significantly increase or decrease emissions of CO or oxides of nitrogen, and would potentially increase emissions of volatile organic compounds. It is important to note that the report was completed in 1991, based upon emission data from vehicles in Southern California.

The commitments from the state and local governments for the Serious Area CO and PM-10 Plans include an initiative by RPTA to follow guidelines developed by that agency in June 1996 to reduce idling of engines. The guideline specifies that, for temperatures below 90 degrees Fahrenheit and over three minutes layover, the operator should turn the engine off. If the vehicle is located within 100 yards of any residence, for temperatures below 90 degrees Fahrenheit, the engine is to be turned off regardless of layover time. Further, Valley Metro/RPTA will continue to work with member jurisdictions to promote environmentally sensitive transit operations practices and policies.

Impact of TIP and RTP:

The construction of transportation facilities and provisions of transportation services which are programmed in the FY 2014-2018 MAG Transportation Improvement Program will not affect the schedule or effectiveness of this measure. In addition, the Regional Transportation Plan will not affect this measure.
(xii) Programs to Reduce Motor Vehicle Emissions, Consistent with Title II, Which Are Caused by Extreme Cold Start Conditions

This measure is not applicable in the MAG region.

(xiii) Employer-Sponsored Programs to Permit Flexible Work Schedules

Submitted Plans and Measures:

- 1987 Carbon Monoxide Plan, measures 35 and 36
- 1993 Carbon Monoxide Plan*, measures 13a, 13b, 13c, and 13d
- 1993 Carbon Monoxide Plan Addendum*, measure I-12
- Revised 1999 Serious Area Carbon Monoxide Plan*, measure 45
- 2003 Carbon Monoxide Maintenance Plan
- 2013 Carbon Monoxide Maintenance Plan*
- 1978 Ozone Plan, measure "Modified Work Schedules"
- 1987 Ozone Plan*, measures 35 and 36
- 1993 Ozone Plan*, measures 13a, 13b, 13c, and 13d
- One-Hour Ozone Maintenance Plan
- Eight-Hour Ozone Plan
- Eight-Hour Ozone Maintenance Plan*
- 1988 PM-10 Plan, measures 48 and 49
- 1991 PM-10 Plan with 1993 Revisions, measure 48
- Revised 1999 Serious Area PM-10 Plan, measure 63
- 2012 Five Percent Plan for PM-10*

* = EPA approval pending

Measure Status:

The 1978 Ozone Plan indicated that modified work schedules were to be implemented on a voluntary basis with emphasis on the winter period of maximum temperature inversions. The effect of this measure in reducing ozone was not calculated in the 1978 Ozone Plan.

In the 1987 CO and Ozone Plans, a number of jurisdictions supported the use of alternative work hours and work weeks for their employees. Since 1987, this measure has been implemented on a formal basis as mandated by Arizona legislation. SB 1360 established requirements for the use of adjusted work hours by at least 85 percent of State employees with offices located in a nonattainment area. Beginning in 1987, this requirement became applicable for the period between October 1 and March 31 of each year. Beginning in 1989, the requirement was also applied to county employees and to the employees of cities and towns which have a population of 50,000 or more. The 1987 legislation also required businesses with 500 or more employees at one site within a nonattainment area to prepare an adjusted work hour proposal for submission to ADEQ by October 1 of each year.

In the MAG 1993 CO Plan and 1993 Ozone Plan, numerous MAG member agencies indicated that this measure was ongoing through the use of compressed or staggered work schedules to lessen the number of commuting trips. Also, several agencies indicated that telecommuting and teleconferencing options would be investigated and/or expanded. MAG initiated a telecommuting and teleconferencing program for its member agencies, with planning for the program initiated in FY 1998.

As specified in the 1993 CO Plan Addendum, measure I-12 “Air Pollution Emergency”, enacted by Arizona HB 2001 in November 1993, authorized the Governor of Arizona to declare air emergencies on days when the National Ambient Air Quality Standards are likely to be exceeded. The Governor will prohibit, restrict, or condition the employment schedules for employees of the state and its political subdivisions (includes the county and local governments) in order to reduce vehicle emissions during air pollution emergencies. The Governor has developed a plan for implementation of this measure. Under these provisions, state employees were sent home early due to elevated carbon monoxide concentrations on one occasion in late 1994.

In 1996, the Governor issued a proclamation which requires the cities, towns and county meet a 75 percent employee compliance of three options to reduce hydrocarbon emissions from mobile sources during June 1 to September 30, 1996. The options are: work schedules that avoid workday start and ending in the peak traffic hours; compressed work week schedules; travel to and from work by alternate mode including bus, carpool, vanpool, bicycle, or walking.

This measure also responds to Clean Air Act Section 108(f)(1)(B): Additional methods or strategies that will contribute to the reduction of mobile source related pollutants during periods in which any primary air quality standard will be exceeded and during episodes for which an air pollution alert, warning, or emergency has been declared.

The commitments from the state and local governments for the Serious Area CO and PM-10 Plans include initiatives supporting alternative work schedules and the use of off-peak driving, ridesharing, and the use of transit. As part of the Trip Reduction Program, Valley Metro/RPTA facilitates formal training on compressed or alternative work schedules and provides onsite assistance to individual employers on an as-needed basis.
Impact of TIP and RTP:

The FY 2014-2017 MAG Transportation Improvement Program contains funding for Trip Reduction Program and Regional Rideshare and Telework Program in the amount of $6.8 million. In addition, FY 2018 includes a lump sum for MAG Air Quality and Travel Demand Management Programs. The construction of other transportation or related facilities and other provisions of transportation services that are programmed in the TIP will not affect the schedule or effectiveness of this measure. Chapter 18 of the Regional Transportation Plan includes a description of demand management programs in support of this measure.

(xiv) Programs and Ordinances to Facilitate Non-Automobile Travel, Provision and Utilization of Mass Transit, and to Generally Reduce the Need for Single-Occupant Vehicle Travel, as Part of Transportation Planning and Development Efforts of a Locality, Including Programs and Ordinances Applicable to New Shopping Centers, Special Events, and Other Centers of Vehicle Activity

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 8, 9, 39, and 40  
1993 Carbon Monoxide Plan*, measures 14a, 14b, 14c, and 14d  
Revised 1999 Serious Area Carbon Monoxide Plan, measures 46, 50, and 54  
2003 Carbon Monoxide Maintenance Plan  
2013 Carbon Monoxide Maintenance Plan*

1987 Ozone Plan*, measures 8, 9, 39, and 40  
1993 Ozone Plan*, measures 14a, 14b, 14c, and 14d  
One-Hour Ozone Maintenance Plan  
Eight-Hour Ozone Plan  
Eight-Hour Ozone Maintenance Plan*

1988 PM-10 Plan, measures 23, 24, 52, and 53  
1991 PM-10 Plan with 1993 Revisions, measures 23 and 24  
Revised 1999 Serious Area PM-10 Plan, measures 64, 68, and 75  
2012 Five Percent Plan for PM-10*  
* = EPA approval pending

Measure Status:

In the MAG 1993 CO Plan, numerous MAG member jurisdictions indicated that new developments are encouraged through their General Plan to support alternative modes of transportation. In 1995, the Maricopa Association of Governments completed an Urban Form Study which examines the transportation and air quality impacts of land use development within the region.

Arizona legislation enacted in 1987 requires every State agency, board, and commission to submit an air quality impact report to ADEQ on any State-funded transportation related project that it determines may impact air quality. In 1988, the Arizona Legislature required Maricopa County to establish a Voluntary No Drive Days Program. The Clean Air Campaign urges the public not to drive on a given day each week, as well as on alert days when severe pollution concentrations are expected. The program is in effect from October through March when atmospheric conditions may lead to increased carbon monoxide levels.

The commitments from the State and local governments for the Serious Area CO and PM-10 plans include initiatives from a number of municipalities in support of Land Use/Development Alternatives. For example, some municipalities implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of these efforts and a natural by-product. Another example of general plan support of this measure is through the promotion of land development that integrates multiple modes of transportation, including transit, pedestrians, and bicycles, and the creation of ordinances, policies, or design guidelines that encourage mixed-use development and promote non-polluting modes of travel into urban design.

Impact of TIP and RTP:

The construction of transportation facilities and provision of transportation services as programmed in the FY 2014-2018 MAG Transportation Improvement Program will not affect the schedule or effectiveness of this measure.

(xv) Programs for New Construction and Major Reconstruction of Paths, Tracks or Areas Solely for Use by Pedestrian or Other Non-motorized Means of Transportation When Economically Feasible and in the Public Interest

Submitted Plans and Measures:

1987 Carbon Monoxide Plan, measures 29 and 30  
1993 Carbon Monoxide Plan*, measures 15a and 15b  
1993 Carbon Monoxide Plan Addendum*, measure II-7  
Revised 1999 Serious Area Carbon Monoxide Plan, measures 43 and 44  
2003 Carbon Monoxide Maintenance Plan  
2013 Carbon Monoxide Maintenance Plan*
### Measure Status:

In the 1987 CO and Ozone Plans and the 1993 CO Plan, a number of jurisdictions indicated that encouragement of pedestrian travel is an ongoing measure. In November 1993, House Bill 2001 authorized ADOT to make grants from its portion of the State Air Quality Fund for intermodal transportation, pedestrian, and bicycle projects and activities.

The commitments from the state and local governments for the Serious Area CO and PM-10 plans include initiatives by most cities and towns in the region to encourage bicycle travel and development of bicycle travel facilities. Several municipalities have encouraging the construction of bike lanes and the installation of bike facilities at activity centers. Demonstration programs will also be explored to promote bicycle use. A pilot program to provide free bikes (Purple People Movers) was identified for use in the downtown area. Over 100 purple bikes and 30 purple bike racks were made available. After implementation of this demonstration project, the Program was ended.

Several local governments have made bicycle and pedestrian improvements beyond commitments made in air quality plans. As an example of the improvements made a few are listed here. Phoenix is developing a Bikeway Master Plan and is painting shared lane markings on streets to create bike boulevards. In addition, Phoenix has developed a “bike sharing” program to encourage bicycle travel in proximity to light rail. Mesa has finished a Bikeway Masterplan and has completed 17 miles of pathway along the Consolidated Canal. Also, Scottsdale completed construction on the Upper Camelback Wash along the Arizona Canal that connects 22 miles of pathway.

### Impact of TIP and RTP:

The provision of new sidewalks (and supporting amenities such as lighting and landscaping) is often included as part of various road improvement projects, rather than being implemented and programmed separately. It should also be noted that sidewalk provisions are often required of the private sector as a condition for property development. The FY 2014-2018 MAG Transportation Improvement Program contains 23 pedestrian projects. Funding for pedestrian projects totals $18.8 million in FY 2014 and $24.5 million over the period of the TIP. Chapter 12 of the Regional Transportation Plan provides an overview on pedestrian travel in support of these measures.

### Submitted Plans and Measures:

- **1993 Ozone Plan**, measures 15a and 15b
- **Revised 1999 Serious Area PM-10 Plan**, measures 61 and 62
- **2012 Five Percent Plan for PM-10**

* = EPA approval pending

### Measure Status:

This Transportation Control Measure is a committed measure in the Serious Area CO and PM-10 Plans. This measure includes the Voluntary Vehicle Repair and Retrofit Program and the Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program as described below.

### Voluntary Vehicle Repair and Retrofit Program

According to the Arizona Revised Statutes 49-474.03, Maricopa County is required to operate and administer a Voluntary Vehicle Repair and Retrofit Program. Beginning in January 1999, the program is designed to provide for real and quantifiable emissions reductions based on actual emissions testing performed on the vehicle before repair or retrofit. The County is also required to coordinate the
program with the Arizona Department of Environmental Quality and Arizona Department of Transportation.

A vehicle owner may participate in the program if all of the following criteria are met:

- The owner is willing to participate in the program.
- The vehicle is functionally operational.
- The vehicle is titled in this state, has taken the emissions inspection test, has been registered during the immediately preceding twelve months and has not been unregistered for more than sixty days.
- The vehicle is at least twelve years older than the current calendar year.
- The vehicle is required to take the emissions inspection test and the vehicle fails the emissions test in the emissions inspection results portion of the test. The vehicle owner is required to apply to the program not more that sixty days after failing the test.
- The emissions control system has not been tampered with.
- The emissions control system has not been removed or disabled, in whole or in part.
- The vehicle is taken to a participating repair facility. Any repairs performed at an unauthorized repair facility are not eligible for payment.
- Participation in the program is limited to one vehicle per owner.
- Motor homes, motorcycles, salvage vehicles and fleet vehicles are not eligible to participate in the program.

In addition, the Voluntary Vehicle Repair and Retrofit Program provides that:

- Vehicle owners who qualify for the repair and retrofit program pay the first $150 as a copayment.
- Vehicles that require more than $700 in repair costs are not eligible unless the vehicle owner chooses to pay additional costs.
- A vehicle that is able to accept a retrofit kit is required to have the retrofit kit installed. A vehicle that requires more than $800 in aggregated retrofit parts and labor costs is not eligible for the program unless the vehicle owner pays the additional costs.

From its introduction in January 1999 through June 2010, the Voluntary Vehicle Repair and Retrofit Program has helped over 11,164 vehicles meet Arizona emissions standards, resulting in the reduction of over 1,901 metric tons of pollution. According to Maricopa County, the program is very cost effective. For the FY 2010 program, the cost to Maricopa County was $1,643 per metric ton, annualized over two years. According to the Maricopa County Voluntary Vehicle Repair and Retrofit Program Annual Report, in FY 2010 the program resulted in a reduction of 68.9 metric tons per year in hydrocarbons, carbon monoxide, and nitrogen oxides.

The Voluntary Vehicle Repair and Retrofit Program was grant funded by the State of Arizona from July 2000 through June 2009. According to the Maricopa County Air Quality Department, Program repair services were suspended on June 27, 2009 when FY 2009 funding was exhausted. Due to budget constraints, the State eliminated program funding for FY 2010. Repair services were resumed on November 20, 2009, when U.S. Department of Energy, Energy Efficiency and Conservation Block Grant funding became available via the American Recovery and Reinvestment Act of 2009. The program is currently suspended. The Voluntary Vehicle Repair and Retrofit Program is acknowledged as a voluntary program with no emissions credits taken for regional maintenance modeling.

Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program

This measure was also included as part of an initiative entitled ‘Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program’. Maricopa County indicates that the implementation of this measure involves a program to purchase and retire vehicles that produce excessive emissions, particularly pre-1980 model year light duty automobiles and trucks. Maricopa County revised its Trip Reduction Ordinance to include flexibility provisions, also called Equivalent Emission Reduction Credit, authorized under A.R.S. Section 49-588 which includes voluntary vehicle trade-outs. This revision will allow trade-outs completed after October 16, 1996 to be used to achieve the emission reduction goals established under the ordinance.

Impact of TIP and RTP:

The transportation projects in the FY 2014-2018 MAG Transportation Improvement Program and Regional Transportation Plan are not anticipated to impact the schedule or effectiveness of this measure.
6 TIP AND REGIONAL TRANSPORTATION PLAN CONFORMITY

The principal requirements of the federal transportation conformity rule for TIP and Regional Transportation Plan assessments are: (1) the TIP and Regional Transportation Plan (RTP) must pass an emissions budget test with a budget that has been found to be adequate or approved by EPA for transportation conformity purposes, or interim emissions tests; (2) the latest planning assumptions and emission models in force at the time the conformity analysis begins must be employed; (3) the TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and (4) consultation. Consultation generally occurs both at the beginning of the process of preparing the conformity analysis, on the proposed models, associated methods, and assumptions for the upcoming analysis and the projects to be assessed, and at the end of the process, on the draft conformity analysis report. The final determination of conformity for the TIP and Regional Transportation Plan is the responsibility of the Federal Highway Administration and the Federal Transit Administration.

The previous chapters and the appendices present the documentation for all of the requirements listed above for conformity determinations, except for the conformity test results. Prior chapters have also addressed the updated documentation required under the federal transportation conformity rule for the latest planning assumptions and the implementation of transportation control measures specified in the applicable air quality implementation plans. Consultation correspondence on the 2014 MAG Conformity Analysis is included in Appendix B. Appendix S includes the public hearing documentation, and the comments received and responses made as part of the public comment process are included in Appendix T.

This chapter presents the results of the conformity tests, satisfying the remaining requirement of the federal transportation conformity rule. Budget tests were performed for the Maricopa County nonattainment and maintenance areas, while build/no-build tests were performed for the Pinal County nonattainment areas. The results of the Maricopa and Pinal County conformity analyses are described in separate sections below.

MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

For the Maricopa County nonattainment and maintenance areas, separate tests were conducted for carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NOx), and particulate matter less than or equal to ten microns in diameter (PM-10). For each test, the required emissions estimates were developed using the transportation and emission modeling approaches required under the federal transportation conformity rule and summarized in Chapters 3 and 4. The applicable conformity tests were reviewed in Chapter 1. The results are summarized below, followed by a more detailed discussion of the findings for each pollutant. Table 11 and Figures 12 through 15 present results for CO, VOC, NOx, and PM-10, respectively, in metric tons per day for each of the analysis years tested.

For carbon monoxide, the applicable conformity test is the emissions budget test, using the 2015 conformity budget established in the MAG Carbon Monoxide Redesignation Request and Maintenance Plan. EPA approved the Carbon Monoxide Maintenance Plan and conformity budgets, effective April 8, 2005. The modeling results indicated that the CO emissions predicted for 2015, 2025, and 2035 are less than the 2015 emissions budget. The TIP and Regional Transportation Plan therefore satisfy the conformity emissions test for carbon monoxide. Table 12 also shows that the 2025 and 2035 CO emissions are less than the 2025 carbon monoxide budget of 599.4 metric tons per day established by the MAG 2013 Carbon Monoxide Maintenance Plan (MAG, 2013), but EPA has not yet approved this Plan or found the budget to be adequate.

For volatile organic compounds and nitrogen oxides for the eight-hour ozone standard, the applicable conformity test is the emissions budget test, using the 2008 conformity budgets for VOCs and NOx established in the MAG Eight-Hour Ozone Plan. On June 13, 2012, EPA approved the MAG Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012. The modeling results indicated that the VOC emissions predicted for 2015, 2025, and 2035 in the 2008 eight-hour ozone nonattainment area are less than the 2008 VOC emissions budget. Also, the modeling results indicated that the NOx emissions predicted for 2015, 2025, and 2035 in the 2008 eight-hour ozone nonattainment area are less than the 2008 NOx emissions budget. The TIP and Regional Transportation Plan therefore satisfy the conformity emissions tests for eight-hour ozone. Table 12 also shows that the 2025 and 2035 emissions are less than the 2025 budgets of 43.8 metric tons per day for VOC and 101.8 metric tons per day for NOx. These budgets were established by the MAG 2009 Eight-Hour Ozone Maintenance Plan (MAG, 2009), but EPA has not yet approved this Plan or found the budgets to be adequate.

For PM-10, the applicable conformity test is the emissions budget test, using the 2006 emissions budget established in the Revised MAG 1999 Serious Area Particulate Plan for PM-10. On July 25, 2002, EPA approved the Revised MAG 1999 Serious Area Particulate Plan for PM-10 including the 2006 PM-10 motor vehicle emissions budget, effective August 26, 2002. The modeling results indicated that the PM-10 emissions predicted for 2015, 2025, and 2035 are less than the 2006 PM-10 emissions budget. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process. On December 5, 2013, EPA found the conformity budget in the MAG 2012 Five Percent Plan for PM-10 adequate for transportation conformity
purposes, effective December 20, 2013. Table 12 also shows that the 2015, 2025 and 2035 emissions are less than the new 2012 adequate budget of 54.9 metric tons per day for PM-10. The TIP and Regional Transportation Plan therefore satisfy the conformity tests for PM-10.

As all requirements of the federal conformity rule have been satisfied, a finding of conformity for the FY 2014-2018 MAG Transportation Improvement Program and 2035 MAG Regional Transportation Plan is supported.

Conformity Test Results for Carbon Monoxide

The conformity modeling results for carbon monoxide are presented in Table 11 and graphed in Figure 12. Emissions were calculated for the carbon monoxide nonattainment area for a 24-hour period based on episode day conditions for a Friday in December. The projected CO emissions for 2015, 2025, and 2035 are 534.4, 426.0, and 435.4 metric tons per day, respectively, which are less than the 2015 CO budget of 662.9 metric tons per day.

In addition, as presented in Table 12, the 2025 and 2035 CO emissions are less than the 2025 CO budget of 559.4 metric tons per day established in the MAG 2013 CO Maintenance Plan submitted to EPA in March 2013. However, as of the date this conformity analysis began, this new 2025 CO budget has not been found adequate or approved by EPA.

Since the projected carbon monoxide emissions for the TIP and Regional Transportation Plan are less than the approved 2015 budget in the MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan, the results support a finding of conformity.

Conformity Test Results for Eight-Hour Ozone

The conformity modeling results for eight-hour ozone are presented in Table 11 and graphed in Figures 13 through 14. The volatile organic compound and nitrogen oxides emissions were calculated to reflect episode day conditions for a Thursday in June. Emissions were calculated for the new 2008 eight-hour ozone nonattainment area that became effective on April 30, 2012. The projected VOC emissions in 2015, 2025, and 2035 are 48.0, 35.6, and 32.2 metric tons per day, respectively, which are all less than the 2008 VOC budget of 67.9 metric tons per day and the projected NOx emissions in 2015, 2025, and 2035 are 94.6, 56.9, and 54.6 metric tons per day, respectively, which are all less than the 2008 NOx budget of 138.2 metric tons per day.

In addition, as presented in Table 12, the 2025 and 2035 emissions are less than the 2025 budgets of 43.8 metric tons per day for VOC and 101.8 metric tons per day of NOx established in the MAG Eight-Hour Ozone Maintenance Plan submitted to EPA in February 2009. However, as of the date this conformity analysis began, these new 2025 budgets have not been found adequate or approved by EPA.

Since the projected VOC and NOx emissions for the TIP and Regional Transportation Plan are less than the approved 2008 budgets in the MAG 2007 Eight-Hour Ozone Plan, the results support a finding of conformity.

Conformity Test Results for Particulate Matter

The conformity modeling results for PM-10 are listed in Table 11 and graphed in Figure 15. The PM-10 emissions were calculated for the PM-10 nonattainment area for an annual average day. The projected PM-10 emissions in 2015, 2025, and 2035 are 43.7, 45.4, and 50.1 metric tons per day, respectively, which are all less than the approved 2006 budget of 59.7 metric tons per day.

In addition, as presented in Table 12, the 2015, 2025 and 2035 emissions are less than the 2012 adequate budget of 54.9 metric tons per day for PM-10 established in the MAG 2012 Five Percent Plan for PM-10 submitted to EPA in May 2012. On December 5, 2013, EPA found the conformity budget in the MAG 2012 Five Percent Plan for PM-10 adequate for transportation conformity purposes, effective December 20, 2013.

Since the projected PM-10 emissions for the TIP and Regional Transportation Plan are less than the approved 2006 budget established in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 and less than the adequate 2012 budget from the MAG 2012 Five Percent Plan for PM-10, the results support a finding of conformity.
### Table 11. Conformity Budget Test Results for CO, VOC, NOx, and PM-10 (Metric Tons/Day)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Carbon Monoxide</th>
<th>Eight-Hour Ozone</th>
<th>PM-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2015</td>
<td>2008 VOC</td>
<td>2008 NOx</td>
</tr>
<tr>
<td>Budget Test</td>
<td>662.9</td>
<td>67.9</td>
<td>138.2</td>
</tr>
<tr>
<td>2015</td>
<td>534.4</td>
<td>48.0</td>
<td>94.6</td>
</tr>
<tr>
<td>2025</td>
<td>426.0</td>
<td>35.6</td>
<td>56.9</td>
</tr>
<tr>
<td>2035</td>
<td>435.4</td>
<td>32.2</td>
<td>54.6</td>
</tr>
</tbody>
</table>

- **a** The Carbon Monoxide Maintenance Plan established a 2015 budget. The onroad mobile source emissions correspond to a Friday in December episode day conditions.
- **b** The Eight-Hour Ozone Plan established 2008 budgets for volatile organic compounds (VOCs) and nitrogen oxides (NOx). The onroad mobile source emissions correspond to a Thursday in June episode day conditions.
- **c** The Revised MAG1999 Serious Area Particulate Plan for PM-10 established a 2006 emissions budget corresponding to an average annual day.

### Table 12. Conformity Test Results Using Submitted Budgets for CO, VOC, NOx, and PM-10 for Information Purposes (Metric Tons/Day)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Carbon Monoxide</th>
<th>Eight-Hour Ozone</th>
<th>PM-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2025</td>
<td>2025 VOC</td>
<td>2025 NOx</td>
</tr>
<tr>
<td>Budget Test</td>
<td>559.4</td>
<td>43.8</td>
<td>101.8</td>
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<tr>
<td>2015</td>
<td>534.4</td>
<td>43.8</td>
<td>101.8</td>
</tr>
<tr>
<td>2025</td>
<td>426.0</td>
<td>35.6</td>
<td>56.9</td>
</tr>
<tr>
<td>2035</td>
<td>435.4</td>
<td>32.2</td>
<td>54.6</td>
</tr>
</tbody>
</table>

- **a** The submitted MAG 2013 Carbon Monoxide Maintenance established a 2025 budget of 559.4 metric tons per day. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process.
- **b** The submitted MAG 2009 Eight-Hour Ozone Plan established a 2025 volatile organic compounds (VOCs) budget of 43.8 metric tons/day and a 2025 nitrogen oxides (NOx) budget of 101.8 metric tons/day. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process.
- **c** The submitted MAG 2012 Five Percent Plan for PM-10 established a 2012 emissions budget of 54.9 metric tons/day. On September 10, 2013, EPA advised that MAG should include in this conformity analysis the budgets from submitted plans so that an adequacy finding on a submitted SIP does not interfere with the conformity process. On December 5, 2013, EPA found the conformity budget in the MAG 2012 Five Percent Plan for PM-10 adequate for transportation conformity purposes, effective December 20, 2013.
Figure 12: Carbon Monoxide Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Friday in December: Episode Day Conditions

![Bar chart showing CO emissions (metric tons/day) for 2015 Budget, 2015, 2025, and 2035 with values 662.9, 534.4, 426.0, and 435.4 respectively.]

Figure 13: Eight-Hour Ozone: Volatile Organic Compounds (VOC) Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Thursday in June: Episode Day Conditions

![Bar chart showing VOC emissions (metric tons/day) for 2008 Budget, 2015, 2025, and 2035 with values 67.9, 48.0, 35.6, and 32.2 respectively.]

Figure 14: Eight-Hour Ozone: Nitrogen Oxides (NOx) Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Thursday in June: Episode Day Conditions

![Bar chart showing NOx emissions for different years (2008 Budget, 2015, 2025, 2035).]

Figure 15: PM-10 Results for Conformity Budget Test
Maricopa County Nonattainment and Maintenance Areas

Annual Average Day Conditions

![Bar chart showing PM-10 emissions for different years (2006 Budget, 2012 Budget, 2015, 2025, 2035).]

The EPA adequacy finding on the 2012 conformity budget in the M/G 2012 Five Percent Plan for PM-10 does not supersede EPA’s approval of the 2006 conformity budget in the approved/Revized M/G 1999 Serious Area Particulate Plan for PM-10. As a practical matter, however, the budget in the Five Percent Plan for PM-10 will be controlling because it is a lower value.

November 22, 2013 EPA Letter on Adequacy Finding for Maricopa County PM-10 Nonattainment Area.
For the Pinal County nonattainment areas, build/no-build tests were conducted for particulate matter (PM-10) for the PM-10 nonattainment area and particulate matter (PM-2.5) and nitrogen oxides (NOx) for the PM-2.5 nonattainment area. For each test, the required emissions estimates were developed using the transportation and emission modeling approaches required under the federal transportation conformity rule and summarized in Chapters 3 and 4. The applicable conformity tests were reviewed in Chapter 1. The results are summarized below. Table 13 and Figures 16 through 18 present the conformity results for the PM-10 and PM-2.5 nonattainment areas for each of the analysis years tested.

Conformity Test Results for the Pinal PM-10 Nonattainment Area

The conformity modeling results for PM-10 are listed in Table 13 and graphed in Figure 16. The PM-10 emissions were calculated for the PM-10 nonattainment area for an annual average day.

The projected PM-10 emissions in 2015, 2025, and 2035 for the build scenario are 84,725, 86,163, and 88,250 kilograms per day, respectively. The projected PM-10 emissions in 2015, 2025 and 2035 for the no-build scenario are 84,733, 86,227, and 88,582 kilograms per day, respectively.

Since the PM-10 emissions predicted for the build scenarios are not greater than the PM-10 emissions predicted for the no-build scenarios in all conformity analysis years, it is also reasonable to expect the build emissions would not exceed the no-build emissions for the time periods between the analysis years. These results support a finding of conformity.

Conformity Test Results for the Pinal PM-2.5 Nonattainment Area

The conformity modeling results for PM-2.5 and NOx are listed in Table 13 and graphed in Figures 17 and 18. The PM-2.5 and NOx emissions were calculated for the PM-2.5 nonattainment area for an annual average day.

The projected PM-2.5 emissions in 2015, 2025, and 2035 for the build scenario are 32, 23, and 29 kilograms per day, respectively. The projected PM-2.5 emissions in 2015, 2025 and 2035 for the no-build scenario are 32, 24 and 31 kilograms per day, respectively.

The projected NOx emissions in 2015, 2025, and 2035 for the build scenario are 1,233, 860, and 833 kilograms per day, respectively. The projected NOx emissions in 2015, 2025 and 2035 for the no-build scenario are 1,235, 916 and 908 kilograms per day, respectively.

Since the PM-2.5 and NOx emissions predicted for the build scenarios are not greater than the PM-2.5 and NOx emissions predicted for the no-build scenarios in all conformity analysis years, it is also reasonable to expect the build emissions would not exceed the no-build emissions for the time periods between the analysis years. These results support a finding of conformity.
TABLE 13.
CONFORMITY INTERIM EMISSION (BUILD/NO-BUILD) TEST RESULTS
(KILOGRAMS/DAY)
PINAL COUNTY NONATTAINMENT AREAS

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM-10 Nonattainment Area</th>
<th>PM-2.5 Nonattainment Area</th>
<th>NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-10</td>
<td>84,725</td>
<td>32</td>
<td>1,233</td>
</tr>
<tr>
<td>PM-2.5</td>
<td>84,733</td>
<td>32</td>
<td>1,235</td>
</tr>
<tr>
<td>NOx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Build</td>
<td>84,725</td>
<td>32</td>
<td>1,233</td>
</tr>
<tr>
<td>- No-Build</td>
<td>84,733</td>
<td>32</td>
<td>1,235</td>
</tr>
<tr>
<td>2025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Build</td>
<td>86,163</td>
<td>23</td>
<td>860</td>
</tr>
<tr>
<td>- No-Build</td>
<td>86,227</td>
<td>24</td>
<td>916</td>
</tr>
<tr>
<td>2035</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Build</td>
<td>88,250</td>
<td>29</td>
<td>833</td>
</tr>
<tr>
<td>- No-Build</td>
<td>88,582</td>
<td>31</td>
<td>908</td>
</tr>
</tbody>
</table>

Figure 16:
PM-10 Results for Conformity Interim Emission (Build/No-Build) Test
Pinal County PM-10 Nonattainment Area
Figure 17: PM-2.5 Results for Conformity Interim Emission (Build/No-Build) Test
Pinal County PM-2.5 Nonattainment Area

Figure 18: NOx Results for Conformity Interim Emission (Build/No-Build) Test
Pinal County PM-2.5 Nonattainment Area
## GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR Parts 51 and 93</td>
<td>Sections 51 and 93 from Title 40 of the Code of Federal Regulations describing the transportation conformity rule.</td>
</tr>
<tr>
<td>ADEQ</td>
<td>Arizona Department of Environmental Quality.</td>
</tr>
<tr>
<td>ADOT</td>
<td>Arizona Department of Transportation.</td>
</tr>
<tr>
<td>Applicable Plan</td>
<td>An air quality plan that has been approved by EPA for a specific air pollutant.</td>
</tr>
<tr>
<td>Arterial Roadway</td>
<td>A major urban street serving through traffic and also providing access to adjacent land.</td>
</tr>
<tr>
<td>Attainment</td>
<td>The status of having air quality that is below (i.e., cleaner air) the allowable national standard for a particular pollutant.</td>
</tr>
<tr>
<td>AZ-SMART</td>
<td>Arizona Socioeconomic Modeling, Analysis, and Reporting Toolbox is the MAG socioeconomic model used to develop population and employment projections.</td>
</tr>
<tr>
<td>Build/No-Build</td>
<td>“Build” refers to the action scenario which assumes the “No-Build” scenario and the implementation of the proposed action (included in the TIP or RTP) for each of the years to be analyzed. “No-Build” refers to the baseline scenario which assumes the future transportation network without implementation of the proposed action (included in the TIP or RTP) for the years to be analyzed.</td>
</tr>
<tr>
<td>Capacity</td>
<td>The maximum number of vehicles that a roadway can carry in a given time period under prevailing roadway, traffic, and control conditions.</td>
</tr>
<tr>
<td>Centroid Connector</td>
<td>An abstract representation of the local street system, as used in MAG travel demand models. These links connect the centroids of zones, where trips begin or end, to arterial or collector roadways on the modeled road network.</td>
</tr>
<tr>
<td>CMAQ</td>
<td>Congestion Mitigation and Air Quality Improvement Program.</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon monoxide. A colorless, odorless, poisonous gas that results from the incomplete combustion of carbon-based fuels, such as gasoline.</td>
</tr>
<tr>
<td>Collector Roadway</td>
<td>A minor urban street providing access to and from local streets and serving adjacent land use.</td>
</tr>
<tr>
<td>Concentration</td>
<td>The relative content of a pollutant in the air, expressed as a volume unit to volume unit often expressed as an average for a specified time interval. For example, the national standard for ambient carbon monoxide concentration is an eight-hour average of 9.0 parts per million.</td>
</tr>
<tr>
<td>Conformity</td>
<td>An analysis which demonstrates that a transportation plan, program, or project conforms with the State Implementation Plan purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities will not cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.</td>
</tr>
<tr>
<td>Congestion</td>
<td>Traffic congestion is a condition in which vehicles experience undue delay. It is quantified in the MAG travel demand models by the ratio of traffic volume to capacity.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Emission Factor</td>
<td>The rate at which a pollutant is emitted from a given source (example: grams per mile) for given conditions (e.g., vehicle type and model year, vehicle speed, fuel type, and ambient air temperature).</td>
</tr>
<tr>
<td>Episode Day</td>
<td>A day selected to represent conditions (meteorology, etc.) under which violations of the air quality standard for a particular pollutant are likely to occur.</td>
</tr>
<tr>
<td>EPA</td>
<td>United States Environmental Protection Agency.</td>
</tr>
<tr>
<td>Exceedance</td>
<td>A term used to refer to an episode during which ambient concentrations of an air pollutant in a region are higher than the allowable national standard.</td>
</tr>
<tr>
<td>FHWA</td>
<td>Federal Highway Administration.</td>
</tr>
<tr>
<td>FIP</td>
<td>Federal Implementation Plan.</td>
</tr>
<tr>
<td>FMS</td>
<td>Freeway Management System. Infrastructure such as cameras, variable message signs, and ramp metering systems to improve the flow of people and goods on limited access facilities.</td>
</tr>
<tr>
<td>FTA</td>
<td>Federal Transit Administration.</td>
</tr>
<tr>
<td>Freeway</td>
<td>A divided highway with two or more lanes for the exclusive use of traffic in each direction, and with full control of access and egress.</td>
</tr>
<tr>
<td>FY</td>
<td>Fiscal Year. The federal fiscal year extends from October 1 to September 30. For example, FY 2005 begins on October 1, 2004.</td>
</tr>
<tr>
<td>Hot Spot</td>
<td>Localized area with the potential to cause or contribute to a violation of an air quality standard. For example, a busy intersection where vehicular traffic may cause or contribute to increased emissions of carbon monoxide may attribute to a violation of the standard.</td>
</tr>
<tr>
<td>HOV</td>
<td>High Occupancy Vehicle. Multi-occupant vehicles such as a carpool, vanpool, or bus.</td>
</tr>
<tr>
<td>HOV Lane</td>
<td>A roadway lane available for use by High Occupancy Vehicles.</td>
</tr>
<tr>
<td>HPMS</td>
<td>Highway Performance Monitoring System. Summary information for urbanized areas provides detailed data for a sample of the arterial and collector functional systems to assess highway condition, performance, air quality trends, and future investment requirements.</td>
</tr>
<tr>
<td>I/M</td>
<td>Vehicle Inspection/Maintenance Program.</td>
</tr>
<tr>
<td>ITS</td>
<td>Intelligent Transportation System. The deployment of advanced electronics and information technologies to improve the performance of freeways and arterial roadways.</td>
</tr>
<tr>
<td>Link</td>
<td>A computer record describing a section of roadway in the MAG transportation models.</td>
</tr>
<tr>
<td>Local Roadway</td>
<td>A road, usually with low traffic volume, designed solely to serve adjacent development rather than through traffic.</td>
</tr>
<tr>
<td>MAG</td>
<td>Maricopa Association of Governments. The Maricopa Association of Governments was designated the metropolitan planning agency for Maricopa County, Arizona, by Governor Jack Williams on December 14, 1973.</td>
</tr>
<tr>
<td>MCAQD</td>
<td>Maricopa County Air Quality Department.</td>
</tr>
<tr>
<td>Metric Ton</td>
<td>A unit of mass equal to 1000 kilograms, or approximately 2203 pounds.</td>
</tr>
<tr>
<td>Mode Choice Model</td>
<td>A computer model which determines mode choice, such as transit, auto driver, and auto passenger, based on variables such as travel times, costs, and income of travelers.</td>
</tr>
<tr>
<td>MOVES2010</td>
<td>MOVES2010b is a currently approved EPA model for estimating onroad vehicle emission factors. This model is used to estimate the emission factors for CO, VOC, NOx, and PM-10 exhaust, tire wear, and brake wear emissions.</td>
</tr>
<tr>
<td>MOVESLink</td>
<td>A MAG software program that combines emission factors (such as from MOVES2010) with link-level transportation data to produce onroad mobile emission inventories.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
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<td>------</td>
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</tr>
<tr>
<td>MPO</td>
<td>Metropolitan Planning Organization. A body of elected public officials responsible for regional transportation decision-making, as required under federal transportation planning regulations.</td>
</tr>
<tr>
<td>NAAQS, or National Standard</td>
<td>Refers to the National Ambient Air Quality Standards (NAAQS) which are the maximum pollutant levels which may not be exceeded in the ambient air to protect the public from adverse health effects.</td>
</tr>
<tr>
<td>Network</td>
<td>A computer readable representation of a specific urban street and highway system.</td>
</tr>
<tr>
<td>Nonattainment Area</td>
<td>An area designated by the U.S. Environmental Protection Agency as not being in attainment of the national standard for a specified pollutant.</td>
</tr>
<tr>
<td>Node</td>
<td>A point identifying one end of a link in the MAG transportation models.</td>
</tr>
<tr>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>Nitrogen Oxides includes nitric oxide (NO) and nitrogen dioxide (NO&lt;sub&gt;2&lt;/sub&gt;). These gaseous air pollutants combine with volatile organic compounds (i.e. hydrocarbons) in the presence of sunlight to produce ozone.</td>
</tr>
<tr>
<td>O&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Ozone is a secondary pollutant formed by the combination of VOCs and NO&lt;sub&gt;x&lt;/sub&gt; in the presence of sunlight.</td>
</tr>
<tr>
<td>OBD</td>
<td>On-Board Diagnostics. A computer based system built into all model year 1996 and newer light-duty cars and trucks. OBD monitors the performance of some of the engines’ major components, including individual emission controls.</td>
</tr>
<tr>
<td>Phased in I/M Cutpoints</td>
<td>Cutpoints are the maximum emission level, by pollutant, used to determine if a vehicle passes or fails the emissions test administered through the vehicle inspection and maintenance program. The phased-in I/M cutpoints are the cutpoints currently enacted into legislation for vehicles subject to the enhanced emissions test.</td>
</tr>
<tr>
<td>PM-10</td>
<td>Particulate Matter less than or equal to ten microns in diameter.</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts per million, a measure of pollution concentration.</td>
</tr>
<tr>
<td>psi</td>
<td>Pounds per square inch, a measure of pressure.</td>
</tr>
<tr>
<td>Reentrained Dust</td>
<td>Dust deposited on the roadway that is subsequently projected into the air by the passage of motor vehicles.</td>
</tr>
<tr>
<td>Regional Rideshare Program</td>
<td>The MAG sponsored program which provides free technical assistance to individuals, companies, and public sector entities interested in carpooling, vanpooling, or other transportation alternatives to drive-alone motor vehicle use.</td>
</tr>
<tr>
<td>ROSS Plan</td>
<td>Regional Off-Street System Plan. A plan describing a region-wide system of off-street paths/trails for non-motorized transportation.</td>
</tr>
<tr>
<td>RPTA</td>
<td>Regional Public Transportation Authority. A political subdivision of the State of Arizona established in 1985 to conduct regional transit planning and to develop and operate a regional transit system in Maricopa County.</td>
</tr>
<tr>
<td>RTP</td>
<td>Regional Transportation Plan.</td>
</tr>
<tr>
<td>SIP</td>
<td>State Implementation Plan. Mandated by the Clean Air Act, SIPs contain details to monitor, control, maintain, and enforce compliance with National Ambient Air Quality Standards.</td>
</tr>
<tr>
<td>Socioeconomic Data</td>
<td>Data consists primarily of TAZ-level household projections of population and employment by type which are input to the MAG travel demand models.</td>
</tr>
<tr>
<td>TAZ</td>
<td>Traffic Analysis Zone. A small geographic area for which socioeconomic data is estimated in the MAG travel demand models.</td>
</tr>
<tr>
<td>TCM</td>
<td>Transportation Control Measure. A TCM as defined in CAA Section 108(l)(1)(A) includes any measure in an applicable implementation plan which is intended to reduce emissions from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions (e.g., transit improvements).</td>
</tr>
<tr>
<td>TIP</td>
<td>Transportation Improvement Program. An annual or biennial document listing transportation projects to be funded in upcoming years.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>TMA</td>
<td>Transportation Management Association. A group comprised generally of businesses to identify and develop solutions to shared transportation problems.</td>
</tr>
<tr>
<td>TOG</td>
<td>Total Organic Gases. Gaseous emissions that lead to the formation of ozone.</td>
</tr>
<tr>
<td>TransCAD</td>
<td>Software programs which are used to perform the MAG travel demand modeling.</td>
</tr>
<tr>
<td>Travel Reduction Program (TRP)</td>
<td>A program administered by Maricopa County, pursuant to the provisions of Arizona House Bill 2206 (1988), as subsequently strengthened by adoption of the Maricopa County Trip Reduction Ordinance.</td>
</tr>
<tr>
<td>U.S. DOT</td>
<td>United States Department of Transportation.</td>
</tr>
<tr>
<td>V/C Ratio</td>
<td>Volume to Capacity Ratio. A parameter used to measure congestion. For a given roadway link, it is calculated as total traffic volume divided by capacity.</td>
</tr>
<tr>
<td>Violation</td>
<td>A term used to define the number of exceedances that result in noncompliance with the national standard.</td>
</tr>
<tr>
<td>VMT</td>
<td>Vehicle Miles of Travel. A measure of total vehicle travel within a specified area and time frame.</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds. VOCs are emitted in the storage and use of fuel, solvents, and many industrial and consumer chemicals, as well as from vegetation. VOCs and nitrogen oxides, when emitted in the presence of sunlight, undergo chemical reactions which result in the formation of ozone.</td>
</tr>
</tbody>
</table>

**REFERENCES**


<table>
<thead>
<tr>
<th>Year</th>
<th>Regulation Title</th>
<th>Description</th>
</tr>
</thead>
</table>


MAG. 1996b. Maricopa Association of Governments Transportation Conformity Guidance and Procedures Required Under Arizona Administrative Code Sections R18-2-1405(R) and R18-2-1429(D). Prepared by the Maricopa Association of Governments and approved by the MAG Regional Council initially on September 27, 1995 and in revised form on March 27, 1996.


DUST CONTROL PERMIT

Appendix 4-4, Dust Control Permit, contains an application for a Maricopa County Dust Control Permit. Fugitive dust generated as a result of construction activities must be controlled in accordance with the 2000 Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, Section 104.06, local rules and ordinances, and special provisions. A Maricopa County Dust Control Permit would be obtained by the selected roadway contractor prior to the commencement of construction.

APPENDIX 4-4

DUST CONTROL PERMIT APPLICATION PACKAGE

This package contains information and forms necessary to apply for a Dust Control permit as set forth in Maricopa County Air Pollution Control Regulations Rule 310. The Dust Control Permit Application Package is organized into three major parts.

PART 1. DUST CONTROL PERMIT APPLICATION FORM

PART 2. DUST CONTROL PERMIT APPLICATION DUST CONTROL PLAN

PART 3. DUST CONTROL PERMIT APPLICATION DUST CONTROL PLAN

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In order to be accepted for review the Dust Control Permit Application Package must be complete. This includes answering all questions fully and accurately in the Applicant and Project Information areas as well as submitting a Dust Control Plan. You may fill out Part 3 of the Dust Control Permit Application and submit it as your Dust Control Plan or you may write your own Dust Control Plan that conforms to Rule 310, Section 402.

Once a complete Dust Control Permit Application Package is accepted, allow up to 14 calendar days for permit processing plus sufficient time for delivery by U.S. Postal Service First Class mail.

Keep in mind, the Maricopa County Air Quality Department uses the Instructions portion of the Dust Control Permit Application Package as criteria when reviewing, evaluating, and approving the Permit Application. The rules identified in the instructions contain legally binding and enforceable requirements. Permits issued by the Maricopa County Air Quality Department under the rules also contain legally binding and enforceable conditions and terms. The Dust Control Permit Application Instructions do not supersede or change any existing federal, state, or county regulations and laws, including requirements of an approved State Implementation Plan (SIP).
IMPORTANT RULE CHANGES EFFECTIVE MARCH 2008

Maricopa County Air Pollution Control Regulations Rule 310 “Fugitive Dust from Dust-Generating Operations” and Rule 200 “Permit Requirements” introduced the following requirements in early 2008 that you should be aware of:

1. Dust Control Coordinator

A Dust Control Coordinator is required to be on-site at all times during primary dust-generating operations for any site of five or more acres of disturbed surface area that is subject to a Maricopa County dust control permit (Rule 310, Section 310). The contact information for the Dust Control Coordinator(s) must be provided in Question #5 of Part 2 of the Dust Control Permit Application.

2. Dust Control Training Classes

   Comprehensive Dust Control Training:
   The Dust Control Coordinator is required to successfully complete a Comprehensive Dust Control Training Class at least once every three years.

   Basic Dust Control Training:
   Site superintendents or other designated on-site representatives of the permit holder, if present at a site with more than one acre of disturbed surface area, is required to successfully complete a Basic Dust Control Training Class at least once every three years.

   All water truck drivers and water pull drivers must successfully complete a Basic Dust Control Training Class at least once every three years.

   More information on these training classes can be found by calling the Training Line at 602-372-1467 or at: www.maricopa.gov/aq/divisions/compliance/dust/dust_control_training on the MCAQD’s Dust Compliance Division web site.

3. Visible emissions beyond property line

   Rule 310, Section 303.1 requires that the owner and/or operator of a dust generating operation shall not cause, suffer, or allow visible emissions of particulate matter, including fugitive dust, beyond the property line within which the emissions are generated. Section 303.2 does provide an exception for dust-generating operations conducted within 25 feet of the property line.

4. Subcontractor Registration

   A requirement of Rule 200 (Permit Requirements) is Subcontractor Registration. Subcontractors do not submit the Dust Control Permit Application in the role of “Applicant” but subcontractors engaged in dust-generating operations at a site that is subject to a Maricopa County dust control permit are required to register with the MCAQD (Rule 200, Section 306) and pay an annual fee as specified in Rule 280, Section 312. The subcontractor shall have its registration number readily accessible on-site while conducting any dust-generating operations and the registration number must be visible and readable by the public without having to be asked by the public. The registration and $50.00 fee can be submitted by mail or in person at the One Stop Shop, 501 N. 44th Street, Suite 200, Phoenix, AZ 85008. Additional information on Subcontractor Registration requirements, submittal and current fees can be found at http://www.maricopa.gov/aq/divisions/compliance/dust/subcontractorRegistration.aspx
1. Do I need a Dust Control Permit?

A. Activity: Whenever a dust-generating activity will disturb 1/10th acre (4,356 square feet) or more you must obtain a dust control permit before commencing the activity. This area of disturbance includes all areas under common control such as stockpiles, storage and equipment yards as well as the area being disturbed, even if they may be separated by public or private roadways (Rule 310, Section 302). No activity may commence before the permit is approved and, along with the Dust Control Plan, posted in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle, or otherwise kept available on-site at all times.

B. Re-application: Dust Control permits are valid for one year from the date of approval. If the project still has a disturbed surface area of 0.10 acre (4,356 square feet) or more at the expiration of the one-year permit term a new permit will need to be obtained by submitting a new Dust Control Application. The re-application process can take up to 14 calendar days once a complete application is received (not including time for postal delivery) so the application must be submitted at least 14 calendar days before the existing Dust Control permit expires.

2. How do I apply? What are the steps?

A. Obtain Dust Control Permit Application Package: You can pick up the application package in person at either the Maricopa County Air Quality Department (MCAQD) Dust Compliance Division offices at 1025 North Central Avenue, Suite 440, Phoenix, Arizona as well as all the One Stop Shop at 501 North 44th Street, Suite 200 in Phoenix or download it from http://www.maricopa.gov/aq/divisions/compliance/dust/resources.aspx

B. Review the Instructions: Read the instructions thoroughly before beginning work on the application. The instructions are intended to accompany the application. The instructions constitute a body of experience and informed judgment by the Maricopa County Air Quality Department and dust control field inspectors to which you may properly resort for guidance, including details and explanations of the information required in the application. If you still have questions about the application you may find answers on the MCAQD website or by calling the Dust Compliance Division at 602-506-6010.

C. Complete the Permit Application Form: Fully complete both the Applicant and the Project Information portions of the application, generally in the sequence it is written, using the instructions and Dust Compliance personnel for assistance.

D. Complete the Dust Control Plan: A dust control plan is required and the third part of the package is designed to guide project personnel in developing a dust control plan that will be posted on-site, and the project will abide by on a day to day basis. Every category or sub-category must be completed, including an explanation for those that are designated non-applicable. A project may develop its own dust control plan as long as it conforms to Rule 310, Section 402.

E. Review the Completeness Checklist: (see the first page of the Dust Control Permit Application Form, p. 23)

F. Submit the completed permit application: When submitting the completed application to the One Stop Shop at 501 North 44th Street, Suite 200, Phoenix, Arizona 85008, include the fee for your Dust Control Permit Application (see FAQ #3 below). The completed application can be submitted to the One Stop Shop in person or by mail with payment by check or money order in either case. In addition, a credit card or cash may be used for payment if the application is submitted in person at the One Stop Shop location.

Make checks payable to “Maricopa County Air Quality Department” or “MCAQD”.

The completed permit will be sent to the Applicant’s address. Allow up to 14 calendar days for permit processing plus sufficient time for delivery by U.S. Postal Service First Class mail.

3. What will it cost?

Detailed information on current fees can be found in the Maricopa County Air Pollution Control Regulations Rule 280 – Fees or on the Department’s website: http://www.maricopa.gov/aq/divisions/permit_engineering/permit_fees.aspx

Basic fees for a Dust Control Permit (permit valid for one year) are calculated according to the following:

- If total surface area disturbed is 0.1 acre to less than 1 acre, submit $150.00.
- If total surface area disturbed is 1 acre or more, submit $350.00 plus $77.00 per acre (to a maximum of $15,750).
- A late fee of $100.00 is required for any application submitted in response to a violation.

Part 1.

DUST CONTROL PERMIT APPLICATION INSTRUCTIONS

A. INSTRUCTIONS FOR COMPLETING THE DUST CONTROL PERMIT APPLICATION FORM

1. Applicant

Please note that if you are completing this application and you are the “Applicant”, then you are the responsible party for all aspects of the work accomplished on site from initial groundbreaking to final stabilization. This includes canceling the Dust Control Permit when the project is complete and/or when you no longer have control over the day-to-day operations on the site. The Applicant must be the property owner, general prime contractor, developer or lessee; a subcontractor cannot be the Applicant responsible for a dust control permit.

The Applicant’s name will show on the permit and will not change on re-applications or changes to the permit that retain the original permit number. The Applicant may or may not also be the party contracting to do the work at the site. The address provided will be put on all subsequent permits with the same Applicant name and will serve as the mailing address for the permit or other compliance issues. The Applicant will be the responsible party for the purposes of this project.

The Maricopa County Air Quality Department requires the Applicant Information to be fully and accurately completed, including full legal names of all entities and individuals (no DBAs or trade names). For all Applicants, appropriate registration in the State of Arizona will be verified with the Arizona Corporation Commission or other applicable resources before a permit will be issued.

2. Parent Company if Applicant is a wholly owned subsidiary

If the Applicant is a wholly owned subsidiary provide full information for the parent company as well. If the parent company has a local or regional presence, use that location and provide contact information for the highest ranking official at that location.

3. Applicant President/Owner

Provide contact information for the highest ranking, local or regional company official of the Applicant.

4. Property Owner/Developer, if not Applicant

Include information regarding the property owner/developer, if different from the Applicant.

5. Dust Control Coordinator

Any site with five acres or more of disturbed surface area subject to a permit issued by the Control Officer requiring control of PM10 emissions from dust-generating operations requires at least one designated Dust Control Coordinator, with a valid dust training certification identification card that is readily accessible, on-site at all times during primary dust-generating operations per Rule 310, Section 310. The Dust Control Coordinator is required in Rule 310, Section 309.2 to complete a Comprehensive Dust Control Training Class at least once every three years, after which a unique identification badge will be issued to the coordinator and is to be referenced in Question #5 in the application. If there are multiple Dust Control Coordinators, list additional information on a separate sheet of paper and attach following the page this question is on. Changes to the Dust Control Coordinator list can be made with the appropriate form, such as the Dust Control Plan Change form, which can be found on the MCAQD Dust Control Compliance website at http://www.maricopa.gov/aq/divisions/compliance/dust/resources.aspx or with a letter that clearly states the changes to be made as well as the permit and dust control plan that will be affected. A form is also available that applies to notifying the MCAQD that a site no longer needs a Dust Control Coordinator when the disturbed surface area of the site falls below five acres.

6. Primary Project Contact

For all projects, provide a Primary Project Contact that may be a Dust Control Coordinator or a different individual altogether. Provide information in this question regarding the MCAQD contact who is knowledgeable of the project site or state if this person is listed as the Dust Control Coordinator in the previous question. The phone number(s) provided should be able to reach the contact within four hours.
7. Certification by a Responsible Official of the Applicant

A Responsible Official of the Applicant is the person who will be contacted or named in any enforcement action initiated by the Maricopa County Air Quality Department or the Maricopa County Attorney’s Office. Pursuant to Rule 310, Section 401.3, the signature on the Dust Control permit application shall constitute agreement to accept responsibility for meeting the conditions of the Dust Control permit and for ensuring that control measures are implemented throughout the project site and during the duration of the project.

- For a corporation, a corporate officer or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person, if the representative is responsible for the dust-generating operations in the subject application. Delegation of authority to such representative shall be approved in advance by the Maricopa County Air Quality Department, Dust Compliance Division.
- For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- For a municipality, state, federal, or other public agency, the principle executive officer or ranking elected official of that entity. Delegation of signature authority needs to be submitted in writing to the Maricopa County Air Quality Department, Dust Compliance Division.

8. Application completed by, (if other than Signatory)

Frequently, this person needs to be contacted to clarify information in the application or if there are questions regarding how the Dust Control Plan was filled out.

### PROJECT INFORMATION INSTRUCTIONS

9. Name of Project

Name, if any, by which this project will be referred (e.g. Pleasant Hill Acres).

10. Project Location

Provide the best available information for the project’s geographic location. If there is an on-site construction office or similar physical contact point, this should be referenced. If no specific street address is available, provide a block number and street name, Maricopa County Assessor’s parcel number, master plan community number, geographic coordinates or any other pertinent location information or description.

11. Project Location by Township (N or S), Range (E or W), Section (1-36)

The map code or grid location in Township/Range/Section (TRS) format is required and can be obtained from a Phoenix Metropolitan map book or from the Maricopa County Assessor’s parcel description.

12. Brief Project Description

Describe the project that will be taking place on the site (e.g. 3-building commercial complex; custom home; weed control; demolition of two buildings; roadway improvement).

13. Will a basement or underground parking be excavated?

This information influences the volume of dust-generating material that will be disturbed, moved, stored, and removed from the project location.

14. Will building occur on a pre-existing/ prepared pad?

A pre-existing/ prepared pad is considered to be on a parcel within an existing/ prepared subdivision.

15. Size of Project

The size of the project is the total area that will be disturbed throughout the duration of the Permit. Include all unpaved parking areas, stockpiles, access and haul roads, parking, driveways, as well as storage (stated in acres). Be sure to separately note the specific area of land to be graded if it is different in size than the total area. You will also need to indicate the estimated amount of import/export Bulk Material, as defined in Section 203 of Rule 310, to/from the project site. The estimated amount of import/export Bulk Material to/from the project site is for hauling purposes and may not match the cubic yards to be moved within the boundaries of the project.

16. Project Site Drawing

Maricopa County uses a project site drawing to delineate boundaries between separate projects, so one permit holder is not held responsible for another’s work. It is used as a reference, so it does not need to be to scale. It should however be as accurate as possible. The drawing should be no larger than 8½” x 11”. The Dust Control Permit Application Form contains an example of what this drawing should contain (see page 26), including the following minimum elements:

- Entire project site boundaries
- Areas to be disturbed with linear dimensions, usually in feet (including staging areas, stockpiles, access and haul roads, parking, driveways, and storage)
- Nearest main crossroads
- North arrow
- Access Point(s) – Planned exit locations onto paved areas accessible to the public

17. Is this a Re-application?

A permit is valid for 1 year after the date of approval. The re-application process may take up to 14 calendar days for review and processing (not including time for postal delivery) and must be approved prior to the expiration of the old permit. You must re-apply for a permit more than 14 calendar days before the original permit expires.

18. Estimated Project Start Date

Before Dust-Generating Operations may occur the permit must be approved, which may take up to 14 calendar days for review and processing of the permit application (not including time for postal delivery). Project Start Date and Project Completion Date (next question) are used by Maricopa County to schedule inspection work load. This information is also used to determine if the same project is on-going or a subsequent dust-generating operation is taking place at the project location. If this is a re-application provide the original start date of the project.

19. Estimated Project Completion Date

The answer to this question may be a date beyond the last effective date of the permit that is being applied for; it is acceptable and encouraged to enter the actual Estimated Project Completion Date, not the end date of the permit period or some other modification. See Estimated Project Start Date (previous question) as well.

20. List of Soil Designations from Appendix F

- Soil Texture
- Soil texture naturally present at the dust-generating operation
- Soil texture to be imported onto the dust-generating operation

The information to answer these questions may be obtained from Appendix F of the Maricopa County Air Pollution Control Regulations or attach a copy of a geotechnical report if the site has been tested. For more detail on soil textures and types see the “Appendix – Additional Information on Key Topics” on page 15.

21. Asbestos NESHAP Notification requirements

Any Project that includes demolition or renovation of any existing facilities must address asbestos NESHAP issues that pertain to the Project. Question #21, including all of its sub-questions, must be fully completed to demonstrate whether or not there are any existing asbestos NESHAP issues and compliance with applicable rules before a Dust Control Permit can be issued. A separate notification and fee for demolition and/or renovation activities may be required. More information on the NESHAP Notification program and fees can be found at: http://www.maricopa.gov/aq/divisions/compliance/air/asbestos_neshap/Default.aspx and http://www.maricopa.gov/aq/divisions/permit_engineering/permit_fees.aspx respectively.
B. INSTRUCTIONS FOR COMPLETING THE DUST CONTROL PERMIT APPLICATION DUST CONTROL PLAN

Rule 310, Section 402 (Dust Control Plan requirements) requires the submission of a Dust Control Plan with your application. You may fill out Part 3 of the Dust Control Permit Application and submit it as your Dust Control Plan or you may write your own Dust Control Plan describing all dust control measures to be used during the project and submit it for approval as your Dust Control Plan. Once approved, the Dust Control Plan must be posted in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle; or otherwise kept available on-site at all times (Rule 310, Section 409).

Additionally, according to Rule 310, Section 402.2 complete copies of the approved Dust Control permit, including the Dust Control Plan, must be supplied to all project contractors and subcontractors.

Changes to aspects of the Dust Control Plan may be made after the application is approved by submitting a Permit Plan Change Form to the Maricopa County Air Quality Department. See below for more information regarding making changes to an approved Dust Control Permit and Dust Control Plan.

DUST CONTROL PLAN GENERAL INFORMATION

Unlisted Dust Control Measures

You may choose to use dust control measures not currently listed in Part 3 of the Dust Control Permit Application. Such unlisted dust control measures will be reviewed by the Maricopa County Air Quality Department and may require additional information regarding the control measure effectiveness. All unlisted dust control measures must meet the dust control requirements of Rule 320 for any dust generating operation.

Making Changes to an Approved Dust Control Permit and Dust Control Plan

If you choose “establish vegetative ground cover” as a control measure, you must comply with at least one of the following standards. These standards are also described in Rule 310, Section 304.3 – Stabilization requirements for Dust-Generating Operations – Disturbed Surface Area:

- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 30%;
- Maintain a percent cover that is equal to or greater than 10% for non-erodible elements.
- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 50%;
- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements; or
- Maintain a percent cover that is equal to or greater than 10% for non-erodible elements.

Making Changes to an Approved Dust Control Permit and Dust Control Plan

If you choose “establish vegetative ground cover” as a control measure, you must comply with at least one of the following standards. These standards are also described in Rule 310, Section 304.3 – Stabilization requirements for Dust-Generating Operations – Disturbed Surface Area:

- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 30%;
- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 50%;
- Maintain a standing vegetative cover (i.e., vegetation that is attached/rooted with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements; or
- Maintain a percent cover that is equal to or greater than 10% for non-erodible elements.

Appendix 4-4
Parcel Sale Notification

Form requires applicant name and address, parcel(s) sold, date sold, and buyer name and address.

Appendix 4-4
Parcel Sale Notification

Form requires applicant name and address, parcel(s) sold, date sold, and buyer name and address.

Appendix 4-4
Form requires permit holder name and address, new applicant name and address, and reason for the permit name change. Appropriate registration in the State of Arizona will be verified with the Arizona Corporation Commission or other applicable resources as is the case with new applications. The previously approved Dust Control Permit cannot be in a status of effect or a new Dust Control Plan can be submitted for review and approval.

Appendix 4-4
Form requires permit holder name and address, project location, reason for cancellation, verification that no further soil disturbing construction activities will occur, that soils have been permanently stabilized, or that all applicable rules have been satisfied. You must cancel your Dust Control Permit when your project is complete or when you no longer have control over the day-to-day operations on the site.

Appendix 4-4
Form requires permit holder name & address, reason for the change, and areas of the plan to be changed. If applicable, a revised Dust Control Plan must be submitted with the form and a new site plan may be required.

Appendix 4-4
Form is to be used when a site no longer requires a Dust Control Coordinator but is still active. A site visit will be required for verification, a Primary Project Contact must be selected, and a new site plan may be required.

Control Measures

Water

When planning a contingency control method, do not choose water if it is already your primary control method. Maricopa County assumes that you will apply enough water to control dust, until it becomes an infeasible option.

Ceasing operations

Keep in mind that weather conditions play a big part in dust control and may require that you cease operations. While not appropriate in all situations, ceasing operations is an acceptable contingency measure many businesses currently use. Due to the common use of this control measure and to clarify when its use is appropriate the cease operations option has been provided as a control measure to aid in reducing fugitive dust (e.g., pre-soaking screened, washed rock when handling).

Written explanation and/or documentation may be required when including unlisted dust control measures in a Dust Control Permit Application.

Opacity

Rule 310, Section 303 (Visible emissions requirements for Dust-Generating Operations) requires visible fugitive dust emissions to not exceed 20% opacity. As a general rule of thumb, if at any time you can see dust being generated by equipment operations, it is already at least 10% opacity.

Opacity is measured by looking through the dust plume, while the sun is at your back. If more than 20% of the background is obscured, then the opacity is greater than 20%. Appendix C – Fugitive Dust Test Methods contains information and other sources that more fully describe this concept. (See http://www.maricopa.gov/aq/divisions/planning-analysis/AdoptedRules.aspx for an online version of Appendix C).
Surface gravel, recycled asphalt, or other suitable material
 If you choose "apply and maintain surface gravel, recycled asphalt, or other suitable material" as a control measure for unpaved haul roads/access areas, you must comply with the following standard. This standard is also described in Rule 310, Section 304.1 – Stabilization requirements for Dust-Generating Operations – Unpaved Parking Lot:

- Do not allow visible dust emissions to exceed 20% opacity and either do not allow silt loading to be equal to or greater than 0.33 oz/ft² or do not allow silt content to exceed 6%.

If you choose to "apply and maintain surface gravel, recycled asphalt, or other suitable material" as a control measure for unpaved parking areas, you must comply with the following standard. This standard is also described in Rule 310, Section 304.1 – Stabilization requirements for Dust-Generating Operations – Unpaved Parking Lot:

- Do not allow visible fugitive dust emissions to exceed 20% opacity and either do not allow silt loading to be equal to or greater than 0.33 oz/ft² or do not allow silt content to exceed 6%.

More detail on opacity and silt loading can be found in Appendix C – Fugitive Dust Test Methods at http://www.maricopa.gov/aq/divisions/planning_analysis/AdoptedRules.aspx

DUST CONTROL PLAN CONTROL MEASURES INSTRUCTIONS

What follows is a listing of the ten category headings (A-J) that corresponds to the same category headings (A-J) in Part 3 of the Dust Control Permit Application. Under each of the ten category headings (A-J) that follow are questions to ask and concepts to consider when designing your Dust Control Plan. You must comply with the work practice standards described in Rule 310 and you must implement, as applicable, the dust control measures in Rule 310, Section 305. Section 305 describes primary and contingency dust control measures for a variety of dust-generating operations.

When completing the Dust Control Permit Application, use this listing to select dust control measures for your project. Changes to the Dust Control Plan may be made after the application is approved by submitting a Permit Plan Change Form to the Maricopa County Air Quality Department. See information provided previously (p. 8) regarding making changes to an approved Dust Control Permit and Dust Control Plan.

EXAMPLES of how to complete Control Measures and Water Tables can be found on pages 19-22.

A. Vehicles/ Motorized Equipment

A.1 Unpaved Staging Areas, Unpaved Parking Areas, and Unpaved Material Storage Areas

What areas have you set aside for parking, including areas where your employees and contractors will be parking their vehicles? What areas have you set aside for material staging? How will you keep vehicles, including the public, employees, subcontractors, utilities, and project inspectors, in areas intended for travel? Parking is acceptable as a primary control measure, if paving is done at the beginning of a project.

A.2 Unpaved Access Areas/ Haul Roads

Will you be operating, hauling, or delivering equipment or materials using unpaved areas? Unpaved haul roads/access areas are unpaved roads or designated access areas for vehicles or delivery trucks. On most single residential sites, the haul road is typically the future driveway. Parking is acceptable as a primary control measure, if paving is done at the beginning of a project.

B. Disturbed Surface Areas

B.1 Before Active Operations occur

Create a plan to minimize dust before you start site work. For example Rule 310, Section 305.11 describes dust control measures to implement before site work begins. According to Section 305.15 you must either pre-water the site to depths of cuts, allow time for penetration, or you must phase work to reduce the amount of disturbed surface areas at any one time.

If you choose to pre-water the site, you should pre-water the areas to be disturbed prior to commencing a dust-generating operation. A rule of thumb is 1 acre-foot of water (325,851 gallons) per acre of land. Pre-watering does not mean flooding the area to be disturbed, which may make the area unworkable. Nor does it mean allowing the watered area to dry out before the dust-generating operation occurs, since that would prevent adequate dust control.

If you choose to phase work as a dust control measure to reduce the amount of disturbed surface areas at any one time, you must show how you will phase the project to create the least amount of disturbance at any one time. You may use the project site drawing to show the various project phases, along with a time line showing relative start and stop times. Indicate on the application that you have shown the various project phases on the project site drawing.

B.2 During Active Operations

Water must be applied continuously in front of or in conjunction with a scraper/grade/ dzer. Water applied behind equipment is usually intended for compaction purposes and not dust control. If a water truck is required to leave the project site for refilling, the contingency measures must be implemented, as needed, to comply with Rule 310, Section 303 – Visible emissions requirements for Dust-Generating Operations.

If you choose to limit vehicle speed, you must indicate the maximum number of vehicle trips that will be allowed and how the speed of such vehicle will be limited.

B.3 Stabilization for any inactive period, of any length, 24 hours per day, seven days per week including weekends, after work hours, holidays

Will you be using your stabilization measures during non-work hours including any and all times there are no active operations occurring but the site has not been permanently stabilized? How will you control wind generated dust?

B.4 Permanent Stabilization of Disturbed Surface Areas required within ten days following the completion of the Dust-Generating Operation if finished for a period of 30 days or longer

How will the open areas of the site be permanently stabilized? How will the site be stabilized if construction is halted?

C. Bulk Material Handling

C.1 Off-Site Hauling onto Paved Areas Accessible to the Public

Will you be conducting debris clean up or lot clearance? Will you be exporting materials?

C.2 Hauling/Transporting within the Boundaries of the Work Site but not crossing a Paved Area Accessible to the Public

Will you be moving dirt or rocks from one area to another area on your site?

C.3 Hauling Transporting within the Boundaries of the Work Site and Crossing and/or accessing a Paved Area Accessible to the Public

Crossing a paved area is when you are traveling perpendicular to the paved area, typically entering and leaving it with the primary purpose of arriving at a destination on the other side. If you are not crossing a paved area (e.g. traveling perpendicular to a paved area), then you are traveling along the paved area. Traveling along the paved area may take you outside the work area, unless the site has been barricaded to public travel.

C.4 Bulk Material Stacking, Loading, and Unloading Operations

Will you be trenching, backfilling, and/or importing/exporting Bulk Material?

Stacking, loading, and unloading operations include any time Bulk Materials are loaded into a truck or when materials are put into spoils piles from trenching operations. If you choose to use water to control dust for cut and fill activities, a rule of thumb is (1) 10,000 gallon water puff for each 7,000 cubic yards of material moved per day. When determining the total amount of water necessary for a project, another rule of thumb is that it takes at least 30 gallons of water to control dust from each cubic yard of material to be moved.

C.5 Open Storage Piles

How will you control dust from storage or spoils piles? Will you have spoil and/or storage piles for any length of time?

Open storage piles include piles that are on-site for any length of time. If you apply water or dust suppressant(s) to open storage piles when not conducting stacking, loading, and unloading operations, make sure that you limit unauthorized vehicle access to the area.

D. Trackout, Carry-out, Spillage, and Erosion

D.1 Trackout Control Device

What will you use as a trackout control device if trenching removes an existing gravel pad? What will you use as a control device during backfill operations? How will you direct traffic to the designated exit locations and restrict traffic from using other exit points?

Trackout control devices are preventative devices intended to reduce the amount of dirt transferred onto paved areas and entrained into the atmosphere. Trackout control devices are required at every exit to a paved area accessible to the public (any retail parking lot or public roadway that is open to public travel primarily for purposes unrelated to the dust-generating operation) for job sites 2 acres or larger or when 100 cubic yards of bulk material are haul on-site or off-site per day. Trackout control devices include, but are not limited to, the following:
Gravel Pad
A layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter that is maintained at the point of intersection of a paved area accessible to the public and a work site entrance to dislodge mud, dirt, and/or debris from the tires of motor vehicles and/or haul trucks, prior to leaving the work site.

Grizzly or Rumble Grate
A device (i.e., rails, pipes, or grates) used to dislodge mud, dirt, and/or debris from the tires and undercarriage of motor vehicles and/or haul trucks prior to leaving the work site.

Packing
Application and maintenance of asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).

Wheel Wash System
A system, station, or device either temporary or permanent, that utilizes a bath or spray of water for the purpose of cleaning mud, soil, and rock from the tires and undercarriage of vehicles to prevent tracking of those materials onto paved surfaces.

Rule 310, Section 306 addresses dust control measures for trackout control. According to Section 306 you must prevent trackout by installing, at all access points to the site, a trackout control device such as a grizzly or rumble grate, a wheel wash system, or a gravel pad, defined in Rule 310, Section 217 to be at least 30 feet wide, 50 feet long, and 3 inches deep. Or you must pave starting from the point of intersection with a paved area accessible to the public and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.

It is a violation of Rule 310 if your site is required to have a trackout control device and does not, regardless of whether trackout is present.

D.2 Cleaning
Trackout/carry-out is any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) that have fallen or been deposited onto a paved area accessible to the public. You are required to immediately clean trackout/carry-out extending 25 feet or more. Trackout/carry-out that is less than 25 feet requires cleaning by the end of the work day. During import/export operations and following rain events, cleaning may need to be done on a consistent basis to control trackout/carry-out.

Cleaning trackout/carry-out includes removing any and all bulk material that has been deposited onto public roadways, medians, gutters, and sidewalks. Cleaning trackout/carry-out can be accomplished by manually sweeping up the deposits by operating a street sweeper or wet broom, or by power washing. Some street sweepers (e.g., street sweepers with steel brushes) are more efficient than others, especially on stubborn trackout/carry-out.

Be sure to check other applicable regulations. For instance, some work sites are located in areas where the paved areas may not be cleaned by power washing with water due to Storm Water Pollution Prevention Plans (SWPPP), National Pollutant Discharge Elimination Standards (NPDES), or Arizona Pollutant Discharge Elimination System (APDES). It is a violation of Rule 310 if you have not cleaned trackout/carry-out, regardless of whether a trackout control device is present. If a street sweeper has been chosen as the primary control measure and is needed immediately but is not available, then you must employ the contingency measure.

E. Weed Abatement by discing or blading
If this is a long project, will weed removal or weed control be an issue in the future? Weed abatement for the purpose of this question is the removal of a weed and its roots by turning over the soil, usually with a disc or blade implement, thereby disturbing the surface area and removing a means of stabilizing the surface area.

F. Blasting operations
Will blasting be conducted for removal of structural concrete? Is there an available site for stockpiling material? Will underlying material require blasting?

G. Demolition activities
If concrete removal quantity is sizable, is there an available dump site? Has dust control for this staging or storage area been addressed?

H. Wind Event
A “wind event” is when the 60-minute average wind speed is greater than 25 m.p.h. In category H, some control measures are to be used in the “nonattainment area” and some control measures are to be used in the “attainment area.” A “nonattainment area” is an area designated by the Environmental Protection Agency (EPA) as exceeding national ambient air quality standards based upon data collected through air quality monitoring. Maricopa County does not meet the national ambient air quality standards for particulate matter (PM2.5). Consequently, Maricopa County is considered a nonattainment area for PM2.5. The general geographical boundary of Maricopa County’s PM2.5 nonattainment area is as follows: Salt River Mountains on the south, Phoenix Mountains on the northwest, Ehrada Mountains on the southwest, White Tank Mountains on the west, and Superstition Mountains on the east. Maricopa County’s PM2.5 nonattainment area includes all cities within this geographical boundary. What has been done to address a possible wind event when one is on-site, such as on a weekend or a holiday?

I. Water
For categories A-H in Part 3 of the Dust Control Permit Application, for which you choose to “apply water” as a dust control measure, you must describe the size and number of pieces of the equipment that you will use to apply the water, and the size and number of pieces of equipment that you will use to apply the water.

Soil Rating. For the purpose of completing the minimum water availability tables, soil types have been simplified from the four ratings categories in the Appendix F Soil Map into two rating categories. A Severe rating includes clay, silt clay, and sandy clay while the Moderate rating includes all other soil types. (See pages 15-17 for additional information to assist in determining soil rating)

Water supply means how water will be supplied to the site. Equipment options for water supply include, but are not limited to, metered hydrant, water tower, and water pond.

Water application system means how water will be applied to the site. Equipment options for water application system include, but are not limited to, hoses, water truck, waterpull, and water buffalo.

Minimum water availability means water supply in conjunction with water application system.

- A minimum water availability table is included for different construction phases to be used in Part 3 where “apply water” is chosen as a dust control measure.
- Each minimum water availability table lists the minimum amount of water that you must have available for the duration of the project for dust control and compaction in severe and moderate soil types.
- Use each minimum water availability table to determine the size and number for the equipment that you will use to supply the water and to apply the water.

Regardless of the minimum amount of water that you have available to your site or on your site and regardless of your water supply and water application, in no case shall you exceed 20% opacity. Test methods for opacity can be found in Appendix C of the Maricopa County Air Pollution Control Regulation.

(See an online version of Appendix C at http://www.maricopa.gov/ap/divisions/planning_analysis/AdoptedRules.aspx)

J. Dust Suppressants other than water
Although water is a dust suppressant, the information required by Table J in Part 3 in the Dust Control Permit Application should not include information on water supply and water application systems.

The information required by Table J in Part 3 of the Dust Control Permit Application is for all other dust suppressants that you use. Fill out the applicable areas in Table J in Part 3 of the Dust Control Permit Application. Be sure to attach information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application. Also, attach product specification(s) and application sheet(s) or label instructions.

Different types of soil require more intensive water use or the use of water in combination with dust suppressants, in order to meet the requirements of Rule 310. Brief descriptions of dust suppressants and related information can be found in “Appendix – Additional Information on Key Topics” in the next segment of these instructions.
APPENDIX 4-4 • ADDITIONAL INFORMATION ON KEY TOPICS

GLOSSARY OF TERMS

(A more complete list of definitions can be found in Rule 310, Section 200)

Caliche - Common in, and somewhat unique to, the southwestern United States is a soil component known as caliche. Caliche is defined as an amorphous (non-crystalline) mass of calcium carbonate (limestone) mixed with clay. Caliche is a general term for any soil component (CaCO3) that forms in sediments or in voids and crevices within bedrock just below the surface in semi-arid regions, as a result of soil-forming processes (pedogenic caliche) or ground-water evaporation (ground-water caliche). Caliche is material left behind by the evaporation of ground water or soil moisture that is no longer present at that level, although ground water may be present at much lower depths beneath the caliche.

Disturbed Surface Area - A portion of the earth's surface or material placed on the earth's surface that has been physically moved, uncovered, dislodged, or otherwise modified from its undisturbed native condition if the potential for the emission of fugitive dust is increased by the movement, destabilization, or modification. For the purpose of Rule 310, an area is considered to be a disturbed surface area until the activity that caused the disturbance has been completed and the disturbed surface area has been permanently stabilized.

Dust-Generating Operation - Any activity capable of generating fugitive dust, including but not limited to, land clearing, earthmoving, weed abatement by discing or blading, excavation, construction, demolition, bulk material handling, storage or transporting operations, vehicle use and movement, the operation of any outdoor equipment, or unplanned parking lots. For the purpose of Rule 310, landscape maintenance and playing on or maintaining a field used for non-motorized sports shall not be considered a dust-generating operation. However, landscape maintenance shall not include grading, trenching, or any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.

Fugitive Dust - The particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of Rule 310, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from pile drivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation 310-11 of Air Contaminants of the Maricopa County Air Pollution Control Regulations.

APPLICABLE MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS

1. Rule 200 (Permit Requirements), Section 305 (Dust Control Permit)
   - Requires any dust-generating operation disturbing 0.10 acres (4,356 sq. ft.) or more to obtain a permit,
   - Applies the provisions of Rule 310 (Dust-Generating Operations) to Dust Control permits.

2. Rule 200 (Permit Requirements), Section 309 (Standards for Applications)
   - Gives the Control Officer authority to design permit applications that contain all the information necessary to enable the Control Officer to make the determination to grant or deny a permit,
   - Such applications can contain terms and conditions as the Control Officer deems necessary to assure a source's compliance with the requirements of the Maricopa County Air Pollution Control Regulations.

3. Rule 310 (Fugitive Dust from Dust-Generating Operations)
   - Requires an owner and/or operator of a dust-generating operation to submit a Dust Control Plan with any Dust Control Permit as well as before commencing any routine dust-generating operation at a site that has obtained or must obtain a Title V, Non-Titie V, or general permit under Maricopa County Air Pollution Control Regulations, Regulation 11 (Permits And Fees),
   - Required from initial ground breaking through final stabilization,
   - Valid for one year from the date of issuance,
   - Re-application must be submitted at least 14 calendar days prior to the expiration date of the original permit, if 0.10 acres (4,356 sq. ft.) or more remain disturbed at the expiration of the original permit,
   - Must describe all control measures to be implemented before, after, and while conducting any dust-generating operation, including during weekends, after work hours, and on holidays,
   - Maricopa County approves, disapproves, or conditionally approves a Dust Control Plan, in accordance with the criteria used to approve, disapprove, or conditionally approve a permit,
   - Failure to comply with the provisions of the approved Dust Control Plan and/or failure to comply with all other requirements of Rule 310 is deemed to be a violation of Rule 310,
   - Once approved by the Control Officer, the Dust Control Permit and Dust Control Plan must be posted on-site,
   - Any person who conducts Dust-Generating operations that require a Dust Control Plan shall keep a written record of self-inspection on each day Dust-Generating Operations are conducted. (Also referred to as a “Dust Control Log”),
   - Permit holder must cancel the permit when the project is complete or when the permit holder no longer has control over the day-to-day operations on the site. (See pages 8-9 of the Instructions)

PROJECT INFORMATION SIGN

For sites that are five acres or larger a project information sign must be posted and maintained at the main entrance to the project where members of the public can easily view and read the sign (Rule 310, Section 308). The sign must have a white background with black block lettering that is at least four inches high and contain at least the following information:

- Project name and permittees’s name
- Current Dust Control permit number and expiration date
- Name and local phone number(s) of person(s) responsible for dust control matters;
- Text stating: “Dust complaints? Call Maricopa County Air Quality Department – (Insert the accurate Maricopa County Air Quality Department complaint line telephone number).”

SOIL TEXTURE AND TYPE CLASSIFICATION

According to Rule 310, Section 402.5 – Dust Control Plan Requirements for construction projects one acre or larger (except for routine maintenance and repair done under a block permit), the soil texture that is naturally present and the texture of any soil that will be imported to the site must be designated. (See Question #20)

Soil texture is the single most important physical property of the soil. Knowing the soil texture alone will provide information about:

- Water flow potential,
- Water holding capacity, and
- Suitability for many urban uses. Soils can be divided into three basic classifications: sands, silts, and clays. Caliche, commonly found in the Southwest, is basically a form of clay. See Glossary of Terms, p. 14 of the Instructions for more information regarding caliche.

There is great variation within the three basic classifications: sands, silts, and clays, but these classifications will suffice for the purpose of choosing appropriate dust control measures for a work site.

Soils are visually classified by the Unified Soil Classification System on boring logs. Grain-size analysis and Atterberg Limits Tests are often performed on selected samples, and the results entered onto a plasticity chart, to aid in classification. The classification system is outlined in the chart on page 16 of the Instructions. For a more detailed description of the system, including plasticity and liquid limits, see “The Unified Soil Classification System” ASTM Designation D2487 at http://www.astm.org/Standards/D2487.htm

Different textural classes will require more intensive water use or the use of water in combination with dust suppressants (see the tables on pages 16 and 17 of the Instructions), so that viable fugitive dust emissions do not exceed 20% opacity in accordance with Rule 310, Section 303 - Visible Emissions Requirements for Dust-Generating Operations. Test methods for opacity can be found in Appendix C of the Maricopa County Air Pollution Control Regulations (see Appendix C - Fugitive Dust Test Methods at http://www.maricopa.gov/ep/divisions/planning_analysis/AdoptedRules.aspx)
Unified Classification System for Soils

<table>
<thead>
<tr>
<th>Major Division</th>
<th>Group Symbol</th>
<th>Typical Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravels (50% or less of coarse fraction passes No. 200 sieve)</td>
<td>GW</td>
<td>Well graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
</tr>
<tr>
<td>Gravels With Fines (more than 52% passes No. 200 sieve)</td>
<td>GM</td>
<td>Silty gravels, gravel-sand-silt mixtures</td>
</tr>
<tr>
<td>Clean Sands (less than 5% passes No. 200 sieve)</td>
<td>SW</td>
<td>Well graded sands, gravelly sands</td>
</tr>
<tr>
<td>Sands (more than 50% of coarse fraction passes No. 4 sieve)</td>
<td>SM</td>
<td>Silty sands, sand-silt mixtures</td>
</tr>
<tr>
<td>Silts Of Low Plasticity (liquid limit less than 30)</td>
<td>SL</td>
<td>Inorganic silts, clayey silts with slight plasticity</td>
</tr>
<tr>
<td>Silts Of High Plasticity (liquid limit more than 30)</td>
<td>SH</td>
<td>Inorganic silts of high plasticity, silty clays, plasticity</td>
</tr>
<tr>
<td>Clays Of Low Plasticity (liquid limit less than 50)</td>
<td>CL</td>
<td>Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays, lean clays</td>
</tr>
<tr>
<td>Clays Of High Plasticity (liquid limit more than 50)</td>
<td>CH</td>
<td>Inorganic clays of high plasticity, fine clays, silty and sandy clays of high plasticity</td>
</tr>
<tr>
<td>Clean Gravels (less than 5% passes No. 200 sieve)</td>
<td>GP</td>
<td>Poorly graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
</tr>
<tr>
<td>Clayey sands, sand-clay mixtures</td>
<td>GC</td>
<td>Clayey gravels, gravel-sand-clay mixtures</td>
</tr>
<tr>
<td>Silty sands, sand-silt mixtures</td>
<td>SC</td>
<td>Clayey sands, sand-clay mixtures</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorly graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clayey sands, sand-clay mixtures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silty sands, sand-silt mixtures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GW</td>
<td></td>
<td>Well graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
</tr>
<tr>
<td>GM</td>
<td></td>
<td>Silty gravels, gravel-sand-silt mixtures</td>
</tr>
<tr>
<td>SW</td>
<td></td>
<td>Well graded sands, gravelly sands</td>
</tr>
<tr>
<td>SM</td>
<td></td>
<td>Silty sands, sand-silt mixtures</td>
</tr>
<tr>
<td>SL</td>
<td></td>
<td>Inorganic silts, clayey silts with slight plasticity</td>
</tr>
<tr>
<td>SH</td>
<td></td>
<td>Inorganic silts of high plasticity, silty clays, plasticity</td>
</tr>
<tr>
<td>CL</td>
<td></td>
<td>Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays, lean clays</td>
</tr>
<tr>
<td>CH</td>
<td></td>
<td>Inorganic clays of high plasticity, fine clays, silty and sandy clays of high plasticity</td>
</tr>
<tr>
<td>GW</td>
<td></td>
<td>Well graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
</tr>
<tr>
<td>GP</td>
<td></td>
<td>Poorly graded gravels, gravel-sand mixtures or sand-gravel-cobble mixtures</td>
</tr>
<tr>
<td>GC</td>
<td></td>
<td>Clayey gravels, gravel-sand-clay mixtures</td>
</tr>
<tr>
<td>SC</td>
<td></td>
<td>Clayey sands, sand-clay mixtures</td>
</tr>
</tbody>
</table>

SOIL TEXTURE AND TYPE MAP SUMMARY

The soil map in Appendix F of the Maricopa County Air Pollution Control Regulations (a large printed soil map is available for viewing at the One Stop Shop while a smaller, downloadable version can be found at: http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixF-0404.pdf) designates soil texture ratings within the PM10 nonattainment area. See page 13 for more information regarding the PM10 nonattainment area in Maricopa County.

Four soil texture ratings in the table below - severe, moderate, slight, and very slight - refer to a soil’s potential to create PM10. The table summarizes the soil map in Appendix F and designates control measures that could be used with each soil type. Also, the table shows which soil texture rating relates to which group symbol used in the chart of the Unified Classification System for Soils previously on this page.

The soil map in Appendix F is to be used to identify soil types for purposes of completing Question #20 of the Dust Control Permit Application, in lieu of submitting actual measured soil types with your Dust Control Plan. However, the actual measured soil types take precedence over any mapped soils.

If any requirements stated in the instructions or in the Dust Control Permit Application contradict recommendations of a site geotechnical report, attach a copy of the report to the Dust Control Plan. The report will be incorporated as part of the Dust Control Plan.

Maricopa County Dust Control Permit Application Package – INSTRUCTIONS
Appendix 4-4 • EXAMPLES FOR CORRECTLY COMPLETING PART 3 – DUST CONTROL PLAN

DUST SUPPRESSANTS SUMMARY

Dust suppressants are defined in Rule 310 as: water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer or any other dust palliative, which is not prohibited for ground surface application by the Environmental Protection Agency (EPA) or the Arizona Department Of Environmental Quality (ADEQ) or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.

Dust suppressants work by either agglomerating the fine particles, adhering/bind the surface particles together, or increasing the density of the road surface material. They reduce the ability of the surface particles to be lifted and suspended by either vehicle tires or wind and non-water suppressants do so with a minimum amount of added water and usually a longer useful life than water alone.

One important factor in evaluating dust suppressants is the long-term monetary cost versus that of water alone. Environmental impacts of both methods on water quality and plant life must also be considered.

More detail can be found on the MCAQD Dust Compliance website at: www.maricopa.gov/aj/dust/compliance/dust/resources.aspx

DUST SUPPRESSANT CATEGORIES:

1. Water-Attracting Chemicals: Chlorides, Salts, Brine Solutions.
5. Microbiological Binders: Cryptogams, Blue-Green Algae Inoculants, Enzyme Slurries.

DUST SUPPRESSION TECHNOLOGIES:

In addition to categories of dust suppressants, the subject can also be divided by dust suppression technologies including the following:

1. Wetting Agents: Surfactant (see below) formulations that improve the ability of water to wet and agglomerate fine particles.
2. Foaming Agents: Surfactant formulations used to convert water and air into a dry, stable, small-bubbled foam with a consistency similar to shaving cream.
3. Binding/Agglomerating Agents: Performs similar functions as wetting and foaming agents but provides a longer residual effect than water alone and thus is used when it is either impractical or uneconomical to control dust using just water technologies.
4. Crusting Agents: Binding agents that are chemically similar to latex paint in that their primary active components are water-based latex polymers that cure to form a mechanically stable water-insoluble film.

DUST SUPPRESSION MATERIALS:

1. Surfactants: Surface-active agents, make water more efficient by making water “wetter”, lowering its surface tension allowing drops of water to spread out and contact surfaces more effectively
2. Tackifiers: Substances used with water to hold together mulches and other dust suppressants, binding small particles together without forming a hard crust.
3. Flocculants: Chemicals that cause a dispersed colloidal system (such as clay) to coagulate and form flocs. Most flocculants are either multivalent cations such as calcium, magnesium, aluminum, or ion polymers. High pH, high salinity, and high temperature can also cause clay flocculation.

EXAMPLES FOR CORRECTLY COMPLETING PART 3 – DUST CONTROL PLAN

2.1 Operations

[ ] P C Apply water (Fill out Category I, “Water” on pp. 37-41)
[ ] P C Pave (Choose one of the following): Beginning of Project* During Project* End of Project*

*Must specify additional primary control measure(s) that will be in place prior to paving

[ ] P C Other:

This is an INCORRECT EXAMPLE.

WHY? If a Control Measure is “not applicable” you must provide an explanation for why.

Or, explain why this sub-category and its control measures are not applicable: N/A

2.1.1 Operations

[ ] P C Apply water (Fill out Category I, “Water” on pp. 37-41)
[ ] P C Pave (Choose one of the following): Beginning of Project* During Project* End of Project*

*Must specify additional primary control measure(s) that will be in place prior to paving

[ ] P C Limit vehicle speeds to no more than 15 m.p.h. In the area/haul roads each day (including trips) and a description of how vehicle speeds will be restricted to no more than 15 m.p.h.:

This is a CORRECT EXAMPLE of a completed “not applicable” statement with a full explanation.

Or, explain why this sub-category and its control measures are not applicable: N/A because there will not be any operations of this type being performed as part of this project.

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Maricopa County Dust Control Permit Application Package – INSTRUCTIONS Page 19 of 42
EXAMPLES FOR CORRECTLY COMPLETING PART 3 – DUST CONTROL PLAN (continued)

Z.1 Operations

Apply water (Fill out Category I, “Water” on pp. 37-41)

P Apply water

C Pause (Choose one of the following): Beginning of Project*  During Project*  End of Project*

*Must specify additional primary control measure(s) that will be in place prior to paving

P Limit vehicle trips to no more than 15 m.p.h. In the space provided, list the number of employee vehicles, earthmoving equipment, haul trucks and water trucks each day (including the number of employee vehicles) and a description of how vehicle speeds will be restricted to no more than 15 m.p.h.

P Cease operations, NOTE: This option CANNOT be considered a primary control measure.

P Other:

Or, explain why this sub-category and its control measures are not applicable:

This is an INCORRECT EXAMPLE.

WHY? If a Control Measure checkbox is blacked out it CANNOT be used.

This is a CORRECT EXAMPLE of how to use available Control Measure checkboxes and avoid using non-available Control Measure checkboxes.

Or, explain why this sub-category and its control measures are not applicable:

EXAMPLES FOR CORRECTLY COMPLETING PART 3 – DUST CONTROL PLAN (continued)

There are two main types of tables (with multiple variations) used in the “Category I. Water” portion of Part 3 of the Application.

Following is an example of each of the main two table types and how to use each:

CATEGOR I. WATER, EXAMPLE 1:

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Total Acres Disturbed</th>
<th>Minimum Water Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>0 - 2 acres</td>
<td>350 - 750 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>750 - 3,500 gallons per day</td>
</tr>
<tr>
<td></td>
<td>10 - 100 acres</td>
<td>3,500 - 35,000 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 35,000 gallons per day</td>
</tr>
<tr>
<td>Moderate</td>
<td>0 - 2 acres</td>
<td>250 - 500 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>500 - 2,500 gallons per day</td>
</tr>
<tr>
<td></td>
<td>10 - 100 acres</td>
<td>2,500 - 22,500 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 22,500 gallons per day</td>
</tr>
</tbody>
</table>

Average Daily Disturbance in Acres: 8 acres

Number of Gallons per day: 750 – 3,500 gal/day

Example 1, Illustration:

1. Assume the project has a disturbed area of 8 acres for staging, storage and some parking with a severe soil rating.
2. Begin with the second line under the headings in the table above. This selection shows a range of 2 – 10 acres of Total Acres Disturbed in this severely textured soil. This selection shows a range of Total Acres Disturbed in the severely textured soil.
3. Following this to the Minimum Water Available column on the right gives a range of 750 – 3,500 gallons per day. This means that even if an amount of water toward the lower end of the range is being used (750 gallons per day) the project must provide available water, along with the equipment to apply it, up to the highest end of the range (3,500 gallons per day), should conditions demand the higher application.
4. The total water needed as its distribution must now be reflected in the quantity and size of the water supply methods as well as the quantity and size of the water application methods that you enter in their respective columns.

Example 1, Illustration:

1. Assume the project has a disturbed area of 8 acres for staging, storage and some parking with a severe soil rating.
2. Begin with the second line under the headings in the table above. This selection shows a range of 2 – 10 acres of Total Acres Disturbed in this severely textured soil. This selection shows a range of Total Acres Disturbed in the severely textured soil.
3. Following this to the Minimum Water Available column on the right gives a range of 750 – 3,500 gallons per day. This means that even if an amount of water toward the lower end of the range is being used (750 gallons per day) the project must provide available water, along with the equipment to apply it, up to the highest end of the range (3,500 gallons per day), should conditions demand the higher application.
4. The total water needed as its distribution must now be reflected in the quantity and size of the water supply methods as well as the quantity and size of the water application methods that you enter in their respective columns.
CATEGORY I. WATER, EXAMPLE 2:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Includes basements)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe</td>
<td></td>
<td>5,000 gallons per acre per day, and 30 gallons per cubic yard of material moved</td>
<td>10,000 gallons per acre per day, and 10 gallons per cubic yard of material moved</td>
</tr>
<tr>
<td>Moderate (all other classifications)</td>
<td></td>
<td>5,000 gallons per acre per day, and 30 gallons per cubic yard of material moved</td>
<td>10,000 gallons per acre per day, and 10 gallons per cubic yard of material moved</td>
</tr>
</tbody>
</table>

Average Daily Disturbance in Acres: 10 acres
Number of Gallons per acre per day: 10,000 gal/acre/day

Example 2, Illustration:

1. Assume the project entails grading 10 acres and all 10 acres are to be graded each day for five days during the March thru October time period. Additionally, 3,000 cubic yards of material are to be removed over the five days.

2. 10 acres x 10,000 gallons per acre per day = 100,000 gallons per day for all 10 acres, AND

3. 3,000 cubic yards x 30 gallons per cubic yard = 90,000 gallons for the five day period

4. Total water need for all five days = 190,000 gallons.

5. The total water needed and its distribution must now be reflected in the quantity and size of the water supply methods as well as the water application(s) that you enter in their respective columns.

IS MY APPLICATION COMPLETE?

1. Dust Control Permit Application Forms: Completely answer all questions; fill in all blanks and check boxes as appropriate, in both the Applicant and Project Information areas of the Form. Attach a copy of the Project Site Drawing.

2. Dust Control Plan: Rule 310, Section 402 (Dust Control Plan requirements) requires the submission of a Dust Control Plan with your application. You may submit Part 3 of this application after completely filling in every category or sub-category; a primary and contingency control measure must be chosen for each or an explanation of why the category or sub-category is not applicable must be provided. Alternately, you may submit your own Dust Control Plan that conforms to Rule 310, Section 402 describing all dust control measures to be used during the project.

3. Fee Payment: Have the appropriate fee ready when submitting the completed permit application to the One Stop Shop referenced above, see the MCAQD website: www.maricopa.gov/aq/divisions/permit_engineering/permit_fees.aspx or FAQ #3 in the instructions. Fees can be paid with a check or money order when submitting the application in person or by mail. When submitting the application in person the fees may also be paid with a credit card or cash.

Applicant Information

Applicant Information must be fully and accurately completed, including full legal names of entities and individuals (no DBAs or trade names). For all Applicants, appropriate registration in the State of Arizona will be verified with the Arizona Corporation Commission or other applicable resources before a permit will be issued.

1. Applicant:
   - Relationship to property (Check all that apply):
     - Property Owner
     - General/Prime Contractor
     - Developer
     - Lessee
   - Type of Entity:
     - Corporation
     - Limited Liability Company or Partnership
     - Sole Proprietor
     - Individual
     - Government
   - Name:
   - Address:
   - City: State: Zip:
   - Phone: Ext:
   - E-Mail Address:
   - Local Mailing Address (if not the same as above):
   - Contractor License Number:

Return all applications to: One Stop Shop
501 N. 44th Street, Suite 200
Phoenix, Arizona 85008
Phone (602) 372-1071 Fax (602) 372-1078
2. Is Applicant a wholly owned subsidiary of another Company? □ Yes □ No

If "Yes", please provide all requested information below. If "No", please proceed to Question 3:

Parent Company (if Applicant is a wholly owned subsidiary):

Type of Entity: □ Corporation □ Limited Liability Company or Partnership □ Sole Proprietor □ Individual □ Government

Name:

Address:

City: State: Zip:

Phone: Fax:

State of Incorporation or Registration:

3. Applicant President/Owner:

Name:

Address:

City: State: Zip:

Phone: Fax:

4. Property Owner/Developer, if not Applicant:

Type of Entity: □ Corporation □ Limited Liability Company or Partnership □ Sole Proprietor □ Individual □ Government

Name:

Address:

City: State: Zip:

Phone: Fax:

5. Dust Control Coordinator:

At least one Dust Control Coordinator is required to be on-site at all times during primary dust-generating operations for any site with five acres or more of disturbed surface area subject to a permit issued by the Control Officer requiring control of PM10 emissions from dust-generating operations.

List additional Dust Control Coordinators on a separate sheet of paper and include following this sheet.

Name:

Title:

Company Name:

On-Site Phone: Mobile: Fax:

Dust Control Badge ID Number:

Expiration Date:

6. Primary Project Contact:

Provide a Primary Project Contact for all sites with a disturbed surface area subject to a permit issued by the Control Officer requiring control of PM10 emissions from dust-generating operations.

Name:

Title:

Company Name:

On-Site Phone: Mobile: Fax:

7. Certification by a Responsible Official of the Applicant:

A Responsible Official of the Applicant is the person who will be contacted or named in any enforcement action initiated by the Maricopa County Air Quality Department or the Maricopa County Attorney's Office.

Pursuant to Rule 310, Section 401.3, the signature on the Dust Control Permit Application shall constitute agreement to accept responsibility for meeting the conditions of the Dust Control Permit and for ensuring that control measures are implemented throughout the project site and during the duration of the project.

Arizona Revised Statute § 13-2704 makes it a criminal offense to knowingly make a false material statement to a public servant in connection with an application for any benefit, privilege, or license.

I hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in the Dust Control Permit Application, including Applicant Information, Project Information, and the Dust Control Plan, are true, accurate, and complete.

Signature:

Printed Name: Title:

8. Application completed by (if other than Signatory):

Signature:

Printed Name: Title:

Phone: Fax:

E-mail Address:

Project Information (see Instructions page 6)

9. Name of Project:

10. Project Location: (If address is not available, complete Other Location information as fully as possible)

Address:

City: State: AZ Zip:

Nearest Major Cross Street North/South:

Nearest Major Cross Street East/West:

Is this location: □ Unincorporated Area (County) □ Incorporated Area (City)

Other Location Information: (If address is not available provide all information possible below)

County Assessor's Parcel Number(s):

Master Plan Community Number(s):

Geographic Coordinates:

11. Project Location by Township (N or S), Range (E or W), Section (1-36):

Township: Range: Section:

12. Brief Project Description:

13. Will a basement or underground parking be excavated? □ Yes □ No

14. Will building occur on a pre-existing pad/prepared pad? □ Yes □ No

15. Size of Project:

Estimated acres to be graded:

Estimated cubic yards of Bulk Material to be moved within the boundaries of the project:

Estimated cubic yards of import Bulk Material:

Estimated cubic yards of export Bulk Material:

Total acres that will be disturbed throughout the duration of this Permit, including staging areas, stockpiles, access and haul roads, parking, driveways, as well as temporary storage yards:
16. Project Site Drawing:

Attach a separate page (8½" × 11") with a drawing showing all of the following elements:

- Entire project site boundaries
- Area to be disturbed with linear dimensions
- Nearest main crossroads
- North arrow
- Access Point(s) – Planned exit locations onto paved areas accessible to the public

Example (simplified, not to scale):

![Project Site Drawing]

17. Is this a Re-application? [ ] Yes [ ] No

A permit is valid for 1 year after the date of approval. The re-application process may take up to 14 calendar days for review and processing (not including time for postal delivery) and must be approved prior to the expiration of the old permit. You must re-apply for a permit more than 14 calendar days before the original permit expires.

18. Estimated Project Start Date (month/day/year). If this is a re-application, list the original project start date:

19. Estimated Project Completion Date (month/day/year), the date may be beyond the one year duration of the permit:

20. List Soil Designations from Appendix F in Maricopa County Air Pollution Control Regulations or, if attaching a copy of the site geotechnical report, check here:

<table>
<thead>
<tr>
<th>Texture of soil naturally present on work site</th>
<th>Texture of soil to be imported onto work site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Asbestos NESHAP Notification requirements: (answer all subparts of Question 21)

SEPARATE notification and fee for demolition/renovation activities may be required.

Questions concerning the Asbestos NESHAP regulation should be referred to the Maricopa County’s Asbestos NESHAP Coordinator at 602-506-6708 or 602-506-0421. Forms, contacts, regulations and additional information not covered below may be obtained at: http://www.maricopa.gov/Air/Divisions/Compliance/Asbestos/NESHAP/default.aspx

Be advised that Maricopa County has been delegated regulatory jurisdiction for all regulated facilities within the boundaries of Maricopa County, including within all city boundaries contained in the county. All regulated facilities scheduled for demolition or renovation (defined below) must be inspected by a currently certified Asbestos Hazard Emergency Response Act (AHERA) Building Inspector. There is no waiver of this requirement based on the age of the facility. The inspection must be performed within the 12 months preceding commencement of demolition or renovation activity.

Demolition: The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of a facility.

Renovation: Altering a facility or one or more facility components in any way, including the stripping or removal of Regulated Asbestos Containing Material (RACM) from a facility component.

21a. Does the Project include demolition or renovation? [ ] Yes [ ] No

- Demolition: [ ]
- Renovation: [ ]

If "Yes", provide all requested information for Questions 21b to 21d. If "No", proceed to Part 3:

21b. Description of demolition/renovation activities:

21c. Has the property ever been used as a ranch, farm, business or any other commercial or industrial purpose? [ ] Yes [ ] No

21d. Is there a guesthouse, more than one livable structure on the property, or is work being done in conjunction with another property in the area? [ ] Yes [ ] No

If "Yes" to either Question 21c or 21d then skip Question 21e and provide all requested information for Questions 21f to 21l as the residential property exemption does not apply.

If "No" to both Question 21c and 21d, continue and answer Question 21e:

21e. Is this a residential property? [ ] Yes [ ] No

If "Yes", proceed to Part 3. If "No", provide all requested information for Questions 21f to 21l:

21f. Description of each structure:

21g. Has an asbestos inspection been conducted by an AHERA Certified Building Inspector within the last 12 months before the time of scheduled activities? [ ] Yes [ ] No

If "Yes", provide requested information for Question 21h. If "No", proceed to Question 21i.

21h. Date of AHERA inspection:

21i. Has a 10-Day NESHAP Notification been submitted? [ ] Yes [ ] No

If "Yes", provide all requested information for Questions 21j to 21l.

If "No", you need to file the appropriate form(s), therefore, check online or call the Coordinator as referenced above.

21j. 10-Day NESHAP Notification submittal date (Attach a copy):

21k. 10-Day NESHAP Notification number: ASB0

21l. 10-Day NESHAP Notification submitted by: (provide name of the contractor, individual, etc.)

For Central Office Use Only

Demolition Notification number on file: Approved by:
Renovation Notification number on file: Date approved:
Scheduled days of operation: Date contacted:
Follow up: Date contacted:
PART 3
DUST CONTROL PERMIT APPLICATION DUST CONTROL PLAN

DUST CONTROL PLAN
(See instructions pages 8-13, 19-22)

The following 13 pages will become the dust control plan that will be followed for the project named in this permit. Once fully completed and approved this Dust Control Plan must be posted on-site with the Dust Control Permit and supplied to all contractors and subcontractors.

Primary ("P") and Contingency ("C") Control Measures:

Every category and/or sub-category requires at least one primary control measure ("P") and at least one contingency control measure ("C"). A contingency control measure is the back-up or secondary action(s) that needs to immediately be implemented when the primary control measure(s) fails to adequately control dust emissions at the named project.

To indicate your choice, mark the box next to the appropriate letter ("P" or "C") in front of each control measure(s) that you have chosen. Do this for both primary and contingency control measures in every category and/or sub-category.

Categories and/ or sub-categories that are not applicable:

When a category and/or sub-category does not apply to the project named in this permit this must be acknowledged by completely filling out the final entry in the category and/or sub-category. An explanation must be supplied for why the category and/or sub-category is not applicable. This is in addition to simply writing "NA" or "not applicable".

When completing the following Dust Control Plan, use the Instructions on pages 8-13 and 19-22 to help you select dust control measures and keep in mind the following:

- Every category and/or sub-category requires at least one "P" (Primary) and at least one "C" (Contingency).
- Categories and/or sub-categories of dust-generating operations C1, C3, C5, E3, F, and G, in the following Dust Control Plan, have primary control measures, "P", required by Rule 310. You will need to choose a contingency measure, "C", for these dust-generating operations if they are applicable to your project.
- When "P" has replaced a "P", the dust control measure CANNOT be used as a primary control measure; this measure may only be considered a contingency control measure when selected.
- Where "P" has replaced a "C", the dust control measure CANNOT be used as a contingency control measure and is required to be used as a primary control measure whenever that category and/or sub-category applies to the project.
- Where "Other" is listed without reference to opacity or surface stabilization standard(s) and is selected as a primary control measure, the description must meet the criteria in the instructions on page 8 for "Unlisted Dust Control Measures."
- If a category and/or sub-category does not apply to the project named in this application the last item in that category and/or sub-category must be fully completed. An explanation of why it is not applicable is required.

After your Dust Control Permit Application has been approved, you must post your Dust Control Permit along with this Dust Control Plan on-site, as required by Rule 310, Section 409.
## Category B. Disturbed Surface Areas

### B.1 Before Active Operations occur

- **P** C Pre-water site to the depth of cuts *(Fill out Category I, “Water” on pp. 37-41)*
- **P** C Phase work to reduce the amount of disturbed surface area at any one time. *Attach a map delineating the phases and their extent*
- **P** C Other: _______________________

Or, explain why this sub-category and its control measures are not applicable: _______________________

### B.2 During Active Operations

- **P** C Apply water or other suitable dust suppressant(s) other than water *(Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42)*
- **P** C Apply water to maintain a soil moisture content at a minimum of 12% or at least 75% of the optimum soil moisture content for areas that have an optimum moisture content for compaction of less than 12% *(Fill out Category I, “Water” on pp. 37-41)*
- **P** C In conjunction with one of the above listed measures construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of windblown material leaving the site
- **P** C Cease operations, NOTE: This option CANNOT be considered a primary control measure.
- **P** C Other: _______________________

Or, explain why this sub-category and its control measures are not applicable: _______________________

### B.3 Stabilization for any inactive period, of any length, 24 hours per day, seven days per week including weekends, after work hours, and holidays

- **P** C Apply water *(Fill out Category I, “Water” on pp. 37-41)*
  - Disturbed Surface Areas: Three times per day, increased to a minimum of four times per day if there is evidence of wind-blown dust
  - Open Storage Piles (temporarily disturbed): At least twice per hour in a PM10 nonattainment area, at least once per hour in a PM10 attainment area
- **P** C Apply and maintain surface gravel or dust suppressant(s) other than water *(Fill out Category I, “Water” on pp. 37-41)*
- **P** C Cover open storage piles with tarps, plastic or other materials such that wind will not remove the covering(s)
- **P** C Establish vegetative ground cover (landscaping)
- **P** C Other: _______________________

Or, explain why this sub-category and its control measures are not applicable: _______________________

### B.4 Permanent Stabilization of Disturbed Surface Areas required within ten days following the completion of the Dust-Generating Operation if finished for a period of 30 days or longer

- **P** C Pave *(Choose one of the following): **Beginning of Project***, **During Project***, **End of Project*** *(Must specify additional primary control measure(s) that will be in place prior to paving)*
- **P** C Apply and maintain gravel, recycled asphalt, or other suitable material
- **P** C Apply and maintain dust suppressant(s) other than water *(Fill out Category I, “Water” on pp. 37-41)*
- **P** C Establish vegetative ground cover (landscaping)
- **P** C Implement above control measures and restrict vehicle access to the area
- **P** C Apply water *(Fill out Category I, “Water” on pp. 37-41)* and prevent access/impede by:
  - (Check all of the following that apply)
    - ditches
    - fences
    - berm
    - shrubs
    - trees
    - other
- **P** C Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions (desert xeriscaping)
- **P** C Other: _______________________

Or, explain why this sub-category and its control measures are not applicable: _______________________

---

*Maricopa County Dust Control Permit Application Package – DUST CONTROL PLAN*
Category C. Bulk Material Handling

(See Instructions page 11)

C.1 Off-Site Hauling onto Paved Areas Accessible to the Public

Required: Install, maintain, and use a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse the site.

Required when a cargo compartment is loaded:
- Cover haul trucks with a tarp or other suitable closure AND prevent spillage or loss of bulk material from holes or other openings in the cargo compartment.
- Load all haul trucks such that the freeboard is not less than 3 inches AND load all haul trucks such that at no time shall the highest point of the bulk material be higher than the sides, front, and back of the cargo container area.

Required when a cargo compartment is empty:
- Cover haul trucks with a tarp or other suitable closure OR clean the interior of the cargo compartment before leaving the site.

NOTE: The following options CANNOT be considered for a primary control measure.
- Cease operations
- Other:

Or, explain why this sub-category and its control measures are not applicable.

C.2 Hauling/Transporting within the Boundaries of the Work Site but not crossing a Paved Area Accessible to the Public

Limit vehicle speed to 15 m.p.h. or less while traveling on the work site such that visible emissions coming off the load do not exceed 20% opacity.

Required when trash is loaded:
- Apply water to the top of the load (Fill out Category I, “Water” on pp. 37-41)
- Apply dust suppressant(s) other than water to the top of the load (Fill out Category J, “Dust Suppressants other than water” on p. 42)

Required when trash is empty:
- Cease operations
- Other:

Or, explain why this sub-category and its control measures are not applicable.

C.3 Hauling/Transporting within the Boundaries of the Work Site and crossing and/or accessing a Paved Area accessible to the Public

Required:
- Load all haul trucks such that the freeboard is not less than 3 inches AND load all haul trucks such that at no time shall the highest point of the bulk material be higher than the sides, front, and back of the cargo container area.
- Install suitable trackout control device.

NOTE: The following options CANNOT be considered for a primary control measure.
- Cease operations
- Other:

Or, explain why this sub-category and its control measures are not applicable.

C.4 Bulk Material Stacking, Loading, and Unloading Operations

Required:
- Apply water (Fill out Category I, “Water” on pp. 37-41)
- Apply dust suppressant(s) other than water (Fill out Category J, “Dust Suppressants other than water” on p. 42)

NOTE: The following options CANNOT be considered for a primary control measure.
- Cease operations
- Other:

Or, explain why this sub-category and its control measures are not applicable.

C.5 Open Storage Piles

Prior to and/or while conducting stacking, loading, and unloading operations spray material with water or a dust suppressant other than water (Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42)

When not conducting stacking, loading, and unloading operations cover open storage piles with tarp, plastic, or other material, OR
- Apply water to maintain soil moisture content at a minimum of 12% or maintain at least 70% of the optimum soil moisture content, for areas that have an optimum moisture content for compaction of less than 12% (Fill out Category I, “Water” on pp. 37-41), OR
- Maintain a soil crust, OR
- In conjunction with the two measures above, construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the pile length, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%

Required:
- Cease operations
- Other:

Or, explain why this sub-category and its control measures are not applicable.
**Category D. Trackout, Carry-out, Spillage, and Erosion**

(See Instructions page 11)

**D.1 Trackout Control Device**

A trackout control device must be installed if a work site has 2 acres or more of disturbed surface area or if a work site has 100 cubic yards of bulk material hauled on-site or off-site per day.

- **P** Required: Install at all exits to a paved area accessible to the public at least one of the following:
  - gravel pad
  - grizzly or rumble grate
  - wheel wash system
  - paved area

- **C** Cease operations, NOTE: This option CANNOT be considered a primary control measure.

- **P** Other: ________________

Or, explain why this sub-category and its control measures are not applicable ________________

**D.2 Cleaning**

Trackout/carry-out must be cleaned up immediately if trackout/carry-out extends a cumulative distance of 25 linear feet or more along a paved area accessible to the public including curbs, gutters, and sidewalks.

All other trackout/carry-out must be cleaned up no later than the end of the workday (End of Work Day is the end of a working period that may include one or more work shifts. If working 24 hours a day, the end of a working period shall be considered no later than 8:00 p.m.).

- **P** Operate a street sweeper or wet broom with sufficient water and at the manufacturer’s recommended speed (e.g. kick broom, steel bristle broom, Teflon broom, vacuum)

- **P** Manually sweep up deposits

- **P** Other: ________________

Or, explain why this sub-category and its control measures are not applicable ________________

**Category E. Weed Abatement by Discing or Blading**

(See Instructions page 12)

**E.1 Disturbance Operations**

- **P** Required: Pre-water site AND apply water during weed abatement by discing or blading (Fill out Category I, “Water” on pp. 37-41)

  NOTE: The following options CANNOT be considered for a primary control measure.

  - **C** Cease operations

- **P** Other: ________________

Or, explain why this sub-category and its control measures are not applicable ________________

**E.2 Stabilization**

- **P** Pave immediately following weed abatement

- **P** Apply gravel

- **P** Apply dust suppressant(s) other than water (Fill out Category J, “Dust Suppressants other than water” on p. 42)

- **P** Establish vegetative ground cover (landscaping)

- **P** Other: ________________

Or, explain why this sub-category and its control measures are not applicable ________________

**Category F. Blasting Operations**

(See Instructions page 12)

- **P** Required: Discontinue blasting, if wind gusts above 25 m.p.h., AND

  Required: Pre-water AND maintain surface soils in a stabilized condition where support equipment and vehicles will operate (Fill out Category I, “Water” on pp. 37-41)

- **P** Apply water (Fill out Category I, “Water” on pp. 37-41)

- **P** Apply dust suppressant(s) other than water (Fill out Category J, “Dust Suppressants other than water” on p. 42)

- **C** Other, NOTE: This option CANNOT be considered a primary control measure.

Or, explain why this category and its control measures are not applicable ________________
Category G. Demolition Activities
(See Instructions page 12)

- P Required: Apply water or water in combination with dust suppressant(s) to demolition debris immediately following demolition activity (Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42), and
- C Required: Apply water or water in combination with dust suppressant(s) to all surfaces immediately following demolition activity (Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42)

NOTE: The following options CANNOT be considered for a primary control measure.
- C C Clean debris from paved and other surfaces following demolition activity
- C C Thoroughly clean debris from paved and other surfaces following demolition activity

Or, explain why this category and its control measures are not applicable ______________________________

Category H. Wind Event
(See Instructions page 13)

H.1 During Active Operation
- P C Cease dust-generating operation for the duration of the wind event when the 60-minute average wind speed is greater than 25 m.p.h. and stabilize work area if dust-generating operation is ceased for the remainder of the work day

- P C Apply water or other suitable dust suppressant at least twice per hour (once per hour if outside the nonattainment area) (Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42)

- P C Apply water to maintain soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-05 or other equivalent method as approved by the Control Officer and the Administrator of the Environmental Protection Agency (Fill out Category I, “Water” on pp. 37-41)

- P C Maintain at least 70% of the optimum soil moisture content for areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-02 or other equivalent method as approved by the Control Officer or the Administrator Of The Environmental Protection Agency (Fill out Category I, “Water” on pp. 37-41)

- P C Apply water or other suitable dust suppressant(s) at least twice (once if outside the nonattainment area) per hour and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of windblown material leaving the site (Fill out Category I, “Water” on pp. 37-41 or Category J, “Dust Suppressants other than water” on p. 42)

- C C Other, NOTE: This option CANNOT be considered a primary control measure.

Or, explain why this sub-category and its control measures are not applicable ______________________________

Category I. Water
(See Instructions page 13)

For each of the different project phases, indicate how the water is to be stored on or supplied to the project site in the “Supply” column, specifying the quantity and size of the supply method (e.g., (2) 3,000 gallon water towers). Also designate how the water will be applied to control dust-generating throughout the project lifetime in the “Application” column, stating the quantity and size of the application method (e.g., 1 fire hose, (3) 1000 gal. water trucks). Minimum water availability means water supply in conjunction with the water application system.

Soil Rating: Severe Moderate

(See Appendix F of the Maricopa County Air Pollution Control Regulations as well as the Instructions, pages 13 and 15-17)

### Soil Texture Rating

<table>
<thead>
<tr>
<th>Project Phase - Site Clearing/Removal of Vegetation/Debris/Demolition</th>
<th>Average Daily Disturbance in Acres</th>
<th>Number of Gallons per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Acres Disturbed</td>
<td>Minimum Water Available</td>
<td></td>
</tr>
<tr>
<td>0 - 2 acres</td>
<td>300 - 600 gallons per day</td>
<td></td>
</tr>
<tr>
<td>2 - 10 acres</td>
<td>1,000 - 2,000 gallons per day</td>
<td></td>
</tr>
<tr>
<td>&gt; 10 acres</td>
<td>&gt; 20, 000 gallons per day</td>
<td></td>
</tr>
<tr>
<td>Moderate (all other classifications)</td>
<td>300 - 600 gallons per day</td>
<td></td>
</tr>
<tr>
<td>2 - 10 acres</td>
<td>600 - 1,200 gallons per day</td>
<td></td>
</tr>
<tr>
<td>&gt; 10 acres</td>
<td>&gt; 30, 000 gallons per day</td>
<td></td>
</tr>
</tbody>
</table>

Average Daily Disturbance in Acres | Number of Gallons per day |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Application</td>
</tr>
<tr>
<td>Water Tower</td>
<td>Hose</td>
</tr>
<tr>
<td>Water Tank</td>
<td>Water Truck</td>
</tr>
<tr>
<td>Water Pump</td>
<td>Water Pull</td>
</tr>
<tr>
<td>Off Site</td>
<td>Water Buffalo</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
</tr>
</tbody>
</table>

Maricopa County Dust Control Permit Application Package – DUST CONTROL PLAN  Page 37 of 42
### Project Phase - Mass Grading

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Minimum Water Available (November - February)</th>
<th>Minimum Water Available (March - October)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe (clay, silty clay, sandy clay)</td>
<td>5,000 gallons per acre per day and 30 gallons per cubic yard of material moved</td>
<td>10,000 gallons per acre per day and 30 gallons per cubic yard of material moved</td>
</tr>
<tr>
<td>Moderate (all other classifications)</td>
<td>5,000 gallons per acre per day and 30 gallons per cubic yard of material moved</td>
<td>10,000 gallons per acre per day and 30 gallons per cubic yard of material moved</td>
</tr>
</tbody>
</table>

### Project Phase - Underground Utilities

### Project Phase - Unpaved Access Areas/Haul Roads

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Total Acres Disturbed</th>
<th>Minimum Water Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe (clay, silty clay, sandy clay)</td>
<td>&gt; 100 acres</td>
<td>&gt; 35,000 gallons per day</td>
</tr>
<tr>
<td>Moderate (all other classifications)</td>
<td>&gt; 100 acres</td>
<td>&gt; 22,500 gallons per day</td>
</tr>
</tbody>
</table>

### Project Phase - Vertical/Paved

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Total Acres Disturbed</th>
<th>Minimum Water Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe (clay, silty clay, sandy clay)</td>
<td>&gt; 100 acres</td>
<td>&gt; 25,000 gallons per day</td>
</tr>
<tr>
<td>Moderate (all other classifications)</td>
<td>&gt; 100 acres</td>
<td>&gt; 15,000 gallons per day</td>
</tr>
</tbody>
</table>
### Soil Texture Rating

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Total Acres Disturbed</th>
<th>Minimum Water Available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severe</strong>&lt;br&gt; (clay, silty clay, sandy clay)</td>
<td>0 - 2 acres</td>
<td>375 - 750 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>750 - 3,500 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 35,000 gallons per day</td>
</tr>
<tr>
<td><strong>Moderate</strong>&lt;br&gt; (all other classifications)</td>
<td>0 - 2 acres</td>
<td>225 - 400 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>400 - 2,250 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 22,500 gallons per day</td>
</tr>
</tbody>
</table>

#### Project Phase - Staging/Parking Areas/Storage Areas Including Landscaping Installation

<table>
<thead>
<tr>
<th>Average Daily Disturbance in Acres</th>
<th>Number of Gallons per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Quantity and Size Application</td>
</tr>
<tr>
<td>Metered Hydrant</td>
<td>Hose</td>
</tr>
<tr>
<td>Water Tower</td>
<td>Water Truck</td>
</tr>
<tr>
<td>Water Pond</td>
<td>Water Pull</td>
</tr>
<tr>
<td>Off-Site</td>
<td>Water Buffalo</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### Project Phase - Structure Excavation (Includes stem walls, footings, culverts, abutments, caissons)

<table>
<thead>
<tr>
<th>Average Daily Disturbance in Acres</th>
<th>Number of Gallons per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Quantity and Size Application</td>
</tr>
<tr>
<td>Metered Hydrant</td>
<td>Hose</td>
</tr>
<tr>
<td>Water Tower</td>
<td>Water Truck</td>
</tr>
<tr>
<td>Water Pond</td>
<td>Water Pull</td>
</tr>
<tr>
<td>Off-Site</td>
<td>Water Buffalo</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

#### Project Phase - Fine Grading

<table>
<thead>
<tr>
<th>Soil Texture Rating</th>
<th>Total Acres Disturbed</th>
<th>Minimum Water Available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severe</strong>&lt;br&gt; (clay, silty clay, sandy clay)</td>
<td>0 - 2 acres</td>
<td>500 - 1,000 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>1,000 - 5,000 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 50,000 gallons per day</td>
</tr>
<tr>
<td><strong>Moderate</strong>&lt;br&gt; (all other classifications)</td>
<td>0 - 2 acres</td>
<td>300 - 600 gallons per day</td>
</tr>
<tr>
<td></td>
<td>2 - 10 acres</td>
<td>600 - 3,000 gallons per day</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 acres</td>
<td>&gt; 30,000 gallons per day</td>
</tr>
</tbody>
</table>

#### Import/Export Operations

- Number of Yards Involved in this Phase
- Number of Days for Operation

**Total Gallons required divided by number of days =**

- Supply
- Quantity and Size Application
- Quantity and Size Application
- Metered Hydrant
- Hose
- Water Tower
- Water Truck
- Water Pond
- Water Pull
- Off-Site
- Water Buffalo
- Other
Category J. Dust Suppressants other than water
(See Instructions page 13)

Although water is a dust suppressant, the information required by Table J should not include information on water supply and water application. The information required by Table J is for all other dust suppressants that you use. Fill out the applicable areas in this table below and attach information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application. Also, attach product specification(s) and application sheet(s) or label instructions.

<table>
<thead>
<tr>
<th>Application Area</th>
<th>Manufacturer Name</th>
<th>Product</th>
<th>Application Frequency</th>
<th>Intensity**</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Vehicles/ Motorized Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Disturbed Surface Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Bulk Material Handling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Trackout, Carry-out, Spillage, and Erosion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Weed Abatement by Discing or Blading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Blasting Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Demolition Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H Wind Event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*How often the surface will receive a complete application of dust suppressant (e.g. 3 times a day)
**The amount used over a period of time (e.g. gallons/minute)
MEMORANDUM OF AGREEMENT

Appendix 4-5, Memorandum of Agreement, contains the Memorandum of Agreement committing FHWA, USACE, and ADOT to integrating NEPA and Section 404 of the Clean Water Act into the transportation planning, decision-making, and implementation process of the project. The completion of this memorandum of agreement is required as a component of a coordinated environmental review process to improve inter-agency communications, protect Waters and wetlands, expedite construction of necessary projects, and enable more projects to proceed on budget and schedule.

APPENDIX 4-5

AMENDED AND SUPERSEDED
MEMORANDUM OF AGREEMENT
BETWEEN THE
ARIZONA DEPARTMENT OF TRANSPORTATION,
FEDERAL HIGHWAY ADMINISTRATION, ARIZONA DIVISION OFFICE
AND
THE UNITED STATES ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
CONCERNING FUNDING FOR THE DEPARTMENT OF THE ARMY PERMIT PROCESS ON PRIORITY FEDERAL-AID HIGHWAY PROJECTS

THIS AMENDED AND SUPERSEDED MEMORANDUM OF AGREEMENT ("AMENDED MOA") is entered into as of this day 18th of October, 2013, between the U.S. Army Corps of Engineers' Los Angeles District (hereinafter the "Corps"), Federal Highway Administration, Arizona Division Office (hereinafter the "FHWA"), and the Arizona Department of Transportation (hereinafter the "ADOT"), collectively, referred to herein as the "Parties."

RECITALS

WHEREAS, the Parties entered into a Memorandum of Agreement ("Original MOA") effective June 18, 2012 concerning funding for the Department of the Army permit process on priority Federal-aid highway projects; and

WHEREAS, the Parties wish to amend and supersede the Original MOA in its entirety; and

WHEREAS, the Corps has regulatory jurisdiction over certain activities occurring in waters of the United States, including wetlands; and

WHEREAS, because of Federal-aid transportation funding increases under the Moving Ahead for Progress in the 21st Century ("MAP-21"), Public Law 112-141, ADOT substantially increased the number of transportation projects the Corps must review pursuant to 33 U.S.C. 1344 (Section 404 of the Clean Water Act of 1972 ("CWA")), as amended and 33 U.S.C. 403 (Section 10 of the River and Harbor Act of 1899 ("RHA")); and

WHEREAS, the Corps has indicated that, due to staff resource constraints, it is currently unable to provide ADOT with priority review for permitting decisions for the increased number of Federal-aid transportation projects pursuant to its responsibilities; and

WHEREAS, ADOT desires the Corps to increase its level of early involvement during the project planning and development process, so that final Corps reviews will not constitute an unexpected delay in ADOT project implementation; and
WHEREAS, 23 U.S.C. 139(j) (Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)) allows ADOT to furnish Federal-Aid Highway Program ("FAHP") funds to the Corps to expedite the processing of environmental documents for permit decisions for priority transportation projects, and

WHEREAS, this AMENDED MOA is intended to (1) enable the Parties to fully consider, address, and protect environmental resources early in the development of proposed transportation actions; (2) avoid conflicts late in project development through close coordination during early transportation planning and development stages; (3) provide sufficient information to the Corps for timely analysis of project effects and to assist ADOT in developing appropriate mitigation measures; (4) maximize the effective use of limited Corps personnel resources by focusing attention on projects that would most affect aquatic resources; (5) provide a mechanism for expediting project coordination when necessary; and (6) provide procedures for resolving disputes in this resource partnering effort, and

WHEREAS, the FHWA has indicated and agrees that the State’s apportioned Federal-aid highway funds can be used to support this AMENDED MOA.

NOW, THEREFORE, the Parties agree as follows:

AGREEMENT

Article I. PURPOSE AND AUTHORITIES

A. This AMENDED MOA is entered into by the Parties for the purpose of establishing the responsibilities of the Parties relative to priority review of FAHP-funded projects with the goal of achieving timely design and implementation of highway improvements while also ensuring such design and implementation is sensitive to the protection of aquatic resources for which the Corps is responsible under Federal statute and regulation. This AMENDED MOA is not intended as the exclusive means of obtaining review of projects proposed by ADOT. This AMENDED MOA is in a vehicle by which ADOT may obtain expedited review of FAHP-funded projects designated as priorities, outside of the ordinary Corps review process.

B. ADOT enters into this AMENDED MOA pursuant to Arizona Revised Statute section 28-401 and other relevant Arizona law and 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

C. The Corps enters into this AMENDED MOA pursuant to 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

D. FHWA enters into this AMENDED MOA pursuant to 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

Article II. SCOPE OF WORK

A. Activities that the Corps may pursue under this AMENDED MOA are restricted to actions taken under Corps regulatory authority that will expedite, in furtherance of environmental permits required by ADOT in furtherance of FAHP-funded projects in accordance with the mandates of 23 U.S.C. 139(j), to facilitate permit application review in less than the customary time necessary for such review. Said processing shall include a full consideration of all relevant and applicable environmental laws and regulations. In no way shall it be construed or implied that the Parties intend to abrogate by entering into this AMENDED MOA any obligations or duties to comply with applicable Federal or state laws, regulations, guidance, policies and procedures. Use of such funds will not affect the impartial decision-making of the Corps either substantively or procedurally.

B. The Corps’ Regulatory Program is funded as a Congressionally appropriated line item in the annual Federal budget. ADOT will provide the Corps with funds in accordance with 23 U.S.C. 139(j). The Corps will provide one full-time Regulatory Program Manager qualified at grade GS-11 as described in Attachment C, exclusively dedicated to expediting permit evaluation-related services, as described in Article I.D. below, for ADOT-designated priority projects to support efficient decision-making related to ADOT’s permitting needs.

C. The Corps will establish a separate internal financial account to track receipt and expenditure of the funds associated with its review of permit applications submitted by ADOT. The Corps full-time Regulatory Program Manager will be paid by the funds provided by ADOT; however, no less than these projects are designated by ADOT as a priority, Corps regulatory personnel will then work on other programmatic efforts, and assist with staff training for ADOT.

D. Funds contributed by ADOT hereunder will be expended by the Corps to defray the costs of the AMENDED MOA. The Corps will provide one full-time Regulatory Program Manager (including salary, associated benefits, overhead and travel expenses) and other costs in order to expedite the evaluation of priority permit applications designated by ADOT. Such activities will include, but need not be limited to, the following: jurisdictional determinations; site visits; travel; federal register preparation; public notice preparation and distribution; public hearings; preparation of correspondence; public interest review; preparation and review of environmental documentation; meetings with ADOT and resource agencies; training for ADOT employees, partners and contractors; and any other permit evaluation related responsibilities that may be mutually agreed upon.

If the funds provided by ADOT are expended and not replenished, any remaining priority permit applications will be handled by those of any permit applicant.

Article III. INTERAGENCY COMMUNICATIONS

To provide for consistent and effective communication between the Parties, each party will appoint a Principal Representative to serve as the central point of contact on matters relating to this AMENDED MOA. Additional representatives may also be appointed to serve as points of contact on specific actions or issues. Each party will issue a letter to the other designating the Principal Representative for each party within fifteen (15) calendar days of AMENDED MOA execution. The Principal Representative for each party may be changed upon written notification to the other parties.

Article IV. RESPONSIBILITIES OF THE PARTIES

A. The Corps shall supplement, and not supplant, its existing Regulatory Program personnel, who currently review ADOT projects on a routine basis, with one qualified full-time Regulatory Program Manager at grade GS-11 as described in Attachment C, within projected funding levels provided by ADOT. The Corps shall use the funds provided to defray the costs of salaries and associated benefits and to reimburse travel expenses in order to:

1. Expedite review of ADOT’s FAHP-funded priority projects in accordance with the purpose, terms, and conditions of this AMENDED MOA. ADOT will provide and update the list of
priority projects as needed. The Corps shall not redirect resources from, or otherwise postpone, other non-priority projects submitted by ADOT through the standard Corps review process.

2. Actively participate in ADOT scoping, planning, and project development meetings and field reviews, when requested, to identify critical issues, key decision points, and potential conflicts as early as possible. Participation includes sharing, when appropriate, the most current information to ensure that good transportation decisions result. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

3. Participate with other federal, state, and local agencies in the concurrent and proactive review of transportation projects and provide any concurrences or recommendations, as required. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

4. Participate in transportation planning meetings, their related activities, and the review of the environmental elements of any planning documents, as requested. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

5. As appropriate, use a coordinated process to review draft and final environmental impact statements and other environmental documents, and provide timely agency comments.

6. Explore potential programmatic permitting approaches to facilitate reduced processing time.

7. Provide quarterly status updates on Corps decisions or pending actions that will affect ADOT.

8. Perform other related priority tasks, such as early project scoping/coordination as requested by ADOT and agreed to by the Corps.

9. Review application packages for completeness and notify ADOT within 15 calendar days of receipt if application is incomplete.

10. Provide periodic CWA section 404 permit training for ADOT employees, partners, consultants, and contractors.

11. Attend periodic application status meetings with ADOT as necessary.

12. Provide ADOT with quarterly accounting records of actual account of expenditures for salaries, benefits, travel and indirect costs as drawn against advance state payment in support of work contemplated by this AMENDED MOA.

B. ADOT will provide $169,313.65 to fund Corps Regulatory personnel for the purpose of timely review of selected FAHP-funded priority projects and other identified activities. To facilitate the Corps’ reviews and activities, ADOT will:

1. Identify individual projects and other activities requiring priority involvement by the Corps under this AMENDED MOA. The list of projects will be reviewed and revised by ADOT as necessary.

2. Actively engage the Corps personnel in ADOT scoping, planning, and project development through various means, including, but not limited to, meetings, field visits, conference calls, video teleconferencing, and electronic correspondence.

3. Provide sufficient information and time to the Corps, on projects requiring authorization by standard individual permit, for the timely determination of project purpose statements and range of alternatives, analysis of project effects, determination of the least environmentally damaging practicable alternative, and development of appropriate mitigation measures. Upon request, provide supplemental information necessary to ensure that the Corps can effectively accomplish the tasks listed in Article IV.A. above.

4. In consultation with the Corps, recommend realistic timelines for the Corps’ involvement.

5. Maintain a single focal point of contact at ADOT for general coordination with the Corps, arranging pre-application meetings, submittal of Department of the Army permit applications, and other requests for regulatory action.

6. Attend periodic application status meetings with the Corps, as necessary.

7. Participate, to the extent allowable, and in training provided by the Corps pursuant to Article IV.A.10 above.

8. Program a FAHP project to track costs contemplated by this AMENDED MOA.

9. Provide advance payments as contemplated by this AMENDED MOA.

C. FHWA will:

1. Approve programming a FAHP project to accomplish the work contemplated by this AMENDED MOA at the applicable federal-aid reimbursement rate.

2. Within 3 days after receiving an invoice from ADOT, reimburse ADOT for the total amount of Federal share payable for any project programmed (including advance payments) to support this AMENDED MOA.

3. In the event FHWA fails to fulfill the obligations set forth in this AMENDED MOA or withdraws its proposed plans for whatever reason, the FHWA shall, subject to the availability of funds, be responsible for all costs incurred by the ADOT up to the time of withdrawal, unless the reason for the FHWA failure or cancellation is due to ADOT’s failure to comply with its obligations hereunder.

D. Performance Measures

1. ADOT and the Corps have agreed to a set of performance measures to monitor activities under this AMENDED MOA. These performance measures are included as Attachment A to this AMENDED MOA and incorporated herein by reference.
2. These performance measures may be revised by mutual agreement of ADOT and the Corps without necessitating a formal amendment to this AMENDED MOA.

Article V. FUNDING

A. Within 60 days of execution of this AMENDED MOA and prior to the Corps incurring any expenditures to expedite permit evaluation-related activities as specified in this AMENDED MOA, funds shall be provided by ADOT to the Corps in the amount of $42,328.41 to cover a period of three months of the Corps’ budget estimate, which is included as Attachment B to this AMENDED MOA and incorporated herein by reference. Payments by ADOT are to be made by check, wire transfer, or electronic funds transfer as follows:

1. For checks, the payment shall be mailed to:
   
   U.S. Army Corps of Engineers, Los Angeles District
   Finance and Accounting Office
   P.O. Box 532711
   Los Angeles, CA 90053-2325
   Attn: Carlos M. Tabares

2. For electronic funds transfers, payment shall be made in accordance with Standard Operating Procedure (“SOP”) UFC 08 (Attachment D).

3. For wire transfers, payment shall be made in accordance with SOP UFC 07 (Attachment A). Paragraph 4 of this SOP refers to this AMENDED MOA instead of a Project Cooperation Agreement.

B. At the end of the calendar month in which the Corps received the advance payment specified in Article V.A. above and at the end of the calendar month of each month thereafter while this AMENDED MOA remains in effect, the Corps will invoice ADOT for an advance payment for the next month in the amount equal to what the Corps expended during the prior calendar month. Payment shall be made within a reasonable period of time after ADOT receives the invoice (not to exceed 30 calendar days) in the same manner and as provided in Article V.A. above. Invoices shall be submitted by the Corps to:

Mr. Paul O'Brien
Arizona Department of Transportation
Manager, Environmental Planning Group
1611 W Jackson Street; Mail Drop B021
Phoenix, AZ 85007

C. If the Corps’ actual costs for providing the agreed upon level of service exceed the amount of funds available, the Corps will notify ADOT prior to fund exhaustion of the incremental amount of funds needed to defray the remaining anticipated costs.

D. No later than July 31, 2013, and July 31 of each subsequent year that this AMENDED MOA remains in effect, the Corps and ADOT will discuss the Corps’ anticipated costs to be incurred for the next Federal fiscal year, including any step-increase and locality adjustments. Revisions agreed to by ADOT and the Corps will be incorporated into a revised budget estimate, without necessitating a formal revision or amendment to this MOA. No later than August 30, 2013 and August 30 of each subsequent year that this AMENDED MOA remains in effect, the Corps will provide a written request to ADOT for the total amount specified in the revised budget estimate.

E. The Corps will carry over any unexpended and unobligated funds from year to year. In the event any funds remain unexpended and unobligated when this AMENDED MOA is terminated or expires, the Corps will refund such unexpended and unobligated funds to ADOT.

Article VI. APPLICABLE LAWS

The applicable statutes, regulations, directives, and procedures of the United States will govern this AMENDED MOA and all documents and actions pursuant to it. Unless otherwise required by law, all expediting of permit applications undertaken by the Corps will be governed by Corps regulations, guidance, policies and procedures.

Article VII. DISPUTE RESOLUTION

In the event of a dispute, the Parties agree to use their best efforts to resolve the dispute in an informal fashion through consultation and communication, or other forms of non-binding alternative disputes resolution mutually acceptable to the Parties. The Parties agree that, in the event such measures fail to resolve the dispute, they shall proceed in accordance with applicable Federal law.

Article VIII. PUBLIC INFORMATION

Justification and explanation of FHWA and/or ADOT programs or projects before other agencies, departments and offices will not be the responsibility of the Corps. The Corps may provide, upon request from ADOT or the FHWA, any assistance necessary to support justification or explanations of activities conducted under this AMENDED MOA. In general, the Corps is responsible only for public information regarding Corps Regulatory activities. ADOT and/or FHWA will give the Corps advance notice before making formal, official statements regarding Corps activities funded under this AMENDED MOA.

Article IX. AMENDMENT, MODIFICATION AND TERMINATION

A. This AMENDED MOA may be modified or amended only by written, mutual agreement of the Parties.

B. Any Party may terminate this AMENDED MOA without cause upon thirty (30) days’ written notice to the other Parties. In the event of termination, ADOT will continue to be responsible for all costs incurred by the Corps in performing expedited environmental permit review services up to the time of notice and for the costs of closing out any ongoing contracts in support of the provision of services by the Corps under this AMENDED MOA.

C. Within sixty (60) calendar days of termination, or the expiration of the AMENDED MOA, the Corps shall provide ADOT with a final statement of expenditures. Within sixty (60) calendar days after submission of the Corps’ final statement of expenditures, the Corps, subject to availability of funds, shall remit to ADOT any unexpended or unobligated funds.

Article X. MISCELLANEOUS

A. This AMENDED MOA will not affect any pre-existing or independent relationships or obligations between the Parties.

B. The Corps’ participation in this AMENDED MOA does not imply endorsement of ADOT projects or does not diminish, modify, or otherwise affect Corps statutory or regulatory authorities.
C. If any provision of this AMENDED MOA is determined to be invalid or unenforceable, the remaining provisions will remain in force and unaffected to the fullest extent permitted by law and regulation.

D. This AMENDED MOA, including any documents incorporated by reference or attachments thereto, constitute the entire agreement between the Parties. All prior or contemporaneous agreements, understandings, representations and statements, oral or written, are merged herein and shall be of no further force or effect.

Article XI. EFFECTIVE DATE AND DURATION

This AMENDED MOA and any amendments will become effective on the date of signature by the last Party, and the signing and dating of the Determination Letter by the Arizona State’s Attorney General. ADOT shall provide written notice to the Corps and FHWA of the occurrence of the latter event. Unless amended or modified pursuant to Article IX.A, this AMENDED MOA shall remain in force until whichever of these events occurs first: 1) September 30, 2017, or 2) the AMENDED MOA is terminated pursuant to Article IX.B.

IN WITNESS WHEREOF, the Arizona Department of Transportation, acting by and through its authorized officer, the State Engineer, the U.S. Army Corps of Engineers, acting by and through its authorized officer, the District Engineer, and the Federal Highway Administration, acting by and through its authorized officer, the Division Administrator, executes this AMENDED MOA.

ARIZONA DEPARTMENT OF TRANSPORTATION

Dallas Flannery, P.E.
Deputy State Engineer, Development
Date: 2/21/2013

U.S. ARMY CORPS OF ENGINEERS,
LOS ANGELES DISTRICT

R. Mark Toy, P.E.
Colonel, US Army
Commander and District Engineer
Date: 12 MAR 2013

FEDERAL HIGHWAY ADMINISTRATION,
ARIZONA DIVISION OFFICE

Karla S. Petty
Division Administrator
Date: 3/4/2013
Performance Measures

For the measures listed below, ADOT and the Corps are expected to achieve the identified objective, for those projects designated as a priority by ADOT, unless ADOT and Corps have mutually agreed to extend the timeframe.

<table>
<thead>
<tr>
<th>Performance Objective</th>
<th>Performance Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• When appropriate, the ADOT staff will utilize the Nationwide Permit (NWP) Information Form to ensure a complete Department of the Army permit application is received, which in turn is expected to expedite the Corps’ permit review process.</td>
<td>The NWP Information Form shall be utilized at least 90% of the time.</td>
</tr>
<tr>
<td>• Upon initial receipt of a permit application, the Corps will notify ADOT within fifteen (15) calendar days if additional information is necessary to deem the application complete.</td>
<td>The Corps shall provide such notification within the stated timeframe at least 85% of the time.</td>
</tr>
<tr>
<td>• Standard Individual Permits will be processed within sixty (60) days of a complete application, with the exception of those that are delayed due to: absence of CWA Section 401 certification; Section 7 of the Endangered Species Act (ESA) consultation(s); Section 106 of the National Historic Preservation Act (NHPA) consultations; untimely submittal of information or comments from ADOT; an extended comment period for the PN; and/or other environmental review processes with statutory time frames (e.g., Environmental Impact Statement).</td>
<td>The Corps shall meet the stated objective at least 90% of the time.</td>
</tr>
<tr>
<td>• General Permits, including Nationwide Permits, will be processed within 45 calendar days, with the exception of those that are delayed due to the absence of CWA Section 401 certification, Section 106 of the NHPA and/or Section 7 of the ESA.</td>
<td>The Corps shall meet the stated objective at least 90% of the time.</td>
</tr>
</tbody>
</table>

Attachment B

Corps’ Budget Estimate
GS-11 Project Manager in Phoenix, Arizona

<table>
<thead>
<tr>
<th></th>
<th>Yearly</th>
<th>Monthly</th>
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<tbody>
<tr>
<td>Salary</td>
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<td>Travel</td>
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<td>Administrative costs</td>
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<td>Total</td>
<td>$169,313.65</td>
<td>$14,109.47</td>
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Three month estimate: $42,328.41
Attachment C

Professional Standards for Supplemental Staff

One (1) full time employee, or equivalent, with experience and/or education in engineering, biology, natural resources, or other related environmental science. Working knowledge of Section 404 of the (Federal) Clean Water Act, Section 10 of the Rivers and Harbors Act or 1899, the National Environmental Policy Act, the (Federal) Endangered Species Act, and the National Historic Preservation Act is essential. In addition, the ability to travel, occasionally overnight, is mandatory (temporary duty may constitute 10-20% of the employee's time). This employee will be qualified to be paid under the Federal White Collar Pay Schedule at the GS-11 or GS-12 level.
STANDING OPERATING PROCEDURES
ELECTRONIC FUNDS TRANSFERS TO THE CORPS

1. PURPOSE. To Standing Operating Procedure (SOP) provides procedures for utilizing Electronic Funds Transfer (EFT) and the Automated Clearing House (ACH) networks in lieu of mailing a check for payment to the Corps.

2. APPLICABILITY. The provisions of this SOP apply to the USACE Finance Center (UFC) and activities supported by the UFC.

3. REFERENCE. SOP No. UFC-03, Collection/Deposit Procedures.

4. PROCEDURES. When a Corps customer wishes to use EFT or ACH processes to transfer of cash contributions in lieu of mailing a check to the UFC, the enclosed procedures must be followed to ensure accurate and timely credit for the funds transferred.

   a. The customer must notify the supported activity F&A Officer or Project Manager in advance of the pending cash transfer. The customer’s notification should include the date of the transfer, amount, type of transfer (CCD+ or CTX format), and any other known data that will be used to identify the transfer. The customer’s financial institution will transfer the funds via the ACH network using the Cash Concentration or Disbursement Plus (CCD+) or Corporate Trade Exchange (CTX) formats of transactions. The required data elements for these types of transactions are provided in the enclosures.

   b. Upon notification from the customer or the Project Manager of the pending EFT, the supported activity F&A Officer must enter a Collection Receiving Officer Voucher (ROY) in CEFMS. All EFT collection vouchers must be submitted to the UFC Disbursing Division using Form UFC-DISP-1 (available at http://www.usace.army.mil/pdf/sa-ufcdisp1.pdf). There should only be one EFT transaction per ROY and no other transactions should be attached to an ROY established for EFT purposes.

   c. In addition to the enclosed format instructions, the F&A Officer or the Project manager must also provide the following information to the customer for the EFT transfer:
      (1) The District/Division/Laboratory/RBC two-digit EROC
      (2) The CEFMS ROY number
      (3) The Advance Account or Local Cost Share Number

5. CashLink II Agency Access System. CashLink II is an on-line U.S. Treasury system that allows the UFC to access and confirm our deposit information the next working day after the EFT is posted. The UFC monitors the CashLink II system daily. Upon verification of the EFT transfer in CashLink II, the UFC will certify the ROY and confirm the deposit. Funds will be available immediately after the deposit confirmation.

The UFC will not require any additional documentation from the supported activity or the customer provided all required documentation identified above is provided. If an EFT transaction is received via CashLink II that cannot be identified, it will be rejected back to the sender. Before rejecting an EFT, the UFC will research and try to determine the proper supported activity and CEFMS account to update. For those EFT transactions rejected by the UFC, the financial institution (bank) that initiated the EFT will notify the customer (sender) of the rejected transaction.

6. CHANGES. Refer all discrepancies, comments or questions regarding this SOP to the Chief, Disbursing Division, Directorate of Finance (CEFC-FD) 901-874-8648.

FOR THE DIRECTOR:


Encls

SHIRLEY L. AUTRY
Deputy Director, Finance
**ACH CCD** Format

<table>
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*Data remains same for every transaction*
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*Data supplied by Corps District to Customer - If data is not present, transaction will be rejected*

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*Data supplied by Corps District to Customer - If data is not present, transaction will be rejected*
STANDING OPERATING PROCEDURE
WIRE TRANSFER OF FUNDS

1. PURPOSE. This Standing Operating Procedure (SOP) provides procedures to follow in order to
deposit funds into an advance account or a cost sharing account through use of Wire Transfer.

2. APPLICABILITY. This SOP applies the USACE Finance Center (UFC) and activities supported by the UFC.

3. REFERENCE. SOP No. UFC-03, Collection/Deposit Procedures.

4. PROCEDURES. When a customer wishes to use wire transfer procedures to transfer funds to the Corps, the enclosed wire transfer procedures must be followed to ensure accurate and timely credit for funds transferred.

   a. The customer must notify the supporting F&A Officer in advance of a transfer providing
the date of the transfer, amount and the applicable Project Cooperation Agreement (PCA) number or
advance account number the funds are intended for. The sponsor must wire the funds through the
Federal Reserve Bank of New York using a Type 1000, Structured Third Party Funds Transfer Message to transfer the funds to the UFC. The data needed by the customer's sponsor bank is
provided as enclosure I.

   b. When notification from the customer is received by the F&A Officer, a Collection Receiving Office Voucher (ROV) must be created in CEFMS. All wire transfer collection vouchers
must be submitted to the UFC Disbursing Division using the UFC-DES6-6 Form (enclosure 2). The
supported F&A Officer must ensure that all information on the form is provided and forwarded to the
UFC arriving in advance of the transfer. There should only be one wire transfer for each ROV.

5. CashLink II Agency Access System. CashLink II is an on-line U.S. Treasury system that
allows the UFC to access and confirm our deposit information the next working day after the
wire transfer is posted. The UFC monitors the CashLink II system daily. Upon verification of
the wire transfer in CashLink II, the UFC will certify the ROV and confirm the deposit. Funds
will be available immediately after the deposit confirmation.
The UFC will not require any additional documentation from the supported activity or the customer provided all required documentation identified above is provided. If a wire transfer is received via CashLink II that cannot be identified, it will be rejected back to the sender.

Before rejecting a wire transfer, the UFC will research and try to determine the proper supported activity and CEFMS account to update. For those wire transfers rejected by the UFC, the financial institution (bank) that initiated the transfer will notify the customer (sender) of the rejected transaction.

6. CHANGES. Refer all discrepancies, comments or questions regarding this SOP to the Chief, Disbursing Division, Directorate of Finance (CEFC-FD) 901-874-8648.

FOR THE DIRECTOR:

SHIRLEY L. AUTRY
Deputy Director, Finance
WIRE TRANSFER ONLY

RECEIVING VOUCHER ROUTING SLIP

Date Receiving VoucherEntered Into CEFMS:

Authorized Collector's Name:

District:

PCAF, Advance Account Number, Local Cost Share Number:

Sponsor Name:

CEFMS Receiving Voucher Number:

Date of Transfer:

Amount of Transfer:

If you have any questions please contact the Disbursing Division at (901) 874-8432.

FORM: UFC-D304-6 (Rev. April 2006)
APPENDIX 4-6

PROGRAMMATIC AGREEMENT

Appendix 4-6, Programmatic Agreement, presents the final Programmatic Agreement that will guide the Section 106 process in the determination of project effects as they become known through the course of the project. Implementation of the Programmatic Agreement assists to ensure resources and their proper treatment are taken into consideration in the planning process.
WHEREAS, the Federal Highway Administration (FHWA) proposes to construct a loop highway connecting Interstate 10 (I-10) west of Phoenix with I-10 south of Phoenix (the Loop 202 – South Mountain Freeway Project), a federally-funded project in Maricopa County, Arizona (hereinafter referred to as “the Project”); and

WHEREAS, the proposed Project may have an adverse effect upon historic properties, which are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource" (National Historic Preservation Act [NHPA] 16 U.S.C. 470w, Title III, Section 301 [5]); and

WHEREAS, all the historic properties that may be affected by this Project have not yet been identified; and

WHEREAS, the proposed project may have an adverse effect upon Traditional Cultural Properties (TCP), which are defined as any place that is "eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community" (National Park Service National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Properties); and

WHEREAS, all the Traditional Cultural Properties that may be affected by this Project have not yet been identified; and

WHEREAS, the Arizona Department of Transportation (ADOT), acting as agent for FHWA, has participated in consultation and has been invited to be a signatory to this Programmatic Agreement (Agreement); and

WHEREAS, the FHWA has consulted with the Arizona State Historic Preservation Office (SHPO), the Bureau of Land Management (BLM), the Army Corps of Engineers (Corps), the Bureau of Reclamation (Reclamation), the Bureau of Indian Affairs, the Arizona State Land Department (ASLD), the Salt River Project (SRP), the City of Avondale (COA), the City of Chandler (COC), the City of Glendale (COG), the City of Phoenix (COP), the City of Tolleson (COT), and the Advisory Council on Historic Preservation (the Council) in accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR §800.6(b)(2)) to resolve the possible adverse effects of the Project on historic properties; and

WHEREAS, the Council has participated in consultation and has been invited to be a signatory to the Agreement; and

WHEREAS, FHWA and the U.S. Army Corps of Engineers (Corps) have agreed that FHWA will assume lead responsibility for compliance under Section 106 of the National Historic Preservation Act for issuance of permits by the Corps for the development of land and waters of the United States under Section 404 of the Clean Water Act, and the Corps has participated in consultation and been invited to co-concur in this agreement; and

WHEREAS, the Indian Tribes that may attach religious or cultural importance to affected properties have been consulted (pursuant to 36 CFR § 800.2(c)(2)(ii)(A-F)), and the following tribes have been invited to be Concurring Parties in the Agreement: the Ak-Chin Indian Community, the Chemehuevi Tribe, the Coconino Tribe, the Colorado River Indian Tribe, the Fort McDowell Yaqui Nation, the Fort Mojave Tribe, the Fort Yuma-Quechan Tribe, the Gila River Indian Community, the Havasupai Tribe, the Hopi Tribe, the Kaibab Paiute Tribe, the Navajo Nation, the Pascua Yaqui Tribe, the Pueblo of Zuni, the Salt River Pima-Maricopa Indian Community, the San Carlos Apache Tribe, the San Juan Southern Paiute, the Tohono O’odham Nation, the Tonopah Apache Tribe, the White Mountain Apache Tribe, the Yavapai Apache Nation, and the Yavapai-Prescott Indian Tribe; and

WHEREAS, in their role as lead federal agency, FHWA has consulted with the SHPO pursuant to 36 CFR Part 800, regulations implementing Section 106 of the NHPA (16 U.S.C. 470f) as revised in 2000; and

WHEREAS, SHPO is authorized to enter into this agreement in order to fulfill its role of advising and assisting Federal agencies in carrying out their Section 106 responsibilities under the following federal statutes: Sections 101 and 106 of the NHPA of 1966, as amended, 16 U.S.C. 470f, and pursuant to 36 CFR Part 800, regulations implementing Section 106, at 800.2(c)(1)(i) and 800.6(b); and

WHEREAS, SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under A.R.S. § 41-511.04(D)(6); and

WHEREAS, by their signature all parties agree that the regulations specified in the ADOT document, "ADOT Standard Specifications for Road and Bridge Construction" (Section 104.12, 2000) will account for the cultural resources in potential material sources used in Project construction; and

WHEREAS, an agreement regarding the treatment and disposition of Human Remains, Associated Funerary Objects, and Objects of Cultural Patrimony would be developed by the Arizona State Museum (ASM) for state and private lands; and

WHEREAS, in the event that any portion of the Project takes place on Tribal Lands, an agreement regarding the treatment and disposition of Human Remains, Associated Funerary Objects, and Objects of Cultural Patrimony would be developed by the Arizona State Museum (ASM) for state and private lands; and
Objects, and Objects of Cultural Patrimony would be developed by the appropriate Tribal entities; and

WHEREAS, Human Remains and Associated Funerary Objects recovered on Federal or Tribal lands will be treated in accordance with the Native American Graves and Protection Repatriation Act (NAGPRA); and

WHEREAS, any data recovery on State and private land necessitated by the Project must be permitted by the ASM pursuant to A.R.S. § 41-842; and

WHEREAS, any data recovery on Federal lands necessitated by the Project must be permitted under the Archaeological Resource Protection Act (ARPA) in accordance with the Federal land-holding agency; and

WHEREAS, in the event that any data recovery for the Project should take place on Tribal lands, all applicable permits would be obtained; and

NOW, THEREFORE, all parties agree that upon FHWA's decision to proceed with the Project, FHWA shall ensure that the following stipulations are implemented in order to take into account the effects of the Project on historic properties, and that these stipulations shall govern the Project and all of its parts until this Agreement expires or is terminated.

Stipulations

FHWA will ensure that the following measures are carried out.

1. Plans submittal and identification of Area of Potential Effect (APE)

   Upon receipt by ADOT, copies of the plans and related documents pertaining to this undertaking including the 30%, 60% and 95% draft construction documents, the Project assessments, design concept reports and cultural resources survey reports will be provided to the consulting parties for review and comment.

2. Identification of historic properties and recommendation of effect

   ADOT, on behalf of FHWA, in consultation with all parties to this Agreement, shall ensure that new inventory surveys of the Project APE will include identification of all cultural resources and determinations of eligibility will be made in accordance with 36 CFR § 800.4 for all historic properties.

3. Identification, Evaluation, Documentation, and Mitigation of Impacts to Traditional Cultural Places

   FHWA, in consultation with all parties to this Agreement, shall ensure that consultation with the Indian Tribes that may attach religious or cultural importance to affected properties will continue in order to identify, evaluate, document, and mitigate possible impacts to Traditional Cultural Places according to National Park Service National Register Bulletin Number 38: Guidelines for Evaluating and Documenting Traditional Properties.

4. Development of a Data Recovery Work Plan

   The data recovery work plan will be submitted by ADOT, on behalf of FHWA, to all parties to this Agreement for 30 calendar days' review. The data recovery plan will be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-77). Unless any signatory or concurring party objects to the data recovery plan within 30 calendar days after receipt of the plan, FHWA shall ensure that it is implemented prior to construction.

5. The Data Recovery Work Plan (the Work Plan) will specify:

   a) The properties or portions of properties where data recovery is to be carried out. Also, it will specify any property or portion of property that would be destroyed or altered without treatment;

   b) The results of previous research relevant to the Project, and the research questions to be addressed through data recovery, with an explanation of their relevance and importance;

   c) The field and laboratory analysis methods to be used, with an explanation of their relevance to the research questions;

   d) The methods to be used in analysis, data management, and dissemination of data to the professional community and the public;

   e) The proposed disposition and curation of recovered materials and records in accordance with 36 CFR 79;

   f) Procedures for monitoring, evaluating and treating discoveries of unexpected or newly identified properties during construction of the Project, including consultation with other parties;

   g) A protocol for the treatment of Human Remains, in the event that such remains are discovered, describing methods and procedures for the recovery, analysis, treatment, and disposition of Human Remains, Associated Funerary Objects, and Objects of Cultural Patrimony. This protocol will reflect concerns and/or conditions identified as a result of consultations among parties to this Agreement;

   h) A proposed schedule for Project tasks, including a schedule for the submission of draft and final reports to consulting parties.
6. Review and comment on the Work Plan

 a) Upon receipt of a draft of the Work Plan, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the plan.

 b) If revisions to the Work Plan are made all consulting parties have 20 calendar days from receipt to review the revisions and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the plan or report.

 c) Once the Work Plan is determined adequate by all parties (with SHPO concurrence), FHWA shall issue authorization to proceed with the implementation of the Work Plan, subject to obtaining all necessary permits.

 d) Final drafts of the Work Plan will be provided to all consulting parties.

7. Review and Comment on Preliminary Report of Findings

 a) Upon completion of fieldwork, the institution, firm, or consultant responsible for the work will prepare and submit a brief Preliminary Report of Findings.

 b) Upon receipt of a draft of the Preliminary Report, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the Report.

 c) If revisions to the Preliminary Report of Findings are made, all consulting parties have 20 calendar days from receipt to review the revisions and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the revisions and report.

 d) Once the Preliminary Report of Findings has been accepted as a final document, ADOT, on behalf of FHWA, will notify appropriate Project participants that construction may proceed.

8. Review and Comment on Data Recovery Report

 a) Upon completion of data recovery, a report will be prepared incorporating all appropriate data analyses and interpretations. The schedule for completion of the report will be developed in accordance with Stipulation 5 (b) above, and in consultation with signatories and concurring parties to this Agreement.
12. Objection by a Signatory

Should any signatory to this Agreement object within 30 days to any plan or report provided for review or to any aspect of this undertaking related to historic preservation issues, FHWA shall consult with the objecting party to resolve the objection. If an objection by a signatory to this agreement cannot be resolved, FHWA shall request further comments of the Council with reference only to the subject of the dispute; the FHWA's responsibility to carry out all actions under this Agreement that are not the subject of the dispute will remain unchanged.

13. Discoveries

If potential historic or prehistoric archaeological materials or properties are discovered after construction begins, the person in charge of the construction shall promptly report the discovery to the ADOT Historic Preservation Specialist, representing FHWA. If human remains or funerary objects are discovered, ADOT shall require construction to immediately cease within the area of the discovery, take steps to protect the discovery, and notify and consult with appropriate Native American groups to determine treatment and disposition measures in accordance with the previously implemented burial agreement. The Director of the ASM (the Director) shall also be informed. In consultation with the Director and ADOT, on behalf of FHWA, the person in charge of construction shall immediately take steps to secure and maintain preservation of the discovery. If the discovery appears to involve Human Remains as defined in ASM rules implementing A.R.S. § 41-844 and 41-865, ASM and FHWA shall ensure that the discovery is treated according to the burial agreement. If the discovery is on Federal or Tribal land and appears to involve Human Remains as defined in NAGPRA, ADOT on behalf of FHWA shall ensure that the discovery is treated according to NAGPRA.

If potential prehistoric or historic archaeological materials or properties are discovered on Reclamation land after construction has begun, the person in charge of construction shall promptly report the discovery to the Phoenix Area Office of the Bureau of Reclamation as well as the ADOT Historic Preservation Specialist.

14. Amendments

This Agreement may be amended by the signatories pursuant to 36 CFR § 800.6 (c) (7). FHWA shall file any amendments with the Council and provide notice to the concurring parties.

15. Termination

Any signatory may terminate the Agreement by providing 30 day written notification to the other signatories. During this 30-day period, the signatories may consult to seek agreement on amendments or other actions that would avoid termination pursuant to 36 CFR § 800.6 (b). If the parties cannot agree on actions to resolve disagreements, FHWA will comply with 36 CFR § 800.7(b).

16. In the event the FHWA or ADOT cannot carry out the terms of this agreement, the FHWA will comply with 36 CFR § 800.3 through 800.6.

17. There shall be an annual meeting among FHWA, SHPO, and ADOT to review the effectiveness and application of this agreement, to be held on or near the anniversary date of the execution of this agreement.

This agreement shall be null and void if its terms are not carried out within ten (10) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.
Execution of this Agreement by the signatories and its subsequent filing with the Council is evidence that the Federal Highway Administration has afforded the Advisory Council on Historic Preservation an opportunity to comment on Loop 202 – South Mountain Freeway Project and its effects on historic properties, and that the Federal Highway Administration has taken into account the effects of the undertaking on historic properties.

SIGNATORIES

FEDERAL HIGHWAY ADMINISTRATION
By ________________________________ Date 12/20/06
Title ________________________________

ARIZONA STATE HISTORIC PRESERVATION OFFICER
By ________________________________ Date 12/28/06
Title ARIZHPO

INVITED SIGNATORIES

ARIZONA DEPARTMENT OF TRANSPORTATION
By ________________________________ Date 12-5-06
Title Manager, Environmental Planning Group

CONCURRING PARTIES

ARIZONA STATE LAND DEPARTMENT
By ________________________________ Date
Title ________________________________

Final Programmatic Agreement
Loop 202 – South Mountain Freeway
December 2006
Final Programmatic Agreement
Loop 202 – South Mountain Freeway
December 2006
CONCURRING PARTIES

ARIZONA STATE MUSEUM

By: [Signature] Date: January 19, 2007
Title: "Director"

Addendum
Final Programmatic Agreement
Loop 202 – South Mountain Freeway
December 2006
Robert E. Hollis, District Administrator  
Arizona Department of Transportation  
4000 North Central Avenue, Suite 1500  
Phoenix, Arizona 85012-3500  

Dear Mr. Hollis:  

The Western Area Power Administration (Western) has received the Programmatic Agreement (PA) regarding the Environmental Impact Statement (EIS) which was developed for the proposed South Mountain Freeway Project. The signed agreement is enclosed with the letter.  

Western supports the Federal Highway Administration and the Arizona Department of Transportation in their Section 106 responsibilities related to the project. Western's participation in the PA supports our requirements under the National Historic Preservation Act related to the requirement to move our transmission lines to accommodate the construction of this project.  

Western looks forward to participating in future meetings and reviewing related documents for the PA. Thank you for inviting us to sign the PA.  

If you have any questions or comments, please do not hesitate to contact Mary Barger at (602) 605-2524 or call me at (602) 605-2592.  

Sincerely,  

John R. Holt  
Environmental Manager  

Enclosure
WHEREAS, the council has participated in consultation and has been invited to be a signatory to the Agreement; and

WHEREAS, FHWA and the U.S. Army Corps of Engineers (Corps) have agreed that FHWA will assume lead responsibility for compliance under Section 106 of the National Historic Preservation Act for issuance of permits by the Corps for the development of land and waters of the United States under Section 404 of the Clean Water Act, and the Corps has participated in consultation and been invited to concur in this agreement; and

WHEREAS, the Indian Tribes that may attach religious or cultural importance to affected properties have been consulted pursuant to 36 CFR § 800.6(b)(2), and the following tribes have been invited to be Concurring Parties in the Agreement: the Ak-Chin Indian Community, the Chemehuevi Tribe, the Cocopah Tribe, the Colorado River Indian Tribe, the Fort McDowell Yavapai Nation, the Fort Mojave Tribe, the Fort Yuma Quechan Tribe, the Gila River Indian Community, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Paiute Tribe, the Navajo Nation, the Papago Yaqui Tribe, the Pueblo of Zuni, the Salt River Pima-Maricopa Indian Community, the San Carlos Apache Tribe, the San Juan Southern Paiute, the Tohono O'odham Nation, the Tohono O'odham Nation, the Tohono O'odham Nation, the White Mountain Apache Tribe, the Yavapai Apache Nation, and the Yavapai Prescott Indian Tribe; and

WHEREAS, in their role as lead federal agency, FHWA has consulted with the SHPO pursuant to 36 CFR Part 800, regulations implementing Section 106 of the NHPA (16 U.S.C. 470f) as revised in 2000; and

WHEREAS, SHPO is authorized to enter into this agreement in order to fulfill its role of advising and assisting Federal agencies in carrying out their Section 106 responsibilities under the following federal statutes: Sections 101 and 106 of the NHPA of 1966, as amended, 16 U.S.C. 470f, and pursuant to 36 CFR Part 800, regulations implementing Section 106, at 800.6.0(b) and 800.6.0(b); and

WHEREAS, SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under A.R.S. § 41-531.08(D)(4); and

WHEREAS, by their signatures all parties agree that the regulations specified in the ADOT document, "ADOT Standard Specifications for Road and Bridge Construction" (Section 104.12, 2000) will account for the cultural resources in potential material sources used in Project construction; and

WHEREAS, an agreement regarding the treatment and disposition of Human Remains, Associated Funerary Objects, and Objects of Cultural Patrimony would be developed by the Arizona State Museum (ASM) for state and private land; and

Final Programmatic Agreement (revised July 2010)
Loop 202 – South Mountain Freeway
December 2006
FHWA in consultation with all parties to this Agreement, shall ensure that consultation with the Indian Tribes that may attach religious or cultural importance to affected properties will continue in order to identify, evaluate, document, and mitigate possible impacts to Traditional Cultural Places according to National Park Service National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Properties.

4. Development of a Data Recovery Work Plan

The data recovery work plan will be submitted by ADOT, on behalf of FHWA, to all parties to this Agreement for 30 calendar days' review. The data recovery plan will be consistent with the Secretary of the Interior's Standards and Guidelines for Archæological Documentation (48 FR 44734-37). Unless any signatory or consulting party objects to the data recovery plan within 30 calendar days after receipt of the plan, FHWA shall ensure that it is implemented prior to construction.

5. The Data Recovery Work Plan (the Work Plan) will specify:

a) The properties or portions of properties where data recovery is to be carried out. Also, it will specify any property or portion of property that would be destroyed or altered without treatment;

b) The results of previous research relevant to the Project, and the research questions to be addressed through data recovery, with an explanation of their relevance and importance;

c) The field and laboratory analysis methods to be used, with an explanation of their relevance to the research questions;

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6. Review and comment on the Work Plan

a) Upon receipt of a draft of the Work Plan, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide comments to ADOT. All comments shall be in writing with copies provided to the other consulting parties. Lack of response within this review period will be taken as concurrence with the plan.

b) If revisions to the Work Plan are made all consulting parties have 30 calendar days from receipt to review the revisions and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the plan or report.

c) Once the Work Plan is determined adequate by all parties, FHWA shall issue authorization to proceed with the implementation of the Work Plan, subject to obtaining all necessary permits.

d) Final drafts of the Work Plan will be provided to all consulting parties.

7. Review and Comment on Preliminary Report of Findings

a) Upon completion of fieldwork, the institution, firm, or consultant responsible for the work will prepare and submit a brief Preliminary Report of Findings.

b) Upon receipt of a draft of the Preliminary Report, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the Report.

c) If revisions to the Preliminary Report of Findings are made, all consulting parties have 30 calendar days from receipt to review the revisions and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the report.

d) Once the Preliminary Report of Findings has been accepted as a final document, ADOT, on behalf of FHWA, will notify appropriate Project participants that construction may proceed.

8. Review and Comment on Data Recovery Report

a) Upon completion of data recovery, a report will be prepared incorporating all appropriate data analyses and interpretations. The schedule for completion of the
report will be developed in accordance with Stipulation 5(b) above, and in consultation with signatories and concurring parties to this Agreement.

b) Upon receipt of the data recovery report, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the Report.

e) If revisions to the data recovery report are made, all consulting parties have 20 calendar days from receipt to review the revisions and provide written comments to ADOT. Lack of response within this review period will be taken as concurrence with the report.

9. Standards for Monitoring and Data Recovery

All historic preservation work carried out pursuant to this Agreement shall be carried out by or under the supervision of a person, or persons, meeting at a minimum the Secretary of the Interior’s Professional Qualifications Standards (48 FR 44738-44739).

10. Curation

All materials and records resulting from the data recovery program conducted within the Project area, except as noted below, shall be curated in accordance with standards 36 CFR 79 and guidelines generated by ASM. The repository for materials either will be ASM or one that meets those standards and guidelines in Maricopa County.

All materials and records resulting from data recovery undertaken on land owned by Reclamation shall be curated in accordance with standards 36 CFR 79 and guidelines generated by the Huhugam Heritage Center, Gila River Indian Reservation. The repository for materials recovered from Reclamation land will be the Huhugam Heritage Center.

All materials subject to repatriation under NAGPRA, A.R.S. § 41-844 and A.R.S. § 41-855 shall be maintained in accordance with the burial agreement until any specified analyses, as determined following consultation with the appropriate Indian tribes and individuals, are complete and the materials are returned.

11. Additional Inventory Survey

ADOT, on behalf of FHWA, in consultation with all parties to this agreement shall ensure that new inventory surveys of additional rights-of-way and temporary construction easements will include determinations of eligibility that are made in accordance with 36 CFR § 800.6(c) for all historic properties, including any added staging or use areas. Should any party to this Agreement disagree with FHWA regarding eligibility, the SHPO shall be consulted and resolution sought within 30 calendar days. If the FHWA and SHPO disagree

on eligibility, FHWA shall request a formal determination from the Keeper of the National Register.

12. Objection by a Signatory or Concurring Party

Should any signatory to this Agreement object within 30 days to any plan or report provided for review or to any aspect of this undertaking related to historic preservation issues, FHWA shall consult with the objecting party to resolve the objection. If an objection by a signatory to this agreement cannot be resolved, FHWA shall request further comments of the Council with reference only to the subject of the dispute; the FHWA’s responsibility to carry out all actions under this Agreement that are not the subject of the dispute will remain unchanged.

13. Discoveries

If potential historic or prehistoric archaeological materials or properties are discovered after construction begins, the person in charge of the construction shall promptly report the discovery to the ADOT Historic Preservation Specialist, representing FHWA. If human remains or funerary objects are discovered, ADOT shall require construction to immediately cease within the area of the discovery, take steps to protect the discovery, and notify and consult with appropriate Native American groups to determine treatment and disposition measures in accordance with the previously implemented burial agreement. The Director of the ASM (the Director) shall also be informed. In consultation with the Director and ADOT, on behalf of FHWA, the person in charge of construction shall immediately take steps to secure and maintain preservation of the discovery. If the discovery appears to involve Human Remains as defined in A.R.S. § 41-844 and 41-865, ASM and FHWA shall ensure that the discovery is treated according to the burial agreement. If the discovery is on Federal or Tribal land and appears to involve Human Remains as defined in NAGPRA, ADOT on behalf of FHWA shall ensure that the discovery is treated according to NAGPRA.

If Human Remains are not involved, then the ADOT Historic Preservation Specialist shall evaluate the discovery, and in consultation with FHWA and SHPO, determine if the Plan previously approved in accordance with Stipulation 4 is appropriate to the nature of the discovery. If appropriate, the Plan shall be implemented by ADOT, on behalf of FHWA. If the Plan is not appropriate to the discovery, FHWA shall ensure that an alternate plan for the resolution of adverse effect is developed pursuant to 36 CFR § 800.6 and circulated to the consulting parties, who will have 48 hours to review and comment upon the alternate plan. FHWA shall consider the resulting comments, and shall implement the alternate plan once a project specific permit has been issued. If potential prehistoric or historic archaeological materials or properties are discovered on Reclamation land after construction has begun, the person in charge of construction shall promptly report the discovery to the Phoenix Area Office of the Bureau of Reclamation as well as the ADOT Historic Preservation Specialist.
14. Amendments

This Agreement may be amended by the signatories pursuant to 36 CFR § 800.6 (c) (7). FHWA shall file any amendments with the Council and provide notice to the concurring parties.

15. Termination

Any signatory may terminate the Agreement by providing 30 day written notification to the other signatories. During this 30-day period, the signatories may consult to seek agreement on amendments or other actions that would avoid termination pursuant to 36 CFR § 800.6 (b). If the parties cannot agree on actions to resolve disagreements, FHWA will comply with 36 CFR § 800.7(a).

16. In the event the FHWA or ADOT cannot carry out the terms of this agreement, the FHWA will comply with 36 CFR § 800.3 through 800.6.

17. There shall be an annual meeting among FHWA, SHPO, and ADOT to review the effectiveness and application of this agreement, to be held on or near the anniversary date of the execution of this agreement.

This agreement shall be null and void if its terms are not carried out within ten (10) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.
APPENDIX 4-7

FARMLAND CONVERSION

Appendix 4-7, *Fарmland Conversion*, contains the US Department of Agriculture Natural Resources Conservation Services Farmland Conversion Impact Rating form (form NRCS-CPA-106) for Corridor Type Projects. The Farmland Protection Policy Act (FPPA) was established to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. This impact rating is being completed to ensure compliance with FPPA.

### PART I: (To be completed by Federal Agency)

- **Name of Project:** South Mountain Transportation Corridor
- **Type of Project:** EIS/LDRR
- **County and State:** Maricopa County, Arizona
- **Date of Site Assessment:** 11/18/13
- **Federal Agency:** Federal Highway Administration

### PART II: (To be completed by NRCS) (To be completed by Federal Agency)

- **Total Acres To Be Converted Indirectly, Or To Receive Services:** 267,295
- **Total Acres In Corridor:** 267,295

### PART III: (To be completed by NRCS) (To be completed by Federal Agency)

- **Name of Land Evaluation System Used:** Alternative Corridor For Segment - Location Search
- **Name of Local Site Assessment System:** N/A
- **Date Land Evaluation Returned by NRCS:** N/A

### PART IV: (To be completed by NRCS) (To be completed by Federal Agency)

- **Acreage of Farmland To Be Converted Directly:** 85
- **Acreage of Nonurban Use And Unique Features:** 87

### PART VII: (To be completed by NRCS) (To be completed by Federal Agency)

- **Relative Value of Farmland (From Part V):** 260
- **Total Corridor Assessment Points:** 160

### PART VIII: (To be completed by NRCS) (To be completed by Federal Agency)

- **Smaller Value of Farmland:** 85
- **Total Corridor Assessment (From Part VI above or a Local Site Assessment):** 160

### PART IX: (To be completed by Federal Agency)

- **Corridor Selected:** YES
- **Date Of Selection:** N/A
- **Was A Local Site Assessment Used?** NO

**NOTE:** Complete a form for each segment with more than one Alternate Corridor.
# Appendix 4-7

## FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

### U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

### FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

#### PART I

**1. Date of Land Evaluation Request**
11/18/13

**2. Type of Project**
EIS/LODCR

**3. Does the corridor contain prime, unique statewide or local important farmland?**
YES

**4. Acres Irrigated Average Farm Size**
267,295

**5. Farmable Land in Government Jurisdiction**
N/A

**6. Farmable Land in Private Owner Without Federal Government Jurisdiction**
N/A

**7. Amount of Farmland As Defined in FPPA**
6,269,182

**8. Name Of Land Evaluation System Used**
N/A

**9. Name of Local Site Assessment System**
N/A

**10. Date Land Evaluation Returned by NRCS**
11/18/13

### PART II

**11. Alternative Corridor For Segment - Western Section**

<table>
<thead>
<tr>
<th>Are You In Urban Use?</th>
<th>Is This an Alternate Route?</th>
<th>For What Reason?</th>
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<tr>
<td>Yes</td>
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</tr>
</tbody>
</table>

### PART III

**12. Total Acres To Be Converted Directly**
735

**13. Total Acres Indirectly Converted**
135

**14. Total Acres In Corridor**
735

**15. Total Acres Prime And Unique Farmland**
744

**16. Total Acres Statewide And Local Important Farmland**
788

**17. Percentage Of Farmland In Corridor With Same Or Higher Relative Value**
737

### PART IV

**18. Relative Value Of Farmland (From Part V) (Total of above 2 lines)**
100

**19. Total Corridor Assessment (From Part V) Above or a Local Site Assessment**
100

**20. TOTAL POINTS (Total of above 2 lines)**
260

### PART V

**21. Corridor Selected: YES**

**22. Total Acres of Farmlands to be Converted**
6,269,182

**23. Date Of Selection**
11/18/13

**24. Was A Local Site Assessment Used?**
YES

### PART VI

**25. Total Corridor Assessment (From Part V) Above or a Local Site Assessment**
100

**26. TOTAL POINTS (Total of above 2 lines)**
260

### PART VII

**27. Corridor Selected: YES**

**28. Total Acres of Farmlands to be Converted**
6,269,182

**29. Date Of Selection**
11/18/13

**30. Was A Local Site Assessment Used?**
YES

### Appendix 4-7

**NOTE:** Complete a form for each segment with more than one Alternate Corridor.
The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

1. How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
   - More than 90 percent - 15 points
   - 90 to 20 percent - 14 to 1 point(s)
   - Less than 20 percent - 0 points

2. How much of the perimeter of the site borders on land in nonurban use?
   - More than 90 percent - 10 points
   - 90 to 20 percent - 9 to 1 point(s)
   - Less than 20 percent - 0 points

3. How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
   - More than 90 percent - 20 points
   - 90 to 20 percent - 19 to 1 point(s)
   - Less than 20 percent - 0 points

4. Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
   - Site is protected - 20 points
   - Site is not protected - 0 points

5. Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County?
   - Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.
   - As large or larger - 10 points
   - Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

6. If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
   - Acreage equal to more than 25 percent or acres directly converted by the project - 25 points
   - Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

7. Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
   - All required services are available - 5 points
   - Some required services are available - 4 to 1 point(s)
   - No required services are available - 0 points

8. Does the site have substantial and well-maintained on-farm investments such as barns, other storage buildings, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
   - High amount of on-farm investment - 20 points
   - Moderate amount of on-farm investment - 19 to 1 point(s)
   - No on-farm investment - 0 points

9. Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of those support services and thus, the viability of the farms remaining in the area? Substantial reduction in demand for support services if the site is converted - 25 points
   - Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
   - No significant reduction in demand for support services if the site is converted - 0 points

10. Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
    - Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
    - Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
    - Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

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**APPENDIX 4-8**

**SUPPLEMENTAL BIOLOGICAL RESOURCES INFORMATION**

Appendix 4-8, Supplemental Biological Resources Information, provides background information in support of the Biological Resources section of the Final Environmental Impact Statement. The information includes correspondence related to wildlife in the Study Area, guidelines for Desert Tortoise surveys, and correspondence related to the Rio Salado Oeste project.

---

**Schippers, Susanna**

<table>
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<tr>
<th>From:</th>
<th>Moroge, Michael E.</th>
</tr>
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<tbody>
<tr>
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<td>Friday, March 31, 2006 11:28 AM</td>
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<tr>
<td>To:</td>
<td>Allen, Jack</td>
</tr>
<tr>
<td>Cc:</td>
<td>Watzek, Kurt</td>
</tr>
<tr>
<td>Subject:</td>
<td>FW: South Mountain Parkway</td>
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</tr>
<tr>
<td>Flag Status:</td>
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</tr>
</tbody>
</table>

See AGFD comments below:

---Original Message-----
From: Alicia Jontz [mailto:AJontz@gf.state.az.us]
Sent: Friday, March 31, 2006 11:19 AM
To: Moroge, Michael E.
Cc: Russ Haughhey; Pat Crouch; Ray Schweinsburg; Kelly Wolff

Subject: South Mountain Parkway

Michael,

On February 17, 2006, Arizona Game and Fish Department biologists met with Phoenix Parks and Recreation Department at South Mountain to evaluate the proposed route for the continuation of Loop 202, the alternative routes and the proposed wildlife crossings. The Department is strongly committed to maintaining connectivity between wildlife habitats within Arizona. Connectivity should be maintained between South Mountain Park and the Estrella Mountains if possible. In the review of the proposed freeway construction and site visit several challenges to maintaining connectivity between the mountain ranges were noted.

In order for any wildlife crossings to be successful, it is essential that undeveloped wildlife corridors be established and maintained between South Mountain Park and the Estrella Mountains. The majority of the land falling between the two mountain ranges belongs to the Gila River Indian Community. This land is currently sparsely developed; however, while on site, we observed areas that appear to be prepared for development. GRIC would need to be involved in this process and agree to establish corridors across their land. Since reservations are essentially a sovereign nation and many tribes face economic challenges, it may be extremely difficult to develop a relationship with the GRIC at this late juncture and have them set aside lands that they may otherwise develop to the benefit of their economy and tribal members. Surface streets, such as 51st Avenue, may also prove to be barriers to successful wildlife movement as traffic increases. If wildlife corridors are established it may be necessary to place crossings on surface streets lying between the two mountain ranges.

While reviewing the proposed freeway design, we noted that at final buildout, the new freeway is scheduled to be a solid roadway including both lanes of travel and HOV lanes, without a break in the median. A freeway of this size would require lengthy wildlife underpasses or tunnels. Research has shown that many species will not use these large crossings, due to reduced visibility inside the crossing and the inability to see the other side of the crossing. A preferred alternative would be to separate the two lanes of travel, at crossings, allowing for a break in the median and natural light to penetrate the wildlife crossing. The wildlife crossings would then be built at two shorter crossings, which wildlife will more readily use. If this is not possible, the use of artificial lighting inside the crossing may be sufficient.

Currently, the new freeway is proposed to be a ground level freeway with several small wildlife crossings such as box culverts and a few larger crossings. Coyotes, javelina, bobcats, foxes, desert tortoises, snakes, gila monsters, chuckwallas...
are known to occur within South Mountain Park. Both historically and recently, there have been several credible, but unconfirmed sightings of Mountain Lions within South Mountain Park. Mule deer have not been documented in South Mountain Park for some time and are believed to be extirpated from the area; however, it is possible they still occur in small numbers. The smaller box culvert type crossings will work for many of the smaller wildlife species; however, larger crossings such a raised bridge, provide a more effective crossing for all wildlife species. Natural stream beds or washes may be appropriate places to locate the bridges. With either type of crossing it is essential that the bottom of the crossing be a natural substrate, not the bottom of a concrete box or metal tube, and that fencing is used to encourage use of the crossing.

In the plans for the proposed wildlife crossings, a multiple use crossing was outlined that would allow for both wildlife crossing and human recreation such as hiking and horseback riding. We would strongly discourage this type of design for a wildlife crossing. While some human traffic is unavoidable, managing for high use human recreation would discourage wildlife from using the area, making the crossing ineffective for wildlife movements.

Several routes are proposed to connect the 202 to I-10 in the west valley. In order to maintain the quality and integrity of our riparian systems, the 75th Avenue alternative would be preferable to the 51st Avenue alternative.

The Department appreciates the effort and consideration put into this project by ADOT and other participating parties. Wildlife crossings on roadways in Arizona are relatively new and previously concessions were not made for wildlife. In this instance all involved parties may need to consider that due to expanding development in the Phoenix metropolitan area and the lack of long term sustainable corridors between South Mountain and the Estrella Mountains across GRIC land, this project may not be the highest priority for wildlife crossings in the state. While some wildlife crossings may be appropriate, large expenditures of state funds may not be appropriate in this case. Any wildlife that migrates from the Estrella Mountains into South Mountain park will find themselves landlocked by development and may end up in the urban area causing conflicts with human populations. If all barriers to movement can be overcome, a comprehensive study of species occurrence and density within South Mountain Park would be useful to determine the types of crossings that should be build, species use of crossings once built, and long term population dynamics pre and post freeway construction.

Alicia Jontz
Wildlife Manager Central Phoenix
623-556-1158

Desert Tortoise Survey Guidelines for Environmental Consultants
June 2010

The following informal guidelines are intended to aid private consultants surveying for presence of tortoises on development projects in the Sonoran Desert. Following these guidelines will not provide quantified abundance estimates.

1) Surveys will be most productive during tortoise activity periods, primarily during the summer monsoon season (July – September) but also in the spring (April) and fall (October). Tortoises are most active in the morning and evening during summer, late morning to afternoon in spring and fall. Results from summer/fall monitoring plots indicate that tortoises are active at temperatures from 20 to 45°C (1cm above ground).

2) In the Sonoran Desert, tortoises usually occur on rocky slopes in deserts, semidesert grassland, as well as along washes, and extending into creosotebush flats. Burrows typically occur below rocks and boulders and may be irregularly shaped. Soil burrows and those in wash banks may have a 1/2-moon appearance.

3) Presence-absence surveys (3 hectare plots) or clearance surveys (100% coverage), depending on project type, are recommended to survey a discrete parcel of land. The number of 3 hectare plots per unit area depends on the desired intensity of the survey.

4) Surveyors should record all live tortoises, carcasses, scat, verified burrows (with scat or tortoise inside), and otherwise suitable/potential burrows (empty) and report to the Department.

5) Refer to the Department’s “Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects” if handling will be necessary.

CAJ: caj
Mr. Jim Andersen, Realty Specialist
Bureau of Land Management
21605 West 4th Avenue
Phoenix, Arizona 85027

Dear Mr. Andersen:

This letter summarizes the current information the South Mountain Freeway study team has compiled regarding the Rio Salado Oeste (RSO) project as it relates to the W59 Alternative of the South Mountain Freeway (Loop 202), Interstate 10 (Papago Freeway) to Interstate 10 (Maricopa Freeway), Draft Environmental Impact Statement and Section 4(f) Evaluation. It should be noted that most of the coordination between the Bureau of Land Management (BLM), City of Phoenix, and the U.S. Army Corps of Engineers (USACE) regarding RSO was in relation to the W55 Alternative. In 2009, the W55 Alternative was shifted to 59th Avenue and was renamed the W59 Alternative. The location of the Salt River/RSO crossing has not changed. The W59 Alternative would cross the Salt River through the eastern half of a 192-acre BLM parcel. The City of Phoenix has a lease on this parcel under provisions of the Recreation and Public Purposes Act (Lease A-31292). The leased land would be included in the proposed RSO project, which is cosponsored by USACE. Although the lease does not include a reference to the proposed freeway, BLM and the City of Phoenix, in an August 2005 letter, indicated they would work together to amend the lease to show the proposed freeway passing through the parcel if the W55 Alternative was identified as the selected alternative in the environmental impact statement (EIS) and Record of Decision.

In July 2010, the City of Phoenix and USACE completed the Rio Salado Oeste Conceptual Design Document Report. This report incorporates the location of the proposed South Mountain Freeway as it passes through RSO (see enclosure). According to USACE, the RSO project lacks funding to proceed. As a result, the proposed construction of the South Mountain Freeway in this area would precede RSO. Although traffic noise could affect some species, any wildlife that would inhabit the area after habitat improvements would experience the freeway as an existing condition and become habituated to traffic noise. The City of Phoenix and USACE view the South Mountain Freeway crossing as an opportunity to use stormwater runoff from the proposed freeway to "irrigate" the river habitat. The study team will continue to consult with BLM, USACE, and the City of Phoenix to coordinate design efforts to minimize impacts on the proposed uses of this land.

If this summary is accurate and reflects the most currently available information, please sign the concurrence line below. If you or others in your organization have additional information, please provide it to the Federal Highway Administration by July 14, 2013, so that it can be incorporated into the Final EIS. If you have any questions, please contact Rebecca Yeulin, FHWA Environmental Coordinator, at (602) 382-8979 or Rebecca.Yeulin@dot.gov.

Thank you for your time and assistance.

Sincerely,

Karla S. Petty
Division Administrator

Enclosure

cc:
Karen Williams, City of Phoenix, 200 West Washington Street, 12th Floor, Phoenix, AZ 85003
Brian Kenzy, U.S. Army Corps of Engineers, 3636 North Central Avenue, Phoenix, AZ 85012
Ben Spong, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
Scott Stapp, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
Ms. Karen Williams, Rio Salado Coordinator  
City of Phoenix  
200 West Washington Street, 12th Floor  
Phoenix, Arizona 85003  

Dear Ms. Williams:

This letter summarizes the current information the South Mountain Freeway study team has compiled regarding the Rio Salado Oeste (RSO) project as it relates to the W59 Alternative of the South Mountain Freeway (Loop 202), Interstate 10 (Papago Freeway) to Interstate 10 (Maricopa Freeway), Draft Environmental Impact Statement and Section 4(f) Evaluation. It should be noted that most of the coordination between the Bureau of Land Management (BLM), City of Phoenix, and the U.S. Army Corps of Engineers (USACE) regarding RSO was in relation to the W55 Alternative. In 2009, the W55 Alternative was shifted to 59th Avenue and was renamed the W59 Alternative. The location of the Salt River/RSO crossing has not changed.

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If this summary is accurate and reflects the most currently available information, please sign the concurrence line below. If you or others in your organization have additional information, please provide it to the Federal Highway Administration by July 14, 2013, so that it can be incorporated into the Final EIS. If you have any questions, please contact Rebecca Yedlin, FHWA Environmental Coordinator, at (620) 382-8979 or Rebecca.Yedlin@dot.gov.

Thank you for your time and assistance.

Sincerely,

[Signature]

[Name]
Division Administrator

[Signature for City of Phoenix] 8/8/13

Enforcement

cc:
Jim Andersen, Bureau of Land Management, 21605 West 4th Avenue, Phoenix, AZ 85027
Brian Kenny, U.S. Army Corps of Engineers, 3636 North Central Avenue, Phoenix, AZ 85012
Ben Spargo, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
Scott Stapp, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
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If this summary is accurate and reflects the most currently available information, please sign the concurrence line below. If you or others in your organization have additional information, please provide it to FHWA by July 29, 2013, so that it can be incorporated into the Final EIS. If you have any questions, please contact Rebecca Yedlin, FHWA Environmental Coordinator, at (602) 382-8979 or Rebecca.Yedlin@dot.gov.

Thank you for your time and assistance.

Sincerely,

Karla S. Petty
Division Administrator

Signature for USACE Concurrence
NH-202-D(ADY)

Enclosure

cc:
Jim Anderson, Bureau of Land Management, 21005 West 4th Avenue, Phoenix, AZ 85027
Karen Williams, City of Phoenix, 200 West Washington Street, 12th Floor, Phoenix, AZ 85003
Ben Spargo, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
Scott Stepp, HDR Engineering, Inc., 3200 E. Camelback Rd., Suite 350, Phoenix, AZ 85018
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