Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.adeq.state.az.us

Stephen A. Owens
Director

December 23, 2005

Mr. Wayne Nastri, Regional Administrator
U. S. Environmental Protection Agency, Region IX
Mail Code: ORA-1
75 Hawthorne Street
San Francisco, CA 94105

Re: Submittal of the Arizona State Implementation Plan Revision to Exempt Certain Collectible Vehicles and Motorcycles from the Vehicle Emissions Inspection/Maintenance Programs

Dear Mr. Nastri:

Consistent with the provisions of Arizona Revised Statutes §§ 49-104 and 49-404 (Enclosure 1) and the Code of Federal Regulations, Title 40, §§ 51.102 through 51.104, the Arizona Department of Environmental Quality (ADEQ) hereby adopts and submits to the U.S. Environmental Protection Agency (EPA), the *Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs, December 2005*, as a revision to the Arizona State Implementation Plan (SIP).

In 2005 the Arizona Legislature passed House Bill 2357, which amended Arizona Revised Statues (ARS) § 49-542 to authorize the exemption of certain collectible motor vehicles and motorcycles from being subject to emissions testing requirements. Specifically, the legislation exempts collectible vehicles in the Phoenix and Tucson testing areas and motorcycles in the Tucson testing area. Analyses of emissions impacts due to the changes demonstrate that these changes to the Inspection and Maintenance programs will not interfere with the area's ability to attain or maintain the National Ambient Air Quality Standards.

Because of the keen level of interest in this matter in Arizona and the non-controversial nature of the changes proposed, ADEQ requests expedited review and approval of this SIP Revision as soon as possible.

Enclosure 2 is the SIP Completeness Checklist. Enclosure 3 contains five copies of the SIP revision for your review and action. With this submittal, ADEQ requests that EPA approve these changes to Arizona's Inspection and Maintenance programs. If you have any questions, please contact Nancy Wrona, Director, Air Quality Division, at (602) 771-2308.

Sincerely,

Stephen A. Owens
Director

SAO:BJF:MBL

Enclosures (3)

cc: Colleen McKaughan, EPA
Wienke Tax, EPA
Dennis Smith, w/o enclosures, Maricopa Association of Governments
Robert Kard, w/o enclosures, Maricopa County Air Quality Department
Don Gabrielson, w/o enclosures, Pinal County Air Quality Control District
Andy Gunning, Pima Association of Governments
Ursula Kramer, Pima County Department of Environmental Quality

ENCLOSURE 1

Arizona Revised Statutes §§ 49-104 and 49-404

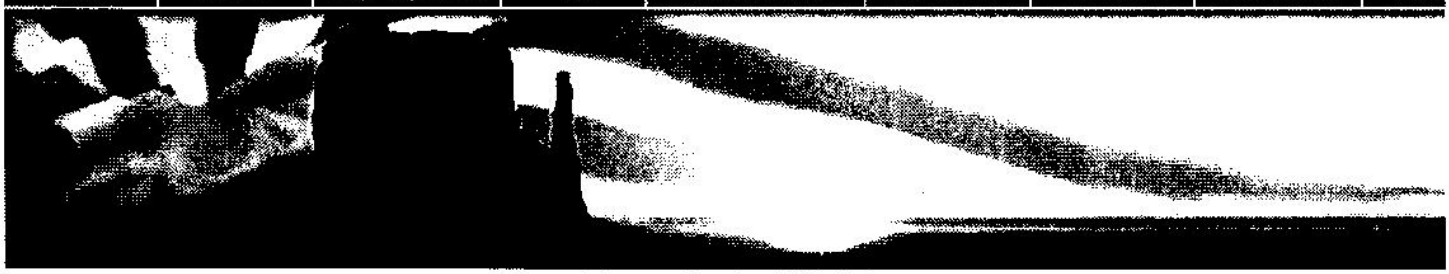
Arizona State Legislature

Forty-seventh Legislature - Second Regular Session

Bill # Search searc

change session | printer friendly version | site map | e-m

Senate | House | Leg. Agencies | Bills | Committees | Statutes | Executive | Calendars | New



Arizona Revised Statutes

The Arizona Revised Statutes have been updated with the 47th Legislature, 1st Regular Session information, and contain the version of the statutes effective January 1, 2006.

Click here for further information on the contents of the CD and purchasing.
The 2005/2006 ARS CD is now available.

Search Phrase

Search

Select To Search In	Title	Title Heading
☐	All	Entire Arizona Revised Statutes
☐	Title 1	General Provisions
☐	Title 2	Aeronautics (THIS TITLE HAS BEEN REPEALED)
☐	Title 3	Agriculture
☐	Title 4	Alcoholic Beverages
☐	Title 5	Amusements and Sports
☐	Title 6	Banks and Financial Institutions
☐	Title 7	Bonds
☐	Title 8	Children
☐	Title 9	Cities and Towns
☐	Title 10	Corporations and Associations
☐	Title 11	Counties
☐	Title 12	Courts and Civil Proceedings
☐	Title 13	Criminal Code
☐	Title 14	Trusts, Estates and Protective Proceedings
☐	Title 15	Education
☐	Title 16	Elections and Electors
☐	Title 17	Game and Fish
☐	Title 18	Repealed (THIS TITLE HAS BEEN REPEALED)
☐	Title 19	Initiative, Referendum and Recall
☐	Title 20	Insurance
☐	Title 21	Juries
☐	Title 22	Justices of the Peace and Other Courts Not of Record
☐	Title 23	Labor
☐	Title 24	Repealed (THIS TITLE HAS BEEN REPEALED)
☐	Title 25	Marital and Domestic Relations
☐	Title 26	Military Affairs and Emergency Management
☐	Title 27	Minerals, Oil and Gas
☐	Title 28	Transportation

- Title 29 Partnership
- Title 30 Power
- Title 31 Prisons and Prisoners
- Title 32 Professions and Occupations
- Title 33 Property
- Title 34 Public Buildings and Improvements
- Title 35 Public Finances
- Title 36 Public Health and Safety
- Title 37 Public Lands
- Title 38 Public Officers and Employees
- Title 39 Public Records, Printing and Notices
- Title 40 Public Utilities and Carriers
- Title 41 State Government
- Title 42 Taxation
- Title 43 Taxation of Income
- Title 44 Trade and Commerce
- Title 45 Waters
- Title 46 Welfare
- Title 47 Uniform Commercial Code
- Title 48 Special Taxing Districts
- Title 49 The Environment

49-104. Powers and duties of the department and director

A. The department shall:

1. Formulate policies, plans and programs to implement this title to protect the environment.

2. Stimulate and encourage all local, state, regional and federal governmental agencies and all private persons and enterprises that have similar and related objectives and purposes, cooperate with those agencies, persons and enterprises and correlate department plans, programs and operations with those of the agencies, persons and enterprises.

3. Conduct research on its own initiative or at the request of the governor, the legislature or state or local agencies pertaining to any department objectives.

4. Provide information and advice on request of any local, state or federal agencies and private persons and business enterprises on matters within the scope of the department.

5. Consult with and make recommendations to the governor and the legislature on all matters concerning department objectives.

6. Promote and coordinate the management of air resources to assure their protection, enhancement and balanced utilization consistent with the environmental policy of this state.

7. Promote and coordinate the protection and enhancement of the quality of water resources consistent with the environmental policy of this state.

8. Encourage industrial, commercial, residential and community development that maximizes environmental benefits and minimizes the effects of less desirable environmental conditions.

9. Assure the preservation and enhancement of natural beauty and man-made scenic qualities.

10. Provide for the prevention and abatement of all water and air pollution including that related to particulates, gases, du vapors, noise, radiation, odor, nutrients and heated liquids in accordance with article 3 of this chapter and chapters 2 and of this title.

11. Promote and recommend methods for the recovery, recycling and reuse or, if recycling is not possible, the disposal of solid wastes consistent with sound health, scenic and environmental quality policies.

12. Prevent pollution through the regulation of the storage, handling and transportation of solids, liquids and gases that m cause or contribute to pollution.

13. Promote the restoration and reclamation of degraded or despoiled areas and natural resources.

14. Assist the department of health services in recruiting and training state, local and district health department personne

15. Participate in the state civil defense program and develop the necessary organization and facilities to meet wartime or other disasters.

16. Cooperate with the Arizona-Mexico commission in the governor's office and with researchers at universities in this stat to collect data and conduct projects in the United States and Mexico on issues that are within the scope of the department duties and that relate to quality of life, trade and economic development in this state in a manner that will help the Arizon Mexico commission to assess and enhance the economic competitiveness of this state and of the Arizona-Mexico region.

B. The department, through the director, shall:

1. Contract for the services of outside advisers, consultants and aides reasonably necessary or desirable to enable the department to adequately perform its duties.

2. Contract and incur obligations reasonably necessary or desirable within the general scope of department activities and operations to enable the department to adequately perform its duties.

3. Utilize any medium of communication, publication and exhibition when disseminating information, advertising and publicity in any field of its purposes, objectives or duties.

4. Adopt procedural rules that are necessary to implement the authority granted under this title, but that are not inconsistent with other provisions of this title.

5. Contract with other agencies including laboratories in furthering any department program.

6. Use monies, facilities or services to provide matching contributions under federal or other programs that further the objectives and programs of the department.

7. Accept gifts, grants, matching monies or direct payments from public or private agencies or private persons and enterprises for department services and publications and to conduct programs that are consistent with the general purpos

and objectives of this chapter. Monies received pursuant to this paragraph shall be deposited in the department fund corresponding to the service, publication or program provided.

8. Provide for the examination of any premises if the director has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed on the premises. The director shall give the owner or operator the opportunity for its representative to accompany the director on an examination of those premises. Within forty-five days after the date of the examination, the department shall provide to the owner or operator a copy of any report produced as result of any examination of the premises.

9. Supervise sanitary engineering facilities and projects in this state, authority for which is vested in the department, and own or lease land on which sanitary engineering facilities are located, and operate the facilities, if the director determines that owning, leasing or operating is necessary for the public health, safety or welfare.

10. Adopt and enforce rules relating to approving design documents for constructing, improving and operating sanitary engineering and other facilities for disposing of solid, liquid or gaseous deleterious matter.

11. Define and prescribe reasonably necessary rules regarding the water supply, sewage disposal and garbage collection a disposal for subdivisions. The rules shall:

(a) Provide for minimum sanitary facilities to be installed in the subdivision and may require that water systems plan for future needs and be of adequate size and capacity to deliver specified minimum quantities of drinking water and to treat a sewage.

(b) Provide that the design documents showing or describing the water supply, sewage disposal and garbage collection facilities be submitted with a fee to the department for review and that no lots in any subdivision be offered for sale befor compliance with the standards and rules has been demonstrated by approval of the design documents by the department.

12. Prescribe reasonably necessary measures to prevent pollution of water used in public or semipublic swimming pools a bathing places and to prevent deleterious conditions at such places. The rules shall prescribe minimum standards for the design of and for sanitary conditions at any public or semipublic swimming pool or bathing place and provide for abateme as public nuisances of premises and facilities that do not comply with the minimum standards. The rules shall be develope in cooperation with the director of the department of health services and shall be consistent with the rules adopted by the director of the department of health services pursuant to section 36-136, subsection H, paragraph 10.

13. Prescribe reasonable rules regarding sewage collection, treatment, disposal and reclamation systems to prevent the transmission of sewage borne or insect borne diseases. The rules shall:

(a) Prescribe minimum standards for the design of sewage collection systems and treatment, disposal and reclamation systems and for operating the systems.

(b) Provide for inspecting the premises, systems and installations and for abating as a public nuisance any collection syste process, treatment plant, disposal system or reclamation system that does not comply with the minimum standards.

(c) Require that design documents for all sewage collection systems, sewage collection system extensions, treatment plan processes, devices, equipment, disposal systems, on-site wastewater treatment facilities and reclamation systems be submitted with a fee for review to the department and may require that the design documents anticipate and provide for future sewage treatment needs.

(d) Require that construction, reconstruction, installation or initiation of any sewage collection system, sewage collection system extension, treatment plant, process, device, equipment, disposal system, on-site wastewater treatment facility or reclamation system conform with applicable requirements.

14. Prescribe reasonably necessary rules regarding excreta storage, handling, treatment, transportation and disposal. The rules shall:

(a) Prescribe minimum standards for human excreta storage, handling, treatment, transportation and disposal and shall provide for inspection of premises, processes and vehicles and for abating as public nuisances any premises, processes or vehicles that do not comply with the minimum standards.

(b) Provide that vehicles transporting human excreta from privies, septic tanks, cesspools and other treatment processes shall be licensed by the department subject to compliance with the rules.

15. Perform the responsibilities of implementing and maintaining a data automation management system to support the reporting requirements of title III of the superfund amendments and reauthorization act of 1986 (P.L. 99-499) and title 2

chapter 2, article 3.

16. Approve remediation levels pursuant to article 4 of this chapter.

C. The department may charge fees to cover the costs of all permits and inspections it performs to insure compliance with rules adopted under section 49-203, subsection A, paragraph 6, except that state agencies are exempt from paying the fe Monies collected pursuant to this subsection shall be deposited in the water quality fee fund established by section 49-21C

D. The director may:

1. If he has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed, inspect any person or property in transit through this state and any vehicle in which the person or property is being transported and detain or disinfect the person, property or vehicle as reasonably necessary to protect the environment if a violation exists.

2. Authorize in writing any qualified officer or employee in the department to perform any act that the director is authoriz or required to do by law.

49-404. State implementation plan

A. The director shall maintain a state implementation plan that provides for implementation, maintenance and enforcemer of national ambient air quality standards and protection of visibility as required by the clean air act.

B. The director may adopt rules that describe procedures for adoption of revisions to the state implementation plan.

C. The state implementation plan and all revisions adopted before September 30, 1992 remain in effect according to their terms, except to the extent otherwise provided by the clean air act, inconsistent with any provision of the clean air act, or revised by the administrator. No control requirement in effect, or required to be adopted by an order, settlement agreeme or plan in effect, before the enactment of the clean air act in any area which is a nonattainment or maintenance area for a air pollutant may be modified after enactment in any manner unless the modification insures equivalent or greater emissic reductions of the air pollutant. The director shall evaluate and adopt revisions to the plan in conformity with federal regulations and guidelines promulgated by the administrator for those purposes until the rules required by subsection B ar effective.

ENCLOSURE 2

State Implementation Plan Completeness Checklist

STATE IMPLEMENTATION PLAN COMPLETENESS CHECKLIST

SUBMITTAL OF STATE IMPLEMENTATION PLAN (SIP) REVISION
For
Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs
December 2005

1. SUBMITTAL LETTER FROM GOVERNOR/DESIGNEE

   See cover letter.

2. EVIDENCE OF ADOPTION

   See cover letter.

3. STATE LEGAL AUTHORITY FOR ADOPTION/IMPLEMENTATION

   See Enclosure 1.

4. COMPLETE COPY OF STATUTE/REGULATION/DOCUMENT

   See Enclosure 3.

5. WRITTEN SUMMARY OF RULE/RULE CHANGE

   Not applicable.

6. RULE CHANGES INDICATED BY UNDERLINING AND CROSS-OUTS

   Not applicable.

7. EVIDENCE THAT ARIZONA ADMINISTRATIVE PROCEDURE ACT REQUIREMENTS WERE MET FOR RULE/PLAN

   Not applicable.

8. EVIDENCE OF PUBLIC HEARING PER 40 CFR 51.102

   See Enclosure 3, Appendix E.

9. PUBLIC COMMENTS AND AGENCY RESPONSE

   See Enclosure 3, Appendix E.

10. IDENTIFICATION OF POLLUTANTS REGULATED BY RULE/PLAN

    Ozone, $PM_{2.5}$, and Carbon Monoxide.

11. IDENTIFICATION OF SOURCES/ATTAINMENT STATUS

    See Enclosure 3.

12. RULE'S/PLAN'S EFFECT ON EMISSIONS

    See Enclosure 3.

13. DEMONSTRATION THAT NAAQS, PSD INCREMENTS AND RFP ARE PROTECTED

    See Enclosure 3.

14. MODELING SUPPORT

    See Enclosure 3.

15. EVIDENCE THAT EMISSIONS LIMITATIONS ARE BASED ON CONTINUOUS EMISSIONS REDUCTION TECHNOLOGY

    Not applicable.

16. IDENTIFICATION OF RULE SECTIONS CONTAINING EMISSION LIMITS, WORK PRACTICE STANDARDS, AND/OR RECORD KEEPING/REPORTING REQUIREMENTS

    Not applicable.

17. COMPLIANCE/ENFORCEMENT STRATEGIES

    See Enclosure 3.

18. ECONOMIC TECHNICAL JUSTIFICATION FOR DEVIATION FROM EPA POLICIES

    No known deviation from EPA policy.

ENCLOSURE 3

Arizona State Implementation Plan Revision
Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs, December 2005

ADEQ
Arizona Department of Environmental Quality

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Final
Arizona State Implementation Plan Revision

Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs

Air Quality Division

December 2005

This page intentionally left blank.

TABLE OF CONTENTS

TABLE OF CONTENTS……...i

LIST OF TABLES……...……..ii

LIST OF APPENDICES……..iv

1.0 Introduction……1

1.1 Regulatory Background……1

1.2 Revisions to Arizona's I/M Programs – 2005……..2

2.0 I/M Program Revision – General SIP Approach……3

2.1 Basic and Enhanced Program Requirements……..3

2.1.1 Vehicle Coverage/Exemptions……..3

2.1.2 Compliance Enforcement……..4

2.2 Demonstrating Noninterference with Attainment and Maintenance Under CAA 110(l)……...5

2.2.1 Ozone……6

2.2.2 $PM_{2.5}$……10

2.2.3 Carbon Monoxide……...12

2.2.4 Air Toxics……17

2.3 Transportation Conformity……17

3.0 Conclusion……..21

LIST OF TABLES

TABLE 1 **Tested Fleet Characteristics for Calendar Year 2003**……4

TABLE 2 **Volatile Organic Compound Emissions Inventories**……...6

TABLE 3 **I/M Benefits from Test and Repair of Collectible Vehicles and Motorcycles – Hydrocarbons (HC)**…….……...7

TABLE 4 **2002-2004 Eight-Hour Ozone Compliance (in ppm) – Area A**…….……9

TABLE 5 **2002-2004 Eight-Hour Ozone Compliance (in ppm) – Area B**…….……...10

TABLE 6 **2002-2004 Annual Average $PM_{2.5}$ Compliance (in µg/m^3) – Area A**…….……...11

TABLE 7 **2002-2004 Annual Average $PM_{2.5}$ Compliance (in µg/m^3) – Area B**…….……...11

TABLE 8 **2002-2004 24-Hour Average $PM_{2.5}$ Compliance (in µg/m^3) – Area A**…….……...11

TABLE 9 **2002-2004 24-Hour Average $PM_{2.5}$ Compliance (in µg/m^3) – Area B**……12

TABLE 10 **Carbon Monoxide Emissions Inventories**……..12

TABLE 11 **I/M Benefits from Test and Repair of Collectible Vehicles and Motorcycles – Carbon Monoxide (CO)**……..13

TABLE 12 **2003-2004 One-Hour Carbon Monoxide Compliance (in ppm) – Area A**……....14

TABLE 13 **2003-2004 One-Hour Carbon Monoxide Compliance (in ppm) – Area B**…….……15

TABLE 14 **2003-2004 Eight-Hour Carbon Monoxide Compliance (in ppm) – Area A**…….…...16

TABLE 15 **2003-2004 Eight-Hour Carbon Monoxide Compliance (in ppm) – Area B**…….……16

LIST OF TABLES (continued)

TABLE 16 **Volatile Organic Compounds (VOC) No-Greater-than-Baseline Emissions Test (metric tons per day) – Maricopa County Region (Area A)**……...18

TABLE 17 **Volatile Organic Compounds (VOC) Adjusted One-Hour Ozone Budget Test (metric tons per day) – Maricopa County Region (Area A)**……18

TABLE 18 **Carbon Monoxide (CO) Conformity Budget Test (metric tons per day) – Maricopa County Region (Area A)**……...19

TABLE 19 **Summary of Regional CO Emissions Modeling Results – Pima County Region (Area B)**…….20

LIST OF APPENDICES

APPENDIX A **Amendments to Arizona Laws; Arizona Laws 2005, Chapter 76 (House Bill 2357)**

APPENDIX B **Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older**

APPENDIX C **Collectible Vehicle Insurance and Registration Procedures**

APPENDIX D **Conformity Test Results for Maricopa County**

APPENDIX E **State Implementation Plan Revision Public Comment and Hearing Documentation**

- **E.1** **Notice of Public Hearings**
- **E.2** **Public Hearing Agendas**
- **E.3** **Public Hearing Sign In Sheets**
- **E.4** **Public Hearing Officer Certifications and Transcripts**
- **E.5** **Public Comments**
- **E.6** **Responsiveness Summary**

1.0 Introduction

This document contains revisions to Arizona's vehicle inspection and maintenance (I/M) programs and details recent changes to exempt certain collectible vehicles and motorcycles from the emissions testing programs. Also included are analyses of emissions impacts due to the changes and a demonstration that this State Implementation Plan (SIP) revision will not interfere with the program areas' ability to attain/maintain the National Ambient Air Quality Standards (NAAQS).

1.1 Regulatory Background

Inspection and maintenance programs are required in certain areas that do not meet the carbon monoxide (CO) and ozone (O_3) NAAQS with the purpose of reducing emissions and improving air quality. These programs help identify vehicles with excess emissions, provide information to assist with diagnosing malfunctions that cause excess emissions, and require repair of vehicles to bring them into compliance with emissions standards. Arizona established mandatory vehicle emissions inspection and maintenance programs in Maricopa and Pima Counties in 1975. Since establishment of the mandatory programs, there have been several improvements designed to further reduce volatile organic compounds (VOC), which contribute to ozone pollution, and carbon monoxide from vehicle emissions to expedite attainment of the NAAQS in the Phoenix 1-hour Ozone and Carbon Monoxide Nonattainment Areas (Maricopa County) and the Tucson Carbon Monoxide Nonattainment Area (Pima County).[1] Among program improvements was the passage of 1993 legislation that authorized the implementation of an enhanced inspection and maintenance (I/M) program in the Phoenix area.

On November 14, 1994, the Arizona Department of Environmental Quality (ADEQ) submitted to the U.S. Environmental Protection Agency (EPA) the *Final State Implementation Plan Revision – Arizona Basic and Enhanced Vehicle Inspection/Maintenance Program*. The Basic and Enhanced Programs were approved by EPA as an element of the Arizona State Implementation Plan (SIP) effective July 7, 1995 (60 FR 22518; May 8, 1995). Subsequent revisions in June 2001, and February 2002, included an increase in the vehicle emissions inspection program area to incorporate high-growth areas adjacent to metropolitan Phoenix, adoption of onboard diagnostic testing, and provisions for a one time only waiver from meeting applicable test standards during a particular test cycle for the life of a vehicle. In addition, Arizona's programs were demonstrated to be more stringent than the federally required programs. These changes were approved by EPA effective February 21, 2003 (68 FR 2912; January 22, 2003).

At the time of the 1994 submittal, the Maricopa County carbon monoxide and 1-hour ozone areas were both classified as "moderate" nonattainment areas. Under the Clean Air Act (CAA) of 1990, moderate classifications for either pollutant require a basic I/M program. As noted above, due to rapid population growth in the Phoenix metropolitan area and the difficulty of demonstrating attainment for CO and ozone, the State legislature authorized an enhanced I/M program for the Maricopa County nonattainment area. This action implemented measures to aid the State in meeting federal requirements for demonstrating reasonable further progress to reduce by 15%, emissions of volatile organic compounds (63 FR 28898; May 27, 1998). The Maricopa County carbon monoxide and 1-hour ozone nonattainment areas were subsequently reclassified to "serious" on August 28, 1996 (61 FR 39343; July 29, 1996) and February 13, 1998 (62 FR

[1] On June 15, 2005, the 1-hour ozone NAAQS was revoked so that the only ozone NAAQS under the Clean Air Act is the 8-hour standard.

60001; November 6, 1997, and 63 FR 7290; February 13, 1998), respectively. This action triggered a federal requirement for the already implemented enhanced I/M program. The enhanced I/M program is among the primary control measures used to help the Phoenix area attain and maintain the 1-hour ozone and carbon monoxide air quality standards. Following several years of monitored air quality data meeting the standards and submittal of maintenance plans, the Phoenix area was redesignated to attainment for carbon monoxide on April 8, 2005 (70 FR 11553; March 9, 2005, and 70 FR 52926; September 6, 2005) and redesignated to attainment for the 1-hour ozone standard on June 14, 2005 (70 FR 34362; June 14, 2005).[2]

Arizona's enhanced I/M program is currently operated in the expanded Phoenix metropolitan area, known as Area A, located in portions of Maricopa, Pinal, and Yavapai Counties, and requires periodic emissions inspection of motor vehicles and motor cycles registered or regularly operated within the area.[3] In 1997, EPA completed an analysis of the 1-hour ozone standard and adopted a new more stringent 8-hour standard, which better protects the public from longer periods of exposure to ozone. Effective June 15, 2004, EPA designated the Phoenix area including much of eastern Maricopa County and Apache Junction in Pinal County nonattainment for the new standard (69 FR 23857; April 30, 2004). Although the 1-hour ozone standard no longer applies because the 1-hour ozone NAAQS was revoked on June 15, 2005, certain 1-hour nonattainment and maintenance obligations, including compliance with I/M requirements, continue under the anti-backsliding provisions of EPA's 8-hour ozone Phase I implementation rule (69 FR 23951; April 30, 2004).

In Pima County, the Tucson Air Planning Area, known as Area B, was designated as a "not classified" carbon monoxide nonattainment area at the time of the 1990 CAA Amendments (56 FR 56716; November 6, 1991).[4] The basic I/M program is among the primary control measures used to help the Tucson area attain the carbon monoxide air quality standards. The area is currently in maintenance status following redesignation to attainment effective July 10, 2000 (65 FR 36353; June 8, 2000, and 65 FR 50651; August 21, 2000).[5] The Tucson area is in attainment for the 8-hour ozone NAAQS.

1.2 Revisions to Arizona's I/M Programs - 2005

In 2005 the Arizona Legislature passed House Bill (HB) 2357, which amended Arizona Revised Statues (ARS) § 49-542 to authorize the exemption of certain collectible motor vehicles and motorcycles from being subject to emissions testing requirements (see Appendix A). Specifically, the legislation exempts from testing in Area A and Area B, vehicles that are at least fifteen years old or are of a unique or rare design and carry collectible vehicle insurance that restricts the mileage or use of the vehicle. In addition, motorcycles in Area B were exempted from testing.

---

[2] See *Final Serious Area Ozone State Implementation Plan for Maricopa County*, December 2000, and *One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area,* March 2004, and *Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area*, March 2001, and *Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area,* May 2003.
[3] See ARS § 49-541(1).
[4] See ARS § 49-541(2).
[5] See *1987 Carbon Monoxide State Implementation Plan Revision for the Tucson Air Planning Area* and *1996 Carbon Monoxide Limited Maintenance Plan for the Tucson Air Planning Area*.

Prior legislation required ADEQ to conduct an analysis to examine the impacts of exempting certain motor vehicles and motor cycles from the I/M programs (see Appendix B). The analysis evaluated impacts of exempting vehicles 25 model years old or older, motorcycles, and collectible vehicles. The analysis showed that the testing and repair of all 25 model years old or older vehicles provided a significant air quality benefit. The analysis also showed that testing and repair of collectible vehicles in Area A and Area B and motorcycles in Area B does not provide a significant air quality benefit and that exemption of these vehicle categories would not interfere with continued maintenance of the CO NAAQS and progress toward attainment of the ozone NAAQS. Therefore, the statute as revised by HB 2357 only authorizes the exemption of collectible vehicles and motorcycles as described above.

The changes to ARS § 49-542 are self implementing and become effective upon approval by EPA as a revision to the SIP. Subsequent conforming changes to the Arizona Administrative Code (AAC) to reflect the collectible vehicle and motorcycle exemptions will be accomplished in a future rulemaking.

2.0 I/M Program Revision – General SIP Approach

As noted above, Arizona's programs were approved as meeting the federal program requirements most recently effective February 21, 2003. The Arizona I/M programs include a number of elements that are more stringent than the minimum federal program. Among these elements are requirements for a one-time-only waiver, expanded I/M implementation area, and waiver denials for gross emitters (see ARS § 49-542(X)). Following implementation of the current program changes, the basic and enhanced programs will continue to meet or exceed the minimum federal requirements. Applicable exemption and compliance enforcement requirements and an assessment of impacts due to the current program changes are described in section 2.1 below.

Revisions to SIP-approved control measures must not interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the Clean Air Act (CAA) as stated in CAA § 110(l). The analyses in section 2.2 demonstrate that exempting collectible vehicles and motorcycles from Arizona's I/M programs will not interfere with attainment or maintenance of the NAAQS or other applicable requirements of the CAA. In addition, Section 2.3 addresses the impacts of the current I/M revision on transportation conformity.

2.1 Basic and Enhanced Program Requirements

Requirements for basic and enhanced I/M programs are detailed in 40 Code of Federal Regulations (CFR) 51.350 through 51.373. The current revisions to the Phoenix and Tucson I/M programs affect applicable requirements related to vehicle coverage and exemptions as well as compliance enforcement procedures.

2.1.1 Vehicle Coverage/Exemptions

Federal regulation 40 CFR 51.356 requires that the SIP include "a description of any special exemptions which will be granted by a program, and an estimate of the percentage and number of subject vehicles which will be impacted. Such exemptions shall be accounted for in the emission

reduction analysis."

Table 1 illustrates the number of motorcycles and collectible vehicles relative to the total tested fleet in Maricopa and Pima Counties.

Table 1: Tested Fleet Characteristics for Calendar Year 2003[6]		
Tested Fleet Segment	**Number**	**Percent of Tested Fleet**
Maricopa County (Area A)		
Total Tested Fleet	825,812	100%
Collectible Vehicles (estimated)	3,800	0.05%
Pima County (Area B)		
Total Tested Fleet	373,734	100%
Collectible Vehicles (estimated)	1,400	0.4%
Motorcycles	6,240	1.7%

Basic and enhanced I/M programs as outlined in the CFR are not required to test motorcycles. Because an analysis of the Area A I/M program showed that the testing and repair of motorcycles provided a significant air quality benefit, however, motorcycles will continue to be tested in the Phoenix area (see Appendix B). The analysis also showed that the exemption of motorcycles in the Tucson program area does not provide a significant disbenefit and would not adversely affect maintenance of the CO NAAQS. Motorcycles comprise only 1.7 percent of the total tested fleet in Pima County.

Similarly, collectible vehicles total only 0.05 percent of the total tested fleet in Maricopa County and 0.4 percent of the total tested fleet in Pima County. Analysis also showed that given the relatively small number of vehicles and restricted use, testing and repair of collectible vehicles in Areas A and B does not provide a significant air quality benefit and exemption of these vehicle categories would not adversely affect maintenance of and attainment for the CO and ozone NAAQS.

The emissions impacts due to exemption of collectible vehicles and motorcycles are discussed in Section 2.2.

2.1.2 Compliance Enforcement

Federal regulation 40 CFR 51.361 requires that compliance for enhanced programs generally be ensured through the denial of motor vehicle registration. Specifically, "The SIP shall provide information concerning the enforcement process, including: A description of the existing compliance mechanism if it is to be used in the future and the demonstration that it is as effective or more effective than registration-denial enforcement; An identification of the agencies responsible for performing each of the applicable activities in this section; A description of and accounting for all classes of exempt vehicles …" ARS § 49-542(D) and AAC R18-2-1007 require that no affected motorist can obtain a vehicle registration without demonstrating that the vehicle has completed a vehicle emissions inspection. The State is able to verify emissions compliance by checking an up-to-date computer database produced directly from contractor testing data.

[6] See Appendix B, *Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older*, December 2004.

To register a vehicle, owners are also required to obtain liability insurance for that vehicle. Proof of insurance is transmitted to the Arizona Department of Transportation, Motor Vehicle Division (MVD) by the respective insurance companies. This mechanism will be used to track the exemption eligibility of collectible vehicles. The amendments to ARS § 49-542 authorize exemption from I/M testing only for vehicles that are "maintained primarily for use in car club activities, exhibitions, parades or other functions of public interest or for private collection and is used only infrequently for other purposes" and "has a collectible vehicle or classic automobile insurance coverage that restricts the collectible vehicle mileage or use, or both, and requires the owner to have another vehicle for personal use" (see HB 2357).

To verify that a vehicle qualifies for an exemption from testing and ensure that non-qualifying vehicles will continue to be tested, MVD, in cooperation with collectible vehicle insurers, will track the type of vehicle applying for registration. Insurers are required to notify MVD of any insurance policy cancellation or nonrenewal. In such an event, the statute requires MVD to "cancel the registration of the vehicle and the vehicle's exemption from emissions testing … unless evidence of coverage is presented to the Department of Transportation within sixty days" (see HB 2357 in Appendix A).

The procedures for canceling a registration are straightforward. First, following the cancellation or nonrenewal of an insurance policy, the insurance company notifies the MVD of the policy termination within 7 days. Within 30 days of notification, a notice of intent to cancel the vehicle's registration is then sent to the owner by the MVD. If, after an additional 30 days the collectible vehicle insurance has not been renewed, a letter is sent informing the owner that the registration has been canceled and the vehicle no longer qualifies for the emissions testing exemption and can no longer be operated in the state of Arizona. Each vehicle's registration status is available to law enforcement personnel via an electronic database.

Motor Vehicle Division procedures for tracking collectible vehicle insurance, emissions testing, and registration status are outlined in Appendix C.

2.2 Demonstrating Noninterference with Attainment and Maintenance Under CAA 110(l)

Revisions to SIP approved control measures must not interfere with requirements of the Clean Air Act (CAA) as outlined in CAA § 110 (l):

> "(l) Plan Revisions—Each revision to an implementation plan submitted by a State under this Act shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171), or any other applicable requirement of this Act."

Inspection and Maintenance is an "applicable requirement" under the anti-backsliding provisions of EPA's 8-hour ozone Phase I implementation rule (69 FR 23951; April 30, 2004). The primary pollutants affected by I/M programs are carbon monoxide, hydrocarbons (HC) or volatile organic compounds, and to a lesser degree, oxides of nitrogen (NOx). Hydrocarbons and NOx are precursors for ground-level ozone formation. Oxides of nitrogen are also a presumptive precursor for particulate matter of size less than or equal to 2.5 microns ($PM_{2.5}$). The following sections

evaluate the impact of collectible vehicle and motorcycle I/M exemptions on the ozone, $PM_{2.5}$, and carbon monoxide air quality standards. Additionally, air toxics and transportation conformity are addressed.

2.2.1 Ozone

The Phoenix area attained the 1-hour ozone standard and was redesignated to a maintenance area for the 1-hour ozone NAAQS in 2005. In 2004 the area was classified as "basic" (subpart 1) nonattainment for the new 8-hour ozone standard. EPA has not yet completed the rulemaking for implementation of the 8-hour standard; however, Phase I of the 8-hour implementation rule was issued in 2004 and the Phase II rule was proposed on November 29, 2005 (70 FR 71612; November 29, 2005). The Phase I rule addresses several of the 8-hour implementation program requirements, including revocation of the 1-hour ozone standard, attainment dates, and anti-backsliding provisions to preserve air quality improvements made during implementation of the 1-hour standard. Phase II of the 8-hour ozone implementation rule addresses reasonable further progress, attainment demonstrations, and reasonably available control measures and technology. As required, the I/M program established for attainment of the 1-hour ozone standard remains a component of the Arizona SIP to meet the anti-backsliding provisions of the Phase I rule. A full attainment analysis and planning process will be completed by June 2007.

Volatile organic compound emissions are one of the primary pollutants that contribute to ozone formation. Table 2 presents the most current emissions inventory estimates for VOCs in Area A and Area B. On-road mobile emissions comprise 22 percent of total emissions in Area A and 36 percent of total emissions in Area B.

Table 2: Volatile Organic Compound Emissions Inventories

Source Category	Area A[7] (metric tons per day)	Area B [8] (metric tons per day)
Point	17.4	1.8
Area	101.4	22.9
Non-road mobile	61.0	11.4
On-road mobile	71.9	30.3
Biogenics	77.2	18.4
Total	328.9	84.8

The reduction of emissions due to the repair of vehicles that exceed the prescribed emissions standards contained in AAC R18-2-1031 is called the I/M benefit. As presented in Table 3, the VOC emissions reduction benefit from testing and repair of collectible vehicles in Area A and

[7] Average Tuesday, August 2006, from *One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, Maricopa Association of Governments, March 2004.

[8] Tons per day calculated from annual totals for 2003 (Pima Association of Governments, personal communication).

Area B and motorcycles in Area B is less than 1 metric ton per day. The I/M benefits for subject vehicles are less than one half of one percent of both area-wide on-road emissions and total emissions and demonstrates that the exemption of collectible vehicles in Area A and Area B and motorcycles in Area B does not provide a significant benefit.

Table 3: I/M Benefits from Test and Repair of Collectible Vehicles and Motorcycles - Hydrocarbons (HC)[9]

Vehicle Category	**Each Class Individually** (metric tons per day)	**Percent of Area-Wide On-Road Emissions**	**Percent of Area-Wide Total Emissions Inventory**
Area A			
Collectible Vehicles	0.03	0.04%	0.009%
Area B			
Collectible Vehicles	0.01	0.03%	0.012%
Motorcycles	0.03	0.10%	0.035%

Due to committed and implemented control measures, overall emissions of volatile organic compounds are projected to trend down through 2015. For Area A, on-road VOC emissions are expected to be reduced more than 50 percent between 1999 and 2015.[10]

The Phoenix area was determined to be VOC-limited and had a NOx waiver under the 1-hour program. The NOx emissions reduction benefit from testing and repair of collectible vehicles would be marginal. No NOx testing is performed on vehicles model years 1980 and older. The results of a survey of collectible vehicle owners show that 92.3 percent of collectible vehicles were model years 1980 and older while only 7.7 percent were model years 1981 or newer. For Maricopa County, the tested fleet included 3,800 collectible vehicles. This equates to only 293 collectible vehicles subject to NOx testing. Additionally, research has shown that engine repairs to reduce CO emissions can increase NOx emissions. It is reported that changes in HC and CO emission rates are positively related but both are inversely related to changes in NOx emissions. For example, enleaning the air-fuel ratio (i.e., a repair aimed at a CO emissions failure, which is usually associated with carburetion) will increase NOx emissions.[11] Any change in NOx emissions relative to overall emissions would be minimal.

Due to committed and implemented control measures, overall NOx emissions are projected to trend down through 2015. For Area A, on-road NOx emissions are expected to be reduced more than 50 percent between 1999 and 2015.[12]

As noted above, the Phoenix area was designated nonattainment for the 8-hour standard in 2004.

[9] See footnote 6, above.
[10] See *One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, March 2004.
[11] See *Costs, Emissions Reductions, and Vehicle Repair: Evidence from Arizona, Resources for the Future*, Revised October 1999.
[12] See footnote 10, above.

The Tucson area was designated as attainment/unclassifiable. Tables 4 and 5 present the most recent quality assured ambient monitoring data and calculated compliance values for Area A and Area B through September 2005. An examination of available data shows there has been a downward trend in monitored ambient ozone levels over the last decade due to implementation of state and federal control measures. Calculated compliance values for the period 2003 through 2005 demonstrate that the Phoenix area has attained the 8-hour standard. The highest calculated value for Area A occurs at Humboldt Mountain. Peak levels have historically occurred northeast of Phoenix in the Humboldt Mountain region due to diurnal transport patterns. Monitors in more densely populated regions generally record lower concentrations. The highest calculated value in Area B is 89 percent of the NAAQS. Because of state and federal control programs, this SIP revision will not have a measurable effect on ambient concentrations.

Table 4: 2003-2005 Eight-Hour Ozone Compliance (in ppm) - Area A[13]
NAAQS: The three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration is less than or equal to 0.08 parts per million (ppm). Because of rounding conventions 0.085 ppm is considered an exceedance of the standard.[14]

City or Site	Fourth-Highest Value			Three-Year Average
	2003	2004	2005	
Maricopa County				
Blue Point	0.086	0.075	0.081	0.080
Buckeye (Opened 08/01/04)	N/A	0.058	0.065	N/A
Cave Creek	0.083	0.076	0.082	0.080
Central Phoenix	0.079	0.074	0.075	0.076
Dysart (Opened 07/15/03)	N/A	0.065	0.066	N/A
Falcon Field	0.079	0.070	0.076	0.075
Fountain Hills	0.083	0.075	0.088	0.082
Glendale	0.085	0.076	0.076	0.079
Humboldt Mt.	0.087	0.078	0.087	0.084
JLG Supersite	0.075	0.072	0.076	0.074
North Phoenix	0.086	0.080	0.084	0.083
Palo Verde (Closed 1/1/04)	0.075	0.072	N/A	N/A
Pinnacle Peak	0.083	0.068	0.083	0.078
Rio Verde	0.083	0.074	0.087	0.081
South Phoenix	0.076	0.072	0.076	0.074
South Scottsdale	0.079	0.073	0.077	0.076
Tempe	0.080	0.072	0.076	0.076
West Chandler	0.078	0.070	0.075	0.074
West Phoenix	0.077	0.072	0.068	0.072
Pinal County				
Apache Junction - Maintenance Yard	0.072	0.069	0.066	0.069

[13] These are preliminary data as reported to EPA's Air Quality Subsystem through September 2005 and have not yet been certified by the submitting agencies.
[14] Due to rounding conventions a "concentration of 0.085 ppm is the smallest value that is greater than 0.08 ppm" and values equal to or less than 0.084 ppm are in compliance with the standard (see 40 CFR 50, Appendix I).

Table 5: 2003-2005 Eight-Hour Ozone Compliance (in ppm) - Area B[15] *NAAQS: The three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration is less than or equal to 0.08 ppm. Because of rounding conventions 0.085 ppm is considered an exceedance of the standard.* [16]				
City or Site	**Fourth-Highest Value**			**Three-Year Average**
	2003	**2004**	**2005**	
Pima County				
22nd St. & Craycroft	0.073	0.069	0.073	0.071
Children's Park	0.076	0.068	0.074	0.072
Coachline	0.064	0.068	0.066	0.066
Green Valley	0.068	0.066	0.063	0.065
Rose Elementary	0.066	0.064	0.066	0.065
Saguaro NP East	0.078	0.073	0.077	0.076
Tangerine	0.074	0.068	0.073	0.071
Tucson Downtown	0.068	0.063	0.065	0.065
Tucson Fairgrounds	0.070	0.064	0.068	0.067

2.2.2 $PM_{2.5}$

Both the Phoenix and Tucson areas were designated attainment/unclassifiable for the $PM_{2.5}$ air quality standards in 2004. Because of the negligible change in emissions due to the current revision to the I/M programs, no ambient impacts are expected. Although NOx is a presumptive precursor for $PM_{2.5}$, small increases in NOx emissions will not interfere with continued attainment of the $PM_{2.5}$ standard (see Section 2.2.1). Tables 6 and 7 present ambient monitoring data and calculated compliance values for 2002 through 2004 for the annual $PM_{2.5}$ standard. The highest calculated values are equal to or less than 77 percent of the NAAQS in Area A and 41 percent of the NAAQS in Area B.

[15] See footnote 13 above.
[16] See footnote 14 above.

Table 6: 2002-2004 Annual Average $PM_{2.5}$ Compliance (in µg/m^3) – Area A *NAAQS: The three-year average of the annual mean is less than or equal to 15 micrograms per cubic meter (µg/m^3).*				
City or Site Federal Reference Monitors	**2002**	**2003**	**2004**	**Three-Year Average**
Maricopa County				
JLG Supersite	11.63	11.27	9.73	10.9
Tempe Community Center	10.36	9.63	7.30	9.1
West Phoenix	12.57	10.68	11.60	11.6
Pinal County				
Apache Junction Fire Station	6.39	6.30	5.51	6.1

Table 7: 2002-2004 Annual Average $PM_{2.5}$ Compliance (in µg/m^3) – Area B *NAAQS: The three-year average of the annual mean is less than or equal to 15 µg/m^3.*				
City or Site Federal Reference Monitors	**2002**	**2003**	**2004**	**Three-Year Average**
Pima County				
Children's Park	6.62	6.54	5.57	6.2
Orange Grove	6.36	6.45	5.79	6.2

Tables 8 and 9 present ambient monitoring data and calculated compliance values for 2002 through 2004 for the 24-hour $PM_{2.5}$ standard. The highest calculated values are equal to or less than 48 percent of the NAAQS in Area A and 26 percent of the NAAQS in Area B.

Table 8: 2002-2004 24-Hour Average $PM_{2.5}$ Compliance (in µg/m^3) – Area A *NAAQS: The three-year average of the 98th percentile value is less than or equal to 65 µg/m3.*				
City or Site Federal Reference Monitors	**98th Percentile**			**Three-Year Average**
	2002	**2003**	**2004**	
Maricopa County				
JLG Supersite	31.9	24.2	27.6	28
Tempe Community Center	21.6	25.0	14.8	20
West Phoenix	36.2	25.9	29.9	31
Pinal County				
Apache Junction Fire Station	13.1	21.1	10.3	15

Table 9: 2002-2004 24-Hour Average $PM_{2.5}$ Compliance (in µg/m^3) – Area B *NAAQS: The three-year average of the 98th percentile value is less than or equal to 65 µg/m3.*				
City or Site Federal Reference Monitors	**98th Percentile**			**Three-Year Average**
	2002	**2003**	**2004**	
Pima County				
Children's Park	20.2	13.2	10.3	15
Orange Grove	21.5	15.9	13.3	17

2.2.3 Carbon Monoxide

The Tucson area was redesignated to attainment for the carbon monoxide air quality standards in 2000. The Phoenix area attained the CO standard and was redesignated to attainment in 2005. Carbon monoxide emissions can contribute to elevated ambient concentrations. Table 10 presents the most current emissions inventory estimates for CO in Area A and Area B. On-road mobile emissions comprise 76 percent of total emissions in Area A and 68 percent of total emissions in Area B.

Table 10: Carbon Monoxide Emissions Inventories		
Source Category	**Area A**[17] (metric tons per day)	**Area B**[18] (metric tons per day)
Point	21.9	7.2
Area	29.7	7.8
Non-road mobile	161.0	176.8
On-road mobile	699.7	406.7
Total	912.3	598.5

The reduction of emissions due to the repair of vehicles that exceed the prescribed emissions standards contained in AAC R18-2-1031 is called the I/M benefit. As presented in Table 11 the CO emissions benefit from testing and repair of collectible vehicles in Area A and Area B and motorcycles in Area B is significantly less than 1 metric ton per day. The I/M benefit for subject vehicles is less than one half of one percent of both area-wide on-road emissions and total emissions and demonstrates that the exemption of collectible vehicles in Area A and Area B and motorcycles in Area B does not provide a significant benefit.

[17] Average Friday, December 2006, from *Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, Maricopa Association of Governments, May 2003.
[18] See footnote 8, above.

Table 11: I/M Benefits from Test and Repair of Collectible Vehicles and Motorcycles – Carbon Monoxide (CO)[19]			
Vehicle Category	**Each Class Individually** (mtpd)	**Percent of Area-Wide On-Road Emissions**	**Percent of Area-Wide Total Emissions Inventory**
Area A			
Collectible Vehicles	0.32	0.05%	0.035%
Area B			
Collectible Vehicles	0.14	0.03%	0.023%
Motorcycles	0.09	0.02%	0.015%

Due to committed and implemented control measures, both federal and local, overall emissions of carbon monoxide are projected to trend down through 2015. For Area A, on-road CO emissions are expected to be reduced more than 24 percent between 1999 and 2015.[20]

Because of the negligible change in emissions due to the current revision to the I/M programs, no ambient impacts are expected. Tables 12 and 13 present ambient monitoring data and calculated compliance values for 2003 through 2004 for the 1-hour CO standard. The highest calculated values are equal to or less than 21 percent of the NAAQS in Area A and 27 percent of the NAAQS in Area B.

[19] See footnote 6, above.
[20] See *Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, May 2003.

Table 12: 2003-2004 One-Hour Carbon Monoxide Compliance (in ppm) – Area A
NAAQS: The highest of the second-highest values in a two-year period must not exceed 35 ppm.

City or Site	2003		2004		Compliance Value
	Max Value	2nd High	Max Value	2nd High	
Maricopa County					
Buckeye (Opened 09/01/2004)	N/A	N/A	0.9	0.9	N/A
Central Phoenix	5.9	5.4	5.0	4.4	5.4
Dysart	N/A	N/A	2.1	1.8	N/A
Glendale	5.7	3.5	6.1	3.2	3.5
Greenwood	6.8	6.8	7.6	7.3	7.3
JLG Supersite	6.7	6.0	4.9	4.9	6.0
Maryvale	5.8	5.7	5.7	5.0	5.7
Mesa	3.5	3.4	3.0	2.6	3.4
North Phoenix	4.0	4.0	4.1	3.7	4.0
South Phoenix	5.8	5.5	6.7	5.9	5.9
South Scottsdale	4.1	4.0	3.4	3.1	4.0
Tempe	3.8	3.7	3.1	2.6	3.7
West Chandler	3.9	3.3	2.9	2.7	3.3
West Indian School	6.8	6.8	6.9	6.7	6.8
West Phoenix	7.5	7.3	7.7	7.5	7.5

Table 13: 2003-2004 One-Hour Carbon Monoxide Compliance (in ppm) – Area B
NAAQS: The highest of the second-highest values in a two-year period must not exceed 35 ppm.

City or Site	2003		2004		Compliance Value
	Max Value	2nd High	Max Value	2nd High	
Pima County					
22nd St. & Alvernon	6.0	5.8	4.0	4.0	5.8
22nd St. & Craycroft	4.4	4.3	3.6	3.4	4.3
Cherry & Glenn	4.2	3.9	4.0	3.9	3.9
Children's Park	2.4	2.3	2.2	2.2	2.3
Golf Links & Kolb	3.9	3.8	3.6	3.5	3.8
Tucson Downtown	10.0	9.6	5.5	4.7	9.6

Tables 14 and 15 present ambient monitoring data and calculated compliance values for 2003 through 2004 for the 8-hour CO standard. The highest calculated values are equal to or less than 61 percent of the NAAQS in Area A and 30 percent of the NAAQS in Area B.

Table 14: 2003-2004 Eight-Hour Carbon Monoxide Compliance (in ppm) – Area A
NAAQS: The highest of the second-highest values in a two-year period must not exceed 9 ppm.

City or Site	2003		2004		Compliance Value
	Max Value	2nd High	Max Value	2nd High	
Maricopa County					
Buckeye (Opened 09/01/2004)	N/A	N/A	0.5	0.4	N/A
Central Phoenix	4.6	3.8	3.4	3.3	3.8
Dysart	N/A	N/A	1.1	1.1	N/A
Glendale	2.4	2.3	2.4	2.1	2.3
Greenwood	5.4	5.1	4.9	4.3	5.1
JLG Supersite	4.8	4.2	4.2	4.0	4.2
Maryvale	4.2	4.1	3.5	2.9	4.1
Mesa	2.5	2.2	1.7	1.7	2.2
North Phoenix	2.3	2.1	2.2	2.0	2.1
South Phoenix	3.6	3.3	3.5	3.3	3.3
South Scottsdale	2.3	2.2	2.4	2.4	2.4
Tempe	2.9	2.4	1.9	1.7	2.4
West Chandler	2.6	2.6	2.1	2.1	2.6
West Indian School	5.4	5.3	4.7	4.6	5.3
West Phoenix	6.2	5.5	5.2	5.1	5.5

Table 15: 2003-2004 Eight-Hour Carbon Monoxide Compliance (in ppm) – Area B
NAAQS: The highest of the second-highest values in a two-year period must not exceed 9 ppm.

City or Site	2003		2004		Compliance Value
	Max Value	2nd High	Max Value	2nd High	
Pima County					
22nd St. & Alvernon	2.7	2.6	2.1	2.0	2.6
22nd St. & Craycroft	2.1	1.9	1.6	1.6	1.9
Cherry & Glenn	2.9	2.7	2.7	2.2	2.7
Children's Park	1.5	1.4	1.4	1.4	1.4
Golf Links & Kolb	2.2	2.2	2.1	2.1	2.2
Tucson Downtown	3.1	2.7	3.7	2.5	2.7

2.2.4 Air Toxics

There are no ambient air quality standards for air toxics, therefore, compliance with applicable maximum achievable control technology (MACT) standards, as well as any federal mobile source control requirements under CAA sections 112 or 202(l) demonstrate noninterference for air toxics in the program area. Motor vehicles are not subject to MACT standards and this SIP revision does not interfere with any federal mobile source control requirements that apply in the area. Arizona thus concludes that this SIP revision will not interfere with any applicable air toxics requirements of the CAA.

2.3 Transportation Conformity

The federal transportation conformity rule outlines criteria and procedures for ensuring that transportation projects, programs, and plans do not cause or contribute to violations of the federal air quality standards.[21] To evaluate the impact of these projects, a regional emissions analysis is performed on transportation improvement programs (TIP) and regional transportation plans (RTP) to determine conformance with air quality state implementation plans. The conformity rule applies to "all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan."[22]

Maricopa Region[23]

Portions of Maricopa County are designated as a maintenance area for carbon monoxide. Portions of Maricopa County and Apache Junction in Pinal County are designated as nonattainment areas for particulate matter of size less than or equal to 10 microns (PM_{10}) and 8-hour ozone. Federal law requires that the boundaries of the metropolitan planning area include at least the boundaries of the nonattainment or maintenance areas as created by the CAA. Therefore Apache Junction is included in the metropolitan planning area and their transportation projects are included in the regional transportation improvement plan. The Maricopa Association of Governments (MAG), the Metropolitan Planning Organization for the Maricopa County region, performs conformity analyses to determine whether future regional transportation projects are expected to adversely affect attainment or maintenance of the air quality standards for these pollutants.

Two types of conformity tests are specified in the federal transportation conformity rule: the emissions budget test, and 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 contained in the approved air quality implementation plan. If there is no approved air quality plan for a pollutant for which the region is in nonattainment and no emission budget established for that pollutant (and found to be adequate by EPA), interim emissions tests apply.

The most recent transportation conformity determination by the U.S. Department of Transportation for the *2005 MAG Conformity Analysis for the FY 2006-2010 Transportation Improvement Program and Regional Transportation Plan - 2005 Update* occurred on August 31, 2005. The conformity analysis used the latest planning assumptions to develop on-road mobile source emissions of CO, VOC, NOx, and PM_{10} for 2006, 2009, 2015, 2016, and 2026. These

[21] See 40 CFR Parts 51 and 93.
[22] See 40 CFR 93.102.
[23] Source: *2005 MAG Conformity Analysis for the FY 2006-2010 Transportation Improvement Program and Regional Transportation Plan - 2005 Update*, May 2005; Maricopa Association of Governments.

emissions were compared with conformity budgets from applicable State Implementation Plans and subjected to other interim emissions tests as prescribed by EPA.

EPA approved the 2006 conformity budget for PM_{10} in the *Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area*, February 2000. The 2006 and 2015 conformity budgets for CO were approved in the *Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, May 2003. The VOC and NOx budgets for 2006 and 2015 were approved in the *One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area*, March 2004. Adjusted one-hour ozone budgets were applied as an eight-hour ozone budget test. The one-hour budgets were adjusted to remove the VOC and NOx emissions attributable to vehicle travel by residents of the Gila River Indian Community. In addition, an interim emissions test for eight-hour ozone was performed to compare future VOC and NOx emissions estimates with 2002 baseline emissions for the eight-hour ozone nonattainment area. The conformity budgets/tests and associated emissions estimates from the latest conformity analysis are summarized in Appendix D.

Table 2.2 of *Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older* (see Appendix B) quantifies the emissions benefits of collectible vehicles participating in the I/M test and repair program. The I/M benefit for all collectibles in Area A is estimated to be 0.034 metric tons per day for HC and 0.319 metric tons per day for CO in 2003 (Note that HC is equivalent to VOC in the MOBILE6.2 model runs). Comparing 2003 emissions with emissions for conformity analysis years (i.e., 2006, 2009, 2015, 2016, and 2026) is a conservative assumption, because the impact of I/M on mobile source emission rates diminishes over time; the emissions control equipment in the newer model vehicles deteriorates less rapidly than in older vehicles.

According to Table 2.2, removing collectible vehicles from the I/M program would increase VOC emissions by 0.034 metric tons per day. Because conformity emissions estimates and budgets are rounded to the nearest tenth of a metric ton, the estimated increase in VOC would have a very small impact on the conformity emissions for any analysis year. Tables 16 and 17 illustrate conformity analysis results for VOCs compared to the VOC I/M benefit in 2006.

Table 16: Volatile Organic Compounds (VOC) No-Greater-than-Baseline Emissions Test for the Eight-hour Ozone Nonattainment Area and I/M Benefit (metric tons per day)[24]	
2002 Baseline	84.5
2006 Emissions	64.2
Collectible Vehicle I/M Benefit	0.03

Table 17: Volatile Organic Compounds (VOC) Adjusted One-Hour Ozone Budget Test for the Eight-hour Ozone Nonattainment Area and I/M Benefit (metric tons per day)[25]	
2006 Adjusted Budget	71.9
2006 Emissions	60.3
Collectible Vehicle I/M Benefit	0.03

[24] See Appendices B and D and *2005 MAG Conformity Analysis for the FY 2006-2010 Transportation Improvement Program and Regional Transportation Plan - 2005 Update*, May 2005.
[25] See footnote 24, above.

Increasing CO emissions by 0.319 metric tons per day would result in a slight increase in emissions, but would not change the overall conformity finding, because CO emissions for all future years are well below the applicable CO budgets. Table 18 illustrates conformity analysis results for CO compared to the CO I/M benefit in 2006.

Table 18: Carbon Monoxide (CO) Conformity Budget Test for the Carbon Monoxide Nonattainment Area and I/M Benefit (metric tons per day)[26]	
2006 Budget	699.7
2006 Emissions	542.8
Collectible Vehicle I/M Benefit	0.32

The NOx reduction attributable to the I/M program for collectible vehicles is not shown in Table 2.2, but comparable MOBILE6.2 runs indicate that the NOx emissions rate in grams per mile would be less than 25 percent of the VOC emissions rate in 2003. However, given that only approximately seven percent of collectible vehicles are subject to NOx testing, the NOx benefit would equate to approximately two percent of the VOC benefit in 2003. Therefore, the NOx emissions increase for all conformity years would be undetectable at the tenth-of-a-ton precision used in conformity. MOBILE6.2 does not assign any PM_{10} emissions reduction credit for I/M and therefore, removing collectible vehicles from I/M would not increase conformity emissions for PM_{10}.

In summary, removing collectible vehicles from the I/M program will result in a small increase in CO emissions, very small increases in VOC and NOx emissions, and no increase in PM_{10} emissions. We conclude that none of these increases will interfere with the area's ability to attain or maintain the NAAQS.

Pima County[27]

The Tucson area in Pima County has not violated the CO NAAQS since 1984, and is projected to maintain compliance with the CO standards for at least ten years. EPA promulgated a final rule on June 8, 2000, to redesignate the Tucson Air Planning Area (TAPA) to attainment for CO and to approve a maintenance plan that insures that the area remains in attainment. Approval of the *Carbon Monoxide Limited Maintenance Plan for the Tucson Air Planning Area* (LMP) became effective July 10, 2000. The plan relies on monitoring and modeling procedures to predict when emissions control measures should be added or removed. Air quality modeling currently indicates that the area will maintain the CO NAAQS for at least 10 years without implementing any additional CO transportation control measures (TCMs) or system improvements. The Pima Association of Governments (PAG) is the Metropolitan Planning Organization for the Pima County region. The Pima Department of Environmental Quality (PDEQ) is the designated air quality control agency for Pima County and is responsible for monitoring ambient CO levels.

The Clean Air Act Amendments of 1990 require that the RTP conform to the "applicable air quality implementation plan's" (SIP's) purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Prior to 2000, the Tucson region was designated nonattainment for the CO health standard. As a nonattainment area, an emissions budget (i.e., maximum emissions limit) was required and

[26] See footnote 24, above.

[27] Source: *2006-2010 Transportation Improvement Program* and *2030 Regional Transportation Plan*; Pima Association of Governments.

assumed to be 1990 base year levels. Nonattainment status also required that federally supported transportation plans, programs, and projects not adversely affect air quality. Approval of the LMP in July 2000 removed the conformity determination requirement for an emissions cap. However, modeling of the regional CO emissions is used for comparative purposes and compliance is determined by monitoring of the existing system.

The Tucson area continues to be in attainment for the health based standard for CO under the LMP. Federal Tier 2 new vehicle standards and vehicle fleet turnover have helped to significantly reduce CO emissions in the region. These low readings serve to reinforce that CO is no longer considered a health issue in the Tucson metropolitan area.

The regional CO emissions impact from motor vehicles was analyzed for year 2030 RTP projects. Outputs from the transportation model, TP+, and the air quality model MOBILE6.2, were utilized by PAG air quality planning staff to estimate the CO emissions from motor vehicles for the start year, as well as the 2030 scenario for the transportation network.

Vehicle miles traveled (VMT) and speed data for six facility categories were consolidated into two categories, freeways and arterials, for air quality modeling of CO emissions. It is assumed that the local/off-system collectors carry 13 percent of the on-system VMT, at a speed of 12.9 miles per hour (the MOBILE6.2 average speed for local streets). Separate arterial and freeway model runs were done at the estimated average speed. High and low altitude scenarios were averaged to reflect the Tucson elevation. The model run inputs also included local vehicle registration and climate data, a winter-time oxyfuel level of 1.8 percent, with the Vehicle Emissions Inspection Program, and a Reid Vapor Pressure of 11.1 psi (actual winter 2004/05 average). The MOBILE6.2 model takes into account regulatory changes that affect the outputs, particularly the new Tier 2 and gasoline sulfur regulations. Tier 2 standards require stricter tailpipe emissions that are being phased in over the period 2004-2007 for new cars and 2006-2009 for new light duty trucks.

Table 19 is a summary of the modeling results. The CO emissions benefit provided by the Tier 2 emissions standards with fleet turnover is evident from the regional CO emissions estimates. This benefit, together with changes in average travel speeds by roadway type and the corresponding emission factors, outweigh the significant increase in VMT from 2005 to 2030.

Table 19: Summary of Regional CO Emissions Modeling Results – Pima County Region (Area B)

Year	Total Vehicle Miles Traveled (mi/day)	Average Freeway Speed (mph)	Average Arterial Speed (mph)	Regional CO Emissions (tons/day)
2005	21,880,000	55.8	35.1	380
2030	42,670,000	39.7	31.8	298

Source: PAG Regional Air Quality Model

Based on regional monitoring results and staff emissions estimates, the following three conformity findings are appropriate:

- The RTP provides for, or does not impede, the implementation of all transportation control measures in the applicable SIP on the schedule set forth in the SIP.

- CO emission levels, microscale and regional, resulting from implementation of the RTP will not interfere with maintenance of the CO NAAQS throughout the maintenance area during the period covered by the plan.

- Implementation of the RTP program will not cause or contribute to a violation of the CO NAAQS anywhere within the maintenance area during the period covered by the plan.

In conclusion, CO concentrations have consistently declined over the past 20 years. The EPA 2003 Trends Report states that between 1992 and 2001, ambient CO concentrations decreased 38 percent. This air quality improvement occurred despite an approximately 35 percent increase in VMTs in the United States during this 10-year period and similar trends for CO have been seen in the PAG region. In order to ensure compliance with the federal health standards, continuing current programs to promote the use of alternate modes of transportation and clean fuels are an important regional component for maintaining air quality.

3.0 Conclusion

Because the analyses of the impacts of exempting collectible vehicles in Areas A and B and motorcycles in Area B shows a minimal impact on emissions, significantly less than 1 metric ton per day, and represents a fraction of the overall emissions inventories in Areas A and B, ambient impacts in both areas are expected to be negligible. Exempting these vehicles from testing will not interfere with continued maintenance of the NAAQS and does not impact these areas' ability to maintain the CO and attain the 8-hour ozone NAAQS.

With this submittal, ADEQ requests that the changes to Arizona's basic and enhanced vehicle emissions inspection and maintenance programs to exempt collectible vehicles from the Phoenix and Tucson area I/M programs and motorcycles from the Tucson area program, as presented in this document, be approved as a component of Arizona's SIP.

APPENDIX A

Amendments to Arizona Laws; Arizona Laws 2005, Chapter 76 (House Bill 2357)

Senate Engrossed House Bill

FILED
JANICE K. BREWER
SECRETARY OF STATE

State of Arizona
House of Representatives
Forty-seventh Legislature
First Regular Session
2005

CHAPTER 76

HOUSE BILL 2357

AN ACT

AMENDING SECTION 49-542, ARIZONA REVISED STATUTES; RELATING TO ANNUAL EMISSIONS INSPECTIONS OF MOTOR VEHICLES; PROVIDING FOR CONDITIONAL ENACTMENT.

(TEXT OF BILL BEGINS ON NEXT PAGE)

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 49-542, Arizona Revised Statutes, is amended to read:

49-542. Emissions inspection program; powers and duties of director; administration; periodic inspection; minimum standards and rules; exceptions; definition

A. The director shall administer a comprehensive annual or biennial emissions inspection program which shall require the inspection of vehicles in this state pursuant to this article and applicable administrative rules. Such inspection is required in area A and area B, for those vehicles owned by a person who is subject to section 15-1444 or 15-1627 and for those vehicles registered outside of area A or area B but used to commute to the driver's principal place of employment located within area A or area B. Inspection in other counties of the state shall commence upon application by a county board of supervisors for participation in such inspection program, subject to approval by the director. In all counties with a population of three hundred fifty thousand or fewer persons according to the most recent United States decennial census, except for the portion of counties that contain any portion of area A, the director shall as conditions dictate provide for testing to determine the effect of vehicle related pollution on ambient air quality in all communities with a metropolitan area population of twenty thousand persons or more according to the most recent United States decennial census. If such testing detects the violation of state ambient air quality standards by vehicle related pollution, the director shall forward a full report of such violation to the president of the senate, the speaker of the house of representatives and the governor.

B. The state's annual or biennial emissions inspection program shall provide for vehicle inspections at official emissions inspection stations or at fleet emissions inspection stations. Each inspection station in area A shall employ at least one mechanic who is available during the station's hours of operation to provide technical advice and assistance for persons who fail the emissions test. The director may enter into agreements with the department of transportation or with county assessors for the use of official emissions inspection stations for the purpose of conducting vehicle registrations. An official or fleet emissions inspection station permit shall not be sold, assigned, transferred, conveyed or removed to another location except on such terms and conditions as the director may prescribe.

C. Vehicles required to be inspected and registered in this state, except those provided for in section 49-546, shall be inspected, for the purpose of complying with the registration or reregistration requirement pursuant to subsection D of this section, in accordance with the provisions of this article no more than ninety days prior to each reregistration expiration date. A vehicle may be submitted voluntarily for inspection more than ninety days before the reregistration expiration date on payment of the prescribed inspection fee. Such voluntary inspection shall not be considered

as compliance with the registration or reregistration requirement pursuant to subsection D of this section.

D. A vehicle shall not be registered or reregistered until such vehicle has passed the emissions inspection and the tampering inspection prescribed in subsection G of this section or has been issued a certificate of waiver. A certificate of waiver shall only be issued one time to a vehicle after January 1, 1997. If any vehicle to be registered or reregistered is being sold by a dealer licensed to sell motor vehicles pursuant to title 28, the cost of any inspection and any repairs necessary to pass the inspection shall be borne by the dealer. A dealer who is licensed to sell motor vehicles pursuant to title 28 and whose place of business is located in area A or area B shall not deliver any vehicle to the retail purchaser until the vehicle passes any inspection required by this article or the vehicle is exempt under subsection J of this section.

E. On the registration or reregistration of a vehicle which has complied with the minimum emissions standards pursuant to this section or is otherwise exempt under this section, the registering officer shall issue an air quality compliance sticker to the registered owner which shall be placed on the vehicle as prescribed by rule adopted by the department of transportation or issue a modified year validating tab as prescribed by rule adopted by the department of transportation. Those persons who reside outside of area A or area B but who elect to test their vehicle or are required to test their vehicle pursuant to this section and who comply with the minimum emissions standards pursuant to this section or are otherwise exempt under this section shall remit a compliance form, as prescribed by the department of transportation, and proof of compliance issued at an official emissions inspection station to the department of transportation along with the appropriate fees. The department of transportation shall then issue the person an air quality compliance sticker which shall be placed on the vehicle as prescribed by rule adopted by the department of transportation. The registering officer or the department of transportation shall collect an air quality compliance fee of twenty-five cents. The registering officer or the department of transportation shall deposit, pursuant to sections 35-146 and 35-147, the air quality compliance fee in the state highway fund established by section 28-6991. The department of transportation shall deposit, pursuant to sections 35-146 and 35-147, any emissions inspection fee in the emissions inspection fund. The provisions of this subsection do not apply to those vehicles registered pursuant to title 28, chapter 7, article 7 or 8, the sale of vehicles between motor vehicle dealers or vehicles leased to a person residing outside of area A or area B by a leasing company whose place of business is in area A or area B.

F. The director shall adopt minimum emissions standards pursuant to section 49-447 with which the various classes of vehicles shall be required to comply as follows:

1. For the purpose of determining compliance with minimum emissions standards in area B:

(a) A motor vehicle manufactured in or before the 1980 model year, other than a diesel powered vehicle, shall be required to take and pass the curb idle test condition. A diesel powered vehicle is subject to only a loaded test condition. The conditioning mode shall, at the option of the vehicle owner or owner's agent, be administered only after the vehicle has failed the curb idle test condition. Upon completion of such conditioning mode, a vehicle that has failed the curb idle test condition may be retested in the curb idle test condition. If the vehicle passes such retest, it shall be deemed in compliance with minimum emissions standards unless the vehicle fails the tampering inspection pursuant to subsection G of this section.

(b) A motor vehicle manufactured in or after the 1981 model year, other than a diesel powered vehicle, shall be required to take and pass the curb idle test condition and the loaded test condition or an ~~on-board~~ ONBOARD diagnostic check as may be required pursuant to title II of the clean air act.

2. For purposes of determining compliance with minimum emissions standards and functional tests in area A:

(a) Motor vehicles manufactured in or after model year 1981 with a gross vehicle weight rating of eighty-five hundred pounds or less, other than diesel powered vehicles, shall be required to take and pass a transient loaded emissions test or an ~~on-board~~ ONBOARD diagnostic check as may be required pursuant to title II of the clean air act.

(b) Motor vehicles other than those prescribed by subdivision (a) of this paragraph and other than diesel powered vehicles shall be required to take and pass a steady state loaded test and a curb idle emissions test.

(c) Notwithstanding the requirement of subsection C of this section that the first emissions inspection after the purchase of a new vehicle be for the second registration year for that vehicle, a diesel powered motor vehicle applying for registration or reregistration in area A more than thirty-three months after the date of initial registration shall be required to take and pass an annual emissions test conducted at an official emissions inspection station or a fleet emissions inspection station as follows:

(i) A loaded, transient or any other form of test as provided for in rules adopted by the director for vehicles with a gross vehicle weight rating of eight thousand five hundred pounds or less.

(ii) A test that conforms with the society for automotive engineers standard J1667 for vehicles with a gross vehicle weight rating of more than eight thousand five hundred pounds.

(d) Motor vehicles by specific class or model year shall be required to take and pass any of the following tests:

(i) An evaporative system purge test.

(ii) An evaporative system integrity test.

(e) An ~~on board~~ ONBOARD diagnostic check as may be required pursuant to title II of the clean air act may be conducted for advisory purposes.

3. A motorcycle IN AREA A or ANY constant four wheel drive vehicle shall be required to take and pass a curb idle emissions test.

4. Fleet operators in area B which have been issued a permit under section 49-546 are required to test their vehicles as follows:

(a) A motor vehicle manufactured in or before the 1980 model year shall take and pass only the curb idle test condition, except that a diesel powered vehicle is subject to only a loaded test condition.

(b) A motor vehicle manufactured in or after the 1981 model year shall take and pass the curb idle test condition and a twenty-five hundred revolutions per minute unloaded test condition.

5. Vehicles owned or operated by the United States, this state or a political subdivision of this state shall comply with this subsection without regard to whether those vehicles are required to be registered in this state, except that alternative fuel vehicles of a school district that is located in area A shall be required to take and pass the curb idle test condition and the loaded test condition.

6. Fleet operators in area A shall comply with this section, except that used vehicles sold by a motor vehicle dealer who is a fleet operator and who has been issued a permit pursuant to section 49-546 for purposes of determining compliance with minimum emission standards in area A shall test their vehicles as follows:

(a) A motor vehicle manufactured in or before the 1980 model year shall take and pass the curb idle test condition, except that a diesel powered vehicle is subject to only a loaded test condition.

(b) A motor vehicle manufactured in or after the 1981 model year shall take and pass the curb idle test condition and a two thousand five hundred revolutions per minute unloaded test condition.

7. Beginning on January 1, 2004 and except for any registered owner or lessee of a fleet of less than twenty-five vehicles, a diesel powered motor vehicle with a gross vehicle weight of more than twenty-six thousand pounds and for which gross weight fees are paid pursuant to title 28, chapter 15, article 2 in area A shall not be allowed to operate in area A unless it was manufactured in or after the 1988 model year or is powered by an engine that is certified to meet or surpass emissions standards contained in 40 Code of Federal Regulations section 86.088-11. This paragraph does not apply to vehicles that are registered pursuant to title 28, chapter 7, article 7 or 8.

8. Beginning on January 1, 2006 for any registered owner or lessee of a fleet of less than twenty-five vehicles, a diesel powered motor vehicle with a gross vehicle weight of more than twenty-six thousand pounds and for which gross weight fees are paid pursuant to title 28, chapter 15, article 2 in area A shall not be allowed to operate in area A unless it was manufactured in or after the 1988 model year or is powered by an engine that is certified to meet or surpass emissions standards contained in 40 Code of

Federal Regulations section 86.088-11. This paragraph does not apply to vehicles that are registered pursuant to title 28, chapter 7, article 7 or 8.

G. In addition to an emissions inspection, a vehicle is subject to a tampering inspection on at least a biennial basis if the vehicle was manufactured after the 1974 model year and the vehicle is not subject to a transient loaded emissions test. The director shall adopt vehicle configuration guidelines for the tampering inspection which shall be based on the original configuration of the vehicle when manufactured. The tampering inspection shall consist of the following:

1. A visual check to determine the presence of properly installed catalytic converters.

2. An examination to determine the presence of an operational air pump.

3. In area A, if the vehicle was manufactured after the 1974 model year and is not subject to a transient loaded emissions test, a visual inspection for the presence or malfunction of the positive crankcase ventilation system and the evaporative control system.

H. Vehicles required to be inspected shall undergo a functional test of the gas cap to determine if the cap holds pressure within limits prescribed by the director, except for any vehicle that is subject to an evaporative system integrity test.

I. Motor vehicles failing the initial or subsequent test are not subject to a penalty fee for late registration renewal if the original testing was accomplished before the expiration date and if the registration renewal is received by the motor vehicle division or the county assessor within thirty days of the original test.

J. The director may adopt rules for purposes of implementation, administration, regulation and enforcement of the provisions of this article including:

1. The submission of records relating to the emissions inspection of vehicles inspected by another jurisdiction in accordance with another inspection law and the acceptance of such inspection for compliance with the provisions of this article.

2. The exemption from inspection of:

(a) A motor vehicle manufactured in or before the 1966 model year.

(b) New vehicles originally registered at the time of initial retail sale and titling in this state pursuant to section 28-2153 or 28-2154.

(c) Vehicles registered pursuant to title 28, chapter 7, article 7 or 8.

(d) During each calendar year vehicles of that model year and vehicles from the prior four model years.

(e) Vehicles which will not be available within the state during the ninety days prior to registration.

(f) Golf carts.

(g) Electrically-powered vehicles.

(h) Vehicles with an engine displacement of less than ninety cubic centimeters.

(i) The sale of vehicles between motor vehicle dealers.

(j) Vehicles leased to a person residing outside of area A or area B by a leasing company whose place of business is in area A or area B.

(k) COLLECTIBLE VEHICLES.

(l) MOTORCYCLES IN AREA B.

3. Compiling and maintaining records of emissions test results after servicing.

4. A procedure which shall allow the vehicle service and repair industry to compare the calibration accuracy of its emissions testing equipment with the department's calibration standards.

5. Training requirements for automotive repair personnel using emissions measuring equipment whose calibration accuracy has been compared with the department's calibration standards.

6. Any other rule which may be required to accomplish the provisions of this article.

K. The director shall, after consultation with automobile manufacturers and the vehicle service and repair industry, establish by rule a definition of "low emissions tune-up" for motor vehicles subject to inspection under this article. The definition shall specify repair procedures which, when implemented, will reduce vehicle emissions.

L. The director shall adopt rules which specify that the estimated retail cost of all recommended maintenance and repairs shall not exceed the amounts prescribed in this subsection, except that if a vehicle fails a tampering inspection there is no limit on the cost of recommended maintenance and repairs. The director shall issue a certificate of waiver for a vehicle which has failed reinspection, if the director has determined that all recommended maintenance and repairs have been performed. If, after reinspection, the director has determined that the vehicle is in compliance with minimum emissions standards or that all recommended maintenance and repairs for compliance with minimum emissions standards have been performed, but that tampering discovered at a tampering inspection has not been repaired, the director may issue a certificate of waiver if the owner of the vehicle provides to the director a written statement from an automobile parts or repair business that an emissions control device which is necessary to repair the tampering is not available and cannot be obtained from any usual source of supply before the vehicle's current registration expires. Rules adopted by the director for the purpose of establishing the estimated retail cost of all recommended maintenance and repairs pursuant to this subsection shall specify that:

1. In area A the cost shall not exceed:

(a) Five hundred dollars for a diesel powered vehicle with a gross weight in excess of twenty-six thousand pounds.

(b) Five hundred dollars for a diesel powered vehicle with tandem axles.

(c) For a vehicle other than a diesel powered vehicle with a gross weight in excess of twenty-six thousand pounds and other than a diesel powered vehicle with tandem axles:

(i) Two hundred dollars for such a vehicle manufactured in or before the 1974 model year.

(ii) Three hundred dollars for such a vehicle manufactured in the 1975 through 1979 model years.

(iii) Four hundred fifty dollars for such a vehicle manufactured in or after the 1980 model year.

2. In area B the cost shall not exceed:

(a) Three hundred dollars for a diesel powered vehicle with a gross weight in excess of twenty-six thousand pounds.

(b) Three hundred dollars for a diesel powered vehicle with tandem axles.

3. For a vehicle other than a diesel powered vehicle with a gross weight in excess of twenty-six thousand pounds and other than a diesel powered vehicle with tandem axles:

(a) Fifty dollars for such a vehicle manufactured in or before the 1974 model year.

(b) Two hundred dollars for such a vehicle manufactured in the 1975 through 1979 model years.

(c) Three hundred dollars for such a vehicle manufactured in or after the 1980 model year.

M. Each person whose vehicle has failed an emissions inspection shall be provided a list of those general recommended tune-up procedures for vehicles which are designed to reduce vehicle emissions levels. The list shall include the following notice: "This test is the result of federal law. You may wish to contact your representative in the United States Congress."

N. Notwithstanding any other provisions of this article, the director may adopt rules allowing exemptions from the requirement that all vehicles must meet the minimum standards for registration or reregistration.

O. The director of environmental quality shall establish, in cooperation with the assistant director for the motor vehicle division of the department of transportation:

1. An adequate method for identifying bona fide residents residing outside of area A or area B to ensure that such residents are exempt from compliance with the inspection program established by this article and rules adopted under this article.

2. A written notice that shall accompany the vehicle registration application forms that are sent to vehicle owners pursuant to section 28-2151 and that shall accompany or be included as part of the vehicle emissions test results that are provided to vehicle owners at the time of the vehicle emissions test. This written notice shall describe at least the following:

(a) The restriction of the waiver program to one time per vehicle and a brief description of the implications of this limit.

(b) The availability and a brief description of the vehicle repair and retrofit program established pursuant to section 49-474.03.

(c) Notice that many vehicles carry extended warranties for vehicle emissions systems, and those warranties are described in the vehicle's owner's manual or other literature.

(d) A description of the catalytic converter replacement program established pursuant to section 49-474.03.

P. Notwithstanding any other law, if area A or area B is reclassified as an attainment area, emissions testing conducted pursuant to this article shall continue for vehicles registered inside that reclassified area, vehicles owned by a person who is subject to section 15-1444 or 15-1627 and vehicles registered outside of that reclassified area but used to commute to the driver's principal place of employment located within that reclassified area.

Q. A fleet operator who is issued a permit pursuant to section 49-546 may electronically transmit emissions inspection data to the department of transportation pursuant to rules adopted by the director of the department of transportation in consultation with the director of environmental quality.

R. The director shall prohibit a certificate of waiver pursuant to subsection L of this section for any vehicle which has failed inspection in area A due to the catalytic converter system.

S. The director shall establish provisions for rapid testing of certain vehicles and to allow fleet operators, singly or in combination, to contract directly for vehicle emissions testing.

T. Each vehicle emissions control station in area A shall have a sign posted to be visible to persons who are having their vehicles tested. This sign shall state that enhanced testing procedures are a direct result of federal law.

U. The initial adoption of rules pursuant to this section shall be deemed emergency rules pursuant to section 41-1026.

V. The director of environmental quality and the director of the department of transportation shall implement a system to exchange information relating to the waiver program, including information relating to vehicle emissions test results and vehicle registration information.

W. Any person who sells a vehicle that has been issued a certificate of waiver pursuant to this section after January 1, 1997 and who knows that a certificate of waiver has been issued after January 1, 1997 for that vehicle shall disclose to the buyer before completion of the sale that a certificate of waiver has been issued for that vehicle.

X. Vehicles that fail the emissions test at emission levels higher than twice the standard established for that vehicle class by the department pursuant to section 49-447 are not eligible for a certificate of waiver pursuant to this section unless the vehicle is repaired sufficiently to

achieve an emissions level below twice the standard for that class of vehicle.

Y. IF AN INSURER NOTIFIES THE DEPARTMENT OF TRANSPORTATION OF THE CANCELLATION OR NONRENEWAL OF COLLECTIBLE VEHICLE OR CLASSIC AUTOMOBILE INSURANCE COVERAGE FOR A COLLECTIBLE VEHICLE, THE DEPARTMENT OF TRANSPORTATION SHALL CANCEL THE REGISTRATION OF THE VEHICLE AND THE VEHICLE'S EXEMPTION FROM EMISSIONS TESTING PURSUANT TO THIS SECTION UNLESS EVIDENCE OF COVERAGE IS PRESENTED TO THE DEPARTMENT OF TRANSPORTATION WITHIN SIXTY DAYS.

Z. FOR THE PURPOSES OF THIS SECTION, "COLLECTIBLE VEHICLE" MEANS A VEHICLE THAT COMPLIES WITH BOTH OF THE FOLLOWING:

1. EITHER:

(a) BEARS A MODEL YEAR DATE OF ORIGINAL MANUFACTURE THAT IS AT LEAST FIFTEEN YEARS OLD.

(b) IS OF UNIQUE OR RARE DESIGN, OF LIMITED PRODUCTION AND AN OBJECT OF CURIOSITY.

2. MEETS BOTH OF THE FOLLOWING CRITERIA:

(a) IS MAINTAINED PRIMARILY FOR USE IN CAR CLUB ACTIVITIES, EXHIBITIONS, PARADES OR OTHER FUNCTIONS OF PUBLIC INTEREST OR FOR A PRIVATE COLLECTION AND IS USED ONLY INFREQUENTLY FOR OTHER PURPOSES.

(b) HAS A COLLECTIBLE VEHICLE OR CLASSIC AUTOMOBILE INSURANCE COVERAGE THAT RESTRICTS THE COLLECTIBLE VEHICLE MILEAGE OR USE, OR BOTH, AND REQUIRES THE OWNER TO HAVE ANOTHER VEHICLE FOR PERSONAL USE.

Sec. 2. Conditional enactment; notice

A. Section 49-542, Arizona Revised Statutes, as amended by this act, does not become effective unless on or before July 1, 2009 the United States environmental protection agency issues a vehicle emissions testing exemption for motorcycles and collectible vehicles in area B and for collectible vehicles in area A for purposes of the state implementation or maintenance plan for air quality.

B. The director of the department of environmental quality shall promptly notify in writing the director of the Arizona legislative council of the date on which the condition prescribed in subsection A of this section is met or if the condition is not met.

APPROVED BY THE GOVERNOR APRIL 13, 2005.

FILED IN THE OFFICE OF THE SECRETARY OF STATE APRIL 13, 2005.

APPENDIX B

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

ADEQ
Arizona Department of Environmental Quality

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Air Quality Division

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

Prepared to meet the requirements of House Bill 2501 (2002) and House Bill 2294 (2003)

December 2004

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

Prepared to meet the requirements of House Bill 2501 (2002) and House Bill 2294 (2003)

EXECUTIVE SUMMARY

House Bill 2501, as amended by HB 2294, requires the Arizona Department of Environmental Quality (ADEQ) to evaluate whether a request may be made to the U.S Environmental Protection Agency (EPA) to exempt vehicles 25 model years old or older in combination with motorcycles or collectible vehicles from being subject to the emissions testing requirement. This Report constitutes ADEQ's findings regarding these requests, and has been transmitted to the Governor, the President of the Senate, the Speaker of the House of Representatives, and the Maricopa and Pima Associations of Governments. The evaluation contained in this Report involves the air quality plans and emissions inspections programs in both the greater Phoenix and Tucson areas, which are named in A.R.S § 49-541 as Area A and Area B, respectively.

Beginning with the process of developing the methods and defining the data needed for conducting the analyses to be used in this report, ADEQ has engaged motor vehicle hobbyists and the motorcycling community. These constituencies were important contributors to the preparation of the Report. A public meeting was held to review the Draft Report on November 23, 2004, and this Final Report includes many of the changes suggested in comments received.

The methods used to gather data included conduct of surveys of collectible vehicle insurers and collectible vehicle and motorcycle owners, in addition to acquiring data from the State vehicle emissions inspections programs, other state agencies, air quality planning agencies and relevant air quality plans. The analyses conducted rely primarily on the EPA mobile source emissions model, MOBILE6.2, which relies on data from these other sources to generate potential emissions impacts of exempting classes of vehicles from emissions testing requirements.

The purpose of vehicle emissions testing programs, also called inspection and maintenance or IM programs, is to identify vehicles emitting excessive pollution and require repair of the malfunctioning systems causing those excess emissions. Consequently, the potential emissions increases that would occur as a result of exempting vehicles from emissions testing requirements are expressed as the "IM benefits from test and repair" of those vehicles. Table ES-1 provides a summary of these results.

HB 2294, Section 11, provides that ADEQ "shall make the exemptions request only if it determines that the continued emissions testing of motorcycles, collectible vehicles and vehicles that are twenty-five model years old or older or at least one combination of these categories of vehicles that includes a twenty-five model years old or older category does not provide a significant air quality benefit and is not necessary to satisfy the requirements of the state implementation or maintenance plans." Therefore, an exemption request is lawful only if both of the following conditions are met: including the category or combination of categories in the IM program does not provide a significant benefit *and* it is not required by the State Implementation Plan (SIP). This Report concludes that neither condition is met. The testing and repair of vehicles 25 model years old and older provides a significant air quality benefit: 11.77 metric tons

per day (mtpd) in Area A and 3.4 mtpd in Area B for CO. See Table ES-1. Further, EPA has approved the IM program in the SIP. Emissions from motorcycles, collectible vehicles and vehicles that are twenty five model years old and older were included in the baseline emissions modeling for the SIP. Accordingly, their continuance under the IM programs is necessary to satisfy the requirements of the SIP. As such, ADEQ is prohibited from requesting an exemption from emissions testing for these categories of vehicles.

HB 2294 also requires ADEQ to make recommendations for modifying the SIP with alternative control measures if exempting from IM programs motorcycles, collectible vehicles, and vehicles that are twenty-five model years old and older would not satisfy the requirements of the SIP. The federal Clean Air Act gives states the flexibility to substitute emission control programs for ones that will no longer be implemented providing the substitute controls have equivalent emissions reductions. Table ES-2 provides a list of pollution control measures that could be substituted for testing vehicles 25 model years old and older and motorcycles or collectible vehicles. More complete information on these control measures is contained in Section 3 of the Report.

Table ES-1
IM Benefits from Test and Repair of All Classes of Vehicles

Region	Vehicle Category	Each Class Individually (mtpd)		With =25 Model Year Old Vehicles (mtpd)		Percent of Area-Wide On-Road Emissions		Percent of Area-Wide Total Emissions Inventory	
		HC	CO	HC	CO	HC	CO	HC	CO
Area A	=25 Model Years Old (includes motorcycles)	0.82	11.77	-	-	1.14%	1.68%	0.25%	1.29%
	Collectible Vehicles[1]	0.03	0.32	0.82	11.81	1.14%	1.69%	0.25%	1.29%
	Motorcycles[1]	0.11	1.29	0.92	12.96	1.28%	1.85%	0.28%	1.42%
Area B	=25 Model Years Old (includes motorcycles)	0.36	5.64	-	-	1.17%	1.39%	0.42%	0.94%
	Collectible Vehicles[1]	0.01	0.14	0.36	5.66	1.18%	1.39%	0.42%	0.95%
	Motorcycles[1]	0.03	0.09	0.39	5.72	1.26%	1.41%	0.45%	0.96%

[1]Total with =25 model years old vehicles not additive as the =25 model years olds include part of this class.

Table ES-2
Potential Control Measures to Mitigate VEI Exemptions

Measure	HC reduction	CO reduction	Impact Year/Area
Implementation of the California Low Emission Vehicle Program (CA LEV) Statewide	4.3 mtpd (VOC) 20.1 mtpd (VOC)	95.0 mtpd 363.1 mtpd	2005 2015
Mandatory No-Drive Days	19.1 mtpd	46.0 mtpd	1995/MAG region
CARB Diesel (On-Road and Off-Road)	7.1 mtpd 10.1 mtpd	9.2 mtpd 11.3 mtpd	2004/MAG region 1999/ MAG region 2010/ MAG region
Replace Vehicle Licence Tax With a Fuel Tax (Pay at Pump)	1.7 mtpd (VOC)	13.2 mtpd	2000
Expansion of the I/M Program Statewide	1.9 mtpd	10.8 mtpd	1995/MAG region
Portable Fuel Container Emission and Spillage Control (gas can rule)	11.5 mtpd	Not applicable	1998/Statewide
Eliminationof exemption for newer vehicles	0.75 mtpd 0.27 mtpd	9.52 mtpd 4.44 mtpd	2003/Area A 2003/Area B
Parking Management	1.7 mtpd 1.5 mtpd	7.6 mtpd 9.1 mtpd	1995/MAG region 2005/MAG region
Tax on Vehicle Miles of Travel	3.8 mtpd	5.4 mtpd	1995/MAG region
Vehicle Scrappage Programs	3.4 mtpd	4.2 mtpd	1995/MAG region
Ban Leaf Blowers	1.2 mtpd	3.5 mtpd	Area A
Extension and Expansion of Voluntary Lawn Mower and Lawn Equipment Replacement Program	0.4 mtpd	1.3 mtpd	1997-2000/ Maricopa County
Require I/M Testing for Non-Residents	0.2 mtpd	1.2 mtpd	1995/MAG region
Permanent Funding for Voluntary Vehicle Repair and Retrofit (VVRR) Programs	0.05 mtpd 0.03 mtpd	1.0 mtpd 0.5 mtpd	2002/Area A 2002/Area B

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

TABLE OF CONTENTS

	Page
SECTION 1. INTRODUCTION	1
1.1 Requirements of the Legislation	1
1.2 Arizona's Vehicle Emissions Inspection Programs	2
1.3 Characteristics of the Vehicle Classes Being Considered for Exemption from Testing	4
1.4 Public Process	7
1.5 An Overview of the Analysis	8
1.5.1 Data Used To Conduct the Analyses	8
1.5.2 How the Analyses Were Done	9
1.6 Clean Air Act Requirements for Relaxation of Approved Pollution Control Programs	10
1.6.1 Clean Air Act §110(l) and Applicable Case Law	10
1.6.2 Application of Case Law to HB2501/HB2294 Analysis	11
SECTION 2. TECHNICAL ANALYSIS	12
2.1 Introduction	12
2.2 Modeling	13
2.3 Analytical Methods	14
2.3.1 25 Model Years Old And Older Vehicles	14
2.3.2 Collectible Vehicles	15
2.3.3 Motorcycles	17
2.4 Summary of the Results	18
2.5 Discussion	19
SECTION 3. CONCLUSIONS	21

List of Tables

Table 1.1	Summary of Area A Vehicle Emissions Tests	3
Table 1.2	Summary of Area B Vehicle Emissions Test	4
Table 1.3	EPA MOBILE6 Model Estimated Average Emissions for Three Classes of Vehicles	5
Table 1.4	Maricopa County Tested Fleet Characteristics for Calendar Year 2003	5
Table 1.5	Pima County Tested Fleet Characteristics for Calendar Year 2003	6
Table 2.1	IM Benefits from Test and Repair of 25 Year Old and Older Vehicles	15
Table 2.2	IM Benefits from Test and Repair of Collectible Vehicles	16
Table 2.3	IM Benefits from Test and Repair of Motorcycles	17
Table 2.4	Emissions Inventories	18
Table 2.5	IM Benefits from Test and Repair of All Classes of Vehicles	19
Table 3	Potential Control Measures to Mitigate VEI Exemptions	23

List of Figures

		Page
Figure 1.1	Area A Vehicle Emissions Failure Rates	6
Figure 1.2	Area B Vehicle Emissions Failure Rates	7
Figure 2	Estimated Vehicles 25 or More Model Years Old	20

APPENDICES

Appendix 1 House Bills

Appendix 2 Technical Support Documents
- 2a Technical Support Document for Evaluating Emissions Impacts of Exempting Light Duty Vehicles 25 Model Years Old and Older from Vehicle Emissions Inspections
- 2b Technical Support Document for Evaluating Emissions Impacts of Exempting Collectible Vehicles from Vehicle Emissions Inspections
- 2c Technical Support Document for Evaluating Emissions Impacts of Exempting Motorcycles from Vehicle Emissions Inspections

Appendix 3 Examples of Modeling Input and Output Files

- 3a Input Files
  - 3a(1) Vehicles 25 Years Old and Older with IM for Calendar Year 2003 – Summer, Area B
  - 3a(2) Collectible Vehicles with IM for Calendar Year 2003 – Summer, Area A
  - 3a(3) Motorcycles without IM for Calendar Year 2003 – Winter, Area B
  - 3a(4) Motorcycle Registration Distributions for Areas A and B – Calendar Year 2003
  - 3a(5) IM Descriptive Files – Area B

- 3b Output Files
  - 3b(1) Vehicles 25 Years Old and Older with IM for Calendar Year 2003 – Summer, Area B
  - 3b(2) Collectible Vehicles with IM for Calendar Year 2003 – Summer, Area A
  - 3b(3) Motorcycles without IM for Calendar Year 2003 – Winter, Area B

Appendix 4 Comments on Draft Report and ADEQ Responses to Comments Received
- 4a Written Comments on Draft Report
- 4b Responsiveness Summary

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

Prepared to meet the requirements of House Bill 2501 (2002) and House Bill 2294 (2003)

SECTION 1. INTRODUCTION

1.1 Requirements of the Legislation

HB 2501,[2] passed in 2002, required the Arizona Department of Environmental Quality (ADEQ) to request that the U.S Environmental Protection Agency (EPA) exempt motorcycles and collectible vehicles from being subject to the emissions testing requirement if ADEQ determines that the continued emissions testing of these vehicles does not provide a significant air quality benefit and it is not necessary to satisfy State Implementation Plan (SIP) requirements. HB 2294,[3] passed in 2003, modified the requirements of HB 2501 by requiring ADEQ evaluate exempting:

> "… motorcycles, collectible vehicles and vehicles that are twenty-five model years old or older or at least one combination of these categories of vehicles that includes a twenty-five model years old or older category from the state implementation or maintenance plans. The department shall make the exemptions request only if it determines that the continued emissions testing of motorcycles, collectible vehicles and vehicles that are twenty-five model years old or older or at least one combination of these categories of vehicles that includes a twenty-five model years old or older category does not provide a significant air quality benefit and is not necessary to satisfy the requirements of the state implementation or maintenance plans. The department of environmental quality shall submit a written report of its findings and activities regarding these requests to the governor, the president of the senate, the speaker of the house of representatives, and the Maricopa association of governments and the Pima association of governments on or before December 31, 2004."

The law provides further instructions to ADEQ: "The report shall include recommendations on how the state implementation or maintenance plans must be modified by considering alternative control measures in order to implement the vehicle emissions testing exemptions considered, if the department determines that the exemptions would not satisfy the requirements of the state implementation or maintenance plans."

An important distinction is the definition of "collectible vehicle." A vehicle is a collectible if it:

> "1. Bears a model year date of original manufacture that is fifteen years old or older.
>
> 2. Is of unique or rare design, of limited production and an object of curiosity.

---

[2] Arizona Laws, Forty-fifth Legislature, Second Regular Session, Chapter 146 (2002).

[3] Arizona Laws, Forty-sixth Legislature, First Regular Session, Chapter 258 (2003).

3. Is maintained primarily for use in car club activities, exhibitions, parades or other functions of public interest or for a private collection and is used only infrequently for other purposes.

4. Has a collectible vehicle or classic automobile insurance coverage that restricts the collectible vehicle mileage and requires the owner to have another vehicle for personal use."

The full text of both bills may be found in Appendix 1.

This report provides the background and the technical and legal analyses to meet these requirements.

1.2 Arizona's Vehicle Emissions Inspection Programs

The Arizona Legislature adopted centralized vehicle emissions testing programs in Maricopa and Pima counties in 1974, which were implemented in 1975. The program developed to its current form as engine, emissions control and testing technology improved, and to meet the challenge of continuing emissions reductions from vehicles in an effort to comply federal air quality standards. The Maricopa and Pima County programs were designed to address the specific air pollution problems in each of the two areas. Eastern Maricopa County, defined in law as Area A,[4] is classified as a "serious" nonattainment area for carbon monoxide, ozone and particulate matter. The Greater Tucson Area in Pima County, defined in law as Area B,[5] was designated nonattainment for carbon monoxide, but, in 2000, was redesignated to attainment. The Vehicle Emissions Inspections Programs have been credited with being among the most important control programs for improving air quality in both the Phoenix and Tucson metropolitan areas.[6]

The purpose of Vehicle Emissions Inspections Programs (VEIPs) is to identify the vehicles with excess emissions, provide basic information that assists with diagnosing malfunctions that cause the excess emissions, and require repair of the vehicle to bring emissions into compliance with standards. Inspection *and* maintenance or IM is a generic term for vehicle emissions inspection programs like Arizona's. As such, the Arizona VEIPs will primarily be referred to as the Arizona IM programs in the remainder of this report.

Tables 1.1 and 1.2 summarize the emissions tests performed in each of the areas.

---

[4]See ARS §49-541(1). Area A also includes a small portion of Yavapai County near Lake Pleasant, and part of northern Pinal County, including Apache Junction and Gold Canyon.

[5]See ARS §49-541(2).

[6]See Wenzel, T., "Using Program Test Result Data to Evaluate the Phoenix I/M Program" (December 1999)

Table 1.1
Summary of Area A Vehicle Emissions Tests

Test Name	Description	Vehicles Subject to Test	Test Frequency	Vehicles Tested in 2003 (% of total initial tests)
On-Board Diagnostics (OBD)	The on-board computer that controls the operation of the fuel, ignition, and emissions control systems is polled to determine if malfunctions that affect emissions have occurred.	Spark-ignited light duty cars and trucks, MY 1996 and newer	Biennial	273,799 (33.2%)
Arizona Transient Loaded (IM147)	The vehicle is run on a dynamometer under various loads to simulate a driving cycle; mass emissions (grams/mile) are measured during the simulated driving cycle and compared to standards set based on model year and classification of the vehicle.	Spark ignited light duty cars and trucks, MY 1981 through 1995 plus 1996 and newer light duty alternative bi-fuelled vehicles	Biennial	394,186 (47.7%)
Loaded/Idle	The vehicle is run both at idle and under a constant load on a dynamometer; emission rates (parts per million or percent) are measured under both conditions and compared to standards set based on model year and classification of the vehicle.	Spark ignited light duty cars and trucks, MY 1967 through 1980; spark ignited heavy duty vehicles MY 1967 and newer; 1996 and newer heavy duty alternative bi-fuelled vehicles	Annual	101,145 (12.3%)
Idle only	See Loaded/Idle	Motorcycles, Non-OBD vehicles that cannot tested under loaded operation (e.g., constant 4-wheel drive) MY 1967 and newer	Annual	30,276* (3.7%)
Diesel Loaded	The opacity of the exhaust smoke is measured while the vehicle is operated under a constant load on a dynamometer	MY 1967 and newer diesel powered vehicles with GVWR of 8,500 lbs or less	Annual	3,289 (0.4%)
Diesel Snap-Acceleration (SAE 1667)	The opacity of exhaust smoke is measured under open-throttle conditions while the vehicle is out-of-gear and stationary	MY 1967 and newer diesel powered vehicles GVWR greater than 8,500 lbs	Annual	23,117 (2.8%)

*Motorcycles only: 22,053

Table 1.2
Summary of Area B Vehicle Emissions Tests

Test Name	Description	Vehicles Subject to Test	Test Frequency	Vehicles Tested in 2003 (% of total initial tests)
On-Board Diagnostics (OBD)	The on-board computer that controls the operation of the fuel, ignition, and emissions control systems is polled to determine if malfunctions that affect emissions have occurred.	Spark-ignited light duty cars and trucks, MY 1996 and newer	Biennial	102,202 (27.4%)
Loaded/Idle	The vehicle is run both at idle and under a constant load on a dynamo-meter; emission rates (parts per million or percent) are measured under both conditions and compared to standards set based on model year and classification of the vehicle.	Spark ignited vehicles (excl. motorcycles) MY 1981 through 1995 plus 1996 and new vehicles that cannot be tested with OBD	Annual	223,482 (59.8%)
Idle only	See Loaded/Idle	Spark ignited vehicles, MY 1967 through 1980 (incl. motorcycles), Non-OBD vehicles that cannot tested under loaded operation (e.g., constant 4-wheel drive) MY 1967 and newer	Annual	39,364* (10.5%)
Diesel Loaded	The opacity of the exhaust smoke is measured while the vehicle is operated under a constant load on a dynamometer	All diesel powered vehicles MY 1967 and newer	Annual	8,687 (2.3%)

*Motorcycles only: 6,240

1.3 Characteristics of the Vehicle Classes Being Considered for Exemption from Testing

The legislation calls for evaluation of three classes of vehicles: those more than 24 model years old, collectible vehicles and motorcycles. A number of issues need to be taken into consideration regarding the impact of exempting vehicles from testing:

- Emissions control technology is different for different types of vehicles. Late model year motorcycles and heavy-duty gasoline fueled vehicles have only minimal controls (PCV and possibly computer controlled fuel injection and ignition), while their cohort light duty vehicles will have the latest technology controls for their model years.

- Emissions technology improved over time because of new requirement set by federal and California State law. These standards had a significant impacts on emissions. Late model light duty vehicle emissions are 1% to 4% of those for pre-pollution control vehicles when they were new.

- On average, vehicles pollute more as they grow older. This is the result of normal wear-and-tear on the engine, fuel and emissions control systems. This is not to say that every vehicle will pollute less than its older cohorts. The actual condition of the vehicle is the result of a large number of variables, including the amount of regular maintenance the vehicle received during its lifetime, how the vehicle was driven (e.g., primarily in-town v. on-highway, the amount of aggressive acceleration or heavy use, such as towing), and the overall durability of the engine and emissions controls systems (may be a function of make and model, or a vehicle-specific durability issue).

Table 1.3 is an example of how all of these factors may relate to emissions:

Table 1.3
EPA MOBILE6.2* Model Estimated Average Emissions for Three Classes of Vehicles

	Light Duty Vehicles MY 1981-2003	Light Duty Vehicles MY 1967-1980	Motorcycles
Carbon Monoxide	10.1 g/mi	22.7 g/mi	13.4 g/mi
Hydrocarbons	1.06 g/mi	1.57 g/mi	1.94 g/mi

*Based on Maricopa County fleet characteristics and climate.

As a result, identification of emissions related problems and their repair through a vehicle emissions inspection program can have a significant air quality impact. A 50% decrease in emissions for a vehicle that emits 200 g/mi will have a much greater overall impact it would for one that emits 50 g/mi. How all these factors interrelate can be further illustrated using the statistics from the Arizona VEIP, as illustrated in Tables 1.4 and 1.5, and Figures 1.1 and 1.2.

Table 1.4
Maricopa County Tested Fleet Characteristics for Calendar Year 2003

	Number	Percent of Tested Fleet	Failure Rate	Percent of Failures
Total Tested Fleet	825,812	100%	18.6%	100%
Collectible Vehicles	3,800[7]	0.05%	N/A[8]	--
Motorcycles	22,053	2.7%	20.5%	3.0%
Vehicles >24 Model Years (1967-1979)	59,860	7.2%	39.8%	15.6%

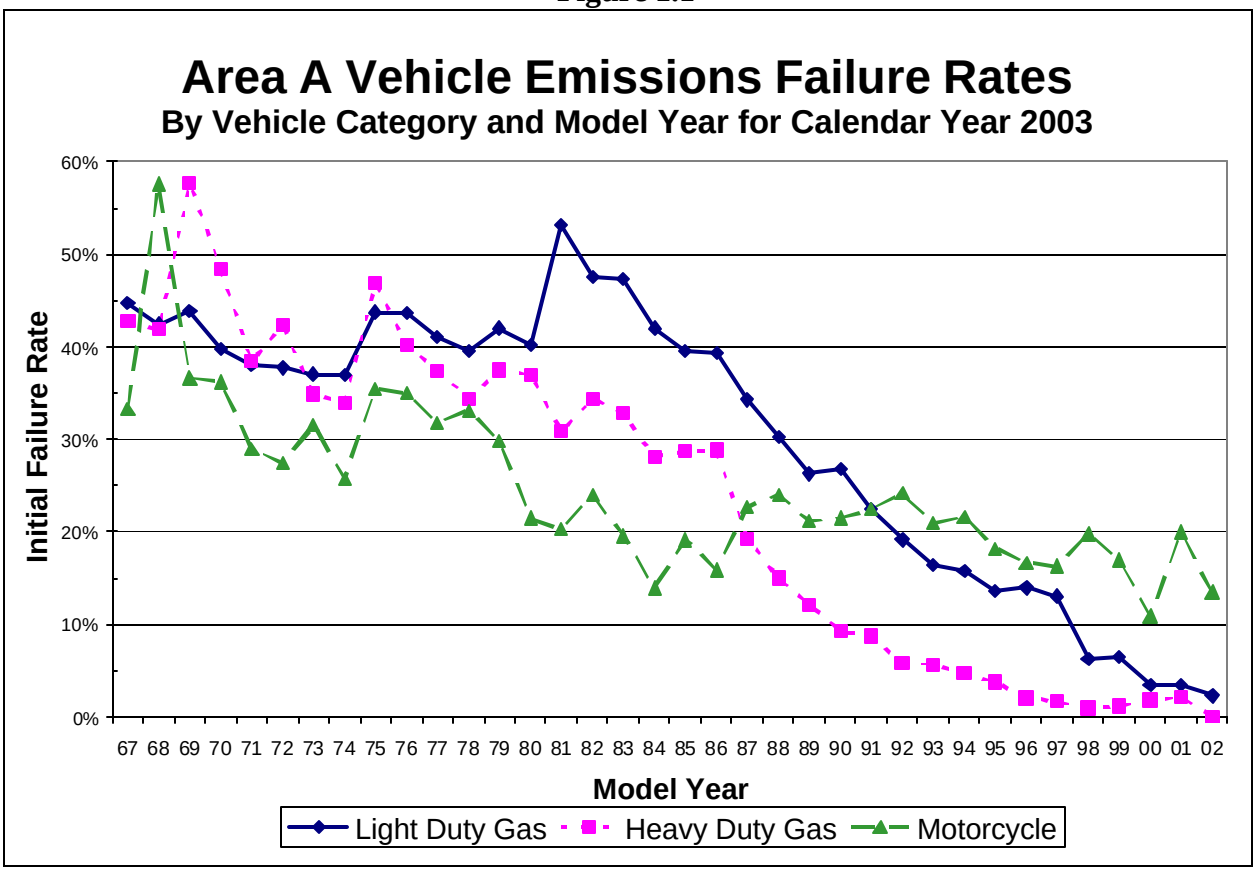
[7]Estimated based on the survey of collectible vehicle insurers and prorating total number of policies (7,100) by the percent vehicles of model years 1967 through 1989 from the collectible vehicle owners survey (73%), and the 2003 vehicle test population for light duty vehicles model years 1967 through 1989 in both counties (73%/27% split). The number of collectible vehicle policies estimated for the entire state was used to provide an upper-bound estimate.

[8]The failure rates for collectible vehicles are discussed in Section 2.

Table 1.5
Pima County Tested Fleet Characteristics for Calendar Year 2003

	Number	Percent of Tested Fleet	Failure Rate	Percent of Failures
Total Tested Fleet	373,734	100%	9.7%	100%
Collectible Vehicles	1,400[6]	0.4%	N/A[7]	--
Motorcycles	6,240	1.7%	5.1%	0.9%
Vehicles >24 Model Years (1967-1979)	28,179	7.5%	24.4%	19.1%

Figure 1.1

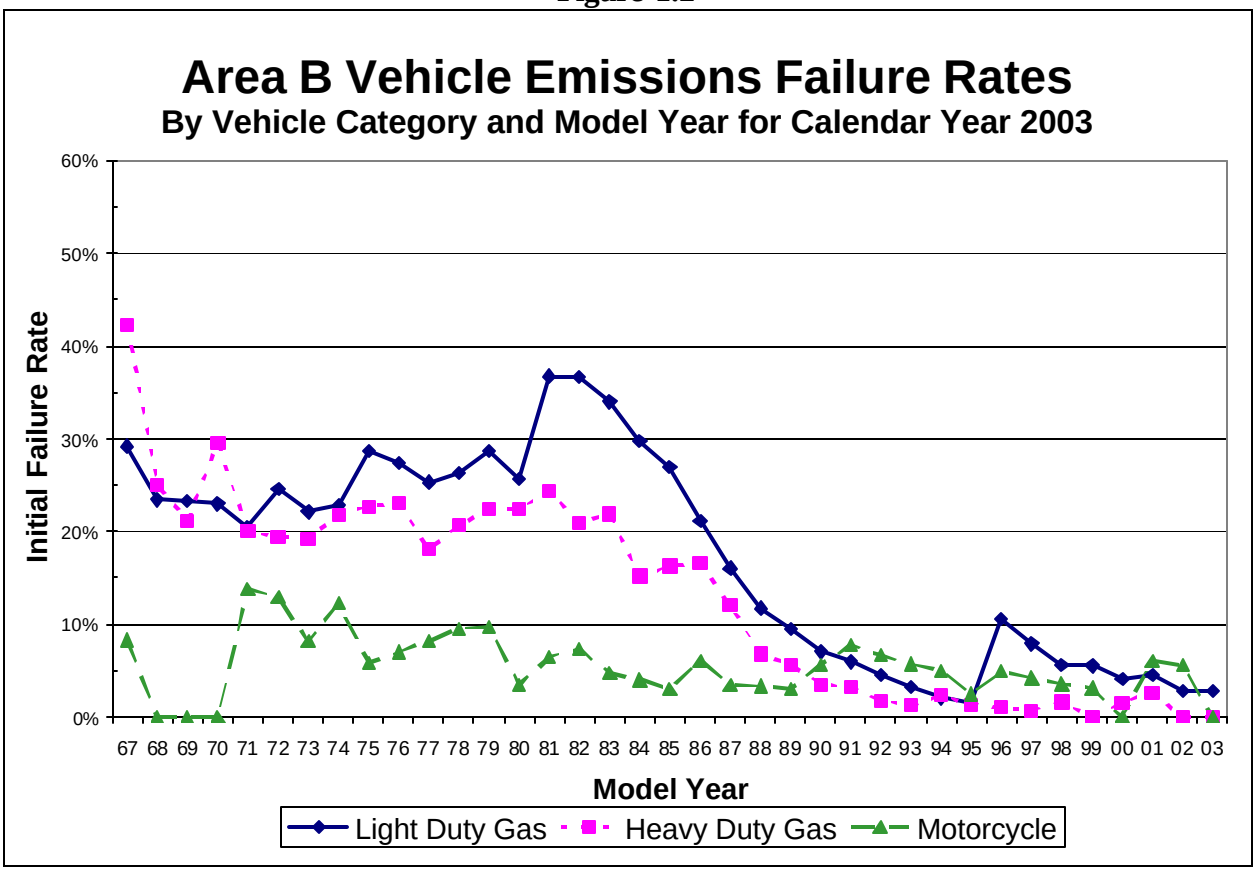


The conclusions drawn from these data are:

- For light and heavy duty vehicles, failure rates increase with vehicle age. Excepting motorcycles, emissions test failure rates tend to top-out from 16 to 20 model years old and remain high.

- The Pima County program, being less stringent than the Maricopa County program, also has lower failure rates.

Figure 1.2



1.4 Public Process

From the outset, ADEQ engaged those most affected and interested in HB 2501 and HB 2294: the auto hobbyist communities, motorcycle rights organizations and air quality planning agencies. ADEQ conducted several meetings to discuss the information needed and the analyses that should be conducted to meet the requirements of the legislation. The Draft Report was released for public review on November 9, 2004, and a public meeting was held on November 23, 2004, to review and begin taking comments on the Report. Three written comments were received by the deadline of November 30, 2004. These written comments and ADEQ's responses to those and oral comment received during the public meeting are included in Appendix 4.

1.5 An Overview of the Analysis

This analysis relies on two major evaluations: Emissions test statistics for the three classes of vehicles being evaluated; and output from EPA's vehicular emission factor model, MOBILE6.2.

An emission reduction from subjecting a fleet of vehicles to the Arizona IM programs is referred to in this document as the "IM Benefit." The IM benefit for vehicles in this fleet will be determined by running the MOBILE6.2 model for a scenario that includes an IM program for such vehicles and a scenario that does not. The difference between the two resulting emission factors is the IM benefit. The MOBILE6.2 emissions model, like all of its predecessors, was developed using large data sets developed from "Federal Test Procedures"[9] of all classes of vehicles under a wide range of differing conditions, including: types of fuels; climatic conditions; elevations; vehicle age, mileage and state of repair; and IM program stringency and characteristics, including absence of an IM program. Numerous other data sources are also incorporated the equations that generate emissions figures within the model, such as mileage surveys, remote sensing study results and evaluations of IM programs throughout the U. S.

Two of the pollutants measured by the emissions tests are carbon monoxide and hydrocarbons. Each of these pollutants significantly impact air quality during different seasons in a year – carbon monoxide in winter and hydrocarbons during summer. Carbon monoxide is formed due to incomplete combustion and also due to the reduced efficiency of emission control devices which normally occurs in cold temperatures. The pollution problem is aggravated during winter when stagnant air and intense temperature inversions cause the pollutants to be trapped at ground level. Hydrocarbons, on the other hand, are a precursor to the formation of ozone, which is formed at higher summer temperatures in the presence of sunlight. Therefore, the evaluation will be done for each pollutant specific to winter and summer seasons, respectively.

In addition, because the vehicle fleet characteristics and the stringency of the emissions testing programs differ between Areas A and B, separate analyses were conducted for each area.

1.5.1 Data Used To Conduct the Analyses

The EPA MOBILE6 provides a substantial amount of flexibility to account for localized circumstances, which improves the accuracy of emissions estimates generated by the model. The data used include:

- Local climatic conditions, including altitude, temperature ranges and humidity, for each season;
- Types of gasoline used, particularly for Reid vapor pressure and cleaner burning and oxygenated gasolines;
- Registration distribution information by vehicle type and model year;

[9] The Federal Test Procedure is a laboratory emissions test that measures evaporative and tailpipe mass emissions over a simulated driving cycle that includes measurement of evaporative emissions with the vehicle parked before and after operation, cold- and hot-starts, and freeway and stop-and-go driving.

- IM Program Stringency (based on type of test and failure rates) and compliance rate (percentage of vehicles complying with the program requirements) for the vehicle fleets in question; and
- Annual miles traveled per-vehicle, which will be referred to as mileage accumulation. These are set by default using national survey results, broken down by vehicle class and model year. These data show that mileage accumulation decreases with vehicle age. Data that better reflect mileage for a specific vehicle age and class, or locally derived information could be used to adjust model results.

The other data relied upon are emissions test statistics,[10] Arizona Department of Insurance information on the numbers of collectible vehicle policies issued in Arizona, and a survey of owners of collectible vehicles. Also, the Modified Motorcycle Association conducted a survey of motorcycle owners. Because we were unable to match the reported motorcycle license plates with those recorded in the VEIP data base, we were unable to use these data.

1.5.2 How the Analyses Were Done

The primary objective of the analysis is to calculate the emissions reduction benefit that is derived from requiring the classes of vehicles in question to be in compliance with the IM Program standards. The only basis that EPA will accept for calculating this benefit is through the MOBILE6 model results. The core of the analysis involves running MOBILE6 for two scenarios – one with the Area A or Area B (as appropriate) IM program in place and one without the IM program in place:

$$EF_{No\ IM} - EF_{IM} = \text{IM benefit}$$

Where $EF_{No\ IM}$ = Emission factor with no IM program in place and
EF_{IM} = Emission factor with IM program in place

For the 25 model year old and older vehicles, the results from the model can be used directly, more or less. It gets more complicated for the collectible vehicles, primarily as it relates to mileage accumulation.[11] For motorcycles, it became very complicated, as the MOBILE6 model does not calculate any emissions benefit for subjecting motorcycles to IM requirements. Since credit has been taken in the SIP for testing motorcycles, calculating the benefit is necessary.

The actual analyses required many more steps than described above. Details on how all of these data were used, the analyses conducted and specific steps taken to conduct the analyses, and the results are explained within the Technical Support Documents contained in Appendix 2.

[10] Measurements from the Arizona emission tests of individual vehicles were not used.

[11] It was hypothesized that the failure rate for collectible vehicles would be less than that for the overall cohort fleet. When the emissions testing records of the vehicles documented by their owners in the survey were evaluated, however, the raw failure rate was slightly greater than that of the cohort fleet. Since the error bounds on the failure rate for the surveyed vehicles is relatively large, the failure rate of the sample is not significantly different from the failure rate for all vehicles for the same model year cohort.

1.6 Clean Air Act Requirements for Relaxation of Approved Pollution Control Programs

1.6.1 Clean Air Act §110(l) and Applicable Case Law

The 1990 Clean Air Act Amendments, effective November 15, 1990, added Section 110(l) [42 United States Code Section 7410(l)]. It reads as follows:

> "(l) Plan Revisions—Each revision to an implementation plan submitted by a State under this Act shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171), or any other applicable requirement of this Act."

Because EPA "views each type of SIP revision as presenting unique issues that should be addressed on a case-by-case basis", EPA has not issued any "general guidance on section 110(l)."[12]

Apparently, neither the United States Supreme Court nor the United States Court of Appeals for the District of Columbia Circuit have considered EPA's standard of review of SIP revisions pursuant to Section 110(l). The United States Court of Appeals for the Ninth Circuit, which includes Arizona, determined in a 2001 case[13] that EPA's analysis must rationally connect its approval of a SIP revision to EPA's assessment of the air quality planning area's prospects for timely attainment and other Clean Air Act applicable requirements.

The Court noted that "applicable requirements concerning attainment and further progress" listed in Section 110(l) include the attainment deadlines established by the 1990 Clean Air Act Amendments at Section 110(a)(2)(C). The Court also looked at pre-1990 provisions for SIP approval in the Clean Air Act in Section 110(a)(3) and cited the U.S. Supreme Court statement in a 1975 case[14] that in reviewing SIP revisions, "[i]n each instance the [EPA] must measure the existing level of pollution, compare it with the national standards, and determine the effect on this comparison of specified emission modifications" and disapprove a SIP revision if "the plan as so revised would no longer insure (sic) timely attainment of the national standards." By implication, these cases also require that EPA's analysis must rationally connect SIP revision approval to Clean Air Act requirements for maintenance of the NAAQS in the air quality planning area. Because EPA had not performed the necessary analysis, the Ninth Circuit vacated EPA's SIP revision approval, and the matter was remanded to EPA for further consideration.

---

[12] 61 Federal Register 16,051-052 (April 11, 1996).

[13] Hall v. EPA, 273 F.3d 1146 (9th Cir. 2001). EPA had approved the Clark County, Nevada new source review program rules in 1981 and had approved Clark County's revised rules in 1999 after determining that "If the SIP revision does not relax the existing SIP…then the SIP revision does not interfere with attainment [or] reasonable progress…requirements and no further inquiry is needed" because increased emissions would not be allowed.

[14] Train v. NRDC, 421 U.S. 60 (1975)

1.6.2 Application of Case Law to HB2501/HB2294 Analysis

The IM Program for Maricopa and Pima Counties were established in 1974 to achieve attainment of the NAAQS for CO and ozone. When the ozone standard was amended in 1979, however, the Greater Tucson Area became attainment for ozone.

Both counties consistently failed to meet the attainment deadlines set in the Clean Air Act of 1970 and under the 1977 amendments to the Act. The Greater Tucson Area, however, achieved attainment for the CO NAAQS beginning in the late 1980's and submitted a SIP demonstrating attainment in 1989. A maintenance plan for the Greater Tucson Area was submitted to EPA and was approved; it was finally designated attainment by EPA in 2000. Pursuant to the 1990 Clean Air Act Amendments, the applicable attainment deadlines for the CO and 1-hour ozone NAAQS were 2000 and 1999, respectively. Attainment was achieved for both pollutants, and EPA made findings that Maricopa County had attained the 1-hour ozone standard in 2001 and the CO standard in 2004. Maintenance plans for these pollutants in Maricopa County have been submitted to EPA for review and approval.

In 1997, EPA revised the ozone standard based on 8-hour average concentrations, for which exceedances have been widespread within Maricopa County. Effective June 15, 2004, the eastern portion of Maricopa County was designated nonattainment for the 8-hour ozone standard and the attainment deadline is 2007 (i.e., no violations of the NAAQS in 2005, 2006 and 2007).

To approve exemption of any vehicles from the Maricopa County SIP's IM requirement, EPA would have to measure the existing level of pollution, compare it with the national standards, and determine the effect on this comparison of specified exemptions and disapprove a SIP revision if the plan as so revised would no longer "insure (sic) attainment of the national standards by the 1990 Clean Air Act Amendments attainment deadlines," including attainment of the new 8-hour ozone standard by 2007 and maintenance of the CO NAAQS.

To approve exemption of any vehicles from the Pima County SIP's IM requirement, EPA would have to measure the existing level of pollution, compare it with the national standards, and determine the effect on this comparison of specified exemptions and disapprove a SIP revision if the plan as so revised would no longer ensure maintenance of the CO and Ozone NAAQS.

To the extent that any attainment or maintenance demonstrations have relied, or in the case of the 8-hour ozone standard will in the future rely, on all of the emissions reductions in the SIP, EPA could only approve such exemptions if substitute control measures that achieve equivalent emission reductions were added to the SIP.

SECTION 2. TECHNICAL ANALYSIS

2.1 Introduction

Arizona Administrative Code, Title 18, Chapter 2, Article 10 requires the Director of Arizona Department of Environmental Quality (ADEQ) to administer Vehicle Emissions Inspectons Programs in Areas A and B (as defined in ARS§ 49-541). Vehicles to be inspected by the Programs are specified in R18-2-1003. The emissions testing component of the Programs is designed to reduce pollution by requiring vehicles that exceed the emissions standards contained in R18-2-1031 to be repaired and brought into compliance with those standards. The reduction in emissions achieved by this requirement is the "IM benefit." If either vehicles 25 years old and older, collectible vehicles or motorcycles were exempted from IM requirements, the emissions reductions associated with the IM benefit would be foregone. Calculating the IM benefit for testing each of these classes of vehicles is the purpose of this technical analysis.

The general approach to determining the IM benefit is to estimate emissions with no IM program in place ($E_{No\ IM}$) and with an IM program in place (E_{IM}). The difference between the two, $E_{No\ IM}$-E_{IM}, is the IM benefit. This estimation was done using EPA's latest version of motor vehicle emission factor model, MOBILE6.2.

The analyses estimate the emissions reductions benefits of the Programs for hydrocarbons (HC),[15] a precursor for ozone pollution, and carbon monoxide (CO). HC is a significant pollutant for ozone formation, a pollution problem restricted to May through September, and high concentrations of CO are restricted to the late autumn and winter months. Consequently, the modeling to estimate HC emissions was performed for climatic conditions representing an average high ozone summer day, while climatic conditions for an average winter season day were applied to the model for calculating CO emissions. In addition, Area A and Area B have been modeled separately, considering their characteristics relative to demography, travel patterns, vehicle registrations, stringency of their Programs, weather patterns, and topography.

Following this general approach, analysis of each vehicle category (motorcycles, collectible vehicles and vehicles 25 model years old and older) was tailored to apply to the specific class of vehicles being analyzed.

[15]Although hydrocarbons and nitrogen oxides are both precursors to ozone, in Areas A and B, vehicles of model year 1980 and older are subject to the idle and loaded tests, which do not test for nitrogen oxides. Therefore, only hydrocarbons emissions will be modeled for the summer season.

2.2 Modeling

The following data, with their sources identified were used to tailor the emissions analyses conducted for each class of vehicle and area:

Input Parameters	Area A	Area B
For use in MOBILE6		
IM Program	Required under ARS 49-542	Required under ARS §49-542
Registration Distribution	ADOT MVD 2003 registration data and Vehicle Emissions Inspection (VEI) statistics	Same
Calendar Year	2003	2003
Evaluation Month	July for Summer January for Winter	Same
Altitude	Low altitude	Avg. of low and high altitudes
Min/Max temperatures from National Weather Service	Summer – 75.5 / 102.5 Winter – 49.2 / 72.6	Summer – 68.0 / 96.2 Winter – 46.6 / 72.6
Fuel RVP (psi)	7.0 for Summer; 9.0 for Winter Source: Caps from ARS §41-2083; MAG CO and ozone plans	8.0 for Summer; 10.8 base RVP with 1psi ethanol waiver for Winter Source: PAG
Oxygenated fuels	2.0% O_2 for Summer; 3.5% for Winter Per standards from ARS §§ 41-2123 and 2124	0% for Summer; 1.8% for Winter Source: PAG CO Limited Maintenance Plan
Mileage Accumulation Rate	National averages from MOBILE6.2[16]	Same
IM Program Stringency - Expected failure rate	2003 ADEQ VEI statistics	Same
IM Program Compliance Rate - % of fleet complying with program requirements	96% - MOBILE6 default	Same
For IM Benefits Calculations (except for Collectible Vehicles)		
Area-Wide Vehicle Miles Traveled (VMT) per day	68,000,000 miles/day Source: MAG	19,382,125 miles/day Source: PAG

Three errors were made in the analysis conducted for Draft Report regarding MOBILE6.2 inputs for Area B, which were corrected in this Final Report:

1. The low altitude factor was set;
2. Wintertime RVP was assumed to be at 9.0;

[16] MOBILE6.2 lumps all vehicles 25 years old and older into one age cohort. Mileage accumulation rates are described within the MOBILE6.2 model as mathematical functions of vehicle age for each of over 20 different classes of vehicles (e.g., light duty vehicles, two categories of light duty trucks, heavy duty vehicles by weight class), which can be extrapolated to model years in excess of 25 years old. See "Fleet Characterization Data for MOBILE6" (EPA, September 2001).

3. The oxygen content of gasoline was assumed to be 3.5%.

In addition, the area-wide VMT figure was too high, at 23,762,562. Correcting these errors influenced the results for Area B. Reducing VMT will reduce the amount of IM benefits because IM benefits are directly proportional to the amount of VMT. Making the altitude adjustment increased modeled HC emissions because the effective vapor pressure of gasoline increases with elevation; i.e., gasolines with the same RVP will evaporate more quickly at higher elevations than at lower elevations. Increasing wintertime RVP and reducing oxygen content both increase tailpipe emissions. As a result, the net impact of adjustments to altitude and gasoline properties inputs to MOBILE6.2 are an increase in the IM benefit. Specific explanation will be included below.

Detailed explanations and calculations for each analysis are included in Technical Support Documents (TSDs) contained in Appendix 2.

2.3 Analytical Methods

2.3.1 25 Model Years Old And Older Vehicles

Vehicles 25 years old and older were analyzed using data described in Section 2.2, above. IM benefits obtained from the model are expressed in grams/mile driven. VMT obtained from the national average mileage accumulation data has been extrapolated to 36 years and applied to each model year 1967-1979. These data were then mapped to match the registration distribution. The sum of all weighted VMT by age and vehicle class equals the total VMT for this category of vehicles. This procedure was performed for both Area A and Area B. Mass emission reductions are estimated in metric tons per day (mtpd).

VMT x IM benefit in grams/mile/1,000,000 grams/ton = Mass emissions in metric tons per day.

Sample calculation for CO in Area A:

$$\frac{(514{,}727 \text{ miles} \times 22.669 \text{ grams/mile})}{1{,}000{,}000 \text{ grams/ton}} = 11.669 \text{ mtpd}$$

The IM benefit is then expressed as a percentage of the region-wide emissions for each pollutant in Areas A and B. This particular analysis addresses all of the vehicles subject to the Arizona IM program except for motorcycles. Since MOBILE6.2 does not calculate the benefits of subjecting motorcycles to IM requirements, the benefits for test and repair of motorcycles 25 model years old and older needs to be added to the results. That additional benefit and will be taken into account in the summary of the results, presented in Section 2.4, below. Table 2.1 presents the results of this analysis for all vehicles excepting motorcycles.

Table 2.1
IM Benefits from Test and Repair of 25 Year Old and Older Vehicles

		IM Benefit (g/mile)	VMT (miles/day)	Tonnage Reduction (mtpd)	Total On-Road Emissions (mtpd)	Reduction as Percent of On-Road Emissions
Area A	**HC**	1.573	514,727	0.810	71.9[17]	1.13%
	CO	22.669		11.669	699.7[18]	1.67%
Area B	**HC**	2.173	161,772	0.356	30.3[16]	1.17%
	CO	34.818		5.644	406.7[19]	1.39%

For this class of vehicles, using the correct altitude and gasoline characteristics inputs to MOBILE6.2 for Area B resulted in a larger gram per mile IM benefit, which had a bigger influence on the results than the lower VMT figure.

2.3.2 Collectible Vehicles

As discussed earlier, HB 2501 defines collectible vehicles as meeting the following criteria:

1. The vehicle model year of original manufacture is 15 years or older;
2. The vehicle is of unique or rare design, of limited production and an object of curiosity;
3. The vehicle is maintained primarily for use in car club activities, exhibitions, parades or other functions of public interest; and
4. The vehicle is covered by a "collectible vehicle" or "classic automobile" insurance policy that restricts vehicle mileage and requires the owner to have another vehicle for personal use.

Therefore, by definition, not all 15 year-old vehicles are collectible vehicles. For the purposes of modeling, the age criterion was used along with two other sources of data: a survey of insurance companies who issue collectible vehicle policies that include the restrictions listed above; and a survey of owners of collectible vehicles, coordinated through the Arizona Automobile Hobbyists Council, which included license plate number, make, model and vintage, whether the vehicle was used for commuting or not, and annual mileage accumulation estimates.

The absence of a category for collectible vehicles in Motor Vehicles Division (MVD) records required other means to isolate such vehicles from a fleet of vehicles 15 years old and older. This was accomplished by combining the fraction of 15 year old vehicles in the entire fleet

[17] Average Tuesday, August 2006 from "One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area" (MAG, March 2004)

[18] Average Friday, December 2006 , from "Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area" (MAG, May 2003)

[19] Tons per day modeled by ADEQ and reviewed by PAG.

(obtained from registration distribution data and VEI statistics) and results of the two collectible vehicle surveys. Average annual mileage accumulated for collectibles was estimated from the survey of collectible vehicle owners. These data were used to calculate a fraction that was applied as the Adjustment Factor to the IM benefit for test and repair of all 15 year old light duty vehicles (LDVs).

Total VMT x IM benefit (grams/mile) x Adjustment Factor / 1,000,000 grams per ton = Mass emissions in metric tons per day

The following data, obtained from the collectible car survey, were used in this analysis:

Estimated total number of collectible vehicles in Arizona from insurer survey = 7,100[20]

Average miles driven/year/vehicle from collectible vehicle owner survey results = 1,800

Sample calculation for HC in Area A:
(33,727 miles x 0.0169 grams/mile) x 0.0102/1,000,000 grams/ton = 0.0006mtpd

Also, note that 89.5% of the collectible vehicles from the survey subject to IM requirements were at least 25 model years old. Consequently, the benefit for test and repair of those vehicles should not be taken into account when the results of this analysis are added to the 25 model years old and older class of vehicles. Table 2.2 presents the results of this analysis for all IM eligible collectible vehicles and those15 to 24 model years old.

Table 2.2
IM Benefits from Test and Repair of Collectible Vehicles

Region	**Pollutant**	**IM Benefit** (g/mile)	**VMT** (miles/day)	**Tonnage Reduction for All Collectibles** (mtpd)	**Reduction as Percent of On-Road Emissions**	**Tonnage Reduction for 15-24 MY old Collectibles**
Area A	HC	1.748	16,816	0.034	0.047%	0.004
	CO	16.974		0.319	0.046%	0.034
Area B	HC	1.755	6,899	0.012	0.04%	0.001
	CO	20.155		0.139	0.034%	0.015

Because the collectible vehicle population is so similar to the 25 year old and older class of vehicles, applying the correct gasoline characteristics for Area B a similar impact, slightly increasing calculated emissions benefits.

[20] The total for the State was used as a conservative estimate, in the event that the exemption from testing provides an incentive for collectible vehicle owners to purchase collectible vehicle policies.

2.3.3 Motorcycles

MOBILE6 is not designed to calculate credits for subjecting motorcycles to an IM program. Motorcycles must be treated as a class of vehicles recognizable by the model. This class of vehicles must also closely resemble motorcycles in its characteristics. Class 3 Light Duty Vehicles (LDV) fulfills this requirement because they are comparable in engine size and some characteristics with motorcycles. Also, 1980 and older LDVs and motorcycles are both subject to the idle test in Area A. In Area B, all LDVs are subject to the idle test. Therefore, Class 3 LDV was used as a surrogate for motorcycles. A correction factor, calculated to adjust the MOBILE6.2 results to accurately depict motorcycle emissions, was applied to the IM benefit obtained from the model. The technical support document in Appendix 2c explains how the correction factor was derived.

VMT x (VMT_{mc}) x IM benefit (grams/mile) x Correction Factor/1,000,000 grams/ton = Mass emissions in metric tons per day

Where VMT_{mc} = Fraction of VMT applied to motorcycles

Sample calculation for CO in Area A:

.

68,000,000 miles x 0.005 grams/mile x 5.5 x 0.69/1,000,000 grams/ton = 1.2906 mtpd

Also, note that 8% of the motorcycles tested in Area A and 12% in Area B subject to IM requirements were at least 25 model years old. Consequently, the benefit for test and repair those older motorcycles should not be taken into account when the results of this analysis are added to the 25 model years old and older class of vehicles. Table 2.3 presents these results for all IM eligible motorcycles and broken out for those 25 model years old and older and 24 model years old and newer.

Table 2.3
IM Benefits from Test and Repair of Motorcycles

Region	**Pollutant**	**IM Benefit** (g/mile)	**Tonnage Reduction for All Motorcycles** (mtpd)	**Reduction as Percent of On-Road Emissions**	**Tonnage Reduction Benefit for 24 MY old and newer**	**Tonnage Reduction Benefit for 25 MY old and older**
Area A	HC	0.32	0.109	0.15%	0.100	0.009
	CO	3.80	1.291	0.18%	1.185	0.105
Area B	HC	0.31	0.030	0.1%	0.026	0.004
	CO	0.96	0.093	0.02%	0.082	0.011

For motorcycles, using the correct gasoline characteristics for Area B had less influence on the CO results than the lower VMT figure, resulting in a smaller IM benefit.[21]

[21] The Draft report contained an error – the IM benefit in Area B was 5.15 g/mi, which was not correctly transcribed from the TSD in Table 2.3.

2.4 Summary of the Results

All results need to be expressed in terms of area-wide emissions changes. Table 2.4 provides the most current emissions inventory estimates available for Area A and Area B.

Table 2.4
Emissions Inventories

Source Category	**Area A** (metric tons per day)		**Area B**[22] (metric tons per day)	
	VOC[23]	**CO**[24]	**VOC**	**CO**
Point	17.4	21.9	1.8	7.2
Area	101.4	29.7	22.9	7.8
Non-road mobile	61.0	161.0	11.4	176.8
On-road mobile	71.9	699.7	30.3	406.7
Biogenics	77.2	-	18.4	-
Total	328.9	912.3	84.8	598.5

In addition, the HB2294 requires consideration of collectible vehicle and motorcycles in combination with vehicles 25 years old or older. Double-counting benefits, however, needs to be avoided.

The collectible vehicle owner survey results indicated that the vast majority of the collectible vehicles – 90% – were 25 years old or older. Further, the IM Program history for the vehicles in the 15 to 24 year old cohort (though the numbers are very small) indicates that the failure rate for that cohort is very low (See Table 1 in the Collectible Vehicle TSD). Consequently, all of the IM benefit for test and repair of 25 year old and older vehicles includes the benefit for testing collectible vehicles.

For motorcycles, however, it can be assumed that the vast majority of the benefit for their test and repair is outside of the 25 year old and older vehicle category. Only 8% of the motorcycles are within that cohort, and failure rates for motorcycles are much less a function of vehicle age than the failure rates for other vehicle classes (See Figures 1.1 and 1.2, above). Consequently, all of the IM benefit for test and repair of motorcycles is assumed to be separate from that for all vehicles 25 years old and older.

Table 2.5 summarizes the result for each class of vehicles separately and combined with the 25 year old and older class.

---

[22]Tons per day calculated from annual totals. (PAG, personal communication)

[23]Average Tuesday, August 2006 from "One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area" (MAG, March 2004)

[24]Average Friday, December 2006 , from "Carbon Monoxide Resesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area" (MAG, May 2003)

Table 2.5
IM Benefits from Test and Repair of All Classes of Vehicles

Region	Vehicle Category	Each Class Individually (mtpd)		With =25 Model Year Old Vehicles (mtpd)		Percent of Area-Wide On-Road Emissions		Percent of Area-Wide Total Emissions Inventory	
		HC	CO	HC	CO	HC	CO	HC	CO
Area A	=25 Model Years Old (includes motorcycles)	0.82	11.77	-	-	1.14%	1.68%	0.25%	1.29%
	Collectible Vehicles[25]	0.03	0.32	0.82	11.81	1.14%	1.69%	0.25%	1.29%
	Motorcycles[26]	0.11	1.29	0.92	12.96	1.28%	1.85%	0.28%	1.42%
Area B	=25 Model Years Old (includes motorcycles)	0.36	5.64	-	-	1.17%	1.39%	0.42%	0.94%
	Collectible Vehicles[21]	0.01	0.14	0.36	5.66	1.18%	1.39%	0.42%	0.95%
	Motorcycles[22]	0.03	0.09	0.39	5.72	1.26%	1.41%	0.45%	0.96%

2.5 Discussion

This evaluation addresses only the potential impact of exempting these classes of vehicles in 2003. Conducting the evaluation for future years would be considerably more difficult, but it is possible to estimate the potential impact into the future based on these results and other factors.

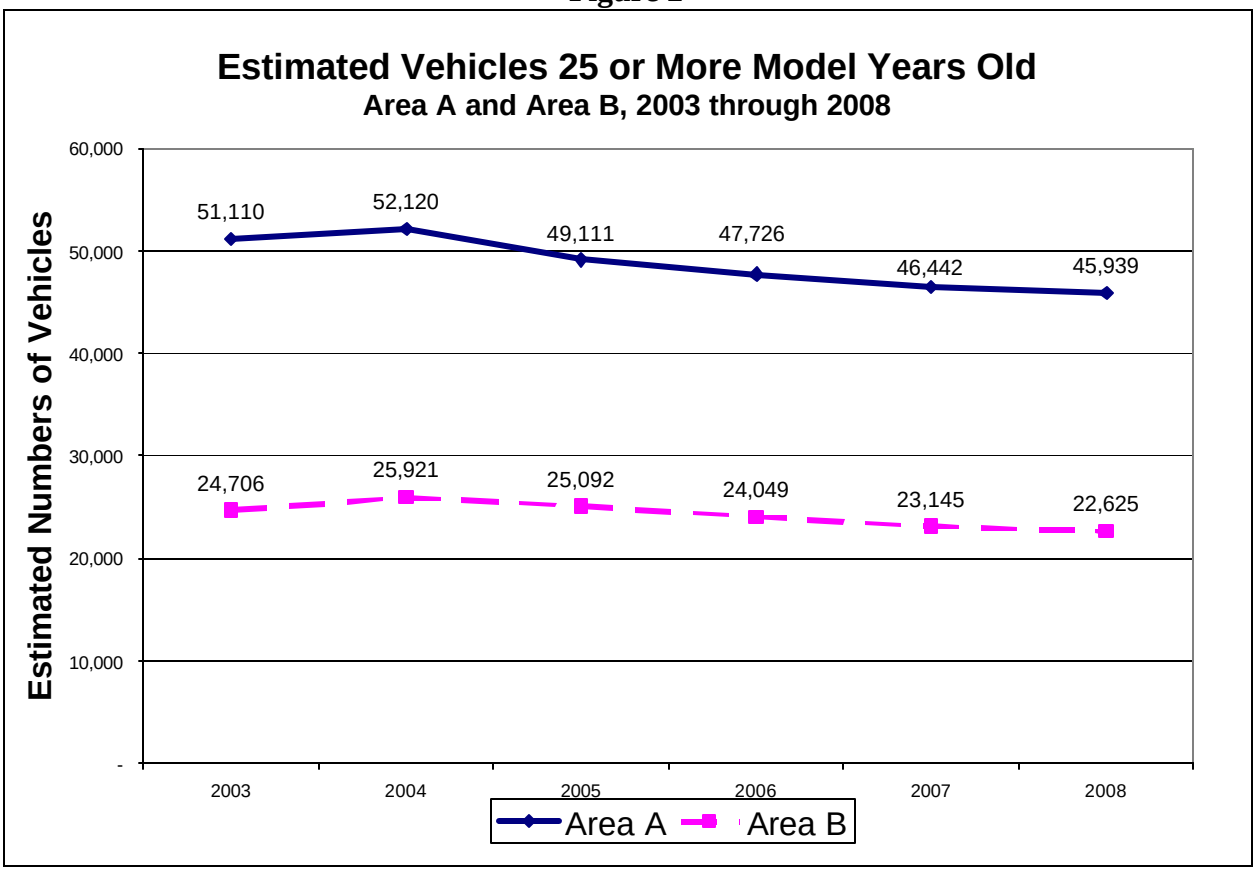
The vast majority of the expected emissions increases that would occur from exempting classes of vehicles from the Arizona IM requirements are associated with vehicles 25 model years and older.

Figure 2.1 provides a projection for the numbers of vehicles that would be exempted in the 25 model year and older category. These estimates were generated with survival curves for each model year using IM test volumes for 1994 through 2002. Because the testing requirements are anchored with the 1967 model year, the population could grow as additional model years are added to the exemption; i.e., for 2003, the exemption would apply to 1967 through 1979 vehicles, or 13 model years, while in 2008, 18 model years would be exempted.

[25] As 89.5% of all of the collectible vehicles in the survey subject to IM requirements were 25 model years old or older, those would be subsumed under the exemption for that class of vehicles. Consequently, only 10.5% of the IM benefit for test and repair of collectibles was added to that for the 25 model years and older class.

[26] Approximately 90% of the motorcycles tested were newer than 25 model years old (92% in Area A and 88% in Area B). Consequently, 90% of the IM benefit for test and repair of motorcycles was added to that for the 25 model years and older class.

Figure 2



These estimates suggest that the number of exempted vehicles will be declining over time. Taken by itself, this may be good news. Assuming the same attrition rate in the vehicle population, the number of exempted vehicles would not be reduced by 25% (thus reducing the emissions impact of the exemption by 25%) until 2011 to 2013.

Other intervening factors which would counteract the effect of the reduction in the number of exempted vehicles include:

- Starting in 2005, 1981 model year vehicles would become exempt. As the 1981 and newer vehicles are subject to more stringent testing requirements in both Areas A and B, the foregone air quality benefits achieved through these emissions reductions from exempted vehicles would become more significant on a per-vehicle basis with each additional model year exempted.

- This trend may be aggravated by the fact that failure rates increase with vehicle age. Figures 1.1 and 1.2 show that failure rate peaks for the 1981 model year at about 53% in Area A and 37% in Area B. Until those vehicles age further and more data become available in future years, it is not known whether that represents a peak failure rate for the 1981 and newer vehicles.

SECTION 3. CONCLUSIONS

Section 1 of HB 2501, as amended by HB 2294 provides that:

> "The [D]epartment shall make the exemptions request only if it determines that the continued emissions testing of motorcycles, collectible vehicles and vehicles that are twenty-five model years old or older or at least one combination of these categories of vehicles that includes a twenty-five model years old or older category does not provide a significant air quality benefit and is not necessary to satisfy the requirements of the state implementation or maintenance plans."

The potential emissions increases from exempting motorcycles in Area B and collectible vehicles in both areas A and B, from the Arizona IM programs, in and of themselves, may be considered insignificant because the impact would be less than a third of a metric ton per day (mtpd) of CO and only a few hundredths mtpd of HC (see Table 2.5). The basis for considering these emissions reductions insignificant is that SIP revisions submitted to and either approved or proposed for approval by EPA include control measures that reduce emissions as little as 0.1%,[27] which would be about 0.9 mtpd of CO or 0.3 mtpd of HC in Area A (see Table 2.4). As such, test and repair of those vehicles would not be necessary to satisfy the requirements of the SIP.

The same cannot be said for motorcycles in Area A and vehicles 25 model years and older in both areas. Test and repair of motorcycles in Area A provides a 1.29 mtpd benefit, which is significant. Further, test and repair of motorcycles was modeled as part of the baseline emissions control programs in CO and ozone SIPs for Maricopa County.[28] As such, it is necessary to satify the requirements of the SIP. The CO emissions benefits from test and repair of 25 model year old and older class is over 11.7 mtpd in Area A and 3.4 mtpd Area B, which is significant. Because the approved SIPs and maintenance plans includes these vehicles, continuing to require them to comply with the IM programs is necessary to satisfy the requirements of the SIPs and maintenance plans for both areas. As a result of this finding, ADEQ is prohibited by law from requesting from EPA approval for an exemption for any of these classes of vehicles in either area.

If, however, control measures were adopted that achieved equivalent emissions reductions as the exemptions from emissions testing, including these classes of vehicles in the IM programs would no longer be necessary to satisfy the requirements of the SIPs for areas A and B.

One other requirement of the HB 2294 is to enumerate potential substitute control measures. Table 3 is a compilation of emissions control programs that have been evaluated for inclusion in SIPs, but not adopted or implemented. The one exception is the measure "Portable Fuel Container Emission and Spillage Control", which has not been vetted in Arizona, but has been adopted and implemented in several jurisdictions in the U.S. It should be noted that this measure

---

[27] See "Revised 1999 Serious Area Carbon Monoxide Plan the the Maricopa County Nonattaiment Area," (MAG, March 2001).

[28] E.g., "MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area", Appendices, Volume Two, page 4-20.

provides emissions reductions only for HC. For the most part, estimates of the tonnage reductions associated with these controls are from the reports in which these controls were evaluated, and, thus, may not be precise for either current or future conditions. In nearly every case, however, the expected emissions reductions will not change substantially. Developing contemporary assessments of the effectiveness of these emissions control programs is outside of the scope of this report.

One potential control measure was added in response to a comment on the Draft Report: Elimination of the emissions inspection exemption for newer vehicles. If this control measure were to be implemented, all new vehicles would need to be tested beginning with their first re-registration. It should be noted that the emissions benefit from removing this exemption is primarily a result of the large size of the population of vehicles that would be subject to testing and repair. The following table provides some calendar year 2003 statistics comparing the impact of eliminating the exemption for the newest vehicles in exchange for exempting the oldest vehicles:

	Vehicles 1-5 Model Years Old			**Vehicles = 25 Model Years Old**[29]		
	Number[30]	Failure Rate[31]	Number of Failures[32]	Number	Failure Rate	Number of Failures
Area A	772,337	4.34%	16,760	59,860	39.8%	23,849
Area B	170,652	4.36%	3,720	28,179	24.4%	6,877

[29] From ADEQ emissions test statistics for 2003; includes all vehicles.
[30] MVD registration statistics; includes only light duty vehicles.
[31] Based on the population of vehicles tested in 2003.
[32] These vehicles would be tested biennially ranther than annually, as is the case for vehicles older than the 1981 model year. As a result, the number of failing vehicles would come from approximately half of the total population.

Table 3: Potential Control Measures to Mitigate VEI Exemptions				
Measure	**HC reduction**	**CO reduction**	**Impact Year/Area**	**Source**
Implementation of the California Low Emission Vehicle Program (CA LEV) Statewide	4.3 mtpd (VOC) (5.1-5.3%) 20.1 mtpd (VOC) (30%)	95.0 mtpd (9.1%) 363.1 mtpd (38%)	2005 2015	Report of the Governor's Air Quality Strategies Task Force, 2/17/98
Mandatory No-Drive Days	19.1 mtpd (5.0%)	46.0 mtpd (11.1%)	1995/MAG region	Report to the Joint Legislative Oversight Committee on Air Quality Control Measures (HB 2129, Chapter 244, Laws 1993), 9/1/93
Adopt Reformulated Fuel Standards: CARB Diesel (D7) (On-Road and Off-Road)	Summer (VOC) 7.1 mtpd 10.1 mtpd	Winter 9.2 mtpd 11.3 mtpd	2004/MAG region 2010/ MAG region 1999/ MAG region 2010/ MAG region	Report of the Governor's Air Quality Strategies Task Force, 2/17/98
Replace Vehicle Licence Tax With a Fuel Tax (Pay at Pump)	1.7 mtpd (VOC)	13.2 mtpd	2000	Final Report to the Governor's Air Quality Strategies Task Force, Carbon Monoxide Subcommittee, 1/20/98
Expansion of the Vehicle Inspection/Maintenance (I/M) Program Statewide	1.9 mtpd (1.0%)	10.8 mtpd (2.6%)	1995/MAG region	Report to the Joint Legislative Oversight Committee on Air Quality Control Measures (HB 2129, Chapter 244, Laws 1993), 9/1/93
Elimination of the exemption of newer vehicles from IM	0.75 mtpd (0.2%) 0.29 mtpd (0.3%)	9.52 mtpd (1.0%) 4.44 mtpd (0.9%)	2003 Area A 2003 Area B	New
Portable Fuel Container Emission and Spillage Control (gas can rule)	11.5 mtpd	Not applicable	1998/Statewide	Inventory of U.S. Emissions from Portable Gasoline Containers, Final Report, University of California, Riverside, 7/31/01
Parking Management	1.7 mtpd (0.22%) 1.5 mtpd (0.22%)	7.6 mtpd (0.57%) 9.1 mtpd (0.24%)	1995/MAG region 2005/MAG region	Sierra Research Feasibility and Cost-Effectiveness Study (Mobile Sources), 6/93

Table 3: Potential Control Measures to Mitigate VEI Exemptions				
Measure	**HC reduction**	**CO reduction**	**Impact Year/Area**	**Source**
Tax on Vehicle Miles of Travel	3.8 mtpd (1.0%)	5.4 mtpd (1.3%)	1995/MAG region	Report to the Joint Legislative Oversight Committee on Air Quality Control Measures (HB 2129, Chapter 244, Laws 1993), 9/1/93
Vehicle Scrappage Programs	3.4 mtpd (0.9%)	4.2 mtpd (1.0%)	1995/MAG region	Report to the Joint Legislative Oversight Committee on Air Quality Control Measures (HB 2129, Chapter 244, Laws 1993), 9/1/93
Ban Leaf Blowers	1.2 mtpd	3.5 mtpd	Area A	Final Report of the Governor's Brown Cloud Summit, 1/16/01
Extension and Expansion of Voluntary Lawn Mower and Lawn Equipment Replacement Program	0.4 mtpd	1.3 mtpd	1997-2000/ Maricopa County	Off-Road Mobile Controls Subcommittee Revised Final Report, Governor's Brown Cloud Summit, 12/11/00
Require I/M Testing for Non-Residents	0.2 mtpd (0.1%)	1.2 mtpd (0.3%)	1995/MAG region	Report to the Joint Legislative Oversight Committee on Air Quality Control Measures (HB 2129, Chapter 244, Laws 1993), 9/1/93
Permanent Funding for Voluntary Vehicle Repair and Retrofit (VVRR) Programs[33]	0.05 mtpd 0.03 mtpd	1.0 mtpd 0.5 mtpd	2002/Area A 2002/Area B	FY 2004 Annual Rept., Maricopa Co. VVRR Program
Additional Emission Reductions From Consumer Products	0.9 mtpd (VOC) (5%)	Not applicable	Maricopa County	Report of the Governor's Air Quality Strategies Task Force, 2/17/98
Encourage Private Industry to Provide Effective Programs and Incentives to Enhance Trip Reduction	0.1 mtpd[34]	0.8 mtpd	Not specified	Report of the Governor's Air Quality Strategies Task Force, 2/17/98
Bicycle Facilities and Policies	0.1 mtpd[35]	0.5 mtpd	Not specified	Report of the Governor's Air Quality Strategies Task Force, 2/17/98

[33]Results for 746 1981-1992 MY vehicles that participated in the Maricopa County VVRR program. Before and after full IM147 tests and MOBILE6 mileage assumptions: 9.6 mtpy HC; 192.8 mtpy CO. Assumes funding sufficient to repair and retrofit 1,500 vehicles/year in area A and 800 vehicles/yr in Area B.

[34]Reported as 734 tpy of all pollutants. Estimated 6.3% of the total is HC and 44.2% is CO.

[35]Estimated 1.45 tpd for all pollutants. Estimated 6.3% of the total is HC and 44.2% is CO.

Table 3: Potential Control Measures to Mitigate VEI Exemptions				
Measure	**HC reduction**	**CO reduction**	**Impact Year/Area**	**Source**
Encourage Reduction of High School Student Vehicle Use	0.1 mtpd (VOC)	> 0.1 mtpd	Not specified	Report of the Governor's Air Quality Strategies Task Force, 12/2/96
High Occupancy Vehicle (HOV) Lane Pricing		0.01 mtpd	2000	Revised MAG 1999 Serious Area Carbon Monoxide Plan, March 2001
Minimize Use of Gas-Powered Lawn and Maintenance Equipment by Government Agencies		0.001 mtpd (< 0.1%)	2000	Revised MAG 1999 Serious Area Carbon Monoxide Plan, March 2001
Implement I/M 240 (147) Testing for Constant 4-Wheel-Drive Vehicles	(54% average for each failing vehicle)	(56% average for each failing vehicle)	1993-1994/Area A	Report of the Governor's Air Quality Strategies Task Force, 2/17/98
Commuter Rail Demonstration Project	Not available	Not available		Final Report to the Governor's Air Quality Strategies Task Force, Carbon Monoxide Subcommittee, 1/20/98
VLT Exemption or Discount for Vanpools or Shuttles	Not available	Not available		Final Report to the Governor's Air Quality Strategies Task Force, Carbon Monoxide Subcommittee, 1/20/98
Travel Reduction Program-Related Parking Cash-Out Program	Not available	Not available		Final Report to the Governor's Air Quality Strategies Task Force, Carbon Monoxide Subcommittee, 1/20/98
Ban Used Oil for Burning	Not available	Not available		Stationary and Area Source Subcommittee Revised Final Report, Governor's Brown Cloud Summit, 12/8/00
Provide Tax Incentives for the Purchase and Installation of Oxidation Catalysts on Heavy Duty Diesel Engines	Not available	Not available		On-Road Mobile Controls Subcommittee Revised Final Report, Governor's Brown Cloud Summit, 12/8/00
More stringent VOC bulk storage standards	Not available	Not applicable		Report of the Governor's Air Quality Strategies Task Force, 2/17/98

ADEQ
Arizona Department of Environmental Quality

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

APPENDICES

Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

December 2004

Appendix 1

House Bills

```
--------------------------
         House Engrossed
--------------------------
 State of Arizona
 House of Representatives
 Forty-fifth Legislature
 Second Regular Session
 2002
--------------------------
      CHAPTER 146
--------------------------
    HOUSE BILL 2501
--------------------------
```

AN ACT

URGING AN EXEMPTION FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY FOR EMISSIONS TESTING FOR MOTORCYCLES AND COLLECTIBLE VEHICLES.

(TEXT OF BILL BEGINS ON NEXT PAGE)

Be it enacted by the Legislature of the State of Arizona:

Section 1. Request for state implementation plan exemption; report

The department of environmental quality shall contact the United States environmental protection agency and request a vehicle emissions testing exemption for either motorcycles, collectible vehicles or both from the state implementation or maintenance plan. The department shall make the exemption request only if it determines that the continued emissions testing of either motorcycles, collectible vehicles or both does not provide a significant air quality benefit and is not necessary to satisfy the requirements of the state implementation or maintenance plans. The department of environmental quality shall submit a written report of its findings and activities regarding this request to the governor, the president of the senate, the speaker of the house of representatives and the Maricopa association of governments on or before December 31, 2004. For purposes of this section, "collectible vehicle" means a vehicle that satisfies all of the following:

1. Bears model year date of original manufacture that is fifteen years old or older.

2. Is of unique or rare design, of limited production and an object of curiosity.

3. Is maintained primarily for use in car club activities, exhibitions, parades or other functions of public interest or for a private collection and is used only infrequently for other purposes.

4. Has a collectible vehicle or classic automobile insurance coverage that restricts the collectible vehicle mileage and requires the owner to have another vehicle for personal use.

5. At the time a vehicle is registered as a collectible vehicle, the department shall enter into the vehicle record the fact that the vehicle is covered by collectible vehicle or classic automobile insurance. If an insurer notifies the department of the cancellation or nonrenewal of the insurance coverage, the department shall cancel the registration of the vehicle and the vehicle's exemption from emissions inspection pursuant to section 49-542, Arizona Revised Statutes, unless evidence of coverage is

presented to the department within sixty days.

Sec. 2. Repeal

Section 1 of this act is repealed from and after December 31, 2004.

APPROVED BY THE GOVERNOR MAY 06, 2002.

FILED IN THE OFFICE OF THE SECRETARY OF STATE MAY 07, 2002.

```
--------------------------
    Conference Engrossed
--------------------------
 State of Arizona
 House of Representatives
 Forty-sixth Legislature
 First Regular Session
 2003
--------------------------
      CHAPTER 258
--------------------------
    HOUSE BILL 2294
--------------------------
```

AN ACT

AMENDING SECTIONS 28-450, 28-1098, 28-2051, 28-2091, 28-2134, 28-2154, 28-2356 AND 28-2401, ARIZONA REVISED STATUTES; AMENDING TITLE 28, CHAPTER 7, ARTICLE 15, ARIZONA REVISED STATUTES, BY ADDING SECTION 28-2515; AMENDING SECTION 28-4073, ARIZONA REVISED STATUTES; AMENDING LAWS 2002, CHAPTER 146, SECTION 1; RELATING TO VEHICLES; PROVIDING FOR CONDITIONAL ENACTMENT.

(TEXT OF BILL BEGINS ON NEXT PAGE)

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 28-450, Arizzona Revised Statutes, is amended to read:

28-450. Release of information prohibited; classification; definition

A. Notwithstanding section 28-447, the department shall not:

1. Divulge information from a vehicle title or registration record unless the person who requests the information provides to the department all of the following:

(a) The name of the owner.

(b) The vehicle identification number of the vehicle.

(c) The vehicle license plate number assigned to the vehicle.

2. Release a copy of a record or divulge information concerning a person's driving record unless the person requesting the driving record provides to the department all of the following:

(a) The name of the licensee or the name of the person whose record is requested.

C. Notwithstanding section 28-4088, a person whose license, registration or nonresident operating privilege is reinstated shall maintain proof of financial responsibility for two years after the judgment is satisfied.

Sec. 11. Laws 2002, chapter 146, section 1, is amended to read:

Section 1. Request for state implementation or maintenance plan exemption; report; definition

A. The department of environmental quality shall contact the United States environmental protection agency and request ~~a~~ vehicle emissions testing ~~exemption~~ EXEMPTIONS for ~~either~~ motorcycles, collectible vehicles AND VEHICLES THAT ARE TWENTY-FIVE MODEL YEARS OLD OR OLDER or ~~both~~ AT LEAST ONE COMBINATION OF THESE CATEGORIES OF VEHICLES THAT INCLUDES A TWENTY-FIVE MODEL YEARS OLD OR OLDER CATEGORY from the state implementation or maintenance ~~plan~~ PLANS. The department shall make the ~~exemption~~ EXEMPTIONS request only if it determines that the continued emissions testing of ~~either~~ motorcycles, collectible vehicles AND VEHICLES THAT ARE TWENTY-FIVE MODEL YEARS OLD OR OLDER or ~~both~~ AT LEAST ONE COMBINATION OF THESE CATEGORIES OF VEHICLES THAT INCLUDES A TWENTY-FIVE MODEL YEARS OLD OR OLDER CATEGORY does not provide a significant air quality benefit and is not necessary to satisfy the requirements of the state implementation or maintenance plans. The department of environmental quality shall submit a written report of its findings and activities regarding ~~this request~~ THESE REQUESTS to the governor, the president of the senate, the speaker of the house of representatives, ~~and~~ the Maricopa association of governments AND THE PIMA ASSOCIATION OF GOVERNMENTS on or before December 31, 2004. THE MARICOPA ASSOCIATION OF GOVERNMENTS AND THE PIMA ASSOCIATION OF GOVERNMENTS SHALL COOPERATE WITH, PROVIDE TECHNICAL AND EXPERT ASSISTANCE AND SUPPLY DATA AND OTHER NECESSARY INFORMATION TO THE DEPARTMENT FOR THE VEHICLE EMISSIONS TESTING EXEMPTIONS CONSIDERED. THE DEPARTMENT MAY ALSO REQUEST TECHNICAL ASSISTANCE FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. THE REPORT SHALL INCLUDE RECOMMENDATIONS ON HOW THE STATE IMPLEMENTATION OR MAINTENANCE PLANS MUST BE MODIFIED BY CONSIDERING ALTERNATIVE CONTROL MEASURES IN ORDER TO IMPLEMENT THE VEHICLE EMISSIONS TESTING EXEMPTIONS CONSIDERED, IF THE DEPARTMENT DETERMINES THAT THE EXEMPTIONS WOULD NOT SATISFY THE REQUIREMENTS OF THE STATE IMPLEMENTATION OR MAINTENANCE PLANS.

B. For THE purposes of this section, "collectible vehicle" means a vehicle that satisfies all of the following:

1. Bears A model year date of original manufacture that is fifteen years old or older.

2. Is of unique or rare design, of limited production and an object of curiosity.

3. Is maintained primarily for use in car club activities, exhibitions, parades or other functions of public interest or for a private collection and is used only infrequently for other purposes.

4. Has a collectible vehicle or classic automobile insurance coverage that restricts the collectible vehicle mileage and requires the owner to have another vehicle for personal use.

5. At the time a vehicle is registered as a collectible vehicle, the department OF TRANSPORTATION shall enter into the vehicle record the fact that the vehicle is covered by collectible vehicle or classic automobile insurance. If an insurer notifies the department OF TRANSPORTATION of the cancellation or nonrenewal of the insurance coverage, the department OF TRANSPORTATION shall cancel the registration of the vehicle and the vehicle's exemption from emissions inspection pursuant to section 49-542, Arizona Revised Statutes, unless evidence of coverage is presented to the department OF TRANSPORTATION within sixty days.

Sec. 12. Conditional enactment

A. Section 28-2356, Arizona Revised Statutes, as amended by this act is effective from and after June 30, 2004, only if the legislature appropriates $122,000 to the department of transportation to cover implementation costs.

B. The department of transportation shall notify in writing the director of the Arizona legislative council if the condition is met or not met.

APPROVED BY THE GOVERNOR MAY 27, 2003.

FILED IN THE OFFICE OF THE SECRETARY OF STATE MAY 27, 2003.

Appendix 2

Technical Support Documents

Appendix 2a

Technical Support Document

Evaluating Emissions Impacts of Exempting Light Duty Vehicles 25 Model Years Old and Older from Vehicle Emissions Inspections

Technical Support Document for Evaluating Emissions Impacts of Exempting Light Duty Vehicles 25 Model Years Old and Older from Vehicle Emissions Inspections

Introduction

The modeling was performed using EPA's vehicular emission factor model, MOBILE6.2. This analysis was modeled for two seasons – winter and summer, considering the significance of the two pollutants - carbon monoxide and hydrocarbons[1] which are typically wintertime and summertime pollutants respectively. This dual modeling procedure was repeated in each of the different situations as described further. Also, because Maricopa County and Pima County have different travel patterns and vehicle distributions, each county was analyzed separately.

The basic concept applied in the other analyses under HB 2501 was applied in this analysis as well. The IM benefit of subjecting vehicles in this fleet to the emissions testing program was determined by executing the model for a scenario that included an IM program for such vehicles and one that did not. The difference between the two was the IM benefit.

$EF_{No\ IM} - EF_{IM}$ = IM benefit
Where:
$EF_{No\ IM}$ = Emission factor with no IM program in place;
EF_{IM} = Emission factor with IM program in place;
IM benefit = Reduction in emissions from subjecting the 25 year old and older fleet to the IM program.

Because the model does not credit test and repair of motorcycles in an IM program, the IM benefit for 25 year old and older motorcycles was added from the motorcycles analysis to that estimated for 25 year old and older vehicles. In order to estimate emissions from motorcycles 25 years old and older, the fraction of motorcycles this age (25+ years), as determined from the VEI test data, was used.

Modeling methodology

MOBILE6.2 is capable of generating an output containing emission factors for the desired pollutant (in grams per mile) for a specific vehicle age. In this case, it is required to estimate emissions from 25 year old and older vehicles. In its computation, MOBILE6.2 lumps together all vehicles older than 25 years with vehicles that are 25 years old.

MOBILE6.2 requires the following inputs in order to estimate the required emissions:

[1] Although hydrocarbons and nitrogen oxides are both precursors to ozone, in Areas A and B, vehicles of model year 1980 and older are subject to the idle test, which does not test for nitrogen oxides. Therefore, only hydrocarbons emissions were modeled for the summer season.

Input Parameters	Area A	Area B
For use in MOBILE6.2		
IM Program	Required under ARS 49-542	Required under ARS §49-542
Registration Distribution	ADOT MVD 2003 registration data and Vehicle Emissions Inspection (VEI) statistics	Same
Calendar Year	2003	2003
Evaluation Month	July for Summer January for Winter	Same
Altitude	Low altitude	Avg. of High and Low altitude
Min/Max temperatures from National Weather Service	Summer – 75.5 / 102.5 Winter – 49.2 / 72.6	Summer – 68.0 / 96.2 Winter – 46.6 / 72.6
Fuel RVP (psi)	7.0 for Summer; 9.0 for Winter Source: Caps from ARS §41-2083; MAG CO and ozone plans	8.0 for Summer, 10.8 for Winter Source: PAG
Oxygenated fuels	2.0% O_2 for Summer; 3.5% for Winter Per standards from ARS §§ 41-2123 and 2124	0% for Summer; 1.8% for Winter Source: PAG CO Limited Maintenance Plan
Mileage Accumulation Rate	National averages from MOBILE6.2[2]	Same
IM Program Stringency - Expected failure rate(from VEI statistics)	40.6%	25.3%
IM Program Compliance Rate - % of fleet complying with program requirements	96% - MOBILE6.2 default	Same
For IM Benefits Calculations		
Area-Wide Vehicle Miles Traveled (VMT) per day	514,727miles/day*	161,772 miles/day*

*Please refer to Modeling Methodology Step #10 discussed below

Modeling Methodology Steps:

1. The registration distribution is limited to a vehicular fleet comprising of only vehicles 25 years old and older;
2. The mileage accumulation rate inputs are also adjusted to reflect only vehicles 25 years old and older;
3. The model is executed for two different scenarios:

[2] MOBILE6.2 lumps all vehicles 25 years old and older into one age cohort. Mileage accumulation rates are described within the MOBILE6.2 model as mathematical functions of vehicle age for each of over 20 different classes of vehicles (e.g., light duty vehicles, two categories of light duty trucks, heavy duty vehicles by weight class), which can be extrapolated to model years in excess of 25 years old. See "Fleet Characterization Data for MOBILE6" (EPA, September 2001).

a. Scenario 1: No IM for vehicles 25 years old and older;
b. Scenario 2: IM for vehicles 25 years old and older.
This is repeated for both Area A and Area B. For Area B, this is modeled for two altitude scenarios; consistent with PAG's modeling method and the terrain of Area B.

4. IM benefits are calculated using results from Step# 1 (a, b) - a combined emission factor for all vehicles is calculated except motorcycles (because MOBILE6.2 does not calculate IM benefit for motorcycles – IM benefits for motorcycles are added from those estimated in the motorcycle emissions analysis);

Region	**IM**(g/mile)		**No IM**(g/mile)		**IM benefit** (g/mile)	
	HC	**CO**	**HC**	**CO**	**HC**	**CO**
Area A	10.8002	26.1879	12.373	48.857	1.5728	22.6691
Area B	12.129	65.5	14.3015	100.318	2.175	34.8175

5. VMT estimation:
VMT distribution is based on EPA's "Fleet Characterization Data for MOBILE6–" (EPA, September 2001).
6. The mileage accumulation data was extrapolated to 37 years using the appropriate curve fit equations for each class of vehicles provided in the report;
7. Mileage data were mapped to vehicle categories and ages in the Registration Distribution data;
8. Registration Distribution was broken down to reflect fleet distribution by age up to model year 1967;
9. Aggregated daily average VMT was calculated for each age of vehicles and vehicle class from the weighted daily VMT obtained from Step# 7 and Step# 8;
10. Sum of all aggregated daily average VMT for each age of vehicles 25 years old and older, for all vehicle classes is the calculated VMT:
514,727miles/day for Area A and
161,772 miles/day for Area B;
11. The modeled output (grams per mile) (Step #4) was converted to tons per day by applying VMT (Step#10) for each region;

Region	**IM benefit** (g/mile)		**VMT** (miles/day)	**Tonnage reduction** (mtpd)	
	HC	**CO**		**HC**	**CO**
Area A	1.5728	22.6691	514,727	0.8096	11.6694
Area B	2.1725	34.8175	161,772	0.3514	5.6325

Motorcycle IM benefits:
Because motorcycles are not credited with IM benefits in the model, results of the IM benefit thus far obtained do not include IM benefits for motorcycles 25 years old and older. IM benefits for motorcycles, calculated from the motorcycle analysis, are therefore added to the results obtained from this analysis.

12. IM benefits for motorcycles are obtained from the motorcycle emission analysis;

Region	Mass Emission reductions ER_{mc} (mtpd)	
	HC	**CO**
Area A	0.1088	1.2906
Area B	0.0301	0.0931

13. From the 2003 VEI test data,

Region	Total motorcycles	Motorcycles 24 years and newer (MY 1980-2004)	Percent of MC fleet	
			24 yrs old (MY 1967-1979)	**25+ yrs old**
Area A	22053	20254	91.84%	8.16%
Area B	6240	5486	87.92%	12.08%

14. Applying the fraction corresponding to 25+ years (from Step #13) to the motorcycle IM benefit (Step # 12), IM benefits for motorcycles 25 years old and older are calculated as follows:

$MC_{25} * ER_{mc} = ER_{mc25}$

Where

MC_{25} = Fraction of motorcycles 25+ years old (0.0816 for Area A)

ER_{mc} = IM benefits for the entire motorcycle fleet (1.2906 metric tons per day for CO)

ER_{mc25} = IM benefits for motorcycles 25+ years old.

Region	IM benefit for 25+ yr old MCs(ER_{mc25} in mtpd)	
	HC	**CO**
Area A	0.0089	0.1053
Area B	0.0036	0.0113

15. This IM benefit (ERmc25) is added to the IM benefit obtained for all vehicles 25 year old and older (from Step #11)
16. This reduction is then expressed as a percentage of emissions from the onroad mobile source fleet in Maricopa and Pima counties for HC and CO respectively.

Region	Tonnage reduction 25+ vehicles(mtpd)		Relative Reduction (%)	
	HC	**CO**	**HC**	**CO**
Area A	0.8184	11.7737	1.14%	1.68%
Area B	0.3551	5.6437	1.17%	1.39%

Appendix 2b

Technical Support Document

Evaluating Emissions Impacts of Exempting Collectible Vehicles from Vehicle Emissions Inspections

Technical Support Document for Evaluating Emissions Impacts of Exempting Collectible Vehicles from Vehicle Emissions Inspections

Introduction

The modeling was performed using EPA's vehicular emission factor model, MOBILE6.2, as required by EPA in analyzing vehicular emissions.

The analysis was modeled for two seasons – winter and summer, considering the significance of the pollutants: carbon monoxide for wintertime and ozone precursors, hydrocarbons and oxides of nitrogen, for summertime. This dual modeling procedure was repeated in each of the different scenarios as described further. Also, because Maricopa County and Pima County have different travel patterns and vehicle distributions, each county was analyzed separately.

To be classified as a collectible vehicle, the vehicle needs to be at least 15 years old and meet other criteria as defined in the narrative portion of this document. Collectible vehicles are required to be covered under a collectible vehicle or classic automobile insurance policy that restricts mileage accumulation and, in addition, may not be a primary means of transport. By definition, not all 15 year-old vehicles are collectible vehicles. The absence of a category for collectible vehicles in MVD records requires other means to isolate such vehicles from a fleet of vehicles 15 years old and older.

A survey conducted by ADEQ in coordination with car clubs in Arizona provided information about the distribution of collectible cars and mileage accumulation required for this analysis. Table 1 provides a break down by model year for the 285 responses. Of these 285 responses, it was possible to identify 117 cars in the Vehicle Emissions Inspection (VEI) database. Emissions test history for these cars was analyzed to compare failure rate of collectible cars with those of cars of the same model year. Table 2 shows the failure rate of collectible cars being subject to the IM program by model year alongside the average fleet-wide failure rate for the same model years. Also analyzed from the survey was the annual mileage accumulation of collectible cars – 1,800 miles. Table 3 was developed based on information received from two of the four major insurance companies (Condon & Skelly and Hagerty) specializing in selling collectible car insurance in Arizona and from information provided by stakeholders. The average number of policies obtained from these two companies (1,776) was spread over the remaining two companies to obtain a total of 7,102 collectible cars in Arizona. But, from Table 1, we see that the percentage of collectibles undergoing emissions test is 73.33% of the total response. Therefore, the total number of collectible cars requiring emissions test is reduced to 5,208. This was further reduced to represent the collectible vehicle population in Maricopa County (Area A) and Pima County (Area B), based on the fraction of 15 year old and older LDVs in the entire fleet.

Also, for the purpose of consolidating the IM benefits of collectible cars with those of vehicles 25 years and older, it was necessary to isolate the 25 year old and older collectible cars that required emissions testing from the equation. This was done because of the fact that 25 year old and older vehicles included the 25 year old and older vehicles

from the collectible vehicle category. Thus excluding this set of collectible cars would only contain emissions from collectible cars that are 24 years old and older.

This tonnage is obtained by applying the fraction of 24 year old collectible cars in the collectible fleet (10.53%) to the emissions attributed to collectible cars.

Collectible Vehicle Survey Statistics

Table 1
Model Year Distribution

Model Year	Number of responses	Distribution
Pre-1967	76	26.67%
1967	36	12.63%
1968	31	10.88%
1969	31	10.88%
1970	31	10.88%
1971	10	3.51%
1972	10	3.51%
1973	7	2.46%
1974	8	2.81%
1975	6	2.11%
1976	5	1.75%
1977	4	1.40%
1978	5	1.75%
1979	3	1.05%
1980	6	2.11%
1981	2	0.70%
1982	4	1.40%
1983	0	0.00%
1984	2	0.70%
1985	1	0.35%
1986	4	1.40%
1987	3	1.05%
Total vehicles	**285**	**100.00%**
’67-’79 Model Years	**187**	
’67-’89 Model Years*	**209**	**73.33%**

*Number of Collectible vehicles required to pass an emissions test = 209
Number of Collectible cars 24 years and newer = 22
Percentage of collectible cars 24 years and newer = 10.53%

Table 2

Collectible cars distribution in survey and IM failure rate comparison

Model Year	Collectible Vehicle Survey Statistics			Total IM Tested Fleet Statistics	
	Number	**Distribution**	**IM Failure Rate**	**Distribution**	**IM Failure Rate** (2003 VEI Data)
1967	19	16.2%	31.58%	1.6%	44.7%
1968	17	14.5%	64.71%	1.8%	42.5%
1969	18	15.4%	50.00%	2.1%	43.9%
1970	16	13.7%	68.75%	2.2%	39.8%
1971	8	6.8%	12.50%	2.0%	38.1%
1972	7	6.0%	28.57%	3.0%	37.8%
1973	4	3.4%	50.00%	2.9%	37.1%
1974	5	4.3%	40.00%	2.4%	36.9%
1975	3	2.6%	33.33%	1.9%	43.8%
1976	0	0.0%	0.00%	3.2%	43.7%
1977	2	1.7%	50.00%	4.6%	41.1%
1978	4	3.4%	75.00%	5.5%	39.5%
1979	2	1.7%	0.00%	5.7%	42.0%
1980	3	2.6%	0.00%	3.8%	40.2%
1981	1	0.9%	0.00%	3.1%	53.1%
1982	2	1.7%	0.00%	3.7%	47.6%
1983	0	0.0%	0.00%	4.9%	47.3%
1984	1	0.9%	0.00%	7.7%	42.0%
1985	1	0.9%	0.00%	10.7%	39.5%
1986	1	0.9%	0.00%	13.2%	39.4%
1987	3	2.6%	33.33%	14.0%	34.3%
Totals & Averages	**117**	**100%**	**42.7%**	**100%**	**40.6%**
Weighted Average Failure Rate*			**42.7%**	**--**	**41.5%**

*Assumes same distribution of vehicles by model year as those in the survey.

Table 3
Collectible vehicles in Arizona

Insurance companies[3]	**Number of policies in AZ**
Condon & Skelly	1199
Hagerty Coll. Car Insurance	2352
American Collectors Insurance	1776*
Grundy Insurance	1776*
Total Collectible cars in AZ	**7102**

*Average of the number of policies sold in Arizona by Condon & Skelly and Hagerty insurance companies.

Modeling methodology

MOBILE6.2 requires the following inputs in order to estimate the required emissions:

Input Parameters	**Area A**	**Area B**
For use in MOBILE6.2		
IM Program	Required under ARS 49-542	Required under ARS §49-542
Registration Distribution	ADOT MVD 2003 registration data and Vehicle Emissions Inspection (VEI) statistics	Same
Calendar Year	2003	2003
Evaluation Month	July for Summer January for Winter	Same
Altitude	Low altitude	Avg. of Low and High altitudes
Min/Max temperatures from National Weather Service	Summer – 75.5 / 102.5 Winter – 49.2 / 72.6	Summer – 68.0 / 96.2 Winter – 46.6 / 72.6
Fuel RVP (psi)	7.0 for Summer; 9.0 for Winter Source: Caps from ARS §41-2083; MAG CO and Ozone plans	8.0 for Summer; 10.8 for Winter Source: PAG
Oxygenated fuels	2.0% O_2 for Summer; 3.5% for Winter Per standards from ARS §§ 41-2123 and 2124	0% for Summer; 1.8% for Winter Source: PAG CO Limited Maintenance Plan

[3] Major insurance companies providing automobile insurance for classic/collectible cars in Arizona.

Input Parameters	Area A	Area B
Mileage Accumulation Rate	National averages from MOBILE6.2[4]	Same
IM Program Stringency - Expected failure rate	2003 ADEQ VEI statistics	Same
IM Program Compliance Rate - % of fleet complying with program requirements	96% - MOBILE6.2 default	Same
Area-Wide Vehicle Miles Traveled (VMT) per day	18,788 miles*	6,896 miles*

* Please refer to Modeling Methodology Step #13 in "Modeling Methodology Steps" discussed herein under

The analysis involves estimating the emission factor for Light Duty Vehicles (LDVs) for two modeling scenarios, namely, with and without an Inspection and Maintenance (IM) program in place. The model was executed for two test types – the idle test and the IM 147 test. The difference between the resulting emission factors from the two scenarios is the IM benefit for LDVs.

IM Benefit = EF_{IM} - $EF_{No\ IM}$,
Where:
EF_{IM} = Emission factor with IM program in place
$EF_{No\ IM}$ = Emission without IM program in place.
Essentially, the IM benefit was estimated for the category of vehicles 15 years old and older and the fraction of collectible vehicles in the fleet was applied to this reduction as the contributing percentage to the reduction (IM benefit) obtained from the model. This is the IM benefit for Collectible vehicles.

Modeling Methodology Steps:

1. Registration distribution and VMT fractions were modified to model only a fleet of 15 year old light duty vehicles;
2. Two MOBILE6.2 runs were executed for Maricopa County (Area A) and Pima County (Area B) respectively. For Area B, this is modeled for two altitude scenarios, consistent with PAG's modeling method and the terrain of Area B:
   For fleet of vehicles 15 years old and older with and without IM in place;
3. IM benefit was calculated using results from Step # 2;

[4] MOBILE6.2 lumps all vehicles 25 years old and older into one age cohort. Mileage accumulation rates are described within the MOBILE6.2 model as mathematical functions of vehicle age for each of over 20 different classes of vehicles (e.g., light duty vehicles, two categories of light duty trucks, heavy duty vehicles by weight class), which can be extrapolated to model years in excess of 25 years old. See "Fleet Characterization Data for MOBILE6" (EPA, September 2001).

Region	IM (g/mile)		No IM (g/mile)		IM Benefit (g/mile)	
	HC	**CO**	**HC**	**CO**	**HC**	**CO**
Area A	6.1597	36.4440	7.9437	53.4180	1.7841	16.9740
Area B	6.6656	52.6512	8.4207	72.8064	1.7551	20.1552

Collectible vehicle population determination:

It was assumed that collectible vehicles were distributed between the two counties in the same proportion as vehicles 15 years old and older in the registration distribution of the respective county.
Number of vehicles in the desired fleet (15 years old and older):
Area A: 274,018 vehicles
Area B: 100,567 vehicles

4. Fraction of 15 + year old vehicles in Area A = 274,018/(100,567+274,018) = 0.7315
5. Fraction of 15 + year old vehicles in Area B = (1-Step #4) = 0.2685;

From the survey:

6. It was also estimated that 26.7% of the collectible cars were older than model year 1967 and therefore, not subject to the IM program;
7. Number of vehicles possessing collectible vehicle insurance policy = 7,102;
8. Percent of collectible vehicles subject to the IM program= 73.3%(From Step #6);
9. Number of collectible vehicles required to go through the emissions test = 0.7333*7,102 = 5,208;
10. Number of collectible vehicles in Area A = 0.7315*5,208 = 3,810 (From Step #4);
11. Number of collectible vehicles in Area B = 5,195-3,819 = 1,398 (assuming the remaining are in Area B);

VMT Estimation:

VMT for collectible cars was based on average annual VMT obtained from survey (1,800 miles per vehicle);

12. Daily VMT for collectible vehicles requiring emissions testing in Area A = 3,810*1,800/365 = 18,788 miles (from Step #10);
    Similarly, VMT was derived for Area B (from Step #11);
    VMT for Area B = 6,894 miles;

Mass emissions:

13. Emission rate obtained from Step # 3 (IM benefit) was multiplied by the VMT for Collectible vehicles in Area A and Area B respectively (Step #12), to estimate IM benefits in mass emissions (tons per day);

14. Results from Step # 13 were expressed as a percentage reduction in relation to the emissions from the entire fleet of vehicles in Maricopa and Pima counties respectively.

Region	**IM Benefits** (mtpd)		**Relative reduction** (%)	
	HC	**CO**	**HC**	**CO**
Area A	0.0335	0.3189	0.0466	0.0456
Area B	0.0121	0.1390	0.0400	0.0342

For the purpose of consolidating emissions from collectible cars with those from the fleet of vehicles 25 years and older, the following steps were necessary, in order to not include emissions from 25 year old and older collectible cars that were already modeled with the 25 year old and older vehicles:

15. Cars 24 years old and newer : 22 (from survey)
16. Percent of 24 year old collectible cars in the fleet of collectible cars: (22/209) = 10.53% (from Table 1)
17. This percentage was applied to IM benefits for collectible cars (Step #13)

Region	**IM Benefit for 24 year old and newer**	
	HC	**CO**
Area A	0.0035	0.0336
Area B	0.0013	0.0146

Appendix 2c

Technical Support Document

Evaluating Emissions Impacts of Exempting Motorcycles

from Vehicle Emissions Inspections

Technical Support Document for Evaluating Emissions Impacts of Exempting Motorcycles from Vehicle Emissions Inspections

Introduction

The modeling was performed using EPA's vehicular emission factor model, MOBILE6.2, as required by EPA in analyzing vehicular emissions. This analysis was modeled for two seasons – winter and summer, considering the significance of the two pollutants - carbon monoxide and hydrocarbons[5] which are typically wintertime and summertime pollutants respectively. This dual modeling procedure was repeated in each of the different situations as described further. Also, because Maricopa County and Pima County have different travel patterns and vehicle distributions, each county was analyzed separately.

As discussed in the modeling protocol narrative, because MOBILE6.2 is not designed to calculate credits for an Inspection and Maintenance (IM) program for motorcycles, motorcycles were treated as Light Duty Vehicles (LDV) because LDVs 1980 and older in Maricopa County and motorcycles are both subject to the same type of test, the idle test. In Pima County, LDVs of all model years are subject to the same type of test as motorcycles – the idle test.

In order to estimate IM credits for motorcycles, LDV data could be substituted with motorcycle data in the model, for IM and non-IM scenarios. This would provide the modeled IM benefits or the emission reduction (the reduction in emissions by subjecting a fleet to the IM program) for the motorcycle fleet. But due to inherent differences in construction and functioning between motorcycles and LDVs, reductions obtained from the MOBILE6.2 modeling for LDVs would not be directly applicable to motorcycles. In addition, VEI records show that IM benefits from testing motorcycles is not equal to that of LDVs. Therefore, after the modeled IM benefits were calculated, a correction factor was applied, using VEI test data. This derivation is explained in detail later in this section. The correction factor was multiplied by the modeling results for the final answer.

In summary, the analysis comprises of two components:

1. MOBILE6.2 was executed for Maricopa County (Area A) and Pima County (Area B), each with and without IM for VOC (summer) and CO (winter) to determine IM benefits for a season day for motorcycles (substituting motorcycle data for LDVs). For Area B, this is modeled for two altitude scenarios, consistent with PAG's modeling method and the terrain of Area B;
2. Calculate and apply the correction factor to adjust the modeling results to determine accurate emission changes from exempting motorcycles.

[5] Although hydrocarbons and nitrogen oxides are both precursors to ozone, nitrogen oxides are not tested for in the motorcycle emissions testing process. Therefore, only hydrocarbons were modeled for the summer season.

The same can be explained by the following equation:

$ER_{mc} = MC_{reduction} \times VMT_{mc} \times VMT_{total} \times CF$
Where:
ER_{mc} = Emission reduction for motorcycles;
$MC_{reduction}$ = Modeled motorcycle emission rate reduction;
VMT_{mc} = VMT fraction for the motorcycle fleet;
VMT_{total} = Total VMT of the entire fleet;
CF = Correction Factor

In addition, HB 2294 required IM benefits of motorcycles are consolidated with those of vehicles 25 years old and older. Therefore, a fractional distribution of 25 year old and older and 24 year old and newer was obtained using VEI's IM test data. The fraction corresponding to the 25 year old and older motorcycles was applied to the IM benefits of motorcycles and consolidated with those of 25+ year old vehicles.

Modeling:

In order to maintain consistency with the modeled data used by the Maricopa Association of Governments (MAG) and Pima Association of Governments (PAG) in their SIPs, wherever applicable, those data were replicated. The following table shows a list of MOBILE6.2 inputs and their source.

Input Parameters	Area A	Area B
For use in MOBILE6.2		
IM Program	Required under ARS 49-542	Required under ARS §49-542
Registration Distribution	ADOT MVD 2003 registration data and Vehicle Emissions Inspection (VEI) statistics	Same
Calendar Year	2003	2003
Evaluation Month	July for Summer January for Winter	Same
Altitude	Low altitude	Avg. of Low and High altitudes
Min/Max temperatures from National Weather Service	Summer – 75.5 / 102.5 Winter – 49.2 / 72.6	Summer – 68.0 / 96.2 Winter – 46.6 / 72.6
Fuel RVP (psi)	7.0 for Summer; 9.0 for Winter Source: Caps from ARS §41-2083; MAG CO and ozone plans	8.0 for Summer; 10.8 for Winter Source: PAG
Oxygenated fuels	2.0% O_2 for Summer; 3.5% for Winter Per standards from ARS §§	0% for Summer; 1.8% for Winter Source: PAG CO Limited

Input Parameters	Area A	Area B
	41-2123 and 2124	Maintenance Plan
Mileage Accumulation Rate	National averages from MOBILE6.2[6]	Same
IM Program Stringency - Expected failure rate(from VEI statistics)	40%	26.7%
IM Program Compliance Rate - % of fleet complying with program requirements	96%	97%
For IM Benefits Calculations		
Area-Wide Vehicle Miles Traveled (VMT) per day	68,000,000miles/day Source (MAG)	19,382,125 miles/day Source: PAG

The following steps were performed separately for CO (winter) and HC (summer) for each scenario, namely IM and No IM and for both Maricopa County and Pima County.

Modeling Methodology Steps:

1. Develop a data set of registration distribution and annual mileage accumulation for motorcycles in place of LDVs;
2. Replace starts per day inputs to reflect motorcycles;
3. Run MOBILE6.2 model for 4 scenarios:
   a) IM and No-IM, substituting motorcycle registration and miles distribution with a surrogate LDV data for summer (HC) for Maricopa County and Pima County.
   b) IM and No-IM, substituting motorcycle registration and miles distribution with a surrogate LDV data for winter (CO) for Maricopa County and Pima County.
4. Determine the modeled reduction in emission rate (No IM – IM) for motorcycles for HC and CO respectively (interpreted by the model as LDV);

$$MC_{reduction} = \text{No IM} - \text{IM};$$

Where

$MC_{reduction}$ = Modeled reduction in emission rate;

[6] MOBILE6.2 lumps all vehicles 25 years old and older into one age cohort. Mileage accumulation rates are described within the MOBILE6.2 model as mathematical functions of vehicle age for each of over 20 different classes of vehicles (e.g., light duty vehicles, two categories of light duty trucks, heavy duty vehicles by weight class), which can be extrapolated to model years in excess of 25 years old. See "Fleet Characterization Data for MOBILE6" (EPA, September 2001).

Region	**IM**(g/mile)		**No IM**(g/mile)		**IM Benefit** $MC_{reduction}$(g/mile)	
	HC	**CO**	**HC**	**CO**	**HC**	**CO**
Area A	1.94	13.42	2.37	18.92	0.43	5.50
Area B	1.97	18.08	2.36	24.08	0.39	6.01

Derivation of motorcycle emission correction factor:

Using VEI test lane data:

5. Sum of measured emissions for each model year for the respective vehicle category (LDV and motorcycles) for both, passed and failed vehicles is calculated:
   (Total Emissions_{LDV}, Total Emissions_{mc});
6. Excess Emissions = Measured emissions from failed vehicles - Cutpoint
7. Calculate sum of excess emissions for each model year = (Total Excess Emissions) based on the cutpoint standard applicable for the respective vehicle category (LDV and motorcycles) and model year;
8. Calculate IM benefit for each model year for LDVs and motorcycles respectively;
   IM Reduction =Total Emissions– Total Excess Emissions
   IM reduction for motorcycles = IM reduction_{mc},
   IM reduction for light duty vehicles = IM reduction_{LDV};
9. Normalize Fleet distribution for LDVs (FD_{ldv}) and motorcycles (FD_{mc}) by model year;
10. A distribution factor by model year of MC to LDV is calculated to determine the ratio of the number of LDVs to the number of MCs tested for a given model year, DF;
    Where $DF = FD_{mc} / FD_{ldv}$;
11. This is applied to the number of LDVs of that model year tested, to derive a number equivalent to MCs of the same model year;
12. This factor is also applied to the measured excess HC to calculate the adjusted excess HC for all LDVs of a given model year;
13. Average excess HC for LDVs is calculated from Step #11 (I/M $\text{reduction}_{ldv\text{-}hc}$);
14. Similarly, average excess HC is calculated for MCs, using measured results I/M $\text{reduction}_{mc\text{-}hc}$);
15. Steps #9~14 are repeated for excess CO;
16. Motorcycle Reduction Fraction (MCR) = $\frac{\text{I/M reduction}_{mc}}{\text{I/M reduction}_{LDV}}$
17. Correction Factor (CF)= $\sum_{1967}^{1980} MCR_{wtd}$ where
    The Correction Factor = Sum of all weighted MCR from model year 1967 through 1999;

Region	Correction Factor	
	HC	CO
Area A	0.75	0.69
Area B	0.80	0.16

18. The correction factor obtained from Step #17 is applied to the modeled IM benefits for HC and CO for Area A and Area B (because modeled reduction is an emission factor for LDV, using motorcycle data):

$EF_{adj} = MC_{reduction} \times CF$

Where EF_{adj} = Adjusted Emission factor;

$MC_{reduction}$ = Modeled motorcycle reduction factor (from Step # 4);

CF = Correction Factor (from Step # 17)

Region	Adjusted Emission factor EFadj(g/mile)	
	HC	CO
Area A	0.32	3.80
Area B	0.31	0.96

19. Mass Emission reductions for motorcycles:

$ER_{mc} = EF_{adj} \times VMT_{mc} \times VMT_{total}$

Where ER_{mc} = Mass emission reduction from motorcycle

EF_{adj} = Adjusted Emission factor (from Step # 18);

VMT_{mc} = Vehicle Miles Traveled fraction for motorcycles (0.005);

VMT_{total} = Total Vehicle Miles Traveled (68,000,000);

Region	Mass Emission reductions ER_{mc} in mtpd*	
	HC	CO
Area A	0.1088	1.2906
Area B	0.0301	0.0931

*metric tons per day

20. Reductions expressed as a percentage of area-wide onroad emissions:

Percentage reduction = ($MC_{reduction}$ /Total onroad emissions) x 100

Where $MC_{reduction}$ = Mass emission reductions for motorcycles (from Step # 19);

Total emissions = Emissions obtained from emissions inventory from MAG's reports[7] and PAG.

[7] 1. Carbon Dioxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area

2. One-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area

Region	IM Benefit (ER_{mc} in mtpd)		Relative Reduction (%)	
	HC	CO	HC	CO
Area A	0.1088	1.2906	0.15%	0.18%
Area B	0.0301	0.0931	0.10%	0.02%

For the purpose of consolidating emissions from motorcycles with those from the fleet of vehicles 25 years and older, the following steps were necessary, in order to not include emissions from 25 year old and older motorcycles that were already included with the 25 year old and older vehicles:

21. A fractional distribution of 24 year old and newer motorcycles was determined from the motorcycle fleet using VEI test data:

Region	Total # of motorcycles	24 yrs old motorcycles	Percent of total motorcycles	
			24 year old and newer	25+ yr old
Area A	22053	20254	91.84%	8.16%
Area B	6240	5486	87.92%	12.08%

22. The fraction corresponding to the 25 year old motorcycles was applied to the IM benefit for motorcycles:

$$ER_{mc} * MC_{25} = ER_{mc25}$$

Where

ER_{mc} = Mass Emission reduction for motorcycles;
MC_{25} = Fraction of motorcycles 25 years old and older;
ER_{mc25} = Mass Emissions of motorcycles 25 years old and older.

Region	HC	CO
Area A	0.0089	0.1053
Area B	0.0036	0.0113

Appendix 3

Examples of Modeling

Input and Output Files

Appendix 3a

Input Files

Appendix 3a(1)

Input Files

Vehicles 25 Years Old and Older with IM for

Calendar Year 2003 – Summer, Area B

*Area B vehicles 25 yrs old and older with IM Low Altitude

********** HEADER SECTION **********
MOBILE6 INPUT FILE
POLLUTANTS : HC
DAILY OUTPUT :
DATABASE OUTPUT :
WITH FIELDNAMES :
RUN DATA :

********** RUN SECTION **********
VMT FRACTIONS :
0.380 0.115 0.322 0.117 0.066 0.0 0.00 0.00
0.00 0.00 0.00 0.0 0.0 0.00 0.00 0.00
FUEL RVP : 8.0
MIN/MAX TEMPERATURE: 68.0 96.2
NO REFUELING :
REG DIST : D:\Models\M62\Mobile6\Run\a25.d
MILE ACCUM RATE : D:\Models\M62\Mobile6\Run\Mileage.d
I/M DESC FILE : D:\Models\M62\Mobile6\Run\BS25YRIM.d
ANTI-TAMP PROG :
87 75 95 22222 22222222 2 11 096. 22111112
********** SCENARIO SECTION **********

SCENARIO RECORD : Area B vehicles 25 yrs old and older with IM CY2003
CALENDAR YEAR : 2003
EVALUATION MONTH : 7
ALTITUDE : 1
ABSOLUTE HUMIDITY : 55.7

********** END OF RUN **********
END OF RUN :

Appendix 3a(2)

Input Files

Collectible Vehicles with IM for

Calendar Year 2003 – Summer, Area A

```
* Summertime VOC Emissions for Collectible vehicle fleet
* in Area A with IM 2003 Low Altitude

***************     Header Section     ***************
MOBILE6 INPUT FILE :
POLLUTANTS         : HC
DATABASE OUTPUT    :
WITH FIELDNAMES    :
DAILY OUTPUT       :
RUN DATA           :

***************     Run Section     ***************
REG DIST           : D:\Models\M62\Mobile6\Run\acollect.d
VMT FRACTIONS      :
0.380  0.115  0.322  0.117  0.066  0.0  0.00  0.00
0.00  0.00  0.00  0.0  0.0  0.00  0.00  0.00
I/M DESC FILE      : D:\Models\M62\Mobile6\Run\AColIM.d
ANTI-TAMP PROG     :
87 75 80 22222 22222222 2 11 097. 22111222
ANTI-TAMP PROG     :
87 81 95 11111 22222222 2 11 097. 22111222

***************     Scenario Section     ***************

SCENARIO RECORD    : Summer VOC emissions in Area A with I/M2003
CALENDAR YEAR      : 2003
MIN/MAX TEMP       : 75.5 102.5
FUEL RVP           : 7.0
SULFUR CONTENT     : 30


FUEL PROGRAM       : 4
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
  80.0  80.0  80.0  80.0  80.0  30.0   30.0   30.0
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
OXYGENATED FUELS   : 1.000 0.000 0.020 0.000 1
EVALUATION MONTH   : 7

***************     End of This Run     ***************
```

Appendix 3a(3)

Input Files

Motorcycle Emissions without IM for

Calendar Year 2000 – Winter, Area B

```
* Wintertime CO Emissions for m/c fleet
* in Area B without IM Low Altitude

***************     Header Section     ***************
MOBILE6 INPUT FILE :
POLLUTANTS         : CO
DAILY OUTPUT       :
DATABASE OUTPUT    :
WITH FIELDNAMES    :
DATABASE VEHICLES  : 22111 11111111 1 111 11111111 111
RUN DATA           :

***************     Run Section     ***************
REG DIST           : D:\Models\M62\Mobile6\Run\bmc00.d
STARTS PER DAY     : D:\Models\M62\Mobile6\Run\mcstpd.d

***************     Scenario Section     ***************
SCENARIO RECORD    : Winter CO emissions in Area B without I/M2000
CALENDAR YEAR      : 2000
MIN/MAX TEMP       : 46.6 72.6
FUEL RVP           : 10.8
SULFUR CONTENT     : 30
FUEL PROGRAM       : 4
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
  80.0  80.0  80.0  80.0  80.0  30.0   30.0   30.0
  30.0  30.0  30.0  30.0  30.0  30.0   30.0   30.0
OXYGENATED FUELS   : 0.000 1.000 0.000 0.018 1
EVALUATION MONTH   : 1

***************     End of This Run     ***************
END OF RUN         :
```

Appendix 3a(4)

Input Files

Motorcycle Registration Distributions for

Areas A and B – Calendar Year 2003

REG DIST

*Area A M/C registration distribution used as LDV for Calendar Year 2003

* LDV

1	0.029	0.112	0.110	0.096	0.084	0.068	0.055	0.051	0.042	0.045
	0.037	0.030	0.030	0.026	0.022	0.020	0.023	0.025	0.020	0.014
	0.014	0.017	0.012	0.012	0.007					

REG DIST

*Area B M/C registration distribution used as LDV for Calendar Year 2003

* LDV

1	0.014	0.091	0.091	0.113	0.098	0.084	0.085	0.070	0.060	0.049
	0.036	0.030	0.025	0.024	0.018	0.014	0.015	0.018	0.019	0.018
	0.010	0.004	0.002	0.002	0.007					

Appendix 3a(5)

Input Files

IM Descriptive Files - Area B

*AREA B I/M

* 1ST I/M PROGRAM
I/M PROGRAM : 1 1977 2050 1 T/O IDLE
I/M MODEL YEARS : 1 1967 1980
I/M VEHICLES : 1 22222 22222222 2
I/M STRINGENCY : 1 26.7
I/M COMPLIANCE : 1 97.0
I/M WAIVER RATES : 1 2.0 1.0

* 2ND I/M PROGRAM
I/M PROGRAM : 2 1977 2050 1 T/O LOADED/IDLE
I/M MODEL YEARS : 2 1981 1995
I/M VEHICLES : 2 22222 22222222 2
I/M STRINGENCY : 2 26.7
I/M COMPLIANCE : 2 97.0
I/M WAIVER RATES : 2 2.0 1.0

* 3RD I/M PROGRAM
I/M PROGRAM : 3 1977 2050 1 T/O LOADED/IDLE
I/M MODEL YEARS : 3 1996 2050
I/M VEHICLES : 3 11111 22222222 2
I/M STRINGENCY : 3 26.7
I/M COMPLIANCE : 3 97.0
I/M WAIVER RATES : 3 2.0 1.0

*4TH I/M PROGRAM
I/M PROGRAM : 4 1977 2050 1 T/O GC
I/M MODEL YEARS : 4 1967 1995
I/M VEHICLES : 4 22222 22222222 2
I/M COMPLIANCE : 4 97.0
I/M WAIVER RATES : 4 2.0 1.0

* 5TH I/M PROGRAM
I/M PROGRAM : 5 1977 2050 1 T/O GC
I/M MODEL YEARS : 5 1996 2050
I/M VEHICLES : 5 11111 22222222 2
I/M COMPLIANCE : 5 97.0
I/M WAIVER RATES : 5 2.0 1.0

*6TH I/M PROGRAM
I/M PROGRAM : 6 2002 2050 1 T/O OBD I/M
I/M MODEL YEARS : 6 1996 2050
I/M VEHICLES : 6 22222 11111111 1
I/M STRINGENCY : 6 26.7
I/M COMPLIANCE : 6 97.0
I/M WAIVER RATES : 6 2.0 1.0
I/M GRACE PERIOD : 6 5

* 7TH I/M PROGRAM
I/M PROGRAM : 7 2002 2050 1 T/O EVAP OBD & GC
I/M MODEL YEARS : 7 1996 2050
I/M VEHICLES : 7 22222 11111111 1
I/M COMPLIANCE : 7 97.0
I/M WAIVER RATES : 7 2.0 1.0
I/M GRACE PERIOD : 7 5

Appendix 3b

Output Files

Appendix 3b(1)

Output Files

Vehicles 25 Years Old and Older with IM for

Calendar Year 2003 – Summer, Area B

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: BS25YIM.IN (file 1, run 1).                               *
*************************************************************************
  M615 Comment:
               User supplied VMT mix.
  M603 Comment:
               User has disabled the calculation of REFUELING emissions.


* Reading Registration Distributions from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\A25.D

* Reading non-default MILEAGE ACCUMULATION RATES from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\MILEAGE.D

* Reading I/M program description records from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\BS25YRIM.D
  M 21 Warning:
                Mileage accumulation missing for one age of LDGV
* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Area B vehicles 25 yrs old and older with IM CY2003
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class HDDV2b
  M 48 Warning:
              there are no sales for vehicle class HDDV3
  M 48 Warning:
              there are no sales for vehicle class HDDV4
  M 48 Warning:
              there are no sales for vehicle class HDDV5



                     Calendar Year:  2003
                             Month:  July
```

```
                 Altitude:  Low
Minimum Temperature:  68.0 (F)
Maximum Temperature:  96.2 (F)
  Absolute Humidity:   56. grains/lb
   Nominal Fuel RVP:   8.0 psi
      Weathered RVP:   7.5 psi
Fuel Sulfur Content:  259. ppm

Exhaust I/M Program:  Yes
   Evap I/M Program:  Yes
        ATP Program:  Yes
   Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3698	0.4245	0.1828		0.0000	0.0102	0.0127	0.0000	0.0000	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	8.981	13.914	9.493	12.583	0.000	0.594	2.005	0.000	0.00	10.994

Appendix 3b(2)

Output Files

Collectible Vehicles with IM for

Calendar Year 2003 – Summer, Area A

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: ASCOLI.IN (file 1, run 1).                                    *
*****************************************************************************

* Reading Registration Distributions from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\ACOLLECT.D
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 0.000     MYR sum not = 1. (will normalize)
  M615 Comment:
                User supplied VMT mix.

* Reading I/M program description records from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\ACOLIM.D

* Reading non-default I/M CUTPOINTS from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\CUTPOINT.D
  M 22 Warning:
                 Age distribution is zero for class HDGV2b
  M 22 Warning:
                 Age distribution is zero for class HDGV3
```

```
  M 22 Warning:
                Age distribution is zero for class HDGV4
  M 22 Warning:
                Age distribution is zero for class HDGV5
  M 22 Warning:
                Age distribution is zero for class HDGV6
  M 22 Warning:
                Age distribution is zero for class HDGV7
  M 22 Warning:
                Age distribution is zero for class HDGV8a
  M 22 Warning:
                Age distribution is zero for class HDGV8b
  M 22 Warning:
                Age distribution is zero for class LDDV
  M 22 Warning:
                Age distribution is zero for class LDDT12
  M 22 Warning:
                Age distribution is zero for class HDDV2b

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Summer VOC emissions in Area A with I/M2003
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

          User supplied gasoline sulfur content =  30.0 ppm.

  M616 Comment:
               User has supplied post-1999 sulfur levels.
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2003
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  75.5 (F)
              Maximum Temperature: 102.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   7.0 psi
                    Weathered RVP:   6.4 psi
```

Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: Yes
Reformulated Gas: No

Ether Blend Market Share: 1.000
Ether Blend Oxygen Content: 0.020
Alcohol Blend Market Share: 0.000
Alcohol Blend Oxygen Content: 0.000
Alcohol Blend RVP Waiver: No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3773	0.4337	0.1812		0.0000	0.0027	0.0050	0.0000	0.0000	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	4.323	7.121	7.819	7.327	0.000	1.004	2.681	0.000	0.00	6.153

Appendix 3b(3)

Output Files

Motorcycle Emissions without IM for

Calendar Year 2000 – Winter, Area B

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: BNIM00W.IN (file 1, run 1).                               *
*************************************************************************

* Reading Registration Distributions from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\BMC00.D

* Reading start Starts/day distribution from the following external
* data file: D:\MODELS\M62\MOBILE6\RUN\MCSTPD.D

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter CO emissions in Area B without I/M2000
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
         User supplied gasoline sulfur content =  30.0 ppm.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2000
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  46.6 (F)
             Maximum Temperature:  72.6 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   10.8 psi
                   Weathered RVP:   10.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.018
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
```

GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.5162	0.2708	0.0925		0.0342	0.0010	0.0015	0.0779	0.0060	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	7.67	19.21	28.89	21.68	22.87	1.656	1.740	4.251	10.80	13.014

FILE	RUN	SCEN	POL	VTYPE	ETYPE	FTYPE	AGE	GM_MILE	GM_DAY	STARTS	ENDS	MILES	MPG	FACVMT	REGDIST	VCOUNT	MYR
1	1	1	2	1	1	1	24	34.1021	429.706	1.3500	0.9974	12.6006	14.80	0.3421	0.0033	113.8595	1976
1	1	1	2	1	1	2	24	29.8616	376.273	1.3500	0.9974	12.6006	14.80	0.4978	0.0033	113.8595	1976
1	1	1	2	1	1	3	24	33.5869	423.214	1.3500	0.9974	12.6006	14.80	0.1305	0.0033	113.8595	1976
1	1	1	2	1	1	4	24	38.2761	482.300	1.3500	0.9974	12.6006	14.80	0.0297	0.0033	113.8595	1976
1	1	1	2	1	2	5	24	15.0145	189.191	1.3500	0.9974	12.6006	14.80	1.0000	0.0033	113.8595	1976
1	1	1	2	1	1	1	23	41.2570	546.851	1.3500	0.9974	13.2548	15.50	0.3421	0.0055	113.8595	1977
1	1	1	2	1	1	2	23	36.3341	481.599	1.3500	0.9974	13.2548	15.50	0.4978	0.0055	113.8595	1977
1	1	1	2	1	1	3	23	41.0679	544.344	1.3500	0.9974	13.2548	15.50	0.1305	0.0055	113.8595	1977
1	1	1	2	1	1	4	23	45.3816	601.521	1.3500	0.9974	13.2548	15.50	0.0297	0.0055	113.8595	1977
1	1	1	2	1	2	5	23	15.4947	205.379	1.3500	0.9974	13.2548	15.50	1.0000	0.0055	113.8595	1977
1	1	1	2	1	1	1	22	40.5613	565.526	1.3500	0.9974	13.9425	16.80	0.3421	0.0066	113.8595	1978
1	1	1	2	1	1	2	22	35.6528	497.088	1.3500	0.9974	13.9425	16.80	0.4978	0.0066	113.8595	1978
1	1	1	2	1	1	3	22	40.2536	561.236	1.3500	0.9974	13.9425	16.80	0.1305	0.0066	113.8595	1978
1	1	1	2	1	1	4	22	44.5693	621.407	1.3500	0.9974	13.9425	16.80	0.0297	0.0066	113.8595	1978
1	1	1	2	1	2	5	22	14.4552	201.542	1.3500	0.9974	13.9425	16.80	1.0000	0.0066	113.8595	1978
1	1	1	2	1	1	1	21	40.0159	586.922	1.3500	0.9974	14.6672	17.10	0.3421	0.0097	113.8595	1979
1	1	1	2	1	1	2	21	35.0942	514.735	1.3500	0.9974	14.6672	17.10	0.4978	0.0097	113.8595	1979

```
  1      1      1    2       1      1     3      21       39.5857        580.612      1.3500        0.9974        14.6672
17.10     0.1305       0.0097       113.8595   1979
  1      1      1    2       1      1     4      21       43.9199        644.182      1.3500        0.9974        14.6672
17.10     0.0297       0.0097       113.8595   1979
  1      1      1    2       1      2     5      21       13.5049        198.079      1.3500        0.9974        14.6672
17.10     1.0000       0.0097       113.8595   1979
  1      1      1    2       1      1     1      20       27.9992        431.978      1.3500        0.9974        15.4283
19.80     0.3421       0.0032       113.8595   1980
  1      1      1    2       1      1     2      20       23.6282        364.543      1.3500        0.9974        15.4283
19.80     0.4978       0.0032       113.8595   1980
  1      1      1    2       1      1     3      20       26.0528        401.950      1.3500        0.9974        15.4283
19.80     0.1305       0.0032       113.8595   1980
  1      1      1    2       1      1     4      20       31.2506        482.142      1.3500        0.9974        15.4283
19.80     0.0297       0.0032       113.8595   1980
  1      1      1    2       1      2     5      20       12.2024        188.262      1.3500        0.9974        15.4283
19.80     1.0000       0.0032       113.8595   1980
  1      1      1    2       1      1     1      19       40.4363        656.242      1.3500        0.9974        16.2290
21.20     0.3421       0.0031       113.8595   1981
  1      1      1    2       1      1     2      19       34.9249        566.797      1.3500        0.9974        16.2290
21.20     0.4978       0.0031       113.8595   1981
  1      1      1    2       1      1     3      19       39.5495        641.849      1.3500        0.9974        16.2290
21.20     0.1305       0.0031       113.8595   1981
  1      1      1    2       1      1     4      19       44.9206        729.018      1.3500        0.9974        16.2290
21.20     0.0297       0.0031       113.8595   1981
  1      1      1    2       1      2     5      19        4.5846         74.403      1.3500        0.9974        16.2290
21.20     1.0000       0.0031       113.8595   1981
  1      1      1    2       1      1     1      18       40.9943        699.809      1.3500        0.9974        17.0709
22.00     0.3421       0.0052       113.8595   1982
  1      1      1    2       1      1     2      18       35.1205        599.539      1.3500        0.9974        17.0709
22.00     0.4978       0.0052       113.8595   1982
  1      1      1    2       1      1     3      18       39.6277        676.480      1.3500        0.9974        17.0709
22.00     0.1305       0.0052       113.8595   1982
  1      1      1    2       1      1     4      18       44.9996        768.183      1.3500        0.9974        17.0709
22.00     0.0297       0.0052       113.8595   1982
  1      1      1    2       1      2     5      18        4.3353         74.007      1.3500        0.9974        17.0709
22.00     1.0000       0.0052       113.8595   1982
  1      1      1    2       1      1     1      17       25.3129        454.569      1.3500        0.9974        17.9580
21.90     0.3421       0.0129       113.8595   1983
  1      1      1    2       1      1     2      17       21.0788        378.532      1.3500        0.9974        17.9580
21.90     0.4978       0.0129       113.8595   1983
  1      1      1    2       1      1     3      17       22.4071        402.386      1.3500        0.9974        17.9580
21.90     0.1305       0.0129       113.8595   1983
  1      1      1    2       1      1     4      17       28.3555        509.207      1.3500        0.9974        17.9580
21.90     0.0297       0.0129       113.8595   1983
```

```
  1      1      1    2       1      2     5      17        3.4052        61.151      1.3500       0.9974       17.9580
21.90     1.0000       0.0129       113.8595   1983
  1      1      1    2       1      1     1      16       24.4438       461.732      1.3500       0.9974       18.8896
22.20     0.3421       0.0239       113.8595   1984
  1      1      1    2       1      1     2      16       20.3615       384.620      1.3500       0.9974       18.8896
22.20     0.4978       0.0239       113.8595   1984
  1      1      1    2       1      1     3      16       21.2794       401.959      1.3500       0.9974       18.8896
22.20     0.1305       0.0239       113.8595   1984
  1      1      1    2       1      1     4      16       27.4868       519.214      1.3500       0.9974       18.8896
22.20     0.0297       0.0239       113.8595   1984
  1      1      1    2       1      2     5      16        3.0996        58.549      1.3500       0.9974       18.8896
22.20     1.0000       0.0239       113.8595   1984
  1      1      1    2       1      1     1      15       22.8279       453.570      1.3500       0.9974       19.8691
22.90     0.3421       0.0252       113.8595   1985
  1      1      1    2       1      1     2      15       19.0047       377.606      1.3500       0.9974       19.8691
22.90     0.4978       0.0252       113.8595   1985
  1      1      1    2       1      1     3      15       19.4879       387.207      1.3500       0.9974       19.8691
22.90     0.1305       0.0252       113.8595   1985
  1      1      1    2       1      1     4      15       25.7501       511.631      1.3500       0.9974       19.8691
22.90     0.0297       0.0252       113.8595   1985
  1      1      1    2       1      2     5      15        2.6410        52.475      1.3500       0.9974       19.8691
22.90     1.0000       0.0252       113.8595   1985
  1      1      1    2       1      1     1      14       19.2651       402.642      1.3500       0.9974       20.9000
23.70     0.3421       0.0242       113.8595   1986
  1      1      1    2       1      1     2      14       16.0973       336.435      1.3500       0.9974       20.9000
23.70     0.4978       0.0242       113.8595   1986
  1      1      1    2       1      1     3      14       15.9591       333.546      1.3500       0.9974       20.9000
23.70     0.1305       0.0242       113.8595   1986
  1      1      1    2       1      1     4      14       22.1762       463.484      1.3500       0.9974       20.9000
23.70     0.0297       0.0242       113.8595   1986
  1      1      1    2       1      2     5      14        2.1322        44.562      1.3500       0.9974       20.9000
23.70     1.0000       0.0242       113.8595   1986
  1      1      1    2       1      1     1      13       18.2656       401.571      1.3500       0.9974       21.9851
23.80     0.3421       0.0209       113.8595   1987
  1      1      1    2       1      1     2      13       15.4413       339.479      1.3500       0.9974       21.9851
23.80     0.4978       0.0209       113.8595   1987
  1      1      1    2       1      1     3      13       15.2259       334.742      1.3500       0.9974       21.9851
23.80     0.1305       0.0209       113.8595   1987
  1      1      1    2       1      1     4      13       21.4902       472.464      1.3500       0.9974       21.9851
23.80     0.0297       0.0209       113.8595   1987
  1      1      1    2       1      2     5      13        1.9601        43.093      1.3500       0.9974       21.9851
23.80     1.0000       0.0209       113.8595   1987
  1      1      1    2       1      1     1      12       13.3889       309.645      1.3500       0.9974       23.1270
24.30     0.3421       0.0199       113.8595   1988
```

```
  1      1      1    2       1      1     2      12       11.1990        259.000      1.3500        0.9974        23.1270
24.30     0.4978       0.0199        113.8595    1988
  1      1      1    2       1      1     3      12       10.0108        231.520      1.3500        0.9974        23.1270
24.30     0.1305       0.0199        113.8595    1988
  1      1      1    2       1      1     4      12       16.9253        391.432      1.3500        0.9974        23.1270
24.30     0.0297       0.0199        113.8595    1988
  1      1      1    2       1      2     5      12        1.5567         36.002      1.3500        0.9974        23.1270
24.30     1.0000       0.0199        113.8595    1988
  1      1      1    2       1      1     1      11       13.1849        320.741      1.3500        0.9974        24.3264
23.90     0.3421       0.0243        113.8595    1989
  1      1      1    2       1      1     2      11       11.0090        267.810      1.3500        0.9974        24.3264
23.90     0.4978       0.0243        113.8595    1989
  1      1      1    2       1      1     3      11        9.8738        240.194      1.3500        0.9974        24.3264
23.90     0.1305       0.0243        113.8595    1989
  1      1      1    2       1      1     4      11       16.7257        406.875      1.3500        0.9974        24.3264
23.90     0.0297       0.0243        113.8595    1989
  1      1      1    2       1      2     5      11        1.4465         35.187      1.3500        0.9974        24.3264
23.90     1.0000       0.0243        113.8595    1989
  1      1      1    2       1      1     1      10       12.4081        317.517      1.3500        0.9974        25.5895
23.60     0.3421       0.0331        113.8595    1990
  1      1      1    2       1      1     2      10       10.3426        264.662      1.3500        0.9974        25.5895
23.60     0.4978       0.0331        113.8595    1990
  1      1      1    2       1      1     3      10        9.0344        231.185      1.3500        0.9974        25.5895
23.60     0.1305       0.0331        113.8595    1990
  1      1      1    2       1      1     4      10       15.9303        407.650      1.3500        0.9974        25.5895
23.60     0.0297       0.0331        113.8595    1990
  1      1      1    2       1      2     5      10        1.1894         30.437      1.3500        0.9974        25.5895
23.60     1.0000       0.0331        113.8595    1990
  1      1      1    2       1      1     1       9       11.5907        312.002      1.3500        0.9974        26.9184
23.80     0.3421       0.0342        113.8595    1991
  1      1      1    2       1      1     2       9        9.6241        259.066      1.3500        0.9974        26.9184
23.80     0.4978       0.0342        113.8595    1991
  1      1      1    2       1      1     3       9        8.2808        222.907      1.3500        0.9974        26.9184
23.80     0.1305       0.0342        113.8595    1991
  1      1      1    2       1      1     4       9       15.2099        409.427      1.3500        0.9974        26.9184
23.80     0.0297       0.0342        113.8595    1991
  1      1      1    2       1      2     5       9        1.1157         30.034      1.3500        0.9974        26.9184
23.80     1.0000       0.0342        113.8595    1991
  1      1      1    2       1      1     1       8       10.9940        311.297      1.3500        0.9974        28.3152
23.50     0.3421       0.0398        113.8595    1992
  1      1      1    2       1      1     2       8        9.0893        257.366      1.3500        0.9974        28.3152
23.50     0.4978       0.0398        113.8595    1992
  1      1      1    2       1      1     3       8        7.7334        218.974      1.3500        0.9974        28.3152
23.50     0.1305       0.0398        113.8595    1992
```

```
  1      1      1    2       1      1     4       8       14.6343        414.371      1.3500        0.9974        28.3152
23.50     0.0297       0.0398        113.8595    1992
  1      1      1    2       1      2     5       8        1.0088         28.565      1.3500        0.9974        28.3152
23.50     1.0000       0.0398        113.8595    1992
  1      1      1    2       1      1     1       7       10.0948        300.669      1.3500        0.9974        29.7845
24.00     0.3421       0.0486        113.8595    1993
  1      1      1    2       1      1     2       7        8.3049        247.356      1.3500        0.9974        29.7845
24.00     0.4978       0.0486        113.8595    1993
  1      1      1    2       1      1     3       7        6.9519        207.060      1.3500        0.9974        29.7845
24.00     0.1305       0.0486        113.8595    1993
  1      1      1    2       1      1     4       7       13.8906        413.724      1.3500        0.9974        29.7845
24.00     0.0297       0.0486        113.8595    1993
  1      1      1    2       1      2     5       7        0.9584         28.547      1.3500        0.9974        29.7845
24.00     1.0000       0.0486        113.8595    1993
  1      1      1    2       1      1     1       6        9.0282        282.853      1.3500        0.9974        31.3298
23.90     0.3421       0.0663        113.8595    1994
  1      1      1    2       1      1     2       6        7.3400        229.960      1.3500        0.9974        31.3298
23.90     0.4978       0.0663        113.8595    1994
  1      1      1    2       1      1     3       6        5.8462        183.162      1.3500        0.9974        31.3298
23.90     0.1305       0.0663        113.8595    1994
  1      1      1    2       1      1     4       6       13.1193        411.027      1.3500        0.9974        31.3298
23.90     0.0297       0.0663        113.8595    1994
  1      1      1    2       1      2     5       6        0.7929         24.841      1.3500        0.9974        31.3298
23.90     1.0000       0.0663        113.8595    1994
  1      1      1    2       1      1     1       5        7.6340        251.586      1.3500        0.9974        32.9560
24.10     0.3421       0.0817        113.8595    1995
  1      1      1    2       1      1     2       5        6.1206        201.710      1.3500        0.9974        32.9560
24.10     0.4978       0.0817        113.8595    1995
  1      1      1    2       1      1     3       5        4.5768        150.832      1.3500        0.9974        32.9560
24.10     0.1305       0.0817        113.8595    1995
  1      1      1    2       1      1     4       5       12.2167        402.613      1.3500        0.9974        32.9560
24.10     0.0297       0.0817        113.8595    1995
  1      1      1    2       1      2     5       5        0.6408         21.118      1.3500        0.9974        32.9560
24.10     1.0000       0.0817        113.8595    1995
  1      1      1    2       1      1     1       4        6.2454        216.505      1.3500        0.9974        34.6665
24.10     0.3421       0.0950        113.8595    1996
  1      1      1    2       1      1     2       4        4.9360        171.114      1.3500        0.9974        34.6665
24.10     0.4978       0.0950        113.8595    1996
  1      1      1    2       1      1     3       4        3.4524        119.684      1.3500        0.9974        34.6665
24.10     0.1305       0.0950        113.8595    1996
  1      1      1    2       1      1     4       4       11.3117        392.136      1.3500        0.9974        34.6665
24.10     0.0297       0.0950        113.8595    1996
  1      1      1    2       1      2     5       4        0.5551         19.243      1.3500        0.9974        34.6665
24.10     1.0000       0.0950        113.8595    1996
```

```
  1      1      1    2       1      1     1       3        4.8635        177.352      1.3500        0.9974        36.4660
24.20     0.3421       0.1148        113.8595    1997
  1      1      1    2       1      1     2       3        3.7867        138.085      1.3500        0.9974        36.4660
24.20     0.4978       0.1148        113.8595    1997
  1      1      1    2       1      1     3       3        2.4589         89.668      1.3500        0.9974        36.4660
24.20     0.1305       0.1148        113.8595    1997
  1      1      1    2       1      1     4       3       10.3550        377.604      1.3500        0.9974        36.4660
24.20     0.0297       0.1148        113.8595    1997
  1      1      1    2       1      2     5       3        0.5224         19.049      1.3500        0.9974        36.4660
24.20     1.0000       0.1148        113.8595    1997
  1      1      1    2       1      1     1       2        3.3409        128.151      1.3500        0.9974        38.3579
24.30     0.3421       0.1148        113.8595    1998
  1      1      1    2       1      1     2       2        2.5368         97.308      1.3500        0.9974        38.3579
24.30     0.4978       0.1148        113.8595    1998
  1      1      1    2       1      1     3       2        1.4108         54.117      1.3500        0.9974        38.3579
24.30     0.1305       0.1148        113.8595    1998
  1      1      1    2       1      1     4       2        9.3506        358.669      1.3500        0.9974        38.3579
24.30     0.0297       0.1148        113.8595    1998
  1      1      1    2       1      2     5       2        0.4913         18.847      1.3500        0.9974        38.3579
24.30     1.0000       0.1148        113.8595    1998
  1      1      1    2       1      1     1       1        2.1390         86.309      1.3500        0.9974        40.3492
24.00     0.3421       0.1325        113.8595    1999
  1      1      1    2       1      1     2       1        1.6074         64.857      1.3500        0.9974        40.3492
24.00     0.4978       0.1325        113.8595    1999
  1      1      1    2       1      1     3       1        0.8266         33.354      1.3500        0.9974        40.3492
24.00     0.1305       0.1325        113.8595    1999
  1      1      1    2       1      1     4       1        8.7613        353.512      1.3500        0.9974        40.3492
24.00     0.0297       0.1325        113.8595    1999
  1      1      1    2       1      2     5       1        0.4647         18.750      1.3500        0.9974        40.3492
24.00     1.0000       0.1325        113.8595    1999
  1      1      1    2       1      1     1       0        1.4011         57.238      1.3500        0.9974        40.8534
24.10     0.3421       0.0512        113.8595    2000
  1      1      1    2       1      1     2       0        1.0513         42.948      1.3500        0.9974        40.8534
24.10     0.4978       0.0512        113.8595    2000
  1      1      1    2       1      1     3       0        0.5228         21.359      1.3500        0.9974        40.8534
24.10     0.1305       0.0512        113.8595    2000
  1      1      1    2       1      1     4       0        8.4488        345.162      1.3500        0.9974        40.8534
24.10     0.0297       0.0512        113.8595    2000
  1      1      1    2       1      2     5       0        0.4579         18.705      1.3500        0.9974        40.8534
24.10     1.0000       0.0512        113.8595    2000
  1      1      1    2       2      1     1      24       39.6172        293.115      8.0600        5.7531         7.3987
13.00     0.3421       0.0369         12.5762    1976
  1      1      1    2       2      1     2      24       35.8402        265.170      8.0600        5.7531         7.3987
13.00     0.4978       0.0369         12.5762    1976
```

```
  1      1      1    2       2      1     3      24       41.9071        310.057      8.0600        5.7531         7.3987
13.00     0.1305       0.0369         12.5762    1976
  1      1      1    2       2      1     4      24       45.1550        334.087      8.0600        5.7531         7.3987
13.00     0.0297       0.0369         12.5762    1976
  1      1      1    2       2      2     5      24      166.9363       1235.109      8.0600        5.7531         7.3987
13.00     1.0000       0.0369         12.5762    1976
  1      1      1    2       2      1     1      23       48.0188        399.221      8.0600        5.7531         8.3138
14.20     0.3421       0.0072         12.5762    1977
  1      1      1    2       2      1     2      23       45.7922        380.709      8.0600        5.7531         8.3138
14.20     0.4978       0.0072         12.5762    1977
  1      1      1    2       2      1     3      23       55.1301        458.343      8.0600        5.7531         8.3138
14.20     0.1305       0.0072         12.5762    1977
  1      1      1    2       2      1     4      23       57.0215        474.067      8.0600        5.7531         8.3138
14.20     0.0297       0.0072         12.5762    1977
  1      1      1    2       2      2     5      23      172.5614       1434.648      8.0600        5.7531         8.3138
14.20     1.0000       0.0072         12.5762    1977
  1      1      1    2       2      1     1      22       47.7924        445.594      8.0600        5.7531         9.3235
13.90     0.3421       0.0073         12.5762    1978
  1      1      1    2       2      1     2      22       45.4921        424.147      8.0600        5.7531         9.3235
13.90     0.4978       0.0073         12.5762    1978
  1      1      1    2       2      1     3      22       54.7863        510.802      8.0600        5.7531         9.3235
13.90     0.1305       0.0073         12.5762    1978
  1      1      1    2       2      1     4      22       56.6582        528.255      8.0600        5.7531         9.3235
13.90     0.0297       0.0073         12.5762    1978
  1      1      1    2       2      2     5      22      152.5591       1422.390      8.0600        5.7531         9.3235
13.90     1.0000       0.0073         12.5762    1978
  1      1      1    2       2      1     1      21       41.5104        432.889      8.0600        5.7531        10.4284
13.40     0.3421       0.0076         12.5762    1979
  1      1      1    2       2      1     2      21       36.7239        382.973      8.0600        5.7531        10.4284
13.40     0.4978       0.0076         12.5762    1979
  1      1      1    2       2      1     3      21       42.6066        444.320      8.0600        5.7531        10.4284
13.40     0.1305       0.0076         12.5762    1979
  1      1      1    2       2      1     4      21       45.7159        476.746      8.0600        5.7531        10.4284
13.40     0.0297       0.0076         12.5762    1979
  1      1      1    2       2      2     5      21      136.7278       1425.858      8.0600        5.7531        10.4284
13.40     1.0000       0.0076         12.5762    1979
  1      1      1    2       2      1     1      20       41.1628        478.777      8.0600        5.7531        11.6313
16.80     0.3421       0.0078         12.5762    1980
  1      1      1    2       2      1     2      20       36.3830        423.181      8.0600        5.7531        11.6313
16.80     0.4978       0.0078         12.5762    1980
  1      1      1    2       2      1     3      20       42.1693        490.484      8.0600        5.7531        11.6313
16.80     0.1305       0.0078         12.5762    1980
  1      1      1    2       2      1     4      20       45.3328        527.279      8.0600        5.7531        11.6313
16.80     0.0297       0.0078         12.5762    1980
```

```
  1      1      1    2       2      2     5      20      121.0514       1407.986      8.0600       5.7531       11.6313
16.80     1.0000       0.0078         12.5762    1980
  1      1      1    2       2      1     1      19       35.0140        452.685      8.0600       5.7531       12.9287
18.00     0.3421       0.0079         12.5762    1981
  1      1      1    2       2      1     2      19       32.0948        414.944      8.0600       5.7531       12.9287
18.00     0.4978       0.0079         12.5762    1981
  1      1      1    2       2      1     3      19       37.6002        486.121      8.0600       5.7531       12.9287
18.00     0.1305       0.0079         12.5762    1981
  1      1      1    2       2      1     4      19       40.8678        528.367      8.0600       5.7531       12.9287
18.00     0.0297       0.0079         12.5762    1981
  1      1      1    2       2      2     5      19       34.2374        442.644      8.0600       5.7531       12.9287
18.00     1.0000       0.0079         12.5762    1981
  1      1      1    2       2      1     1      18       34.6245        495.868      8.0600       5.7531       14.3213
18.30     0.3421       0.0083         12.5762    1982
  1      1      1    2       2      1     2      18       31.7174        454.234      8.0600       5.7531       14.3213
18.30     0.4978       0.0083         12.5762    1982
  1      1      1    2       2      1     3      18       37.1700        532.322      8.0600       5.7531       14.3213
18.30     0.1305       0.0083         12.5762    1982
  1      1      1    2       2      1     4      18       40.4862        579.815      8.0600       5.7531       14.3213
18.30     0.0297       0.0083         12.5762    1982
  1      1      1    2       2      2     5      18       30.9746        443.596      8.0600       5.7531       14.3213
18.30     1.0000       0.0083         12.5762    1982
  1      1      1    2       2      1     1      17       34.7696        549.771      8.0600       5.7531       15.8119
18.90     0.3421       0.0109         12.5762    1983
  1      1      1    2       2      1     2      17       31.8459        503.543      8.0600       5.7531       15.8119
18.90     0.4978       0.0109         12.5762    1983
  1      1      1    2       2      1     3      17       37.3233        590.151      8.0600       5.7531       15.8119
18.90     0.1305       0.0109         12.5762    1983
  1      1      1    2       2      1     4      17       40.7853        644.891      8.0600       5.7531       15.8119
18.90     0.0297       0.0109         12.5762    1983
  1      1      1    2       2      2     5      17       28.6147        452.452      8.0600       5.7531       15.8119
18.90     1.0000       0.0109         12.5762    1983
  1      1      1    2       2      1     1      16       24.3796        424.131      8.0600       5.7531       17.3969
18.60     0.3421       0.0152         12.5762    1984
  1      1      1    2       2      1     2      16       20.3411        353.873      8.0600       5.7531       17.3969
18.60     0.4978       0.0152         12.5762    1984
  1      1      1    2       2      1     3      16       22.6458        393.967      8.0600       5.7531       17.3969
18.60     0.1305       0.0152         12.5762    1984
  1      1      1    2       2      1     4      16       27.8520        484.540      8.0600       5.7531       17.3969
18.60     0.0297       0.0152         12.5762    1984
  1      1      1    2       2      2     5      16       30.6192        532.680      8.0600       5.7531       17.3969
18.60     1.0000       0.0152         12.5762    1984
  1      1      1    2       2      1     1      15       24.1519        460.751      8.0600       5.7531       19.0773
18.70     0.3421       0.0203         12.5762    1985
```

```
  1      1      1    2       2      1     2      15       20.2172        385.689      8.0600       5.7531       19.0773
18.70     0.4978       0.0203         12.5762    1985
  1      1      1    2       2      1     3      15       22.4220        427.750      8.0600       5.7531       19.0773
18.70     0.1305       0.0203         12.5762    1985
  1      1      1    2       2      1     4      15       27.7617        529.617      8.0600       5.7531       19.0773
18.70     0.0297       0.0203         12.5762    1985
  1      1      1    2       2      2     5      15       26.8943        513.069      8.0600       5.7531       19.0773
18.70     1.0000       0.0203         12.5762    1985
  1      1      1    2       2      1     1      14       23.5223        490.521      8.0600       5.7531       20.8535
19.60     0.3421       0.0259         12.5762    1986
  1      1      1    2       2      1     2      14       19.7850        412.586      8.0600       5.7531       20.8535
19.60     0.4978       0.0259         12.5762    1986
  1      1      1    2       2      1     3      14       21.6112        450.667      8.0600       5.7531       20.8535
19.60     0.1305       0.0259         12.5762    1986
  1      1      1    2       2      1     4      14       26.8380        559.666      8.0600       5.7531       20.8535
19.60     0.0297       0.0259         12.5762    1986
  1      1      1    2       2      2     5      14       19.9265        415.536      8.0600       5.7531       20.8535
19.60     1.0000       0.0259         12.5762    1986
  1      1      1    2       2      1     1      13       25.0889        570.160      8.0600       5.7531       22.7256
19.70     0.3421       0.0322         12.5762    1987
  1      1      1    2       2      1     2      13       21.4142        486.649      8.0600       5.7531       22.7256
19.70     0.4978       0.0322         12.5762    1987
  1      1      1    2       2      1     3      13       23.1053        525.081      8.0600       5.7531       22.7256
19.70     0.1305       0.0322         12.5762    1987
  1      1      1    2       2      1     4      13       28.8434        655.483      8.0600       5.7531       22.7256
19.70     0.0297       0.0322         12.5762    1987
  1      1      1    2       2      2     5      13       16.5150        375.313      8.0600       5.7531       22.7256
19.70     1.0000       0.0322         12.5762    1987
  1      1      1    2       2      1     1      12       18.6202        459.798      8.0600       5.7531       24.6936
19.30     0.3421       0.0388         12.5762    1988
  1      1      1    2       2      1     2      12       15.5866        384.888      8.0600       5.7531       24.6936
19.30     0.4978       0.0388         12.5762    1988
  1      1      1    2       2      1     3      12       14.9260        368.576      8.0600       5.7531       24.6936
19.30     0.1305       0.0388         12.5762    1988
  1      1      1    2       2      1     4      12       21.4096        528.681      8.0600       5.7531       24.6936
19.30     0.0297       0.0388         12.5762    1988
  1      1      1    2       2      2     5      12       14.3440        354.204      8.0600       5.7531       24.6936
19.30     1.0000       0.0388         12.5762    1988
  1      1      1    2       2      1     1      11       17.2606        461.814      8.0600       5.7531       26.7554
19.10     0.3421       0.0455         12.5762    1989
  1      1      1    2       2      1     2      11       14.4169        385.730      8.0600       5.7531       26.7554
19.10     0.4978       0.0455         12.5762    1989
  1      1      1    2       2      1     3      11       13.4456        359.742      8.0600       5.7531       26.7554
19.10     0.1305       0.0455         12.5762    1989
```

```
  1      1      1    2       2      1     4      11       19.9300        533.235      8.0600        5.7531        26.7554
19.10     0.0297       0.0455         12.5762    1989
  1      1      1    2       2      2     5      11       12.0720        322.991      8.0600        5.7531        26.7554
19.10     1.0000       0.0455         12.5762    1989
  1      1      1    2       2      1     1      10       16.3819        473.674      8.0600        5.7531        28.9145
18.90     0.3421       0.0520         12.5762    1990
  1      1      1    2       2      1     2      10       13.6517        394.733      8.0600        5.7531        28.9145
18.90     0.4978       0.0520         12.5762    1990
  1      1      1    2       2      1     3      10       12.4449        359.838      8.0600        5.7531        28.9145
18.90     0.1305       0.0520         12.5762    1990
  1      1      1    2       2      1     4      10       19.0003        549.384      8.0600        5.7531        28.9145
18.90     0.0297       0.0520         12.5762    1990
  1      1      1    2       2      2     5      10       10.7823        311.766      8.0600        5.7531        28.9145
18.90     1.0000       0.0520         12.5762    1990
  1      1      1    2       2      1     1       9       15.7262        490.189      8.0600        5.7531        31.1702
19.40     0.3421       0.0581         12.5762    1991
  1      1      1    2       2      1     2       9       13.0804        407.720      8.0600        5.7531        31.1702
19.40     0.4978       0.0581         12.5762    1991
  1      1      1    2       2      1     3       9       11.6927        364.464      8.0600        5.7531        31.1702
19.40     0.1305       0.0581         12.5762    1991
  1      1      1    2       2      1     4       9       18.3503        571.982      8.0600        5.7531        31.1702
19.40     0.0297       0.0581         12.5762    1991
  1      1      1    2       2      2     5       9       10.0683        313.833      8.0600        5.7531        31.1702
19.40     1.0000       0.0581         12.5762    1991
  1      1      1    2       2      1     1       8       14.1028        472.751      8.0600        5.7531        33.5218
19.00     0.3421       0.0637         12.5762    1992
  1      1      1    2       2      1     2       8       11.6972        392.113      8.0600        5.7531        33.5218
19.00     0.4978       0.0637         12.5762    1992
  1      1      1    2       2      1     3       8       10.2172        342.498      8.0600        5.7531        33.5218
19.00     0.1305       0.0637         12.5762    1992
  1      1      1    2       2      1     4       8       16.8336        564.293      8.0600        5.7531        33.5218
19.00     0.0297       0.0637         12.5762    1992
  1      1      1    2       2      2     5       8        8.4302        282.595      8.0600        5.7531        33.5218
19.00     1.0000       0.0637         12.5762    1992
  1      1      1    2       2      1     1       7       12.9581        466.069      8.0600        5.7531        35.9673
19.10     0.3421       0.0685         12.5762    1993
  1      1      1    2       2      1     2       7       10.7202        385.576      8.0600        5.7531        35.9673
19.10     0.4978       0.0685         12.5762    1993
  1      1      1    2       2      1     3       7        9.1684        329.762      8.0600        5.7531        35.9673
19.10     0.1305       0.0685         12.5762    1993
  1      1      1    2       2      1     4       7       15.8299        569.358      8.0600        5.7531        35.9673
19.10     0.0297       0.0685         12.5762    1993
  1      1      1    2       2      2     5       7        7.6029        273.455      8.0600        5.7531        35.9673
19.10     1.0000       0.0685         12.5762    1993
```

```
  1      1      1    2       2      1     1       6       10.6794        411.265      8.0600        5.7531        38.5100
18.90     0.3421       0.0723         12.5762    1994
  1      1      1    2       2      1     2       6        8.7568        337.223      8.0600        5.7531        38.5100
18.90     0.4978       0.0723         12.5762    1994
  1      1      1    2       2      1     3       6        7.1333        274.703      8.0600        5.7531        38.5100
18.90     0.1305       0.0723         12.5762    1994
  1      1      1    2       2      1     4       6       14.1395        544.511      8.0600        5.7531        38.5100
18.90     0.0297       0.0723         12.5762    1994
  1      1      1    2       2      2     5       6        5.3619        206.487      8.0600        5.7531        38.5100
18.90     1.0000       0.0723         12.5762    1994
  1      1      1    2       2      1     1       5        9.0480        372.300      8.0600        5.7531        41.1473
18.70     0.3421       0.0754         12.5762    1995
  1      1      1    2       2      1     2       5        7.3144        300.969      8.0600        5.7531        41.1473
18.70     0.4978       0.0754         12.5762    1995
  1      1      1    2       2      1     3       5        5.6449        232.274      8.0600        5.7531        41.1473
18.70     0.1305       0.0754         12.5762    1995
  1      1      1    2       2      1     4       5       13.0098        535.317      8.0600        5.7531        41.1473
18.70     0.0297       0.0754         12.5762    1995
  1      1      1    2       2      2     5       5        3.9574        162.837      8.0600        5.7531        41.1473
18.70     1.0000       0.0754         12.5762    1995
  1      1      1    2       2      1     1       4        7.4082        325.086      8.0600        5.7531        43.8818
19.00     0.3421       0.0777         12.5762    1996
  1      1      1    2       2      1     2       4        5.8983        258.829      8.0600        5.7531        43.8818
19.00     0.4978       0.0777         12.5762    1996
  1      1      1    2       2      1     3       4        4.2764        187.658      8.0600        5.7531        43.8818
19.00     0.1305       0.0777         12.5762    1996
  1      1      1    2       2      1     4       4       11.8626        520.554      8.0600        5.7531        43.8818
19.00     0.0297       0.0777         12.5762    1996
  1      1      1    2       2      2     5       4        3.2032        140.561      8.0600        5.7531        43.8818
19.00     1.0000       0.0777         12.5762    1996
  1      1      1    2       2      1     1       3        5.8267        272.170      8.0600        5.7531        46.7108
18.80     0.3421       0.0793         12.5762    1997
  1      1      1    2       2      1     2       3        4.5650        213.235      8.0600        5.7531        46.7108
18.80     0.4978       0.0793         12.5762    1997
  1      1      1    2       2      1     3       3        3.0774        143.746      8.0600        5.7531        46.7108
18.80     0.1305       0.0793         12.5762    1997
  1      1      1    2       2      1     4       3       10.7185        500.670      8.0600        5.7531        46.7108
18.80     0.0297       0.0793         12.5762    1997
  1      1      1    2       2      2     5       3        2.9819        139.287      8.0600        5.7531        46.7108
18.80     1.0000       0.0793         12.5762    1997
  1      1      1    2       2      1     1       2        3.9892        198.006      8.0600        5.7531        49.6351
19.00     0.3421       0.0802         12.5762    1998
  1      1      1    2       2      1     2       2        3.0392        150.851      8.0600        5.7531        49.6351
19.00     0.4978       0.0802         12.5762    1998
```

```
  1      1      1    2       2      1     3       2        1.7421        86.467      8.0600       5.7531       49.6351
19.00     0.1305       0.0802         12.5762    1998
  1      1      1    2       2      1     4       2        9.4455       468.826      8.0600       5.7531       49.6351
19.00     0.0297       0.0802         12.5762    1998
  1      1      1    2       2      2     5       2        2.7776       137.868      8.0600       5.7531       49.6351
19.00     1.0000       0.0802         12.5762    1998
  1      1      1    2       2      1     1       1        2.5210       132.751      8.0600       5.7531       52.6573
18.70     0.3421       0.0808         12.5762    1999
  1      1      1    2       2      1     2       1        1.8893        99.487      8.0600       5.7531       52.6573
18.70     0.4978       0.0808         12.5762    1999
  1      1      1    2       2      1     3       1        0.9714        51.149      8.0600       5.7531       52.6573
18.70     0.1305       0.0808         12.5762    1999
  1      1      1    2       2      1     4       1        8.6963       457.924      8.0600       5.7531       52.6573
18.70     0.0297       0.0808         12.5762    1999
  1      1      1    2       2      2     5       1        2.6044       137.143      8.0600       5.7531       52.6573
18.70     1.0000       0.0808         12.5762    1999
  1      1      1    2       2      1     1       0        1.6019        85.571      8.0600       5.7531       53.4190
18.70     0.3421       0.0202         12.5762    2000
  1      1      1    2       2      1     2       0        1.1964        63.913      8.0600       5.7531       53.4190
18.70     0.4978       0.0202         12.5762    2000
  1      1      1    2       2      1     3       0        0.5741        30.669      8.0600       5.7531       53.4190
18.70     0.1305       0.0202         12.5762    2000
  1      1      1    2       2      1     4       0        8.3065       443.726      8.0600       5.7531       53.4190
18.70     0.0297       0.0202         12.5762    2000
  1      1      1    2       2      2     5       0        2.5608       136.796      8.0600       5.7531       53.4190
18.70     1.0000       0.0202         12.5762    2000
```

Appendix 4

Comments on Draft Report

and

ADEQ Responses to Comments Received

Appendix 4a

Written Comments on Draft Report

From: Lee Comrie <LComrie@pagnet.org>
To: <domsky.ira@azdeq.gov>, <mswg@pagnet.org>
Date: 11/18/04 09:46:57
Subject: draft report VEI HB 2501 and 2294-comments

Dear Mr. Domsky:

The Pima Association of Governments (PAG) has reviewed the Draft Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles, Vehicles 25 Model Years Old, and Older prepared to meet the requirements of House Bills 2501 and 2294. The following comments are being submitted for your consideration:

1. In Section 2.2 **B** Modeling (page 13) the modeling input parameters are outlined. It should be noted that for Area B the appropriate altitude should be an average of high and low emission factors. ADEQ has confirmed that an average of high and low altitude was used but was not properly noted in the table.

2. In the same table, the winter oxygenated fuel content used was 3.5%. As outlined in the PAG CO Limited Maintenance Plan (LMP), 1.8% is the correct content and should be used for the analysis. The PAG CO LMP does include a contingency measure of incremental increases to the fuel oxygen content up to 3.5% if needed to prevent a violation. The current level remains at 1.8%.

3. In the same table, the vehicle miles traveled (VMT) for Area B used was 23,762,562 miles per day. That number should be changed to 19,382,125 miles per day for 2003, to reflect the mileage used in the 2003-07 Transportation Improvement Program analysis. This number includes local/off-system collectors.

4. In Section 2.3 **B** Analytical Methods, on page 14, the #17 footnote states ATons per day calculated form annual totals (PAG, personal communication).@ This total on-road emissions value referred to in the footnote was actually generated by ADEQ modeling results and reviewed by PAG staff. This should be reflected as such in the footnote.

5. The Technical Support Documents for Evaluating the Emissions Impacts of Exempting Collectible Vehicles and Motorcycles cite the PAG CO LMP for VMT per day for the entire fleet in Pima County, however those data are not available in that document but were obtained from personal communication with PAG staff.

We appreciate your consideration on these matters. For additional information, or if you have any questions, please contact me or Natalie Shepp at (520) 792-1093.

Sincerely,

Lee Comrie
Air Quality Planning Manager
Pima Association of Governments
177 N. Church Ave., Suite 405
Tucson, AZ 85701
Ph: (520) 792-1093 Fax: (520) 620-6981
http://www.pagnet.org
CC: <Toopal.Mohan@azdeq.gov>, nshepp@pagnet.org

From: "Coomer, Steve" <Steve.Coomer@escocorp.com>
To: <imd@azdeq.gov>, <mt1@azdeq.gov>
Date: 11/30/04 13:47:17
Subject: Review of HB 2501/HB2294, mtg 11/23/04.

Dear Ira,

I am attaching my written review of the Draft proposal and its conclusions. I have additional supporting documentation that I will be discussing with Mohan in the near future and wish only to submit this letter ahead of the 30 NOV deadline for responses.

To: Ira Domsky, Deputy Director, Air Quality Division
Mohan Toopal, ADEQ Engineer
Arizona Department of Environmental Quality (ADEQ)

From: Stephen D. Coomer, Mechanical and Manufacturing Engineer
Member: American Motorcyclist Association
Foothills Chapter (Chandler, AZ) Harley Owners Group

Subject: 23 NOV 04 meeting re: ADEQ Draft Report for HB 2501 (2002) and HB 2294 (2003)

Date: 29 NOV 2004

Dear Mr. Domsky and Mr. Toopal,

Thank you for the opportunity to attend the stakeholder meeting concerning the draft report on HB 2501 and HB 2294. My initial review of the document resulted in my belief that the values stated for motorcycle emissions were in error and indicated emissions levels approximately 7.3 times greater than actual values. Discussions held after the meeting with Mohan caused me to review the Mobile6.2 model in greater detail.

Of significant interest in the review of various Mobile models from 4.0 through the Mobile6.2 model is one simple underlying statement: "The Mobile model does not calculate any emissions benefit for subjecting motorcycles to IM (inspection and maintenance) requirements." In my research of the various versions of the model, this statement was prevalent in all documentation packages for each version. This is one of the primary reasons that most states using emissions testing have never included motorcycles in their test program. Most notably included in this group of states are Tennessee and California (the California Air Resources Board standards are the basis for all EPA test criteria nationwide). Tennessee has taken the position that their emissions

testing program cannot regulate the two largest contributors of particulate in their air: smokestacks and diesel trucks and cars. Of the states that initially included testing of motorcycles (AZ, KY, NY, NJ, among others) Arizona remains the one state that continues to test motorcycles even though the model cannot predict nor calculate any benefits for doing so.

Throughout the study, it is mentioned that motorcycles are treated as Class 3 Light Duty Vehicles (LDV) for modeling purposes. The various tables, charts, and graphs presented routinely use the term "estimated" with no definition provided for what constitutes a Class 3 LDV. As a point of comparison, the typical 4-cylinder sedan (presumably a Class 3 LDV) has an average displacement of 2.2 liters or 2200 cc's. That is almost 2.5 times the average motorcycle displacement of 900cc's. These numbers are based on a survey of compact 4-door sedans available from the manufacturers presently selling cars in the United States. The motorcycle engine displacement is based on an informal survey conducted during a recent motorcycle event in Tempe. A full report of that survey, conducted on 6 NOV 2004 at Tempe Town Lake is available upon request.

Since the engine displacement is not taken into account as an average, the output of the testing as well as the Mobile6.2 estimated IM benefits are invalid concerning motorcycles. This conclusion is based on the statements within the Mobile6.2 documentation regarding motorcycles as well as the statements contained within the ADEQ Draft document. This is further supported by the fact that emissions output is a function of the engine volume multiplied by the average operating speed and temperature of the vehicle. Fuel economy, engine loading (hp/wt ratio), air-fuel mixture ratios, and general engine condition are all factors that cannot be accurately modeled within the Mobile model.

All of these factors must be fully considered in determining the final true emissions output under nominal conditions. Most significantly, the fuel burned during combustion is the primary contributor to the total emissions of a vehicle and is a function of the fuel efficiency (in miles per gallon). The Mobile 6.2 model is limited to calculations set at 24.3 miles per gallon in the Draft Report. In actuality, an average motorcycle will routinely obtain fuel economy in the 47-53 miles per gallon range. Idle testing does not provide an accurate test output for determining true emissions produced by an engine.

Engine loading is another factor that cannot be accurately modeled with Mobile6.2 since the average engine size and vehicle weight are unknown factors. To illustrate the differences in loading, a typical LDV has a hp/wt ratio around 0.051 as compared to a typical motorcycle hp/wt ratio of 0.138. This ratio becomes even more important when fully loading the vehicle since the ratio tends to become smaller as weight is added and a

car can obviously carry much more weight than a motorcycle.

Further complicating the Mobile6.2 Estimated Benefits for motorcycles is the fact that motorcycle testing is performed as an Idle-only test. Motorcycle air-fuel mixtures tend to run slightly rich at idle compared to automobiles. The net result of this is to skew the g/mile results in emissions output, yielding numbers much higher than what the values would typically be under nominal running conditions.

For the model to be effective and representative of motorcycles, the assumptions and estimations need to be discarded in favor of developing more accurate testing techniques or correction of the mathematical model. EPA lab-certified testing has yielded valid emissions data that can be easily substituted into the model to yield more accurate results. Based upon the information within the test input and output data from the Draft appendices, the mathematical model used to 'trick' the Mobile6.2 model needs to be recalculated. As previously explained, true emissions output needs to be studied under more realistic factors related to fuel economy at nominal engine speeds and loading. By further adjusting the mathematical model to reflect an 'average' fuel economy, the emission MTPD values for motorcycles should be multiplied by .5106. This value represents the error correction for the model test input of 24.3 mpg versus an average of 47 mpg for an average motorcycle. This correction represents an average based on the test methods and data available from the Draft Study. In actuality, based upon EPA certified testing for vehicles, the average emissions reported for the 2004/2005 study indicates motorcycles contribute (on average) 12 grams per mile of CO and 1.449 grams per mile of HC. The net result of this correction would place all motorcycles within values resulting in full exemption based on the data presented within the Draft. It should be noted that the Draft initial emissions values for motorcycles are taken from an idle test where the air-fuel mixture is typically overly-rich to aid in idle operation and drive-ability.

Of further consideration in the future exemption of motorcycles is the general maintenance and engine condition of the motorcycle. Supporting the idea that motorcycles are better maintained than the "cohort fleet" are the following excerpts from the Draft. From page 18: "For motorcycles, however, it can be assumed that the vast majority of the benefit for their test and repair is outside of the 25 year old and older vehicles category. Only 8% of the motorcycles are within that cohort, and failure rates for motorcycles are much less a function of vehicle age than the failure rates for other vehicle classes." On page 19: " The vast majority of the expected emissions increases that would occur from exempting classes of vehicles from the Arizona IM requirements are associated with vehicles 25 model years and older." The report then contradicts itself a second time concerning motorcycles by

stating on page 20: "This trend may be aggravated by the fact that failure rates increase with vehicle age."

The Draft relied upon a mathematical model that used input from Idle-only testing to estimate and predict the IM benefits from continued testing of motorcycles. The Mobile6.2 model clearly states it is incapable of calculating IM benefits for motorcycles. Various states have established a precedent for the repeal of motorcycle testing due to the limitations of the Mobile model. Some of these precedents are based on motorcycles being a 'minimal' contributor due to fleet size. By contrast, the California motorcycle fleet most closely resembles the Arizona fleet in percentages and annual miles driven and has never been tested.

As stated earlier, the average emissions reported for the EPA 2004/2005 study indicates motorcycles contribute 12 grams per mile of CO and 1.449 grams per mile of HC. These numbers are based on laboratory testing performed in real world conditions using dynamometers and gas sampling/analysis systems certified by the EPA. By comparison, the ADEQ idle-only test 'estimated' emissions of motorcycles yields 31.6 grams/mile CO and 5.42 grams/mile of HC. These numbers reflect an average ADEQ test error (from assumptions based on idle data) of 62% for CO emissions and 72% for HC emissions. The EPA test data includes all of the metric motorcycle manufacturers as well as Harley-Davidson and the various 'American-other' motorcycle manufacturers. As a comprehensive test fleet, the EPA numbers reflect emissions values that could be representative of the average motorcycle in the ADEQ cohort fleet calculations.

Given all of the above discussion, it is my belief that Arizona is spending more on the operation of the program than it is gaining in tangible benefits to the environment. This can be supported by the diminished 'actual' contributions made by motorcycles to emissions in areas A and B as defined in the ADEQ Draft Study. This reduced level of emissions can be verified by substituting the certified EPA values for the 'estimated' ADEQ values in the equations presented within the study. Accordingly, Arizona should work toward discontinuing the motorcycle emissions testing program in an effort of being responsible to the citizens subsidizing this program.

I have appreciated discussing this issue with both of you and look forward to further review and data sharing in the near future.

Regards,

Stephen D. Coomer, Mfg. Eng.
ESCO IMG Tempe
DID: 480.344.1415
Tel: 480.968.1647x361
Fax: 480.894.1727

Charter Member, Past Charter Safety Officer
Foothills Chapter, Harley Owners Group
Chandler, AZ

AMA Member

CC: <isza uter@ama-cycle.org>, <bobbij2@earthlink.net>, <sjd3@cox.net>, <rayofaz@cox.net>, <priestmma@cox.net>, smusblulgt@aol.com

AZDEQ Air Quality 30 Nov 2004
1110 W. Washington St.
Phoenix, AZ 85007

Re: HB2501/HB2294 Draft Report

Dear AZDEQ:

These comments are submitted in addition to comments made at the Draft Report review meeting on 11-23-04.

I support exempting 25 year and older vehicles from emissions testing, as the testing process is counterproductive for many vehicles that are driven only to testing and back or not driven at all in some years. The testing requirement causes extreme hardship on those who have multiple vehicles of minimal use. Some 25 year and older vehicles have been tested as many as 30 times over 30 years. There needs to be an end in sight.

I also support exempting motorcycles from testing. No other state tests motorcycles, and the testing does not provide any consideration from the EPA.

I do not support the current definition of Collectible Vehicle as defined in this report it is far too narrow to be a reasonable and fair definition. The insurance requirement excludes many similar use vehicles that have the same or less environmental impact.

My overall impression is that the impact of terminating emissions testing on vehicles 25 years and older is overestimated by the data used in the modeling. My feeling is that the modeled benefit of testing for CO is 3 to 10 times higher than real world experience would show. Here are some possibilities that I have considered:

1) The estimated deterioration factor may be too high as it does not take into account that the vehicle had been tested for 24 years (or more) prior to the exemption. It is not a vehicle with 25 years of deterioration.
2) The estimated benefit of testing may not accurately predict the reduction due to the testing requirement only and may be "claiming" benefits that occur for other reasons. For example, if a vehicle fails testing by 0.5%, the maximum benefit from testing can only be the 0.5% above the standard, even though the follow-on passing test may indicate reduction below the standard. Testing can only claim a benefit to the standard, not any benefit below the standard.
3) The annual mileage estimates for the 25 year and older vehicles may be overestimated substantially. Most 25 year and older vehicles are non-primary vehicles and are driven far less than primary vehicles.
4) Most real world validating studies, such as those that used remote sensing, showed little or no difference from tested vs. untested vehicles. This would indicate that the testing benefits do not represent the fleet averages.

However, if the modeling is to be used as it is and counterbalancing emissions reduction benefits are to be used to provide a 25 year and older exemption, I would like to have

sufficient additional data included in the report to enable comparative analysis. Please include the following in the report:

1) HC and CO benefits of testing the first 5 year age vehicles in each of Area A and Area B.
2) HC and CO benefits of testing vehicles in Green Valley for Area B.
3) Comparative data for HC and CO impact of exempting 25 years and older (from at least 2 other states that have exempted 25 years and older).
4) Comparative data for HC and CO impact of the existing exemption for 1966 and older vehicles.
5) Copy of the vehicle registration database data from MVD that was used in the modeling.

My conclusion is that the impact of exempting 25 year and older vehicles (even with the current modeled data) is less than 1% in both Area A and Area B and should be adopted. This is especially so in Area B, where there is no actual need for testing at all.

If the presumed benefit of testing must be compensated by other means, then including the first 5-year age vehicles into testing should be adopted. Now that all those vehicles are using OBD II for testing, the benefit for air quality should be far more than the redundant continued testing of 25 year and older vehicles.

I will continue to review the data in the Draft Report and the final version and provide my input to the legislative process to recommend a fair and equitable emissions testing policy for the citizens of Arizona.

Thank you for your consideration.

Mark C. Spear
Automobile Hobbyist
7855 E. Pinon Circle
Tucson, AZ 85712

520-795-9050 Day
520-795-9083 Fax
520-419-4364 Cell

cc: State Senator Tim Bee
cc: State Representative Marian McClure
cc: State Representative Russell Pearce

Appendix 4b

Responsiveness Summary

RESPONSIVENESS SUMMARY

Draft Report on Potential Exemptions from Vehicle Emissions Testing for Motorcycles, Collectible Vehicles and Vehicles 25 Model Years Old and Older

The report was made available to stakeholders on November 9, 2005, and was the subject of a public meeting on November 23, 2005. Three comment letters were received by the November 30, 2005, deadline. ADEQ's responses to oral and written comments follow.

Oral Comments Received at the Public Meeting

Comment: Correct the miles per day per vehicle on Page 5 and the Table on Page 16 and compare to Appendix 2B to ensure consistency.

Response: These corrections were made

Comment: Add to the list of equivalent measures the concept of pollution credit banking and trading for use of clean new vehicles, similar to trading programs for industry.

Response: While banking and trading pollution credits from mobile sources may be a good idea, several obstacles exist to providing information on and implementation of such an emissions control program.

First, no ready evaulation is available that would provide an estimate of potential emissions benefits for the greater Phoenix or Tucson areas, and ADEQ has insufficient time to conduct its own evaluation. Without that information, it would not be possible to determine if additional control measures would be needed replace the emissions reductions currently credited for requiring these classes of vehicles to comply with emissions inspections law.

Second, EPA guidance on mobile source emissions credit banking and trading programs includes numerous restrictions on the documentation and use of such credits. Only one or two programs have ever been approved by EPA. In all cases, EPA required states to have those credits expire in 5 years or less. EPA justifications for these restrictions include the potential for and ease of the cleaner vehicles leaving the nonattainment area, difficulties associated with documenting continuous compliance with lower emission limits and that mobile source emissions controls are much less durable than stationary source controls.

Comment: Include the Voluntary Vehicle Repair and Retrofit Program in the list of potential controls.

Response: It is already included in Table 3 of the Report.

Lee Comrie, Pima Association of Governments

Comment: In Section 2.2 – Modeling (page 13) the modeling input parameters are outlined. It should be noted that for Area B the appropriate altitude should be an average of high and low emission factors. ADEQ has confirmed that an average of high and low altitude was used but was not properly noted in the table.

Response: ADEQ will make necessary edits in the report.

Comment: In the same table, the winter oxygenated fuel content used was 3.5%. As outlined in the PAG CO Limited Maintenance Plan (LMP), 1.8% is the correct content and should be used for the analysis. The PAG CO LMP does include a contingency measure of incremental increases to the fuel oxygen content up to 3.5% if needed to prevent a violation. The current level remains at 1.8%.

Response: ADEQ will model with the new oxygenate content (1.8%) for Area B for the winter season.

Comment: In the same table, the vehicle miles traveled (VMT) for Area B used was 23,762,562 miles per day. That number should be changed to 19,382,125 miles per day for 2003, to reflect the mileage used in the 2003-07 Transportation Improvement Program analysis. This number includes local/off-system collectors.

Response: ADEQ will apply the new VMT figure to a revised analysis. It should be noted that the reduction in VMT has not resulted in a significant deviation from the original result.

Comment: In Section 2.3 – Analytical Methods, on page 14, the #17 footnote states "Tons per day calculated form annual totals (PAG, personal communication)." This total on-road emissions value referred to in the footnote was actually generated by ADEQ modeling results and reviewed by PAG staff. This should be reflected as such in the footnote.

Response: This number was derived from ADEQ's modeling after concurring on the inputs and available data with PAG. This will be reflected in the footnote.

Comment: The Technical Support Documents for Evaluating the Emissions Impacts of Exempting Collectible Vehicles and Motorcycles cite the PAG CO LMP for VMT per day for the entire fleet in Pima County, however those data are not available in that document but were obtained from personal communication with PAG staff.

Response: The report will be edited appropriately.

Stephen D. Coomer

Comment: One of the primary reasons that most states using emissions testing have never included motorcycles in their test program is because the MOBILE model does not calculate a benefit for testing motorcycles. Various states have established a precedent for the repeal of motorcycle testing due to the limitations of the Mobile model.

Response: The reason MOBILE6 does not include IM benefits for motorcycles is that EPA developed the model based on the national averages for vehicle fleets and their usage. The average mass emissions for motorcycles is insignificant as compared to the rest of the fleet in most of the other states. This is reflected in EPA requirements for IM programs, as motorcycle testing was not mandated for either basic or enhanced programs. It is speculative, however, to assign motivation for not testing motorcycles to the performance of the model; states tend to make decisions on pollution control measures based more upon a wider variety of factors, including the amount and cost-effectiveness of emissions reductions, ability to adequately implement and enforce the controls, and their public acceptability. Motorcycles were included in the Arizona IM program by the Legislature based on, among other things, the need for the emissions reductions that could be achieved.

Comment: Throughout the study, it is mentioned that motorcycles are treated as Class 3 Light Duty Vehicles (LDV) for modeling purposes. The various tables, charts, and graphs presented routinely use the term "estimated" with no definition provided for what constitutes a Class 3 LDV. As a point of comparison, the typical 4-cylinder sedan (presumably a Class 3 LDV) has an average displacement of 2.2 liters or 2200 cc's. That is almost 2.5 times the average motorcycle displacement of 900cc's. Since the engine displacement is not taken into account as an average, the output of the testing as well as the Mobile6.2 estimated IM benefits are invalid concerning motorcycles.

Response: The Class 3 category is the smallest LDV's tested: those with four or fewer cylinder engines and a gross vehicle weight rating (GVWR) of 6,000 pounds or less. This clarification will be made in the Report. This approach was taken to obtain a result from the model as to the benefits that would be expected for subjecting these vehicles to the same test applied to motorcycles in Arizona: idle only. Modeled results had to be adjusted to account for the emissions differences between Class 3 LDVs and motorcycles.

Comment: Emissions output is a function of the engine volume multiplied by the average operating speed and temperature of the vehicle. Fuel economy, engine loading (hp/wt ratio), air-fuel mixture ratios, and general engine condition are all factors that cannot be accurately modeled within the Mobile model. All of these factors must be fully considered in determining the final true emissions output under nominal conditions. Most significantly, the fuel burned during combustion is the primary contributor to the total emissions of a vehicle and is a function of the fuel efficiency (in miles per gallon). Engine loading is another factor that cannot be accurately

modeled with Mobile6.2 since the average engine size and vehicle weight are unknown factors.

Response: This is only true if one considers emissions as they emerge from engine, *all things being equal.* The addition of post-combustion control technologies, like catalytic converters, changes the emissions profile so that displacement and operating speed may be independent of emissions. That is why a luxury sedan with a giant 8-cylinder engine achieving 12 miles/gallon can meet the same tailpipe standard as a 3-cylinder subcompact engine achieving 37 miles/gallon. The age and state of repair of an engine are extremely important factors and more apropos to this analysis and the purpose of IM programs. Further, the MOBILE models are not designed to analyze specific vehicles, but to provide an estimate of emissions for vehicle fleets. The data bases relied upon by EPA in developing this model take all of these factors into account, as they would occur across the vehicle fleet.

Comment: The Mobile 6.2 model is limited to calculations set at 24.3 miles per gallon in the Draft Report. In actuality, an average motorcycle will routinely obtain fuel economy in the 47-53 miles per gallon range.

Response: This mileage figure primarily an artifact of how the analysis was done, is not a specific reflection of motorcycle emissions, nor is it particularly relevant. See prior responses.

Comment: Idle testing does not provide an accurate test output for determining true emissions produced by an engine.

Response: ADEQ agrees. It does, however, provide an adequate indicator of the state of repair of an engine, which is why the test is administered. The vast majority of vehicles failing an idle test require either repair (including proper tuning of ignition system and air-fuel ratio or adjustment).

Comment: Further complicating the Mobile6.2 Estimated Benefits for motorcycles is the fact that motorcycle testing is performed as an Idle-only test. Motorcycle air-fuel mixtures tend to run slightly rich at idle compared to automobiles. The net result of this is to skew the g/mile results in emissions output, yielding numbers much higher than what the values would typically be under nominal running conditions.

Response: MOBILE6.2 emissions factors for motorcycles were developed based on transient loaded dynamometer testing, which also includes, but does not rely exclusively on, idle emissions. The idle-only test emissions standards are designed to allow for some variation in idle fuel mixture. Motorcycles with idle emissions high enough to fail are grossly out of adjustment or in need of repair.

Comment: For the model to be effective and representative of motorcycles, the assumptions and estimations need to be discarded in favor of developing more accurate testing techniques or correction of the mathematical model. EPA lab-certified testing has yielded valid emissions data that can be easily substituted into the model to yield results that are more accurate. Based upon the information within the test input and output data from the Draft appendices, the mathematical model used to 'trick' the Mobile6.2 model needs to be recalculated.

Response: Those data were relied upon to develop the motorcycle emissions factors in the MOBILE model. Additional data cannot be obtained in the near term nor are they likely to be developed. Absent the type of rigorous laboratory comparison of motorcycles subject to emissions inspections and those not, it is not possible to do any analysis significantly different than what was performed.

Comment: By further adjusting the mathematical model to reflect an 'average' fuel economy, the emission MTPD values for motorcycles should be multiplied by .5106. This value represents the error correction for the model test input of 24.3 mpg versus an average of 47 mpg for an average motorcycle. This correction represents an average based on the test methods and data available from the Draft Study.

Response: Fuel economy is not relevant to the way this analysis was done (see above comment and ADEQ response). Consequently, that adjustment factor will not be used.

Comment: In actuality, based upon EPA certified testing for vehicles, the average emissions reported for the 2004/2005 study indicates motorcycles contribute (on average) 12 grams per mile of CO and 1.449 grams per mile of HC. The net result of this correction would place all motorcycles within values resulting in full exemption based on the data presented within the Draft.

Response: Notwithstanding the source of this information, average emission rate from the analysis for motorcycles is 12.98 g/mile for CO and 1.97 g/mile for HC which compares well with the one specified in the comment.

Comment: Of further consideration in the future, exemption of motorcycles is the general maintenance and engine condition of the motorcycle. Supporting the idea that motorcycles are better maintained than the "cohort fleet" are the following excerpts from the Draft. From page 18: "For motorcycles, however, it can be assumed that the vast majority of the benefit for their test and repair is outside of the 25 year old and older vehicles category. Only 8% of the motorcycles are within that cohort, and failure rates for motorcycles are much less a function of vehicle age than the failure rates for other vehicle classes."

Response: Following the context of the report, the cited paragraph, "…For motorcycles, however … ", is a sequel to the comparison of collectible vehicles with 25 year old vehicles. The "cohort fleet" in the context of the report is clearly a comparison of a

mere 8% of motorcycles that are 25 years old and older with a much larger fleet. This essentially means that the failure rate of motorcycles 25 years old and older cannot be compared with that of other vehicles of the same age, due to the insignificant size of the motorcycle fleet of that age group.

Comment: On page 19: "The vast majority of the expected emissions increases that would occur from exempting classes of vehicles from the Arizona IM requirements are associated with vehicles 25 model years and older." The report then contradicts itself a second time concerning motorcycles by stating on page 20: "This trend may be aggravated by the fact that failure rates increase with vehicle age."

Response: The second sentence is taken completely out of context, as there are additional paragraphs and discussion of a figure between the statement excerpted from page 19 and the one from page 20. Because the statement from page 20 applies to the previous statement, also on page 20, no contradiction exists.

Comment: As stated earlier, the average emissions reported for the EPA 2004/2005 study indicates motorcycles contribute 12 grams per mile of CO and 1.449 grams per mile of HC. These numbers are based on laboratory testing performed in real world conditions using dynamometers and gas sampling/analysis systems certified by the EPA. By comparison, the ADEQ idle-only test 'estimated' emissions of motorcycles yields 31.6 grams/mile CO and 5.42 grams/mile of HC. These numbers reflect an average ADEQ test error (from assumptions based on idle data) of 62% for CO emissions and 72% for HC emissions. The EPA test data includes all of the metric motorcycle manufacturers as well as Harley-Davidson and the various"American-other" motorcycle manufacturers. As a comprehensive test fleet, the EPA numbers reflect emissions values that could be representative of the average motorcycle in the ADEQ cohort fleet calculations.

Response: The figures alluded to are documented within the report as being derived from MOBILE6.2, not the Arizona IM program. We have discovered that the 31.6 grams/mile CO and 5.42 grams/mile of HC numbers came from MOBILE5a. This error in the report will be corrected and MOBILE6.2 numbers inserted.

<u>Mark Spear</u>

Comment: My overall impression is that the impact of terminating emissions testing on vehicles 25 years and older is overestimated by the data used in the modeling. My feeling is that the modeled benefit of testing for CO is 3 to 10 times higher than real world experience would show. The estimated deterioration factor may be too high as it does not take into account that the vehicle had been tested for 24 years (or more) prior to the exemption. It is not a vehicle with 25 years of deterioration.

Response: No data were offered to support this contention. Regardless of the number of years a vehicle has been subject to emissions testing engines, fuel systems and emissions control equipment continue to deteriorate. This is amply demonstrated with the

failure rates for this cohort of vehicles, which are relatively consistent and more than double the fleet average in both Areas A and B.

Comment: The estimated benefit of testing may not accurately predict the reduction due to the testing requirement only and may be "claiming" benefits that occur for other reasons. For example, if a vehicle fails testing by 0.5%, the maximum benefit from testing can only be the 0.5% above the standard, even though the follow-on passing test may indicate reduction below the standard. Testing can only claim a benefit to the standard, not any benefit below the standard.

Response: By the same token, the benefits of identifying and repairing vehicles failing by large margins are considerably greater. The MOBILE model calculates IM benefit as a reduction in the average emission level for a given class of vehicles. These benefit estimates are based upon large data set of individual testing results, which takes into account the variation found in the fleet.

Comment: The annual mileage estimates for the 25-year and older vehicles may be overestimated substantially. Most 25 year and older vehicles are non-primary vehicles and are driven far less than primary vehicles.

Response: No data exist to either substantiate or refute this contention. The relationships between vehicle age and annual mileage included in the MOBILE model are based upon national survey data. In the absence of reliable data, ADEQ must rely on these default mileage relationships for calculating emissions.

Comment: Most real world validating studies, such as those that used remote sensing, showed little or no difference from tested vs. untested vehicles. This would indicate that the testing benefits do not represent the fleet averages.

Response: No similar evaluation has been performed for the Arizona IM program, which is substantially different from those evaluated in the remote sensing studies to which the commenter refers. The Arizona program underwent a rigorous review in 1999, which also relied on real world data, including remote sensing. See "Using Program Test Result Data to Evaluate the Phoenix I/M Program," Tom Wenzel, Lawrence Berkeley National Laboratory (undated, but submitted to the Joint Legislative Oversight Committee on Vehicle Emissions Testing in the spring of 1999). The report provides a rigorous analysis of the substantial emissions reduction benefits for the program.

Comment: If the modeling is to be used as it is and counterbalancing emissions reduction benefits are to be used to provide a 25-year and older exemption, I would like to have sufficient additional data included in the report to enable comparative analysis. Please include the following in the report:

1) HC and CO benefits of testing the first 5-year age vehicles in each of Area A and Area B.

2) HC and CO benefits of testing vehicles in Green Valley for Area B.

3) Comparative data for HC and CO impact of exempting 25 years and older (from at least 2 other states that have exempted 25 years and older).

4) Comparative data for HC and CO impact of the existing exemption for 1966 and older vehicles.

5) Copy of the vehicle registration database data from MVD that was used in the modeling.

Response:

1) Repealing the exemption for vehicles 1 through 5 model years old has been evaluated and included in the list of potential control measures.

2) We will determine if we can acquire sufficient data to generate such an evaluation. If the analysis can be conducted, it will not be completed in before the deadline for submitting this Report.

3) Because benefits of IM programs vary depending on the stringency of the IM program, elevation, climatic factors, driving patterns, fleet distributions and other factors, valid comparisons of other state and local IM programs with those in Arizona may not be possible. This is illustrated in the difference in emissions benefits between Areas A and B for the same classes of vehicles. We will, however, determine if such evaluations exist and how relevant they may be to Arizona. Any such information will not be available in time to incorporate it into the Report.

4) Such data, if they exist, would be irrelevant, as these vehicles are not subject to testing.

5) We will provide the data used in the analysis. It should be noted that MVD data could not be used in this analysis because MVD lumps all vehicles 25 year old and older into one category. VEI data were used.

APPENDIX C

Collectible Vehicle Insurance and Registration Procedures

HYPOTHETICAL COLLECTIBLE VEHICLE INSURANCE AND REGISTRATION PROCEDURES

1. Insurer submits Collectible insurance

Insurer submits collectible type policy or binder via X12 format
Manual insurance transaction will also allow entry of new insurance type

MVD enters Ins type on MI database
This entry will automatically place a SC38 on the vehicle in a non attainment area for a 1967 and newer

Vehicle will not require emission test on future renewal

2. Insurer submits cancellation or non renewal of Collectible insurance

30 days after receipt from Insurer of cancellation/nonrenewal MVD will generate a MI Insurance Verification/Collectible Classic Notification to owner. Owner has **14** days to submit new policy
Failure will result in cancellation of registration and emission exemption status

Coll/Class type policy is received within **30** days
MI database is updated with insurance data
SC38 remains on vehicle No further action taken

30 days have passed and required insurance is not received
MVD will generate a MI Registration and Cancellation Notification
and delete the SC38 and place a SC86 on vehicle record

If vehicle is expired the SC38 will be deleted and no further action taken

3. Insurer submits LIAB only over existing Coll/class insurance

Vehicle record has SC38 and Coll/Class insurance type
New policy/binder for LIAB is submitted

Vehicle record has valid emission for registration cycle SC38 is systematically deleted with no further MI action. Future renewals will prompt for emission test required

Currently registered vehicle has no emission for registration cycle
Insurance has been issued with LIAB to replace Coll/Class insurance.
30 days after receipt of LIAB MI will generate Insurance Verification/ Collectible Classic Notification to owner stating they have **14** days to submit new policy for Coll/Class type Failure to submit required emission or Coll/Class Insurance will result in cancellation of registration and emission exemption status

4. Vehicle record that has a SC86

Customer comes into MVD with required emission test	If VEI not updated on vehicle record CSR must enter emission test data CSR manually voids or closes the cancellation and enters LIAB insurance type 1. If proof of Insurance covers lapse void the cancellation 2. If proof does not cover lapse close the cancellation and a reinstatement fee is due
Customer comes into MVD with new Coll/Class Policy Insurance card with dates of no lapse in coverage	CSR verifies Coll/Class Insurance is presented for emission exempt status and voids the cancellation with appropriate comments which deletes the SC86 CSR manually enters the Coll/Class insurance which places SC38
Customer comes into MVD with new Coll/Class Policy Insurance card and there is a lapse in coverage	CSR verifies Coll/Class Insurance is presented for emission exempt and closes the cancellation with appropriate comments which deletes the SC86 CSR manually enters (MBPOL) Coll/Class Insurance type which places SC38

5. Transfer of Ownership on a vehicle with a SC38

MVRAT will automatically delete the existing SC38

New owner must provide Coll/Class Insurance for emission exemption
MVRAT will allow entry of SC38 and not prompt for VEI in non attainment area
MBPOL will allow entry of new Coll/Class Insurance type

6. Transfer of Title/Ownership on Out of State vehicle

EVREG/MVTFP will allow SC38 to be placed

Owner must provide Coll/Class Insurance for emission exempt
EVREG/MVTFP will allow entry of SC38 and not prompt for VEI in non attainment area
MBPOL will allow entry of new Coll/Class Insurance type

7. Coll/Class vehicle being registered from a Title only

MVREG will allow SC38 to be placed

Owner must provide Coll/Class Insurance for emission exempt
MVREG will allow entry of SC38 and not prompt for VEI in non attainment area
MBPOL will allow entry of new Coll/Class Insurance type

LEGEND

VEI	Vehicle emission inspection
MI	Mandatory Insurance
Coll/Class	New insurance type to identify Collectible or Classic insurance on file
SC38	Emission Exempt Collectible/Classic Insurance on File
SC86	Suspension or cancellation of registration / Reinstatement fee due
MVRAT	Modify existing Title and Registration record
EVREG	Create a new Title and Registration record on database
MVTFP	Create a new Title and Registration record from an existing permit on the database
MVREG	Register a vehicle record on the database
MBPOL	Mandatory Insurance transaction that’s allows updates and modification to the database

APPENDIX D

Conformity Test Results for Maricopa County

Appendix D: CONFORMITY TEST RESULTS FOR CO, VOC, NOx, AND PM-10 (metric tons per day)															
Pollutant	**Carbon Monoxide [a]**		**One-Hour Ozone [b]**				**Eight-Hour Ozone [c]**						**PM-10 [d]**		
Year - Scenario	**2006**	**2015**	**2006 VOC**	**2006 NOx**	**2015 VOC**	**2015 NOx**	**2002 Baseline VOC [e]**	**2002 Baseline NOx [e]**	**2006 VOC [f]**	**2006 NOx [f]**	**2015 VOC [f]**	**2015 NOx [f]**	**Onroad Mobile**	**Road Construction**	**2006 Total PM-10**
Budget or Test	*699.7*	*662.9*	*71.9*	*104.8*	*48.7*	*53.6*	*84.5*	*137.4*	*71.8*	*104.7*	*48.7*	*53.6*	*N/A*	*N/A*	*59.7*
2006 — Action	542.8		60.3	100.3			64.2	112.2	60.3	100.2			49.4	0.3	49.7
2009 — Action	489.7		51.3	80.0			54.8	89.3	51.2	79.9			47.9	0.3	48.2
2015 — Action		454.9			38.7	47.3	41.7	52.5			38.6	47.3	48.6	0.3	48.9
2016 — Action		451.8			37.7	43.4	40.8	48.2			37.7	43.4	48.7	0.3	49.0
2026 — Action		471.8			30.6	27.4	34.7	31.3			30.6	27.4	53.4	0.3	53.7

a The Carbon Monoxide Maintenance Plan established a 2006 budget and a 2015 budget. The onroad mobile source emissions correspond to a Friday in December episode day conditions.

b The One-Hour Ozone Maintenance Plan established a 2006 budget and a 2015 budget. The onroad mobile source emissions reflect a Tuesday in August episode day conditions.

c The Eight-Hour Ozone conformity tests consist of 2002 baseline emissions for the eight-hour ozone nonattainment area and adjusted one-hour ozone emission budgets for 2006 and 2015.

d The Revised MAG 1999 Serious Area Particulate Plan for PM-10 established a 2006 emissions budget corresponding to an average annual day.

e No-greater-than-2002 baseline emissions test for the eight-hour ozone nonattainment area.

f Budget test for the adjusted one-hour ozone nonattainment area.

Source: 2005 MAG Conformity Analysis for the FY 2006-2010 Transportation Improvement Program and Regional Transportation Plan - 2005 Update, May 2005

APPENDIX E

State Implementation Plan Revision Public Comment and Hearing Documentation

APPENDIX E.1

Notice of Public Hearings

STAR PUBLISHING COMPANY

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Janice Anderson, being first duly sworn deposes and says: that she is the Legal Advertising Representative of the **STAR PUBLISHING COMPANY**, a corporation organized and existing under the laws of the State of Arizona, and that the said **STAR PUBLISHING COMPANY** prints and publishes The Arizona Daily Star, a daily newspaper printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached

Legal Notice

was printed and published correctly in the entire issue of the said The Arizona Daily Star on each of the following dates, to-wit:

October 20, 21, 2005

Janice Anderson

Subscribed and sworn to before me this 21st day of October, 2005

Caleuda S Hernandez
Notary Public

CALEUDA S HERNANDEZ
Notary Public – Arizona
Pima County
Expires 03/07/06

My commission expires

TNI AD NO. 4223561

PUBLIC NOTICE
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY PUBLIC HEARINGS ON PROPOSED REVISIONS TO THE ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP) TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA VEHICLE EMISSIONS INSPECTION PROGRAMS

The Arizona Department of Environmental Quality (ADEQ) will hold public hearings to receive comments on proposed changes to Arizona's vehicle emissions inspection and maintenance programs. In 2005, the Arizona Legislature passed House Bill 2357, which exempts collectible vehicles in the Phoenix and Tucson testing areas and exempts motorcycles in the Tucson testing area. ADEQ will submit a revised SIP to the U.S. Environmental Protection Agency (EPA) to reflect the legislative exemption.

A public hearing on the proposed SIP revision will be held on Monday, November 28, 2005, 1:30 p.m., Arizona Department of Environmental Quality, Conference Room 145, 1110 West Washington Street, Phoenix, Arizona. A second hearing will be held on Wednesday, November 30, 2005, 2:00 p.m., Arizona Department of Environmental Quality, Southern Regional Office, Conference Room 444, 400 West Congress Street, Tucson, Arizona. All interested parties will be given an opportunity at the public hearings to submit relevant comments, data, and views, orally and in writing. All written comments must be received at ADEQ by 5 p.m. on Wednesday, November 30, 2005, or e-mailed or postmarked before 12:00 a.m., Thursday, December 1, 2005.

All written comments should be addressed, faxed, or e-mailed to:

Bruce Friedl
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85012-2905
FAX: (602) 771-2366
E-Mail:
friedl.bruce@azdeq.gov

Copies of the proposed SIP revision will be available for review beginning October 21, 2005, on ADEQ's website at http://www.carcare.azdeq.gov and at the following locations:

Arizona Department of Environmental Quality
First Floor Library
1110 W. Washington St.
Phoenix, Arizona 85012
Lorraine Cona,(602)771-2217,
and
Arizona Department of Environmental Quality
Southern Regional Office
400 W. Congress St.,Suite 433
Tucson, AZ 85701
Gloria Munoz, (520) 628-6733.

Publish October 20, 21, 2005
The Arizona Daily Star
Tucson Citizen

AIR QUALITY DIVISION

05 OCT 27 PM 12: 26

THE ARIZONA REPUBLIC

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

Diana Chavez, being first duly sworn, upon oath depo
and says: That she is a legal advertising representative of
Arizona Business Gazette, a newspaper of gene
circulation in the county of Maricopa, State of Arizo
published at Phoenix, Arizona, by Phoenix Newspapers In
which also publishes The Arizona Republic, and that
copy hereto attached is a true copy of the advertisem
published in the said paper on the dates as indicated.

The Arizona Republic

October 20, 21, 2005

Sworn to before me this
24TH day of
October A.D. 2005

PUBLIC NOTICE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY PUBLIC HEARINGS ON PROPOSED REVISIONS TO THE ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP) TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA VEHICLE EMISSIONS INSPECTION PROGRAMS

The Arizona Department of Environmental Quality (ADEQ) will hold public hearings to receive comments on proposed changes to Arizona's vehicle emissions inspection and maintenance programs. In 2005, the Arizona Legislature passed House Bill 2357, which exempts collectible vehicles in the Phoenix and Tucson testing areas and exempts motorcycles in the Tucson testing area. ADEQ will submit a revised SIP to the U.S. Environmental Protection Agency (EPA) to reflect the legislative exemption.

A public hearing on the proposed SIP revision will be held on Monday, November 28, 2005, 1:30 p.m., Arizona Department of Environmental Quality, Conference Room 145, 1110 West Washington Street, Phoenix, Arizona. A second hearing will be held on Wednesday, November 30, 2005, 2:00 p.m., Arizona Department of Environmental Quality, Southern Regional Office, Conference Room 444, 400 West Congress Street, Tucson, Arizona. All interested parties will be given an opportunity at the public hearings to submit relevant comments, data, and views, orally and in writing. All written comments must be received at ADEQ by 5 p.m. on Wednesday, November 30, 2005, or e-mailed or postmarked before 12:00 a.m., Thursday, December 1, 2005.

All written comments should be addressed, faxed, or e-mailed to:

Bruce Friedl Air Quality Planning Section Arizona Department of Environmental Quality 1110 W. Washington St. Phoenix, AZ 85012-2905
FAX: (602) 771-2366
E-Mail: friedl.bruce@azdeq.gov.

Copies of the proposed SIP revision will be available for review beginning October 21, 2005, on ADEQ's website at http://www.carcare.azdeq.gov and at the following locations:

Arizona Department of Environmental Quality First Floor Library 1110 W. Washington St. Phoenix, Arizona 85012
Lorraine Cona, (602) 771-2217,
and Arizona Department of Environmental Quality
Southern Regional Office
400 W. Congress St., Suite 433
Tucson, AZ 85701
Gloria Munoz, (520) 628-6733.

05666-October 20, 21, 2005

APPENDIX E.2

Public Hearing Agendas

Public Hearing Agenda

AIR QUALITY DIVISION

PUBLIC HEARING
on
PROPOSED REVISIONS TO THE
ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP)
TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA VEHICLE EMISSIONS INSPECTION PROGRAMS

PLEASE NOTE THE MEETING LOCATION AND TIME:

Arizona Department of Environmental Quality
Conference Room 145
1110 West Washington Street, Phoenix, Arizona
Monday, November 28, 2005, 1:30 p.m.

Pursuant to 40 CFR § 51.102 notice is hereby given that the above referenced meeting is open to the public.

Copies of the proposal are available for review at the Arizona Department of Environmental Quality (ADEQ) Library, 1110 W. Washington St., Phoenix, Arizona, ADEQ Southern Regional Office, 400 W. Congress St., Tucson, Arizona, and ADEQ's website at http://www.carcare.azdeq.gov.

1. Welcome and Introductions

2. Purposes of the Oral Proceeding

3. Procedure for Making Public Comment

4. Brief Overview of the proposed SIP revision

5. Question and Answer Period

6. Oral Comment Period

7. Adjournment of Oral Proceeding

For additional information regarding the hearing please call Bruce Friedl, ADEQ Air Quality Division, at (602) 771-2259 or 1-800-234-5677, Ext. 771-2259.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Dan Flukas at (602) 771-4795 or 1-800-234-5677, Ext. 7714795. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 771-4829.

Printed on recycled paper

Public Hearing Agenda

AIR QUALITY DIVISION

PUBLIC HEARING
on
PROPOSED REVISIONS TO THE
ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP)
TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA VEHICLE EMISSIONS INSPECTION PROGRAMS

PLEASE NOTE THE MEETING LOCATION AND TIME:

Arizona Department of Environmental Quality
Southern Regional Office, Conference Room 444
400 West Congress Street, Tucson, Arizona
Wednesday, November 30, 2005, 2:00 p.m.

Pursuant to 40 CFR § 51.102 notice is hereby given that the above referenced meeting is open to the public.

Copies of the proposal are available for review at the Arizona Department of Environmental Quality (ADEQ) Library, 1110 W. Washington St., Phoenix, Arizona, ADEQ Southern Regional Office, 400 W. Congress St., Tucson, Arizona, and ADEQ's website at http://www.carcare.azdeq.gov.

1. Welcome and Introductions

2. Purposes of the Oral Proceeding

3. Procedure for Making Public Comment

4. Brief Overview of the proposed SIP revision

5. Question and Answer Period

6. Oral Comment Period

7. Adjournment of Oral Proceeding

For additional information regarding the hearing please call Bruce Friedl, ADEQ Air Quality Division, at (602) 771-2259 or 1-800-234-5677, Ext. 771-2259.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Dan Flukas at (602) 771-4795 or 1-800-234-5677, Ext. 7714795. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 771-4829.

Printed on recycled paper

APPENDIX E.3

Public Hearing Sign In Sheets

ADEQ
Arizona Department of Environmental Quality

Air Quality Division Sign-In Sheet

Please Sign In

SUBJECT Collectible Vehicle and Motorcycle Exemption Public Hearing DATE November 28, 2005

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	Scott Baglione	ADEQ	771-4310		
2.	Marty Clark	DCTRA	480-962-7840		marty.clark@gmail.com
3.	Robert LaFossiere	Auburn	274-5593		
4.	Terry Jess	VW	602/867-7672		VWST4FF53@msn.com
5.	Ray Houston	Lobbyist Harley Motorcycle Assn	602 403-8026		Rhyofaz@cox.net
6.	John Horton	DCTRA	602 843 1899		HortonTV@cox.net
7.	Virgil Cole	DCTRA	623-334-0102		Harpcole@.com
8.	Bobbi Hartman	ABATE	602-243-9479		

9. MIKE GOODWIN DCTRA 480-259-9386
10. Armand LaCasse DCTRA 602 523 1765
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.

ADEQ
Arizona Department of Environmental Quality

Air Quality Division Sign-In Sheet

Please Sign In

SUBJECT Collectible Vehicle and Motorcycle Exemption Public Hearing DATE November 30, 20

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	FLORENTINO ANGUIANO	ADEQ/VEI	520-628-6036		
2.	ROBERT LEBARON	PRIVATE	520-745-2647		BOBLEBARON@C
3.	Aina W. Dickerson	Private	520-297-6884		ainaw42@msn.
4.	DAN DICKERSON		520-297-6884		Scooterdan@msn
5.	Ralene Whitmer	AZ House & Senate	520-398-6000		tucson@azleg.
6.	Natalie Shepp	PAG	520-792-1093		nshepp@pa
7.	MARK SPEAR	AUTO HOBBYIST	520-419-4364		MARHEMI@426-HE
8.					

APPENDIX E.4

Public Hearing Officer Certifications and Transcripts

ADEQ
Arizona Department of Environmental Quality

Air Quality Division

Public Hearing Presiding Officer Certification

I, Deborrah Martinkovic, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on November 28, 2005, at the Arizona Department of Environmental Quality, Conference Room 145, 1110 West Washington Street, Phoenix, Arizona, in accordance with public notice requirements by publication in *The Arizona Daily Star*, *The Arizona Republic*, and other locations beginning October 20, 2005. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 7th day of December 2005.

Deborrah Martinkovic

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me on this 7 day of December, 2005.

OFFICIAL SEAL
LAURA McFARLAND
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires April 2, 2006

Notary Public

My commission expires: [illegible]

PROPOSED REVISIONS TO THE
ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP)
TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA
VEHICLE EMISSIONS INSPECTION PROGRAMS

Oral Proceeding

November 28, 2005

HEARING OFFICER: Good afternoon, thank you for coming. I now open this state implementation plan (SIP) hearing on proposed changes to Arizona's vehicle emissions inspection and maintenance programs to exempt collectible cars in the Phoenix and Tucson testing areas and motorcycles in the Tucson testing area.

It is now Monday, November 28, 2005, and the time is 1:33 p.m. The location is the Arizona Department of Environmental Quality, Conference Room 145, 1110 West Washington Street, Phoenix, Arizona. My name is Deborrah "Corky" Martinkovic, and I have been appointed by the Director of the Arizona Department of Environmental Quality (ADEQ) to preside at this proceeding.

The purposes of this proceeding are to provide the public an opportunity to:
(1) hear about the substance of the proposed revision to the state implementation plan or SIP,
(2) ask questions regarding the SIP revision, and
(3) present oral argument, data and views regarding the proposed SIP revision in the form of comments on the record.

Representing the Department are Ira Domsky, Deputy Director, ADEQ Air Quality Division, and Bruce Friedl of the Air Quality Planning Section.

Public notice appeared in *The Arizona Daily Star* (Tucson), *The Arizona Republic* (Phoenix), and on ADEQ's website. Copies of the proposed SIP revision titled, *Proposed Arizona State*

Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs, were made available at the ADEQ Phoenix and Tucson offices and on ADEQ's website on October 21, 2005.

The procedure for making a public comment on the record is straightforward. If you wish to comment, you need to fill out a speaker slip, which is available at the sign-in table, and give it to me. Using speaker slips allows everyone an opportunity to be heard and allows us to match the name on the official record with the comments.

You may also submit written comments to me today. Please note the comment period for the SIP revision ends on November 30, 2005. All written comments must be received at ADEQ or postmarked by November 30, 2005. Written comments can be mailed to Bruce Friedl, Air Quality Planning Section, Arizona Department of Environmental Quality, 1110 W. Washington Street., Phoenix, Arizona 85012-2905 or e-mailed directly to friedl.bruce@azdeq.gov. Comments may also be faxed to (602) 771-2366.

Comments made during the formal comment period are required by law to be considered by the Department when adopting the final SIP and preparing the final state implementation plan. This is done through the preparation of a responsiveness summary in which the Department responds in writing to written and oral comments made during the formal comment period.

The agenda for this hearing is simple. First, we will present a brief overview of the proposed revision to the state implementation plan.

Second, I will conduct a question and answer period. The purpose of the question and answer period is to provide information that may help you in making comments on the proposed revisions to the state implementation plan.

Thirdly, I will conduct the oral comment period. At that time, I will begin to call speakers in the order that I have received speaker slips.

Please be aware that any comments you make at today's hearing that you want the Department to formally consider must be given either in writing or on the record during the oral comment period of this proceeding.

At this time, Ira Domsky will give a brief overview of the proposal:

MR. DOMSKY: Good afternoon, and thank you all for taking time out of your day for this public hearing. Vehicle emissions inspection and maintenance programs, or I/M programs, are required in certain areas that do not meet the carbon monoxide (CO) and ozone (O3) air quality standards and have the purpose of reducing emissions and improving air quality. These programs help identify vehicles with excess emissions, provide information to assist with diagnosing malfunctions that cause excess emissions, and require repair of vehicles to bring them into compliance with emissions standards. Arizona established mandatory vehicle emissions inspection and maintenance programs in Maricopa and Pima Counties in 1975. Both the Phoenix and Tucson I/M programs are included as control measures in the Arizona State Implementation Plan. An enhanced I/M program is among the primary control measures used to help the Phoenix area maintain the 1-hour ozone and the carbon monoxide air quality standards. A basic I/M program is among the primary control measures used to help the Tucson area maintain the carbon monoxide air quality standards.

In 2005 the Arizona Legislature passed House Bill 2357 amending Arizona Revised Statues (ARS) § 49-542. The legislation authorized the exemption of certain collectible motor vehicles and motorcycles from being subject to emissions testing requirements. Specifically, for the Phoenix and Tucson program areas, the legislation exempts from testing, vehicles that are at least fifteen years old or of a unique and rare design and used primarily for shows, special events, and club activities and must carry collectible vehicle insurance that restricts the mileage or use of the vehicle. In addition, motorcycles in the Tucson program area were exempted from testing. Motorcycles were not exempted in the Phoenix area.

Prior legislation required ADEQ to conduct an analysis to examine the impacts of exempting certain motor vehicles and motorcycles from the I/M programs. The analysis evaluated the impacts of exempting vehicles 25 model years or older, motorcycles, and collectible vehicles. The results

showed that the testing and repair of all 25 model year old or older vehicles provided a significant air quality benefit. However, testing and repair of collectible vehicles in the Phoenix and Tucson areas and motorcycles in the Tucson area were not shown to provide a significant air quality benefit and exemption of these vehicle categories would not interfere with continued attainment of the carbon monoxide and ozone standards. Therefore, House Bill 2357 only authorizes the exemption of collectible vehicles and motorcycles as previously described.

The changes to ARS § 49-542 become effective upon approval by the U.S. Environmental Protection Agency as a revision to the State Implementation Plan.

The proposed changes are more fully described in the SIP revision itself titled *Proposed Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs*. The proposed SIP contains the regulatory background related to the current changes, demonstrations that the Arizona I/M programs continue to meet or exceed minimum requirements as prescribed by EPA and that the current exemptions for collectible vehicles and motorcycles will not interfere with attainment of the national ambient air quality standards or any other requirements of the clean air act.

That's all I have.

HEARING OFFICER: This concludes the explanation period of this proceeding on the proposed revision to the state implementation plan.

Are there any questions before we move to the oral comment period?

Okay, hearing none, this concludes the question and answer period of this proceeding on the proposed state implementation plan revision.

I now open this proceeding for oral comments.

I see two speaker slips here. The first one I received was from John Horton:

MR. HORTON: Okay. I am John Horton. I am the legislative officer for the Desert Center Triumph Registry of America. I am also the same for the Arizona Sports Racing Association and a driving instructor also for the National Autosports Association. I'm a member of the Arizona Automotive Hobbyist Council, and I work on legislative issues with them, and also as a private citizen, I am concerned about emissions.

Over the last five years, plus years, I have done research independently into driving habits of collector cars, and I have submitted documentation to DEQ on that. Basically, what I have found is that first off, the average collector car that is insured, drives less than 2,000 miles a year. The other thing, one of the main questions that I asked was if an emissions exemptions is given for these cars, would the driving habits change.

Over 98% of the responses I had of over 400 responses was no. Due to insurance regulations, due to not wanting to expose an expensive collector car to traffic and to possible theft or damage by being out of the owner's control, people do not intend to drive any differently than they do now, which essentially, is driving to events, driving to test the car, or to take it to repair, or something similar. That point is that driving habits will not change.

The other thing is that the pre-1981 cars, the older Triumphs, and even the old Cadillacs, or other cars, which are deemed to be collector cars, a lot of them are not manufactured to attain a 1981 standard which is your basic building block for emissions.

So therefore, if you put an older car, a 1976 Triumph, like I have, or older cars, through emissions, it is necessary to make the car run so lean it will pass emissions, it will not run properly. So what we have to do is detune the car, go through emissions to get the standard, then come back and make the car run properly. We don't see where there is any advantage to the state in that.

The cars have been proven through your own research not to be a significant problem. I believe DEQ determined that there would be a plus three metric tons of additional emissions. However, I

think that is probably overdone because of a non-change in driving habits. Those are my comments on that.

HEARING OFFICER: Thank you. Armand LaCasse?

MR. LACASSE: My name is Armand LaCasse. I've been a member of the Desert Center Triumph Register since 1982. In my time with this automotive hobbyist group, I have actually owned three classic cars, one which is a 1961 Triumph TR3A, which has yet to be finished for restoration and it's been around for 20 some years.

I had a Spitfire a while back, but then I bought a GT6 Plus, and for the benefit of those of you up here, I'll give you each one of these [handed out a picture of a car], then I'll work from here.

What I've got here is a picture of the car, and as I've titled it 69 Triumph GT6 Plus, it's out sleeping in the garage. It is actually covered with a sheet of plastic so it keeps the dust off it. This is how it spent five months this summer. Parked on top of it you can see pool toys and a couple of sleeping bags, when I shot this picture about a week before I dug it out, because now it is cool enough I can drive it again.

This car has been insured as a classic car since 1996. Basically I stated a declared value of $5,000. They charge me about $107 a year. If I remember the policy right, I cannot drive it more than 5,000 miles a year, and they get a deal because it is actually about 500.

What I have listed down here for the rest of this is the mileage history of this car. When I first bought it on January 16th of 1987, the title transfer paperwork showed 67,000 miles. I've kept a small maintenance log in this glove box. I went sifting through it the other day to pick up some mileage to get an idea of how much I actually do drive it.

As of January 5th, approximately 2 years later, I have driven it 25,000 miles total, and that is 13,000 miles a year average. The next date I picked up was in '91. About two years later, there I only averaged 6, 216 miles over that two year period.

I picked up a date three years later in '94, I'd averaged 2,357 miles. Now I should note that my first child was born in 1993, so the car got second like it should.

Then you really see it drop down. Five years later, in 1999, it is averaging 801 miles a year. Then from 1999 to the 20th of this month, I'm down to 481 miles on average per year.

To give you an idea of what that means, there was one year when I took it out to go through emissions in March, and then the next time I got it out of the garage was the following March to take it out to go to emissions again.

Now, my car does pass emissions. If you want to call it detuned, you are welcome to. It is running lean. I don't fiddle with raising it back to where it will run better. I just drive it that way.

It's a pain in the butt at stop lights. People wonder "Gee, why isn't that car moving too fast?" Because it's a little lean, a little hard to get going. And don't hit it please, because there's only 40,000 of these cars made over several years, and being as old as it is, it's real hard to find parts and pieces.

So that said, basically, as I look at this bill here, I think it is a good thing for the collector car people who have collector's insurance and only leave the car sitting around. You can tell by the picture.

Any questions from the floor?

ATTENDEE 1: Do you have an average of your yearly mileage over the whole ownership period? What you've given is a kind of year to year average.

MR. LACASSE: [indecipherable] Any other questions?

So what the mileage is, you can see we went from 13,000 miles a year on average down to 481, and the 481 was over the last six and a half years. So in 1999, the mileage on the odometer was 116,000,

for 2005 rounding a little to 119,000, so that's 3, 218 miles over 6.69 years which is 481 miles. That's how much it gets around.

Any other questions, ladies and gentlemen? Thank you very much.

HEARING OFFICER: Now I have Michael Goodwin.

MR. GOODWIN: Good afternoon. My name is Mike Goodwin, and I own a 1968 Jaguar. I also am the manager of a British-Euro auto tour that goes from Phoenix to Flagstaff and Flagstaff to Phoenix every year. Last year we had quite a discussion on the tour. There were about 125 classic cars on the tour, all British and European makes.

We had quite a discussion of the emissions and the problems and difficulties and different things getting through emissions, and of course, we were talking about the number of miles that the people drive the cars, so we had a good representation.

Everybody was basically in agreement that because of the restrictive nature of the insurance that we have on our cars, as the previous gentleman stated, we do not drive our cars in excessive amounts. We don't drive them to work and back. We don't drive them to the stores to get a loaf of bread and things of this nature.

They are very special vehicles that are handled very tenderly, and driven to car events and things of that nature. We were very fortunate this last year in August, I'm sorry in April, to have Governor Napolitano join us in Cottonwood. She made several comments regarding the emissions bill that she as governor of Arizona, she has signed and endorsed. And so we are hoping that her legislation will go through and that we can get the emissions requirements removed.

If the vehicles, of course, meet certain requirements, the 25 years, the collector car insurance, things of this nature. So, again, this next April we will be having another tour, and I am sure this subject matter will come up again. It would certainly be very nice to have some positive news to share with that group that we'll be putting together in April again. Thank you.

HEARING OFFICER: Thank you. And finally, Craig Kenyon.

MR. KENYON: Yes. My name is Craig Kenyon. I am an owner of a Triumph TR6. I bought the car in 1982 in Mesa, Arizona. I relocated to the Valley in 1990. The car has collector car insurance on it. The last 15 years, I've probably averaged at best, 1,000 miles a year. There was a time period of four years where it didn't move at all.

If the emissions inspection requirement is removed, it is not going to change anything that I do to the car, or how I drive it. I don't tune it any particular way. I drive down there, it passes, and then I drive it back. But basically, the car is used for club events. I'm afraid to drive it in traffic. I'm afraid somebody is going to hit it.

My daughter drives an Explorer, and she has already been hit four times in the last two years, so it's like, "I don't want to drive this car" because I have so much emotional investment in it. I'm sure that is probably true of most collector car people.

So they don't. They enjoy the car for the car, but they don't enjoy it as transportation. Thank you.

HEARING OFFICER: Okay. Seeing no additional speaker slips

MR. JESS: Can I make a comment? I didn't fill out a slip.

HEARING OFFICER: Well, you can fill out a slip real quick, and then, that's just so we get the name.

MR. JESS: Yes. I'll get it to you, sure.

HEARING OFFICER: Okay.

MR. JESS: My name is Jerry Jess. I have been dealing in VWs. I moved to the Valley in 1979 from Chicago. I've owned a '62 for over 18 years, but I'm fortunate enough to own two '67 VWs. Both of them I've owned about eight years, and I keep a log on all my cars. All three together do not add up to 2,000 miles a year.

But something just happened about two weeks ago. The procedure for my '67s, both of them, is that I go to emissions and they fail. When I go back to my buddy at the VW shop, he detunes it so they can go through emissions. Once I go through emissions, I go back to the shop and he makes it run.

For the first time ever, I passed, so ridiculously clean, I couldn't believe it. We were discussing at the shop, what kind of controls or data goes on at these emissions stations that it could vary so much. It definitely wasn't consistent. It definitely wasn't.

So maybe when they tune these machines, they make a mistake, or how do they tune them? When this car went through the first time, it was cleaner than any other of the previous years after it had been detuned. There is no explanation. I can't figure out why.

MR. HORTON: I'd like to make one additional comment. I'm John Horton. I have a 1979 Triumph TR7. It hasn't had an engine in it for three years, but it is still collector car insured. I have a 1976 Triumph TR6 that is averaging about 700 miles a year [indecipherable]. I have a 1981 Triumph TR8 which is averaging about 100 miles a year because there are only 82 of those cars imported into this country, and I am not going to drive it in traffic.

I have driven it only to car shows, and that's about 100 miles a year. As far as emissions are concerned, I am certain I am not adding anything to it.

MR. GILMORE: I have a slip here I'll give you when I'm done. My name is Bill Gilmore. I am a member of the Society of Automotive Historians. I have been a member of at least a dozen other car clubs through the years. I've had three national award winning cars myself. I'd like to say, just like everybody else here, my cars are very much limited drivers.

As a matter of fact, one of my cars I drove one mile in a year, and that was basically to come out and go to emissions test and bring it back, as another gentleman said.

What I'd like to say as a hobbyist and car collector, for years and years, we've been saying we are not a part of the emissions problems of this state. Finally, your study from House Bill 2357 has said that we are insignificant to the air quality of this state.

So I'd like to say that since we are not part of the problem of air quality, we should not be part of the solution. And I appreciate you guys removing us from the, or attempting to remove us from the emission test. That's all I have to say.

HEARING OFFICER: Okay. Any other additional speakers? Just make sure I get those speaker slips before we leave today.

Alright. If you have not already submitted written comments, you may submit them to me at this time. Again, the comment period for this proposed revision to the state implementation plan ends November 30th, 2005.

Having received no written comments, thank you for attending. The time is now 2 o'clock, and I now close this oral proceeding.

ADEQ
Arizona Department
of Environmental Quality

Air Quality Division

Public Hearing Presiding Officer Certification

I, Balaji Vaidyanathan, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on November 30, 2005, at the Arizona Department of Environmental Quality, Southern Regional Office, Conference Room 444, 400 West Congress Street, Tucson, Arizona, in accordance with public notice requirements by publication in *The Arizona Daily Star*, *The Arizona Republic*, and other locations beginning October 20, 2005. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 7th day of December, 2005.

Balaji Vaidyanathan

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me on this 7 day of December, 2005.

OFFICIAL SEAL
LAURA McFARLAND
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires April 12, 2008

PROPOSED REVISIONS TO THE
ARIZONA AIR QUALITY STATE IMPLEMENTATION PLAN (SIP)
TO EXEMPT COLLECTIBLE CARS AND MOTORCYCLES FROM THE ARIZONA
VEHICLE EMISSIONS INSPECTION PROGRAMS

Oral Proceeding

November 30, 2005

HEARING OFFICER: Good afternoon, thank you very much for coming. I now open this state implementation plan (SIP) hearing on proposed changes to Arizona's vehicle emissions inspection and maintenance programs to exempt collectible cars in the Phoenix and Tucson testing areas and motorcycles in the Tucson testing area.

It is now Wednesday, November 30, 2005, and the time is 2:00 p.m. The location is the Arizona Department of Environmental Quality, Southern Regional Office, Conference Room 444, 400 West Congress Street, Tucson, Arizona. My name is Balaji Vaidyanathan and I have been appointed by the Director of the Arizona Department of Environmental Quality (ADEQ) to preside at this proceeding.

The purposes of this proceeding are to provide the public an opportunity to:
(1) hear about the substance of the proposed revision to the SIP,
(2) ask questions ABOUT the SIP revision, and
(3) present oral argument, data and views regarding the proposed SIP revision in the form of comments on the record.

Representing the Department are Ira Domsky, Deputy Director, ADEQ Air Quality Division, and Bruce Friedl with the Air Quality Planning Section.

Public notice appeared in *The Arizona Daily Star*, *The Arizona Republic*, and on ADEQ's website. Copies of the proposed SIP revision titled, *Proposed Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs*, were made available at the ADEQ Phoenix and Tucson offices and on ADEQ's website on October 21, 2005.

The procedure for making a public comment on the record is straightforward. If you wish to comment, you need to fill out a speaker slip, which is available at the sign-in table, and give it to me. Using speaker slips allows everyone an opportunity to be heard and allows us to match the name on the official record with the comments.

You may also submit written comments to me today. Please note the comment period for the SIP revision ends today, on November 30, 2005. All written comments must be received at ADEQ or postmarked by today. Written comments can be mailed to Bruce Friedl, Air Quality Planning Section, Arizona DEQ, 1110 W. Washington Street., Phoenix, Arizona 85012-2905 or e-mailed directly to friedl.bruce@azdeq.gov and friedl is spelled F R I E D L. Comments may also be faxed to (602) 771-2366.

Comments made during the formal comment period are required by law to be considered by the Department when preparing the final state implementation plan. This is done through the preparation of a responsiveness summary in which the Department responds in writing to written and oral comments made during the formal comment period.

The agenda for this hearing is very simple. First, we will present a brief overview of the proposed revision to the SIP.

Second, I will conduct a question and answer session. The purpose of the question and answer session is to provide information that may help you in making comments on the proposed revisions to the SIP.

Thirdly, I will conduct the oral comment period. At that time, I will begin to call speakers in the order that I have received speaker slips.

Please be aware that any comments you make at today's hearing that you want the Department to formally consider must be given either in writing or on the record during the oral comment period of this proceeding.

At this time, Ira Domsky will present a brief overview of the proposal: Ira?

MR. DOMSKY: Thank you. Thank you all for taking time out of your day to come to this hearing.

Vehicle emissions inspection and maintenance programs, or I/M programs, as we call them, are required in certain areas that do not meet the carbon monoxide (CO) and ozone (O3) air quality standards with the purpose of reducing emissions and improving air quality. These programs help identify vehicles with excess emissions, provide information to assist with diagnosing malfunctions that cause excess emissions, and require repair of vehicles to bring them into compliance with emissions standards. Arizona established mandatory vehicle emissions inspection and maintenance programs in Maricopa and Pima Counties in 1975. Both the Phoenix and Tucson I/M programs are included as control measures in the Arizona State Implementation Plan or SIP. The enhanced I/M program is among the primary control measures used to help the Phoenix area maintain the 1-hour ozone and carbon monoxide air quality standards. The basic I/M program is among the primary control measures used to help the Tucson area maintain compliance with the carbon monoxide air quality standards.

In 2005 the Arizona Legislature passed House Bill 2357 amending Arizona Revised Statues (ARS) § 49-542. The legislation authorized the exemption of certain collectible motor vehicles and motorcycles from being subject to emissions testing requirements. Specifically, for the Phoenix and Tucson program areas, the legislation exempts from testing vehicles that are at least fifteen years old or of a unique or rare design and used primarily for shows, special events, and club activities and also must carry collectible vehicle insurance that restricts the mileage or use of the vehicle. In addition, motorcycles in the Tucson program area were exempted from testing. Motorcycles were not exempted in the Phoenix area.

Prior legislation required ADEQ to conduct an analysis to examine the impacts of exempting certain motor vehicles and motorcycles from the (I/M) programs. The analysis evaluated impacts of exempting 25 model year or older vehicles, motorcycles, and collectible vehicles. The results showed that the testing and repair of all 25 model years old or older vehicles provided a significant air quality benefit. However, testing and repair of collectible vehicles in the Phoenix and Tucson areas and motorcycles in the Tucson area were not shown to provide a significant air quality benefit and exemption of these vehicle categories would not interfere with continued attainment of the carbon monoxide and ozone air quality standards. Therefore, House Bill 2357 only authorizes the exemption of collectible vehicles and motorcycles as previously described.

The changes to the revised statutes 49-542 become effective upon approval by the U.S. Environmental Protection Agency as a revision to the SIP.

The proposed changes are more fully described in the document titled *Proposed Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs*. The proposed SIP contains the regulatory background related to the current changes, demonstrations that the Arizona I/M programs continue to meet or exceed minimum requirements as prescribed by EPA and that the current exemptions for collectible vehicles and motorcycles will not interfere with attainment of the national ambient air quality standards or other applicable requirements of the clean air act.

Our current schedule is to respond to comments and submit the state implementation plan revision to EPA the middle of next month. That concludes my presentation.

HEARING OFFICER: Thank you, Ira.

Are there any questions that need to be answered before we move to the oral comment period?

ATTENDEE 1: Does this include scooters, too?

MR. DOMSKY: Scooters are considered to be motorcycles because they are two-wheeled vehicles.

MR. ANGUIANO: It would apply also to scooters if the engine is larger than 90cc. Right now, your mopeds and such and scooters if their engine is greater than 90cc, they have to go through the emissions test.

ATTENDEE 1: Both of them have a license plate, both of them have to be licensed, so they have to be emissions [tested].

MR. ANGUIANO: Less than 90 don't have to go through the emissions test. If they are greater than 90cc, yes, so I would assume it would also apply.

MR. DOMSKY: Well, if they are currently exempted anyway. This would apply to just the motorcycles that are not exempted at this time, which would be greater than 90cc.

ATTENDEE 1: Does it take a special insurance liability for motorcycles or scooters?

MR. DOMSKY: No.

ATTENDEE 1: Or same as they have right now?

MR. DOMSKY: Right. Because they are not treated as collectable vehicles, they are motorcycles.

ATTENDEE 1: Well, special vehicles have special insurance.

MR. DOMSKY: Right.

ATTENDEE 1: But not motorcycles.

MR. DOMSKY: Right.

ATTENDEE 2: You mentioned that the SIP revision will be submitted to EPA the middle of next month?

MR. DOMSKY: Yes.

ATTENDEE 2: Then how long do you think it will take for EPA to approve the revision?

MR. DOMSKY: On a very accelerated schedule, they might be able to go through final approval within 18 months. It depends entirely on where it sits in their queue and if there are some issues that they discover. We have been in constant contact with them pretty much about this for the last several months to try and make sure we have everything taken care of. As long as they don't find there are any new issues that we need to provide additional documentation or whatever then there is a possibility that it could happen as soon as 18 months. But they don't move that quickly usually. We are dedicated to working with them to try to move this through the process as quickly as possible.

ATTENDEE 2: What will happen on your end once you receive that back?

MR. DOMSKY: Well, the process that they go through is that they have to do a publication in the Federal Register as well as a proposal. They have an accelerated process that they can use which would forego a public comment period the same way that we are doing it. But if they do get adverse comment, then they would have to go through full proposal. They would have to respond comments, and that would slow the process down a little bit, six to nine months potentially.

ATTENDEE 2: If they approve it, what happens on your end?

MR. DOMSKY: On our end, then we would sit down with the Department of Transportation, Motor Vehicle Division, and move forward to implement the laws passed by the Legislature.

HEARING OFFICER: Any other questions?

I now open this proceeding for oral comments. I am going to start calling speakers in the order in which I got speaker slips. The first speaker that I have is Mr. Dan Dickerson.

MR. DICKERSON: Thank you. [indecipherable]

MR. FRIEDL: Excuse me. Could I have you move a little bit forward? I am not sure we are picking you up here. I want to make sure. Thank you.

MR. DICKERSON: I have commuted every day back and forth to work for the last 35 years. I am retired now. This is a hobby and this is daily transportation. My wife and I came here today on one motorcycle. We live a couple of miles away. We probably used less than half a gallon of gas round trip. We parked the motorcycle in one spot which could have probably parked four motorcycles. It takes up less space, less road damage, less pollution to the air.

I've lived in Tucson for 35 years. So every year, I have to go through emissions, which we have 13 motorcycles. [indecipherable] I have three collectible motorcycles which they don't make any more. Old Triumphs. They are all kick starters. [indecipherable] Turn the key, push the button, and you're ready to go. These are the type three things. You've got two free carburetors and this is so much advanced.

I go through emissions. I just stand there in line. I always wear a helmet and gloves. The bike won't start sometimes. I have to kick start it. The people behind me get impatient. But anyway, to keep a long story straight, and short, it's just a hassle.

For motorcycles, there is less traffic congestion, less damage to the road, and less pollution. I don't know [indecipherable] I think motorcycles fill the bill. One of us was left down there, getting the motorcycle adjusted, one of us found a young man, a five year old motorcycle, his first time for emissions testing. So we were just chit chatting while waiting in line.

I said, “What are your problems?” The motorcycle was 500cc, so he pulls it up and I’m watching the procedure in front of me, and they stick the hose up the exhaust pipe, and they can’t get a reading. So they keep going to the machine, and the machine can’t get a reading. So they take shop rags, and they start stuffing the rags into the exhaust pipe. And so it killed the engine. But he tried to rev it up.

So he’s revving it up and they are holding these shop rags in there and I’m going, “this is unbelievable.” The machine won’t even pick up the emissions on this little motorcycle. So he pulls out and they give him that little piece of paper that he flunked emissions because they couldn’t get the machine to pick up the emissions.

By the way, I called down to talk with the supervisor down there, and he wasn’t available. He called me at home the next day, which I appreciate. He said, “Well, that’s our procedure when the machine won’t actually pick up the emissions from a small motorcycle.”

It’s unfair. This guy has a little teeny bike, 500 ccs. He probably gets 100 miles per gallon on it and he’s being penalized for it. Now he’s going through a hassle, if he had to get a waiver, or what he had to do. Looked like a college student, probably going to U of A. Anyway, that’s another story. Thanks for your time. I really appreciate it.

HEARING OFFICER: Thank you, Mr. Dickerson.

MR. DICKERSON: Oh, yeah, one other thing. Arizona is the only state in the United States to require motorcycle emissions testing. Even California doesn’t.

HEARING OFFICER: Thank you. Our next commenter is Mr. Mark Spear.

MR. SPEAR: Oh, okay. I’ll get up closer here so you can here me good.

HEARING OFFICER: Thank you.

MR. SPEAR: All right. The first thing I want to say here, I have my version here with my notes on it. I am an automobile hobbyist and have been working this issue for, let's see, how many years has it been, since 1974? At least that many. Thirty something years. We've been to most of the meetings that are involved in rules on testing, and I maintain the website emissions-testing.com and put out information on these sorts of things.

This particular issue here concerns the exemption of collectible vehicles and motorcycles in consideration in both Area A and Area B here in Arizona. The first thing that I want to say is that wherever the conclusion paragraph is in the report, that we do support this direction of this legislation and think that it should move forward and the exemption should be granted.

However, I have a few other comments on things pertaining to this. Some of them kind of technical, which may or may not really change the outcome, but it just leaves me with some concerns here.

On page one of the proposed SIP plan revision, it mentions, and it looks like it is historical here, under 1.1 Regulatory Background, it mentions both Maricopa County, Phoenix 1-hour ozone, and carbon monoxide nonattainment area and the Tucson carbon monoxide nonattainment area.

My presumption is those are from some older dates, because they are, at this point in time, I understand there is no nonattainment area. Is that true? Everybody has some kind of attainment, right? So it's a historical context, and my only comment there was that it may be beneficial to say something like the then nonattainment areas or something of this historical perspective.

Let's see here. My next comment here comes to Page 3, which is really part of the second paragraph of 1.2 Revisions to Arizona's I/M Programs 2005. It's also talking about some background information. I don't know if this is all part of background, kind of think it is.

But anyway, it's titled Revisions to Arizona's I/M Program 2005. The end of the second paragraph states, "The analysis shows the testing and repairs of all 25 model years old or older vehicles provided a significant air quality benefit."

Personally, I'd like to take exception to that statement. Primarily, it has to do with our interpretation of what is significant. My comment for the report is that whether or not it is stated to be significant, it probably ought to at least have some point in there where it actually states what the benefit was and a percentage, so that we can determine what is significant and what isn't.

My personal opinion is that 2% is not significant. I know there are quite a few other people who jump for joy if they get a half a percent, so I just think the actual report needs to say what the benefit is in there.

Then I think it would also be useful to provide as a comparison the numerical I/M benefit of testing, current model year to five years, the ones that are currently exempted, what is that I/M benefit as compared to this I/M benefit for the 25 year and older. And I wanted to clarify that all of the calculations and analysis here do exclude 1966 and older because it doesn't always say that. It just says 25 and older. It doesn't make any reference to 66 and older, which are already exempt. It leaves some confusion in my mind when it is stated that way.

Let's see here. I had the same comment here on page four the first paragraph, third line, when they are talking about motorcycles in Area A. It also mentions a significant air quality benefit, and I would comment that it should have at least whether or not the words stay the same; it should have at least a statement of what that is.

I am looking up here to see what it says. No it's just percentage of fleet. I don't think it has anywhere near this what the actual benefit was. As a comment, if you say what it is, then we have a picture of whatever significant might be.

Let's see here. On page 5, under 2.1.2 Compliance Enforcement, it talks about canceling a registration, and it goes through after this 30-day notification intent to cancel. It talks about an additional 30 days if the collectible vehicle insurance has not been renewed.

This took me down a path here. There is also an appendix that deals with it, a flow chart of what that kind of describes that whole process there. I'll make my general statement first.

When I looked at this at first, it appears that it is essentially more stringent than the current situation is if you cancel your insurance. If you cancel your insurance, you can fill out a form that is a statement of non-use. I am not sure what the precise name of that form is. I am sure we can all agree on that when we see the form which one it is. I was hoping to have one.

There is a form that states that it is not used. Therefore, Motor Vehicles does not take any further penalties. They kind of leave you alone, and just say, “Oh, fine. When you put the vehicle back on the road and get insurance again, let us know. Then submit that and you’ll be fine.”

Well, what happens appears to be in this chart of actions here is that if you did that same thing after having your collectible insurance, and since we were talking about collectible and classic cars, they are taken off the road to do restoration maintenance, and a lot of that more often actually than typical vehicles, the actions against you seem to occur immediately without an easy resolution other than I guess spending money on insurance when you are not driving it again.

My comment here is that I thought that there should be a provision here where you could do the same technique as when you are operating under normal conditions. It would seem logically obvious to me that if you take the vehicle off-road and are doing maintenance on it, it obviously would emit a lot less emissions than if you were using it as a collectible vehicle. So you are not going anywhere negative as far as emissions are concerned.

It does seem to be, at least in my view, just a procedural issue to allow that same technique of turning in the non-use form, holding it off-road, and then coming back with your collectible vehicle insurance, without going through this ritual of changing status of the SC38 or the SC86 and all these other actions that Motor Vehicles are using.

In the flow chart here itself, I had a couple of comments here that it mentions. Let’s see here. It’s appendix, whatever it is, it doesn’t have good pages on these here at least for me to tell what it is.

MR. DOMSKY: Appendix C.

MR. SPEAR: Yeah, right. It just doesn't show it on my page here. But that, the second box under insurer submits collectible insurance, MVD enters INS type on MI data base; entries will automatically place a SC38 on the vehicle in a nonattainment area. We don't have nonattainment areas anymore; I guess we have testing areas?

The word nonattainment seems to be not applicable in 2005. That was the only issue there. It is kind of semantical. It was kind of confusing there.

And then when I looked down on this, it also came down and had number two, the first box, the owner has 14 days to submit new policy. Then it says in the next box over, "If the policy is received within 30 days" It may be something that makes sense, but to me, it looks like there were 14 days in one box and 30 days in another and it may just have to do with notification vs. received. I don't know. That confused me when I looked at it.

That of course, that would be the place where you could have the extra box, where you had an alternate box there, where there is a statement of non-use until reinstating the collectible insurance.

Okay, that took me to down there. Comment here was that on page six, the last paragraph, it says that reduction of emissions vehicles that exceed prescribed emissions is called the I/M benefit. Then it talks about the VOC emissions reduction benefit from testing and repair of collectible vehicles is less than one metric ton per day. The I/M benefits are less than one half of one percent.

So, back to my original comment of what is significant. I concluded that less than one metric ton and half a percent is considered insignificant, and I don't know if that is the limit of where significant becomes. Is that what we are to assume, is half a percent not significant and whatever it is, one percent or 1.3% is significant? Kind of clarification of numerical issues there.

All right. The rest of it is pretty straight forward here. Okay. On page 17 when we get into the transportation conformity discussion in Maricopa region, the chart or Table 16, talks about the 2002 baseline, 84.5 metric tons per day, and 2006 emissions 64.2. Then it takes collectible vehicle I/M

benefit of 22.03 metric tons per day and then adds that to the 64.2 for 64.3. A little bit later here it says that the conformity equations used the tenth of a ton precision for conformity.

So I have a kind of a significant digits problem here where you start out. When you only have a tenth of a ton precision or whatever, you are adding .03 to it, the result should come out the same. Instead of looking numerical, in my analysis it would be just a statement that it is the .03 is far less than the one tenth of a ton precision used for conformity that is the standard. It is kind of a significant digits issue that is used in the engineering world.

If the calculations are made so that the 2006 emissions are 64.20, then it would make sense to add the .03 to it, but if it is only to two, it implies that you have no precision in that calculation less than plus or minus like a .5 or whatever. That's the old significant digits issue in engineering analysis.

I think I then was going to suggest a comment in the end summary, which is the second paragraph on page 18. These increases are less than the tenth of a ton precision used in conformity or something like that, but it does take you to the same answer. So it's no real big deal in the analysis numerical part of this, it jumped out at me.

Pima County here, I have kind of a general question on this one, because it didn't look like anything numerical was done for Pima County. I didn't see any numbers. I kind of picked that up at the beginning, seeing that it says that Pima County has been in compliance and attainment the whole time. It just seemed to talk in generalities that we don't see anything changing our plan. I didn't see any numbers that were there telling us what the I/M benefit was in Pima County that would have, that I would have expected in this particular discussion. So that was just a question.

I have one other thing on Table 19 here that was the Regional CO Emissions in Tons per Day for 2005. When that was compared back to one of the earlier pages that talked about 400 tons per day, I don't know if that was just by different years that this was done. It didn't seem to match up. That number here, the 380 and 298 it looked like it was from all sources. Just looking at the chart, I don't know if it was or not. It did talk about vehicle miles traveled, so I'm probably going to conclude that it was probably mobile vehicle miles traveled which I think it was, 2005 would be the 380

compared to whatever it was, the 404 or something here. The 380 versus the other chart here. It was someplace here, it was like 407. So I didn't know if that was just a difference between years, or if there was some conflict between those two years.

Finally, when it comes to the conclusions, again, I want to state that I support the conclusions here as far as they go. It mentions less than one metric ton per day, and I assume that is the standard for insignificant, or one of the standards for insignificant, or one of the standards where half a ton per day or .5% or something like that. I think it was the one metric ton per day.

That's all the comments I had on that. I will submit pretty much everything that I have done hopefully in either better detail or in a little more detail in writing here and I will email this off to you in case you can't hear it clear on the tape. You will be able to refer to it.

Thank you for having the meeting down here. I hope that this does move forward and is implemented here as soon as possible.

HEARING OFFICER: Thank you. The next commenter is Mr. Robert Lebaron.

MR. LEBARON: In regards to emissions, I agree with this fellow here. I had mine done back in January of this year and everything went fine. But then I had to redo it in October. I forgot what the reason was. It came through in October, and it failed by a long shot. It failed.

Then I took it in the shop and they did some work on it, actually did some adjustments. The same carburetor, everything was the same. But I had only driven it 2,000 miles from January to this time in October this year.

So I took it back and I was on my second test. Of course, it failed again. One cylinder failed, but not the other one. A Harley Davidson [indecipherable]. They couldn't tell me [indecipherable]. So, so far that is where I am hanging. I can't get it on the road because I can't get it to pass emissions. Everything is up to standards in it, other than they can't adjust the carburetor so both cylinders can pass emissions.

So anyway, I am definitely for this program for that reason. I have been for years, in fact since the first time. I have been for this for many years, for getting rid of emissions on these small bikes. We're paying twelve and a quarter. We're paying the same price for a car or a motor home or whatever. I think that is unfair, the cost of doing it. That is what I have for a comment.

HEARING OFFICER: Thank you, Mr. Lebaron.

Would anybody else like to make a comment?

This concludes the oral comment period of this proceeding.

If you have not already submitted written comments, you may submit them to me at this time. Again, the comment period for this proposed rule and revision to the state implementation plan ends today.

Thank you very much for attending.

The time is now 2:40 p.m. This hearing is closed.

APPENDIX E.5

Public Comments

From: "John Truttman" <jtruttman@cox.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/12/2005 1:51:54 PM
Subject: Emissions exemption

As a collector car owner, I ask your support to get the Emissions Exemption law passed. Like other collector car owners, I drive my car very little. In addition, it is kept in tip top running order. For example, I recently spent $6,000 for a new engine. It burns clean, and passes smog. Should this exemption be passed, my driving habits will NOT CHANGE.

John R. Truttman
17129 W. Whitmore Hall Lane
Surprise, AZ 8538
(623) 594-7322

From: Marty Clark <martyclark@gmail.com>
To: <domsky.ira@azdeq.gov>
Date: 10/12/2005 12:50:23 PM
Subject: Classic Car Exemption

Ira,
Thanks for the presentation yesterday and having your team there to answer all our questions. I was glad to see everyone one of us from the "public" were there to support this measure. My car came off the assembly line 32 years ago this next January and it just turned 39,000 miles, so that's just over 1,200 miles a year and that usage will not change when is exemption is in effect.
Thanks again,
Marty Clark

From: <SDviewpnt@aol.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 10/12/2005 12:48:00 PM
Subject: Collector Car Emission Exemption

Hello,

I'm writing in support of the emissions test exemption for collector cars. Please note that this is a reasonable and appropriate solution. Also note that when this exemption is granted, there will be no difference in my collector car driving habits.

Respectfully,
Steve Dreiseszun
1125 W. Culver St.
Phoenix, AZ 85007

From: "Robert Mann" <towntrav@hotmail.com>
To: <domsky.ira@asdeq.gov>
Date: 10/12/2005 1:28:48 PM
Subject: Collector Car Emissions

Please note: When this exemption is granted there will be no difference in my collector
car driving habits. The car now passes exemption requirements will be maintained
to support these standards.
Thank you. Robert Mann/Scottsdale

CC: <friedl.bruce@azdeq.gov>

From: Michael Silverman <mikesilverman@cox.net>
To: <domsky.ira@azdeq.gov>
Date: 10/12/2005 11:48:05 AM
Subject: Emissions exemption

Gentlemen:
I am contacting you to demonstrate my support for emissions exemption for collector cars. I own a 1968 Jaguar E-Type (XKE), and have dutifully smog-checked the car every year for the past 10 years, since I've lived in Arizona.

Passage of this exemption will not change my driving habits with this car -- with the exception of when it toured on the Copperstate 1000 rally in 1999, this vehicle is not driven more than 1000 miles per year; mainly to car shows, Jaguar club events, etc.

Please work to pass the emissions exemption for older collector cars. Thank you,

Michael Silverman
member, Jaguar Club of Central AZ
10663 E. Terra Dr.
Scottsdale, AZ 85258
480.661.7488
mikesilverman@cox.net

CC: <friedl.bruce@azdeq.gov>

From: <johnehorton@yahoo.com>
To: <domsky.ira@adeq.gov>
Date: 10/12/2005 9:02:35 AM
Subject: exemptions to emissions.

Good morning. Regarding my own driving habits of my collector cars, I will make no change to them as insurance restrictions exist. About five years ago when this started, I surveyed over 450 people in Arizona areas "A" & "B" concerning collector car use and determined that the average milage was at 1,800 miles per car. A question was asked about driving habits. The responsed of these showed 3 out of 450 might drive some more.

I support the exemptions to emissions and think all collector car and motorcycle owners will welcome these changes. Many other states have enacted these changes with no harm to the enviourment. SEMA is also in support of legislation supporting collector carowners.

Many thanks for your support.

John Horton DCTRA, ASRA, NASA, and AAHC.

Yahoo! Music Unlimited - Access over 1 million songs. Try it free.

CC: <friedl.bruce@azdeq.gov>

From: "Nick Emmanouilides" <NickEmm@fswaz.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 10/12/2005 3:34:46 PM
Subject: Corrected: Proposed emissions exemption law change. Delete previous e-mail

Gentlemen,

Two of the joys of ownership of Vintage, Classic and Antique vehicles are derived from the preservation of an historic bit of history and the company and camaraderie of other owners and enthusiasts. I own two vehicles.

A 1954 BMW R68 with 1951 Steib S500R sidecar

A 1967 Sunbeam Alpine Series V (Similar to Maxwell Smart's car. The Sunbeam was the first James Bond car, seen in Dr. No.)

In the last 12 months I have ridden the motorcycle less than 250 miles. I rode it on a Christmas Toy Run, loaded with toys and, in Spring, I rode it to Tempe and paced the Pat Tillman Memorial 4.2 mile Run/Walk. BMW made 1452 of these motorcycles in the three years it was produced. The Steib Museum in Nurnburg Germany has confirmed that the S500R was only built in 1951. They have records of it's production, but have never seen one. I probably own the only one in the United States.

I have owned my Sunbeam almost 4 years and have driven it less than 2000 miles. It is mostly driven to British car events and occasionally out for coffee with other enthusiasts.

My BMW is exempt from the annual inspections and testing as it is over 50 years old.

I can honestly state that I would reduce my driving of the Sunbeam by eliminating the 40+ miles I must drive every August to get it from my house in Estrella Mountain to the Emissions Testing location near Glendale Airport. That drive is the only time I operate the car between May and the end of September. That would reduce my annual mileage by 8%.

Additionally, Sunbeams like many British cars are prone to overheating. I risk damage every August when I make the drive to the emissions station. I have asked if there was a way to legally change my renewal

date on my car, but in Arizona that's not possible.

I maintain high levels of Comp/Collision as well as 100,000/300/000 Liability on both vehicles through a company that only insures collector vehicles. I amend my coverage annually as I make corrections and improvements to each vehicle.

I am only a small example of the Collectors, Preservationists, Restorers and Owners of Antique, Classic and Vintage Automobiles and Motorcycles. We spend a good deal with local suppliers and specialty shops. We drive responsibly. All the insurance in the world doesn't help if you damage or destroy a component that's no longer made and must be fabricated. We have countless hours invested in these vehicles.

I urge you to look around you as you drive through Maricopa County and count the number of these vehicles you see in a week. Most of the time, we only come out at night or on weekends. Off peak driving hours. I request you take these facts into consideration and exempt Antique, Classic and Vintage Automobiles from emission requirements.

Nick Emmanouilides

18642 W. Sunrise Drive

Goodyear, Arizona 85338

nickemm@fswaz.com

From: <RogerBBR@aol.com>
To: <Domsky.Ira@azdeq.gov>, <Friedl.Bruce@azdeq.gov>
Date: 10/12/2005 2:44:30 PM
Subject: Emissions Exemption Law

Gentlemen,

I would like to indicate my support for an exemption from emissions testing for collectible automobiles.

I own a 1952 MG TD and I drive it approximately 500-600 miles per year. I personally would not change my driving habits should the exemption be approved and I would be able to keep my car.

If the law fails I would be forced to sell my car because the cost would be prohibitive to bring it into compliance should it fail the test. I have never had it checked because in Oregon, where it was originally purchased, there was an exemption for collectible and antique automobiles.

I appreciate the opportunity to communicate with you on this issue. Thanks.

Roger Nelson

From: Dave Favier <DaveF@RainbowStudios.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 10/12/2005 4:31:08 PM
Subject: support for collector emissions exemptions

Greetings,

Please register my support for the collector car exemption law!

I was told to note that if this exemption is granted "there will be no difference in collector car driving habits". How true, with one exception: collector car owners won't have to drive to/from the emissions facility yearly, and won't have to idle for 20 minutes waiting for their turn on the rollers! So you're guaranteed to eliminate at least a 30min trip from the yearly usage of every collector car out there...

Thanks for listening!

Dave Favier

From: Robert H Russell <roberthrussell@mac.com>
To: <domsky.ira@azdeq.gov>
Date: 10/12/2005 8:35:05 PM
Subject: Exemption for emissions on Historic Vehicles

I support emission exemptions for Historic Vehicles.
Please support people who are preserving history for future generations.

Robert H. Russell
6970 E Shooting Star Way
Scottsdale AZ 85262
480 575 6943

4 Latham Wood
Plymouth MA 02360
508 209 0334

roberthrussell@mac.com

http://homepage.mac.com/roberthrussell/PhotoAlbum4.html

From: Robert H Russell <roberthrussell@mac.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/12/2005 8:36:47 PM
Subject: Please support exemptions for Historic Vehicles

Please support exemptions for historic vehicles.
Support people who preserve historic vehicles for future generations.

Robert H. Russell
6970 E Shooting Star Way
Scottsdale AZ 85262
480 575 6943

4 Latham Wood
Plymouth MA 02360
508 209 0334

roberthrussell@mac.com

http://homepage.mac.com/roberthrussell/PhotoAlbum4.html

From: "Douglas Mackay" <dbmackay@earthlink.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/13/2005 1:21:27 PM
Subject: emissions exemption

Sir: I wish to express my positive support of the pending change to emissions exemption for collector cars. When and if this exemption is granted there will be no difference in my collector car driving habits. Thank you. Douglas MacKay, Phoenix, Arizona

From: "jzmonster" <jzmonster@cox.net>
To: <domsky.ira@azdeq.gov>
Date: 10/13/2005 3:08:48 PM
Subject: Emissions regulations meeting

Just in case I can't attend on 11-28, I'd like to say please exempt all motorcycles over 25 years old. It's ridiculous that I can't license my 350cc, 1971 Honda due to its' difficulty with emissions. It still gets over 60 mpg. I would ride the bike about 500 miles a year. How much damage could it do?
Thanks in advance.
Jeff Zato in Mesa

From: <CCCP1@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/14/2005 4:43:23 AM
Subject: emission exemption

Please support the emissions exemption. Thank You

Frank Schroeder

From: <Harpcole@aol.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 10/19/2005 1:15:43 PM
Subject: Emissions exemption

Hi,

Thank you for your support of the emissions bill for collector cars.
This is strictly our "toy" and our driving habits will not change. It is garaged and we pay for collector car insurance.
Our car is a 1968 Triumph.
Marlene and Virgil Cole
623.334.0702

From: Ernie Payne <lepayne@earthlink.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 11:01:21 AM
Subject: exempt motorcycles and collectible vehicles

Hello Bruce Friedl,

We are in favor of exempting motorcycles and collectible vehicles from emissions testing. Please include street legal ATV's in the exclusion. We are senior citizens with motorcycles, a street licensed ATV, and collectible vehicles. Thank you for considering and inviting input on this action.

Lahoyah Ernest Payne
Nora Lavenia Payne
6891 N Camino Verde
Tucson, Arizona 85743

CC: <norapayne@earthlink.net>

From: "raywiggins" <raywiggins@comcast.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 12:41:44 PM
Subject: Emission exemption for ATV

Hello Bruce,
As you may or may not know, many Forest Service (Maintenance Level 3 forest roads) require street licensing for all terain vehicles. These roads are far from the metro areas of Phoenix and Tucson. ATV's residing in these areas have to have emissions testing to get street licensing. Taking an ATV down to the emisions staion requires a person bring the vehicle into the testing station on a truck or trailer. There are not many ATV's used in the city as they are designed to be used outside the city. I am a true believer in the inspection program as it has significantly improved air quality. However, I don't believe ATV's should be part of the program since most are used outside of the Tucson Phoenix Metro areas. Most ATV's aren't licensed anyway and are not part of the inspection program anyway. It would be nice for those of us who do want to license our ATV's to eliminate a cumbersome trip to the emission station.

Sincerely
Ray Wiggins
8751 N. Chinaberry Way
Tucson, AZ
520-579-7798

From: "Blakely, Robert" <Robert.Blakely@qwest.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 11:22:06 AM
Subject: collectible vehicle & motorcycle emission exemptions

Mr. Friedl: As a long time avid motorcyclist & old car enthusiast I applaud this proposal. I'm a member of the American Motorcycle Association & read about the legislation proposing the exemption in my monthly A.M.A. magazine a couple of years ago.I've talked to quite a few old car buffs who have had to get rid of their cars because of the hassle with trying to meet the standards on a car that only gets driven once or twice a month.The HC & CO emitted by motorcycles in Tucson & Phoenix are miniscule when compared to the huge amounts created by cars,trucks,farm machinery,small engines etc.I really hope the E.P.A. signs off on this.Thank you for your time & effort. Bob Blakely (third generation Arizonan) Tucson.

From: <Rsidoni@comcast.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 3:38:58 PM
Subject: Emissioni testing exemptions

Sir, I read the notice asking for comments on emission exemptions and am interested. I am sixty one years old and own three vehicles. Two vehicles are new and the third is a 1978 Corvette, which is twenty seven years old. I've driven it less than six thousand miles total, in the last three years. It is a hobby for me and a investment. I annually have to take time out of my schedule and sit in lines to get emission checks. The engine and numerous other items are rebuilt or replaced. I don't at this time personally consider it show quality but it definitely draws attention when I drive it. I find it frustrating to do emission checks, pay insurance, and pay for liscense when their are numerous other vehicles that are far less valuable, far worse condition and pollute much more than mine. I would support, favor, and be willing to pay more for emission exemptions for vehicles in my class.

Sinderely,
Richard Sidoni

ADEQ
AIR QUALITY DIVISION
05 OCT 26 AM 11:28

Vincent R. Beretta
10018 W. Mercury Dr.
Tucson, Arizona 85735

October 22, 2005

Mr. Bruce Friedl
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, Arizona 85012-2905

Dear Mr. Friedl,

I am writing to voice my opinion on the emissions testing exemption for motorcycles and collectible vehicles. I do not own either of these types of vehicles; however, I feel they should be exempted from emissions testing. My reasoning for this is current emissions testing is a farce. These facilities you contract to operate are nothing more than a scam on the citizens of Arizona so your agency can receive federal funds.

I have personally witnessed instances of fraudulent testing and inspections by these facilities. I have reported two of them to your offices, with no response but only cover-up attempts by your agency. Therefore, any and all motions or attempts to reduce or remove vehicle emission testing have my full backing.

Respectfully,

Vincent R. Beretta Sr.

From: "Ronni Rhodes" <Ronni@wbcimaging.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 3:41:20 PM
Subject: Emission Testing Exemptions

We completely support the plan to exempt motorcycles from emission testing.

Motorcycles do not pollute like other vehicles and only account for a fraction of existing vehicles on the road today.

Sincerely,

Mr. & Mrs. Donald Rhodes
10710 N. Stargazer Drive
Oro Valley, AZ 85737
520-742-5409

From: "Kenny @ Tina" <weharayda@cox.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 7:33:31 AM
Subject: Emission Exemptions

Hello Mr Friedl,

I would like to comment on this issue. As an owner of one of these vehicles, and 1968 Plymouth Roadrunner, and two more collector cars, I would really like to see collector cars and special interest cars exempt from testing. I, as others that have these cars, do not use them as daily drivers, and most are just to valuable to drive on the roads anyway. I totally agree that a car in question, has got to be insured as a "collector car". I have mine insured through Hagerty Ins. I have been told that California has already implemented a law like this, and I really believe we should too. Even though the number of cars would be small, it would still help out with the waiting in line to get tested. As far as having to prove that you have a daily driver, this would be good for the majority, but there are others that have and drive these older vehicles because they can't afford a newer one. If you look at the overall numbers of pre 80's cars, that are driven daily, it is really a small number. Next time your out and about, count the number of older cars on the streets, it's really hard to spot them anymore.

Thank You
Ken Harayda
Tucson, Az

From: "Chris Grogman" <cgrogman@comcast.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/22/2005 8:41:40 AM
Subject: Emission exemptions for motorcycles

Finally a proposal that makes good sense !!! Once a year I ride my motorcycle into Tucson...to the emission test. Living on the North side of Oro Valley all my other riding is into Pinal County with it's uncrowded streets and backroads. Getting to the emission test on the other hand is a white knuckle ride, particularly getting past Flowing Wells High School without getting hit by the youngsters blasting in and out of the school parking lot during lunch hours.
My 1995 Honda motorcycle scores in the lowest 1 % of emissions and having it tested is a waste of time. If the motorcycle ever approached any emission limits I am convinced it would not be able to run.
I would have no problem paying the annual fee but spare me and your workers at the test station the hassle of the pointless tailpipe test.
Thank you for your time.
Mr. Chris Grogman
233 W. Vistoso Highlands Dr.
Oro Valley,AZ 85755
Chicago Police Sgt. retired
ref.motorcycle plate MC GMZ2
Chris Grogman

From: Dick Green <jon.r.green@att.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/23/2005 6:48:13 PM
Subject: Emissions Exemption Comment

Dear Mr. Friedl,
I am the owner of a numbers machine 1976 fully restored Corvette with custom paint. This car has been restored to better than original and is strictly a show vehicle with specialized insurance that requires it be stored in a locked garage and may only be driven 5000 miles per year maximum. Driving is limited to rallies, shows and other special events with prohibitions not allowing errand running or to and from work. Regarding the current emissions exemption bill passed earlier this year by Arizona legislature, this only brings us up to standards of of most other states. It would appear that with the delays in implementing this bill and the killing of the same bill nearly two years ago that the DEQ is using the US EPA as an excuse rather than honestly bringing out the loss of revenue issue that is really at the root of the foot dragging. Most of us who own show or collector cars would not have issue with paying an "Air Quality Fee" in lieu of the emissions station hassles.
However according to the way the article was written in the Arizona Daily Star Sunday Edition (October 23) the suggested exemption for motorcycles is a "blanket" exception and I object to that. Motorcycles older than 15 or more years would be a non issue. However the new machines built to new technology standards should not be exempted. Along with that the proliferation of motorcycles being ridden daily would contribute greatly to automotive pollutants.
Thank you for any received consideration,
Jon R Green
9765 East Barrudean Hills St.
Tucson, 85748
520 296 2825
Fax- 520 296 2104

From: "chainsaw_4@netzero.net" <chainsaw_4@netzero.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/23/2005 8:15:23 PM
Subject: emission restrictions

sounds like a great idea. the car collectors keep their rides running clean and tuned up any way. you dont see them around town all day long anyway.

CC: <brian.cubbon@tucsonaz.gov>

From: <Subaru360nut@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/24/2005 9:36:58 AM
Subject: exemption for collectible vehicles

I am happy to see that this exemption may finally happen! I own 2 minicars with tiny 21 cubic inch engines. The total emissions they produce annually are about equal to a Chevy 454 ci truck being driven once around the block. Even in California, they would never have been required to pass an emissions test because of their size, but for some reason Arizona mandated that they be tested. Every year I have dutifully gone to the Testing Facility with both of them, waited in a long line, passed with a tiny fraction of the allowable emissions, and then been allowed to renew my registration for another year. My cars are 36 and 35 years old (other States would have exempted them when they reached the age of 25), really unique and "objects of curiosity" at car club activities and shows, and insured by Grundy Worldwide Collector Car Insurance, so they will finally qualify when this proposal becomes effective.

Arizona (at least in Maricopa and Pima County) has been the least friendly to car hobbyists of any State that I know of. This proposal will at least partially correct that discrimination.

Not only will it be a relief to us car hobbyists not to have to wait in line for emissions inspection, in our vehicles which are always meticulously maintained anyway, but it should shorten the lines for those who drive their cars a lot of miles and actually contribute to the pollution in the air.

All the collector cars in Pima County probably put far less harmful emissions into the air than one 18-wheeler with a dirty diesel being driven through Tucson on I-10 - how about testing Semis for emissions? Collector cars are driven mostly for short distances, on weekends, when traffic is lightest. There is no valid reason to subject them to emissions testing.

Ed Parsil, 2341 S. Circle X Pl., Tucson AZ 85713

From: "Jim/Carolyn Wheeler" <56chevys@cox.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/24/2005 9:10:49 AM
Subject: H. B. 2357--Emissions Testing Exemption for Collectible Vehicles

Hi. We read in the weekend newspaper that you are receiving comments on this subject. I'm also sending a copy of this message to Rep. Barnes who chaired the committee on H. B. 2357.

In early-September, 2005, we heard that H. B. 2357 had passed and was signed into law by the governor. I wrote an e-mail to MVD in Phoenix requesting that license renewal on our 1975 Olds Cutlass be issued, NO EMISSIONS TESTING REQUIRED. Here is what I heard back from Donna Polnau, at MVD, on September 5, 2005:

"HB 2357 was conditionally enacted. For this law to become effective, the US EPA must approve modification of Arizona's Air Quality State Implementation Plan for exempting the vehicles from emissions testing. ADEQ anticipates receiving approval and implementing the necessary changes by early 2007. You will find information regarding HB 2357 on the Internet @ http://www.azdeq.gov/environ/air/vei/index.html. Scroll down the homepage to the section marked, "Vehicle Emissions Testing for Motorcycles, Collectible Vehicles, and Vehicles more than 24 Model Years Old (HB2501/2294). Thank you. drp"

When we received our license renewal application in early-October, 2005, it said, "EMISSIONS TESTING REQUIRED."

On advice from a friend, my wife and I went to the MVD, Broadmont station in Tucson, October 19, 2005. Our goal was to re-license our 1975 Olds Cutlass without emissions testing. We'd heard that Broadmont was a bigger operation than other MVD installations in town and would be up on the new features of H. B. 2357.

As required by H. B. 2357, we presented paperwork as follows:
- the car bears a model year date of manufacture that is 15 years old or older
- it is of unique or rare design, of limited production, and an object of curiosity
- it is maintained primarily for use in car club activities, parades, etc.
- we have collectible vehicle or historic automotive insurance that restricts mileage and requires owner to have another vehicle for personal use.

In short, MVD, Broadmont refused to even consider giving us license tags for our '75 Cutlass without emissions testing. When we asked to speak with a manager or supervisor the gal at the window said she'd just spoken to one and that we could go to the emissions office on 29th street if we wanted to. Of course, when we went there, we got a lecture about the legal requirements, EPA regulations, etc., etc.

We then went to the MVD station on 22nd and Sarnoff, which is closer to our home. They laughed at us regarding no emissions testing. In fact, they were eager to tell us that the testing fee will increase from $12.25 this year to over $20.00 next year.

When we went through emissions and the car passed, with no problems. In fact, it scored 0.0%, vs. the 2.0% standard on carbon monoxide. On hydrocarbons, the car scored 47, vs. the 250 standard. This compared to 0.0% on CO and 61 on HC, last year.

Collectible vehicles in running condition and 15 years old or older are a small part of the fleet in Arizona. Such older vehicles are used infrequently and are typically well-maintained. Exempting them from emissions testing, as other states have done, would be a good plan for the State of Arizona.

We understand that H. B. 2357 may require endorsement by the federal EPA that could delay implementation until July 1, 2009. To us, this is a total mystery, since other states seem to have enacted similar laws that are currently in effect.

As we know, there are thousands of foreign vehicles travelling through Arizona, commercial vehicles, tourists, and others who have no emissions testing done on their cars and trucks. There are also numerous exemptions for vehicles produced within the most recent 5 years, citizens outside Maricopa and Pima counties, etc. Consequently, the whole process of emissions testing here is dubious.

In fact, law-abiding Arizona drivers probably produce more air pollution waiting in lines for the tests than any perceived savings we might get by finding an occasional polluting vehicle. What a waste of valuable time and fuel!

Regards, Jim Wheeler, Tucson

CC: <rbarnes@azleg.state.az.us>, "Jim & Carolyn Wheeler" <56Chevys@cox.net>

From: "Chris Sherman" <tsherman3@cox.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 9:20:46 PM
Subject: House bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully, Christopher M Sherman

From: "Rick Guisto" <rguisto@cox.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 8:19:13 PM
Subject: House Bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. I currently own four collector vehicles from a 1964 Plymouth Valiant Convertible, to a 1989 Dodge Dakota Convertible. These four vehicles are in addition to the daily drivers that my wife and I own and drive daily. My collector vehicles, like most of the collector vehicles in the country have limited use and are generally in "as new" or better condition both mechanically and cosmetically. I am asking for your support to incorporate House Bill 2357 into ADEQ Air Quality Plan.

Respectfully,

Rick Guisto
602-577-0679
rguisto@cox.net

From: <Junkpartz@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 7:30:54 PM
Subject: (no subject)

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Just yesterday, I took one of my vehicles out of storage for the SOLE PURPOSE of having the annual emissions testing done. Whatever pollutants it put in the air yesterday were CAUSED by the testing requirement.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully, Douglas Admas buckeye az

From: "Kevin Pierce" <ramrod39@earthlink.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 7:11:10 PM
Subject: House Bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Just yesterday, I took one of my vehicles out of storage for the SOLE PURPOSE of having the annual emissions testing done. Whatever pollutants it put in the air yesterday were CAUSED by the testing requirement.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully,
Kevin A. Pierce
8556 East 18th Street
Tucson, AZ 85710
520-886-5365

From: <WA9GCK@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 8:27:43 AM
Subject: TESTING

COUNT ME AS STRONGLY IN FAVOR OF EXEMPTION FROM TESTING FOR MOTORCYCLES
TESTING SHOULD BE FOR THE MAJOR CAUSES OF POLLUTION ONLY
IT IS AN UNNECESSARY BURDEN FOR THE OTHERS

GLENN HILL
555 N PANTANO 375
TUCSON, AZ 85710

From: "RALPH J LUDWIG III" <RalphJLudwig@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/25/2005 8:04:14 PM
Subject: hb2357

I am writing in reference to the public hearing on November 30th at 2:00 p.m. in Tucson Az in reference to hb 2357. I have been making several inquiries via the telephone and everything seems to be very gray. Do we need to contact you and/or some one else in order to voice an opinion at this upcoming hearing? In addition where do we locate the full outline of this proposal? I had a web site address that Ira Domski had given me but it would not come up (carcare/azdeq.gov). I am for this bill of what little that I understand about it and would like to be educted on it so that I may talk intelligently about it.

Thank you for your attention to this matter and speedy reply:

Ralph Ludwig

From: "GLEN JONES" <glen_margie@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/26/2005 1:41:23 PM
Subject: House Bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully,

Glen Jones
3253 E Fairbrook St.
Mesa, AZ 85213
480-830-2330

Express yourself instantly with MSN Messenger! Download today - it's FREE!
http://messenger.msn.click-url.com/go/onm00200471ave/direct/01/

From: "Laitinen, Mel" <mel.laitinen@weyerhaeuser.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/26/2005 6:42:32 AM
Subject: House Bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully,

Mel Laitinen
PO Box 1345
Sahuarita, AZ 85629

From: "Rick Kirin" <rick.kirin@leoniwiring.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/26/2005 2:08:54 PM
Subject: FW: Emissions Exemption Comments

-----Original Message-----
From: Rick Kirin
Sent: Wednesday, October 26, 2005 2:06 PM
To: 'friedl.bruce@azd-eq.gov'
Subject: Emissions Exemption Comments

Hello Mr. Friedl,

Please see the attached letter with my comments on the proposed emissions testing exemptions recently reported in the Tucson Daily Star
.

Best Regards,

Rick Kirin
Key Account Manager
LEONI Wiring Systems, Inc.
Tel: 520-741-0895, ext. 2278

October 26, 2005

Bruce Friedl
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85012-2905

Dear Sir,

I am submitting this letter to show my support for the proposed exemption on emissions testing for collectible vehicles. I have a 1969 Chevrolet Camaro that I restored mainly to participate in classic car shows and parades, and I believe that the proposed exemption is right on the money. The four criteria used to qualify such a vehicle for exemption are perfect and demonstrate clear common sense thinking.

I would suggest that a limitation of 5,000 miles per year falls inline with most insurance companies' offerings, and would be easily verified by a notation on the already required proof of insurance. With less than 5,000 miles driven annually, a car such as this is obviously not the "daily driver" in any household.

As evident at any classic car show, vehicles of this nature are typically very well maintained by their owners, and I would venture to say that their engines and emissions systems are in proper working order as well.

It can be argued that the current test requirement discourages the restoration of classic collectible cars, thereby denying sentimental and historical value to the owners and other appreciators. For some models of collectible vehicles, replacement parts for emission devices are difficult to find, and may no longer be available. Substituting emissions devices, or utilizing universal style devices in these

instances is not always possible, and would detract from the value and performance of the collectible car.

At a minimum, I would strongly encourage the emissions testing requirements be removed from cars built prior to 1973, when the first real emission control devices were added to the majority of cars in the United States. My 1969 Camaro, for example, came from the factory with no emission control devices other than a PCV valve (the main function of which is to provide suitable ventilation for the engine's internal mechanisms, reducing the chance of pressure induced oil leaks).

If losing the additional revenue generated by emissions testing collectible cars is a concern, I feel confident in saying that the majority of the collectible car owners would gladly pay an additional $15 or even $20 for their annual registration if they did not have to go through the hassle of an emissions test.

I am glad to see that the Arizona State Legislature has already approved this exemption, and hope that the U.S. Environmental Protection Agency will take similar steps in the near future.

You may contact me at 520-741-8095 if you would like to further discuss this issue. I appreciate your representation in this matter.

Sincerely,

Rick Kirin

Rick Kirin

From: "Bruntmyer, Mark" <mbruntmyer@phoenixtransit.net>
To: <friedl.bruce@azdeq.gov>
Date: 10/26/2005 8:15:02 AM
Subject: house bill 2357

Dear Mr. Friedl:

I am writing to voice my support for House Bill 2357. The bill would exempt certain collector automobiles from mandatory emissions testing. As a collector of classic cars, I can assure you that my vehicles and the vehicles of my fellow enthusiasts are meticulously maintained and driven sparingly. As a result, their annual contribution to air pollution in the state is likely less than the lawnmower or leaf blower a gardener uses.

Just yesterday, I took one of my vehicles out of storage for the SOLE PURPOSE of having the annual emissions testing done. Whatever pollutants it put in the air yesterday were CAUSED by the testing requirement.

Collector vehicles are a part of our history and heritage. They are not used as daily transportation and are a statistical non-contributor to our air pollution problems.

I urge you to join me in supporting House Bill 2357.

Respectfully,

From: "Dan Dickerson" <scooterdan@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 10/30/2005 9:01:34 PM
Subject: Exempt motorcycles from emissions test

Sir:
Please consider the above request. My husband & I have several bikes and spend many hours out in the heat waiting... Arizona is the ONLY state in this union who puts us through this. Please give us a break.
Thank you,

Aina Dickerson
822 West Cool Drive
Tucson, AZ 85704
520-297-6884

From: "Bruce Wilson" <bwmgw@mindspring.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/1/2005 3:27:27 PM
Subject: Re: ADEQ-motorcycle emissions testing

> To Bruce Friedl,
> Only one comment on this, it is about time! There are only TWO counties in
> the _entire_ United States that require emissions testing for motorcycles; Pima
> and Maricopa counties in Arizona. The last county to do away with this was
> Jefferson County, Kentucky; considered to be one of the most backward,
> uninformed areas in the Country. Even California with their strict CARB feels
> emissions testing for motorcycles is a waste of time, energy and money. This
> state (Arizona) amazes me sometimes in how out of touch and backward its
> policies and agendas are compared with the rest of the United States and the
> world. This should not even _need_ open public hearings. Just amazing!
> Bruce Wilson
> Tucson AZ
> bwmgw@mindspring.com

From: "WILLIAMETTA G MUSSELMAN" <muzzys3@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/2/2005 4:07:08 AM
Subject: Motorcycle Emissions

I think it is ridiculous that motorcycles be emissions tested. Right now they are just tested at an idle. Come on, they burn clean. It is the cars that are polluting the air quality. If the testing station cannot get that "wand" into one pipe they put it in the other. What a big waste of money. Concentrate on the cars that are messing up our air and our roads. '
People that ride motorcycles take very good care of their "ride".
I do not think that motorcycles need to be emissions tested. Just another rip off of the public.
Thanks

From: "Jones, Tony R" <tony.r.jones@boeing.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/2/2005 6:22:06 AM
Subject: Motorcycle emission Testing

Dear Bruce

I do not feel that testing is required for motorcycles we should spend our hard earned money in other places.

From: "JOHN WHITE" <JWHITE@azcorrections.gov>
To: <friedl.bruce@azdeq.gov>
Date: 11/3/2005 10:41:15 AM
Subject: ARIZONA EMISSIONS

This requirement for bike riders in Maricopa County for emissions testing is ridiculous. This needs to be voted away..there is no logic to its existence.

John White
Citizen

Bruce Friedl - emmissions testing exempt.

From: "lyman threet" <lymanthreet@excite.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/3/2005 2:11 PM
Subject: emmissions testing exempt.

THANKS FOR THE OPPORTUNITY TO COMMENT ON EMISSION TESTING EXEMPTIONS. THE HEAVY REGULATION THAT IS GROWING DAILY BY OUR BUREAUCRACIES AND COSTING US HEAVILY BOTH IN TAX LOAD AND ATTENTION TO MORE DOABLE EFFORTS OF COMMON SENSE GOVERNMENT.

I AM A SENIOR STILL RIDING A MOTORCYCLE AND ENJOYING THE FREEDOM OF THE ROAD FOR AN AVERAGE OF 1000 MILES PER YEAR. THIS IS ACHIEVED ON A MOTORCYCLE THAT AVERAGES 50 MILES PER GAL. WHAT WILL THE EMISSIONS SOCIETY COME AFTER NEXT--MY LAWNMOWER?

SINCERELY, LYMAN THREET

Join Excite! - http://www.excite.com
The most personalized portal on the Web!

From: Scott D Dreisbach <sdd@u.arizona.edu>
To: <friedl.bruce@azdeq.gov>
Date: 11/3/2005 4:30:57 PM
Subject: motorcycle emissions

Bruce,

I strongly urge you to take action in eliminating the emissions requirements for motorcycles.

As a long time rider, (over 20 years), I've never had any issue with air quality from any of my bikes. I assume that statistics would bear this out across the board, but these numbers would be readily available to you, I'm sure. In these times of fossil fuel crunches, it makes sense to encourage people to use high mileage vehicles. Removing the emissions component of registering motorcycles would be a step in that direction.

The city of Phoenix already does it's part in allowing single motorcycle riders to use carpool lanes. Now if we can only start allowing lane splitting...

Thanks for your time,
Scott Dreisbach

Scott D Dreisbach
Laboratory Manager
Department of Chemistry
University of Arizona
(520) 621-1292 / 850-3802
sdd@u.arizona.edu

From: "David Ray or Judy Ray" <djray@gainusa.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/4/2005 8:47:56 AM
Subject: comment on proposal to exempt collectible vehicles, motorcycles, etc.

Dear Mr. Friedl,
I can't imagine why the ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY would exempt any vehicles, regardless of how many wheels, from the laws about excessive emissions. It's a folly now that we must go to the testing station and idle our cars for an hour while, on the trip to & from the station, we see school buses and other vehicles including official ones of city, county, state, or federal fleets, trucks (often of prestious companies), etc. , belching it out as if there are no rules whatsoever. I have an historic vehicle, a 1976 Winebago, but I drive it very little & make sure it passes inspections annually. It's absurd to exempt any vehicle at a time when we should be doing everything possible to cut down on fossil fuel emissions.
Sincerely & Respectfully, David Ray
Author & Professor
www.davidraypoet.com djray@gainusa.com
"The Death of Sardanapalus & Other Poems of the Iraq Wars"
"One Thousand Years: Poems About the Holocaust"

CC: "Tucson Weekly" <jboegle@tucsonweekly.com>, "Jim Kiser" <jkiser@azstarnet.com>

Bruce Friedl - AZ Motorcycle Emission

From: "Troy Cordell" <tcshovelhead@msn.com>
To: "today" <friedl.bruce@azdeq.gov>
Date: 11/4/2005 6:57 PM
Subject: AZ Motorcycle Emission

To your e-mail Bruce??
Considering the fact that most states do not have emission laws on motercycles
(mainly because there is no way that two cylinder moters can produce
emmisions that a 4,6 or8 cylinder car or truck does), why should any
county or one state,AZ being the only to require this and then only in Pima and Maricopa
counties. It would seem that AZ is trying pinpoint the biker population
thoughout are region. If a motercycle ,regardless of make, is putting more pollution
in the air more, than say an S.U.V. ,it should be questioned as to this can happen.
It Can't.
If there is anything I can do to help this cause contact me at:
tcshovelhead@msn.com
Home (480)-983-7155
Cell (602)-763-7155
Thanks for your time
Troy Cordell

Hearing set on emissions testing exemptions

ARIZONA DAILY STAR

The public can comment at a Tucson hearing or by mail on a state plan to exempt motorcycles and collectible vehicles from having to take and pass annual emissions inspection tests.

The Arizona Department of Environmental Quality needs approval from the U.S. Environmental Protection Agency to include these new provisions in its air-quality plan. The Legislature approved the exemptions earlier this year.

A collectible vehicle must pass a four-part test to qualify for the exemption.

It must be at least 15 years old, be of unique or rare design and an object of curiosity, and be maintained primarily for use in car-club activities, parades, exhibitions or other public functions. It also must have special auto insurance that restricts its mileage and requires its owner to have another vehicle for personal use.

The hearing is at 2 p.m. Nov. 30 at the Department of Environmental Quality offices in Conference Room 444 of the State Office Building, 400 W. Congress St.

Written comments should go to Bruce Friedl, Air Quality Planning Section, Arizona Department of Environmental Quality, 1110 W. Washington St., Phoenix, AZ 85012-2905. Fax comments to 602-771-2366. E-mail them to friedl.bruce@azdeq.gov.

05 NOV -4 AM 10:50

Nov. 3, 2005

To Mr. Friedl,

This article on collectible vehicles was very interesting to me, as as much as last year going through emissions my treasured little truck did not pass inspection. This is one "many gentlemen's agreements" when you want to sell it, sell it to me! — the truck is like new inside and out.

Jasmine Cabrera
'55 mc. Amarillo
4.9 fuel injection
41,608 miles
1986 year

I wear it for my second car when doing special shopping; I wear it for the floor with carpet so it doesn't catch the paint. I'm also a real estate broker with signs for open houses.

The truck that is the "El Camino".

About not passing — took it to garage, they cut it down when you stopped it did — after it went back & they tuned it so it would run and he said, Mr. Friedl in 4200 Dennis Blvd Tucson, Ariz 85711.

Bruce Friedl - (no subject)

From: <Ladyridz@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/6/2005 5:27 PM
Subject: (no subject)

sorry ....I didn`t sign the last one.....

STOP EMMISION TESTING

Freedom and Liberty
Forever
Paulr

Bruce Friedl - (no subject)

From: <Ladyridz@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/6/2005 5:26 PM
Subject: (no subject)

STOP EMISSION TESTING FOR MOTORCYCLES

Donald P. Randolph
10877 North 109th Way
Scottsdale, Arizona 85259-3933
480.860.5798

05 NOV -7 AM 11:10

11.1.05

Bruce Friedl
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St., Phoenix, AZ 85012-2905.

Dear Mr. Friedl,

First, let me say that I am very pleased that Arizona is taking a step which will significantly reduce the cost, wait, and paperwork of emissions testing and bring this state in line with all of the others, including California which has some of the most stringent emissions rules in the continental U.S.

Now that we are seeing gasoline prices top three dollars at the pump, many people are beginning to see motorcycles as a viable alternative for transportation. It would seem counterproductive to tell them that by using a less polluting, more efficient form of transportation brings with it the inconvenience and expense of yearly emissions testing (something they don't even have to do with their SUV, which gets less than 10 miles per gallon).

In a state that offers almost year round weather suitable for motorcycle transportation, do we wish to discourage this progressive type of thinking and encourage forms of transportation that not only adversely affect the environment, but destroy our roads through the use of tires inappropriate for city road use.

Having had the good fortune to travel to other countries, I have seen cities much larger than the Phoenix metropolitan area have a substantially higher motorcycle to automobile ratio with a pollution index that never calls for "safety warnings" like I see here on a regular basis.

I think the confusion is that people think a 600-1000 cc engine pollutes to the same level as the average 3000 cc car engine. Even without catalytic conversion, the average motorcycle does not produce the same level of pollutants as an automobile. It is a lighter weight machine and burns fuel much more efficiently (hence 40-60 miles per gallon on the average motorcycle and without being a hybrid).

Leaving the pollution factor for the time being, consider the amount of paid man hours and paperwork that this state puts into testing motorcycles on a yearly basis. How much would that save if it were eliminated? If this state were really concerned about emissions, perhaps they could put that money into enforcement and I would then see less cars going down the road with smoke belching from their tail pipes (which makes me wonder how they get through emissions, if they even try).

I have watched this state feign enforcement with cameras that supposedly spot emissions violations and a telephone number that you can call to report out-of-state vehicles (usually owned by Arizonans who wish to register their vehicle in locations that don't require emissions testing), both to very little, if any, avail.

There may be no perfect answer to this problem, but the intentional discouragement of efficient, environmentally responsible forms of transportation is criminal in the eyes of a person who believes in ecological stewardship.

In conclusion, I ask you to consider carefully what is before you and look towards the future of Arizona. This should help you to see that emissions testing is not necessary for motorcycles in Arizona any more than it is necessary in the forty nine other states that have already seen the light and do not implement it.

Sincerely,

Donald P. Randolph

Donald P. Randolph

November 7, 2005

05 NOV -9 AM 11:04

Mr. Bruce Friedl,
Air Quality Planning Section,
Arizona Department of Environmental Quality,
1110 W. Washington St.,
Phoenix, Arizona 85012-2905

Re: Hearing On Emissions Testing Exemptions,
Request For Exemption

Dear Mr. Friedl,

I own a 1969 Porsche 912 coupe, with a four cylinder, air cooled engine and twin two barrel Solex carburetors(the Porsche 911 has a six cylinder, injected engine). Purchased in Tucson in 1971, this was my only car for many years.

Over time and travel the carburetors have been repaired, and rebuilt to meet emissions standards. The original Solex carburetors remained functional, but were becoming worn. Eventually, the carburetors could not pass emissions testing, and my car required waivers for registration and license. In 1981 I purchased a second car.

From 1991 to 2001 my work required constant business travel. During this time I drove the Porsche infrequently, and, after 1993-94 I let the registration and license lapse. Since then it has been stored in my garage, insured by USAA for comprehensive.

In 1997 the law was changed to a "One Time Only Waiver". To meet emissions standards will require replacing the Solex carburetors, a cost of several thousand dollars.

I have owned this car for 35 years, and now that I have the time, I would like to take it back on the road.

Please accept my request for emissions testing exemption:

- The car is 37 years old.
- Available for 4-5 years, 1969 was the last production year for this model (Porsche brought back a version of the 912, with modifications, for a few years in the early 1970's.)
- Not a "street" car.
- Not a "personal use" car (I have an Arizona registered & licensed 1987 Jeep Cherokee.)

Sincerely,

Daniel W. DeJulius
6362 N. Camino Katrina
Tucson, Arizona 85718
520 575 0966

DATE: November 14, 2005

TO: Bruce Friedl
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W Washington St.
Phoenix, AZ 85012-2905

FROM: James Carter
4622 W Purdue Ave.
Glendale, AZ 85302

SUBJECT: Emission testing for motorcycles

To Whom It May Concern:

My wife, Susie, and I own 7 motorcycles, all of which are for our personal recreation use. We normally leave town because of traffic to ride so the bikes are not polluting Phoenix. We are retired and have trailers to go on our long trips. I would dearly like for you to note the following thoughts for eliminating motorcycles from emissions testing.

- 1. We cause more pollution in town taking them in for testing than riding.
- 2. The street legal golf carts aren't being tested.
- 3. How about the forklifts, lawnmowers, model planes, hot air balloons, etc.
- 4. Let's crack down on the phony tags, stolen out of state tags, and it is just a joke to see the number of old junk vehicles on the road with temporary tags or expired.
- 5. During the holidays we routinely stop vehicles for D.U.I. checks. I recommend we do the same for registrations, insurance and stolen vehicles.
- 6. It's common knowledge among motorcycle riders and performance cars to adjust the engine for testing, then to readjust it to run properly.

Maybe we could just add a pollution fee to the registration requirements for any vehicle registered in our state. In some states a tax is added and charged each time a vehicle is registered, that stops the tax free for sale by owner gimmicks and the fraud of leaving the buyers name blank on the title.

Thanks for reading my thoughts.

Sincerely,

Jim Carter

Jim Carter

Bruce Friedl - exempt mortorcycles

From: bonnie greenwald <missbonnie328@yahoo.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/13/2005 8:23 PM
Subject: exempt mortorcycles

We believe that motorcycles should be exempt from emissions inspection tests.
J. and B. Westmoreland

Yahoo! FareChase - Search multiple travel sites in one click.

Bruce Friedl - FW: Emissions Exemption - Collector Car

From: "John Namisnak" <johnnamisnak@qwest.net>
To: <domsky.ira@azdeq.gov>
Date: 11/14/2005 9:45 AM
Subject: FW: Emissions Exemption - Collector Car
CC: <friedl.bruce@azdeq.gov>

-----Original Message-----
From: John Namisnak [mailto:johnnamisnak@qwest.net]
Sent: Monday, November 14, 2005 9:34 AM
To: 'domsky.ira@azdeq.gov'
Cc: 'friedl.bruce@azdeq.gov'
Subject: Emissions Exemption - Collector Car

Hi: As a collector car owner living in Maricopa County and within the State of Arizona I would like to see the Emissions Exemption be passed. As a current member of the AZPOCA - Arizona Pantera Owners Club of America, my 1971 Pantera and my self would not change are collector car driving habits with the passing of this into law.

Thank you for this consideration.

John Namisnak
Scottsdale, AZ
johnnamisnak@qwest.net
602-787-8219

From: "Craig" <thorn-and-rose@juno.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 11/15/2005 12:13:20 PM
Subject: Emissions testing for collectors cars

2629 E Windmere Dr
Phoenix, AZ 85048

Nov 15, 2005

Dear Sirs

I fully support the exemption from annual emissions testing those collector automobiles that meet the requirements of the exemption. I am an owner of such an automobile and I do reside in Maricopa County. I take the issue of air quality very seriously and drive modern vehicles that get very good mileage. My collector car is used as a hobby, traveling to and from classic car gatherings. With the exemption, my use of the car will not change. The exemption will reduce the annual hassle of emissions testing without increasing the emissions in the valley.
Thank you

Craig Kenyon 480.706.4644

Bruce Friedl - Emmissions Testing Exemptions for Motorcycles

From: Jeffrey Kapp <jl_kapp@yahoo.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/22/2005 3:06 PM
Subject: Emmissions Testing Exemptions for Motorcycles

Dear Mr. Friedl,
I am writing this note in support of exempting motorcycles from the state's annual emissions inspection and test. This matter was discussed last Saturday at our local GWRRA (Goldwing Road Riders Association) chapter meeting. We were asked by a member of our chapter if any of our bikes had ever failed the state's emissions inspection and test. Out of ~50 people in attendance, no one's motorcycle had ever failed the emissions inspection and test! Never!

By not inspecting motorcycles, which are by far the minority of vehicles being inspected, time will be freed up to allow more automobiles to go through the inspection and testing procedures. Shorter lines and less time waiting in lines will make for a much better experience at inspection and test time.

Thanks, Mr. Friedl, for allowing me to share my experiences and voice my opinion.

Regards,

! Jeffrey Kapp
Vail, AZ

Yahoo! FareChase - Search multiple travel sites in one click.

Bruce Friedl - exemption for emission on classic cars.

From: "Terry Larson" <terry_larson@netzero.com>
To: <domsky.ira@azdeq.gov>, <friedl.bruce@azdeq.gov>
Date: 11/24/2005 9:41 AM
Subject: exemption for emission on classic cars.

To whom it may concern:

Being a collector of classic cars, I would like to express my view that there should be no emission control requirement for older cars. My cars and other collector cars I know of are used very little on the road. If exemption is granted there will be no difference in my driving habits. thank you.

Best Regards,

Terry Larson
terry_larson@netzero.com
480 984 8501

Bruce Friedl - collectible car exemptions

From: Bruce Laumeister <vtcolor@yahoo.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/26/2005 2:35 PM
Subject: collectible car exemptions

Dear Mr. Freidl,
As a 49 year winter resident, I have had numerous collectible cars here in AZ over the years. At present, a 62 Rolls Royce and 57 Poesche Speedster grace my garage. In all those years, I have never driven any of those cars more than 500 miles in the 6 months that I'm here. Even back east, I never put more than 500 miles on them.
As a member of both the RR Owners Club and the Porsche Club of America, I know that our members use their cars almost exclusively for Club events - proimarily charity fund raisers and shows for the general public. Needless to say, the total pollution added to AZ by these cars, wouldn't total 10 SUVs that now clog our highways. As far as inspection goes, you will never find better maintained vehicles than the collectibles.
The insurance available for these cars, which limits the mileage or any daily use, is so attractive pricewise that we would not even consider other use. ($300 for the RR plus 95 for the Porsche for 0 deductable.)
A 15 year old limit would certainly add to the quality of life in AZ.
sincerly, Bruce Laumeister

LaCasse hardout

ISION
6: 12

1969 Triumph GT6+
Shown sleeping in the garage!

Insured as a classic car since 1996.

Mileage history of this classic car:

Date	Mileage	Miles	Years	Miles/Year
1/16/1987	67,000			
1/5/1989	92,704	25,704	1.97	13,039
1/8/1991	105,179	12,475	2.01	6,216
1/30/1994	112,393	7,214	3.06	2,357
3/13/1999	116,490	4,097	5.11	801
11/20/2005	119,708	3,218	6.69	481

NOV 28 2005
2 PM

Bruce Friedl - End emissions for motorcycles

From: "Aina Wright" <ainaw42@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/29/2005 12:14 PM
Subject: End emissions for motorcycles

Mr. Friedl,
Please support this change in the air quality plans - motorcycles are cleaner than cars - it is a health hazard when we have to wait in long lines with riding gear (helmets, jackets, gloves, etc.) on in the summer - and... we are the ONLY state in the union which requires us to do this.
Thank you.

Aina W. Dickerson
822 West Cool Drive
Tucson, AZ 85704

Get more from the Web. FREE MSN Explorer download : http://explorer.msn.com

Bruce Friedl - Ending emissions inspection for motorcycles

From: "Dan Dickerson" <scooterdan@msn.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/29/2005 12:21 PM
Subject: Ending emissions inspection for motorcycles

Arizona is the only state to require emissions testing for motorcycles, since they have already figured out that motorcycles are extremely clean running. One worker who recently checked my wife through said "motorcycles never fail", but I personally witnessed workers placing rags into the exhaust pipes of a small (500cc) motorcycle in order to get a reading. They couldn't believe it wouldn't give them a reading! Well, after choking the bike to death, it failed. Putting up with this and waiting in line in the extreme summer heat - in the sun - in riding gear- is enough to end this requirement. I encourage your support of this change.

Dan Dickerson
822 W. Cool Dr. Tucson
Owner of 9 motorcycles that have to go through emissions

Bruce Friedl - Exemption of Motorcycle Inspection Tests

From: Carolyn Irwin <dici421@yahoo.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/29/2005 2:44 PM
Subject: Exemption of Motorcycle Inspection Tests

I am the Four-Corners Director of the Retreads Motorcycle Club International. In Tucson we have over 200 members. I also belong to GWRRA.
In checking with Retread & GWRRA members (of course all have had to take their cycles through emissions testing), none have ever failed over the years.
To my knowledge Arizona is the only state that requires emissions testing for motorcycles.
It is clear that motorcycles are not polluters.
The state legislature would not have passed the exclusion law without adequate study.
I urge you to approve the exclusion so this law can take effect.
Thank you,
Dwight E. Irwin

Yahoo! Music Unlimited - Access over 1 million songs. Try it free.

Bruce Friedl - Vehicles older than 24 years, collectable cars and MC AQ exemptions

From: <SteelPonyCowboy@aol.com>
To: <friedl.bruce@azdeq.gov>
Date: 11/29/2005 6:16 PM
Subject: Vehicles older than 24 years, collectable cars and MC AQ exemptions

---

It is about time that Arizona get with what other states have been doing for some time. The 1967 and newer rule for emissions testing is more stringent than Californias law which exempts 1974 and older and other states that vary from 15 to 35 years old for vehicles. Currently Arizonas policy based on 67 and newer is 39 years. Our air quality isnt bad, have you been to LA recently and seen the brown haze hanging over the city, that is bad air quality and they pride themselves on their strict standards, which are less strict than ours. Where is the justice ? Look at the typical car on the streets of Phoenix today the VAST majority are 1990s and newer. 1980s a small percentage and 1979 and older are a very small percentage that cannot affect our air quality much at all. Now if a car is producing smoke, I dont care how old it is, it should not be on the road but these "fogger" cars pass police cars and they dont seem to do anything about it so there is no law or the police are too lazy to enforce it concerning smoking vehicles. Come to think of it they dont enforce many laws as it pertains to condition, safety or roadability of vehicles so why enforce anything else. Police here seem lazy, unlike police where I am originally from that would pull you over in a minute for a smoking car, a busted windshield, tail lights made from red tape, etc.

I am guessing that the 24 year rule is still a part of these plans in addition to the collectable car provision which is a little confusing as I read it. But in any case I am all for the exemption of collectable/classic and vehicles over 24 years.

As for motorcycles, I do not think they should be exempt at all. More and more motorcycles are on the road these days and many of them that I have seen smoke, especially the older ones.

Thank you for listening to my views. Please notify me when these provisions become law and my classic car will qualify for exemption.

Mike Fissel
P.O. Box 5324
Mesa, AZ 85211
602-793-7151

From: Mick <mick2@comcast.net>
To: <friedl.bruce@azdeq.gov>
Date: 11/30/2005 2:27:03 PM
Subject: HB2357

Bruce,
Please show me TOTALLY on the side of HB2357. I own 3 motorcycles and one collectible car. In all the years I have been driving/riding them to the
inspection station annually, NONE of them have ever exceeded 2% of the allowable emissions.
All 3 of my motorcycles are BMW's and the engine management systems on these bikes is so good, they meet the European Union's strict emissions standards. Almost 90% of all motorcycles are now fuel injected and electronically
controlled. The minuscule emissions that they emit is hardly noticeable.
My collectible car is driven fewer than 500 miles per year typically. It is insured
by Grundy Collector Car Insurance company and is "mileage limited" just to qualify for the insurance coverage. There is absolutely no reason it should be
inspected annually. It too always passes with 2% or less of the allowable emissions.

Sincerely,

Mick McKinnon
Tucson, AZ 85750

From: Mick <mick2@comcast.net>
To: <friedl.bruce@azdeq.gov>
Date: 11/30/2005 2:27:03 PM
Subject: HB2357

Bruce,
Please show me TOTALLY on the side of HB2357. I own 3 motorcycles and one collectible car. In all the years I have been driving/riding them to the
inspection station annually, NONE of them have ever exceeded 2% of the allowable emissions.
All 3 of my motorcycles are BMW's and the engine management systems on these bikes is so good, they meet the European Union's strict emissions standards. Almost 90% of all motorcycles are now fuel injected and electronically
controlled. The minuscule emissions that they emit is hardly noticeable.
My collectible car is driven fewer than 500 miles per year typically. It is insured
by Grundy Collector Car Insurance company and is "mileage limited" just to qualify for the insurance coverage. There is absolutely no reason it should be
inspected annually. It too always passes with 2% or less of the allowable emissions.

Sincerely,

Mick McKinnon
Tucson, AZ 85750

NOV 3 0 2005
5.33 PM

Public Comment Regards:
COLLECTIBLE VEHICLE AND MOTORCYCLE EXEMPTION STATE IMPLEMENTATION PLAN (SIP) REVISION

Summary:
It is requested that the revision to the SIP be rejected based on the current wording of HB2357 for the following reasons:

1) While the findings of the ADEQ in response to HB2501 indicate that the emissions benefits of performing IM on "collectible vehicles" may be insignificant, the emissions benefits of performing IM on vehicles over 25 years old and motorcycles is clearly significant. The problem with the wording of HB2357 is that it does not sufficiently limit, define or control the expansion of the number of vehicles which might qualify as "collectible vehicles" and therefore could allow significant loss of IM benefit over what the ADEQ study shows.

2) The proposed definition of collectible vehicle in ARS 49-542.Z.1.a which drops the required age to over 15 years opens the population of eligible vehicles for exemption well beyond the class of vehicles originally studied by the ADEQ regarding HB2501.

3) The proposed definition of collectible vehicle in ARS 49-542.Z.1.b is too vague and can also increase the possible population of eligible vehicles for the exemption. There is no agency designated to pass judgment on whether a given vehicle meets this test.

4) The proposed use criteria for collectible vehicle in ARS 49-542.Z.2.a is not enforceable, nor can vehicles possessing the exemption be readily identified when they are being used in unacceptable ways.

5) The proposed use criteria for collectible vehicle in ARS 49-542.Z.2.b may be the wording included in the insurance policy, but again there is no enforcement mechanism. And having another vehicle for personal use was not restricted to one which did not already have an exemption.

6) The added expense to enact the law and amend the SIP, as well as lost IM fees, is solely for the benefit of less than 0.5% of the registered vehicles according to the ADEQ study. This is particularly undesirable when considering that the proposed alternative methods to mitigate any such exemptions would affect a far larger population of vehicle owners.

7) There is no evidence to suggest that vehicles exempted from annual IM will be maintained over a long period of time; and thus could create a larger negative impact than what was assessed in the ADEQ study.

While the spirit and intent of the wording in HB2357 and the findings of the ADEQ suggest no significant impact in exempting collectible vehicles, there are significant loopholes within the wording of HB2357 that could increase the exempted population beyond the study findings. History has proven that the public will take advantage of such vague wording regardless of the intent of the bill. Case in point would the recent alternate fuels bill debacle.

Recommendations are given below to revise and improve on the wording before such action could be realistically accessed again. Discussion of the above points follows these recommendations.

Recommendations:
The wording of HB2357 should be amended to limit to possible number of exempted vehicles to the scope found in the ADEQ study for HB2501 and to add reasonable enforcement capabilities.

1) To ensure that the emissions benefits of performing IM on "collectible vehicles" may be insignificant, the maximum number of vehicles qualifying for the exemption should be limited to no more than 0.5% of the registered (and IM tested) vehicle population in each attainment area.

2) The definition of a collectible vehicle should be strictly limited to a vehicle age of greater than 25 years, regardless of perceived collector "value." This definition should also include a one time inspection to verify that the vehicle is in good condition (passing at least a Hemmings condition 3 or better and passing an emissions test).

3) The definition of collectible vehicle use should be limited to a fixed number of miles per year (i.e. 1000 miles) and verified by an annual inspection at a DMV inspection lane (not IM lane). Evidence of a non-functional or altered odometer would be grounds for permanently voiding any collector car exemptions for that owner.

4) Vehicles exempt under this section should be designated with a special license plate that is different from the current "Historic Vehicle" plate and that plate should clearly state that the vehicle is IM exempt.

5) No privately held business should be given any benefit in establishing the criteria for a collectible vehicle.

6) The added expense of exempting vehicles should be compensated by the vehicle's owner. This should include an annual fee for the special license plate ($25) and the lost IM fees ($25).

Discussion:
My biggest concern is that the wording of HB2357 is so broad and so vague as to allow a wider use of the "collector car" exemption than was originally studied by the ADEQ in response to HB2501. If indeed the number of exempted vehicles stays below the current 0.5% of the vehicle population, then there would be no serious impact. But, like the alternate fuels bill debacle; such vaguely worded laws can lead to all forms of unintended consequences and ways for the public to take advantage.

For example, the definition of a collectible vehicle has been widened to cover vehicles only 15 years old which is a much wider population than even the 25-year-old vehicle population which the ADEQ determined are a significant air quality issue. And there is no "test" to determine what the phase "UNIQUE OR RARE DESIGN, OF LIMITED PRODUCTION AND AN OBJECT OF CURIOSITY" really means. Who will verify and/or decide this? The only definitive criteria is the age of the vehicle and that age should be high enough that the truly undesirable vehicles are naturally purged from the fleet.

The other area of concern is enforcing the intended use of these exempt vehicles. The wording of HB2357 is equally vague and could allow many more miles of use to be driven than what is commonly mentioned by collector car enthusiasts (about 1000 miles). Such increased usage, particularly on days with a High Pollution Advisory (HPA) can be a serious issue.

There is no check made to insure intended use nor is there any way for the Police (or other concerned citizens) to observe improper uses, since the exempted vehicles are not readily labeled or marked as such. Hence the need for a special license plate to set these vehicles apart from other Historic Vehicles which may not have the exemption.

There is also a real hazard in depending on a private industry (i.e. the collector car insurers) to define which cars are eligible to be exempt and/or somehow control their use. In discussions with people I know with collector car insurance, they mention the restrictions in the policies, but also notice that some companies do not verify the mileage use, nor even make an inspection of the vehicle. It seems reasonable that the intent of HB2357 should be to allow an exemption for a reasonably restored vehicle and not given out for a beat up old wreck. Further, there is an economic incentive to get an exemption for an older vehicle as follows:

a) If a vehicle is required to have an emissions test, there could be a $50-$100 tune-up cost prior to each IM test and the cost of the IM test itself. If the car fails then there is an additional $300 limit on repairs. Buying collector car insurance is far cheaper at about $100 per year.

b) Even if the vehicle passes the test, the annual IM related costs and time are more than just sending in annual insurance premium.

It should be no surprise that the collector car insurance industry was interested in promoting this bill; as it will generate additional incentives for people to go that route over regular "stated value" coverage with the typical auto insurance companies. As was demonstrated with the alternative fuels bill, whenever private industry can benefit from the bill then unintended consequences are more than likely to follow.

Further, there is no sanction of a collector car insurer who fails to enforce the usage rules. Nor would it be prudent for the Arizona Government to get involved in qualifying/sanctioning insurers for this purpose. Even if every collector car insurer is diligent in enforcing the usage rules and cancels a policy at the end of each year based on excessive mileage, a person could jump from company to company each year and still qualify, as there are a fair number of ways to get this type of coverage.

Another aspect of the collector car insurance criteria is that there is nothing in the ARS to prevent a vehicle from being double insured: one policy with full coverage and another for collector car insurance. My insurance agent said that they check the car's VIN to see if it is insured elsewhere and will deny double coverage, but there is no assurance that ALL insurance companies do this, nor does the DMV flag these cases as invalid. As mentioned above, paying the small collector car insurance fee would have an economic benefit over the costs associated with IM, regardless of what other insurance a person carries. It is entirely possible for a person to find an ineffective collector car insurer and get a cheap policy in order to get an IM exemption and then have regular liability insurance for any case of an accident so there would be no fear that the collector car insurer may deny the claim based on excessive mileage or improper usage when the accident occurred.

There is also a real risk that exempted vehicles will degrade in emissions performance over time as many people are unable (or do not possess good test equipment) to keep them in top emissions condition. An older vehicle with an increased emissions output will not run significantly different than a cleaner one; and in many cases the normal home mechanic's tuning methods will actually yield richer mixtures and higher emissions in exchange for

improved drive-ability. Also, once a vehicle becomes exempt there will be a wholesale removal of all those "horrible emissions control devices" than many collectors have come to hate over the years. You can say "bye, bye" to catalysts, air pumps, EGR evaporative canisters, etc. Further, there will be no restriction on engine swaps and other significant alterations which could make the older car a gross emitter. I fully expect that the net impact for the fleet of exempt vehicles is that they will have higher average emissions than what the ADEQ study finds.

Fundamentally I do not understand the "need" for these exemptions in the first place. As an owner of two vehicles that are over 25-year-old I have never found the annual IM test to be either too expensive or time consuming. It only seems fair to do my part for clean air with all the vehicles I own. As stated in the summary, this exemption process has been costly to implement for such a small special interest population of Arizona. On top of that it does nothing to IMPROVE air quality, but may trigger other mitigating strategies by Arizona to the EPA to allow the exemptions. And these other mitigations as listed in the ADEQ study can not only affect me, but also affect a much wider population than those who would benefit from these exemptions.

But, my past experience in the collector car community suggests to me that the vagueness and possible loopholes present in HB2357 were the result of trying to build a consensus across wide range of sometimes conflicting interests among old car enthusiasts; and therefore HB2357 is actually intended to serve a wider audience than just the 0.5% of the vehicle owners who now have collector car insurance. If this is the case, then my fear that the population of exempt vehicles may grow dramatically and/or the emissions of that exempt fleet will increase beyond the ADEQ expectations is well founded.

Mark L. Shaw

Casa Grande, AZ

Daily commuter to
Freescale Semiconductor, Tempe, AZ
Engineer, BSEE, 1968, Kettering University,
Member Society of Automotive Engineers (SAE) since 1981
Have worked in automotive industry since 1963
Owner of two collectible vehicles, both over 25 years old

APPENDIX E.6

Responsiveness Summary

RESPONSIVENESS SUMMARY
to
Testimony Taken at Oral Proceedings and Written Comments Received on Arizona Basic and Enhanced Vehicle Emissions Inspection/Maintenance Programs State Implementation Plan Revision

The oral proceedings on the *State Implementation Plan (SIP) Revision, Arizona Basic and Enhanced Vehicle Emissions Inspection/Maintenance (I/M) Programs* were held on Monday, November 28, 2005, 1:30 p.m., at the Arizona Department of Environmental Quality, Conference Room 145, 1110 West Washington Street, Phoenix, Arizona, and on Wednesday, November 30, 2005, 2:00 p.m., at the Arizona Department of Environmental Quality, Southern Regional Office, Conference Room 444, 400 West Congress Street, Tucson, Arizona. The public comment period closed on Wednesday, November 30, 2005. Oral and written comments received and the Arizona Department of Environmental Quality's (ADEQ) responses are described below. During its final review of the proposed SIP, ADEQ determined some further clarifications were appropriate. These clarifications are also included below.

1) **Comment:** Numerous comments were received prior to and during the comment period in support of exempting collectible vehicles from emissions testing. In addition, many commenters noted that their collectible automobiles were not used as daily transportation, were driven very minimally and would continue to do so, and approval of the exemption would further reduce miles of travel by not requiring a trip to an emissions testing facility.
Response: ADEQ appreciates the positive comments regarding the exemption of collectible vehicles from emissions testing in Maricopa and Pima Counties. A record of low annual miles of travel is supported by the analysis performed to assess the impact of exempting collectible vehicles from emissions testing. As such, an insurance requirement that includes a mileage restriction is included in House Bill (HB) 2357 to qualify for an emissions test exemption.

2) **Comment:** Numerous comments were received in support of exempting motorcycles from emissions testing.
Response: ADEQ appreciates the positive comments regarding the exemption of motorcycles from emissions testing in Pima County.

3) **Comment:** Phoenix area motorcycles should be exempt from testing. Commenters also noted the following: Arizona is the only state that requires emissions testing for motorcycles, motorcycles are not a major cause of pollution and are fewer in number and cleaner than cars, and drivers should be encouraged to use high mileage vehicles such as motorcycles to reduce fossil fuel consumption.
Response: The enhanced I/M program, including the testing and repair of automobiles and motorcycles, is among the primary control measures used to help the Phoenix area attain and maintain the carbon monoxide and ozone National Ambient Air Quality Standards (NAAQS). Analysis of the impacts of exempting

motorcycles from the I/M programs showed that testing and repair of motorcycles in the Phoenix area provides a significant air quality benefit, nearly four times the emissions benefit of testing and repair of motorcycles in the Tucson area. The I/M program is not designed to discourage the use of any one class of vehicle but rather to ensure that the vehicles that are operated do not negatively impact air quality or interfere with meeting the air quality standards. Therefore, HB 2357 only authorizes the exemption of motorcycles in the Tucson area.

4) **Comment:** No vehicles should be exempt from emissions testing to cut down on fossil fuel emissions.
Response: Air pollution control programs, as implemented in Arizona, are designed to reduce emissions and help areas meet the NAAQS. Analysis of the Phoenix and Tucson I/M programs demonstrate that the exemption of collectible vehicles and motorcycles as described in this SIP revision will not interfere with either area's ability to attain or maintain the air quality standards.

5) **Comment:** Delays in implementing HB 2357 are due to concerns over loss of revenue.
Response: The schedule for revising state implementation plans is determined primarily by federal requirements. Procedural requirements include analyzing air quality impacts and providing opportunity for public comment on proposed changes to the SIP. U.S. Environmental Protection Agency (EPA) review and action is required within 18 months after submittal of the SIP revision. ADEQ anticipates EPA action on this SIP revision in 2007.

6) **Comment:** There should not be a "blanket" exemption for motorcycles. Motorcycles newer than 15 years old are built according to new technological standards and should not be exempt from emissions testing.
Response: Analysis of the Tucson I/M program demonstrates that the exemption of motorcycles will not interfere with the area's ability to attain or maintain the air quality standards regardless of age.

7) **Comment:** Vehicles older than 24 years should be exempt from emissions testing.
Response: Analysis showed that the testing and repair of all 25 model years old or older vehicles provided a significant air quality benefit and exemption of this class of vehicles would require implementation of additional control measures with at least equivalent emission reductions.

8) **Comment:** ATV's are few in number, primarily used outside the urban area, and should be included in the emissions testing exemption.
Response: This SIP revision did not analyze the impact of exempting all terrain vehicles that would otherwise be subject to emissions testing requirements.

9) **Comment:** Motorcycles should not be exempt from testing due to increasing numbers of motorcycles on the road.

Response: A very small benefit was demonstrated from the testing and repair of motorcycles in the Tucson area. Motorcycles represent less than one half percent of Tucson area total emissions. Because of the low benefit and small contribution to total emissions, any anticipated increase in the number of motorcycles is not expected to adversely affect maintenance of the air quality standards.

10) **Comment:** The wording of HB 2357 does not sufficiently limit, define or control the expansion of the number of vehicles which might qualify as "collectible vehicles" and therefore could allow significant loss of I/M "benefit" over what the ADEQ study shows. The maximum number of vehicles qualifying for the exemption should be limited to no more than 0.5% of the registered and I/M tested vehicle population in each testing area.
Response: As determined in the ADEQ study, the majority of collectible vehicles subject to I/M requirements were 25 model years and older. Other requirements in the law sufficiently limit the mileage and/or use of collectible vehicles.

11) **Comment:** The proposed definition of collectible vehicle in ARS § 49-542.Z.1.a which drops the required age to over 15 years opens the population of eligible vehicles for exemption well beyond the class of vehicles originally studied by ADEQ.
Response: As determined in the ADEQ study, the majority of collectible vehicles subject to I/M requirements were 25 model years and older. Insurance coverage requirements for collectible vehicles provide sufficient restriction on the use of collectible vehicles.

12) **Comment:** The proposed definition of collectible vehicle in ARS § 49-542.Z.1.b ("is of unique or rare design, of limited production and an object of curiosity") is too vague and can increase the possible population of vehicles eligible for the exemption. There is no agency designated to determine whether a given vehicle meets this test.
Response: All owners of eligible vehicles must also have collectible automobile insurance that restricts mileage and/or use and have another vehicle for personal use. This restriction effectively limits the number and use of eligible vehicles by requiring an owner of a "unique" vehicle to demonstrate that other means of transportation are available and the collectible vehicle will not be used extensively for general commuting and other similar activities.

13) **Comment:** The proposed definition of a collectible vehicle should be limited to a vehicle age of greater than 25 years, regardless of perceived collector value and include a one time inspection to verify that the vehicle is in good condition (passing at least a Hemmings condition 3 or better and passing an emissions test).
Response: ADEQ determined that exempting collectible vehicles will not interfere with the program areas' ability to attain or maintain the NAAQS.

14) **Comment:** The proposed use criteria for collectible vehicles in 49-542.Z.2.a ("is maintained primarily for use in car club activities…") is not enforceable nor can vehicles possessing the exemption be readily identified when they are being used in unacceptable ways.
Response: All owners of eligible vehicles must also have collectible automobile insurance that restricts mileage and/or use and have another vehicle for personal use. This restriction limits the use of eligible vehicles by requiring an owner to demonstrate that other means of transportation are available and the collectible vehicle will not be used extensively for general commuting and other similar activities.

15) **Comment:** The definition of collectible vehicle use should be limited to a fixed number of miles per year and verified by the MVD.
Response: Other requirements in the law sufficiently limit the mileage and/or use of collectible vehicles.

16) **Comment:** There is no enforcement mechanism in the proposed use criteria for collectible vehicles in ARS § 49-542.Z.2.b ("has … insurance coverage that restricts the collectible vehicle mileage or use, or both, and requires the owner to have another vehicle for personal use").
Response: There is a financial incentive for the insurer to verify through inspections that collectible vehicles are not driven beyond allowable mileage or operated outside their intended use. The more miles driven for uses outside car club activities, exhibitions, or other similar activities, the higher the risk and incidence of accidents and claims against the insurance policy. Because policies that restrict mileage and activity are priced accordingly, it is in the insurance company's best interests to ensure that policies are enforced as written. At least two major carriers of collectible insurance regularly survey insured parties on vehicle mileage or have other mechanisms to assure that the requirements of the policy are met.

17) **Comment:** There is no sanction of a collector car insurer who fails to enforce usage rules.
Response: There is a financial incentive for the insurer to verify that collectible vehicles are not driven beyond allowable mileage or operated outside their intended use. See comment 16.

18) **Comment:** Even if a collector car insurer enforces usage requirements and cancels [rerates] a policy at the end of each year based on excessive mileage, a collectible vehicle owner could change the insurance company each year and still qualify for an exemption as there are a number of ways to obtain this type of coverage.
Response: Commenter provides no documentation that this practice occurs. Research conducted by ADEQ on collectible vehicle insurance indicates that this mechanism provides sufficient assurance that collectible vehicle mileage will be restricted consistent with the assumptions made in the emissions analysis.

19) **Comment:** There is nothing in the ARS to prevent a vehicle from being double insured, one policy to obtain an emissions exemption and another policy for liability coverage so in the case of an accident there would be no concern that the collector car insurer may deny the claim based on excessive mileage or improper usage. There is no assurance that all insurance companies check to see if a vehicle is insured elsewhere and the DMV does not flag these cases as invalid. The requirement in ARS § 49-542.Z.2.b to have another vehicle for personal use was not restricted to one which did not already have an exemption.
Response: All insurers are required to transmit proof of collectible vehicle insurance to the Arizona Department of Transportation, Motor Vehicle Division (MVD). The suggested evasion tactic could be interpreted as a form of insurance fraud.

20) **Comment:** No privately held business should be given any benefit in establishing the criteria for a collectible vehicle.
Response: Duly noted.

21) **Comment:** The added expense to enact the law and amend the SIP, as well as lost I/M fees, is solely for the benefit of less than 0.5% of registered vehicles according to the ADEQ study. This is undesirable when considering that the proposed alternative methods to mitigate the exemptions would affect a far larger population of vehicle owners.
Response: Because analysis demonstrates that the exemption of collectible vehicles in the Phoenix and Tucson testing areas and motorcycles in the Tucson area will not interfere with these areas' ability to attain and maintain the NAAQS, no alternative mitigating measures are necessary. Fiscal impacts were taken into consideration and the loss of revenue is not an issue.

22) **Comment:** There is no evidence to suggest that vehicles exempted from annual I/M will be maintained over a long period of time; and thus could create a larger negative impact than what was assessed in the ADEQ study.
Response: Collectible vehicles are those intended for use as "specialty" vehicles and are as a rule maintained as valuable assets. Preservation and maintenance, both mechanically and cosmetically, of such vehicles are integral to retaining their value as a "collectible." Based on the ADEQ study, failure rates for collectible vehicles are virtually identical to those in the general population. In spite of that fact the exemption of these vehicles was found to not have a significant impact on air quality.

23) **Comment:** Commenters questioned the validity of procedures used to emissions test motorcycles and cars.
Response: Testing procedures are not a topic of this SIP revision.

24) **Comment:** Under section 1.1 Regulatory Background of the proposed SIP revision it mentions both the Maricopa County 1-hour ozone and carbon

monoxide nonattainment areas and the Tucson carbon monoxide nonattainment area. However, they are no longer nonattainment and should be noted as such.
Response: Section 1.1 outlines regulatory history and explains that these areas have been redesignated to attainment.

25) **Comment:** There is no information on what is a significant air quality benefit. The benefit should be stated numerically.
Response: The I/M benefit for collectible vehicles and motorcycles is presented in Sections 2.2.1 and 2.2.3 of the SIP. The potential emissions increases from exempting motorcycles in Area B and collectible vehicles in both Areas A and B, from the Arizona IM programs, in and of themselves, may be considered insignificant because the impact would be less than a third of a metric ton per day (mtpd) of carbon monoxide and only a few hundredths mtpd of hydrocarbons. The basis for considering these emissions reductions insignificant is that SIP revisions submitted to and either approved or proposed for approval by EPA include control measures that reduce emissions as little as 0.1%, which would be about 0.9 mtpd of carbon monoxide or 0.3 mtpd of hydrocarbons in Area A. More detailed information is contained in Appendix B.

26) **Comment:** It would be useful to provide a comparison of the numerical I/M benefit of testing current through five model years (currently exempted) to the I/M benefit of testing 25 model year and older.
Response: The exemption of current through five model year vehicles is not a topic of this SIP revision.

27) **Comment:** The SIP does not always state that 1966 and older vehicles are excluded from the analysis. It should be clarified that these vehicles are already exempt from testing.
Response: An explanation of the model years that were evaluated is contained in Appendix B.

28) **Comment:** In the hypothetical collectible vehicle insurance and registration procedures there is no provision for a “statement of non-use” which suspends the requirement to carry insurance without penalty or losing collectible vehicle status.
Response: The flow charts in Appendix C are presented as sample scenarios for illustrative purposes only. MVD is working to finalize collectible vehicle procedures for implementation upon approval of this SIP revision by EPA. It is expected that the De-Insured Certificate and related procedures will be available to eligible collectible vehicles.

29) **Comment:** The hypothetical collectible vehicle insurance and registration procedures in Appendix C make use of the word nonattainment area. As there are no nonattainment areas the document should use testing area instead.
Response: The flow charts in Appendix C are presented as sample scenarios for illustrative purposes only. Final procedures will properly categorize the emissions testing areas.

30) **Comment:** In the hypothetical collectible vehicle insurance and registration procedures in Appendix C it is not clear how long an owner has to submit new policy information after cancellation/nonrenewal of a previous policy.
Response: The flow charts in Appendix C are presented as sample scenarios for illustrative purposes only. MVD is working to finalize collectible vehicle procedures for implementation upon approval of this SIP revision by EPA. In the presented scenario, no notification or action is taken by MVD if new collectible vehicle policy information is received within 30 days following a cancellation or nonrenewal.

31) **Comment:** Because tenth-of-a-ton precision is used in transportation conformity and the I/M benefit is provided in one hundredth-of-a-ton precision the calculated comparisons contained in table 16 are not precise.
Response: ADEQ agrees. The calculated comparisons of the I/M benefit expressed as a percentage of the conformity budget emissions in Tables 16, 17, and 18 have been deleted and addressed in the text.

32) **Comment:** The carbon monoxide emissions in Table 19 do not compare to the carbon monoxide emissions in Table 10.
Response: The on-road mobile source emissions in Table 10 are for year 2003. The emissions in Table 19 are modeled motor vehicle estimates for year 2005.

33) **Comment:** Paying the same price for emissions testing a motorcycle as for a car or motor home in unfair.
Response: Pricing of emissions tests is not a topic of this SIP revision.

34) **Comment:** Many pe-1981 cars which are collector cars were not manufactured to attain 1981 emissions standards. As a result it is necessary to detune the car and make it run "lean" so it will pass the emissions test. Consequently, there is no advantage to the state.
Response: Pass-fail standards are matched to the specific emissions control technologies for each class and age group of vehicles. As such, the practice of "leaning-out" a vehicle to pass emissions is either the result of after market modifications or an underlying repair need.

35) **Comment:** Commenters requested an exemption from testing for collectible vehicles prior to SIP approval.
Response: The exemption provisions in HB 2357 can only be implemented following EPA approval. ADEQ anticipates EPA action on this SIP revision in 2007.

36) **Comment:** The money saved by not testing motorcycles on a yearly basis could be used for enforcement activities for noncompliant vehicles.
Response: The exemption will result in a net revenue loss. Fiscal impacts were taken into consideration, however, and found to be acceptable.

37) **Comment:** All motorcycles over 25 years old should be exempt from testing.
Response: The analysis did not assess the impacts of exempting 25 year old motorcycles by themselves from the I/M programs. HB 2357 does not make that distinction either.

38) **Comment:** All collector cars should be exempt from testing without the restriction of having another car for daily use.
Response: The air quality impact analysis for the exemption of collectible vehicles was based on limited vehicle use. Therefore, the insurance requirement in HB 2357 requires the owner to have another vehicle for personal use.

39) **ADEQ initiated changes to the SIP include the following:** Eight-hour ozone monitoring data in Tables 4 and 5, and Figure 1 were replaced with more current 2003 through 2005 data to more accurately demonstrate improvements in monitored air quality.

Updates related to final regulations, spelling, grammatical, and formatting corrections throughout the document.