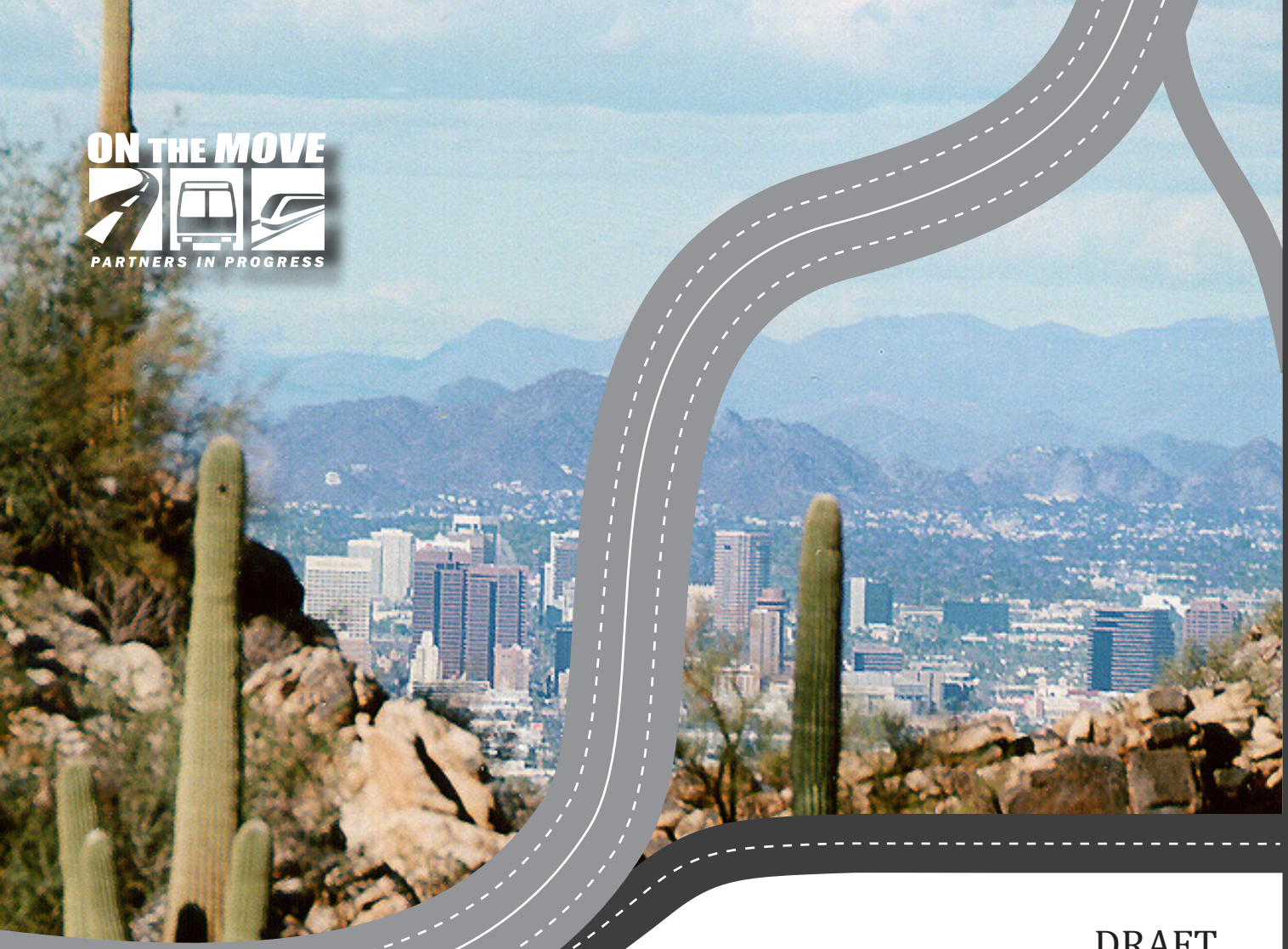

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PARTNERS IN PROGRESS

DRAFT

CONFORMITY ANALYSIS

FOR THE FY 2014-2018 TRANSPORTATION IMPROVEMENT PROGRAM AND THE 2035 REGIONAL TRANSPORTATION PLAN

Appendices Volume 1

OCTOBER 2013

REGIONAL TRANSPORTATION PLAN

MARICOPA ASSOCIATION of GOVERNMENTS

DRAFT 2014 MAG CONFORMITY ANALYSIS

FOR THE

FY 2014-2018 MAG TRANSPORTATION IMPROVEMENT PROGRAM

AND THE

2035 REGIONAL TRANSPORTATION PLAN

APPENDICES, VOLUME 1

October 2013

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APPENDIX A

FEDERAL ACTIONS AND CORRESPONDENCE REGARDING THE MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

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1. Federal Register, Volume 77, Number 114, page 35285, June 13, 2012, Final Rule. Approval of Air Quality Implementation Plan; Arizona; Attainment Plan for 1997 8-Hour Ozone Standard.

2. Federal Register, Volume 70, Number 45, page 11553, March 9, 2005, Final Rule. Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Arizona.

3. Federal Register, Volume 68, Number 183, page 55008, September 22, 2003, Direct Final Rule. Determination of Attainment for the Carbon Monoxide National Ambient Air Quality Standard for the Phoenix Metropolitan Area, Arizona.

4. Federal Register, Volume 67, Number 143, page 48718, July 25, 2002, Final Rule. Approval and Promulgation of Implementation Plans; Arizona-Maricopa County PM-10 Nonattainment Area; Serious Area Plan for Attainment of the PM-10 Standards.

APPENDIX A, Exhibit 1

Federal Register, Volume 77, Number 114, page 35285, June 13, 2012, Final Rule. Approval of Air Quality Implementation Plan; Arizona; Attainment Plan for 1997 8-Hour Ozone Standard.

it will not impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. section 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by *August 13, 2012.* Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (See section 307(b)(2)).

List of Subjects in 40 CFR Parts 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: April 11, 2012.

Lisa P. Jackson,

Administrator.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

■ 2. Section 52.120 is amended by revising paragraph (c)(69)(i)(A) and adding paragraph (c)(148) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *

(69) * * *

(i) * * *

(A) *Arizona Department of Weights and Measures.* (*1*) Letter from Grant Woods, Attorney General, State of Arizona, to John U. Hays, Director, Department of Weights and Measures, dated August 31, 1993, and enclosed Form R102 ("Certification of Rules and Order of Rule Adoption").

(*2*) Arizona Administrative Code, Article 9 ("Gasoline Vapor Control"), Rules R4–31–901 through R4–31–910, adopted August 27, 1993, effective (for state purposes) on August 31, 1993.

* * * * *

(148) The following plan revision was submitted on September 21, 2009 by the Governor's designee.

(i) *Incorporation by reference.* (A) *Arizona Department of Weights and Measures.* (*1*) Arizona Revised Statutes, title 41 (State Government), chapter 15 (Department of Weights and Measures), as amended and supplemented by the general and permanent laws enacted through the First Special Session, and legislation effective January 11, 2011 of the First Regular Session of the Fiftieth Legislature (2011):

(i) Article 1 (General Provisions), section 41–2051 ("Definitions"), subsections (6) ("Certification"), (10) ("Department"), (11) ("Diesel fuel"), (12) ("Director"), and (13) ("E85"), amended by Laws 2008, Ch. 254, § 2;

(ii) Article 6 (Motor Fuel), section 41–2121 ("Definitions"), subsection (5) ("Gasoline") amended by Laws 2007, Ch. 292, § 11; and

(iii) Article 7 (Gasoline Vapor Control), section 41–2131 ("Definitions"), added by Laws 1992, Ch. 299, § 6; section 41–2132 ("Stage I and stage II vapor recovery systems"), amended by Laws 2010, Ch. 181, § 2; and section 41–2133 ("Compliance schedules"), amended by Laws 1999, Ch. 295, § 17.

(*2*) Arizona Administrative Code, title 20, chapter 2, article 1 (Administration and Procedures), section R20–2–101 ("Definitions"), effective (for state purposes) on June 5, 2004.

(*3*) Arizona Administrative Code, title 20, chapter 2, article 9 (Gasoline Vapor Control):

(i) Sections R20–2–901 ("Material Incorporated by Reference"), R20–2–902 ("Exemptions"), R20–2–903 ("Equipment and Installation"), R20–2–904 ("Application Requirements and Process for Authority to Construct Plan Approval"), R20–2–905 ("Initial Inspection and Testing"), R20–2–910 ("Annual Inspection and Testing"), R20–2–911 ("Compliance Inspections"), and R20–2–912 ("Enforcement"), effective (for state purposes) on June 5, 2004.

(ii) Sections R20–2–907 ("Operation"), R20–2–908 ("Training and Public Education"), and R20–2–909 ("Recordkeeping and Reporting"), effective (for state purposes) on October 8, 1998.

[FR Doc. 2012–14148 Filed 6–12–12; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR 52

[EPA–R09–OAR–2012–0253; FRL–9682–5]

Approval of Air Quality Implementation Plan; Arizona; Attainment Plan for 1997 8-Hour Ozone Standard

AGENCY: U.S. Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is approving a state implementation plan (SIP) revision submitted by the State of Arizona on June 13, 2007, to demonstrate attainment of the 1997 8-hour ozone national ambient air quality standards (NAAQS) in the Phoenix-Mesa nonattainment area by June 15, 2009. This action was proposed in the **Federal Register** on April 11, 2012. EPA is approving the submitted SIP revision based on our determination that it contains all of the SIP elements required for ozone nonattainment areas under title I, part D, subpart 1 of the Clean Air Act (CAA) for the 1997 8-hour ozone NAAQS.

DATES: This rule is effective on July 13, 2012.

ADDRESSES: EPA has established docket number EPA–R09–OAR–2012–0253 for this action. Generally, documents in the docket for this action are available electronically at *http://www.regulations.gov* or in hard copy at EPA Region IX, 75 Hawthorne Street, San Francisco, California. While all documents in the docket are listed at *http://www.regulations.gov,* some information may be publicly available only at the hard copy location (e.g., copyrighted material, large maps, multi-volume reports), and some may not be available in either location (e.g., confidential business information (CBI)). To inspect the hard copy materials, please schedule an appointment during normal business

hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Anita Lee, Air Planning Office (AIR–2), U.S. Environmental Protection Agency, Region IX, (415) 972–3958, *lee.anita@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document, "we," "us" and "our" refer to EPA.

Table of Contents

I. Proposed Action
II. Public Comments and EPA Responses
III. EPA Action
IV. Statutory and Executive Order Reviews

I. Proposed Action

On April 11, 2012 (70 FR 21690), EPA proposed to approve the "Eight-Hour Ozone Plan for the Maricopa Nonattainment Area" (2007 Ozone Plan) submitted as a SIP revision by the Arizona Department of Environmental Quality (ADEQ) on June 13, 2007. We proposed to approve the 2007 Ozone Plan based on our determination that it contains all of the plan elements required for ozone nonattainment areas under title I, part D, subpart 1 of the CAA, including the demonstration of reasonably available control measures (RACM), reasonable further progress (RFP), emission inventories, transportation conformity motor vehicle emission budgets for 2008, and contingency measures to be implemented if the Phoenix-Mesa nonattainment area fails to attain by June 15, 2009.

II. Public Comments and EPA Responses

EPA provided a 30-day public comment period on our proposed action. This comment period ended on May 11, 2012. We received no comments.

III. EPA Action

Under CAA section 110(k)(3), EPA is fully approving the 2007 Ozone Plan for Phoenix-Mesa based on our determination that it meets all applicable requirements under subpart 1 of part D, title I of the CAA for the 1997 8-hour ozone NAAQS, as follows:

1. The 2002 base year emission inventory as meeting the requirements of CAA section 172(c)(3) and 40 CFR 51.915;
2. The reasonably available control measures demonstration as meeting the requirements of CAA section 172(c)(1) and 40 CFR 51.912(d);
3. The reasonable further progress demonstration as meeting the requirements of CAA section 172(c)(2) and 40 CFR 51.910;
4. The attainment demonstration as meeting the requirements of CAA section 172(c)(1) and 40 CFR 51.908;
5. The contingency measures for failure to make RFP or to attain as meeting the requirements of CAA section 172(c)(9); and
6. The motor vehicle emission budgets for the attainment year of 2008, which are derived from the attainment demonstration, as meeting the requirements of CAA section 176(c) and 40 CFR part 93, subpart A.

IV. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve State choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves State law as meeting Federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide EPA with the discretionary authority to address disproportionate human health or environmental effects with practical, appropriate, and legally permissible methods under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the State, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 13, 2012. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (see section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Ozone, Nitrogen dioxide, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: May 25, 2012.

Jared Blumenfeld,

Regional Administrator, EPA Region IX.

Part 52, Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for Part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

■ 2. Section 52.120 is amended by adding paragraph (c)(149) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *

(149) The following plan was submitted on June 13, 2007 by the Governor's designee.

(i) [Reserved]

(ii) *Additional Materials.* (A) *Arizona Department of Environmental Quality.* (1) Letter dated June 13, 2007 from Stephen A. Owens, Director, ADEQ, to Wayne Nastri, Regional Administrator, United States Environmental Protection Agency, Region IX.

(2) Eight-Hour Ozone Plan for the Maricopa Nonattainment Area, dated June 2007, including Appendices, Volumes One and Two.

[FR Doc. 2012–13817 Filed 6–12–12; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R03–OAR–2011–0091, EPA–R03–OAR–2011–0584; FRL–9685–2]

Approval and Promulgation of Air Quality Implementation Plans; Virginia; Regional Haze State Implementation Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing the limited approval of the Commonwealth of Virginia's Regional Haze State Implementation Plan (SIP) revision. EPA is taking this action because Virginia's SIP revision, as a whole, strengthens the Virginia SIP. This action is being taken in accordance with the requirements of the Clean Air Act (CAA) and EPA's rules for states to prevent and remedy future and existing anthropogenic impairment of visibility in mandatory Class I areas through a regional haze program. EPA is also approving this revision as meeting the infrastructure requirements relating to visibility protection for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS) and the 1997 and 2006 fine particulate matter ($PM_{2.5}$) NAAQS.

DATES: This final rule is effective on July 13, 2012.

ADDRESSES: EPA has established a docket for this action under Docket ID Number EPA–R03–OAR–2011–0091, EPA–R03–OAR–2011–0584. All documents in the docket are listed in the *www.regulations.gov* Web site. Although listed in the electronic docket, some information is not publicly available, i.e., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy for public inspection during normal business hours at the Air Protection Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. Copies of the State submittal are available at the Virginia Department of Environmental Quality, 629 East Main Street, Richmond, Virginia 23219.

FOR FURTHER INFORMATION CONTACT: Melissa Linden, (215) 814–2096, or by email at *linden.melissa@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

Throughout this document, whenever "we," "us," or "our" is used, we mean EPA. On January 25, 2012 (77 FR 3691), EPA published a notice of proposed rulemaking (NPR) for the Commonwealth of Virginia. The NPR proposed limited approval and limited disapproval of Virginia's Regional Haze SIP. The formal SIP revisions were submitted by the Virginia Department of Environmental Quality (VADEQ) on July 17, 2008, March 6, 2009, January 14, 2010, October 4, 2010, November 19, 2010, and May 6, 2011. This revision also meets the requirements of CAA sections 110(a)(2)(D)(i)(II) and 110 (a)(2)(J), relating to visibility protection for the 1997 8-hour ozone NAAQS and the 1997 and 2006 $PM_{2.5}$ NAAQS.

II. Summary of SIP Revision

The SIP revision includes a long term strategy with enforceable measures ensuring reasonable progress towards meeting the reasonable progress goals for the first planning period through 2018. Virginia's Regional Haze Plan contains the emission reductions needed to achieve Virginia's share of emission reductions and sets the reasonable progress goals for other states to achieve reasonable progress at the two Class I Areas within Virginia, Shenandoah National Park and James River Face Wilderness Area. The specific requirements of the CAA and EPA's Regional Haze Rule (RH rule) (64 FR 35732, July 1, 1999) and the rationale for EPA's proposed action are explained in the NPR and will not be restated here. EPA received numerous adverse comments on the January 25, 2012 NPR. A summary of the comments submitted and EPA's responses are provided in section III of this document.

III. Summary of Public Comments and EPA Responses

Comment: The commenter argued that EPA's proposed limited approval/limited disapproval action based on Virginia's reliance on clean air interstate rule (CAIR) is unwarranted and should be withdrawn. Instead, the commenter states that EPA should grant full and unconditional approval of the Virginia Regional Haze SIP. The commenter disagreed that CAIR renders the State's SIP unable to satisfy all of the CAA's regional haze SIP requirements. The commenter noted that Virginia's SIP was submitted prior to the remand of CAIR and relied on the requirements under 40 CFR 51.308(e)(4), which remain in effect at this time. The commenter argued that as a result, the Virginia SIP is entirely consistent with the applicable law. The commenter also argued that if the D.C. Circuit invalidates the cross state air pollution rule (CSAPR), EPA's limited disapprovals of regional haze SIPs due to their reliance on the CAIR equals best available retrofit technology (BART) provision of the regional haze rules will have created unnecessary complications for states that should properly be able to continue their reliance on CAIR. The commenter argued that EPA does not have a basis to propose or promulgate disapproval or limited disapproval of a Regional Haze SIP due to its reliance on CAIR and on 40 CFR 51.308(e)(4) because the SIP is fully compliant with the relevant regulations as they exist today.[1] The commenter believes that the only proper course of action for EPA is to promptly promulgate a full and unconditional approval of the Virginia SIP.

Response: EPA disagrees with the commenter and has determined the limited approval/limited disapproval is appropriate for this SIP. The requirements for a BART alternative program, specific to trading programs in 40 CFR 51.308(e)(2) state that "such an

[1] The word "today" in the text refers to the date of the comment letter, February 24, 2012.

APPENDIX A, Exhibit 2

Federal Register, Volume 70, Number 45, page 11553, March 9, 2005, Final Rule. Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Arizona.

of the United States. Section 808 allows the issuing agency to make a rule effective sooner than otherwise provided by the CRA if the agency makes a good cause finding that notice and public procedure is impracticable, unnecessary or contrary to the public interest. This determination must be supported by a brief statement. 5 U.S.C. 808(2). As stated previously, EPA had made such a good cause finding, including the reasons therefore, and established an effective date of March 11, 2005. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This correction to 40 CFR 52.52.2520(e) for West Virginia is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, recordkeeping and reporting requirements, Sulfur oxides.

Dated: February 28, 2005.

Donald S. Welsh,

Regional Administrator, Region III.

■ Accordingly, the amendment to 40 CFR 52.2520 published in the **Federal Register** on January 10, 2005 (70 FR 1668), which was to become effective on March 11, 2005, is withdrawn, and 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart XX—West Virginia

■ 2. In § 52.2520, the table in paragraph (e) is amended by adding an entry at the end of the table for the Sulfur Dioxide Maintenance Plan, City of Weirton; Butler and Clay Magisterial District (Hancock County) to read as follows:

§ 52.2520 Identification of plan.

* * * * *

(e) * * *

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
*	*	*	*	*
Sulfur Dioxide Maintenance Plan.	City of Weirton; Butler and Clay Magisterial District (Hancock County).	7/27/04	01/10/05 70 FR 1664	The SIP-effective date is 3/11/05.

[FR Doc. 05–4473 Filed 3–8–05; 8:45 am]

BILLING CODE 6560–50–P 0

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[AZ104–0083; FRL–7875–2]

Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is approving the Maricopa Association of Governments (MAG) serious area carbon monoxide (CO) state implementation plan (SIP) for the Maricopa County CO nonattainment area, also referred to as "the metropolitan Phoenix area", as meeting the Clean Air Act (CAA) requirements for serious CO nonattainment areas. We are also approving the MAG CO Redesignation Request and Maintenance Plan for the Maricopa County CO nonattainment area as meeting CAA requirements for redesignation requests and maintenance plans. In addition, we are making a boundary change under Section 107 of the CAA to take the Gila River Indian Community (GRIC) out of the Maricopa County maintenance area. The portion of the Gila River Indian Community which is currently in the Maricopa County CO nonattainment area will be "unclassifiable/attainment" for CO, and will not be subject to the MAG CO Redesignation Request and Maintenance Plan.

DATE: *Effective Date:* This rule is effective April 8, 2005.

ADDRESSES: Copies of the documents relevant to this action are available for public inspection during normal business hours at EPA Region 9's Air Planning Office (AIR–2), 75 Hawthorne Street, San Francisco, CA 94105–3901. Due to increased security, we suggest that you call at least 24 hours prior to visiting the Regional Office so that we can make arrangements to have someone meet you.

Electronic Availability

This document, our proposed rule which was published in the **Federal Register** on October 8, 2004, and the technical support document (TSD) are also available as electronic files on EPA's Region 9 Web page at *http://www.epa.gov/region09/air/phxco/index.html.*

FOR FURTHER INFORMATION CONTACT: Wienke Tax, Office of Air Planning, U.S. Environmental Protection Agency, Region 9, (520) 622–1622, e-mail: *tax.wienke@epa.gov,* or refer to *http://www.epa.gov/region09/air/phxco/index.html.*

SUPPLEMENTARY INFORMATION: Throughout this document, the terms "we," "us," and "our" mean U.S. EPA.

Table of Contents

I. Summary of EPA's Final Action
II. Response to Comments
III. EPA's Final Action
IV. Statutory and Executive Order Reviews

I. Summary of EPA's Final Action

On October 8, 2004 (69 FR 60328), we published a notice of proposed rulemaking for the State of Arizona. The notice proposed approval of revisions to the SIP for the Maricopa County CO nonattainment area. These revisions to the SIP were adopted by the Arizona Department of Environmental Quality (ADEQ). Today, we are finalizing our proposal to approve the MAG serious area SIP for attainment of the CO air quality standard in the Maricopa County area. This action is based on our determination that this SIP complies with the CAA's requirements for attaining the CO standard in serious CO nonattainment areas such as the metropolitan Phoenix area.

We are also approving the MAG CO Redesignation Request and Maintenance Plan for the Maricopa County CO nonattainment area as meeting CAA requirements for redesignation requests and maintenance plans.

We are also making a boundary correction under Section 107 of the CAA for the Gila River Indian Community.

II. Response to Comments

We received three comments (two via electronic mail (e-mail) and one written letter) during the official comment

period for the October 8, 2004, proposal. Two comments were dated October 19, 2004, and one comment was dated November 8, 2004. In addition to these comments, we received three e-mails submitted after signature but prior to publication of the proposal in the **Federal Register**, two on September 22 and one on September 24, 2004. Since these e-mails raise the same issues as the comments submitted after publication, we discuss and respond to all of them below. The September 24, 2004, e-mail was submitted directly to EPA Administrator Michael Leavitt's office and was referred to EPA Region 9 for a response. We determined that the correspondence should be treated as public comment, and respond to it here. (This commentor also sent comments directly to Region 9 on September 22 and 24, 2004). We also received a letter of support from ADEQ regarding the boundary change for the Gila River Indian Community. We respond to the comments below in the order we received them.

E-Mails Submitted to EPA Prior to the Public Comment Period

We received three e-mails before the October 8 publication of the proposed action—two on September 22, and one on September 24 to Administrator Leavitt. These e-mails, however, solely raise issues unrelated to the action being taken by EPA.

Comment. The first e-mail received on September 22 stated that the Central Phoenix light rail project will increase the production of air pollutants due to the prohibition of left turns from certain streets where the trolley tracks will exist. The e-mail refers to an "Air Quality Technical Report", and states that 75 percent of the vehicles in the Phoenix vehicle mix will be cars, and 20 percent will be light trucks. This e-mail also refers to a "New Starts Report for 2004", dated December 2003. This report appears to refer to the projected use of the light rail trains.

Response. Our action in this notice will not have any impact whatsoever on the Central Phoenix light rail project.

Comment. This e-mail also states that the Phoenix area is not in conformity with ozone and PM–10 standards, and that the growth in VMT has exceeded population growth.

Response. Our action today only concerns carbon monoxide, not ozone or PM–10. Our approval is based on both monitored data indicating no violations of the CO standard in the past seven years and modeling which indicates no expected violations of the CO standard to the year 2015. While growth in VMT has exceeded population growth in Phoenix and other fast-growing metropolitan areas, tailpipe emissions standards at the national level and the use of cleaner-burning fuels and other emissions control measures at the local level have reduced CO emissions sufficiently to attain and maintain Federal ambient air quality standards.

Comment. The e-mail refers to the Final Environmental Impact Statement (FEIS), stating that the FEIS shows that the light rail project will not reduce traffic congestion or the production of air pollutants in the light rail corridor. This e-mail comments that ISTEA and TEA–21 legislation call for making transit more efficient, and the commenter does not believe the Phoenix light rail will increase speeds in the light rail corridor, and will not yield much farebox revenue when compared to the cost of moving light rail passengers.

Response. Our action today concerns the MAG serious area CO SIP for the Maricopa County CO nonattainment area and the MAG CO Redesignation Request and Maintenance Plan for the Maricopa County CO nonattainment area. The FEIS for the Phoenix light rail project is completely unrelated to this action.

Comment. The second e-mail from September 22 states that while MAG reports no violations of the CO standard since 1996, the most recent statistics haven't been applied to air quality modeling, and that the light rail trolley hasn't been properly factored in.

Response. The Maricopa County CO nonattainment area has monitored clean data every year between 1996 and 2003. This fact was reflected in our finding of attainment published on September 22, 2003, for the Maricopa County CO nonattainment area (*see* 68 FR 55008). MAG's transportation and emissions modeling includes the implementation of light rail.[1]

Comment. The e-mail which was sent to EPA Administrator Leavitt on September 24 states that there is no reason to believe that the air quality in the Phoenix area currently conforms to Federal standards for CO.

Response. Monitoring data gathered by ADEQ and Maricopa County indicate that the Maricopa County CO nonattainment area has not had a violation of the CO standard since 1996. The area is now in attainment for the CO Federal health-based standard for CO, based on data from the years 1999 and 2000. We noted this in our finding of attainment (*see* 68 FR 55008, page 55009, 3rd column).

Comment. The September 24 e-mail also states that our finding of attainment of the CO standard for the Maricopa County nonattainment area (68 FR 55008) reflects only data through 1999.

Response. The finding of attainment was based on monitoring data from the years 1999 and 2000 because 2000 was the attainment year for the Maricopa County serious CO nonattainment area. (*See* 68 FR 55008, September 22, 2003.) Section 179(c)(1) of the Clean Air Act provides that attainment determinations are to be based upon an area's "air quality as of the attainment date". Monitoring data gathered by ADEQ and Maricopa County since that time indicate that the Maricopa County CO nonattainment area has not had a violation of the CO standard since 1996, so current data have been reviewed and taken into account in our action today.

Comment. The September 24 e-mail questions how the CO standard can be met given the rapid increase in population and an even faster increase in VMT in the Maricopa County nonattainment area. The e-mail states that Maricopa County's population has been increasing 45 percent every 10 years in recent decades.

Response. MAG's data estimate about a 32 percent increase in population between 2004 and 2015. As indicated in the Appendix to the MAG CO Redesignation Request and Maintenance Plan, while VMT doubles between 1995 and 2015, CO emissions decrease. MAG's models properly account for the growth in VMT.

E-Mails Submitted to EPA During the Public Comment Period

Comment. The first e-mail dated October 19, 2004, asks how it can be possible to reduce CO emissions by half by 2015 assuming 1.2 million additional residents, 700,000–800,000 more vehicles, and additional airplanes and diesel trucks in the Phoenix metropolitan area.

Response. MAG's modeling estimates a 14 percent reduction in CO between 1994 and 2015 and is sufficient to maintain the ambient air quality standard for CO. Tier 2 emissions standards, cleaner burning gasoline, and other measures provide reductions which outweigh the increases in emissions due to vehicle miles travelled.

Comment. The first October 19 e-mail refers to a Draft Environmental Impact Statement (DEIS) in an air quality conformity report.

Response. This comment is not relevant to today's action.

[1] Telephone conversation with Cathy Arthur, Maricopa Association of Governments, November 19, 2004.

Comment. This same e-mail questioned the CO reductions attributed to oxidants and sulfur in fuel, again in a DEIS.

Response. It is not clear which project DEIS is referred to by the commenter. MAG used the MOBILE6 model, which is the model EPA requires all states except California to use for SIP development. The MOBILE model accounts for fuel properties such as oxidants and sulfur, and reduces the effects of oxidants on CO emissions over time. Most newer cars are equipped with electronic fuel injection systems that generally automatically compensate for the proper air-to-fuel mixture to reduce CO emissions.

Comment. This same e-mail refers to a "new standard for CO" that requires an 8-hour test, and refers to calm days in the summer when CO could be a problem.

Response. There is no new standard for CO; we assume the comment refers to the new 8-hour ozone standard. CO tends to be a wintertime problem, and CO emissions do not tend to be high in the summer.

Comment. The letter we received on October 19 via U.S. Mail questioned our proposed boundary change for the Gila River Indian Reservation. This letter indicated that the Gila River Indian Community is planning a large truck stop along the Reservation border with the Phoenix metropolitan area, as well as substantial development along the northern border of the reservation.

Response. Our proposal to change the boundary of the Phoenix CO maintenance area to remove GRIC was based on monitored air quality data, current emissions levels and sources, and planning considerations. The commenter has not provided any reliable facts about development on the Gila River Indian Reservation that would affect ambient CO concentrations to a degree sufficient to violate the NAAQS. In particular, diesel trucks idling at a truck stop would emit primarily particulate matter (PM) and nitrogen oxides, not CO. GRIC Department of Environmental Quality staff have indicated they are looking into truck stop electrification to reduce the impacts of idling trucks.[2]

Comment. The October 19 letter also questioned whether EPA established air quality monitoring stations on the Reservation or whether we relied on data from the GRIC. The e-mail asserts that the monitors and data were distorted for the purpose of attaining the boundary change.

Response. The commenter has provided only speculation, without any reliable facts to substantiate the claim.

Comment. Finally, the October letter asserts that the entire premise of a status change is faulty and biased.

Response. As stated earlier, the commenter has provided only speculation, without any reliable facts to substantiate the claim.

Comment. The e-mail dated November 8 asserts that MAG's Transportation Improvement Program (TIP) and Long Range Transportation Plan (LRTP) are deficient and not worthy of CO redesignation. The e-mail also raises a concern that the public needs to be protected in fast-growing areas like Maricopa County, and states that CMAQ funding should not be used for the Central Phoenix Light Rail Project.

Response. This comment raises issues unrelated to EPA's action. Our proposed approval of MAG's CO redesignation request and maintenance plan is an action on MAG's SIP revision, not on the TIP or LRTP. MAG has demonstrated through air quality modeling that the Maricopa County CO nonattainment area will stay below federal air quality standards until 2015. In this way, public health will be protected.

Regarding CMAQ funding, while EPA may review and comment on CMAQ funding proposals, final funding decisions are made by other agencies.

Comment. The November 8 e-mail also states that MAG uses flawed and old models, referring to the base year 1994 inventory which MAG used, EPA's MOBILE6 model, and the CO Complex model. This e-mail also states that oxygenated fuels increase aldehydes.

Response. While MAG used a base year 1994 inventory, the redesignation request and maintenance plan also contains emissions inventories for 1998, 1999, 2006, and 2015. We have reviewed these inventories and have found them to be complete, accurate, and current. EPA's MOBILE6 model is the model required to be used by all states except California for SIP development. Studies of air toxics from sources such as gasoline are currently underway at the national level, but there is currently no health standard for aldehydes.

Comment. This same e-mail states that the rapid growth in the MAG region will increase VMT, and that MAG's computer models do not properly incorporate these factors.

Response. As indicated in the Appendix to the MAG CO Redesignation Request and Maintenance Plan, while VMT doubles between 1995 and 2015, CO emissions decrease. MAG's models properly account for this growth in VMT.

III. EPA's Final Action

In today's action, we are approving the MAG Serious Area CO SIP for the Maricopa County CO nonattainment area and the MAG CO Redesignation Request and Maintenance Plan for the Maricopa County CO nonattainment area. We have evaluated the submitted SIP revisions and have determined that they are consistent with the CAA and EPA regulations.

We are approving the following elements of the Revised 1999 CO Plan for the metropolitan Phoenix area and the MAG CO Redesignation Request and Maintenance Plan into the Arizona SIP:

1. 1990 base year and 1993 and 1996 periodic emission inventories as required by sections 172(c)(3) and 187(a)(5).
2. Demonstration that the plan provides for the implementation of reasonably available control measures including transportation control measures under sections 172(c)(1) and 187(b)(2);
3. Demonstration of attainment by December 31, 2000, under section 187(a)(7);
4. Demonstration of reasonable further progress under sections 172(c)(2) and 187(a)(7);
5. Contingency measures under sections 172(c)(9) and 187(a)(3);
6. Forecasts of vehicle miles traveled and provisions for annual tracking and reporting under section 187(a)(2)(A);
7. Transportation control measures as necessary to offset growth in emissions under section 187(b)(2);
8. Attainment year and projected emissions inventories under section 175A;
9. Air quality monitoring requirements under section 110(a)(2) and section 172(c)(7);
10. CO motor vehicle emissions budgets for transportation conformity under section 176(c) for the attainment demonstration and the maintenance plan for the years 2000, 2006 and 2015 under the transportation conformity rule, 40 CFR part 93, subpart A;
12. Demonstration of maintenance under section 175A(a) and a fully-approved maintenance plan under section 175A;
13. Maintenance plan contingency measures under section 175A(d);
14. Commitment for subsequent maintenance plan revisions under section 175A(b);
15. Redesignation of that portion of the Gila River Indian Reservation that is now within the nonattainment area to "nonclassifiable/attainment'; and

[2] Telephone conservation with Janet Travis, GRIC DEQ, December 2, 2004.

16. A determination that the improvement in air quality in the Maricopa County nonattainment area is due to permanent and enforceable reductions in emissions resulting from the implementation of the applicable implementation plan, implementation of applicable Federal air pollution control regulations, and other permanent and enforceable reductions.

We have previously approved the principal control measures relied on for attainment and contingency measures in the Revised 1999 CO Plan, including the area's enhanced inspection and maintenance program (required by section 187(a)(6)), oxygenated gasoline program (required by sections 187(b)(3) and 211(m)), and woodburning curtailment regulations. See 68 FR 2912, 69 FR 10161, 64 FR 60678 and 67 FR 52416.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future implementation plan. Each request for revision to a state implementation plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

IV. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4).

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" are defined in the Executive Order to include regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes."

Under section 5(b) of Executive Order 13175, EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation. Under section 5(c) of Executive Order 13175, EPA may not issue a regulation that has tribal implications and that preempts tribal law, unless the Agency consults with tribal officials early in the process of developing the proposed regulation.

EPA has concluded that this final rule may have tribal implications. EPA's action will remove the Gila River Indian Community from the Phoenix CO maintenance area. However, it will neither impose substantial direct compliance costs on tribal governments, nor preempt State law. Thus, the requirements of sections 5(b) and 5(c) of the Executive Order do not apply to this rule.

Consistent with EPA policy, EPA nonetheless consulted with representatives of tribal governments early in the process of developing this regulation to permit them to have meaningful and timely input into its development. Representatives of tribal governments approached EPA two years ago and requested that EPA make this boundary change. We agree with the technical and policy rationale the tribe provided, and believe that all tribal concerns have been met. Moreover, in the spirit of Executive Order 13175, and consistent with EPA policy to promote communications between EPA and tribal governments, EPA specifically solicited comment on the proposed rule from tribal officials.

This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely approves a state rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by May 9, 2005. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to

enforce its requirements. (*See* CAA section 307(b)(2).)

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental regulations, Reporting and recordkeeping requirements.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: January 3, 2005.

Wayne Nastri,

Regional Administrator, Region 9.

■ Chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

■ 1. Section 52.120 is amended by adding paragraphs (c)(118) and (c)(119) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *

(118) The following plan was submitted on March 30, 2001, by the Governor's designee.

(i) Incorporation by reference.

(A) Arizona Department of Environmental Quality.

(*1*) *Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area*, dated March 2001, adopted by the Arizona Department of Environmental Quality on March 30, 2001.

(119) The following plan was submitted on June 16, 2003, by the Governor's designee.

(i) Incorporation by reference.

(A) Arizona Department of Environmental Quality.

(*1*) *MAG Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area and Appendices*, dated May 2003, adopted by the Arizona Department of Environmental Quality on June 16, 2003.

PART 81—[AMENDED]

■ 1. The authority citation for part 81 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart C—[Amended]

■ 2. In § 81.303, the table entitled "Arizona—Carbon Monoxide" is amended by revising the entry for the Phoenix Area to read as follows:

§ 81.303 Arizona.

* * * * *

ARIZONA—CARBON MONOXIDE

Designated area	Designation		Classification	
	Date	Type	Date	Type
Phoenix Area:				
Maricopa County (part)	4/8/2005	Attainment.		
Phoenix nonattainment area boundary:				
1. Commencing at a point which is the intersection of the eastern line of Range 7 East, Gila and Salt River Baseline and Meridian, and the southern line of Township 2 South, said point is the southeastern corner of the Maricopa Association of Governments Urban Planning Area, which is the point of beginning, except that portion in the Gila River Indian Reservation;				
2. thence, proceed northerly along the eastern line of Range 7 East which is the common boundary between Maricopa and Pinal Counties, as described in Arizona Revised Statute Section 11–109, to a point where the eastern line of Range 7 East intersects the northern line of Township 1 North, said point is also the intersection of the Maricopa County Line and the Tonto National Forest Boundary, as established by Executive Order 869 dated July 1, 1908, as amended and showed on the U.S. Forest Service 1969 Planimetric Maps, except that portion in the Gila River Indian Reservation;				
3. thence, westerly along the northern line of Township 1 North to approximately the southwest corner of the southeast quarter of Section 35, Township 2 North, Range 7 East, National Forest and Usery Mountain Semi-Regional Park, except that portion in the Gila River Indian Reservation;				
4. thence, northerly along the Tonto National Forest Boundary, which is generally the western line of the east half of Sections 26 and 35 of Township 2 North, Range 7 East, to a point which is where the quarter section line intersects with the northern line of Section 26, Township 2 North, Range 7 East, said point also being the northeast corner of the Usery Mountain Semi-Regional Park, except that portion in the Gila River Indian Reservation;				

ARIZONA—CARBON MONOXIDE—Continued

Designated area	Designation		Classification	
	Date	Type	Date	Type
5. thence, westerly along the Tonto National Forest Boundary, which is generally the south line of Section 19, 20, 21 and 22 and the southern line of the west half of Section 23, Township 2 North, Range 7 East, to a point which is the southwest corner of Section 19, Township 2 North, Range 7 East, except that portion in the Gila River Indian Reservation;				
6. thence, northerly along the Tonto National Forest Boundary to a point where the Tonto National Forest Boundary intersects with the eastern boundary of the Salt River Indian Reservation, generally described as the center line of the Salt River Channel, except that portion in the Gila River Indian Reservation;				
7. thence, northeasterly and northerly along the common boundary of the Tonto National Forest and the Salt River Indian Reservation to a point which is the northeast corner of the Salt River Indian Reservation and the southeast corner of the Fort McDowell Indian Reservation, as shown on the plat dated July 22, 1902, and recorded with the U.S. Government on June 15, 1902, except that portion in the Gila River Indian Reservation;				
8. thence, northeasterly along the common boundary between the Tonto National Forest and the Fort McDowell Indian Reservation to a point which is the northeast corner of the Fort McDowell Indian Reservation, except that portion in the Gila River Indian Reservation;				
9. thence, southwesterly along the northern boundary of the Fort McDowell Indian Reservation, which line is a common boundary with the Tonto National Forest, to a point where the boundary intersects with the eastern line of Section 12, Township 4 North, Range 6 East, except that portion in the Gila River Indian Reservation.				
10. thence, northerly along the eastern line of Range 6 East to a point where the eastern line of Range 6 East intersects with the southern line of Township 5 North, said line is the boundary between the Tonto National Forest and the east boundary of McDowell Mountain Regional Park, except that portion in the Gila River Indian Reservation;				
11. thence, westerly along the southern line of Township 5 North to a point where the southern line intersects with the eastern line of Range 5 East which line is the boundary of Tonto National Forest and the north boundary of McDowell Mountain Regional Park, except that portion in the Gila River Indian Reservation;				
12. thence, northerly along the eastern line of Range 5 East to a point where the eastern line of Range 5 East intersects with the northern line of Township 5 North, which line is the boundary of the Tonto National Forest, except that portion in the Gila River Indian Reservation;				
13. thence, westerly along the northern line of Township 5 North to a point where the northern line of Township 5 North intersects generally in the northeast quarter of Section 17, Township 5 North, Range 1 East, as shown on the U.S. Geological Survey's Baldy Mountain, Arizona Quadrangle Map, 7.5 Minute series (Topographic), dated 1964, except that portion in the Gila River Indian Reservation;				
14. thence, northerly along the eastern line of Range 4 East to a point where the eastern line of Range 4 East intersects with the northern line of Township 6 North, which line is the boundary of the Tonto National Forest, except that portion in the Gila River Indian Reservation;				

ARIZONA—CARBON MONOXIDE—Continued

Designated area	Designation		Classification	
	Date	Type	Date	Type
15. thence, westerly along the northern line of Township 6 North to a point of intersection with the Maricopa-Yavapai County line, which is generally described in Arizona Revised Statute Section 11–109 as the center line of the Aqua Fria River (Also the north end of Lake Pleasant), except that portion in the Gila River Indian Reservation;				
16. thence, southwesterly and southerly along the Maricopa-Yavapai County line to a point which is described by Arizona Revised Statute Section 11–109 as being on the center line of the Aqua Fria River, two miles southerly and below the mouth of Humbug Creek, except that portion in the Gila River Indian Reservation;				
17. thence, southerly along the center line of Aqua Fria River to the intersection of the center line of the Aqua Fria River and the center line of Beardsley Canal, said point is generally in the northeast quarter of Section 17, Township 5 North, Range 1 East, as shown on the U.S. Geological Survey's Baldy Mountain, Arizona Quadrangle Map, 7.5 Minute series (Topographic), dated 1964, except that portion in the Gila River Indian Reservation;				
18. thence, southwesterly and southerly along the center line of Beardsley Canal to a point which is the center line of Beardsley Canal where it intersects with the center line of Indian School Road, except that portion in the Gila River Indian Reservation;				
19. thence, westerly along the center line of West Indian School Road to a point where the center line of West Indian School Road intersects with the center line of North Jackrabbit Trail, except that portion in the Gila River Indian Reservation;				
20. thence, southerly along the center line of Jackrabbit Trail approximately nine and three-quarter miles to a point where the center line of Jackrabbit Trail intersects with the Gila River, said point is generally on the north-south quarter section line of Section 8, Township 1 South, Range 2 West, except that portion in the Gila River Indian Reservation;				
21. thence, northeasterly and easterly up the Gila River to a point where the Gila River intersects with the northern extension of the western boundary of Estrella Mountain Regional Park, which point is generally the quarter corner of the northern line of Section 31, Township 1 North, Range 1 West, except that portion in the Gila River Indian Reservation;				
22. thence, southerly along the extension of the western boundary and along the western boundary of Estrella Mountain Regional Park to a point where the southern extension of the western boundary of Estrella Mountain Regional Park intersects with the southern line of Township 1 South, except that portion in the Gila River Indian Reservation;				
23. thence, easterly along the southern line of Township 1 South to a point where the south line of Township 1 South intersects with the western line of Range 1 East, which line is generally the southern boundary of Estrella Mountain Regional Park, except that portion in the Gila River Indian Reservation;				
24. thence, southerly along the western line of Range 1 East to the southwest corner of Section 18, Township 2 South, Range 1 East, said line is the western boundary of the Gila River Indian Reservation, except that portion in the Gila River Indian Reservation;				

ARIZONA—CARBON MONOXIDE—Continued

Designated area	Designation		Classification	
	Date	Type	Date	Type
25. thence, easterly along the southern boundary of the Gila River Indian Reservation which is the southern line of Sections 13, 14, 15, 16, 17, and 18, Township 2 South, Range 1 East, to the boundary between Maricopa and Pinal Counties as described in Arizona Revised Statues Section 11–109 and 11–113, which is the eastern line of Range 1 East, except that portion in the Gila River Indian Reservation;				
26. thence, northerly along the eastern boundary of Range 1 East, which is the common boundary between Maricopa and Pinal Counties, to a point where the eastern line of Range 1 East intersects the Gila River, except that portion in the Gila River Indian Reservation;				
27. thence, southerly up the Gila River to a point where the Gila River intersects with the southern line of Township 2 South; and				
28. thence, easterly along the southern line of Township 2 South to the point of beginning which is a point where the southern line of Township 2 South intersects with the eastern line Range 7 East, except that portion in the Gila River Indian Reservation.				
* * *	*	*	*	*

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[FR Doc. 05–4585 Filed 3–8–05; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 122

[OW–2002–0068; FRL–7882–2]

RIN 2040–AE71

Extension of National Pollutant Discharge Elimination System (NPDES) Permit Deadline for Storm Water Discharges for Oil and Gas Activity That Disturbs One to Five Acres

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's action postpones until June 12, 2006, the requirement to obtain National Pollutant Discharge Elimination System (NPDES) storm water permit coverage for oil and gas construction activity that disturbs one to five acres of land. This is the second postponement promulgated by EPA for these activities. This postponement will allow the Agency additional time to complete its analysis of the issues raised by stakeholders about storm water runoff from construction activities at oil and gas sites and of practices and methods for controlling these storm water discharges to mitigate impacts on water quality, as appropriate. Within six months of today's action, EPA intends to publish a notice of proposed rulemaking in the **Federal Register** for addressing these discharges and to invite public comments.

DATES: This final rule is effective on March 9, 2005.

ADDRESSES: EPA has established a docket for this action under Docket ID No. OW–2002–0068. All documents in the docket are listed in the EDOCKET index at *http://www.epa.gov/edocket.* Although listed in the index, some information is not publicly available, *i.e.*, confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in EDOCKET or in hard copy at the Docket, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Water Docket is (202) 566–2426.

FOR FURTHER INFORMATION CONTACT: Jeff Smith, Office of Wastewater Management, Office of Water, Environmental Protection Agency (4203M), 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 564–0652; fax number: (202) 564–6431; e-mail address: *smith.jeff@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. General Information

A. Affected Entities

Entities potentially affected by this action include operators of construction activities disturbing at least one acre, but less than five acres of land at oil and gas sites, North American Industrial Classification System (NAICS) codes and titles: 211—Oil and Gas Extraction, 213111—Drilling Oil and Gas Wells, and 213112—Support Activities for Oil and Gas Operations.

This description is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. This description identifies the types of entities that EPA is now aware could potentially be affected by this action. Other types of entities not identified could also be affected. To determine whether your facility or company is affected by this action, you should carefully examine the applicability criteria in 40 CFR 122.26(b)(15) and (e)(8). If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

APPENDIX A, Exhibit 3

Federal Register, Volume 68, Number 183, page 55008, September 22, 2003, Direct Final Rule. Determination of Attainment for the Carbon Monoxide National Ambient Air Quality Standard for the Phoenix Metropolitan Area, Arizona.

preparation of flexibility analyses for rules that will have a significant effect on a substantial number of small entities, which include small businesses, organizations, or governmental jurisdictions. The exact number of businesses and the amount of trade that will result from this Federal land-related activity is unknown. The aggregate effect is an insignificant economic effect (both positive and negative) on a small number of small entities supporting subsistence activities, such as boat, fishing gear, and gasoline dealers. The number of small entities affected is unknown; but, the effects will be seasonally and geographically-limited in nature and will likely not be significant. The Departments certify that the adjustments will not have a significant economic effect on a substantial number of small entities within the meaning of the Regulatory Flexibility Act. Under the Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 801 *et seq.*), this rule is not a major rule. It does not have an effect on the economy of $100 million or more, will not cause a major increase in costs or prices for consumers, and does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Title VIII of ANILCA requires the Secretaries to administer a subsistence preference on public lands. The scope of this program is limited by definition to certain public lands. Likewise, the adjustments have no potential takings of private property implications as defined by Executive Order 12630.

The Service has determined and certifies pursuant to the Unfunded Mandates Reform Act, 2 U.S.C. 1502 *et seq.*, that the adjustments will not impose a cost of $100 million or more in any given year on local or State governments or private entities. The implementation is by Federal agencies, and no cost is involved to any State or local entities or Tribal governments.

The Service has determined that the adjustments meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988, regarding civil justice reform.

In accordance with Executive Order 13132, the adjustments do not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. Title VIII of ANILCA precludes the State from exercising subsistence management authority over fish and wildlife resources on Federal lands. Cooperative salmon run assessment efforts with ADF&G will continue.

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and 512 DM 2, we have evaluated possible effects on Federally recognized Indian tribes and have determined that there are no effects. The Bureau of Indian Affairs is a participating agency in this rulemaking.

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, or use. This Executive Order requires agencies to prepare Statements of Energy Effects when undertaking certain actions. As these actions are not expected to significantly affect energy supply, distribution, or use, they are not significant energy actions and no Statement of Energy Effects is required.

Drafting Information

William Knauer drafted this document under the guidance of Thomas H. Boyd, of the Office of Subsistence Management, Alaska Regional Office, U.S. Fish and Wildlife Service, Anchorage, Alaska. Dennis Tol, Alaska State Office, Bureau of Land Management; Rod Simmons, Alaska Regional Office, U.S. Fish and Wildlife Service; Bob Gerhard, Alaska Regional Office, National Park Service; Dr. Glenn Chen, Alaska Regional Office, Bureau of Indian Affairs; and Steve Kessler, USDA-Forest Service, provided additional guidance.

Authority: 16 U.S.C. 3, 472, 551, 668dd, 3101–3126; 18 U.S.C. 3551–3586; 43 U.S.C. 1733.

Dated: September 4, 2003.

Thomas H. Boyd,

Acting Chair, Federal Subsistence Board.

Steve Kessler,

Subsistence Program Leader, USDA-Forest Service.

[FR Doc. 03–24059 Filed 9–18–03; 12:01 pm]

BILLING CODE 3410–11–P, 4310–55–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 81

[AZ–094–FOAa; FRL–7561–5]

Determination of Attainment for the Carbon Monoxide National Ambient Air Quality Standard for the Phoenix Metropolitan Area, Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: EPA is taking direct final action to find that the Phoenix metropolitan nonattainment area in Arizona has attained the National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO) by its Clean Air Act deadline of December 31, 2000. The Phoenix area has had no qualifying exceedances of the CO standard since 1996, and has six years of clean air quality data.

DATES: This rule is effective on November 21, 2003 unless EPA receives adverse comments by October 22, 2003. If EPA receives adverse comments, we will publish a timely withdrawal of the rule in the **Federal Register** and inform the public that the rule will not take effect.

ADDRESSES: Comments should be mailed or emailed to Wienke Tax, Office of Air Planning (AIR–2), U.S. Environmental Protection Agency, Region 9, 75 Hawthorne Street, San Francisco, CA 94105–3901, *tax.wienke@epa.gov.* We prefer electronic comments.

You can inspect copies of EPA's **Federal Register** document and TSD at our Region IX office during normal business hours (see address above). Due to increased security, we suggest that you call at least 24 hours prior to visiting the Regional Office so that we can make arrangements to have someone meet you. The **Federal Register** notice and TSD are also available as electronic files on EPA's Region 9 Web Page at *http://www.epa.gov/region09/air.*

FOR FURTHER INFORMATION CONTACT: Wienke Tax, Office of Air Planning, U.S. Environmental Protection Agency, Region 9, 75 Hawthorne Street (AIR–2), San Francisco, California 94105–3901. Phone: (520) 622–1622, email: *tax.wienke@epa.gov.*

SUPPLEMENTARY INFORMATION: Elsewhere in this **Federal Register**, we are proposing approval and soliciting written comment on this action. Throughout this document, the words "we," "us," or "our" mean U.S. EPA.

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I. Background

A. Designation and Classification of CO Nonattainment Areas

The Clean Air Act Amendments (CAAA) of 1990 authorized EPA to designate areas across the country as nonattainment, and to classify these areas according to the severity of the air pollution problem. Pursuant to section 107(d) of the CAAA, following enactment on November 15, 1990, States were requested to submit lists, within 120 days, which designated all areas of the country as either attainment, nonattainment, or unclassifiable for CO. The EPA was required to promulgate these lists of areas no later than 240 days following enactment of the CAAA (see 56 FR 56694, (November 6, 1991)).

On enactment of the CAAA, a new classification structure was created for CO nonattainment areas, pursuant to section 186 of the CAAA, which included both a moderate and a serious area classification. Under this classification structure, moderate areas with a design value of 9.1–16.4 ppm, were expected to attain the CO NAAQS as expeditiously as practicable, but no later than December 31, 1995. CO nonattainment areas designated as serious, with a design value of 16.5 ppm and above, were expected to attain the CO NAAQS as expeditiously as practicable, but no later than December 31, 2000.

States containing areas classified as either moderate or serious for CO had the responsibility of developing and submitting to EPA State Implementation Plans (SIPs) which addressed the nonattainment air quality problems in those areas. The air quality planning requirements for moderate and serious CO nonattainment areas are addressed in sections 186–187 respectively of the CAAA, which pertain to the classification of CO nonattainment areas as well as to the requirements for the submittal of both moderate and serious area SIPs. The EPA issued general guidance concerning the requirements for SIP submittals, which included requirements for CO nonattainment area SIPs, pursuant to Title I of the CAAA (See generally, 57 FR 13498 (April 16, 1992), and 57 FR 18070 (April 28, 1992)).

The EPA has the responsibility for determining whether a nonattainment area has attained the CO NAAQS by the applicable attainment date.[1]

B. How Does EPA Make Attainment Determinations?

Section 179(c)(1) of the CAAA provides that attainment determinations are to be based upon an area's "air quality as of the attainment date", and section 186(b)(2) is consistent with this requirement. EPA makes the determination as to whether an area's air quality is meeting the CO NAAQS based upon air quality data gathered at CO monitoring sites in the nonattainment area. This air quality data is entered into the Aerometric Information Retrieval System (AIRS). This data is reviewed to determine the area's air quality status in accordance with EPA regulations at 40 CFR 50.8, and in accordance with EPA policy and guidance.[2]

Attainment of the CO NAAQS requires that not more than one 8-hour average per year can exceed 9.0 ppm (values below 9.5 are rounded down to 9.0 and are not considered exceedances). CO attainment is evaluated and determined by reviewing 8 quarters of data, or a total of 2 complete calendar years of data for an area. If an area's design value is greater than 9.0 ppm, this means that a monitoring site in the area has recorded more than one value above the level of the NAAQS and therefore the area has not attained the CO NAAQS.

The 8-hour CO design value is used to determine attainment of CO areas. The design value for an area is determined by first finding the design value at each CO monitoring site in the area. The highest of these individual site design values then becomes the design value for the area. To determine the design value for a site we look at the highest and second highest (non-overlapping) 8-hour values for the most recent two years prior to the attainment date (in this case 1999 and 2000). The highest of the two second high values is used as the design value for the monitoring site.

C. What Is the Attainment Date for the Phoenix Metropolitan CO Nonattainment Area?

Phoenix was originally classified as a moderate CO nonattainment area, with an attainment date no later than December 31, 1995. On May 10, 1996, EPA made a finding that Phoenix did not attain the CO NAAQS by the December 31, 1995 attainment date for the moderate nonattainment area. This finding was based on EPA's review of monitored air quality data for compliance with the CO NAAQS. As a result of this finding, the Phoenix CO nonattainment area was reclassified as a serious CO nonattainment area (*See* 61 FR 39343, July 29, 1996), and its attainment date was extended to December 31, 2000. Phoenix has not had an exceedance of the CO NAAQS since 1996, and therefore has more than enough years of clean data for EPA to make an attainment finding.

II. Basis for EPA's Action

Arizona has 13 CO monitoring sites in the Phoenix CO nonattainment area. The air quality data in AIRS for these monitors show that, for the 2-year period from 1999 through 2000, there were no violations of the 8-hour CO standard. The monitoring site with the highest 8-hour design value during this 2-year period was at the Grand Ave. and 27th Ave. which had a design value of 8.1 ppm. Based on this information, EPA has determined that the area attained the CO NAAQS standard as of the attainment date of December 31, 2000.

This finding of attainment should not be confused with a redesignation to attainment under CAAA section 107(d). Arizona has recently submitted a redesignation request and a maintenance plan as required under section 175A(a) of the CAAA, which EPA intends to act on in the near future. The area will remain a serious CO nonattainment area with the planning requirements that apply to serious CO nonattainment areas until such time that EPA acts on the redesignation request and maintenance plan.

III. EPA's Action

By today's action, EPA is making the determination that the Phoenix serious CO nonattainment area did attain the CO NAAQS by the attainment date of December 31, 2000 based on no exceedances since 1996. As explained above, the Phoenix nonattainment area remains classified a serious CO nonattainment area, and today's action does not redesignate the Phoenix nonattainment area to attainment.

IV. Statutory and Executive Order Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May

[1] See sections 172(C), 179(c) and 186(b)(2) of the CAAA.

[2] The relevant guidance is in a memorandum from William G. Laxton, Director Technical Support Division, entitled "Ozone and Carbon Monoxide Design Value Calculations," dated June 18, 1990.

22, 2001). This action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4).

This rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely approves a state rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by November 21, 2003. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (*See* section 307(b)(2).)

List of Subjects in 40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: September 9, 2003.

Wayne Nastri,

Regional Administrator, Region 9.

[FR Doc. 03–24002 Filed 9–18–03; 12:01 pm]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 021223329–2329–01; I.D. 091203A]

Fisheries of the Northeastern United States; Atlantic Bluefish Fishery; Commercial Quota Transfer

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Commercial quota transfer.

SUMMARY: NMFS announces that the Commonwealth of Virginia has transferred a total of 500,000 lb (226,860 kg) of commercial bluefish quota to the State of New York for 2003. NMFS has adjusted the quotas and announces the revised commercial quotas for Virginia and New York. This action is permitted under the regulations implementing the Fishery Management Plan for the Bluefish Fishery (FMP) and is intended to reduce discards and prevent negative economic impacts to the New York commercial bluefish fishery.

DATES: Effective September 17, 2003 through December 31, 2003.

FOR FURTHER INFORMATION CONTACT: Myles Raizin, Fishery Policy Analyst, (978) 281–9104, fax (978)281–9135, e-mail *Myles.A.Raizin@noaa.gov*.

SUPPLEMENTARY INFORMATION: Regulations governing the Atlantic bluefish fishery are found at 50 CFR part 648. The regulations require annual specification of a commercial quota that is apportioned among the coastal states from Maine through Florida. The process to set the annual commercial quota and the percent allocated to each state are described in § 648.160.

The initial total commercial quota for bluefish for the 2003 calendar year was set equal to 10,460,058 lb (4,755,017 kg) (68 FR 25305; May 12, 2003). The resulting quota for New York was 1,086,286 lb (492,870 kg), and for Virginia was 1,242,601 lb (563,794 kg).

The FMP allows two or more states, under mutual agreement and with the concurrence of the Administrator, Northeast Region, NMFS (Regional Administrator), to transfer or combine part or all of their annual commercial quota. The Regional Administrator must consider the criteria set forth in § 648.160(f)(1) in the evaluation of requests for quota transfers or combinations.

Virginia has agreed to transfer 500,000 lb (226,860 kg) of its 2003 commercial quota to New York. The revised quotas for the calendar year 2003 are: Virginia, 742,601 lb (336,933 kg), and New York, 1,586,286 lb (719,730 kg). The Regional Administrator has determined that the criteria set forth in § 648.160(f)(1) have been met. This action does not alter any of the conclusions reached in the environmental assessment for the 2003 specifications for the Atlantic bluefish fishery. This is a routine administrative action that reallocates commercial quota within the scope of previously published environmental analyses.

APPENDIX A, Exhibit 4

Federal Register, Volume 67, Number 143, page 48718, July 25, 2002, Final Rule. Approval and Promulgation of Implementation Plans; Arizona-Maricopa County PM-10 Nonattainment Area; Serious Area Plan for Attainment of the PM-10 Standards.

Federal Register

Thursday,
July 25, 2002

Part II

Environmental Protection Agency

40 CFR Part 52

Approval and Promulgation of Implementation Plans; Arizona—Maricopa County PM–10 Nonattainment Area; Serious Area Plan for Attainment of the PM–10 Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[AZ092–002; FRL–7141–3]

Approval and Promulgation of Implementation Plans; Arizona—Maricopa County PM–10 Nonattainment Area; Serious Area Plan for Attainment of the PM–10 Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is approving the serious area particulate matter (PM–10) plan for the Maricopa County portion of the metropolitan Phoenix (Arizona) PM–10 nonattainment area. We are also granting Arizona's request to extend the Clean Air Act deadline for attaining the annual and 24-hour PM–10 standards in the area from 2001 to 2006. Finally, we are approving Maricopa County Environmental Services Department's fugitive dust rules, Maricopa County's Residential Woodburning Restrictions Ordinance, and commitments by Maricopa County jurisdictions to implement PM–10 controls.

EFFECTIVE DATE: August 26, 2002.

FOR FURTHER INFORMATION CONTACT: Frances Wicher, Office of Air Planning (AIR–2), U.S. Environmental Protection Agency, Region 9, 75 Hawthorne Street, San Francisco, California 94105. (415) 947–4155, email: *wicher.frances@epa.gov.*

This document and the Technical Support Document are also available as electronic files on EPA's Region 9 Web Page at *http://www.epa.gov/region09/air.*

SUPPLEMENTARY INFORMATION: Throughout this document "we," "us," and "our" means EPA. This supplementary information is organized as follows:

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I. Summary of Today's Actions

We are approving the serious area state implementation plan (SIP) for attainment of the annual and 24-hour PM–10 standards in the metropolitan Phoenix (Maricopa County), Arizona, area. This action is based on our determination that this plan complies with the Clean Air Act's (CAA) requirements for attaining the PM–10 standards in serious PM–10 nonattainment areas such as the metropolitan Phoenix area.

Specifically, we are approving the following elements of the plan as they address both the 24-hour and annual PM–10 standards:

- The base year emissions inventory of PM–10 sources;
- The demonstration that the plan provides for implementation of reasonably available control measures (RACM) and best available control measures (BACM) for all source categories that contribute significantly to PM–10 standard violations;
- The demonstrations that attainment by the CAA deadline of December 31, 2001 is impracticable;
- The demonstrations that attainment will occur by the most expeditious alternative date practicable, in this case, December 31, 2006;
- The demonstration that the plan provides for reasonable further progress and quantitative milestones;
- The demonstration that the plan includes to our satisfaction the most stringent measures found in the implementation plan of another state or are achieved in practice in another state and can feasibly be implemented in the area;
- The demonstration that major sources of PM–10 precursors such as nitrogen oxides and sulfur dioxide do not contribute significantly to violations of the PM–10 standards;
- Contingency measures; and
- The transportation conformity mobile source emissions budget.

We are also approving Maricopa County's fugitive dust rules, Rules 310 and 310.01, and its residential woodburning restriction ordinance as well as commitments by the local jurisdictions in the Phoenix area to implement control measures.

Finally, we are granting Arizona's request to extend the attainment date for both the annual and 24-hour PM–10 standards from December 31, 2001 to December 31, 2006.

With today's action, EPA has now approved all elements of the serious area PM–10 plan for the Phoenix area. Today's final approvals also correct disapprovals of previous Phoenix PM–10 plans that resulted in the imposition of one CAA sanction in the Phoenix area and a clock running for the imposition of another. With these approvals, the sanction is lifted and the clock stopped.

This preamble summarizes our actions on the Phoenix serious area plan, gives some background to this action, and provides responses to the most significant comments we received on the proposals for this final action. We have not repeated the concise evaluation of the plan that we provided in the two proposals for today's action. We refer the reader to these proposals for this evaluation. See the annual standard proposal at 65 FR 19964 (April 13, 2000) and the 24-hour standard proposal at 66 FR 50252 (October 2, 2001). Our complete evaluation can be found in our technical support document (EPA TSD) that accompanies this final action. The EPA TSD also includes our full responses to all comments received on both proposals. The EPA TSD can be downloaded from our website or obtained by calling or writing the contact person listed above.

II. The Serious Area PM–10 Plan for the Phoenix Area

Arizona has made several submittals to address the CAA requirements for serious PM–10 nonattainment area plans in the Phoenix area. These submittals include the 1997 Microscale plan,[1] the 1997 BACM submittal,[2] the 2000 Revised Maricopa Association of Governments (MAG) plan,[3] the 2001 Best Management Practices (BMP) submittal (BMP TSD),[4] and a number of

[1] *Plan for Attainment of the 24-hour PM–10 Standard—Maricopa County PM–10 Nonattainment Area,* Arizona Department of Environmental Quality (ADEQ), May, 1997, submitted May 9, 1997, approved in part and disapproved in part on August 3, 1997 (62 FR 41856).

[2] *Serious Area Committed Particulate Control Measures for PM–10 for the Maricopa County Nonattainment Area and Support Technical Analysis,* MAG, December 1997, submitted December 11, 1997.

[3] *Revised Maricopa Association of Governments 1999 Serious Area Particulate Plan for PM–10 for the Maricopa County Nonattainment Area,* February 2000, submitted February 16, 2000. On January 8, 2002, Arizona submitted revisions to the Maricopa County's commitments to improve its fugitive dust rule which were in this plan.

[4] *Maricopa County PM–10 Serious Area State Implementation Plan Revision, Agricultural Best Management Practices (BMP),* ADEQ, June 2000, submitted on June 13, 2001.

rules.[5] These submittals collectively comprise the full serious area PM–10 plan for the Phoenix area.

The MAG plan is the primary document for the serious area plan. It contains the base year inventory, the BACM demonstrations for all significant source categories (except agriculture) for both standards, the demonstration that attainment of both standards by 2001 is impracticable, the demonstration that attainment of the annual standard and the 24-hour standard (at all but four sites addressed by the microscale plan) will occur as expeditiously as practicable, the reasonable further progress (RFP) demonstration and quantitative milestones for the annual standard, contingency measures for the annual standard, the transportation conformity budget, and the request and supporting documentation—including the most stringent measure analysis (except for agriculture)—for an attainment date extension for both standards under CAA section 188(e).

The BMP TSD updates the MAG plan to reflect the State's May, 2000 adoption of the agricultural general permit rule to control PM–10 from agricultural sources in Maricopa County. It includes a background document which provides the BACM and most stringent measure demonstrations for agricultural sources for both standards, the final demonstration of attainment and RFP for the 24-hour standard at two monitoring sites, quantitative milestones for the 24-hour standard, and revisions to the contingency measure provisions for both standards. It also includes documentation quantifying emission reductions from the agricultural general permit rule and documentation related to implementing this rule. The BMP TSD was prepared by ADEQ.

The 1997 BACM submittal contains the initial commitments by the cities and towns in the Maricopa County portion of the Phoenix nonattainment area to implement BACM within their jurisdictions. These commitments were resubmitted in the revised MAG plan.

The Microscale plan is a serious area PM–10 plan that includes BACM, RFP, and attainment demonstrations for the 24-hour PM–10 standard at four Phoenix area monitoring sites: Salt River, Maryvale, Gilbert, and West Chandler. It was prepared and submitted by ADEQ in 1997 as a component of the overall serious area PM–10 plan for the Phoenix area.[6]

III. Proposals for and Information Related to Today's Actions

A. The Proposals for Today's Actions

Two proposals preceeded today's final action. The first proposal was published on April 13, 2000 (65 FR 19964) and addresses the Phoenix serious area plan's provisions for attaining the annual standard. The initial comment period for this proposal was 60 days but was extended twice and finally closed on July 27, 2000. We received 14 comments on this proposal from both public and private groups and from numerous private citizens.

The second proposal was published on October 2, 2001 (66 FR 50252) and addresses the Phoenix serious area plan's provisions for attaining the 24-hour standard and contingency measures for both PM–10 standards. In this second proposal, we also revised and reproposed several findings from the annual standard notice. These reproposals were necessary because of SIP submittals made by Arizona after the April 2000 proposal. The 30-day comment period for this proposal ended on November 1, 2001. We received one comment letter.

B. Already-Approved Elements of the Phoenix Serious Area PM–10 Plan

Two important elements of the metropolitan Phoenix serious area PM–10 plan have already been approved. These elements were submitted as either part of the Microscale plan or the BMP general permit rule and its TSD.

We approved the Microscale plan in part and disapproved the plan in part on August 4, 1997. We approved provisions for implementing BACM for 3 of the 8 source categories found to be significant contributors to 24-hour exceedances in the Phoenix area and disapproved them for 5 others. We also approved the attainment and RFP demonstrations for the Salt River and Maryvale sites because the Mircoscale plan demonstrated expeditious attainment at these sites but disapproved these demonstrations for the West Chandler and Gilbert sites because the plan did not demonstrate attainment at them. Except for our findings related to the implementation of BACM, we have not reevaluated and are not approving again those 24-hour provisions already approved as part of our actions on the Microscale plan.[7]

On October 11, 2001, we approved the State's agricultural BMP general permit rule and found that it provided for the implementation of RACM for the agriculture source category. See 66 FR 51869. We are today finding that the rule also provides for the implementation of BACM and meets the most stringent measure requirement in CAA section 188(e). These latter findings are in addition to and not in substitution for the October 11, 2001 RACM finding.

With today's action and these previous approvals, we have now approved all elements of the Phoenix serious area PM–10 plan.

C. Effect of Today's Actions on the 1998 Federal PM–10 Plan for the Phoenix Area

On August 3, 1998, we promulgated a moderate area PM–10 federal implementation plan (FIP) for the Phoenix area. In the FIP, we included a rule for controlling fugitive dust from vacant lots, unpaved parking lots, and unpaved roads. See 40 CFR 52.128 (modified, December 21, 1999). We also included a commitment to adopt and implement RACM for agricultural source categories. *See* 40 CFR 52.127 as published at 63 FR 41326, 41350 (August 3, 1998) (withdrawn at 64 FR 34726 (June 29, 1999)). With the Federal fugitive dust rule and commitment and already approved State and local controls, we demonstrated that the Phoenix area had in place RACM on all significant source categories, that the area would make reasonable further progress toward attainment but that attainment by 2001 was impracticable. *See* 63 FR 41326.

On June 29, 1999, we replaced the federal commitment to develop agricultural controls in the FIP with a

[5] These include the revised Maricopa County Environmental Services Department (MCESD) Rule 310, Fugitive Dust Sources (adopted February 16, 2000) and Rule 310.01, Fugitive Dust from Open Areas, Vacant Lots, Unpaved Parking Lots, and Unpaved Roadways (adopted February 16, 2000), both submitted on March 2, 2000; the revised Maricopa County Residential Woodburning Restrictions Ordinance (adopted November 17, 1999) submitted on January 28, 2000; and the Agricultural BMP General Permit Rule submitted on July 11, 2000, approved October 11 2001 (66 FR 51869).

[6] A complete history of the Microscale plan, including the reasons for its development, can be found in the proposal and final actions for that plan and in proposal for the 24-hour standard. See 62 FR 31025 (June 6, 1997), 62 FR 41856 (August 4, 1997) and the 24-hour standard proposal at 50254.

[7] According to the approved serious area plan attainment demonstration in the Microscale plan, the Salt River site should not have violated the 24-hour PM–10 standard after May, 1998. The site, however, continues to violate the standard. Because there is already an approved serious area plan attainment demonstration, the remedy under the CAA for correcting this demonstration is for EPA to issue a formal request to the State to revise it SIP pursuant to section 110(k)(5), a process known as a "SIP call." We will be proposing that SIP call soon. However, because the elements of the Phoenix serious area plan that we are approving today do not address the attainment of the 24-hour standard at the Salt River site, the issues with the site's attainment demonstration do not affect today's action.

State commitment to adopt best management practices for the agricultural sources. 64 FR 34726.

Today's actions do not withdraw or otherwise modify the demonstrations in the FIP or the federal fugitive dust rule.

D. Clean Air Act Sanctions in the Phoenix Area

In the 1998 FIP, we also disapproved the RACM and attainment demonstrations for the annual PM–10 standard in the 1991 MAG moderate area PM–10 plan. See 63 FR 41326 (August 3, 1998, effective September 2, 1998). Under CAA section 179(a), once we disapprove a SIP provision because it fails to meet a CAA requirement, a State has 18 months from the effective date of the disapproval to correct the deficiency before the first of two sanctions goes into place. If the state still has not corrected the deficiency within 24 months of the effective date of the disapproval, the second sanction goes into place.[8]

On March 2, 2000, before Arizona could submit and we could act to approve substitute RACM and attainment demonstrations, the 18-month clock expired and the 2:1 offset sanction went into place in the Phoenix area. The second clock for the highway funding limitations was set to expire on September 2, 2000.

Under section 179(a) and our sanctions regulations at 40 CFR 52.31(d)(1), we must approve a SIP revision that corrects the deficiencies to permanently end the sanctions clocks and lift any imposed sanctions. However, we may temporarily stay the clocks and any imposed sanctions if we have proposed to approve a SIP revision that corrects the deficiencies and have issued an interim final determination that the State has corrected the deficiencies. 40 CFR 52.31(d)(2)(i).

We proposed to approve the RACM and attainment demonstrations for the annual standard on April 13, 2000. 65 FR 19964. In a rule published concurrently with that proposal, we issued an interim final determination that stayed both the offset sanction and the clock running on the highway sanctions. 65 FR 19992.

With today's action, we are fully approving the State's substitute RACM and attainment demonstrations for the annual standard. These full approvals correct the deficiencies that resulted in the disapproval and permanently end the offset sanction and stop the clock for the highway sanctions.

The serious area plan for the Phoenix area was due on December 10, 1997; however, Arizona submitted only a partial plan. On February 6, 1998, we made a finding that the State had failed to submit a required SIP (published on February 25, 1998 at 63 FR 9423). This finding also started sanctions clocks and a two-year clock under CAA section 110(c) for EPA to promulgate a substitute federal implementation plan if the State did not have a fully approved one.

On July 8, 1999, Arizona submitted the full serious area plan, and on August 4, 1999, we found the plan complete. This finding stopped the sanction clocks for failure to submit; however, it did not stopped the FIP clock. Under section 110(c), the FIP clock continues until we approve the full serious area plan. Today's action approves the plan and ends our obligation to promulgate a serious area PM–10 FIP for the Phoenix area.

E. EPA's Policies on Approving Serious Area PM–10 Plans and Granting Attainment Date Extension

We have issued a General Preamble, 57 FR 13498 (April 16, 1992) and 57 FR 18070 (April 28, 1992), and Addendum to the General Preamble ("Addendum"), 59 FR 41998 (August 16, 1994), describing our preliminary views on how we intend to review SIPs submitted to meet the Clean Air Act's requirements for PM–10 plans. The General Preamble mainly addresses the requirements for moderate areas and the Addendum, the requirements for serious areas.

In the proposal for the 24-hour standard, we also provided our preliminary interpretation of and policy on granting an extension of the attainment date under CAA section 188(e). We are finalizing this extension policy today only as it relates specifically to our action on the attainment date extension requested by the State of Arizona for the Phoenix area.

IV. Response to Comments on the Proposed Actions

The following are our responses to the most significant comments that we received on the proposals for today's actions. In section 7 of the EPA TSD, we provide more detailed responses to these comments as well as responses to all comments received. A copy of the EPA TSD may be downloaded from our website or obtained by writing or calling the contact listed above.

A. Comments on EPA's Policies for Approving Serious Area PM–10 Plans and Granting Attainment Date Extensions

Comment: EPA interprets the CAA to not require a state to apply BACM to any source or source category that it has demonstrated to be de minimis. See 59 FR 41998, 42011 (August 16, 1994). In its July 2000 comments on the annual standard proposal, ACLPI disagrees that EPA can exempt de minimis sources from the Act's BACM requirement. ACLPI argues that there are no exceptions to the Act's requirement that serious area plans include "provisions to assure that the best available control measures for the control of PM–10 shall be implemented." ACLPI incorporates by reference its arguments in its Brief for the Petitioners in *Ober* v. *Whitman* (9th Cir., No. 98–71158) (*Ober II*) at pp. 21–19, noting that although *Ober II* involves a challenge to our exemption of de minimis sources from the RACM requirement, the same reasoning applies to invalidate the BACM exemption as well.

Response: Ober II was a challenge to our 1998 PM–10 moderate area FIP for the Phoenix area. In the FIP, we exempted from the RACM requirement, source categories with de minimis impacts on PM–10 levels. We established a de minimis threshold of 1 μg/m\3\ for the annual standard and 5 μg/m\3\ for the 24-hour standard, initially taking these thresholds from the new source review (NSR) program for attainment areas. We showed that these were the correct thresholds for determining which source categories were de minimis for the RACM requirement by showing that the application of RACM on the de minimis source categories would not make the difference between attainment and nonattainment by the applicable attainment deadline. See 63 FR 41326, 41330 (August 3, 1998). In *Ober II*, ACLPI challenged our ability to exempt de minimis source categories from the RACM requirement and the specific thresholds that we used.

In March, 2001 (well after the close of the comment period on the annual standard proposal), the 9th Circuit issued its opinion in *Ober II*. *Ober* v. *Whitman*, 243 F.3d 1190 (9th Cir. 2001). The court held that we have the power to make de minimis exemptions to control requirements under the Clean Air Act and that our use of the de minimis levels from the NSR program is appropriate. In addition, the Court determined that it is appropriate for us

[8] The two CAA sanctions are a limitation on certain highway approvals and funding and an increase in the emissions offset ratio to 2 to 1 for any major new stationary source or major modification. See CAA section 179(b). Our sanctions regulations provide that the first sanction to be imposed is the offset ratio unless we have established at the time of the disapproval that the highway sanction will be first. 40 CFR 52.31(d).

to use, as a criterion for identifying de minimis sources, whether controls on the sources would result in attainment by the attainment deadline. *Ober II* at 1198

In finding that EPA had the authority to exempt de minimis source categories of PM–10 from CAA control requirements, the Court wrote:

> Courts have refused to allow de minimis exemptions where the statutory language does not allow it. * * * There is no explicit provision in the Clean Air Act prohibiting the exemption from controls for de minimis sources of PM–10 pollution. Nor is the statutory language uncompromisingly rigid. The Act provides that a plan must include "reasonably" available control measures to bring the area into attainment unless attainment is "impracticable." Those terms allow for the exercise of agency judgment. * * * We conclude that EPA, in discharging its duty to enforce the Act, is permitted under [*Chevron, U.S.A., Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)] to exempt de minimis sources of PM–10 from pollution controls.

Ober II at 1194 (internal cites and quotes omitted).

The Court's reasoning is equally applicable to the BACM requirement. Like the RACM requirement, there is no explicit provision in the Act prohibiting the exemption from the BACM requirement for de minimis sources of PM–10 pollution. Nor is the language in section 189(b)(1)(B) requiring the implementation of BACM "uncompromisingly rigid." Like RACM, the Act and EPA policy provide that a PM–10 plan must include the "best" available control measures to bring the area into attainment unless attainment is "impracticable." The term "best"—no less than the term "reasonably"—allows for the exercise of agency judgment.

In *Ober II*, the Court also upheld the procedures and criteria we used to determine what constituted a de minimis source or source category for RACM. *Ober II* at 1198. We have applied exactly the same procedures and criteria for BACM. For BACM, we proposed the same NSR thresholds as a starting point for determining what constitutes a de minimis source category. See 24-hour standard proposal at 50281. We also required the State to demonstrate that its identified de minimis sources are in fact de minimis by showing that controls on them would not make the difference between attainment and nonattainment by the applicable deadline. See 24-hour standard proposal at 50281.

Finally, we note that we invoke a de minimis exemption from the Act's general but open-ended control requirements like RACM, BACM, and MSM as a means of ensuring that states focus their always limited resources on the controls most likely to result in real air quality benefits. It is more likely to harm air quality than to help it if these limited resources are diverted away from more substantive measures into the adoption and implementation of measures with trivial impacts.

Nowhere is the need to concentrate resources on the most significant sources more necessary then in large urban areas dominated by PM–10 fugitive dust sources, such as the metropolitan Phoenix area. Adequate controls in these types of areas require very large investments of both financial and human resources because of the number of sources and the type of needed controls.[9] As the court has recognized in *Alabama Power Co.* v. *Costle*, 636 F.2d 323, 360 (D.C.Cir. 1979), "[c]ourts should be reluctant to apply the literal terms of a statute to mandate pointless expenditures of effort. * * * The ability * * * to exempt de minimis situations from a statutory command is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design." Cited in *Ober II* at 1194.

Comment: In its July 2000 comments on the annual standard proposal, ACLPI argues that our de minimis exception violates the Act's central mandate for attainment of the PM–10 standards by December 31, 2001 or as expeditiously as possible thereafter because it allows us and the states to eschew otherwise available control measures based on an arbitrary de minimis test even if the aggregate effect of implementing controls on all "de minimis" sources would hasten attainment. It further comments that even if the de minimis exception is allowed, the thresholds set by EPA are arbitrary because they were not based on actual PM–10 conditions in the nonattainment area, but on levels borrowed from the wholly unrelated new source review (NSR) program.

Response: ACLPI misstates the scope of the BACM de minimis exemption. We do *not* consider a source category or groups of source categories to be de minimis if applying BACM to it or them would meaningfully expedite attainment in areas demonstrating attainment by December 31, 2001 or would make the difference between attainment and nonattainment by December 31, 2001 in areas requesting an extension. See 24-hour standard proposal at 50281 and Addendum at 42011.

Under our de minimis policy, whether the NSR thresholds are appropriate for an area depends on the specific facts of that area's PM–10 nonattainment problem, that is, it depends on the actual PM–10 conditions in the nonattainment area. We do not accept the NSR thresholds as the correct de minimis thresholds without first requiring a conclusive showing that they do not adversely affect the area's ability to show expeditious attainment. See Addendum at 42011.

We used these NSR thresholds in our 1998 FIP. ACLPI raised the same objections to their use there for the RACM requirement as it does here for the BACM requirement. *Ober II* at 1196. The Ninth Circuit in reviewing the FIP found that it was permissible for us to adopt the PM–10 de minimis thresholds already in place in the new source review program to identify de minimis sources for the RACM requirement. *Ober II* at 1196. Our reasoning for applying those thresholds for BACM is the same as our reasoning for applying them for RACM; therefore, we believe that the NSR thresholds are an appropriate starting point for determining which source categories are significant and which are de minimis for the purposes of applying BACM.

Comment: Under the section 188(e) extension provisions, a state must show that it has complied with all requirements and commitments in its implementation plan. We interpret this requirement to apply only to the control measures in the state's previously submitted PM–10 implementation plans. See 24-hour standard proposal at 50282. ACLPI argues that in addition to fully implementing the control measures in the SIP revisions that it has submitted, a state must also show that it has implemented other provisions of its SIP. ACLPI also comments that EPA's attempt to limit this requirement to PM–10 commitments has no basis in the Act.

Response: We believe that this criterion's purpose is to assure that a state is not rewarded with additional time to attain the PM–10 standards if it has not implemented earlier commitments and requirements to reduce PM–10 levels. Given this purpose, the focus of the test to determine if a state has met this

[9] There are literally thousands of sources subject to fugitive dust controls in the Phoenix area, including constructions sites, agricultural fields, vacant lots, unpaved roads, and paved roads. For example, MCESD issued 2500 construction permits in 1999; we mailed 50,000 letters to owners of vacant lots as part of our 1999 outreach on the PM–10 FIP. Effective fugitive dust control from many of these sources requires either an ongoing and extensive compliance and enforcement presence or large capital expenditures (e.g., paving unpaved roads, purchasing and operating PM–10 street sweepers).

criterion should be on the implementation of PM–10 emission reducing control measures rather then on the implementation of programs, such as monitoring and permitting, that make up the overall air quality program's infrastructure but are not emission reducing measures themselves.

Limiting the section 188(e) review to just the PM–10 implementation plan is firmly based on the structure, purpose and language of the Act. The attainment date extension provisions are located in title I, part D, subpart 4 "Additional Provisions for Particulate Matter Nonattainment Areas." Hence, any reference to *the* implementation plan within this subpart is to the PM–10 implementation plan, absent specific language to the contrary. The criterion "the State has complied with all requirements and commitments pertaining to that area in *the* implementation plan" in section 188(e) (emphasis added) contains no language that implies a reference to all of an area's implementation plans. Moreover, section 188(e) addresses setting the most expeditious attainment date for meeting the PM–10 air quality standards. There is at best a tenuous and strained connection between the implementation status of plans for attaining other air quality standards (*e.g.*, ozone or carbon monoxide) and the appropriate and most expeditious date for attaining the PM–10 standard.

The language in section 188(e) is almost identical to the language in section 188(d) that allows a one-year extension of the moderate area attainment date if, in part, "the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan." In interpreting and applying section 188(d), we have always considered "the applicable implementation plan" in question to be the State's SIP for PM–10. *See Memorandum*, Sally L. Shaver, OAQPS, to Regional Air Directors, "Criteria for Granting 1-Year Extensions of Moderate Area Attainment Dates, Making Attainment Determinations, and Reporting on Quantitative Milestones," November 14, 1994. *See* also, 66 FR 32752, 32754 (June 18, 2001) (Attainment date extensions for Utah's PM–10 nonattainment areas).

Comment: EPA interprets the CAA to allow states to exempt from the most stringent measures requirement in section 188(e) any source or source category that it has demonstrated to be de minimis. 24-hour standard proposal at 50283. ACLPI disagrees that EPA can exempt de minimis sources of PM–10 from the Act's MSM requirement, arguing that the Act requires areas seeking an extension of the serious area PM–10 attainment deadline to demonstrate that their plans include the most stringent measures that are included in the implementation plan of any State or achieved in practice in any State, and can feasibly be implemented in the area," and that there is no de minimis exception to this explicit mandate.

Response: As stated above in response to a similar comment regarding the exemption of de minimis sources from the BACM requirement, we believe the *Ober II* Court's reasoning in upholding that exemption for the RACM requirement is also applicable to the MSM requirement. Again, we invoke a de minimis exemption from the Act's general but open-ended control requirements like RACM, BACM, and MSM as a means to ensure that states focus their always limited resources on the controls most likely to result in real air quality benefits.

Like the RACM requirement, there is no explicit provision in the Act prohibiting a de minimis source category exemption from the MSM requirement. Nor is the language in section 188(e) "uncompromisingly rigid." In fact, the phrase—"to the satisfaction of the Administrator"—in the MSM provision specifically calls for the Agency to exercise its judgement in deciding how exactingly to apply the requirement. *See Ober II* at 1194.

In our policy on the MSM requirement, we are using the same principles for determining when a source is considered de minimis under the MSM requirement that we used for the RACM requirement upheld by the *Ober II* Court. In doing so, we have carefully constructed the de minimis exemption for the MSM requirement to prevent states from eliminating any controls on sources or source categories that alone or together would result in more expeditious attainment of the PM–10 standards. See annual standard proposal at 19967 and 24-hour standard proposal at 50583. We note that the Phoenix serious area plan did not reject any potential MSM on de minimis grounds.

Comment: ACLPI argues that EPA's proposed de minimis exception violates the Act's requirement that states seeking an extension demonstrate attainment by the most expeditious alternative date practicable because it allows EPA and the states to reject otherwise available control measures based on an arbitrary de minimis test even if the aggregate effect of implementing MSM on all de minimis sources would hasten attainment. It also argues EPA's proposal to determine an appropriate de minimis level by determining whether applying MSM to proposed de minimis source categories would "meaningfully hasten attainment" is vague and fails to comport with the Act.

Response: ACLPI misstates the scope of the MSM de minimis exemption. We do not consider a source category or groups of source categories to be de minimis if applying MSM to it or to them would hasten attainment. We stated this clearly in both the proposal for the annual standard provisions and for the 24-hour standard provisions: Annual standard proposal at 19969; 24-hour standard proposal at 50583.

In Ober II, the Court found:

> Using the [attainment] deadline to determine whether controls must be imposed makes sense. The deadline is not an arbitrary date unrelated to air quality concerns. * * * In this case, the [FIP] concludes that the deadline will not be met even if these small sources of PM–10 were controlled. Under those circumstances, it is reasonable to decline to control the de minimis sources of pollution.

Ober II at 1198.

In interpreting the MSM requirement to allow exemptions on de minimis grounds, we are also using the applicable attainment date to determine whether controls should be imposed. At the time a state submits its application for an attainment extension, (including the showing that its plan includes MSM), it must also submit a demonstration that attainment will occur by the "most expeditious alternative date practicable." See CAA section 188(e). If it can be shown that including a certain set of potential MSM would not result in more expeditious attainment, then it is consistent with the Act to not require their inclusion as a condition of approval.

What constitutes "meaningfully hastening attainment" depends on the actual PM–10 conditions in the nonattainment area and the particular PM–10 standard under consideration.[10] Because of this dependence, we cannot in policy specify a time period that is appropriate in all situations. We can propose the appropriate time period only within the context of acting on a specific extension request. For today's rulemaking, the plan did not invoke a de minimis exemption for evaluating MSM; therefore, we did not need to propose the time period we would

[10] This is similar to the de minimis thresholds which we also cannot specify in advance because they too must be set based on the actual PM–10 conditions in the nonattainment area and the particular PM–10 standard under the consideration. See Addendum at 42011.

consider meaningful for evaluating its de minimis exemption.

Comment: Under our policy on MSM, a state may reject a measure as infeasible for the area on economic grounds. *See* 24-hour standard proposal at 50283. ACLPI disagrees that a state can take economic considerations into account when determining the feasibility of MSM for the purposes of the MSM demonstration required under section 188(e). ACLPI argues that the Act only allows for the rejections of an MSM if it cannot feasibly be implemented in the area and any measure that is included in another SIP or achieved in practice in another state is by definition economically feasible because it is capable of being done or carried out if sufficient resources are devoted to it. ACLPI also argues that only its interpretation of MSM fits within the Act's strategy of offsetting longer attainment time frames with more stringent control requirements and that by allowing for the rejection of MSM based on cost, EPA has made MSM virtually indistinguishable from BACM.

Response: We believe that Congress very clearly intended that the phrase "feasible in an area" in section 188(e) to include economic considerations. Section 188(e) lists five criteria that we may consider in determining whether to grant an extension and the length of an extension, the last of which is "the technological *and economic* feasibility of various control measures." Emphasis added. The term "various control measures" clearly refers back, in part, to the requirement in the first part of section 188(e) that contains the requirement that the plan include "the most stringent measures that * * * can feasibly be implemented in the area."

By allowing us to consider the economic feasibility of measures in judging whether to grant an extension and how long an extension to grant, Congress necessarily also allowed states to consider economic feasibility in demonstrating the need for an extension of a given length. If section 188(e) compelled states to adopt all MSM that were technologically feasible no matter their cost, then there would be no economic feasibility issues for us to review in exercising our discretion to grant an extension. ACLPI's position would read the very explicit criterion—the technological and economic feasibility of various control measures—out of section 188(e). A statute should not be interpreted to render any provision of that statute meaningless. See *Northwest Forest & Resource* v. *Glickman*, 82 F.3d 825, 834 (9th Cir. 1996). See also *Gustafson* v. *Alloyd Co.*, 115 S. Ct. 1061, 1067 (1995) (no Act of Congress should "be read as a series of unrelated and isolated provisions."); *Department of Revenue of Oregon* v. *ACF Industries*, 114 S. Ct. 843, 848 (1994) ("a statute should be interpreted so as not to render one part inoperative") (quotation omitted).

We agree that the Act's general strategy is to offset longer attainment time frames with more stringent control requirements. We do not agree that the MSM requirement in section 188(e) is the primary mechanism that assures that increasingly stringent control requirements are adopted in areas requesting an extension. In fact, the most stringent control measure provision in section 188(e) will not necessarily result in the adoption of any additional control measures above and beyond those already adopted by the state to provide for BACM and expeditious attainment.

The MSM provision is written to assure that a state consider the most effective controls from elsewhere in the country for implementation in the area requesting an attainment date extension. The results of the analysis are completely dependent on how well other areas have controlled their PM–10 sources. If other areas have not controlled a particular source category well, then the resulting MSM for that source category will not be the more effective level of control than what is actually feasible for the area. The MSM provision, however, does not require a state to determine if the feasibility of controlling a source category at a level greater than the most stringent level from another area. In other words, it does not require states to determine the maximum level of control that could be applied to a source category given local conditions and the additional implementation time afforded by an extension.

In considering the MSM provision, there is a tendency to assume that there are always better controls elsewhere than there are in the local area. This assumption is unwarranted, especially for an area that has already gone through a systematic process of identifying and adopting BACM for their significant sources. These areas are likely to have already evaluated the best controls from other areas (as Arizona did, see MAG plan, Chapter 5) and either adopted them as BACM or rejected them as not feasible for their area. As a result, the likelihood of uncovering substantial new controls during a MSM evaluation is low.

More important than the MSM provision for assuring adoption of additional controls is the requirement in CAA sections 189(b)(1)(A)(ii) and 188(e) that the PM–10 plan demonstrate attainment by the most expeditious alternative date practicable but no later than December 31, 2006. The SIP revision containing this demonstration must accompany any request for extension of the attainment date under section 188(e). Because we are required to grant the shortest possible extension, a state must demonstrate that it has adopted the set of control measures that will result in the most expeditious date practicable for attainment. This requirement may mean that a state must adopt controls that go beyond the most stringent measures adopted or implemented elsewhere.

Comment: ACLPI disagrees with EPA's interpretation of the phrase "to the satisfaction of the Administrator" in section 188(e). Specifically, ACLPI rejects the notion that by using this phrase, Congress intended to grant EPA discretion to accept an MSM demonstration even if it falls short of having every MSM possible because this interpretation contradicts the express language of section 188(e) as well as the requirement that the area achieve attainment by the most expeditious date practicable. ACLPI argues that the Act uses the phrase to grant EPA the authority to determine whether a state has adequately demonstrated that its plan includes the most stringent measures that are feasible, not to give the agency carte blanche to circumvent the will of Congress by ignoring the State's failure to meet this requirement.

Response: First, the Act does not require states to adopt every possible MSM. There is nothing in the express language of section 188(e) that requires such an outcome. The MSM requirement in section 188(e) is not phrased as "all most stringent measures" or as "every most stringent measure practicable or possible."

Our interpretation of the MSM requirement is consistent with how we have historically interpreted the general RACM requirement in CAA section 172(c)(1), a requirement which does use the word "all." This section requires that nonattainment area plans "provide for the implementation of *all* reasonably available control measures * * * ". (emphasis added). In interpreting this requirement, we have long held that a state is not obligated to adopt and implement measures that will not contribute to expeditious attainment.[11]

[11] We would not consider a measure to be reasonable if it does not contribute to expeditious attainment. See General Preamble at 13560; 63 FR 15920, 15932 (April 1, 1998) (proposed Phoenix area PM–10 FIP); and 66 FR 26913, 26929 (May 15,

Continued

We established this position in a policy that predates the CAA Amendments of 1990. 44 FR 20372, 20375 (April 4, 1979). Congress did not revise the RACM requirement in the 1990 Amendments and thereby endorsed our position. We reaffirmed this position in 1992, see General Preamble at 13560 (April 16, 1992). The court has also endorsed this position in the specific context of the section 189(a) RACM requirement where the court found that using the attainment deadline to determine whether controls must be reasonable "makes sense." *Ober II* at 1198.

We are interpreting the MSM requirement using the same principle. We are again using the applicable attainment date to determine whether the MSM provision requires a particular control or set of controls to be imposed. Before we can grant an attainment date extension, the state must show that its plan will result in attainment by the "most expeditious alternative date practicable." See CAA sections 188(e) and 189(b)(1)(A)(ii). If a state can be shown that including a certain set of potential MSM would not result in more expeditious attainment, then it is reasonable and consistent with the Act not to require their inclusion as a condition of approval.

Second, Congress did not need to add the phrase "to the satisfaction of the Administrator" to grant us the authority to review the adequacy of a state's MSM demonstration. It had already given it to us by granting us the discretionary authority under section 188(e) to grant or to deny a state's extension request. By attaching the phrase specifically to the MSM requirement, Congress emphasized EPA's administrative authority to determine an appropriate interpretation of what is conceivably a very open-ended and exacting requirement.

Finally, in reviewing whether Arizona has appropriately excluded an otherwise feasible measure or group of feasible measures in its MSM analysis, we have invoked only one criterion: whether or not the measure or group of measures are necessary for attainment by the earliest alternative date practicable. Given that this is our sole criterion, our interpretation of "to the satisfaction of the Administrator" does not conflict with the Act's requirement for attainment by the earliest alternative date practicable.

2001) (approval of the Beaumont/Port Arthur ozone nonattainment area plan). Similarly, for the purposes of the MSM requirement, we would not consider such a measure to be feasible for the area.

Comment: ACLPI argues that EPA's proposed methodology for determining MSM is flawed because it apparently does not require states to quantify expected emission reductions from measures for purposes of making MSM demonstrations.

Response: We do not believe that quantification is always necessary or possible or can always be done accurately enough to be meaningful and therefore cannot be required as the sole means of determining relative stringency. Often, control measures are easily comparable without quantification. In these cases, quantification adds no additional information and is unnecessary. In other cases, quantification is not possible or cannot be done accurately enough because there is no methodology and/or insufficient data to calculate the difference in emissions reductions between measures.

Because quantification is often problematic, we have not established in our policy on the MSM provision a specific method that a state must use to compare the stringency of measures, rather we expect a state to select the best method for making this comparison on a case-by-case basis taking into account the need to provide a clear and conclusive demonstration. See 24-hour standard proposal at 50284.

B. Comments on EPA's Detailed Evaluation of the Phoenix Serious Area PM–10 Plan

Comment: ACLPI disagrees with EPA's statement that the Act does not require the metropolitan Phoenix serious area plan to address the adequacy of the PM–10 monitoring network, asserting that section 110(a)(2)(B)(i) specifically mandates this.

Response: Section 110(a)(2)(B)(i) in title 1, part A of the CAA requires implementation plans to provide for the establishment and operation of a system to monitor, compile and analyze data on ambient air quality. These systems must necessarily be in place and operating long before a state can develop a nonattainment area plan under title I, part D of the CAA (such as the Phoenix serious area plan) because it is the data from this monitoring network which establish the area's nonattainment status and its initial classification as well as the degree of control needed to attain the applicable standard. Therefore, SIP monitoring provisions are addressed separately and well in advance of the development of nonattainment area plans.

Nonattainment area plans are not, in general, required to address how the area's air quality network meets our monitoring regulations. Nor do we generally approve or disapprove monitoring networks as part of nonattainment area plans. These plans are submitted too infrequently to serve as the vehicle for assuring that monitoring networks remain adequate and current. Instead, our monitoring regulations in 40 CFR part 58 require states to submit reports on the adequacy of their ambient air quality monitoring networks annually. We discuss the adequacy of the monitoring network as part of our proposed action on the Phoenix plan to support our finding that the plan appropriately evaluates the PM–10 problem in the area. Reliable ambient data is necessary to validate the base year air quality modeling which in turn is necessary to assure sound attainment demonstrations. The network, however, does not need to meet all our regulatory requirements to be found adequate to support air quality modeling. A good spatial distribution of sites, correct siting, and quality-assured and quality-controlled data are the most important factors for generating adequate data for air quality modeling.

Comment: Several times in its comments, ACLPI asserts that the Phoenix serious area plan fails to includes a specific measure and also fails to provide a reasoned justification for the rejection of the measures and that this violates both the CAA and EPA guidance, which require serious area PM–10 SIP revisions to provide for the implementation of all BACM or provide a reasoned justification for their rejection.

Response: ACLPI is incorrectly characterizing both the CAA's BACM requirement and our guidance regarding it. Neither requires the implementation of *all* BACM. CAA section 189(b)(1)(B) requires that SIPs include "provisions to assure that the best available control measures for the control of PM–10 shall be implemented * * *" There is nothing in this express language of this section that requires the implementation of all BACM; the requirement is not phrased as "all best available control measures" or as "every best available control measure possible."

In our serious PM–10 nonattainment area planning guidance (Addendum at 42014), we have interpreted the BACM requirement to mean that a state must only provide for the implementation of BACM on its significant source categories: "in summary [of the process for selecting BACM for area sources], the State must document its selection of BACM by showing what control measures applicable to each source category (not shown to be de minimis)

were considered. The control measures selected should preferably be measures that will prevent PM–10 emissions rather than temporarily reduce them." See also Addendum at 42011 (De Minimis Source Categories). Again, this guidance does not require the implementation of all BACM.

Comment: ACLPI notes that the Arizona legislature repealed the remote sensing program during the 2000 regular session and thus the plan fails to demonstrate adequate legal authority for that measure. ACLPI also notes that the September 10, 2001 ruling by the Arizona Federal District Court found the State's repeal and discontinuation of the RSD program a violation of the CAA and asked that the ruling be included in the record for this rulemaking. Finally, ACLPI asserts that as a measure that has been implemented in the State for 3 years, it is a MSM and thus required under CAA section 188(e).

Response: The remote sensing (RSD) program is not a measure developed specifically for the MAG serious area PM–10 plan, but rather one Arizona adopted in 1994 as part of its carbon monoxide and ozone plans. In the MAG PM–10 plan, Arizona used the RSD program in the same manner as it used a number of other existing measures: to support its demonstration that the State has provided for the implementation of BACM for the on-road motor vehicle category.

In the 24-hour standard proposal, we reviewed the plan's BACM and MSM demonstrations for this source category assuming that the RSD program was no longer in place and determined that the plan still provided for the implementation of BACM and inclusion of MSM without it. See 24-hour standard proposal at 50259. Arizona has in place one of the nation's most comprehensive programs to address on-road motor vehicle emissions. With the additional measures in the serious area plan (including a more stringent diesel I/M program and measures both encouraging and requiring diesel fleet turnover), we believe the plan easily provides for the implementation of BACM and inclusion of MSM for on-road motor vehicle exhaust. See 24-hour proposal at 50258.

The plan included a very small NO_X benefit of 4 kg per day, 0.003 percent of the daily NO_X inventory. See email, Cathy Arthur (MAG) to Frances Wicher (EPA), "Impact of Removal of Remote Sensing Program on NO_X in 2006," October 2, 2001. While not calculated in the serious area plan, a rough estimate of potential directly-emitted PM–10 reductions from the program is no more than one-half ton *per year* (or 2.6 lbs per day). Neither the NO_X benefit nor the directly-emitted PM–10 benefit would contribute to expeditious attainment of the PM–10 standards in the Phoenix area, so the State did not need to include the measure to assure expeditious attainment.

Arizona stopped implementing the RSD program because of its high cost per ton of reductions, in the order of thousands of dollars per ton of pollutant reduced; that is, its economic infeasibility. See ADEQ, Final Arizona State Implementation Plan Revision, Basic and Enhanced Vehicle Emissions Inspection/Maintenance Program, June 2001, p. 26. Under EPA's MSM policy, economic infeasibility is a valid reason for rejecting a measure as MSM. See 24-hour standard proposal at 50283.

Because we have determined that the Metropolitan Phoenix serious area plan provides for the implementation of BACM, inclusion of MSM and expeditious attainment without the RSD program, any deficiency in legal authority for the program does not affect our approving the plan or granting an attainment date extension under CAA section 188(e).

Comment: ACLPI disagrees that the plan provides a reasoned justification for the rejection of CARB diesel which ACLPI claims both EPA and MAG conceded is an MSM. ACLPI asserts that EPA did not accept the State's justification and developed its own justification for the failure to adopt the measure. Citing *Delaney* v. *EPA*, 898 F.2d 695 (9th Cir. 1990), ACLPI states that it is not EPA's role to supply justifications that the state has not itself claimed. ACLPI also asserts that BACM cannot be excused if it would not advance the attainment date by one year; a measure must be adopted if it would advance the attainment date by even one day.

Response: Neither EPA nor MAG concedes that CARB diesel is a most stringent measure that is feasible for the Phoenix area. The serious area plan rejects CARB diesel as infeasible for the Phoenix area based on costs. MAG plan, p. 9–46. Noting the uncertainties regarding this cost estimate, we could not judge whether this justification was reasonable or not. Annual standard proposal at 19973. The question then was whether we could still approve the MSM demonstration without CARB diesel and absent a reasoned justification for not including it.

Our sole criterion for determining if the plan provides for MSM is whether it has excluded any feasible MSM or a group of feasible MSM that, if adopted and implemented early, would result in attainment of the PM–10 standards more expeditiously. On-road and nonroad engines (the source categories that would be affected by CARB diesel) are not implicated in 24-hour exceedances of the PM–10 standard. Microscale plan, tables 3–2 to 3–5. Except for the Salt River monitoring site with its fugitive dust generating industrial sources, 24-hour exceedances in the Phoenix area are due exclusively to windblown dust from disturbed ground. Microscale plan, p. 16. Introducing CARB diesel would not contribute to expeditious attainment of the 24-hour standard.

Annual standard exceedances are also dominated by fugitive dust sources with on-road and nonroad engines contributing little to annual PM–10 levels in the area. The small emission reduction associated with the introduction of CARB diesel would not advance the attainment date in the area, either by itself or in combination with other measures. It takes a reduction of more than 4 metric tons per day to advance the annual standard attainment by a year in the Phoenix area. EPA TSD section "Reasonable Further Progress and Quantitative Milestones." The MAG plan estimates reductions from introducing CARB diesel at less than 0.8 mtpd in 2006. MAG plan, p. 10–37. Advancing attainment by one year is the appropriate increment for judging whether a measure would expedite attainment of the annual standard. One year is the smallest increment of time that one can advance attainment of the annual standard because the annual standard is measured over a calendar year, from January 1 to December 31. See 40 CFR part 50.

Because the including CARB diesel would not result in more expeditious attainment of either PM–10 standard, we find that the Phoenix serious area plan has meet the MSM requirement without it and without including a reasoned justification for rejecting it ACLPI's reliance on *Delaney* is misplaced. In that case, the Court found that EPA's 1979 guidance explicitly provided that certain measures were presumptively reasonably available and that it was the state's burden to overcome that presumption. In 1992, we repealed the provisions of the 1979 guidance at issue in *Delaney* and added provisions specifically for PM–10 that establishes no presumption for those measures. See General Preamble at 13560. Here, there was no EPA policy presumption that CARB diesel was a feasible measure for the Phoenix area which Arizona had to overcome.

Comment: ACLPI argues that the metropolitan Phoenix plan improperly rejects various TCMs related to congestion management and idling

reduction on the grounds that individually each measure would have a relatively small impact on PM–10 emissions because the CAA does not contain a "small impact" exception from BACM and the plan's purported justification for rejecting the TCMs does not comport with EPA's BACM guidance. ACLPI also argues that the omission of these measures based solely on the amount of their individual impact violates the requirement of attainment as expeditiously as practicable because collectively, the measures might have a significant impact.

Response: Table TCM–3 in the EPA TSD lists four congestion management or idling measures that were identified as potential BACM but were not adopted as part of the plan: off-peak movement of goods, truck restrictions during peak times, limit excessive car dealership vehicle starts, and limit idling time to 3 minutes. Contrary to ACLPI's assertions, the plan did not reject these measures on "small impact" grounds. Rather, it provides no clear justification for rejecting any of these measures.

Prior to the development of the serious area plan, the Phoenix area already had in place a comprehensive set of TCMs. See EPA TSD, Table TCM–2. With the additional measures in the serious area plan (including additional traffic light synchronization, transit improvements, and bicycle and pedestrian facility improvements), we believe the plan easily provides for the implementation of BACM for on-road motor vehicles even without the four measures listed above. See annual standard proposal at 19974 and 24-hour standard proposal at 50260. In addition, these measures have little PM–10 benefit; therefore, their adoption and implementation would not contribute to expeditious attainment of the PM–10 standards in the Phoenix area.

As we have discussed previously, neither the CAA nor EPA guidance requires the implementation of all BACM, only that a state provide for the implementation of best available control measures on its significant source categories. *See* CAA section 189(b)(1)(B) and the Addendum at 42014. Moreover, we do not believe that the CAA requires us to reject an otherwise sound plan because of minor issues that do not affect the principal purposes of the plan: implementation of BACM and progress towards and expeditious attainment. Because the measures would not contribute to expeditious attainment and the State has provided for the implementation of BACM without them, we do not believe that the lack of these measures or a reasoned justifications for rejecting the measures is grounds for disapproving the plan.

Comment: Several times in its comment letter, ACLPI states that some jurisdictions in the nonattainment area have not made commitments to adopt certain measures when other jurisdictions have and that the plan provides no explanation as to why the implementation of these measures by all jurisdictions is infeasible. ACLPI asserts that EPA guidance indicates that BACM should be adopted and implemented throughout a serious PM–10 nonattainment area unless 100 percent implementation is infeasible. ACLPI also contents that because some jurisdictions have committed to more stringent control measures than other jurisdictions, their measures must be considered BACM/MSM and the plan must either provide for these measures' implementation by all jurisdictions or demonstrate why this is infeasible.

Response: ACLPI cites our serious PM–10 nonattainment area planning guidance at Addendum at 42014 to support its first premise. This guidance states:

> When evaluating economic feasibility, States should not restrict their analysis to simple acceptance/rejection decisions based on whether full application of a measure to all sources in a particular category is feasible. Rather, a State should consider implementing a control measure on a more limited basis, *e.g.*, for a percentage of the sources in a category if it is determined that 100 percent implementation of the measure is infeasible. This would mean, for example, that an area should consider the feasibility of paving 75 percent of the unpaved roadways even though paving all of the roads may be infeasible.

Contrary to ACLPI's assertion, this guidance does not demand states implement a measure 100 percent unless 100 percent implementation is infeasible. Rather, it suggests that states not consider "full implementation on all sources in the nonattainment area" as the only possible implementation scenario for evaluating a measure's economic feasibility and that, before it rejects a measure as economically infeasible, it should first consider less extensive implementation.

The CAA's requirements to implement BACM and include MSM apply to the nonattainment area as a whole and not to each individual jurisdiction within that nonattainment area.[12] Consequently, we have reviewed whether the combined effect of all controls adopted in the metropolitan Phoenix area for a particular source category results in the implementation of BACM and the inclusion of MSM for that source category. Because BACM and MSM are nonattainment area-wide requirements, the actions of one jurisdiction within the nonattainment area cannot set a standard for BACM and/or MSM that must either be implemented by all other jurisdictions within the area or demonstrated to be infeasible.

Comment: Several times in its comment letter, ACLPI states that some jurisdictions in the nonattainment area have not made commitments to adopt certain measures when other jurisdictions have. In this context, ACLPI asserts that CAA section 110(a)(2)(E) requires that plans provide assurances of adequate personnel, funding and authority to implement control measures.

Response: ACLPI is incorrectly applying CAA section 110(a)(2)(E). Under this section, a state needs to provide assurances of adequate personnel, funding and authority only for those control measures that it has included in its submitted implementation plan. It does not need to provide such assurances for control measures that are not included in its submitted implementation plan, whether or not an argument could be made that such measures should have been included to meet another CAA provision. This is clear from the language of the section: "[e]ach implementation plan *submitted by a State* * * * shall * * * provide (i) necessary assurances that the State * * * will have adequate personnel, funding, and authority under State * * * law to carry out *such* implementation plan." (emphasis added). Therefore, where a jurisdiction has not committed to implement a measure, it is not required to provide assurances of adequate resources as part of its submittal in order to have it approved under CAA section 110(a)(2)(E).

Comment: For a number of reasons, ACLPI asserts that Rule 310.01 weakens the FIP rule requirements for disturbed vacant lots and unpaved roads. ACLPI further asserts that EPA's conclusion that the differences between the FIP rule

[12] This is clear from the language of the applicable CAA sections. CAA section 189(b)(1)(b) requires that "a state in which all or part of a serious area is located shall submit an implementation plan for such area that includes * * * provisions to assure that [BACM] * * * shall be implemented * * * " CAA section 188(e) requires that "the State [requesting an extension of the attainment date] demonstrates * * * that the plan for that [serious] area includes the most stringent measures * * * " The requirements in both sections apply to the serious area and not to the individual jurisdictions within the serious area.

and Rule 310.01 will not have a significant impact on emission reductions is unsupported by quantification or analysis of the relative emission reductions and thus EPA's approval of the rule change as sufficient to provide the same level of control as the FIP rule is therefore arbitrary and capricious and violates the Act and EPA guidance that require BACM to go beyond existing RACM-level controls.

Response: We are not withdrawing or modifying the FIP fugitive dust rule in this action. Therefore, comments regarding the effect of approving Rule 310.01 on the FIP rule are not germane.

Neither the CAA nor EPA guidance mandates that a BACM-level control measure always go beyond the existing RACM-level control measure. While both the CAA and EPA guidance intend a greater level of stringency to apply in areas that are required to implement BACM than in those areas required only to implement RACM, the intent is that the *overall* PM–10 control strategy for a category should, in general, be more stringent rather than that every individual control measure in that strategy be more stringent.

A state can show that it has implemented BACM in more than one way. It can show it by demonstrating that its BACM-level control measures for a source category collectively go beyond existing RACM-level measures for that category. Addendum at 42013. It can also show it by demonstrating that its adopted measures meet the definition of BACM. Addendum at 42010. Thus, if a state has already adopted measures to meet the RACM requirement that are collectively the "maximum degree of emissions reduction achievable from a source or source category which is determined on a case-by-case basis, considering energy, economic and environmental impacts" then it need not strengthen the measures further to meet the BACM requirement.

We also emphasize that a BACM demonstration is done source category by source category and not measure by measure. In determining whether a state has provided for the implementation of BACM on a particular source category, we need to look at all the control measures for that category. In this particular instance, Rule 310.01 alone does not constitute the entire BACM-level control strategy for vacant lots and unpaved roads. Rather, it is the combination of Rule 310.01, Rule 310, and city and town commitments that constitute the BACM strategy for this category. See annual standard proposal at 19977 and 19978 and 24-hour standard proposal at 50263 and 50264.

Comment: ACLPI comments that EPA's approval of the BACM/MSM demonstration for construction sites is contingent upon commitments by MCESD to add additional control requirements for dust suppression and to make other changes to MCESD Rule 310. While ACLPI agrees that Rule 310 needs strengthening, it asserts that a commitment to make unspecified changes to the rule to achieve a BACM/MSM level of control is inadequate because it does not meet the requirements of the Act for enforceable measures no later than June 10, 2000 (BACM) or as expeditiously as practicable (MSM) and offers no assurances that adequate changes will ever be adopted. ACLPI claims that the techniques for controlling emissions from construction activities and sites are well known.

ACLPI further asserts that EPA may only approve a plan based on a commitment pursuant to CAA section 110(k)(4) and then only if the state commits to adopt specific enforceable measures by a date certain but not later than 1 year after the date of approval of the plan revisions. ACLPI claims that MCESD's commitments to improve Rule 310 do not meet the requirements of CAA section 110(k)(4) because it does not commit to adopt specific enforceable measures but only to "research, develop and incorporate" additional unspecified measures for dust suppression practices/equipment into Rule 310 or the dust control plans required under that rule. Finally, ACLPI states that the serious area plan must include the BACM/MSM measures identified from South Coast, Clark County and Imperial County or provide a reasoned justification for their rejection and it is not enough for Maricopa County to commit to studying these measures.

Response: We are approving MCESD's commitments under CAA section 110(k)(3) and not section 110(k)(4). We believe—consistent with past practice—that the Act allows approval of enforceable commitments under section 110(k)(3) that are limited in scope where circumstances exist that warrant the use of commitments in place of adopted measures. These commitments are enforceable by EPA and citizens under, respectively, CAA sections 113 and 304 of the Act.[13]

Section 110(k)(4) provides for the conditional approval of State commitments; however, these commitments do not need to be enforceable. Commitments approved under section 110(k)(3) are not enforceable by either EPA or citizens, rather the Act provides that the conditional approval will convert to a disapproval if "the State fails to comply with such commitment."

MCESD's commitments have been adopted by the Maricopa County Board of Supervisors after appropriate public notice and hearing and meet Arizona state requirements for the adoption of enforceable SIP commitments by local jurisdictions. See A.R.S. 49–406 G. and Maricopa County Resolutions. Once we have approved them into the SIP under CAA section 110(k)(3), the commitments are fully enforceable against MCESD and the Board under CAA sections 113 and 304.

We are allowing the use of these enforceable commitment here because it is the only approach available at this time to assure the needed improvements to Rule 310. The information needed to make these improvements and to specify the details of these improvements does not currently exist and must be developed through additional research and investigation.

While the general techniques for controlling dust from construction activities are well known (*e.g.* watering), the most effective applications of these general techniques for controlling emissions from any particular construction site in Maricopa County (*e.g.*, how much water and when to apply it) are not well known. Construction sites differ in soils (affecting the quantity of water needed for effective control), meteorological conditions (affecting the frequency with which water must be applied), equipment size/use (affecting quantity and plume characteristics of dust generated), project phase (affecting quantity and time period of dust generated), and level of activity (affecting quantity of dust generated). The specifics of how controls should be applied to meet the 20 percent opacity standard and other applicable Rule 310 standards will vary depending on these and other site and activity parameters.

[13] In the past, we have approved enforceable commitments and courts have enforced these actions against states that failed to comply with those commitments. See, for example, *American Lung Association of New Jersey* v. *Kean*, 670 F. Supp. 1285 (D.N.J. 1987), affirmed, 871 F.2d 319 (3rd Cir. 1989); *NRDC* v. *N.Y. State Dept. of Environmental Conservation*, 668 F. Supp. 848 (S.D.N.Y.1987); *Citizens for a Better Environment* v. *Deukmejian*, 731 F. Supp. 1448, reconsideration granted in part, 746 F. Supp. 976 (N.D. Cal. 1990); *Coalition for Clean Air, et al.* v. *South Coast Air Quality Management District, CARB, and EPA*, No. CV 97–6916 HLH, (C.D. Cal. August 27, 1999). Further, if a state fails to meet its commitments, we can make a finding of failure to implement the SIP under Section 179(a), which would start an 18-month period for the State to begin implementation before mandatory sanctions are imposed.

One of the enforceable commitments by MCESD is to develop parameters that address various site conditions and are sufficient to ensure that Rule 310's performance standards are met more consistently. The concern captured in this enforceable commitment is that, while it is important for sites to have some flexibility in selecting which control measure(s) to implement, there are field circumstances where the technique must be implemented in a certain manner to be effective. For example, where hydrophobic soils exist under dry meteorological conditions, it may be necessary to water several days prior to ground disturbance to allow water to penetrate to the depth of cut. In some other situations, a tackifyer or surfactant needs to be added to the water for better penetration. However, these approaches may be needed only under certain field conditions. MCESD needs additional time to investigate when and where it would be appropriate to require more specific controls and what those controls should be.

Another one of MCESD's commitments is to modify Rule 310's existing opacity standard/test method or add an additional opacity standard(s)/test method(s), so that they better characterize fugitive dust sources that create intermittent plumes. Information on how to do this most effectively is currently lacking. While derivations on EPA Reference Method 9 (the standard opacity test method) observations have been adopted in Rules 310 and 310.01 for unpaved roads and unpaved parking areas to better accommodate the temporal nature of plumes from vehicle passes, additional field research is needed to determine how observation intervals and other aspects of opacity readings can be better tailored to the variety of intermittent plumes generated by construction equipment and activities.

Once we determine that circumstances warrant the use of an enforceable commitment, we believe that three factors should be considered in determining whether to approve the enforceable commitments: (1) whether the commitment addresses a limited portion of the statutorily-required program; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time.[14]

First, MCESD's commitments address a very limited portion of the CAA's requirements for the implementation of BACM and the inclusion of MSM. In this case, MCESD's commitments are improvements to aspects of the already-adopted and implemented Rule 310; improvements that, we again emphasize, cannot be made at this time because additional research is needed.[15] Second, MCESD has committed resources adequate to fulfill its commitments and has provided information on its work plan for completing the necessary technical work. *See* Maricopa County commitments as revised December 19, 2001.

The final factor is whether the commitment is for a reasonable and appropriate period. All but one of the commitments have deadlines of December 2002, less than a year after their approval. The other commitment is the implementation of a second level of dust control education that will begin in the March to June 2003 time frame. *See* Maricopa County commitments as revised December 19, 2001. Given the complexity of the tasks required by the commitments, we believe that these schedules are expeditious. Moreover, they are consistent with the attainment and RFP demonstrations in the plan.

Our approach here of accepting enforceable commitments that are limited in scope is not new. We have historically recognized that under certain circumstances, issuing a full approval may be appropriate for a submission that consists, in part, of an enforceable commitment. *See e.g.*, 62 FR 1150, 1187 (January 8, 1997) (ozone attainment demonstration for the South Coast Air Basin); 65 FR 18903 (April 10, 2000) (revisions to attainment demonstration for the South Coast Air Basin); 63 FR 41326 (August 3, 1998) (federal implementation plan for PM–10 for Phoenix); 48 FR 51472 (State Implementation Plan for New Jersey).

Nothing in the Act speaks directly to the approvability of enforceable commitments. However, we believe that our interpretation is consistent with its provisions. For example, CAA section 110(a)(2)(A) provides that each SIP "shall include enforceable emission limitations and other control measures, means or techniques * * * *as well as schedules and timetables for compliance,* as may be necessary or appropriate to meet the applicable requirement of the Act." (Emphasis added.) The emphasized terms mean that enforceable emission limitations and other control measures do not necessarily need to be fully adopted to meet the Act's applicable requirements for the implementation of BACM and inclusion of MSM. Rather, the emissions limitations and other control measures may be supplemented with other SIP rules—for example, the enforceable commitments we are approving today—as long as the entire package of measures and rules provides for BACM and MSM.[16]

Comment: ACLPI comments that the CAA requires that SIPs must provide for the implementation of all RACM and that the Governor's Agricultural Best Management Practices Committee identified a variety of available and feasible control measures which are included in the agricultural general permit rule as BMPs. ACLPI asserts that the Rule does not meet the CAA requirement for all RACM because it only requires the implementation of one BMP from each of three categories of farm activities even if the implementation of more than one BMP would be technologically and economically feasible.

Response: This comment is neither germane to today's action nor timely. In today's action, we have addressed only whether Arizona's BMP general permit rule provides for the implementation of BACM and the inclusion of MSM. We have not addressed whether it also provided for the implementation of RACM because we have already done so in an earlier rulemaking that was finalized on October 11, 2001. The appropriate time for ACLPI to raise issues regarding whether the general permit rule meets the CAA's RACM requirement for agricultural sources in the Phoenix area was during the comment period on this earlier rulemaking. ACLPI made comments on this earlier rulemaking, and we fully addressed those comments in the final

[14] In 1994, in considering EPA's authority under section 110(k)(4) to conditionally approve unenforceable commitments, the Court of Appeals for the District of Columbia Circuit struck down an EPA policy that would allow States to submit (under limited circumstances) commitments for entire programs. *Natural Resources Defense Council* v. *EPA*, 22 F.3d 1125 (D.C. Cir. 1994). While we do not believe that case is directly applicable here, we agree with the Court that other provisions in the Act contemplate that a SIP submission will consist of more than a mere commitment. See *NRDC*, 22 F.3d at 1134.

[15] As we will discuss later, MCESD has also committed to adopt a rule for certain types of charbroilers. This commitment does not change our analysis here because, even when combined with the commitments to improve Rule 310, it is a very small part of the demonstration that the plan includes MSM.

[16] Our interpretation that the Act allows for an approval of limited enforceable commitments has been upheld by the Ninth Circuit Court of Appeals, as well as by other circuits. See *Kamp* v. *Hernandez*, 752 F.2d 1444 (9th Cir. 1985); *City of Seabrook* v. *EPA*, 659 F.2d 1349 (5th Cir. 1981); *Connecticut Fund for the Environment* v. *EPA*, 672 F.2d 998 (2d Cir.), cert. denied 459 U.S. 1035 (1982); *Friends of the Earth* v. *EPA*, 499 F.2d 1118 (2d Cir. 1974).

action. See 66 FR 51869, 51871. See also, 66 FR 34598 (June 29, 2001).

Comment: ACLPI asserts that the metropolitan Phoenix area plan fails to include the most stringent measures as required by CAA section 188(e) because it does not uniformly require the cessation of tilling on high wind days as South Coast Rule 403 rule does but rather includes it as one measure among several that a farmer may choose to implement. ACLPI further asserts that ADEQ's attempt to justify this deviation by stating that "no research currently exists which demonstrates that cessation of high wind tilling when gusty winds exceed 25 mph in the Maricopa County area is more effective at reducing PM–10 then the agricultural PM–10 general permit * * *" is irrelevant because the appropriate inquiry is whether the cessation of tilling on high wind days combined with the implementation of at least one other BMP would be more effective at reducing PM–10 which ACLPI claims, without support, it would be.

Response: South Coast Rule 403 does not require cessation of tilling on high wind days. Rule 403 includes a list of optional measures an affected source can use to reduce PM–10. For agricultural sources affected by Rule 403, the South Coast AQMD developed a series of farming practices that can be used by a grower as alternative means to comply with the requirements of Rule 403. These practices are listed in "Rule 403 Agricultural Handbook: Measures to Reduce Dust from Agricultural Operations in the South Coast Air Basin" ("Handbook"). If a grower decides to opt for compliance with the Rule by utilizing the dust control practices in the Handbook, the grower must cease tilling and soil preparation operations when winds are over 25 mph.

The requirement to cease tilling on high wind days is found in Rule 403.1 ("Wind Entrainment of Fugitive Dust"). The requirement is applicable only to the Coachella Valley (Palm Springs area) of the South Coast air basin and has a number of exemptions. *See* South Coast Rule 403.1, sections (a), (d)(4), and (h)(4).

The BMP general permit includes "limited activity during high wind events" among the list of BMPs from which a grower can select. The BMP Committee and Arizona decided not to require cessation of tilling on high wind days as a provision in the general permit for a number of technical and practical reasons, the main ones being the infrequency of high wind events in the Phoenix area, especially in comparison to the frequency of high wind events in the Coachella Valley.

Based on local meteorological data, MAG estimated that there were 11 days in 1995 with winds greater than 15 mph. In the Phoenix nonattainment area, the State determined that a small percentage (*i.e.*, 15 percent) of tilling occurs during the high wind season (*i.e.*, March through September). Within the high wind season, only 4 percent of days have wind speeds greater than 15 mph.[17] The Coachella Valley is much more windy, typically experiencing high wind greater than 25 mph on 47 days per year.[18] Based on this information, the BMP Committee and the State determined that an agricultural requirement developed specifically for Coachella Valley high wind conditions was not appropriate for the Phoenix area and that requiring cessation of tilling on high wind days would not be reasonable because since it would impact a small number of growers and provide minimal reductions.

Arizona has provided a reasonable justification for not requiring cessation of tilling during high wind events. In the Microscale plan, the State shows that it was windblown dust from an already tilled agricultural field and not the active tilling of that field that contributed to the 24-hour exceedance at West Chandler. *See* Microscale plan, pp. 16. In the serious area plan, the State demonstrates that the BMP general permit rule as adopted in combination with other adopted measures provides for expeditious attainment of the 24-hour PM–10 standard in the Phoenix area and is not necessary for expeditious attainment of the annual standard in the area. Finally, the State through its BMP committee has determined that the requirement for one BMP per category is the most effective economically and technologically feasible control measure for agricultural sources in the Phoenix area. Given all of this, the State has reasonably declined to mandate the cessation of tilling during high winds when faced with an absence of data that it would make the BMP rule more effective.[19]

Comment: ACLPI asserts that because Arizona is seeking an extension of the PM–10 nonattainment date to December 31, 2006, it must show that its plan includes the most stringent measure for each source category, including agriculture, citing CAA section 188(e). It then contends that South Coast Rule 403 is significantly more stringent than the general permit rule, noting that Rule 403 establishes six categories of management practices and requires operators to implement at least one of the listed practices in 5 of 6 categories (*i.e.*, Active, Farm Yard Area, Track-Out, Unpaved Roads, and Storage Pile) and three measures in the "Inactive" category. ACLPI claims that when the cessation of tilling on high wind days is included, each commercial farmer is required to implement a minimum of nine control measures and that Arizona's program only requires a total of three control measures. To qualify and obtain an extension of the attainment date, the Arizona SIP must include agricultural measures that are at least as stringent as Rule 403.

Response: Neither the CAA nor EPA policy requires that areas seeking attainment date extensions include without exception the most stringent measures for each source category. The CAA requires only that the plan include the most stringent measures found in the implementation plan of other States or used in practice that are feasible in the area. *See* CAA section 188(e). We interpret the MSM provision to not require any measure that is infeasible on technological or economic grounds, any measure for insignificant source categories, and any measure or group of measures that would not contribute to expeditious attainment. See 24-hour standard proposal at 50282–84.

ACLPI is not correctly characterizing the requirements of the South Coast's agricultural control measures (which are found in Rules 403 and 403.1). Agricultural operations are required to comply with the provisions of Rule 403 unless the person responsible for such

[17] In fact, when using mean hourly wind speed observations averaged over all monitoring sites in the Maricopa County nonattainment area for 1995, it was estimated that there 29 hours with wind speeds between 15 and 19.9 mph, 7 hours with wind speeds between 20 and 24.9 hours, and only one hour with wind speeds over 25 mph. MAG TSD, Appendix II, Exhibit 7 "Wind Criteria and Associated Emissions for Regional Particulate Matter Modeling," Updated April 13, 1999, p. 3.

[18] The Coachella Valley is not the only agricultural area in the South Coast district. Riverside (outside of the Coachella Valley) and San Bernardino Counties are the predominant agricultural areas in the region. These areas experience winds greater than 25 mph approximately 25 and 23 days per year, respectively, yet the South Coast does not impose the cessation of tilling requirement in these areas unless a grower opts to use the practices listed in the Handbook as the means of complying with Rule 403.

[19] We note that one exemption from Rule 403.1's cessation of tilling requirement is when tilling activities result in a net reduction of wind blown fugitive dust, an exemption that is applicable only if wind blown fugitive dust is not visible from tilled soil, but is visible from untilled soil within the same agricultural parcel. Rule 403.1 (h)(4)(B). This exemption shows that there are some situations when cessation of tilling during a high wind event is actually counter-productive and thus it is not always more effective to combine it with another BMP.

operations voluntarily implements the conservation practices contained in the most recent Rule 403 Handbook. See Rule 403 (h)(1)(B). The Handbook, and not the rule itself, has the requirement to implement at least one of the listed practices in 5 of 6 categories and three measures in the Inactive category. A grower, however, only has to implement practices for those categories of agricultural operations that they actually have; thus if s/he does not have one of the activity categories and/or inactive fields then the number of practices s/he must implement is fewer. As we have noted above, the requirement for cessation of tilling on high wind days applies only in the Coachella Valley portion of the South Coast district and is a requirement on all agricultural operations in the other portion of the district only when a grower opts for using the Handbook to comply with Rule 403. Therefore, ACLPI exaggerates the requirements of the South Coast agricultural control program when it claims the program requires each commercial farmer to implement a minimum of nine management practices.[20]

We agree that in general Rule 403 (or the Handbook) is likely to be more stringent than the general permit rule. We, however, also agree, as discussed below, with the State's assessment that the South Coast requirements are infeasible for the Phoenix area and that the general permit rule represents the most stringent economically and technologically feasible agricultural control program for the area.

In assessing South Coast's requirements, the BMP Committee and ADEQ determined that because of the lack of adequate technical information concerning BMP costs and effectiveness, requiring at least one BMP for the three agricultural categories adequately addressed agricultural sources of PM–10 in the Maricopa County nonattainment area. ADEQ concluded that:

> The agricultural general permit cannot mirror South Coast Rule 403 for a variety of reasons. One main reason is that agriculture in Maricopa area is primarily flood irrigated. The South Coast has dryland, irrigated, and sprinkler irrigated agriculture. The actual amount of irrigation water and frequency of irrigation can effect wind erosion estimates and the effectiveness of different control measures under different conditions. Therefore, the BMPs for Maricopa County were based on practical applications during those times when the fields were not flooded. Also, because the application of more than one BMP at a time for a selected category would only provide incremental PM–10 reductions, sometimes at an uneconomical cost, flexibility was provided in the rule to allow the expert (the farmer) to decide what BMP should be applied when and where.

As we discussed in the proposal for the 24-hour standard (see 24-hour standard proposal at 50268) and as we concluded in our original FIP measure for the agricultural sector (63 FR 41332), the BMP Committee found that agricultural PM–10 strategies must be based on local factors because of the variety, complexity, and uniqueness of farming operations and because agricultural sources vary by factors such as regional climate, soil type, growing season, crop type, water availability, and relation to urban centers.

While the Committee surveyed measures adopted in other geographic areas, including South Coast, these measures were of limited utility in determining what measures are available for the Maricopa County area. Given the limited scientific information available and the myriad factors that affect farming operations, the BMP Committee concluded that requiring more than one BMP could not be considered technologically justified and could cause an unnecessary economic burden to farmers. BMP TSD, p. 18.

Adding to concerns about the economic feasibility of requiring more BMPs per farming activity is the general uncertainty regarding the cost of the BMPs and continued viability of agriculture in Maricopa County. Between 1987 and 1997, the number of farms operating in Maricopa County declined by approximately 30 percent and the amount of land farmed declined by approximately 50 percent. This trend is expected to continue. Finally, in order to justify additional requirements for farming operations in the area beyond those in the general permit rule, the BMP Committee determined that a significant influx of money and additional research would be needed.

Based on all of these factors, the BMP Committee concluded that the Handbook's control requirements were neither technologically nor economically feasible for agricultural sources in Maricopa County and therefore are not feasible for the Phoenix area. BMP TSD, p. 18.

We agree with the analysis of the BMP Committee. As noted previously, the development of the general permit rule was a multi-year endeavor involving an array of agricultural experts familiar with Maricopa County agriculture. Maricopa County is only the second area in the country where formal regulation of PM–10 emissions from the agricultural sector has ever been attempted. We conclude that the Rule 403's and the Handbook's requirements are neither technologically nor economically feasible for Maricopa County and thus Arizona need not include them in the Phoenix serious area plan in order for us to grant an attainment date extension under CAA section 188(e).

Comment: ACLPI claims that there is no justification for relaxing the stringency of Rule 403 because virtually all of the control measures listed in Rule 403 are in the Arizona rule and so it is clear that their implementation is feasible. ACLPI asserts that Arizona's contention that "the application of more than one BMP at a time for a selected category would only provide for incremental PM–10 reductions sometimes at an uneconomical cost," is not supported by any competent data, improperly delegates regulatory discretion to the regulated community, and ignores the clear mandates of the Act.

Response: We agree that the many of the individual best management practices in the Rule 403 Agricultural Handbook are also feasible practices for the Phoenix area. Arizona, through the BMP committee, also agreed and incorporated many of them into the general permit rule. However, the feasibility and adoption of any one BMP has little relevance here because neither Rule 403, the Handbook, nor the general permit rule requires the implementation of any specific BMP, rather they require the implementation of at least one BMP from a list of possible BMPs for each of several categories of farm operations.

As has been noted many times before, little data is available on the cost of implementing specific BMPs in the Phoenix area. Using what little data was available and the technical expertise of local farmers, state and federal agricultural agencies,[21] and agricultural experts from the University of Arizona, Arizona determined that requiring the implementation at least one BMP for each of the three categories of

[20] We also note that for inactive fields, the Handbook allows agricultural operators to comply with local jurisdiction requirements in lieu of implementing three practices (Handbook, section II, p. 4.) and that a field which has been withdrawn from agricultural use in the Phoenix area becomes subject to MCESD Rule 310.01's BACM/MSM-level requirements for open areas and vacant lots. All these control options demonstrate that the six categories/nine practices versus three categories/three practices comparison is misleading.

[21] The BMP Committee is composed of five local farmers, the Director of ADEQ, the Director of the Arizona Department of Agriculture, the State Conservationist for the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) state office, the Dean of the University of Arizona's College of Agriculture, and a soil scientist from the University of Arizona.

agricultural activities is the most stringent level of control that is economically and technologically feasible for the Phoenix area. This conclusion was arrived at only after a lengthy and open process and only after taking into consideration South Coast's approach to agricultural control. See 66 FR 3458, 34601.

We do not agree that the general permit rule improperly delegates regulatory discretion to the regulated community. The general permit rule follows the same general control format as Rules 310 and 310.01. This format allows the regulated entity (e.g., construction site operator, vacant lot owner, unpaved parking lot owner, etc.) to choose from a list of options for controlling its source.[22] For example, an unpaved parking lot owner may pave, gravel, or apply a chemical stabilizer. See Rule 310.01, section 303.1. This control format is the standard model for fugitive dust rules and has developed over time because of the need to impose effective but reasonable and feasible controls on a large number of similar but distinct sources. For the Phoenix serious area plan, we have found that the control measures using this format provide for the implementation of BACM and the inclusion of MSM for a number of significant source categories. As much as (if not more so than) an unpaved parking lot owner or a vacant lot owner, a grower is in the best position to determine which BMPs are best and most effective for the conditions on his/her farm.

Comment: ACLPI asserts that because the general permit rule fails to require any specific control requirements, there is no way that the State can know or meaningfully predict what the effect of the rule will be and thus any estimated emissions reduction is entirely speculative and thus inadequate under the CAA.

Response: As we noted in a previous comment, the general permit rule follows the same standard control format used by many fugitive dust rules, such as Rules 310 and 310.01 (and Rule 403 and the Rule 403 Agricultural Handbook). This format allows the regulated entity to choose from a list of options for controlling its source.

Emission reductions from these types of rules need to be quantified because they often constitute the primary control strategy needed to demonstrate attainment and/or RFP. The accepted methodology for quantifying them is to assume that some fraction of the regulated sources will choose a particular control option. For example, the assumption used in the Phoenix plan to quantify emission reductions from the unpaved parking lot measure is that one third of the regulated lots will be paved, one-third will be graveled, and one-third will be chemically stabilized. See MAG TSD, p. V–17. Provided that the assumptions are reasonable, we accept the resulting emission reductions estimate.

To prepare the emission reductions estimates for the general permit rule, ADEQ hired URS. To estimate the reductions, URS determined the most likely implementation scenario. This scenario was based on available data on the crops grown and their acreage in the Phoenix area as well as on interviews of growers in the Phoenix area about which BMPs they would most likely use in certain situations. The growers, having intimate knowledge of the crops and growing conditions in the area, are the technical experts on how the BMP rule will be implemented. By going to the technical experts, URS and Arizona reduced the level of uncertainty in the emission reduction estimates to the extent practicable.

We believe that their approach is reasonable given the situation. Most of the BMPs have never been applied in Maricopa County or elsewhere, and until the BMPs are fully implemented and ADEQ has had adequate time to evaluate their effectiveness, there will always be some degree of uncertainty regarding actual emission reductions. While it is possible that the reductions could be less than expected, it is equally plausible that the reductions will be greater than expected.

We note that no matter how specifically a rule is written, no one can ever know for certain what the future emission reductions from it will be. Estimates of future emission reductions require assumptions about future activities that are always speculative to a degree. In making emission reduction estimates, we attempt to reduce the uncertainties to the extent possible, but we can never totally eliminate them.

Quantification of emission reductions from rules is a necessary part of meeting the Act's requirements for reasonable further progress and attainment demonstrations and quantitative milestones. Beyond setting the requirements (and requiring attainment demonstrations be based on air quality modeling, see, for example, CAA section 189(b)(1)(A)), the Act leaves it to EPA's expertise to determine what constitutes technically acceptable demonstrations. As we have discussed above, Arizona followed standard and accepted procedures for quantifying emission reductions from the BMP general permit rule and as a result we find the resulting estimates acceptable for the serious area plan.

Comment: ACLPI disagrees with EPA's conclusion that the metropolitan Phoenix serious area plan adequately demonstrates that attainment by December 31, 2001 is impracticable because the plan fails to adopt all BACM for significant sources, fails to implement some measures in a timely manner or relies on mere commitments and improperly excludes BACM for de minimis sources. ACLPI asserts that the plan improperly fails to analyze whether the area would be in attainment by the 2001 deadline if all BACM were adopted and implemented on time.

Response: We have carefully reviewed the plan and have found that it provides for the implementation of BACM, assures timely implementation of measures, and relies on enforceable commitments only where they are the only feasible means of providing for the implementation of BACM as required by CAA section 189(b)(1)(B). *See* annual standard proposal at 19984 and the 24-hour standard proposal at 50273.

As we have discussed previously, neither the CAA or EPA guidance requires the implementation of all BACM. Both only require that a state provide for the implementation of best available control measures on its significant source categories. Both also allow the de minimis sources to be exempted from the BACM requirement. See CAA section 189(b)(1)(B) and the Addendum at 42014.

Contrary to ACLPI's assertion, the plan does provide a clear demonstration that even with the implementation of BACM on all source categories including de minimis categories, the Phoenix area would not be in attainment of either PM–10 standard by the end of 2001. This demonstration is a necessary part of showing that the plan correctly determines which source categories are de minimis and which are significant. *See* MAG plan, pp. 9–9 to 9–15 and the section "BACM Analysis—Step 2, Model to Identify Significant Sources" in the EPA TSD.

Comment: ACLPI disagrees with EPA's conclusion that the metropolitan Phoenix serious area plan adequately demonstrates attainment by the earliest date practicable after December 31, 2001 because the plan fails to adopt all feasible MSM, fails to implement some measures in a timely manner or relies on mere commitments and improperly excludes MSM for de minimis sources. ACLPI asserts that the plan improperly

[22] This control format is also used in South Coast's fugitive dust rules, including Rules 403, 403.1, and 1186. We approved these rules on December 9, 1998 (63 FR 67784).

fails to analyze whether the area would be in attainment earlier if all MSM were adopted and implemented in a timely manner.

Response: We have carefully reviewed the plan and have found that it includes all feasible MSM to our satisfaction, assures timely implementation of measures, and relies on enforceable commitments only where they are the only feasible means of providing for the implementation of MSM or other measures necessary for timely attainment. See annual standard proposal at 19984 and the 24-hour standard proposal at 50274. We note again that the Phoenix serious area plan did not exclude any MSM on the basis of de minimis source categories.

Comment: ACLPI comments that the plan fails to include contingency measures, noting the purpose of contingency measures is to assure continued progress toward attainment while the SIP is being revised if a state fails to make RFP or attain by the applicable attainment date. ACLPI asserts that if a state fails to make RFP or timely attain, the obvious conclusion is that the currently implemented control measures are insufficient and additional measures are needed and that this is true regardless of whether the implemented measures were relied upon in the RFP and attainment demonstrations and for this reason, EPA's suggestion that the contingency measure requirement can be satisfied by committed measures that are implemented but not relied upon in the demonstrations defeats the purpose. ACLPI contends that the proposed SIP must include contingency measures that will take effect without further action by the State or Administrator and the SIP does not include any such measures.

Response: The metropolitan Phoenix serious area plan does contain contingency measures. For the annual standard, the plan relies on the agricultural BMP general permit rule as a contingency measure. For the 24-hour standard, the plan relies on the paving or treatment of unpaved roads measure. Both measures are currently being implemented but the emission reductions from them are not necessary for demonstrating RFP and attainment for the annual standard (general permit rule) and 24-hour standard (unpaved road measures).

Failure to make RFP or attain does not necessarily mean that new controls must be adopted. Failure to make RFP or attain can be the result of the failure to implement already committed to or adopted controls, delays in the implementation of control measures, and noncompliance. In these cases, correcting the implementation problem or noncompliance corrects the RFP or attainment failure.

There are a number of benefits to allowing and even encouraging the early implementation of contingency measures. The chief benefit is that their emission reductions and thus their public health benefit are realized early. Another is that it allows states to build uncredited cushions into their attainment and RFP demonstrations, a cushion which makes actual failures to make progress or attain less likely.

Measures that have already been implemented clearly meet the section 172(c)(9) requirement that contingency measures take effect without further action by the State or Administrator.

Comment: ACLPI asserts that the Agricultural BMP general permit rule cannot be used as a contingency measure because it is not a "specific measure[ ] to be undertaken if the area fails to make reasonable further progress, or to attain the [NAAQS] * * *" and there is nothing in the rule that is triggered upon a showing of failure to make RFP. ACLPI quotes EPA guidance at 60 FR 56129 that "[c]ontingency measures should consist of other control measures that are not part of the area's control strategy."

Response: We note that the Agricultural BMP general permit rule is a contingency measure for the annual standard only. Emission reductions from the rule are not necessary to demonstrate RFP or expeditious attainment, and therefore, the rule is not part of Arizona's primary control strategy for attaining the annual standard. Emission reductions from the rule are necessary to demonstrate RFP and expeditious attainment of the 24-hour standard and the State chose a different measure, the unpaved road measure, to serve as the contingency measure for the 24-hour standard.

Nothing in CAA section 172(c)(9) requires that contingency measure be triggered only if there is a failure to make RFP or to attain. Contingency measure must be undertaken if there is a failure to make RFP or attain but the Act does not bar a state from using other triggers as a reason to implement them, *e.g.*, a determination that the measure is needed for attainment of another standard or to meet another CAA requirement. This is the case here; the BMP general permit rule is both needed for attainment of the 24-hour standard and to meet the CAA's BACM requirement.

Areas that must meet the BACM, MSM, and "attainment by the earliest alternative date practicable" requirement are in a difficult position when it comes to contingency measures. Adopted but unimplemented contingency measures are likely to be feasible BACM and/or MSM. We discussed this dilemma in the proposed approval for the 24-hour standard at 24-hour standard proposal at 50279:

> Certain core control measure requirements such as RACM, BACM, and MSM may result in a state adopting and expeditiously implementing more measures than are strictly necessary for expeditious attainment and/or RFP. Because of this and because these core requirements effectively require the implementation of all non-trivial measures that are technologically and economically feasible for the area, states are left with few, if any, substantive unimplemented control measures. In fact, under the Act's PM–10 planning provisions, if there were a measure or set of measures that were technologically and economically feasible and could collectively generate substantial emission reductions, *e.g.*, one year's worth of RFP, then a state would be hard pressed to justify withholding their implementation.
>
> If we read the CAA to demand that the only acceptable contingency measure are those that are adopted but not implemented, then states face a difficult choice: adopt the controls for immediate implementation and clearly meet the core control measure requirements but fail the contingency measure requirement or adopt the control measures but hold implementation in reserve to meet the contingency measure requirement but potentially fail the core control measure requirements.
>
> However, states do not need to face this difficult choice if we read the CAA to allow adopted and implemented measures to serve as contingency measures, provided that those measures' emission reductions are not needed to demonstrate expeditious attainment and/or RFP. There is nothing in the language of section 172(c)(9) that prohibits this interpretation.

ACLPI cites as EPA guidance, our 1995 proposed approval of the moderate area PM–10 SIP for the Yakima, Washington nonattainment area. This proposal, however, simply affirms our position here. In this case, Washington State used as a contingency measure for the Yakima area, a wood stove buy back program. At the time we proposed to approve it as a contingency measure, the program had been in operation for more than two years and had already replaced 70 wood stoves. We proposed to approve it as a contingency measure because the emission reductions from the program were "100 percent overcontrol," that is, not necessary for attainment. *See* 60 FR 56129, 56132 (November 7, 1995). We finalized this approval at 63 FR 5269 (February 2, 1998).

V. Final Actions

A. Approval of the Serious Area Plan

We are taking final action to approve the following elements of the serious area PM–10 plan for the metropolitan Phoenix area.

For the annual standard:

CAA provision (cite)	SIP submittal and date	Cite for proposed approval
Base year emission inventory (section 172(c)(3)).	MAG plan, February 16, 2000	Annual standard proposal at 19970.
Demonstration that the plan provides for the implementation of RACM and BACM for each significant source category (sections 189(a)(1)(c) and 189(b)(1)(b)):		
• On-road motor vehicles	MAG plan, February 16, 2000	Annual standard proposal at 19973 and 24-hour standard proposal at 50258.
• Non-road motor vehicles	MAG plan, February 16, 2000	24-hour standard proposal at 20260.
• Paved road dust	MAG plan, February 16, 2000	Annual standard proposal at 50274.
• Unpaved parking lots	MAG plan, February 16, 2000	Annual standard proposal at 19976.
• Disturbed vacant lots	MAG plan, February 16, 2000	Annual standard proposal at 19977.
• Unpaved roads	MAG plan, February 16, 2000	Annual standard proposal at 19978.
• Construction activities and sites	MAG plan, February 16, 2000	24-hour standard proposal at 50265.
• Agriculture (BACM only)	BMP TSD, June 13, 2001	24-hour standard proposal at 50268.
• Residential wood combustion	MAG plan, February 16, 2000	Annual standard proposal at 19982.
• Secondary ammonium nitrate sources	MAG plan, February 16, 2000	Annual standard proposal at 19982.
Demonstration of the impracticability of attainment by 2001 where the State has applied for an attainment date extension under section 188(e) (section 189(b)(1)(A) (ii)).	MAG plan, February 16, 2000	Annual standard proposal 19984.
Demonstration of attainment by the most expeditious alternative date practicable (section 189(b)(1)(A) (ii)).	MAG plan, February 16, 2000	Annual standard proposal 19985.
Demonstration of reasonable further progress (section 172(c)(2)).	MAG plan, February 16, 2000	Annual standard proposal 19988.
Quantitative Milestones (section 189(c))	MAG plan, February 16, 2000	Annual standard proposal 19988.
Inclusion of the most stringent measures (section 188(e)).	MAG plan, February 16, 2000 (except for agricultural sources); BMP TSD, June 13, 2001 (agricultural sources).	Annual standard proposal at 19984 (except for agricultural sources); 24-hour standard proposal at 50268 (agricultural sources).
Demonstration that major sources of PM-10 precursors such as nitrogen oxides and sulfur dioxide do not contribute significantly to violations (section 189(e)).	MAG plan, February 16, 2000	Annual standard proposal 19971.
Contingency measures (section 172(c)(9))	MAG plan, February 16, 2000 as revised by BMP TSD, June 13, 2001.	24-hour standard proposal at 50279.
Transportation conformity budget (section 176(c)).	MAG plan, February 15, 2000	Annual standard proposal at 19970.
Provisions for assuring adequate resources, personnel, and legal authority to carry out the plan (section 110(a)(2)(E)(i)).	MAG plan, February 16, 2000 (for all categories for both standards except for agriculture sources).	Annual standard proposal at 19988 (except for agriculture sources), 24-hour standard proposal at 50280.
For the 24-hour standard:		
Base year emission inventory (section 172(c)(3)).	MAG plan, February 16, 2000	Annual standard proposal at 19970.
Demonstration that the plan provides for the implementation of RACM and BACM for each significant source category (sections 189(a)(1)(c) and 189(b)(1)(b)):		
• On-road motor vehicles	MAG plan, February 16, 2000	24-hour standard proposal at 50258 and 50259.
• Non-road motor vehicles	MAG plan, February 16, 2000	24-hour standard proposal at 50259.
• Paved road dust	MAG plan, February 16, 2000	24-hour standard proposal at 50260.
• Unpaved parking lots	MAG plan, February 16, 2000	24-hour standard proposal at 50263.
• Disturbed vacant lots	MAG plan, February 16, 2000	24-hour standard proposal at 50263.
• Unpaved roads	MAG plan, February 16, 2000	24-hour standard proposal at 50264.
• Construction activities and sites	MAG plan, February 16, 2000	24-hour standard proposal at 50265.
• Agriculture (BACM only)	BMP TSD, June 13, 2001	24-hour standard proposal at 50268.
• Residential wood combustion	MAG plan, February 16, 2000	24-hour standard proposal at 50271.
• Secondary ammonium nitrate sources	MAG plan, February 16, 2000	24-hour standard proposal at 50271.
Demonstration of the impracticability of attainment by 2001 where the State has applied for an attainment date extension under section 188(e) (section 189(b)(1)(A) (ii)).	MAG plan, February 16, 2000 (regional); BMP TSD, June 13, 2001 (Gilbert and West Chandler).	24-hour standard proposal at 50273.
Demonstration of attainment by the most expeditiolus alternative date practicable (section 189(b)(1)(A)(ii)).	Mag plan, February 16, 2000 (regional); BMP TSD, June 13, 2001 (Gilbert and West Chandler).	24-hour standard proposal at 50275.

CAA provision (cite)	SIP submittal and date	Cite for proposed approval
Demonstration of reasonable further progress (section 172(c)(2)).	BMP TSD, June 13, 2001	24-hour standard proposal at 50278.
Quantitative Milestones (section 189(c))	BMP TSD, June 13, 2001	24-hour standard proposal at 50279.
Inclusion of the most stringent measures (section 188(e)).	MAG plan, February 16, 2000 except for (agricultural sources) BMP TSD, June 13, 2001 (agricultural sources).	24-hour standard proposal at 50274.
Demonstration that major sources of PM–10 precursors such as nitrogen oxides and sulfur dioxide do not contribute significantly to violations (section 189(e)).	MAG plan, February 16, 2000	24-hour standard proposal at 50257.
Contingency measures (section 172(c)(9))	MAG plan, February 16, 2000 as revised by BMP TSD, June 13, 2001.	24-hour standard proposal at 50279.
Transportation conformity budget (section 176(c)).	MAG plan, February 15, 2000	24-hour standard proposal at 50256.
Provisions for assuring adequate resources, personnel, and legal authority to carry out the plan (section 110(a)(2)(E)(i)).	MAG plan, February 16, 2000 (except for agriculture sources).	24-hour standard proposal at 50280.

B. Extension of the Attainment Date

As authorized by CAA section 188(e), we are granting Arizona's request for a five-year extension of the date for attaining both the annual and 24-hour PM–10 standards. Our decision to grant the extension is based on our determination that the State has met the necessary requirements for granting an extension of the attainment date under CAA section 188(e). See annual standard proposal at 19988 and 24-hour standard proposal at 50278. The five-year extension means that the statutory attainment date for both standards in the Phoenix nonattainment area is now December 31, 2006.

C. Approvals of Rules and Commitments

We are also approving the following rules and commitments that we proposed for approval in the annual standard proposal at 65 FR 19964:

Rule/commitment (Date of adoption of revision)	Submittal date
MCESD Rule 310 (Revised February 16, 2000)	March 2, 2000.
MCESD Rule 310.01 (Adopted February 16, 2000)	March 2, 2000.
Maricopa County Residential Woodburning Ordinance (Revised November 17, 1999)	January 28, 2000.

We are also approving numerous resolutions adopted in 1997, 1998, and 1999 by the cities and town of the metropolitan Phoenix area as well as by the Arizona Department of Transportation, Regional Public Transportation Agency, and ADEQ. Finally, we are approving Maricopa County's commitments including the revised commitments adopted on December 19, 2001 and submitted on January 8, 2002.

CAA section 110(l) prohibits us from approving a revision to the applicable implementation plan if that revision would interfere with any applicable requirement concerning attainment and RFP or any other applicable requirement of the Act. We interpret section 110(l) to mean, among other things, that we cannot approve a plan revision if that revision would mean that the state's plans would no longer provide for attainment or RFP as these are required by the CAA or if the revision would mean that the State's plans would no longer meet another applicable requirement of the Act.

We are revising the Arizona SIP to incorporate the amended Rule 310, Rule 310.01 and the Maricopa County Residential Woodburning Ordinance in place of the previous version of Rule 310 approved in August, 1997 and of the ordinance approved in November, 1999. In addition to the effect on attainment and RFP, the "other applicable requirement of the Act" that we are concerned with here are the Act's requirements for implementation of RACM and BACM and the inclusion in the plan of MSM.

We are approving the expeditious attainment and RFP demonstrations for both PM–10 standards in the Phoenix serious area plan. These demonstrations are in part dependent on approval of the revised Rule 310, Rule 310.01, and the woodburning ordinance.

We are also finding that the Phoenix serious area plan provides for the implementation of RACM and BACM and the inclusion of the MSM for the sources subject to these rules and ordinance (construction sites, unpaved roads, unpaved parking lots, and disturbed vacant lands, and residential wood burning). Again, these findings are in large part dependent on approval of the revised Rule 310 and Rule 310.01. We, therefore, find that the approval of the revised Rule 310, Rule 310.01, and the Residential Woodburning Restrictions Ordinance will not interfere with Arizona PM–10 applicable implementation plan's compliance with the Clean Air Act's requirements for attainment, RFP, implementation of RACM and BACM, and inclusion of MSM.[23]

D. Correction of Previous SIP Disapprovals

We are finding that Arizona has corrected the deficiencies that resulted in the following disapprovals:

[23] Because the woodburning restrictions ordinance is also a provision in the State's carbon monoxide SIP, we have also considered the impact on the CO plan of approving the revised version. The revision to the ordinance strengthens its PM–10 provisions but does not make changes to its CO provisions; therefore, its approval will not interfere CO SIP's provisions for attainment, RFP, or RACM.

Disapproved element	Date and cite of disapproval	Correction
Implementation of RACM and BACM for unpaved roads, unpaved parking lots, disturbed vacant lots, and agriculture (24-hour standard).	August 4, 1997 62 FR 41856, 41862.	Approved RACM and BACM demonstration for the affected categories.[1]
Demonstration of attainment and RFP for the West chandler site (24-hour standard).	August 4, 1997 62 FR 41856, 41862.	Approved attainment and RFP demonstration.
Demonstration of attainment and RFP for the Gilbert site (24-hour)	August 4, 1997 62 FR 41856, 41862.	Approved attainment and RFP demonstration.
Implementation of RACM (annual standard)	August 3, 1998 63 FR 41326, 41329.	Approved RACM demonstration.
Demonstration of attainment (moderate area deadline, annual standard).	August 3, 1998 63 FR 41326, 41329.	Approved attainment demonstration.

[1] We approved the RACM demonstration for agricultural sources on October 11, 2001 at 66 FR 51869.

The correction of the deficiencies that caused the last two listed disapprovals also permanently lifts the offset sanction currently imposed but stayed on the Phoenix area and ends the clock for imposition of the highway funding sanction.

The full approval of the metropolitan Phoenix serious area PM–10 plan also ends the FIP clock started by the February 6, 1998 finding that the State had failed to submit the plan by the required deadline. See 63 FR 9423 (February 23, 1998).

VI. Administrative Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 32111, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves state law as meeting federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4).

This rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely approves a state plan and rules implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. section 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 23, 2002. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (*See* section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Particulate matter, Reporting and recordkeeping requirements.

Dated: January 14, 2002.

Wayne Nastri,

Regional Administrator, Region 9.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for Part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

2. Section 52.120 is amended by adding paragraphs (c)(99), (100), (101), and (102) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *

(99) Plan revisions submitted on January 28, 2000 by the Governor's designee.

(i) Incorporation by reference.

(A) Maricopa County, Arizona.

(*1*) Residential Woodburning Restriction Ordinance adopted on November 17, 1999.

(100) Plan revisions submitted on February 16, 2000 by the Governor's designee.

(i) Incorporation by reference.

(A) Maricopa Association of Governments, Maricopa County, Arizona.

(*1*) Resolution to Adopt the Revised MAG 1999 Serious Area Particulate Plan for PM–10 for the Maricopa County Nonattainment Area (including Exhibit A, 2 pages), adopted on February 14, 2000.

(B) City of Avondale, Arizona.

(*1*) Resolution No. 1711–97; A Resolution of the City Council of the City of Avondale, Maricopa County, Arizona, To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 14 pages), adopted on September 15, 1997.

(*2*) Resolution No. 1949–99; A Resolution of the Council of the City of Avondale, Maricopa County, Arizona, Implementing Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 7 pages), adopted on February 16, 1999.

(C) Town of Buckeye, Arizona.

(*1*) Resolution No. 15–97; A Resolution of the Town Council of the Town of Buckeye, Maricopa County, Arizona, To Implement Measures in the MAG 1997 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 5 pages), adopted on October 7, 1997.

(D) Town of Carefree, Arizona.

(*1*) Town of Carefree Resolution No. 97–16; A Resolution of the Mayor and Common Council of the Town of Carefree, Arizona, To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 3 pages), adopted on September 2, 1997.

(*2*) Town of Carefree Resolution No. 98–24; A Resolution of the Mayor and Common Council of the Town of Carefree, Arizona, To Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 4 pages), adopted on September 1, 1998.

(*3*) Town of Carefree Ordinance No. 98–14; An Ordinance of the Town of Carefree, Maricopa County, Arizona, Adding Section 10–4 to the Town Code Relating to Clean-Burning Fireplaces, Providing Penalties for Violations (3 pages), adopted on September 1, 1998.

(E) Town of Cave Creek, Arizona.

(*1*) Resolution R97–28; A Resolution of the Mayor and Town Council of the Town of Cave Creek, Maricopa County, Arizona, Implementing Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 4 pages), adopted on September 2, 1997.

(*2*) Resolution R98–14; A Resolution of the Mayor and Town Council of the Town of Cave Creek, Maricopa County, Arizona, To Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 1 page), adopted on December 8, 1998.

(F) City of Chandler, Arizona.

(*1*) Resolution No. 2672; A Resolution of the City Council of the City of Chandler, Arizona To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 16 pages), adopted on August 14, 1997.

(*2*) Resolution No. 2929; A Resolution of the City Council of the City of Chandler, Arizona, To Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 9 pages), adopted on October 8, 1998.

(G) City of El Mirage, Arizona.

(*1*) Resolution No. R97–08–20; Resolution To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 8 pages), adopted on August 28, 1997.

(*2*) Resolution No. R98–08–22; A Resolution of the Mayor and Common Council of the City of El Mirage, Arizona, Amending Resolution No. R98–02–04 To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 5 pages), adopted on August 27,1998.

(*3*) Resolution No. R98–02–04; A Resolution To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 5 pages), adopted on February 12,1998.

(H) Town of Fountain Hills, Arizona.

(*1*) Resolution No. 1997–49; A Resolution of the Common Council of the Town of Fountain Hills, Arizona, Adopting the MAG 1997 Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area and Committing to Certain Implementation Programs (including Exhibit B, 5 pages and cover), adopted on October 2, 1997.

(*2*) Town of Fountain Hills Resolution No. 1998–49; Resolution To Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 7 pages), adopted on October 1, 1998. [**Incorporation Note:** Incorporated materials are pages 4 to 10 of the 11-page resolution package; pages 1 and 2 are cover sheets with no substantive content and page 11 is a summary of measures previously adopted by the Town of Fountain Hills.]

(I) Town of Gilbert, Arizona.

(*1*) Resolution No. 1817; A Resolution of the Common Council of the Town of Gilbert, Maricopa County, Arizona, Authorizing the Implementation of the MAG 1997 Serious Area Particulate Plan for PM–10 and the MAG Serious Area Carbon Monoxide Plan for the Maricopa County Area (including 15 pages of attached material), adopted on June 10, 1997.

(*2*) Resolution No. 1864; A Resolution of the Common Council of the Town of Gilbert, Arizona, Implementing Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Attachment A, 5 pages), adopted on November 25, 1997. [**Incorporation note:** Attachment A is referred to as Exhibit A in the text of the Resolution.]

(*3*) Ordinance 1066; An Ordinance of the Common Council of the Town of Gilbert, Arizona Amending the Code of Gilbert by Amending Chapter 30 *Environment*, by adding New Article II *Fireplace Restrictions* Prescribing Standards for Fireplaces, Woodstoves, and Other Solid-Fuel Burning Devices in New Construction; Providing for an Effective Date of January 1, 1999; Providing for Repeal of Conflicting Ordinances; Providing for Severability (3 pages), adopted on November 25, 1997.

(*4*) Resolution No. 1939: A Resolution of the Common Council of the Town of Gilbert, Arizona, Expressing its Commitment to Implement Measures in

the Maricopa Association of Governments (MAG) 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Attachment A, 5 pages), adopted on July 21, 1998. [**Incorporation note:** Attachment A is referred to as Exhibit A in the text of the Resolution.]

(J) City of Glendale, Arizona.

(*1*) Resolution No. 3123 New Series; A Resolution of the Council of the City of Glendale, Maricopa County, Arizona, Implementing Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 20 pages), adopted on June 10, 1997.

(*2*) Resolution No. 3161 New Series; A Resolution of the Council of the City of Glendale, Maricopa County, Arizona, Implementing Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 6 pages), adopted on October 28, 1997.

(*3*) Resolution No. 3225 New Series; A Resolution of the Council of the City of Glendale, Maricopa County, Arizona, Implementing Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 9 pages), adopted on July 28, 1998.

(K) City of Goodyear, Arizona.

(*1*) Resolution No. 97–604 Carbon Monoxide Plan; A Resolution of the Council of the City of Goodyear, Maricopa County, Arizona, Implementing Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 21 pages), adopted on September 9. [**Incorporation note:** Adoption year not given on the resolution but is understood to be 1997 based on resolution number.]

(*2*) Resolution No. 98–645; A Resolution of the Council of the City of Goodyear, Maricopa County, Arizona, Implementing Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Attachment III, 7 pages), adopted on July 27, 1998.

(L) City of Mesa, Arizona.

(*1*) Resolution No. 7061; A Resolution of the City Council of the City of Mesa, Maricopa County, Arizona, to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 13 pages plus index page), adopted on June 23, 1997.

(*2*) Resolution No. 7123; A Resolution of the City Council of the City of Mesa, Maricopa County, Arizona, to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 10 pages), adopted on December 1, 1997.

(*3*) Resolution No. 7360; A Resolution of the City Council of the City of Mesa, Maricopa County, Arizona, to Implement Measures in the MAG Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 8 pages), adopted on May 3, 1999.

(*4*) Ordinance No. 3434; An Ordinance of the City Council of the City of Mesa, Maricopa County, Arizona, Relating to Fireplace Restrictions Amending Title 4, Chapter 1, Section 2 Establishing a Delayed Effective Date; and Providing Penalties for Violations (3 pages), adopted on February 2, 1998.

(M) Town of Paradise Valley, Arizona.

(*1*) Resolution Number 913; A Resolution of the Town of Paradise Valley, to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 9 pages), adopted on October 9, 1997.

(*2*) Resolution Number 945; A Resolution of the Mayor and Town Council of the Town of Paradise Valley, Arizona, to Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 5 pages), adopted on July 23, 1998.

(*3*) Ordinance Number 454; An Ordinance of the Town of Paradise Valley, Arizona, Relating to Grading and Dust Control, Amending Article 5–13 of the Town Code and Sections 5–13–1 Through 5–13–5, Providing Penalties for Violations and Severability (5 pages), adopted on January 22, 1998. [**Incorporation note:** There is an error in the ordinance's title, ordinance amended only sections 5–13–1 to 5–13–4; see section 1 of the ordinance.]

(*4*) Ordinance Number 450; An Ordinance of the Town of Paradise Valley, Arizona, Adding Section 5–1–7 to the Town Code Relating to Clean-Burning Fireplaces, Providing Penalties for Violations (3 pages), adopted on December 18, 1997.

(N) City of Peoria, Arizona.

(*1*) Resolution No. 97–37; A Resolution of the Mayor and Council of the City of Peoria, Arizona, to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibits A, 5 pages, and B, 19 pages), adopted on June 17, 1997.

(*2*) Resolution No. 97–113; A Resolution of the Mayor and Council of the City of Peoria, Arizona, to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area and Directing the Recording of This Resolution with the Maricopa County Recorder and Declaring an Emergency (including Exhibit A, 8 pages plus index page), adopted on October 21, 1997.

(*3*) Resolution No. 98–107; A Resolution of the Mayor and Council of the City of Peoria, Arizona, to Approve and Authorize the Acceptance to Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 7 pages), adopted on July 21, 1998.

(O) City of Phoenix, Arizona.

(*1*) Resolution No. 18949; A Resolution Stating the City's Intent to Implement Measures to Reduce Air Pollution (including Exhibit A, 19 pages), adopted on July 2, 1997.

(*2*) Resolution No. 19006; A Resolution Stating the City's Intent to Implement Measures to Reduce Air Pollution (including Exhibit A, 13 pages), adopted on November 19, 1997.

(*3*) Ordinance No. G4037; An Ordinance Amending Chapter 39, Article 2, Section 39–7 of the Phoenix City Code by Adding Subsection G Relating to Dust Free Parking Areas; and Amending Chapter 36, Article XI, Division I, Section 36–145 of the Phoenix City Code Relating to Parking on Non-Dust Free Lots, adopted on July 2, 1997 (5 pages).

(*4*) Resolution No. 19141; A Resolution Stating the City's Intent to Implement Measures to Reduce Particulate Air Pollution (including Exhibit A, 10 pages), adopted on September 9, 1998.

(*5*) Ordinance No. G4062; An Ordinance Amending the Phoenix City Code By Adding A New Chapter 40 "Environmental Protections," By Regulating Fireplaces, Wood Stoves and Other Solid-Fuel Burning Devices and Providing that the Provisions of this Ordinance Shall Take Effect on December 31, 1998 (5 pages), adopted on December 10, 1997.

(P) Town of Queen Creek, Arizona.

(*1*) Resolution 129–97; A Resolution of the Town Council of the Town of Queen Creek, Maricopa County, Arizona to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 3 pages), adopted on June 4, 1997.

(*2*) Resolution 145–97; A Resolution of the Town Council of the Town of

Queen Creek, Maricopa County, Arizona to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 1 page), adopted on November 5, 1997.

(*3*) Resolution 175–98; A Resolution of the Town Council of the Town of Queen Creek, Maricopa County, Arizona to Implement Measures in the MAG 1998 Serious Area Particulate Plan for the Maricopa County Area (including Exhibit A, 9 pages), adopted on September 16, 1998.

(Q) City of Scottsdale, Arizona.

(*1*) Resolution No. 4864; A Resolution of the City of Scottsdale, Maricopa County, Arizona, To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area: Stating the Council's Intent to Implement Certain Control Measures Contained in that Plan (including Exhibit A, 21 pages), adopted on August 4, 1997.

(*2*) Resolution No. 4942; Resolution of the Scottsdale City Council To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 13 pages), adopted on December 1, 1997.

(*3*) Resolution No. 5100; A Resolution of the City of Scottsdale, Maricopa County, Arizona, To Strengthen Particulate Dust Control and Air Pollution Measures in the Maricopa County Area (including Exhibit A, 10 pages), adopted on December 1, 1998.

(R) City of Surprise, Arizona.

(*1*) Resolution No. 97–29; A Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 4 pages), adopted on June 12, 1997.

(*2*) Resolution No. 97–67; A Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 3 pages), adopted on October 23, 1997.

(*3*) Resolution No. 98–51; A Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 6 pages), adopted on September 10, 1998.

(s) City of Tempe, Arizona.

(*1*) Resolution No. 97.39; Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 18 pages), adopted on June 12, 1997.

(*2*) Resolution No. 97.71, Resolution of the Council of the City of Tempe Stating Its Intent to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 6 pages), adopted on November 13, 1997.

(*3*) Resolution No. 98.42, Resolution of the Council of the City of Tempe Implementing Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 8 pages), adopted on September 10, 1998.

(T) City of Tolleson, Arizona.

(*1*) Resolution No. 788, A Resolution of the Mayor and City Council of the City of Tolleson, Maricopa County, Arizona, Implementing Measures in the Maricopa Association of Governments (MAG) 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 12 pages), adopted on June 10, 1997.

(*2*) Resolution No. 808, A Resolution of the Mayor and City Council of the City of Tolleson, Maricopa County, Arizona, Implementing Measures in the Maricopa Association of Governments (MAG) 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A), adopted on July 28, 1998.

(*3*) Ordinance No. 376, N.S., An Ordinance of the City of Tolleson, Maricopa County, Arizona, Amending Chapter 7 of the Tolleson City Code by Adding a New Section 7–9, Prohibiting the Installation or Construction of a Fireplace or Wood Stove Unless It Meets the Standards Set Forth Herein (including Exhibit A, 4 pages), adopted on December 8, 1998.

(U) Town of Wickenburg, Arizona.

(*1*) Resolution No. 1308, Resolution To Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 4 pages), adopted on August 18, 1997.

(V) Town of Youngtown, Arizona.

(*1*) Resolution No. 97–15, Resolution To Implement Measures in the MAG 1997 Serious Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 4 pages), adopted on September 18, 1997.

(*2*) Resolution No. 98–15: Resolution To Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 8 pages), adopted on August 20, 1998.

(*3*) Resolution No 98–05: Resolution Stating Intent to Work Cooperatively with Maricopa County to Control the Generation of Fugitive Dust Pollution (including Exhibit A, 2 pages), adopted February 19, 1998.

(W) Maricopa County, Arizona.

(*1*) Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1A998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 16 pages), adopted on June 25, 1997. [**Incorporation note:** "1A998" error in the original.]

(*2*) Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 9 pages), adopted on November 19, 1997.

(*3*) Resolution to Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 10 pages), adopted on February 17, 1999.

(*4*) Resolution to Implement Measures in the MAG 1999 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 10 pages), adopted on December 15, 1999.

(X) Arizona Department of Transportation, Phoenix, Arizona.

(*1*) Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 24 pages plus index page), adopted on June 20, 1997.

(*2*) Resolution to Implement Measures in the MAG 1998 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 8 pages), adopted on July 17, 1998.

(Y) Regional Public Transportation Authority, Phoenix, Arizona.

(*1*) Resolution #9701: Resolution to Implement Measures in the MAG 1997 Serious Area Particulate Plan for PM–10 and MAG 1998 Serious Area Carbon Monoxide Plan for the Maricopa County Area (including Exhibit A, 23 pages), adopted on June 12, 1997.

(Z) State of Arizona.

(*1*) Arizona Revised Statute Section 49–542(F)(7) as added in Section 31 of Arizona Senate Bill 1002, 42nd Legislative Session, 7th Special Session (1996), approved by the Governor July 18, 1996.

(101) Plan revisions submitted on March 2, 2000, by the Governor's designee.

(i) Incorporation by reference.

(A) Maricopa County Environmental Services Department.

(*1*) Rule 310 revised on February 16, 2000.

(*2*) Rule 310.01 adopted on February 16, 2000.

(*3*) Appendix C revised on February 16, 2000.

(102) Plan revisions submitted on January 8, 2002, by the Governor's designee.

(i) Incorporation by reference.

(1) Maricopa County, Arizona.

(*1*) Resolution to Update Control Measure 6 in the Revised MAG 1999 Serious Area Particulate Plan for PM–10 for the Maricopa County Area (including Exhibit A, 2 pages), adopted on December 19, 2001.

* * * * *

3. Section 52.123 is amended by removing and reserving paragraph (f)(1)(i)and adding paragraph (j) to read as follows:

§ 52.123 Approval status.

* * * * *

(j) The Administrator is approving the following elements of the Metropolitan Phoenix PM–10 Nonattainment Area Serious Area PM–10 Plan as contained in *Revised Maricopa Association of Governments 1999 Serious Area Particulate Plan for PM–10 for the Maricopa County Nonattainment Area,* February 2000, submitted February 16, 2000 and *Maricopa County PM–10 Serious Area State Implementation Plan Revision, Agricultural Best Management Practices (BMP),* ADEQ, June 2000, submitted on June 13, 2001:

(1) 1994 Base year emission inventory pursuant to Clean Air Act section 172(c)(3).

(2) The Provisions for implementing on all significant source categories reasonably available control measures (except for agricultural sources) and best available control measures for the annual and 24-hour PM–10 NAAQS pursuant to section Clean Air Act sections 189(a)(1)(c) and 189(b)(1)(b)).

(3) The demonstration of the impracticability of attainment by December 31, 2001 for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 189(b)(1)(A)(ii).

(4) The demonstration of attainment by the most expeditious alternative date practicable for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 189(b)(1)(A)(ii).

(5) The demonstration of reasonable further progress for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 172(c)(2).

(6) The quantitative milestones for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 189(c).

(7) The inclusion of the most stringent measures for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 188(e).

(8) The demonstration that major sources of PM–10 precursors do not contribute significantly to violations for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 189(e).

(9) The contingency measures for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 172(c)(9).

(10) The transportation conformity budget for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 176(c).

(11) The provisions for assuring adequate resources, personnel, and legal authority to carry out the plan for the annual and 24-hour PM–10 NAAQS pursuant to Clean Air Act section 110(a)(2)(E)(i).

§ 52.124 [Amended]

4. Section 52.124 is amended by removing and reserving paragraphs (b) and (c).

[FR Doc. 02–18171 Filed 7–24–02; 8:45 am]
BILLING CODE 6560–50–P

APPENDIX B

CONSULTATION CORRESPONDENCE

List of Exhibits:

1. "Consultation on Proposed Transportation Conformity Processes for the 2014 MAG Conformity Analysis", Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, July 30, 2013; copied to members of the MAG Management Committee.

2. "Consultation on Potentially Regionally Significant Projects for the Draft FY 2014-2018 MAG Transportation Improvement Program", Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, September 3, 2013, copied to members of the MAG Management Committee.

3. "Notification of Conclusion of Consultation on Proposed Transportation Conformity Processes for the 2014 MAG Conformity Analysis", Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, August 23, 2013.

4. "Notification of Conclusion of Consultation on Potentially Regionally Significant Projects for the Draft FY 2014-2018 MAG Transportation Improvement Program", Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, October 2, 2013.

* Federal, state, and local agencies copied on MAG memoranda were:

Leslie Rogers, Federal Transit Administration
Karla Petty, Federal Highway Administration
John Halikowski, Arizona Department of Transportation
Henry Darwin, Arizona Department of Environmental Quality
Maria Hyatt, City of Phoenix Public Transit Department
Stephen Banta, Valley Metro/RPTA
William Wiley, Maricopa County Air Quality Department
Kenneth Hall, Central Arizona Governments
Don Gabrielson, Pinal County Air Quality Control District
Benjamin Bitter, Sun Corridor Metropolitan Planning Organization
Gregory Nudd, U.S. Environmental Protection Agency, Region IX

APPENDIX B, Exhibit 1

"Consultation on Proposed Transportation Conformity Processes for the 2014 MAG Conformity Analysis".

Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, July 30, 2013; copied to members of the MAG Management Committee.

MARICOPA ASSOCIATION of GOVERNMENTS

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E-mail: mag@azmag.gov ▲ Web site: www.azmag.gov

July 30, 2013

TO: Leslie Rogers, Federal Transit Administration
Karla Petty, Federal Highway Administration
John Halikowski, Arizona Department of Transportation
Henry Darwin, Arizona Department of Environmental Quality
Maria Hyatt, City of Phoenix Public Transit Department
Stephen Banta, Valley Metro/RPTA
William Wiley, Maricopa County Air Quality Department
Kenneth Hall, Central Arizona Governments
Donald Gabrielson, Pinal County Air Quality Control District
Benjamin Bitter, Sun Corridor Metropolitan Planning Organization
Gregory Nudd, U.S. Environmental Protection Agency, Region IX
Other Interested Parties

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: CONSULTATION ON PROPOSED TRANSPORTATION CONFORMITY PROCESSES FOR THE 2014 MAG CONFORMITY ANALYSIS

The Maricopa Association of Governments is distributing for interagency consultation the proposed transportation conformity processes to be applied beginning with the upcoming conformity analysis for the Maricopa County Nonattainment and Maintenance Areas and the Pinal County Nonattainment Areas. Both the MAG Metropolitan Planning Area Boundary and Sun Corridor Metropolitan Planning Area Boundary include portions of the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area located in Pinal County.

To provide assistance to the new Sun Corridor Metropolitan Planning Organization, MAG offered to prepare the initial conformity analysis for the PM-10 and PM-2.5 nonattainment areas in Pinal County, to enable transportation projects in both metropolitan planning organizations to proceed. Consultation on the proposed processes is required under MAG conformity consultation procedures that were developed to meet state and federal requirements. Please provide any comments regarding this material by August 16, 2013. Additional opportunities for comment on this consultation item are anticipated at the August 7, 2013 MAG Management Committee and August 21, 2013 MAG Regional Council meetings.

The following information is being transmitted for consultation:

- Attachment A documents the models, associated methods, and assumptions to be used in regional emissions analyses.

- Attachment B documents the process for ensuring timely implementation of transportation control measures.

- Attachment C documents the process for the types of projects considered exempt from conformity requirements.

If you have any questions or comments, please contact me at (602) 254-6300.

Attachments

cc: Eric Massey, Arizona Department of Environmental Quality
Scott Omer, Arizona Department of Transportation

ATTACHMENT A

DRAFT

MODELS, ASSOCIATED METHODS, AND ASSUMPTIONS FOR USE IN REGIONAL EMISSIONS ANALYSIS

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

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

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

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

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

Figure 1: MAG and Sun Corridor MPO Planning Areas and Air Quality Nonattainment Areas for the Pinal County Area, Arizona

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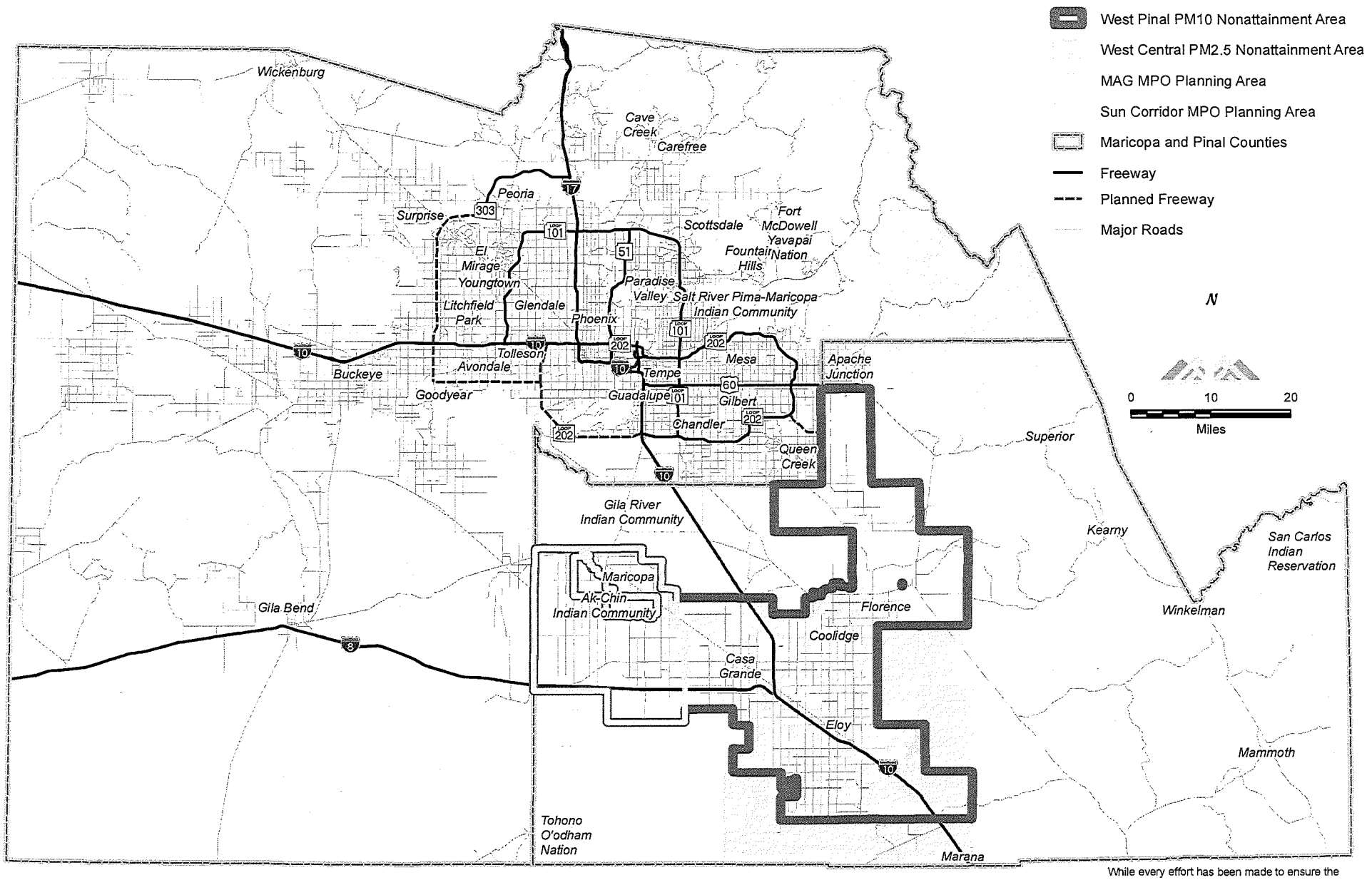

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Source: U.S. Environmental Protection Agency

Date: July 2013

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through a cooperative effort with the Arizona Department of Transportation, Sun Corridor Metropolitan Planning Organization, and Pinal County on the conformity analysis necessary to remove the conformity lapse.

As part of the assistance provided to the Sun Corridor Metropolitan Planning Organization, MAG is also conducting consultation on the models, associated methods, and assumptions that will be applied for the initial conformity analysis for projects in the Pinal County Nonattainment Areas outside of the MAG Metropolitan Planning Area Boundary. In the July 2012 EPA document *Guidance for Transportation Conformity Implementation in Multi-Jurisdictional Nonattainment and Maintenance Areas*, in a nonattainment area where there is more than one MPO, MPOs may develop the regional emissions analysis by conducting one modeling analysis for the entire nonattainment area (EPA, 2012e).

I. PROPOSED METHODOLOGY FOR THE 2014 MAG CONFORMITY ANALYSIS

In accordance with the transportation conformity rule 40 CFR 93.105(c)(1)(I), the Maricopa Association of Governments (MAG) is conducting interagency consultation on the models, associated methods, and assumptions to be applied beginning with the 2014 MAG Conformity Analysis for a conformity determination on the FY 2014-2018 MAG Transportation Improvement Program (TIP) and 2035 Regional Transportation Plan (RTP). MAG conducts consultation on the models, associated methods, and assumptions for use in regional emissions analyses at the outset of the process to prepare a conformity analysis for a new TIP and RTP and when there are major changes to the models, methods, or assumptions used in preparing a conformity analysis for a major amendment to a conforming TIP and RTP.

In February 1996, the MAG Regional Council adopted conformity consultation processes in response to federal and state requirements (MAG, 1996a). The MAG process M-1 directly addresses the requirement for periodic consultation on models, associated methods, and assumptions to be used in hot-spot analyses and regional emissions analyses. The process indicates that regional emissions analyses are to use the latest United States Environmental Protection Agency (EPA) approved motor vehicle emissions models and that all model inputs use the latest planning assumptions as required in 40 CFR Sections 93.110-111.

Consultation on the 2014 MAG Conformity Analysis is being conducted with the Federal Transit Administration, Federal Highway Administration, Arizona Department of Transportation, Arizona Department of Environmental Quality, Valley Metro/RPTA, City of Phoenix Public Transit Department, Maricopa County Air Quality Department, Central Arizona Governments, Pinal County Air Quality Control District, Sun Corridor Metropolitan Planning Organization, United States Environmental Protection Agency, and MAG member agencies (e.g. Maricopa County, Pinal County, cities, towns, and Indian communities).

The following sections describe the proposed approach for regional emissions analyses, including the methodology, latest planning assumptions, transportation modeling, and air quality modeling to be applied for the 2014 MAG Conformity Analysis.

The criteria for determining conformity of transportation programs and plans under the federal conformity rule (40 CFR Parts 51 and 93) and the applicable conformity tests for the Maricopa County nonattainment and maintenance areas and Pinal County nonattainment areas are summarized in this section. The 2014 MAG Conformity Analysis will be prepared based on these criteria and tests. Presented first is a review of the development of the applicable conformity rule and guidance procedures, followed by a summary of conformity rule requirements, air quality designation status, conformity test requirements, and analysis years.

FEDERAL AND STATE CONFORMITY RULES

Clean Air Act Amendments

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

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

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

Federal Rule

Supplemental interim conformity guidance was issued on June 7, 1991 (EPA/DOT, 1991a and 1991b) for carbon monoxide, ozone, and particulate matter less than or equal to ten microns in diameter. The applicable period of this guidance was designated as Phase 1 of the interim period. EPA subsequently promulgated the Conformity Final Rule, in the November 24, 1993 *Federal*

Register (EPA, 1993). The Rule became effective on December 27, 1993. The federal Transportation Conformity Final Rule has been revised several times since its initial release. The first set of amendments, finalized on August 7, 1995, (EPA, 1995a) aligned the dates of conformity lapses due to SIP failures with the application of Clean Air Act highway sanctions for certain ozone areas and all areas with disapproved SIPs with a protective finding.

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

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

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

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

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

- Additional time is provided for areas to redetermine conformity of existing transportation plans and programs from 18 months to two years after the date that EPA finds a motor vehicle emissions budget to be adequate or approves an implementation plan that establishes a motor vehicle emissions budget, or when EPA promulgates an implementation plan that establishes or revises a motor vehicle emissions budget.

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

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

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

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

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

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

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

State Rule

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

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

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

MAG also developed the "Conformity Consultation Processes" document, which was adopted on February 28, 1996 by the MAG Regional Council (MAG, 1996a). This guidance document details

the public and interagency consultation processes to be used in the development of regional transportation plans, programs, and projects within the Maricopa County nonattainment area.

Case Law

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

On March 2, 1999, the U.S. Court of Appeals for the District of Columbia issued an opinion in *Environmental Defense Fund v. EPA* involving the 1997 transportation conformity amendments. In general, the court struck down 40 CFR 93.120(a)(2) which permitted a 120-day grace period after disapproval of a SIP; determined that the EPA must approve a "safety margin" prior to its use for conformity in 40 CFR 93.124(b); concluded that a submitted SIP budget must be found by EPA to be adequate, based on criteria found in 40 CFR 93.118(e)(4) before it can be used in a conformity determination; and ended a provision that allowed "grandfathered" projects to proceed during a conformity lapse.

Following the court ruling, the EPA and U.S. DOT issued guidance to address implementation of conformity requirements based on the court findings. The EPA issued guidance contained in a May 14, 1999 memorandum (EPA, 1999b). In addition, the U.S. DOT issued guidance on June 18, 1999 that incorporates all U.S. DOT guidance in response to the court decision in a single document (U.S. DOT, 1999). On July 1, 2004, transportation conformity rule amendments were published in the *Federal Register* to incorporate provisions of the *Environmental Defense Fund v. EPA* court decision.

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

CONFORMITY RULE REQUIREMENTS

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

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

2) *Methods / Modeling:*

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

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

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

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

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

   - MAG is required to establish a proactive public involvement process which provides opportunity for public review and comment prior to taking formal action on a conformity determination (Section 93.105(e)).

TABLE 1
CONFORMITY CRITERIA FROM THE FINAL RULE

Applicability	Pollutant	Section	Requirement
All Actions at All Times	CO, Ozone, PM-10	93.110	Latest Planning Assumptions
		93.111	Latest Emissions Model
		93.112	Consultation
Transportation Plan (RTP)	CO, Ozone, PM-10	93.113(b)	TCMs
		93.118 and/or 93.119	Emissions Budget and/or Interim Emissions
TIP	CO, Ozone, PM-10	93.113(c)	TCMs
		93.118 and/or 93.119	Emissions Budget and/or Interim Emissions
Project (From a Conforming Plan and TIP)	CO, Ozone, PM-10	93.114	Currently Conforming Plan and TIP
		93.115	Project From a Conforming Plan and TIP
	CO and PM-10	93.116	CO, PM-10, and PM-2.5 Hot-Spots
	PM-10	93.117	PM-10 and PM-2.5 Control Measures
Project (Not From a Conforming Plan or TIP)	CO, Ozone, PM-10	93.113(d)	TCMs
		93.114	Currently Conforming Plan and TIP
	CO and PM-10	93.116	CO, PM-10, and PM-2.5 Hot-Spots
	PM-10	93.117	PM-10 and PM-2.5 Control Measures
	CO, Ozone, PM-10	93.118 and/or 93.119	Emissions Budget and/or Interim Emissions

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

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

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

AIR QUALITY PLANS AND DESIGNATIONS

Maricopa County Nonattainment and Maintenance Areas

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

- The Revised MAG 1999 Serious Area Carbon Monoxide Plan, reflecting the repeal of the remote sensing program by the Arizona Legislature in 2000, was submitted to EPA in March 2001 and approved by EPA effective April 8, 2005;

- The MAG 2003 Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA in June 2003 and approved by EPA effective April 8, 2005;

- The MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area was submitted to EPA in April 2013.

- The EPA approved and promulgated a Revised 1998 15 Percent Rate of Progress Plan for Ozone (Revised ROP FIP) for the Maricopa County nonattainment area, effective August 5, 1999;

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

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

- The MAG Eight-Hour Ozone Plan for the Maricopa Nonattainment Area was submitted to EPA by June 15, 2007;

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

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

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

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

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

Nonattainment and Maintenance Boundaries

Maricopa County nonattainment and maintenance areas are shown in Figure 2. The carbon monoxide maintenance boundary, encompasses 1,814 square miles (approximately 20 percent) of the county. This boundary was originally specified in 1974.

Figure 2: Air Quality Nonattainment and Maintenance Areas for the Maricopa County Area, Arizona

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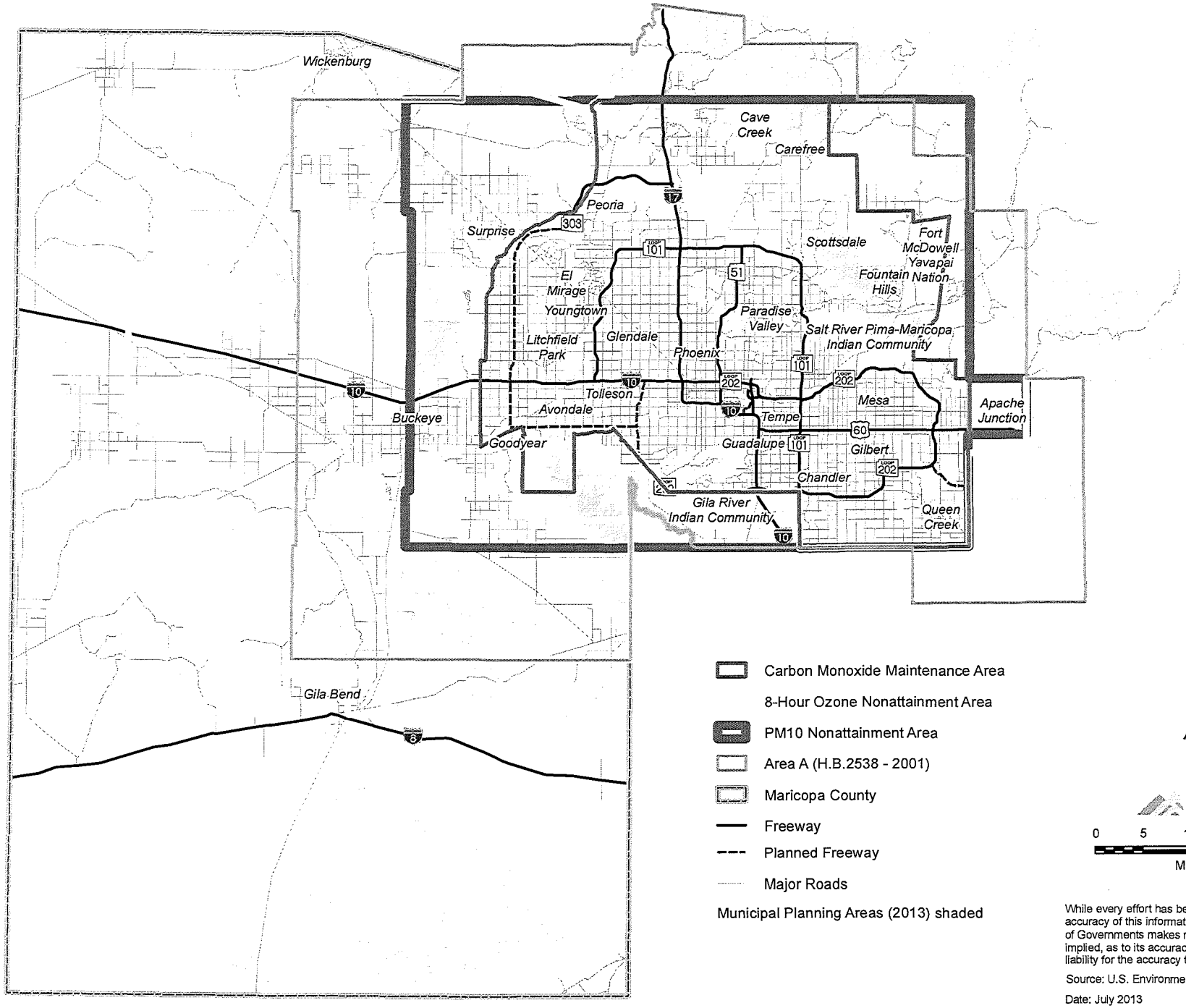

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Source: U.S. Environmental Protection Agency

Date: July 2013

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

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

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

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

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

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

Attainment Status

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

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

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

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

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

On April 30, 2004, EPA published the final rule designating eight-hour ozone nonattainment areas, effective June 15, 2004. The eight-hour ozone nonattainment area in Maricopa and Pinal Counties is classified under Section D, Subpart 1, of the Clean Air Act referred to as "Basic" nonattainment, with an attainment date of June 15, 2009. The MAG 2007 Eight-Hour Ozone Plan for the Maricopa Nonattainment Area was submitted to the EPA by June 15, 2007. The MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area was submitted to EPA in March 2009. On June 13, 2012, the EPA approved the MAG 2007 Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012 (EPA, 2012d).

In 2008, EPA strengthened the eight-hour ozone standard. On April 30, 2012, EPA published the final rule designating nonattainment areas for the 2008 eight-hour ozone standard. For the 2008

eight-hour ozone nonattainment area, the existing nonattainment area boundary for the 1997 eight hour ozone standard for the Maricopa County nonattainment area was expanded to the west and southwest.

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

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

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

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

Pinal County Nonattainment Areas

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

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

Nonattainment Boundaries

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

Attainment Status

At the time of designation, EPA indicated that the State of Arizona is required to submit a SIP for the West Central Pinal PM-2.5 Nonattainment Area within three years following the March 7, 2011 effective date. On July 12, 2013, EPA proposed to determine that the West Central Pinal PM-2.5 Nonattainment Area has attained the 2006 24-hour PM-2.5 standard based on clean data at the monitor during the 2010-2012 monitoring period.

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

CONFORMITY TEST REQUIREMENTS

Maricopa County Nonattainment and Maintenance Areas

Specific conformity test requirements established for the carbon monoxide maintenance area and the eight-hour ozone and PM-10 nonattainment areas are summarized below. The Carbon Monoxide Redesignation Request and Maintenance Plan, submitted to EPA in June 2003, contained 2006 and 2015 emissions budgets for carbon monoxide. These carbon monoxide budgets were found to be adequate by EPA on September 29, 2003. On March 9, 2005, EPA published the final rule in the *Federal Register* approving the Carbon Monoxide Maintenance Plan, including the emissions budgets, effective April 8, 2005. In April 2013, the MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area was submitted to EPA. The new 2025 conformity budget in this plan will be used, if EPA finds it to be adequate before the time that the 2014 MAG Conformity Analysis begins. In this case, the 2025 budget will be utilized in addition to the 2015 budgets already approved by EPA.

The MAG 2007 Eight-Hour Ozone Plan, submitted to EPA by June 15, 2007, contained 2008 conformity budgets for the ozone precursors, VOC and NOx. These emission budgets were found

Figure 3: Air Quality Nonattainment Areas for the Pinal County Area, Arizona

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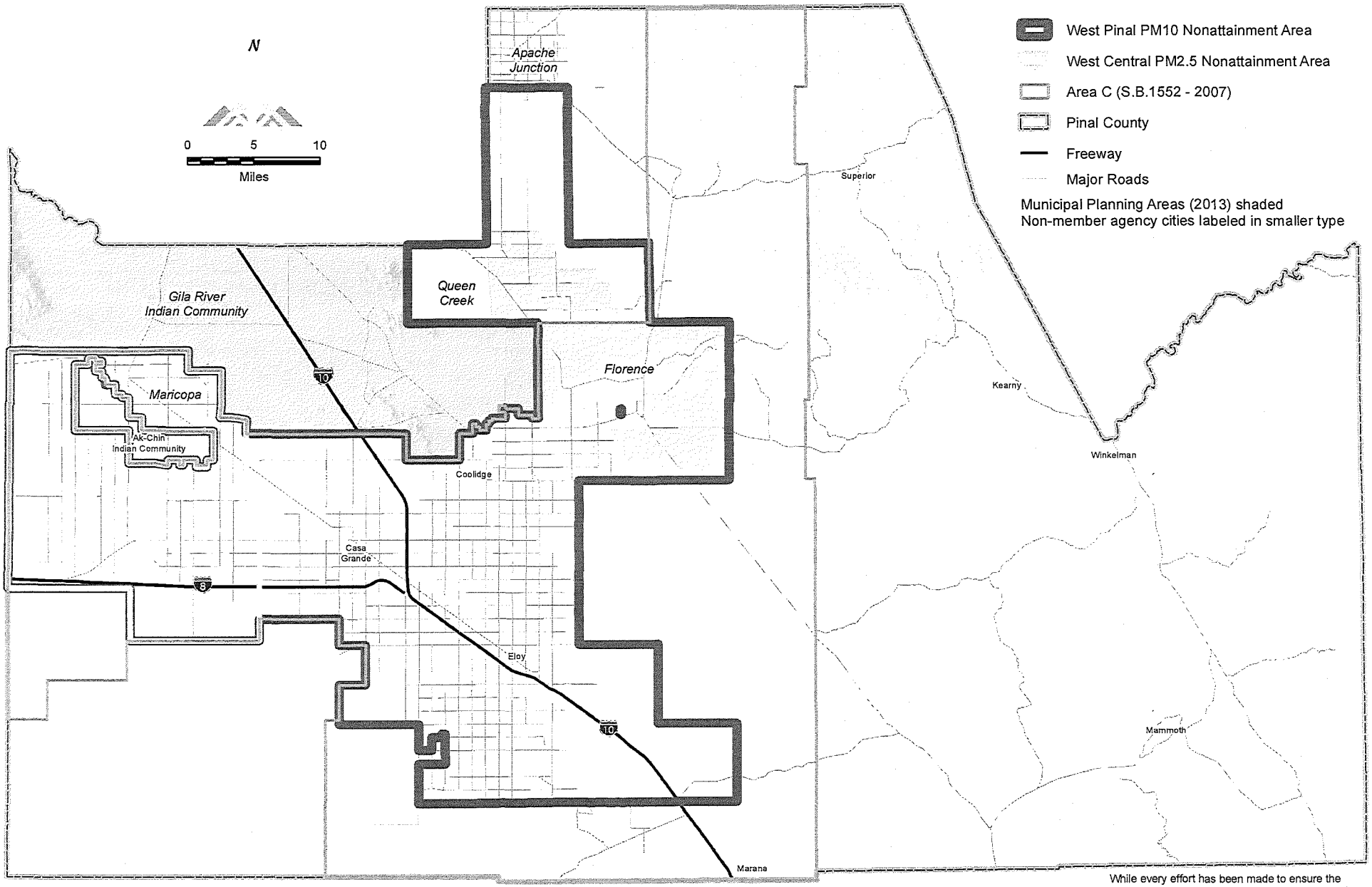

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Source: U.S. Environmental Protection Agency

Date: July 2013

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to be adequate by EPA, effective November 9, 2007. On June 13, 2012, the EPA approved the MAG 2007 Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012.

The MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan was submitted to EPA in March 2009. The maintenance plan established 2025 conformity budgets for VOC and NOx. These budgets will be used, if EPA finds them to be adequate before the time that the 2013 MAG Conformity Analysis begins. In this case, the 2025 conformity budgets for ozone precursors will be utilized in addition to the 2008 budgets established by the MAG 2007 Eight-Hour Ozone Plan.

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

The MAG 2007 Five Percent Plan for PM-10 was submitted to EPA by December 31, 2007. This plan established a PM-10 conformity budget for the attainment year of 2010. The conformity budget was found to be adequate by EPA on July 1, 2008. On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona withdrew the Five Percent Plan from EPA consideration. On February 9, 2011, EPA published a notice of withdrawal of the May 30, 2008 adequacy finding on the PM-10 motor vehicle missions budget from the Five Percent Plan, effective January 31, 2011. On February 14, 2011, EPA made a finding that Arizona failed to submit the plan as required under the Clean Air Act, which triggered the sanctions clocks and obligation to impose a federal implementation plan if a new complete plan is not submitted. This EPA finding began an 18-month clock for mandatory application of sanctions and a two-year clock for a Federal Implementation Plan. The EPA published a corrected notice of withdrawal on February 28, 2011.

The MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA on May 25, 2012. On July 20, 2012, EPA issued a completeness finding that stopped the 18- and 24-month clocks for the mandatory application of sanctions. On April 19, 2013, EPA proposed approval of several statutes included in the MAG 2012 Five Percent Plan for PM-10 that regulate PM-10 emissions from fugitive dust sources. Until the motor vehicle emission budget in that Plan of 54.9 metric tons per day is found to be adequate or is approved by EPA, conformity determinations will be made using the motor vehicle emissions budget of 59.7 metric tons per day from the Revised MAG 1999 Serious Area PM-10 Plan, approved by EPA, effective August 26, 2002.

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

Carbon Monoxide

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

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

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

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

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

Eight-Hour Ozone

On May 21, 2012, EPA published the final rule implementing the 2008 eight-hour ozone standard and also revoking the 1997 eight-hour ozone standard for transportation conformity purposes one year after the effective date of designations for the 2008 ozone standard (e.g. July 20, 2013). This section discusses the conformity test requirements for the Maricopa nonattainment area for the 2008 eight-hour ozone standard. Ozone is a secondary pollutant, generated by chemical reactions in the atmosphere involving volatile organic compounds (VOC) and nitrogen oxides (NOx). The Eight-Hour Ozone Plan for the Maricopa Nonattainment Area (MAG, 2007a) establishes conformity budgets for VOC and NOx in the modeled attainment year of 2008. The 2008 emissions budgets for the eight-hour ozone nonattainment area are 67.9 metric tons per day for VOC and 138.2 metric tons per day for NOx. EPA published a *Federal Register* notice finding these budgets to be adequate, effective November 9, 2007. On June 13, 2012, the EPA approved the MAG 2007 Eight-Hour Ozone Plan including the emissions budgets, effective July 13, 2012 (EPA, 2012d).

The MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area (MAG, 2009) was submitted to EPA in March 2009. The Maintenance Plan establishes conformity budgets for VOC and NOx in the modeled maintenance year of 2025. The 2025 emissions budgets for the eight-hour ozone nonattainment area are 43.8 metric tons per day for VOC and 101.8 metric tons per day for NOx. If EPA publishes a *Federal Register* notice finding these new ozone precursor budgets to be adequate or approves the Maintenance Plan, prior to the time that the 2014 MAG Conformity Analysis begins, both the 2008 and 2025 budgets for VOC and NOx will be used.

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

PM-10

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

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

On September 9, 2010, EPA proposed to partially approve and partially disapprove the Five Percent Plan. On January 25, 2011, prior to any final EPA action, Arizona withdrew the Five Percent Plan from EPA consideration. On February 9, 2011, EPA published a notice of withdrawal of the May 30, 2008 adequacy finding on the PM-10 motor vehicle missions budget from the Five Percent Plan, effective January 31, 2011. On February 28, 2011, EPA published a corrected notice of withdrawal.

On May 25, 2012, the MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to EPA. The 2012 budget established in this Plan is 54.9 metric tons per day. Until the motor vehicle emission budget in that Plan is found to be adequate or is approved by EPA, conformity determinations will be made using the motor vehicle emissions budget of 59.7 metric tons per day from the Revised MAG 1999 Serious Area Particulate Plan for PM-10, approved by EPA effective August 26, 2002.

Section 93.122(e)(2) of the federal conformity rule requires that PM-10 from construction-related fugitive dust be included in the regional PM-10 emissions analysis, if it is identified as a contributor to the nonattainment problem in a PM-10 plan. The motor vehicle emissions budget established in the Revised MAG 1999 Serious Area PM-10 Plan includes vehicle exhaust, tire wear, brake wear, reentrained dust from travel on paved roads, travel on unpaved roads, and road construction. Therefore, emissions from road construction will be included in the PM-10 estimates developed for this conformity analysis.

Pinal County Nonattainment Areas

EPA designated a new PM-10 nonattainment area in Pinal County, effective July 2, 2012. Until the new Pinal County PM-10 Nonattainment Area has a conformity budget that has been found to be adequate or approved by EPA, a build/no-build analysis will be performed in accordance with the latest EPA conformity guidance (EPA, 2012c). The no-build network will include regionally significant highways open to traffic and transit service in operation by December 31, 2012. In accordance with Section 93.119(h) of EPA conformity regulations, the no-build network will also include all regionally significant projects, regardless of funding source, which are currently under construction or undergoing right-or-way acquisition, are programmed in FY 2011 of the conforming MAG TIP, or have completed the NEPA process. The build networks will include MAG TIP and RTP projects in the portion of the nonattainment area located within the MAG MPA, as well as regionally significant highway and transit projects in the remainder of the West Pinal nonattainment area, that are scheduled to be open to the public by 2015, 2025 and 2035.

EPA also designated a new PM-2.5 nonattainment area in Pinal County, effective March 7, 2011. On July 12, 2013, EPA proposed to determine that the West Central Pinal nonattainment area has attained the 2006 24-hour PM-2.5 standard based on clean data at the monitor during the 2010-2012 period. Conformity analyses must also be performed for the PM-2.5 nonattainment area, even if EPA issues a clean data finding. For the 2014 Conformity Analysis, a build/no-build analysis will be performed by applying the assumptions described above to the smaller Pinal PM-2.5

nonattainment area. Since EPA or the Arizona Department of Environmental Quality have not determined that nitrogen oxide (NOx) emissions are an insignificant contributor to the PM-2.5 attainment problem, per Section 93.119(f)(9) of EPA conformity regulations, NOx, as well as PM-2.5 emissions from onroad mobile sources, must be included in the build/no-build analysis for the Pinal PM-2.5 nonattainment area.

ANALYSIS YEARS

Maricopa County Nonattainment and Maintenance Areas

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

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

Pinal County Nonattainment Areas

In selecting build/no-build analysis years for the Pinal County nonattainment areas, which do not have mobile source emissions budgets, the conformity rule (Section 93.119(g)) indicates that the years must be no more than ten years apart, the first year must be no more than five years beyond the year in which the conformity determination is being made, and the last year must be aligned with the transportation plan (i.e., the MAG 2035 RTP which contains some projects in the Pinal nonattainment areas). These three criteria are met by the years 2015, 2025 and 2035. For the 2014 MAG Conformity Analysis, onroad mobile source emissions will be estimated for the build and non-build scenarios for 2015, 2025 and 2035. PM-10 emissions will be estimated for the Pinal PM-10

nonattainment area, while PM-2.5 and nitrogen oxide (NOx) emissions will be estimated for the Pinal PM-2.5 nonattainment area.

II. LATEST PLANNING ASSUMPTIONS

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

Key elements of this guidance are identified below:

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

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

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

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

The latest conformity regulations indicate that "the conformity determination... must be based upon the most recent planning assumptions in force at the time the conformity analysis begins...as determined through the interagency consultation process." It is proposed that the "time that the conformity analysis begins" will be the day that the first traffic assignment (i.e., 2015, 2025, or 2035) has been submitted for travel demand modeling for the 2014 MAG Conformity Analysis. The latest planning assumptions and emissions models to be used are summarized in Table 2.

TABLE 2
LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS

Assumption	Source	MAG Models	Next Scheduled Update
Population and Employment	Under the Governor's Executive Order 2011-04, official County projections are updated every 3 to 4 years. These official projections are used by all agencies for planning purposes. Following the release of the 2010 U.S. Census data, the Arizona Department of Administration (ADOA) prepared a new set of Maricopa County projections in December 2012. MAG developed a set of employment projections for Maricopa County that are consistent with the ADOA population projections and also prepared subcounty population and employment projections. The MAG Regional Council approved the subcounty socioeconomic projections in June 2013. In addition, Central Arizona Governments (CAG) approved the Pinal County subcounty socioeconomic projections, based on the ADOA Pinal County projections, in June 2013.	AZ-SMART (UrbanSim/ OPUS)	Under the Governor's Executive Order 2011-04, official county socioeconomic projections will be developed by the Arizona Department of Administration (ADOA). It is anticipated that ADOA will complete the county level projections in 2015 and MAG will prepare subcounty socioeconomic projections for adoption by the MAG Regional Council within six months after receipt of the ADOA county level projections.
Traffic Counts	The highway models were validated in 2013 for the 2011 base year, using approximately 3,300 traffic counts collected in 2011.	TransCAD	Region-wide traffic counts are typically collected by MAG every 2-4 years, if funds are available.
Vehicle Miles of Travel	The passenger travel demand models were calibrated in 2012-2013 using data from the 2008-2009 home interview survey, 2009 Transearch data, 2010-2011 regional transit on-board survey, 2011 Truck GPS data, and 2012 Airport and ASU surveys. The recalibration effort included a complete update of the regional travel demand model based on the relevant data sets listed above. Trip generation and trip distribution were recalibrated based on the 2008-2009 National Household Travel Survey Arizona Add-On sample and 2006 - 2009 American Community Survey and Public Use Microdata Sample data sets. Mode choice was recalibrated based on the 2010 on-board survey. The truck model was recalibrated based on the new 2009 Transearch data and 2011 Truck GPS data from ATRI. Special generator sub-models were recalibrated based on 2012 regional airports and ASU travel surveys. The external travel model was recalibrated in 2011 based on the 2008 external travel study. Volume-delay functions were recalibrated in 2012-2013 based on the 2011 commercial speed data. The overall base year for the recalibrated and validated model is 2011.	TransCAD	MAG has completed a major update, development and recalibration of the regional transportation model in FY 2013. The FY 2014 Unified Planning Work Program (UPWP) includes funding for the initiation of the next series of travel surveys in calendar years 2014-2016. These surveys will form a foundation for the next round of model development and updates. Various commercial data sources will be used to maintain and incrementally update the models in between the major recalibration updates.
Speeds	The highway models were validated using 49 million traffic speed records purchased from NOKIA for calendar year 2011.	TransCAD	Travel speed studies are conducted periodically to validate the transportation models. MAG has also purchased commercial speed data for future estimation and model calibration purposes.
Vehicle Registrations	July 2013 vehicle registrations were provided by ADOT.	MOVES2010	When newer data become available from ADOT.
Implementation Measures	Latest implementation status of commitments in prior SIPs.	N/A	Updated for every conformity analysis.

POPULATION AND EMPLOYMENT

In accordance with the Governor's Executive Order 2011-04, official county socioeconomic projections based on the 2010 U.S. Census have been developed by the Arizona Department of Administration (ADOA). ADOA completed the county level projections in December 2012. MAG prepared subcounty socioeconomic projections for Maricopa County that were adopted by the MAG Regional Council in June 2013. The Central Arizona Governments (CAG) also approved subcounty population projections for Pinal County, based on the official ADOA projections, in June 2013.

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

Methodology

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

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

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

Next Scheduled Update

In June 2011, the Arizona Department of Administration (ADOA) was designated as the State agency responsible for preparing official population estimates and projections for the State of

Arizona. The next update of the TAZ socioeconomic projections for Maricopa County will be based on the official ADOA county-level projections, required by Executive Order 2011-04. It is anticipated that ADOA will provide the next set of county level projections, based on Census data, to MAG in 2015 and MAG will prepare the subcounty level projections for Maricopa County for approval by the MAG Regional Council within six months after receiving the county level projections from ADOA.

TRAFFIC COUNTS

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

Methodology

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

Next Scheduled Update

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

VEHICLE MILES OF TRAVEL

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

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

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

TABLE 3
AGGREGATED MODEL VALIDATION RESULTS
MODEL-ESTIMATED 2011 WEEKDAY VOLUMES VS. 2011 TRAFFIC COUNTS

	Freeways and Arterials	
Area Type	**R^2**	**% RMSE**
CBD	0.977	23.9%
Outlying CBD	0.975	20.8%
Mixed Urban	0.936	29.0%
Suburban	0.898	41.0%
Rural	0.953	40.3%
All	0.960	28.3%

In previous MAG conformity analyses, transportation model estimates of VMT were reconciled with the VMT reported by the Highway Performance Monitoring System (HPMS) in order to comply with

Section 93.122(b) of the Transportation Conformity Regulations. These regulations require that regional emissions analyses in serious, severe, and extreme ozone nonattainment areas and serious carbon monoxide nonattainment areas, with urbanized area populations over 200,000, meet certain network-based modeling requirements, including reconciliation of modeled VMT with HPMS.

Since EPA approved the MAG Carbon Monoxide and One-Hour Ozone Redesignation Request and Maintenance Plans in 2005, the Maricopa area is no longer a serious nonattainment area for carbon monoxide or one-hour ozone. In addition, the area was not classified as a serious, severe or extreme nonattainment area for the 1997 eight-hour ozone standard and has not violated this standard since 2005. Effective July 20, 2012, the Maricopa area was classified as a marginal nonattainment area for the new, more stringent, 2008 eight-hour ozone standard. In the future, if the Maricopa area is classified as serious, severe or extreme for a more stringent eight-hour ozone standard, the VMT estimated by the transportation models will be reconciled against HPMS VMT for the most recent model calibration year.

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

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

Next Scheduled Update

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

SPEEDS

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

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

Methodology

MAG used the 2011 NOKIA region-wide speed data and ADOT freeway detector data to improve the speed estimates produced by the transportation models. Comparisons of 2011 transportation model-estimated speeds with speeds obtained from NOKIA 2011 speed data are illustrated in Figures 4 through 7. Estimated versus observed speeds by area type for the A.M. peak period (6 A.M. to 9 A.M.) are shown in Figures 4 and 5 for arterials and freeways, respectively. A similar comparison during the off-peak period (9 A.M. to 2 P.M.) is provided in Figures 6 and 7.

In the transportation modeling area, the TransCAD-estimated speeds for arterials and freeways are within nine percent of the observed peak and off-peak speeds for all area types, with most of the speeds having a much smaller percentage difference. The differences in speed by time period, functional class, and area type, shown in Figures 4 through 7, demonstrate that the model-estimated speeds are in reasonable agreement with observed arterial and freeway speeds during the peak and off-peak periods.

Next Scheduled Update

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

VEHICLE REGISTRATIONS

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

FIGURE 4
2011 ESTIMATED VS. OBSERVED A.M. PEAK SPEEDS ON ARTERIALS

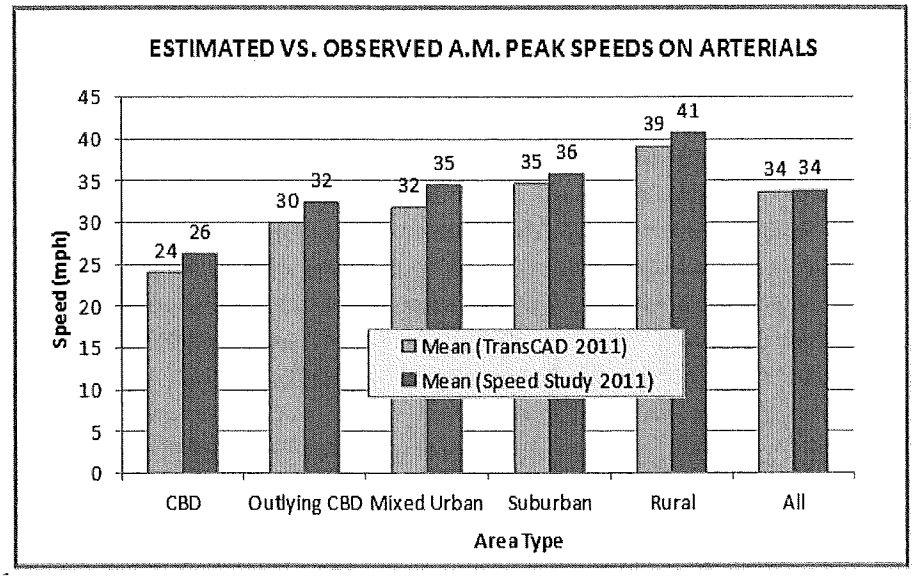


FIGURE 5
2011 ESTIMATED VS. OBSERVED A.M. PEAK SPEEDS ON FREEWAYS

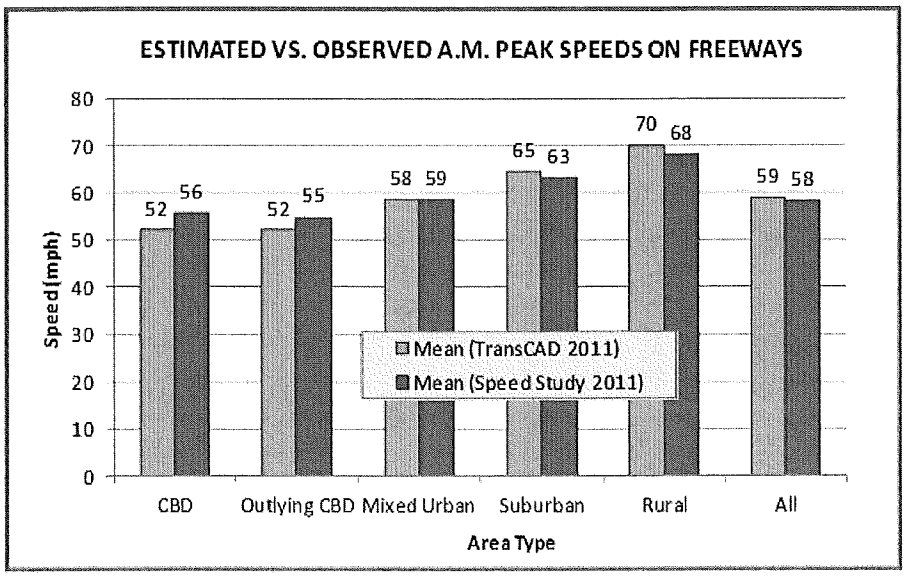


FIGURE 6
2011 ESTIMATED VS. OBSERVED OFF-PEAK SPEEDS ON ARTERIALS

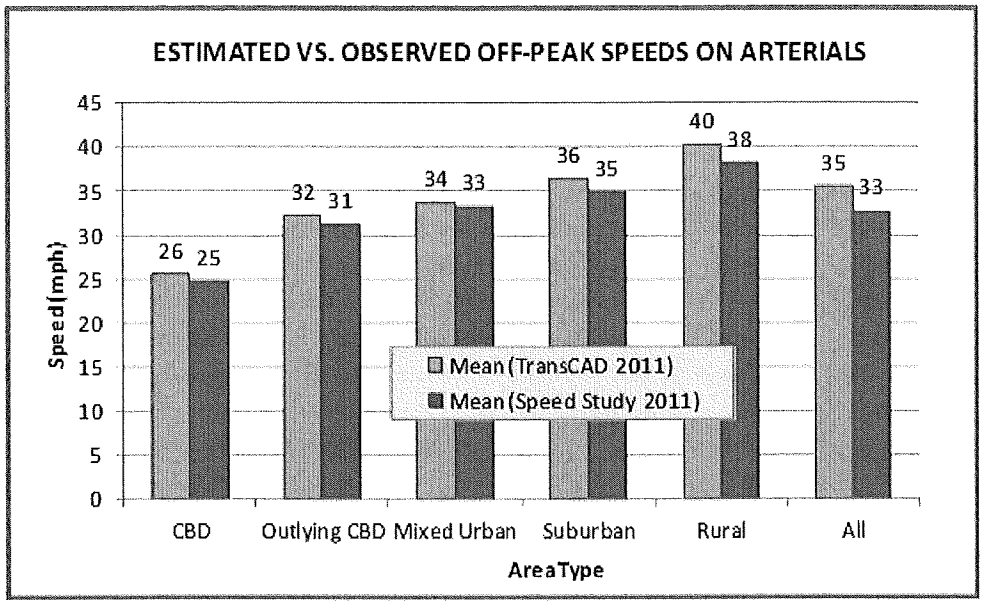
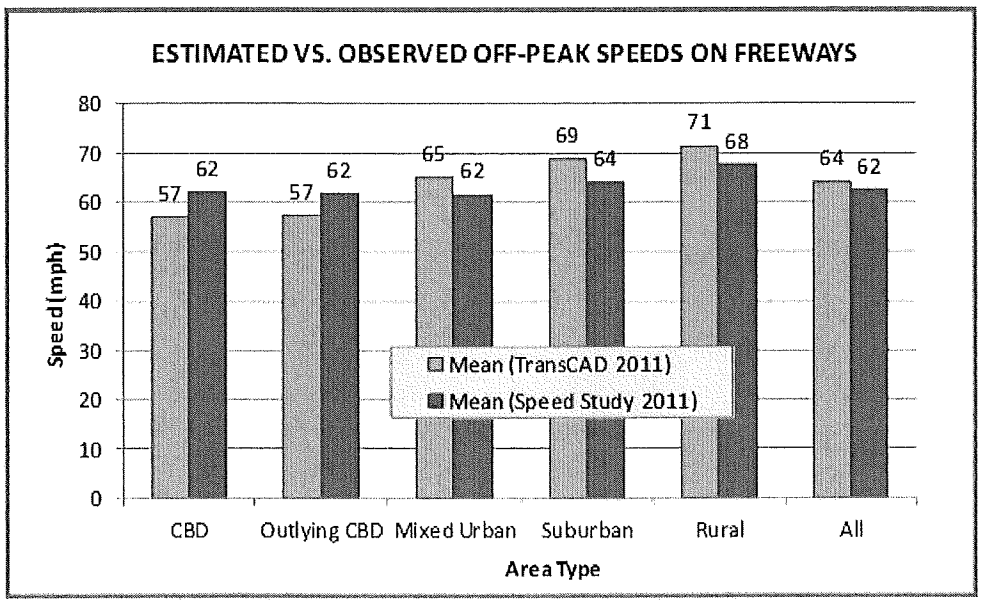


FIGURE 7
2011 ESTIMATED VS. OBSERVED OFF-PEAK SPEEDS ON FREEWAYS



IMPLEMENTATION MEASURES

Maricopa County Nonattainment and Maintenance Areas

For the Maricopa County nonattainment and maintenance areas, emission reduction credit will be assumed for the committed measures in the applicable SIPs, including the measures shown in Table 4. The emission reductions assumed for these committed measures will reflect the latest implementation status of all measures for which emission reduction credits were assumed in the applicable SIPs.

Emission reduction credit will be applied for committed control measures and committed contingency measures contained in the applicable MAG air quality plans. Credit may also be taken for Congestion Mitigation and Air Quality Improvement (CMAQ) projects in the MAG Transportation Improvement Program, if credit for these measures was not quantified in the air quality plans. The equations, methods, and assumptions to be used in calculating emission reductions attributable to CMAQ projects are described in the Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects (MAG, 2011). In addition, emission reduction credit for the strengthening of existing control measures or implementation of new control measures, specifically identified in the Transportation Improvement Program and Regional Transportation Plan, will be incorporated into the analysis, where appropriate.

TABLE 4

COMMITTED MEASURES IN THE
MARICOPA COUNTY NONATTAINMENT AND MAINTENANCE AREAS

Measure #	Reference	Measure Description	Pollutant(s)
1	CO Maintenance Plan[1]	CARB Phase 2 with 3.5 Percent Oxygenate in Winter	CO
1	Eight-Hour Ozone Maintenance Plan[2]	Summer Fuel Reformulation with 7 psi from May 1 through September 30	VOC, NOx
2 2	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Phased-In Emission Test Cutpoints	CO, VOC, NOx
3 3	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	One-Time Waiver from Vehicle Emissions Test	CO, VOC, NOx
5 4C 16	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan Serious Area PM-10 Plan[3]	Coordinate Traffic Signal Systems	CO, VOC, NOx, PM-10
6 5C	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Develop Intelligent Transportation Systems	CO, VOC, NOx
7 4	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Tougher Enforcement of Vehicle Registration and Emission Test Compliance	CO, VOC, NOx
1C 6	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Expansion of Area A Boundaries (HB 2538)	CO, VOC, NOx
2C 1C	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Gross Polluter Option for I/M Program Waivers	CO, VOC, NOx
3C 2C	CO Maintenance Plan Eight-Hour Ozone Maintenance Plan	Increase Waiver Repair Limit Options	CO, VOC, NOx
3C	Eight-Hour Ozone Maintenance Plan	Federal Heavy Duty Diesel Vehicle Emissions Standards	VOC, NOx

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

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

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

Table 4 does not include committed measures in the MAG 2007 Five Percent Plan for PM-10, because the Plan was withdrawn from EPA in January 2011. However, PM-10 reduction credit will be taken for projects completed between January 1, 2008 and December 31, 2012 that paved or stabilized unpaved roads or alleys, paved unpaved shoulders, or reduced speed limits on unpaved roads or alleys.

The 2014 MAG Conformity Analysis will assume credit for arterials swept with PM-10 certified sweepers that were purchased with MAG Congestion Mitigation and Air Quality Improvement (CMAQ) funds by December 31, 2009. PM-10 emission reduction credit will also be taken for freeways, ramps, and frontage roads that are being swept with PM-10 certified units, in compliance with an ADOT contract executed in February 2010 and highways that have been re-paved with rubberized asphalt by ADOT.

In addition, uncontrolled road construction emissions for all analysis years will be reduced by a rule effectiveness rate of 93 percent, calculated by MCAQD, using actual 2012 construction site inspection data and a methodology developed in coordination with EPA Region IX staff. The assumptions to be used in calculating the benefit of measures that have been implemented to reduce paved and unpaved road emissions are described below.

Shoulder Paving Projects

For all conformity analysis years, credit for shoulder paving projects that were implemented in 2008-2012 will be applied to reduce PM-10 emissions from paved roads. The emission reductions (in grams per VMT) assumed for shoulder paving projects will be derived from the latest CMAQ Methodologies (MAG, 2011).

PM-10 Certified Street Sweepers

A new ADOT contract, effective February 20, 2010, identifies the specific roads in the PM-10 nonattainment area that are being swept with PM-10 certified street sweepers and the required sweeping frequency. In the regional emissions analysis, the PM-10 reduction represents the benefit of sweeping the freeways, ramps and frontage roads identified in the ADOT contract. For all conformity analysis years, credit will be increased proportionally to the growth in VMT on the roads in the PM-10 nonattainment area that are being swept by the ADOT contractor.

In addition, 123 PM-10 certified street sweepers were purchased with MAG CMAQ funds by December 31, 2009. A sweeper inventory conducted by MAG for the period ending June 30, 2010 indicates that 19 of the 123 sweepers were no longer in service, as of December 31, 2009. Therefore, emission reduction credit for these 19 sweepers will be removed from the credit taken for the CMAQ-funded sweepers. For all conformity analysis years, the benefit of the CMAQ sweepers will be increased in direct proportion to the growth in VMT on arterials in the PM-10 nonattainment area.

Unpaved Road and Alley Projects

For all conformity analysis years, credit for paving, stabilization and lower speed limit projects completed in 2008-2012 will be applied to reduce PM-10 emissions from public unpaved roads and alleys. In addition, credit for paving and stabilization projects programmed in fiscal year 2014 of the FY 2014-2018 MAG Transportation Improvement Program (TIP) will be taken in the conformity analysis year of 2015. Credit for paving and stabilization projects programmed in all five years of the TIP will be taken in 2025 and 2035.

Chapter 9 of the 2035 Regional Transportation Plan (RTP) indicates that ten miles of unpaved roads will be paved each year. The 2014 MAG Conformity Analysis will assume that ten miles of public unpaved roads will be paved each year beginning in 2019 (the year after the TIP) and continuing until the inventory of public unpaved roads (based on the 2009 MAG Unpaved Road Inventory) is depleted.

Pinal County Nonattainment Areas

Since no State Implementation Plans (SIPs) have been submitted to EPA for the Pinal County nonattainment areas, emission reductions will be assumed for sources in Pinal County that are currently controlled by Arizona state laws. For the 2014 MAG Conformity Analysis, a six percent reduction will be applied to fugitive dust emissions from agricultural unpaved roads for the build and no-build scenarios in all conformity analysis years. This reduction reflects requirements of the state Agricultural Best Management Practices (BMPs) that apply to all moderate PM-10 nonattainment areas in Arizona. The Agricultural BMPs went into effect when EPA designated the West Pinal County to be a moderate area for PM-10, effective July 2, 2012. The six percent credit is consistent with the methodology used in the 2008 Periodic Emissions Inventory for PM-10 prepared by the Maricopa County Air Quality Department (MCADQ, 2011). In addition, credit will be taken in the build scenarios for projects that are scheduled to pave or stabilize unpaved roads and shoulders in the Pinal County nonattainment areas.

III. TRANSPORTATION MODELING

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

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

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

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

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

land use models to ensure that there is consistency between the transportation system assumptions and the land use projections.

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

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

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

- As a result of the feedback loop in the MAG travel demand modeling process, the final peak and off-peak speeds are sensitive to the capacity-restrained volumes on each highway segment represented in the network. Data from the MAG 2011 commercial speed data set were used to ensure that the capacity-restrained speeds and delays output by the transportation models are consistent with empirical data. Figures 4 through 7 provide a comparison of observed and model-estimated speeds for the peak and off-peak periods. For both freeways and arterials, the TransCAD-estimated speeds are within nine percent of the observed speeds for all area types and the maximum difference in overall speeds is five miles per hour, but most are substantially lower. This indicates the capacity-restrained speeds produced by the transportation models are in reasonable agreement with the most recently-collected empirical data.

SOCIOECONOMIC PROJECTIONS

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

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

system. The official Maricopa County socioeconomic projections based on ADOA county projections were approved by the MAG Regional Council in June 2013.

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

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

TRANSPORTATION NETWORK ASSUMPTIONS

This section describes the development of the highway and transit networks that will be used to perform the 2014 MAG Conformity Analysis for the MAG FY 2014-2018 Transportation Improvement Program and 2035 Regional Transportation Plan. Criteria for identification of "qualifying" projects are defined below. The choice of analysis years is reviewed in Section I, *Proposed Methodology for the 2014 MAG Conformity Analysis.*

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

Traffic on collectors and local streets not explicitly coded on the highway network will be simulated in the models by use of abstract links called "centroid connectors". These represent collectors, local streets and driveways which connect a neighborhood to a regionally-significant roadway. Centroid connectors will also include travel occurring on public and private unpaved roads.

Highway Networks. The 2015 network will assume implementation of all qualifying highway projects in the FY 2014-2018 MAG Transportation Improvement Program (TIP) scheduled to be open to traffic by December 31, 2015. The 2025 network will assume implementation of all projects in the 2035 Regional Transportation Plan (RTP) through the year 2025, as well as all qualifying highway projects in the TIP. The 2035 network will assume implementation of all projects in the RTP, as well as all qualifying projects in the TIP. It is important to note that the transportation modeling network includes the regionally significant projects in the Maricopa County Nonattainment Areas, as well as the Pinal County Nonattainment Areas.

Coding Conventions. Specific coding conventions or criteria will be applied to determine whether a project qualifies for highway network coding. This will result in coding of all arterial streets and some collectors. The coding conventions will be:

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

(2) Capacity-related projects which are not on links or extensions of links in the base network will be coded, if the street is considered a logical part of the one-mile street grid system. If the project is on a half-mile street, it will be considered for inclusion on a case-by-case basis. The key factors to be considered in making this assessment will include:

- the density of current and future development and travel in the area of the project;
- whether the change may be accommodated without increasing the number of zones; and
- whether the change is consistent with standard network coding practices.

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

EMISSIONS MODEL INPUT

The MAG transportation models and the highway and transit networks described above will be utilized to estimate daily vehicle travel and transit ridership in the MAG transportation modeling area. The primary input to the air quality modeling process will be transportation model estimates of vehicle traffic and speeds for four time periods (AM peak, midday, PM peak, and nighttime) on each highway link, along with the attendant link lengths and coordinate data. A detailed description of the MAG emission models is provided below in Section IV, *Air Quality Modeling*.

IV. AIR QUALITY MODELING

The models that will be used to estimate emissions for the 2014 MAG Conformity Analysis will be: (1) the latest version of MOVES, to derive motor vehicle emission factors for CO, VOC, NOx, PM-10, and PM-2.5 and (2) MOVESLink, to apply MOVES emission factors to vehicle miles of travel output by the MAG transportation models, allocate the emissions temporally (by hour) and geographically (to the appropriate nonattainment or maintenance area), and add paved and unpaved road PM-10 emissions based on the latest AP-42 equations.

Unpaved road emissions will be calculated for the Maricopa PM-10 and Pinal PM-10 nonattainment areas and the Pinal PM-2.5 nonattainment area. Paved road emissions will be calculated for the Maricopa and Pinal PM-10 nonattainment areas. The 2014 MAG Conformity Analysis does not need to include paved road emissions for the Pinal PM-2.5 nonattainment area, because EPA or ADEQ

have not determined that paved road emissions are a significant contributor to the PM-2.5 nonattainment problem (see Section 93.119(f)(8) of the conformity rule).

A brief description of the emission models is provided below, along with a summary of the principal input and output data. For the 2014 MAG Conformity Analysis, model inputs not dependent on the TIP or RTP are generally derived from the 2013 Carbon Monoxide Maintenance Plan (MAG, 2013) for CO; the Eight-Hour Ozone Redesignation Request and Maintenance Plan (MAG, 2009) for VOC and NOx; and the MAG 2012 Five Percent Plan for PM-10 (MAG, 2012).

MOVES

Description. MOVES is a model developed by EPA for the purpose of estimating motor vehicle emission factors, in units of grams per mile, for specified vehicle fleet, fuel, temperature, and speed conditions. This model estimates carbon monoxide, ozone precursor, and PM-10 and PM-2.5 (exhaust, tire wear and brake wear) motor vehicle emission factors.

On March 2, 2010, EPA issued a *Federal Register* notice approving the new Motor Vehicle Emissions Simulator (MOVES2010) model and initiating a two-year grace period after which MOVES2010 was required to be used for transportation conformity (EPA, 2010). In March 2012, EPA extended the grace period for one year (EPA, 2012a). Conformity analyses that begin after March 2, 2013 are required to use MOVES2010 for new transportation plan and TIP conformity determinations and regional emissions analyses. Since the 2014 MAG Conformity Analysis will begin after March 2, 2013, MOVES2010 will be used to estimate motor vehicle emission factors.

Inputs. There are a variety of inputs to MOVES2010. The use of a locally-derived motor vehicle registration distribution (by model year) of 25 years is recommended. For the conformity analysis, July 2013 vehicle registration data obtained from ADOT for Maricopa and Pinal Counties will be used as input to MOVES2010 for VOC, NOx, and PM-10. MOVES2010 will derive the December data to be used in obtaining wintertime emissions rates for CO from the July 2013 vehicle registration data. The July 2013 data represents the most recent vehicle registrations that have been transmitted to MAG by ADOT.

In addition, each modeled scenario may require several runs to reflect an I/M program and no I/M program. The results from these runs are weighted to reflect the fraction of vehicles participating in the I/M program. Fuel parameters, which include fuel volatility and the use of oxygenated fuels (market share and oxygen content), are also input. The model is executed with hourly temperatures at the Sky Harbor Airport monitoring site and an array of speeds by link as estimated by the transportation model. The detailed temperatures and speed data are more accurate than average values, since the relationship between emission factors and temperature/speed is not linear.

Output. The output from the MOVES2010 model includes emission factors by hour, roadway facility type, pollutant, and area type. These emission factors will be utilized by the MOVESLink program in estimating motor vehicle emissions for the MAG region. The emission factors for the 2014 MAG Conformity Analysis will be calculated for the pollutants, CO, VOC, NOx, and PM-10, in the

Maricopa nonattainment and maintenance areas; PM-10 for the Pinal PM-10 nonattainment area; and PM-2.5 and NOx for the Pinal PM-2.5 nonattainment area.

AP-42

Description. PM-10 emission factors for reentrained dust for unpaved and paved roads will be calculated using the latest equations found in Sections 13.2.2 and 13.2.1.3, respectively, of AP-42, EPA Compilation of Air Pollutant Emission Factors. The AP-42 equation for paved roads was revised by EPA in January 2011.

Inputs. The AP-42 equation that calculates PM-10 and PM-2.5 emission factors for unpaved road fugitive dust requires as input: the road surface material silt content, road surface moisture content, average vehicle speeds, and the annual number of wet days (with at least 0.01 inch of precipitation). The unpaved road emission factors will be calculated separately for the Maricopa and Pinal PM nonattainment areas.

For unpaved roads in the Maricopa County PM-10 nonattainment area, the silt content assumption is 11.9%, the moisture content is 0.5%, and the vehicle speeds are 25 mph for public unpaved roads, 20 mph for private unpaved roads and 10 mph for unpaved alleys. These inputs to the AP-42 equations for unpaved roads are consistent with the MAG 2012 Five Percent Plan for PM-10 (MAG, 2012).

The unpaved roads in the Pinal County PM-10 and PM-2.5 nonattainment areas are stratified by four categories (agricultural, public, private and trails) and a number of subcategories for agricultural, public and private roads. The silt content, moisture content and speeds shown in Table 5 are inputs to the AP-42 equation for unpaved roads. These 2008 data were provided to MAG by the Pinal County Air Quality Control District in July 2013.

During the period 2008-2012, there was an annual average of 32 days with at least 0.01 inch of precipitation in Maricopa County, while Pinal County experienced 25 days with 0.01 inch of precipitation during this period. These averages will be used to calculate both unpaved and paved road emission factors for the nonattainment areas in Maricopa and Pinal Counties.

The AP-42 equation that calculates PM-10 and PM-2.5 emission factors for paved road fugitive dust requires as input the road surface silt loading, the average weight of vehicles traveling on the roads, and the number of wet days (with at least 0.01 inch of precipitation). The emission factors for paved roads will be calculated separately for the Maricopa and Pinal County PM-10 nonattainment areas. The road surface silt loadings to be used for both PM-10 nonattainment areas are 0.02 g/m^2 for freeways, 0.067 g/m^2 for high-traffic arterials, and 0.23 g/m^2 for low-traffic arterials. These silt loadings are consistent with those used in the MAG 2012 Five Percent Plan for PM-10 (MAG, 2012). Since the silt loadings are stratified by road type, vehicle weights will be estimated separately for freeways, high-traffic arterials, and low-traffic arterials. The average vehicle weights for freeways and arterials will be calculated using 2013 vehicle registrations for Maricopa and Pinal Counties, vehicle miles of travel (VMT) derived from the latest 2012 traffic assignment for trucks and all

vehicle types in Maricopa and Pinal Counties, and an average vehicle weight of 3.18 tons for all road types.

Output. The AP-42 equations for unpaved and paved roads use the assumptions discussed above to estimate PM-10 emission factors in grams per VMT. MOVESLink multiplies these emission factors by vehicle miles of travel in order to estimate fugitive dust PM-10 emissions on unpaved and paved roads in the Maricopa and Pinal County PM nonattainment areas.

TABLE 5
DATA USED TO CALCULATE EMISSIONS FROM UNPAVED ROADS
IN THE PINAL PM-10 NONATTAINMENT AREA

Categories/Subcategories	Silt Content	Moisture Content	Speed	AADT	Miles
Agricultural	14.9%	0.8%			
Operations			10 mph	1.5	922.7
Inspection			25 mph	0.5	2,830.7
Harvest			15 mph	50.0	421.7
Public	7.1%	0.3%			
Class A			20 mph	28.5	89.7
Class B			25 mph	89.5	239.2
Class C			30 mph	126.5	89.7
Class D			35 mph	185.5	119.6
Class E			40 mph	438.5	59.8
Private	14.4%	0.3%			
Non-Irrigation			25 mph	25.0	893.2
Principal Canal			25 mph	15.0	148.2
Secondary Canal			15 mph	3.0	743.6
Trails	14.4%	0.3%	15 mph	2.0	1,244.0

MOVESLink

The MOVESLink system processes emissions for all pollutants in the conformity analysis. MOVESLink multiplies emission factors by the traffic volumes and the length of each link to produce motor vehicle emissions for each pollutant and PM-10 emissions from unpaved and paved roads.

Unpaved Roads

Maricopa County PM-10 Nonattainment Area

MOVESLink multiplies the AP-42 emission factors for unpaved roads by the total VMT on public and private unpaved roads and alleys in the Maricopa County PM-10 nonattainment area. The miles of public unpaved roads are derived from the 2009 MAG Unpaved Road Inventory (URI) (MAG, 2010). According to the URI, there were 613.4 miles of public unpaved roads in the PM-10

nonattainment area in 2009. MAG utilized traffic counts on unpaved roads, supplemented by Geographic Information Systems (GIS) image recognition techniques, to estimate the daily vehicle miles of travel (VMT) on public unpaved roads in 2009.

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

The 2011 inventory, updated in August 2012, indicated that there were 974.6 miles of private unpaved roads in the PM-10 nonattainment area. In addition, the 2011 traffic counts indicated that 26 vehicles travel on private unpaved roads on an average weekday. This value will be multiplied by 0.93 to convert to annual average daily traffic (AADT).

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

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

Using GIS, MAG has determined the historical rate at which new private unpaved roads have been created due to lot splits is 1.46 percent per year. Due to the economic recession's deleterious impact on construction, the 2014 MAG Conformity Analysis will assume no growth in private unpaved road VMT between 2009 and 2012. After 2012, it will be assumed that the recession has ended and VMT on private unpaved roads will be increased by 1.46 percent per year.

Pinal County PM-10 and PM-2.5 Nonattainment Areas

For the Pinal County PM-10 nonattainment area, the annual average daily traffic (AADT) and miles of unpaved roads by subcategory are shown in Table 5. The AADT and miles for the PM-10 nonattainment area represent 2008 data provided to MAG by the Pinal County Air Quality Control District in July 2013. The AADT is multiplied by the miles to calculate vehicle miles of travel (VMT). The VMT is multiplied by the AP-42 emission factor to obtain the PM-10 and PM-2.5 unpaved road emissions for trails and each subcategory of agricultural, public and private unpaved roads. The total daily unpaved road emissions are calculated by summing the trail and subcategory emissions. The PM-2.5 emissions from unpaved roads in the PM-2.5 nonattainment area will be derived by multiplying the total unpaved road PM-2.5 emissions in the Pinal County PM-10 nonattainment area by 24 percent. This factor represents the Pinal PM-2.5 nonattainment area (323 square miles) divided by the Pinal PM-10 nonattainment area (1,326 square miles).

Paved Roads. MOVESLink multiplies the AP-42 emission factors for paved roads by the VMT for freeways, high traffic arterials, and low traffic arterials to obtain total paved road emissions. The VMTs for freeways and high and low traffic arterials are derived from the MAG TransCAD transportation models. All centroid connectors are considered to be low traffic arterials.

Base case 2012 paved road emissions will be calculated using VMT from the latest 2012 traffic assignment. After 2012, uncontrolled paved road emissions will be increased based on growth in VMT in the Maricopa and Pinal County PM-10 nonattainment areas, as estimated by the MAG transportation models, using the population projections adopted by the MAG Regional Council and CAG in June 2013.

Onroad Vehicles. MOVESLink processes link data files output by the MAG transportation model, TransCAD. The program calculates emissions for roadway links in the MAG highway networks. Traffic volumes for four time periods (AM peak, midday, PM peak, and nighttime) for each link are converted into hourly volumes based upon local survey data. Hourly emission factors are developed by running MOVES2010 for each facility type, area type, and vehicle class using link speeds by time of day. Emissions for each hour are distributed geographically in the modeling domain based on the grid in which each link is located.

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

Inputs. The transportation model input to MOVESLink consists of database formatted files that contain link-specific data and a node coordinate definitions file. MOVESLink also requires as input:

- Fugitive dust emission factors (output by the AP-42 equations) and unpaved road VMT.
- A table containing adjustment factors used to allocate traffic volumes for four time periods to hourly traffic volumes.
- A matrix of emission factors for a range of hours, facility types, area types, vehicle classes, and vehicle ages (generated by the MOVES model).
- The ratio of vehicles participating in the I/M program.
- The year being modeled.

Outputs. The outputs from MOVESLink include an hourly, gridded onroad mobile source emissions file and several summary files containing emissions and traffic data in the modeling domain. The summary files include estimates of fugitive dust emissions on paved and unpaved roads in the PM-10 nonattainment area.

CALCULATION OF PM-10 EMISSIONS FROM ROAD CONSTRUCTION

Maricopa County PM-10 Nonattainment Area

As required by Section 93.122(e) of the federal transportation conformity rule, PM-10 emissions from road construction will be estimated for each conformity analysis year for the Maricopa County PM-10 Nonattainment Area. Road construction emissions will be estimated for 2012 based on the latest data available from the Maricopa County Air Quality Department. The 2012 road construction emissions will be projected to 2015, 2025 and 2035 using the annual average growth rates for lane miles of roads in the Maricopa PM-10 nonattainment area derived from the latest 2012, 2015, 2025 and 2035 traffic assignments.

Pinal County PM-10 and PM-2.5 Nonattainment Areas

Since Section 93.122(e) does not mention PM-2.5, it is assumed that construction-related PM-2.5 emissions do not need to be included in the build/no-build analysis for the Pinal PM-2.5 nonattainment area. PM-10 emissions from construction-related fugitive dust will also not be included in the build/no-build conformity analyses for the Pinal County PM-10 nonattainment area, because road and transit construction-related emissions are anticipated to be an insignificant contributor to the nonattainment problem. This conclusion is based on the expectation that road construction emissions will represent less than three percent of the total 2008 PM-10 emissions inventory to be included in the Pinal PM-10 SIP. The SIP, currently under development by the Arizona Department of Environmental Quality, is scheduled for submission to EPA in January 2014. If the draft 2008 PM-10 emissions inventory (to be completed in August 2013) indicates that road construction emissions are at least three percent of the total inventory, these emissions will be added to the build/no-build analysis for the Pinal County PM-10 nonattainment area.

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ATTACHMENT B

DRAFT

PROCESS FOR ENSURING TIMELY IMPLEMENTATION OF TRANSPORTATION CONTROL MEASURES

Section 93.105(c)(1)(iv) of the federal conformity rule requires a consultation process to be established for making a determination of whether past obstacles to implementation of transportation control measures which are behind the schedule established in the applicable air quality plan have been identified and are being overcome. A determination also is required as to whether State and local agencies with influence over approvals or funding for transportation control measures (TCMs) are giving maximum priority to approval or funding for TCMs. In addition, the process is required to consider whether delays in transportation control measure implementation necessitate revisions to the air quality plan to remove or substitute TCMs or other emission reduction measures.

In February 1996, the MAG Regional Council adopted conformity consultation processes (MAG,1996b) in response to federal and state requirements. The following text from the process M-6 directly addresses the requirement for consultation on the timely implementation of TCMs:

> "A consultation process is required for the determination of whether past obstacles to implementation of transportation control measures which are behind schedule have been identified and are being overcome. Also, a determination is required whether State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding of TCMs. These determinations are part of the criteria for TIP conformity determinations, specified in the federal conformity regulation 40 CFR 51.418(c)(2) *(now 93.113(c)(2))*."

For the 2014 MAG Conformity Analysis, the anticipated approach will be to conduct a review of projects and funds allocated in the TIP which implement adopted pollution control measures. This will be used together with any TCM implementation annual reports described above that are available, as the basis for assessing whether or not implementing agencies are giving maximum priority to approval or funding of transportation control measures.

The TCM findings required under federal conformity regulations will be incorporated as part of the 2014 MAG Conformity Analysis, which will be made available for interagency and public review, including a public hearing, prior to a Finding of Conformity by the MAG Regional Council.

ATTACHMENT C

DRAFT

TYPES OF PROJECTS CONSIDERED EXEMPT FROM CONFORMITY REQUIREMENTS

Under U.S. Environmental Protection Agency regulations, a conformity determination is required before a regionally significant road or transit project (regardless of funding source) can be approved by any agency which is a recipient of federal road or transit funds. As part of this conformity determination, regional emissions analyses are required. However, the regulations also identify various types of projects which are exempted from the analytical requirements due to their presumed negligible air quality impacts. Interagency consultation is required to determine whether any of these normally exempted projects "should be treated as nonexempt in cases where potential adverse emissions impacts may exist for any reason."

In February 1996, the MAG Regional Council adopted conformity consultation processes (MAG, 1996b) in response to federal and state requirements. The following text from the process M-5 directly addresses the requirement for consultation on exempt projects:

> "...the Metropolitan Planning Organization (i.e. MAG, for this region) shall initiate consultation for evaluating whether projects listed as exempt from conformity in the conformity regulation should be treated as nonexempt projects where potential adverse emission impacts may exist for any reason. In this consultation process, MAG provides for the participation of the transportation and air quality agencies, as well as the public."

MAG consults on the designation of exempt status for a specific project proposal at the time the project in question is proposed for addition to the TIP and RTP. This consultation process is described in MAG process M-8.

For the 2014 MAG Conformity Analysis, the anticipated approach includes the exempt projects which are contained in the EPA conformity regulations, as listed in the three tables which follow. Table 1 identifies the specific types of projects which require no conformity determination of any kind, by any agency. These project types include specific actions involving safety, mass transit, air quality, and other actions likely to have no adverse air quality impacts. Table 2 lists projects for which a regional emissions analysis is not required. These projects are, however, <u>not</u> exempt from other conformity requirements. In addition, Table 3 lists traffic signal synchronization projects which are exempt from conformity determinations prior to being funded, approved, or implemented.

TABLE 1
PROJECTS NORMALLY EXEMPT FROM CONFORMITY DETERMINATIONS
(From 40 CFR 93.126)

Safety

Railroad/highway crossing.
Projects that correct, improve, or eliminate a hazardous location or feature.
Safer non-Federal-aid system roads.
Shoulder improvements.
Increasing sight distance.
Highway Safety Improvement Program implementation.
Traffic control devices and operating assistance other than signalization projects.
Railroad/highway crossing warning devices.
Guardrails, median barriers, crash cushions.
Pavement resurfacing and/or rehabilitation.
Pavement marking.
Emergency relief (23 U.S.C. 125).
Fencing.
Skid treatments.
Safety roadside rest areas.
Adding medians.
Truck climbing lanes outside the urbanized area.
Lighting improvements.
Widening narrow pavements or reconstructing bridges (no additional travel lanes).
Emergency truck pullovers.

Mass Transit

Operating assistance to transit agencies.
Purchase of support vehicles.
*Rehabilitation of transit vehicles.
Purchase of office, shop, and operating equipment for existing facilities.
Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.).
Construction or renovation of power, signal, and communications systems.
Construction of small passenger shelters and information kiosks.
Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures).
Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way.

*Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet.
Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771.

TABLE 1 (continued)
PROJECTS NORMALLY EXEMPT FROM CONFORMITY DETERMINATIONS
(From 40 CFR 93.126)

Air Quality

Continuation of ride-sharing and van-pooling promotion activities at current levels.
Bicycle and pedestrian facilities.

Other

Specific activities which do not involve or lead directly to construction, such as:
- Planning and technical studies.
- Grants for training and research programs.
- Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- Federal-aid systems revisions.

Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action.
Noise attenuation.
Emergency or hardship advance land acquisitions (23 CFR 710.503).
Acquisition of scenic easements.
Plantings, landscaping, etc.
Sign removal.
Directional and informational signs.
Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities).
Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes.

* In PM-10 nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.

TABLE 2
PROJECTS NORMALLY EXEMPT FROM REGIONAL EMISSIONS ANALYSIS, BUT NOT FROM OTHER CONFORMITY REQUIREMENTS
(From 40 CFR 93.127)

Intersection channelization projects.
Intersection signalization projects at individual intersections.
Interchange reconfiguration projects.
Changes in vertical and horizontal alignment.
Truck size and weight inspection stations.
Bus terminals and transfer points.

TABLE 3
TRAFFIC SIGNAL SYNCHRONIZATION PROJECTS
(From 40 CFR 93.128)

Traffic signal synchronization projects may be approved, funded, and implemented without satisfying the requirements of this subpart. However, all subsequent regional emissions analyses required by sections 93.118 and 93.119 for transportation plans, TIPs, or projects not from a conforming plan and TIP must include such regionally significant traffic signal synchronization projects.

APPENDIX B, Exhibit 2

"Consultation on Potentially Regionally Significant Projects for the Draft FY 2014-2018 MAG Transportation Improvement Program".

Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, September 3, 2013, copied to members of the MAG Management Committee.

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September 3, 2013

TO: Leslie Rogers, Federal Transit Administration
Karla Petty, Federal Highway Administration
John Halikowski, Arizona Department of Transportation
Henry Darwin, Arizona Department of Environmental Quality
Maria Hyatt, City of Phoenix Public Transit Department
Stephen Banta, Valley Metro/RPTA
William Wiley, Maricopa County Air Quality Department
Kenneth Hall, Central Arizona Governments
Don Gabrielson, Pinal County Air Quality Control District
Benjamin Bitter, Sun Corridor Metropolitan Planning Organization
Gregory Nudd, U.S. Environmental Protection Agency, Region IX
Other Interested Parties

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: CONSULTATION ON POTENTIALLY REGIONALLY SIGNIFICANT PROJECTS FOR THE DRAFT FY 2014-2018 MAG TRANSPORTATION IMPROVEMENT PROGRAM

The Maricopa Association of Governments is distributing for interagency consultation the transportation projects which will be considered "regionally significant" for the purpose of performing the regional emissions analysis. Regionally significant projects are subject to conformity requirements. A list of potentially regionally significant projects for the Draft FY 2014-2018 MAG Transportation Improvement Program is attached for your review and comment. In addition, on August 29, 2013 a draft copy of the Project Listing, including the potentially regionally significant projects, was provided to members of the MAG Transportation Review Committee. Please provide any comments regarding the list by September 20, 2013.

The MAG designation of transportation projects as regionally significant is considered advisory to the sponsoring agencies of the projects. Federal conformity regulations specify that a regionally significant project is a transportation project that is on a facility that serves regional transportation needs, and would normally be included in the modeling of the transportation network. In addition, Section R18-2-1429(B) of the Arizona Administrative Code requires the project sponsor that is a recipient of federal highway or transit funds to determine whether or not the project is regionally significant. The criteria used to identify regionally significant projects are also detailed in the MAG Transportation Conformity Guidance and Procedures.

If you have any questions or comments, please contact me at (602) 254-6300.

Attachment

cc: Eric Massey, Arizona Department of Environmental Quality
Scott Omer, Arizona Department of Transportation

DRAFT FY 2014 - FY 2018 MAG Transportation Improvement Program
List of Potentially Regionally Significant Projects

Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
ADOT	2014	DOT14-147	23287	101 (Pima Fwy): Shea Blvd to SR202L (Red Mtn Fwy)	Construction General Purpose lanes	5.0	8	10	Freeway	$ -	$ 91,000,000	$ -	$ 91,000,000
ADOT	2014	DOT14-192	18606	10: Wild Horse Pass to Queen Creek	Roadway Widening, EB	2.0	4	5	Freeway	$ 2,479,147	$ -	$ 149,853	$ 2,629,000
ADOT	2015	DOT11-105	39146	85: Warner Street Bridge	Construction Bridge	0.2	-	4	Street	$ -	$ 5,300,000	$ -	$ 5,300,000
ADOT	2015	DOT99-124	1709	101L Pima Fwy: Pima Rd Extension (JPA)	Construct roadway extension	3.0	-	4	Street	$ -	$ 3,634,000	$ -	$ 3,634,000
ADOT	2016	DOT15-178	6919	202 (South Mountain): Salt River to Buckeye Rd, Segment 8	Construction	2.0	-	8	Freeway	$ 96,200,000	$ 35,300,000	$ -	$ 131,500,000
ADOT	2016	DOT16-415	42975	303: I-10/303L System Interchange, Phase II	Construct new freeway interchange	1.0	-	4	Freeway	$ 42,000,000	$ 20,000,000	$ -	$ 62,000,000
ADOT	2017	DOT15-192	43087	202 (South Mountain): Salt River Bridge, Segment 7	Construct Bridge	0.6	-	8	Freeway	$ 32,300,000	$ 51,200,000	$ -	$ 83,500,000
ADOT	2017	DOT17-405	19029	202 (South Mountain): I-10 Maricopa - 24th St (Seg 1)	Construct New freeway	3.0	-	8	Freeway	$ 99,958,000	$ 6,042,000	$ -	$ 106,000,000
ADOT	2018	DOT14-148	47518	202 (South Mountain): 17th Avenue to 51st Avenue, Segment 3	Construction	5.0	-	8	Freeway	$ 68,500,000	$ 162,740,000	$ -	$ 231,240,000
ADOT	2018	DOT18-405	15671	202 (South Mountain): 24th St - 17th Ave (Seg 2)	Construct new freeway	3.0	-	8	Freeway	$ 68,500,000	$ 48,500,000	$ -	$ 117,000,000
Avondale	2015	AVN08-801	2359	99th Ave: Indian School Rd to Osborn (W 1/2-.5 miles)	Add 1 SB & 1 NB lanes	0.5	4	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Avondale	2015	AVN10-009	29280	Avondale & Buckeye Intersection	Improve Intersection Capacity & Safety	1.0	4	5	Street	$ -	$ -	$ 550,000	$ 550,000
Avondale	2015	AVN10-813	45845	99th Ave: Osborn Rd to Thomas (W 1/2) (0.5 miles)	Add 1 SB & 1NB	0.5	4	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Avondale	2015	AVN15-401	29280	Avondale & Buckeye Intersection	Improve Intersection capacity & safety	1.0	4	5	Street	$ -	$ -	$ 1,500,000	$ 1,500,000

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Avondale	2015	AVN15-402	7655	El Mirage: I-10 to Van Buren (E 1/2, .50 miles)	Add 2 lanes	0.5	2	4	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Avondale	2015	AVN15-404	440	Thomas Road: RID to 99th Avenue (N 1/2. .50 mi)	Add 1 lane	0.5	3	4	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Avondale	2015	AVN15-408	27974	Van Buren: 111th Avenue to 107th Avenue (N 1/2, .50 miles) Roadway Improvements	Add 4 lanes, curb, gutter, sidewalks	0.5	2	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Avondale	2016	AVN16-401	2752	99th Avenue: Thomas to Encanto (W 1/2, 0.5 miles)	Construct	0.5	4	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Avondale	2016	AVN16-403	49472	El Mirage (Fairway Drive) & I-10 Freeway	Construct full traffic Interchange	1.0	-	4	Freeway Interchange	$ -	$ -	$ 400,000	$ 400,000
Avondale	2016	AVN16-407	40514	Van Buren: 119th Avenue to Avondale Blvd (N1/2, .50 miles) Roadway Improvements	Add 2 lanes, curb, gutter, sidewalks	0.5	4	6	Street	$ -	$ -	$ 1,500,000	$ 1,500,000
Avondale	2018	AVN18-402	14302	Litchfield Road: Lower Buckeye to Elwood Alignment (E 1/2, .50 miles	add 2 lanes, curb, gutter, sidewalks	0.5	2	3	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Avondale	2018	AVN18-407	5674	Van Buren: 105th Avenue to 101st Avenue (N 1/2, .50 miles) Roadway Improvements	Add 4 lanes, curb, gutter, sidewalks	0.5	2	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Buckeye	2014	BKY12-107	46845	McDowell Rd: Dean Rd (alignment) to Verrado Way	Construct new six lane roadway	1.0	-	6	Street	$ -	$ -	$ 6,400,000	$ 6,400,000
Buckeye	2014	BKY13-104	108	Miller Rd: Lower Buckeye Rd to RID Canal	Construct through lanes	0.5	2	4	Street	$ -	$ -	$ 5,042,340	$ 5,042,340
Buckeye	2014	BKY13-105	108	Miller Rd: Lower Buckeye Rd to RID Canal	Construct through lanes	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Buckeye	2014	BKY13-109	14078	Turner Rd: Baseline Rd to 0.5 miles north	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 910,000	$ 910,000
Buckeye	2014	BKY13-111	19475	Apache Rd: RID Canal to Lower Buckeye Rd	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 2,266,667	$ 2,266,667
Buckeye	2016	BK12-114	28378	Beardsley Pkwy: Desert Vista Blvd (West) to Desert Oasis Blvd	Construct new four lane roadway	1.0	-	4	Street	$ -	$ -	$ 1,200,000	$ 1,200,000

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Buckeye	2016	BKY07-702	1866	Watson Rd: Extension to MC-85	Construct new roadway with crossing over Palo Verde Nuclear Generating Station water line, BID Canal and RR Tracks	1.0	-	2	Street	$ -	$ -	$ 2,852,000	$ 2,852,000
Buckeye	2016	BKY10-902	4807	Miller Rd: Narramore Ave to Hazen Rd	Street improvements, new pavement, utility relocation as necessary, striping and sidewalks	1.0	2	6	Street	$ -	$ -	$ 3,737,210	$ 3,737,210
Buckeye	2016	BKY12-108	47206	Southern Ave: Watson Rd to 231st Ave (alignment)	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 1,320,000	$ 1,320,000
Buckeye	2016	BKY12-113	13358	Thomas Rd: Jackrabbit Trl to Tuthill Rd	Construct two through lanes	1.0	2	4	Street	$ -	$ -	$ 500,000	$ 500,000
Buckeye	2016	BKY12-115	17270	Westpark Loop Rd: Rooks Rd (South) to Rooks Rd (North)	Construct new four lane roadway	1.0	-	4	Street	$ -	$ -	$ 3,122,400	$ 3,122,400
Buckeye	2016	BKY12-117	9097	Rooks Rd: Baseline Rd to MC-85	Construct new two lane roadway, intersection and railroad crossing improvements	1.0	-	2	Street	$ -	$ -	$ 4,750,000	$ 4,750,000
Buckeye	2016	BKY12-905	16413	Watson Rd: Durango St to Lower Buckeye Rd	Street improvements, new pavement, utility relocation as necessary, striping and sidewalks	1.0	2	6	Street	$ -	$ -	$ 2,572,970	$ 2,572,970
Buckeye	2016	BKY13-103	31916	Canyon Springs Blvd (267th Ave): Deer Valley Rd (alignment) to Pinnacle Peak Rd (alignment)	Construct new four lane roadway and bridge over the CAP	1.0	-	4	Street	$ -	$ -	$ 5,200,000	$ 5,200,000
Buckeye	2016	BKY13-108	35388	Rainbow Rd: RID Canal to Dunlap Rd	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Buckeye	2016	BKY13-110	23622	Apache Rd: Lower Buckeye Rd to SRP/WAPA powerline(s)	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 2,200,562	$ 2,200,562
Buckeye	2016	BKY13-116	13944	Southern Ave: Apache Rd to Miller Rd	Construct two through lanes	1.0	2	4	Street	$ -	$ -	$ 7,756,320	$ 7,756,320
Buckeye	2016	BKY13-117	10298	Desert Oasis Blvd: Beardsley Pkwy to CAP Canal	Construct new four lane roadway	0.5	-	4	Street	$ -	$ -	$ 500,000	$ 500,000
Buckeye	2016	BKY13-120	6425	Pinnacle Peak Rd: 259th Ave (alignment) to 271st Ave	Construct new six lane roadway	1.0	-	6	Street	$ -	$ -	$ 1,500,000	$ 1,500,000
Buckeye	2018	BKY04-401B	5373	Verrado Way: Sunrise Ln to 1.5 miles north	Construct new roadway	1.0	-	4	Street	$ -	$ -	$ 1,500,000	$ 1,500,000

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Buckeye	2018	BKY11-104	21782	Verrado Way: Park Meadows Dr to I-10	Construct three lanes	0.5	3	6	Street	$ -	$ -	$ 2,600,000	$ 2,600,000
Buckeye	2018	BKY12-109	19424	Van Buren St: 191st Ave to Perryville Rd	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Buckeye	2018	BKY12-110	20521	Watson Rd Southern Ave to Broadway Rd	Construct two through lanes	1.0	4	6	Street	$ -	$ -	$ 2,640,000	$ 2,640,000
Buckeye	2018	BKY12-112	41057	Jackrabbit Trl: Osborn Rd to 750 feet north of Thomas Rd	Construct two through lanes	1.0	2	4	Street	$ -	$ -	$ 200,000	$ 200,000
Buckeye	2018	BKY12-907	31723	Dean Rd: RID Canal to Southern Ave	Street improvements, new pavement, utility relocation as necessary, striping and sidewalks	2.0	2	4	Street	$ -	$ -	$ 11,578,367	$ 11,578,367
Buckeye	2018	BKY13-106	47900	Broadway Rd: Apache Rd to Watson Rd	Construct two through lanes	1.0	2	4	Street	$ -	$ -	$ 7,756,320	$ 7,756,320
Buckeye	2018	BKY13-112	47480	Dean Rd: Lower Buckeye Rd to Dunlap Rd	Construct two through lanes	0.5	2	4	Street	$ -	$ -	$ 1,500,000	$ 1,500,000
Buckeye	2018	BKY13-121	9195	Bell Rd/287th Ave (loop): Sun Valley Pkwy (west) to Sun Valley Pkwy (east)	Construct new six lane roadway	2.0	-	6	Street	$ -	$ -	$ 4,500,000	$ 4,500,000
Buckeye	2018	BKY13-122	10544	Greenway Rd/271st Ave (loop): Sun Valley Pkwy (west) to Sun Valley Pkwy (east)	Construct new six lane roadway	5.0	-	6	Street	$ -	$ -	$ 12,500,000	$ 12,500,000
Buckeye	2018	BKY13-126	40595	Jackrabbit Trl: Bethany Home Rd to Missouri Ave	Construct new two lane roadway	2.0	-	2	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Buckeye	2018	BKY13-127	47978	Lower Buckeye Rd: 255th Dr to Miller Rd	New two lane roadway, plus a continuous left turn lane	1.0	-	2	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Chandler	2014	CHN11-105	38402	Alma School Road, Willis Road to Pecos Road	Construct Roadway widening	1.0	4	6	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Chandler	2014	CHN11-106	46678	Chandler Heights, Gilbert to Four Peaks Way	Construct Roadway widening	0.5	2	4	Street	$ -	$ -	$ 1,500,000	$ 1,500,000
Chandler	2014	CHN12-103	41324	Chandler Heights, White Drive to Lindsay	Construct Road Widening	0.3	2	4	Street	$ -	$ -	$ 1,000,000	$ 1,000,000

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Chandler	2014	CHN12-110	4811	Ocotillo, Lindsay to 148th St	Construct Road Widening	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Chandler	2014	CHN12-111	27240	Ocotillo, Norman Way to Gilbert Rd	Construct Road Widening	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Chandler	2014	CHN12-112	27331	Ocotillo, Union Pacific Railroad to Consolidated Canal	Construct Roadway widening	0.5	2	4	Street	$ -	$ -	$ 4,000,000	$ 4,000,000
Chandler	2014	CHN12-113	14906	Queen Creek, Cooper Road to Eagle Drive	Construct Road Widening	0.5	2	6	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Chandler	2014	CHN12-115	22895	Queen Creek, Emmett Drive to Gilbert Rd	Construct Road Widening	0.5	2	5	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Chandler	2014	CHN12-116	44934	Arizona, Chandler Heights Rd to 0.75 mile north	Construct Road Widening	0.8	5	6	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Chandler	2014	CHN14-102C2Z	34064	Ocotillo Road: Arizona Avenue to McQueen Road	Construct roadway widening	1.0	2	4	Street	$ -	$ 663,831	$ 284,499	$ 948,330
Chandler	2014	CHN14-102C3Z	34064	Ocotillo Road: Arizona Avenue to McQueen Road	Construct roadway widening	1.0	2	4	Street	$ -	$ 938,525	$ 2,732,796	$ 3,671,321
Chandler	2014	CHN14-102CZ	34064	Ocotillo Road: Arizona Avenue to McQueen Road	Relocate utilities and construct roadway widening.	1.0	2	4	Street	$ 2,250,773	$ -	$ 3,830,396	$ 6,081,169
Chandler	2014	CHN14-104C2Z	7687	Gilbert Rd: Ocotillo Rd to Chandler Heights	Construct roadway widening	1.0	2	4	Street	$ -	$ 3,000,000	$ 1,852,759	$ 4,852,759
Chandler	2014	CHN14-108CZZ	32459	Gilbert Rd: Chandler Heights Rd to Hunt Hwy	Construct roadway widening	1.0	2	4	Street	$ -	$ 2,528,111	$ -	$ 2,528,111
Chandler	2014	CHN15-108CZ	32459	Gilbert Rd: Chandler Heights Rd to Hunt Hwy	Construct roadway widening	1.0	2	4	Street	$ -	$ 1,000,000	$ -	$ 1,000,000
Chandler	2015	CHN12-104	37347	Cooper, Riggs Road to .5 north	Construct Road Widening	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Chandler	2015	CHN12-108	32919	Ocotillo, Cobblestone to Lindsay	Construct Roadway widening	0.5	2	4	Street	$ -	$ -	$ 1,500,000	$ 1,500,000

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Chandler	2017	CHN10-101CZ	20462	McQueen Road: Ocotillo Road to Riggs Road	Construct roadway widening	2.0	2	4	Street	$ -	$ 3,242,771	$ 2,045,229	$ 5,288,000
Chandler	2018	CHN06-213	32395	Chandler Blvd: Colorado Street to McQueen Road	Widen roadway from 4 to 6 lanes, plus turn lanes	0.5	4	6	Street	$ -	$ -	$ 14,645,755	$ 14,645,755
Chandler	2018	CHN10-101CZ2	20462	McQueen Road: Ocotillo Road to Riggs Road	Construct roadway widening	2.0	2	4	Street	$ -	$ 1,242,771	$ 4,235,229	$ 5,478,000
El Mirage	2015	ELM14-103CZ	1652	El Mirage Rd: Peoria Avenue to Cactus Road	Construct roadway widening	1.0	2	4	Street	$ -	$ 1,718,051	$ 736,308	$ 2,454,359
El Mirage	2016	ELM15-103CZ	1652	El Mirage Rd: Peoria Avenue to Cactus Road	Construct roadway widening	1.0	2	4	Street	$ -	$ 3,718,051	$ 1,593,450	$ 5,311,502
Florence	2015	FLO15-401	7417	Adamsville Rd: Central to Centennial Park Ave	Construct Roadway Widening	1.0	2	4	Street	$ -	$ -	$ 800,000	$ 800,000
Florence	2016	FLO16-401	15598	Florence Kelvin Hwy: SR 79 to Quail Run	Construct New Roadway	1.0	-	4	Street	$ -	$ -	$ 1,714,000	$ 1,714,000
Florence	2017	FLO17-401	25357	Attaway: Hunt Hwy to Felix	Construct New Roadway	1.0	-	4	Street	$ -	$ -	$ 1,120,000	$ 1,120,000
Fountain Hills	2014	FTH12-002	44892	Fountain Hills Blvd: Glenbrook Blvd to North Town Limit	Construct roadway widening including bike lanes, turn pockets, sidewalk and landscaped median	2.0	2	4	Street	$ -	$ -	$ 5,200,000	$ 5,200,000
Fountain Hills	2014	FTH14-101CZ	29576	Shea Blvd: Technology Dr to Cereus Wash	Construct roadway widening	0.8	5	6	Street	$ -	$ 709,111	$ 303,905	$ 1,013,016
Fountain Hills	2014	FTH14-101CZ2	29576	Shea Blvd: Technology Dr to Cereus Wash	Construct roadway widening	0.8	5	6	Street	$ -	$ 500,000	$ 214,286	$ 714,286
Fountain Hills	2014	FTH14-101CZ3	29576	Shea Blvd: Technology Dr to Cereus Wash	Construct roadway widening	0.8	5	6	Street	$ -	$ 1,593,996	$ 1,148,158	$ 2,742,154
Gilbert	2014	GLB05-108	46844	Higley Rd: Warner Rd to Ray Rd	Reconstruct roadway to add 2 through lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 6,000,000	$ 6,000,000
Gilbert	2014	GLB05-113	35992	Warner Rd: Claiborne Rd to Higley Rd	Reconstruct roadway to add 2 through lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 1,500,000	$ 1,500,000

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Gilbert	2014	GLB11-802	20194	Germann Rd: Greenfield Rd to Higley Rd	Add 2 lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 3,500,000	$ 3,500,000
Gilbert	2014	GLB14-103C2Z	34743	Germann Rd: Val Vista Dr to Higley	Construct roadway widening	2.0	2	6	Street	$ -	$ 1,407,933	$ 603,400	$ 2,011,333
Gilbert	2014	GLB14-103C3Z	34743	Germann Rd: Val Vista Dr to Higley	Construct roadway widening	2.0	2	6	Street	$ -	$ 390,850	$ 167,507	$ 558,357
Gilbert	2014	GLB14-103CZ	34743	Germann Rd: Val Vista Dr to Higley	Construct roadway widening	2.0	2	6	Street	$ -	$ 2,407,067	$ 1,031,600	$ 3,438,667
Gilbert	2014	GLB14-107CZ	24369	Guadalupe Rd at Cooper Rd	Construct intersection improvement	0.5	4	6	Street	$ -	$ 1,956,746	$ 2,979,254	$ 4,936,000
Gilbert	2015	GLB08-714	14677	Warner Rd: Higley Rd to Recker Rd	Add 2 lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Gilbert	2015	GLB09-719	11047	Lindsay Rd: Germann Rd to Queen Creek Rd	Add 1 lane in each direction	1.0	2	4	Street	$ -	$ -	$ 4,000,000	$ 4,000,000
Gilbert	2015	GLB14-109CZ	47974	Guadalupe Rd at Gilbert Rd	Construct intersection improvement	0.5	4	6	Street	$ -	$ 1,221,409	$ 1,859,591	$ 3,081,000
Gilbert	2015	GLB15-103CZ	34743	Germann Rd: Val Vista Dr to Higley	Construct roadway widening	2.0	2	6	Street	$ -	$ 1,431,016	$ 613,293	$ 2,044,309
Gilbert	2015	GLB15-103CZ2	34743	Germann Rd: Val Vista Dr to Higley	Construct roadway widening	2.0	2	6	Street	$ -	$ 999,134	$ 428,200	$ 1,427,334
Gilbert	2015	GLB15-109CZ	47974	Guadalupe Rd at Gilbert Rd	Construct intersection improvement	0.5	4	6	Street	$ -	$ 1,221,409	$ 871,591	$ 2,093,000
Gilbert	2016	GLB16-108CZ	8305	Elliot Rd at Cooper Dr	Construct intersection improvement	0.5	4	6	Street	$ -	$ 1,808,167	$ 774,929	$ 2,583,095
Gilbert	2016	GLB16-108CZ2	8305	Elliot Rd at Cooper Dr	Construct intersection improvement	0.5	4	6	Street	$ -	$ 297,200	$ 1,289,705	$ 1,586,905
Gilbert	2017	GLB17-108CZ	8305	Elliot Rd at Cooper Dr	Construct intersection improvement	0.5	4	6	Street	$ -	$ 702,800	$ 301,200	$ 1,004,000

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Gilbert	2018	GLB03-910	49603	Warner Rd: Recker Rd to Power Rd	Reconstruct roadway to add 2 through lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 5,000,000	$ 5,000,000
Gilbert	2018	GLB04-105	7608	Pecos Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway to add 1 through lane in each direction	1.0	2	4	Street	$ -	$ -	$ 4,000,000	$ 4,000,000
Gilbert	2018	GLB05-111	37704	Ray Rd: Recker Rd to Power Rd	Reconstruct roadway to add 2 through lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Gilbert	2018	GLB08-712	16366	Ray Rd: Higley Rd to Recker Rd	Add 2 lanes in each direction	1.0	2	6	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Gilbert	2018	GLB12-808	35777	Ocotillo Rd: 148th St to Greenfield Rd	Reconstruct roadway to add one lane in each direction	1.0	2	4	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Goodyear	2015	GDY13-910	15198	Sarival: Van Buren to Portland	Street Improvement - Add second north bound lane and relocate power poles	1.0	3	4	Street	$ -	$ -	$ 1,200,000	$ 1,200,000
Goodyear	2016	GDY09-901	24850	Van Buren - 161st Avenue to Sarival	Street Improvement - Add second west bound lane	1.0	3	4	Street	$ -	$ -	$ 480,000	$ 480,000
Goodyear	2016	GDY10-902	7388	Van Buren: Estrella Parkway to 158th Avenue	Street Improvement - Widen south side of Van Buren with second lane. Relocate RID facility	1.0	3	5	Street	$ -	$ -	$ 1,750,000	$ 1,750,000
Goodyear	2017	GDY17-401	49142	Indian School Road - SR303 to Sarival	Construct New Roadway	1.0	2	4	Street	$ -	$ -	$ 1,127,295	$ 1,127,295
Maricopa (City)	2015	MAR15-401	38888	Honeycutt Road: Porter Rd to White and Parker Road	Construct New Roadway	1.0	2	4	Street	$ -	$ -	$ 2,550,000	$ 2,550,000
Maricopa (City)	2015	MAR15-402	16588	MCG Highway: Porter Road to White and Parker	Construct Roadway Widening	1.0	2	4	Street	$ 540,000	$ -	$ 3,008,000	$ 3,548,000
Maricopa (City)	2015	MAR15-403	26347	White and Parker Rd: South of Honeycutt to Cowpath Rd	Construct Roadway Widening	1.0	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Maricopa (City)	2016	MAR15-405	35349	Garvey Avenue Extension to SR238	Construct New Roadway	0.8	-	2	Street	$ -	$ -	$ 2,250,000	$ 2,250,000
Maricopa (City)	2017	MAR17-401	36106	MCG Highway: White and Parker to East City Limits	Construct Roadway Widening	1.0	2	4	Street	$ -	$ -	$ 12,652,250	$ 12,652,250

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Maricopa (City)	2018	MAR18-402	45865	Hartman Road: Honeycutt Rd to Bowlin Rd	Construct Roadway Improvements	1.0	2	3	Street	$ -	$ -	$ 2,500,000	$ 2,500,000
Maricopa County	2014	MMA14-113CX	33360	Northern Parkway: Dysart to 111th	Construct roadway widening	2.5	2	4	Street	$ 5,530,207	$ -	$ 2,370,089	$ 7,900,296
Maricopa County	2014	MMA14-114CZ	38335	El Mirage Rd: Northern Avenue to Peoria Avenue	Construct roadway widening	2.0	2	6	Street	$ -	$ 3,894,389	$ 1,669,024	$ 5,563,413
Maricopa County	2014	MMA14-116CZ	7162	El Mirage Rd: Bell Road to Picerne Drive	Construct roadway widening	0.5	4	10	Street	$ -	$ -	$ 2,570,000	$ 2,570,000
Maricopa County	2014	MMA14-401	45370	Riggs Rd, Hawes Rd to Ellsworth Rd	Construct roadway widening	1.0	2	4	Street	$ -	$ -	$ 2,800,000	$ 2,800,000
Maricopa County	2015	MMA11-719	27564	Deer Valley Rd: El Mirage Rd to Lake Pleasant Rd	Construct new bridge and road across the Agua Fria River	1.0	-	4	Street	$ -	$ -	$ 25,000,000	$ 25,000,000
Maricopa County	2015	MMA15-113CZ	33360	Northern Parkway: Dysart to 111th	Construct bridge and roadway widening	2.5	2	4	Street	$ 7,827,638	$ -	$ 3,354,702	$ 11,182,340
Maricopa County	2015	MMA15-113CX	33360	Northern Parkway: Dysart to 111th	Construct roadway widening	2.5	2	4	Street	$ 4,939,987	$ -	$ 2,117,137	$ 7,057,124
Maricopa County	2015	MMA15-114CZ	38335	El Mirage Rd: Northern Avenue to Peoria Avenue	Construct roadway widening	2.0	2	6	Street	$ -	$ 3,894,389	$ 1,669,024	$ 5,563,413
Maricopa County	2015	MMA15-401	13311	Riggs Rd, Power Rd to Hawes Rd	Construct roadway widening	1.0	2	4	Street	$ -	$ -	$ 4,680,000	$ 4,680,000
Maricopa County	2016	MMA15-112CZ	4620	Northern Parkway: Northern Avenue at Loop 101	Construct intersection improvement	0.5	4	6	Street	$ 2,008,124	$ -	$ 860,625	$ 2,868,749
Maricopa County	2016	MMA15-112CZ	4620	Northern Parkway: Northern Avenue at Loop 101	Construct intersection improvement	0.5	4	6	Street	$ 3,000,000	$ -	$ 1,285,714	$ 4,285,714
Maricopa County	2016	MMA16-113CZ	26961	Northern Parkway: Dysart Overpass	Construct roadway widening and overpass	0.1	-	4	Street	$ 10,000,000	$ -	$ 4,790,429	$ 14,790,429
Maricopa County	2016	MMA16-113CZ	26961	Northern Parkway: Dysart Overpass	Construct roadway widening and overpass	0.1	-	4	Street	$ 10,707,494	$ -	$ 4,082,935	$ 14,790,429

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List of Potentially Regionally Significant Projects

Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
Maricopa County	2018	MMA18-105CZ	8868	McKellips Rd: Loop 101 (Pima Fwy) to SRP-MIC/Alma School Rd	Construct roadway widening	2.0	4	6	Street	$ 5,289,914	$ -	$ 2,267,106	$ 7,557,020
Maricopa County	2018	QNC13-903	36818	Riggs Rd, Ellsworth Rd to Meridian Rd	Widen roadway	3.0	-	6	Street	$ -	$ -	$ 5,550,000	$ 5,550,000
Mesa	2014	MES13-126CZ	48790	Power Rd: Santan Fwy to Pecos Rd	Construct roadway widening	1.5	4	6	Street	$ -	$ -	$ 17,738,042	$ 17,738,042
Mesa	2014	MES14-402	47799	Signal Butte Rd: Elliot Rd to Ray Rd	Ph3: Construct full 1/2 street; east half of Signal Butte: Ray to Via Toscano	2.0	2	6	Street	$ -	$ -	$ 250,000	$ 250,000
Mesa	2014	MES14-403	10364	Southern Ave, Dobson Rd to Alma School Rd	Narrow roadway from 6 lanes to 4 lanes and construct new, wider sidewalks and install new landscaping behind the new curbs.	1.0	6	4	Street	$ -	$ -	$ 9,750,000	$ 9,750,000
Mesa	2015	MES15-118CZ	651	Southern Ave at Stapley Dr	Construct intersection improvement	0.5	4	6	Street	$ 6,315,471	$ -	$ 381,741	$ 6,697,212
Mesa	2016	MES08-802	24488	Elliot Rd: Signal Butte Rd to Mountain Rd	Widen roadway to add 1 through lane in each direction and a center turn lane	0.5	4	6	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Mesa	2016	MES12-128	37705	Ray Road, Ellsworth Rd to Crismon Rd	Construct Southern half street (3 lanes)	1.0	-	3	Street	$ -	$ -	$ 9,764,123	$ 9,764,123
Mesa	2017	MES08-804	36561	Ellsworth Rd: McKellips Rd to McLellan Rd	Widen roadway to add 1 through lane in each direction and a center turn lane	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Mesa	2017	MES17-118CZ	651	Southern Ave at Stapley Dr	Construct intersection improvement	0.5	4	6	Street	$ -	$ 267,219	$ 6,008,178	$ 6,275,397
Mesa	2017	MES17-121CZ	49255	Stapley Dr at University Dr	Construct intersection improvement	0.5	4	6	Street	$ 2,816,580	$ -	$ 1,207,106	$ 4,023,686
Mesa	2017	MES17-127CZ	13167	Mesa Dr at Broadway Rd	Construct intersection improvement	1.0	4	6	Street	$ -	$ 5,708,597	$ 2,446,542	$ 8,155,139

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Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
Mesa	2017	MES17-401	24534	McKellips Rd: Hawes Rd to Ellsworth (Note: The 1st section from Hawes Rd to 88th St was completed with private funds, but will not be open to traffic until the entire section from Hawes Rd to Ellsworth Rd is completed)	McKellips: 88th St to Ellsworth: Widen roadway to add 1 through lane in each direction and a center turn lane	1.0	2	4	Street	$ -	$ -	$ 1,200,000	$ 1,200,000
Mesa	2017	MES17-402	3936	Spine East Road (replacement for Crismon Road), Ray Rd to Warner Rd	Eastmark Pkw-North Phase: 1/4 east of Ray to Warner, Construct half street (2 lanes)	1.0	-	2	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Mesa	2018	MES18-121CZ	49255	Stapley Dr at University Dr	Construct intersection improvement	0.5	4	6	Street	$ 2,816,580	$ -	$ 1,207,106	$ 4,023,686
Mesa	2018	MES18-127CZ	13167	Mesa Dr at Broadway Rd	Construct intersection improvement	1.0	4	6	Street	$ -	$ -	$ 8,719,095	$ 8,719,095
Mesa	2018	MES18-401	47799	Signal Butte Rd: Elliot Rd to Ray Rd	Ph2: Construct full 1/2 street; west half of Signal Butte: Point 22 Blv (Warner) to Rueben; 2/3 mile	2.0	2	6	Street	$ -	$ -	$ 1,330,000	$ 1,330,000
Peoria	2014	PEO12-107	9772	Vistancia; Westland to CAP	Construct roadway	1.0	-	3	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Peoria	2014	PEO14-101C2Z	28009	Lake Pleasant Pkwy: Dynamite Blvd to CAP	Construct roadway widening	2.5	2	4	Street	$ -	$ 3,527,482	$ 1,511,778	$ 5,039,259
Peoria	2014	PEO14-101CZ	28009	Lake Pleasant Pkwy: Dynamite Blvd to CAP	Construct roadway widening	2.5	2	4	Street	$ -	$ 4,990,604	$ 2,138,830	$ 7,129,435
Peoria	2014	PEO15-103	16307	91st Ave, Butler Dr to Mtn View Rd	Construct roadway widening	1.0	2	4	Street	$ -	$ -	$ 4,084,332	$ 4,084,332
Peoria	2015	PEO10-803	7203	Vistancia Blvd: Central Arizona Canal to Twin Buttes Pkwy	Construct new 4 lane roadway with median	2.0	-	4	Street	$ -	$ -	$ 12,000,000	$ 12,000,000
Peoria	2016	PEO12-106	13715	Westland; Vistancia to Sunrise Point	Construct roadway	1.0	-	2	Street	$ -	$ -	$ 4,000,000	$ 4,000,000
Peoria	2016	PEO12-108	11148	Deer Valley Rd; 91st Ave to Lake Pleasant Pkwy	Construct roadway	1.0	2	5	Street	$ -	$ -	$ 5,000,000	$ 5,000,000
Peoria	2016	PEO13-104	30822	83rd Ave; Happy Valle Rd to Jomax Rd	Construct roadway	1.0	2	4	Street	$ -	$ -	$ 5,000,000	$ 5,000,000

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Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
Peoria	2017	PEO17-420T	246	Grand/Peoria	Construct regional park-and-ride (Grand/Peoria)	-	-	0	Transit Bus	$ 3,131,521	$ 782,881	$ -	$ 3,914,402
Phoenix	2014	PHX13-102CZ	6424	Black Mountain Blvd: SR-51 and Loop 101 (Pima Fwy) to Deer Valley Rd	Construct roadway widening	2.0	-	6	Street	$ 14,990,117	$ -	$ 6,424,336	$ 21,414,453
Phoenix	2014	PHX13-190	40752	64th St: Mayo Blvd to Loop 101 (Pima Fwy)	Construct new roadway	1.0	-	6	Street	$ -	$ -	$ 8,000,000	$ 8,000,000
Phoenix	2014	PHX14-101CZ	10072	Avenida Rio Salado: 51st Avenue to 7th Street	Construct roadway widening	6.0	-	6	Street	$ 8,418,197	$ -	$ 1,393,513	$ 9,811,710
Phoenix	2014	PHX14-415T	138	Phoenix - East Baseline	Construct park-and-ride lot	-	-	0	Transit Bus	$ 280,000	$ 70,000	$ -	$ 350,000
Phoenix	2015	PHX10-629	14497	32nd St: Southern Ave to Broadway Rd	Reconstruct roadway to 64ft section, adding 2 through lanes	1.0	2	4	Street	$ -	$ -	$ 3,600,000	$ 3,600,000
Phoenix	2015	PHX15-101CZ	10072	Avenida Rio Salado: 51st Avenue to 7th Street	Construct roadway widening	6.0	-	6	Street	$ 5,918,197	$ -	$ 7,066,593	$ 12,984,790
Phoenix	2015	PHX15-102CZ	6424	Black Mountain Blvd: SR-51 and Loop 101 (Pima Fwy) to Deer Valley Rd	Construct roadway widening	2.0	-	6	Street	$ 2,500,000	$ -	$ 1,071,429	$ 3,571,429
Phoenix	2015	PHX15-138	19232	Baseline Rd: 59th - 51st Ave	Construct roadway widening from 4 lanes to 6	1.0	4	6	Street	$ -	$ -	$ 2,700,000	$ 2,700,000
Phoenix	2015	PHX15-188	15600	56th St: Deer Valley - Pinnacle Peak	Construction	1.0	2	4	Street	$ -	$ -	$ 4,800,000	$ 4,800,000
Phoenix	2016	PHX13-188	4579	Dove Valley Rd: I-17 Freeway to North Valley Pkwy	Construct Roadway and Bridge	0.3	-	6	Street	$ -	$ -	$ 6,200,000	$ 6,200,000
Phoenix	2016	PHX16-412	9563	Buckeye Rd: 7th St to 16th St	Construction	1.0	4	6	Street	$ -	$ -	$ 9,750,000	$ 9,750,000
Phoenix	2017	PHX17-401	4579	Dove Valley Rd: I-17 Freeway to North Valley Pkwy	Construct Roadway and Bridge	0.3	-	6	Street	$ -	$ -	$ 4,400,000	$ 4,400,000
Phoenix	2017	PHX17-403	18412	83rd Ave: Lower Buckeye - Buckeye	Construct roadway	1.0	2	4	Street	$ -	$ -	$ 2,500,000	$ 2,500,000

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Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
Phoenix	2017	PHX17-405	29906	35th Ave: Dobbins Rd - Baseline Rd	Construction	1.0	2	4	Street	$ -	$ -	$ 4,800,000	$ 4,800,000
Phoenix	2017	PHX17-409	15457	27th Ave: Lower Buckeye - Buckeye	Construction	1.0	2	4	Street	$ -	$ -	$ 6,600,000	$ 6,600,000
Phoenix	2018	PHX18-401	4579	Dove Valley Rd: I-17 Freeway to North Valley Pkwy	Construct Roadway and Bridge	0.3	-	6	Street	$ -	$ -	$ 6,200,000	$ 6,200,000
Phoenix	2018	PHX18-402	8184	35th Ave: Olney Dr - Dobbins	Construction	0.5	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Phoenix	2018	PHX18-403	13530	North Valley Pkwy: Lone Mountain Rd (Sonoran Blvd) - N of Dixileta Rd	Construct roadway	1.0	4	6	Street	$ -	$ -	$ 16,000,000	$ 16,000,000
Phoenix	2018	PHX18-411	42661	Cave Creek Rd: Union Hills - Pima Fwy	Construction	1.0	4	6	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Pinal County	2014	PNL14-401	936	Germann Rd: Meridian Rd to Ironwood Rd	Construct New Roadway	1.0	-	2	Street	$ -	$ -	$ 300,000	$ 300,000
Pinal County	2015	PNL15-401	10694	Guadalupe Rd: Meridian Rd to Delaware Drive	Construct New Roadway	0.5	-	2	Street	$ -	$ -	$ 150,000	$ 150,000
Pinal County	2017	PNL17-401	28634	McCartney Rd: I-10 to Evans Rd	Construct Roadway Improvements	3.0	2	4	Street	$ -	$ -	$ 1,500,000	$ 1,500,000
Queen Creek	2014	QNC07-713	33375	Ellsworth Rd: Rittenhouse Rd to Ocotillo Rd	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 2,800,000	$ 2,800,000
Queen Creek	2014	QNC07-722	13118	Ocotillo Rd: 209th Way to Ellsworth Loop Rd	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 4,500,000	$ 4,500,000
Queen Creek	2014	QNC07-728	13433	Ocotillo Rd: Rittenhouse Rd to Crismon	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Queen Creek	2014	QNC08-750	12627	Ocotillo Rd: Recker Rd to Power Rd	New 4 lane road	1.0	-	4	Street	$ -	$ -	$ 6,000,000	$ 6,000,000
Queen Creek	2014	QNC09-774	46508	Rittenhouse Rd (re-aligned): Sossaman Rd to Hawes Rd	Construct new roadway	1.0	2	4	Street	$ -	$ -	$ 4,500,000	$ 4,500,000

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Agency	Year	TIPID	Project ID	Location	Work	Miles	Lanes Before	Lanes After	MAG Mode	Federal	Regional	Local	Total
Queen Creek	2014	QNC13-101	9151	Queen Creek Rd: 194th St to 196th St	Widen roadway	1.0	3	4	Street	$ -	$ -	$ 3,000,000	$ 3,000,000
Queen Creek	2016	QNC08-751	40311	Ocotillo Rd: Signal Butte Rd to Meridian Rd	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Queen Creek	2016	QNC09-773	21513	Power Rd: Riggs Rd to Cloud Rd	Widen roadway, adding NB lane	1.0	2	5	Street	$ -	$ -	$ 2,500,000	$ 2,500,000
Queen Creek	2017	QNC07-701	26782	Chandler Heights Rd: Ellsworth Rd to 204th St	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 500,000	$ 500,000
Queen Creek	2017	QNC07-719	11683	Hawes Rd: Ocotillo Rd to Queen Creek Rd	Widen roadway	1.0	2	3	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Queen Creek	2017	QNC07-721	11879	Hawes Rd: Rittenhouse Rd to 1000 ft south of Queen Creek Rd	Widen roadway	1.0	2	3	Street	$ -	$ -	$ 500,000	$ 500,000
Queen Creek	2017	QNC07-735	33662	Queen Creek Rd: Crismon Rd to 213th St	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 2,500,000	$ 2,500,000
Queen Creek	2017	QNC09-766	2381	Chandler Heights Rd: Sossaman Rd to Hawes Rd	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 5,000,000	$ 5,000,000
Queen Creek	2018	QNC07-707	34984	Ellsworth Rd: Ocotillo Rd to Queen Creek Wash	Widen roadway and add Bike Lane	1.0	2	3	Street	$ -	$ -	$ 500,000	$ 500,000
Queen Creek	2018	QNC09-769	12063	Ocotillo Rd: Hawes Rd to Sossaman Rd	Widen roadway	1.0	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Queen Creek	2018	QNC09-779	19362	Signal Butte Rd: Ocotillo Rd to Barnes Parkway	Widen roadway, from 2 to 4 lanes	1.0	2	4	Street	$ -	$ -	$ 1,000,000	$ 1,000,000
Queen Creek	2018	QNC13-102	12531	Rittenhouse Rd: Loop Rd N and Loop Rd S	Intersection Improvements	1.0	2	4	Street	$ -	$ -	$ 600,000	$ 600,000
Queen Creek	2018	QNC18-401	6334	Meridian Rd: 2035' South of Ocotillo to Riggs Rd	Construct New Roadway	2.0	-	6	Street	$ -	$ -	$ 6,000,000	$ 6,000,000
Scottsdale	2014	SCT12-014C2R	20203	Scottsdale Rd: Thompson Peak Pkwy to Pinnacle Peak Rd	Construct roadway widening	2.0	4	6	Street	$ -	$ 4,814,225	$ 2,063,239	$ 6,877,465

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List of Potentially Regionally Significant Projects

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Scottsdale	2014	SCT12-014C3R	20203	Scottsdale Rd: Thompson Peak Pkwy to Pinnacle Peak Rd	Construct roadway widening	2.0	4	6	Street	$ -	$ 2,814,225	$ 1,206,097	$ 4,020,322
Scottsdale	2014	SCT12-014CZ	20203	Scottsdale Rd: Thompson Peak Pkwy to Pinnacle Peak Rd	Construct roadway widening	2.0	4	6	Street	$ -	$ 5,582,310	$ 2,392,419	$ 7,974,729
Scottsdale	2014	SCT13-115	12309	Union Hills from Scottsdale to Hayden	Construct new road	1.0	-	4	Street	$ -	$ -	$ 18,000,000	$ 18,000,000
Scottsdale	2014	SCT13-117	12038	Miller Road from Loop 101 to 76th St	Construct new road	0.4	-	4	Street	$ -	$ -	$ 15,000,000	$ 15,000,000
Scottsdale	2014	SCT13-118	37995	Miller Road from Princess to Loop 101	Construct new road	0.6	-	4	Street	$ -	$ -	$ 15,000,000	$ 15,000,000
Scottsdale	2014	SCT14-123CZ	38462	Frank Lloyd Wright at 76th/78th/82nd St: Intersection Improvements	Construct intersection improvement	0.5	4	6	Street	$ -	$ 704,145	$ 301,776	$ 1,005,922
Scottsdale	2014	SCT14-124C2Z	12577	Loop 101 South Frontage Roads	Construct roadway widening	0.8	-	4	Street	$ -	$ 997,950	$ 427,692	$ 1,425,642
Scottsdale	2014	SCT14-124CZ	12577	Loop 101 South Frontage Roads	Construct roadway widening	0.8	-	4	Street	$ -	$ 997,950	$ 427,693	$ 1,425,643
Scottsdale	2014	SCT15-107CZ	21671	Redfield Rd: Scottsdale Rd to Hayden	Construct roadway widening	1.2	2	4	Street	$ -	$ 3,520,725	$ 1,508,882	$ 5,029,608
Scottsdale	2015	SCT11-111CZ	30028	Pima Rd: Thomas Rd to McDowell Rd	Construct roadway widening	1.0	2	4	Street	$ -	$ 5,589,769	$ 2,401,454	$ 7,991,224
Scottsdale	2015	SCT13-113CZ	4095	Pima Rd: Via Linda to Via De Ventura	Construct roadway widening	1.3	2	4	Street	$ -	$ 1,236,494	$ 929,925	$ 2,166,419
Scottsdale	2015	SCT15-106CZ	34155	Frank Lloyd Wright Frontage Rd: Northsight to Greenway-Hayden Loop	Construct roadway widening	0.8	-	2	Street	$ -	$ 5,633,161	$ 2,414,212	$ 8,047,373
Scottsdale	2016	SCT11-112CZ	4292	Pima Rd: Krail to Chaparral Rd	Construct roadway widening	1.8	2	4	Street	$ -	$ 2,000,000	$ 1,285,714	$ 3,285,714
Scottsdale	2016	SCT16-112CZ	4292	Pima Rd: Krail to Chaparral Rd	Construct roadway widening	1.8	2	4	Street	$ -	$ 6,706,551	$ 5,233,979	$ 11,940,530

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Scottsdale	2016	SCT16-118CZ	7209	Raintree Drive: Loop 101 to Hayden	Construct roadway widening	1.0	4	6	Street	$ -	$ 4,041,451	$ 2,060,622	$ 6,102,073
Scottsdale	2016	SCT16-118CZ2	7209	Raintree Drive: Loop 101 to Hayden	Construct roadway widening	1.0	4	6	Street	$ -	$ 3,000,000	$ 1,285,714	$ 4,285,714
Scottsdale	2016	SCT16-128CZ	22239	Pima Rd: Dynamite Blvd to Stagecoach Pass	Construct roadway widening	5.0	2	4	Street	$ -	$ 4,425,338	$ 1,896,574	$ 6,321,912
Scottsdale	2017	SCT17-125CZ	36968	Pima Rd: Pinnacle Peak Rd to Happy Valley Rd	Construct roadway widening	1.0	4	6	Street	$ -	$ 3,200,000	$ 1,371,429	$ 4,571,429
Scottsdale	2017	SCT17-125CZ2	36968	Pima Rd: Pinnacle Peak Rd to Happy Valley Rd	Construct roadway widening	1.0	4	6	Street	$ -	$ 7,054,983	$ 3,023,564	$ 10,078,546
Scottsdale	2017	SCT17-128CZ	22239	Pima Rd: Dynamite Blvd to Stagecoach Pass	Construct roadway widening	5.0	2	4	Street	$ -	$ 4,425,338	$ 1,896,574	$ 6,321,912
Scottsdale	2018	SCT13-114CZ	6515	Pima Rd: Chaparral Rd to Thomas Rd	Construct roadway widening	2.0	2	4	Street	$ -	$ 5,825,463	$ 4,332,179	$ 10,157,642
Scottsdale	2018	SCT18-125CZ	36968	Pima Rd: Pinnacle Peak Rd to Happy Valley Rd	Construct roadway widening	1.0	4	6	Street	$ -	$ 3,200,000	$ 1,371,429	$ 4,571,429
Scottsdale	2018	SCT18-128CZ	22239	Pima Rd: Dynamite Blvd to Stagecoach Pass	Construct roadway widening	5.0	2	4	Street	$ -	$ 1,425,339	$ 610,860	$ 2,036,199
Surprise	2014	SUR11-101	9209	Greenway Road Between Litchfield Road and Bullard Avenue	Construct new arterial roadway, sidewalk, curb and gutter, and median.	1.0	2	4	Street	$ -	$ -	$ 2,700,000	$ 2,700,000
Surprise	2014	SUR11-104	12427	Perryville Rd between Cactus Rd. and 1/4 mile north of Peoria Ave	Construct new 2 lanes with curb, gutter, and sidewalks	0.8	2	4	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Surprise	2014	SUR11-106	20393	Litchfield Road between Waddell Road and Sweetwater Avenue	Construct new 2 south bound lanes on arterial roadway	0.5	2	4	Street	$ -	$ -	$ 1,315,000	$ 1,315,000
Surprise	2014	SUR12-101	35770	Cactus Road between Citrus Rd and Perryville Rd	Construct new 2 lanes with curb, gutter, and sidewalks	1.0	-	2	Street	$ -	$ -	$ 2,000,000	$ 2,000,000
Surprise	2014	SUR13-104	19664	Pinnacle Peak Rd: between 235th Ave and 227th Ave	Construct new 2 lanes with curb, gutter, and sidewalks	1.0	-	2	Street	$ -	$ -	$ 2,750,000	$ 2,750,000

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Surprise	2014	SUR13-105	48720	227th Ave: between Pinnacle Peal Rd and Happy Valley Rd	Construct new 2 lanes with curb, gutter, and sidewalks	1.0	-	2	Street	$ -	$ -	$ 2,750,000	$ 2,750,000
Valley Metro Rail	2014	VMR14-102T	5655	Central Mesa Light Rail	Sm Starts: Stations, Stops, Terminals, Intermodal	3.0	-	0	Transit Rail	$ 897,434	$ 693,600	$ -	$ 1,591,034
Valley Metro Rail	2014	VMR15-102T	5655	Central Mesa Light Rail	Sm Starts: Stations, Stops, Terminals, Intermodal	3.0	-	0	Transit Rail	$ 1,485,089	$ 1,147,782	$ -	$ 2,632,871
Valley Metro Rail	2015	VMR15-101UA	41266	Mesa Main Street: Mesa Dr to Gilbert Rd LRT	Gilbert Road Light Rail Extension - Construction	2.0	4	2	Transit Rail	$ 267,126	$ -	$ 16,147	$ 283,273
Valley Metro Rail	2016	VMR16-101CZ	41266	Mesa Main Street: Mesa Dr to Gilbert Rd LRT	Gilbert Road Light Rail Extension - Construction	2.0	4	2	Transit Rail	$ 6,789,600	$ -	$ 410,400	$ 7,200,000
Valley Metro Rail	2016	VMR16-101CZ1	41266	Mesa Main Street: Mesa Dr to Gilbert Rd LRT	Gilbert Road Light Rail Extension - Sitework	2.0	4	2	Transit Rail	$ 16,031,000	$ -	$ 969,000	$ 17,000,000
Valley Metro Rail	2017	VMR17-101CZ	41266	Mesa Main Street: Mesa Dr to Gilbert Rd LRT	Gilbert Road Light Rail Extension - Construction	2.0	4	2	Transit Rail	$ 158,010	$ -	$ 9,551	$ 167,561
Valley Metro Rail	2017	VMR17-101CZ6	41266	Mesa Main Street: Mesa Dr to Gilbert Rd LRT	Gilbert Road Light Rail Extension - Construction	2.0	4	2	Transit Rail	$ 9,417,819	$ -	$ 569,264	$ 9,987,083

APPENDIX B, Exhibit 3

"Notification of Conclusion of Consultation on Proposed Transportation Conformity Processes for the 2014 MAG Conformity Analysis".

Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, August 23, 2013.

MARICOPA ASSOCIATION of GOVERNMENTS

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August 23, 2013

TO: Leslie Rogers, Federal Transit Administration
Karla Petty, Federal Highway Administration
John Halikowski, Arizona Department of Transportation
Henry Darwin, Arizona Department of Environmental Quality
Maria Hyatt, City of Phoenix Public Transit Department
Stephen Banta, Valley Metro/RPTA
William Wiley, Maricopa County Air Quality Department
Kenneth Hall, Central Arizona Governments
Donald Gabrielson, Pinal County Air Quality Control District
Benjamin Bitter, Sun Corridor Metropolitan Planning Organization
Gregory Nudd, U.S. Environmental Protection Agency, Region IX
Other Interested Parties

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: NOTIFICATION OF CONCLUSION OF CONSULTATION ON PROPOSED TRANSPORTATION CONFORMITY PROCESSES FOR THE 2014 MAG CONFORMITY ANALYSIS

On July 30, 2013, the Maricopa Association of Governments transmitted for consultation the proposed transportation conformity processes for the 2014 MAG Conformity Analysis. The transmittal indicated that the proposed processes will be applied beginning with the upcoming conformity analysis for the Maricopa County Nonattainment and Maintenance Areas and the Pinal County Nonattainment Areas. This memorandum completes the consultation process by notifying the agencies listed above and other interested parties of the record of consultation on the proposed transportation conformity processes and of any comments received during the period of consultation.

Comments on the proposed transportation conformity processes were requested by August 16, 2013. The responses to the comments received during the period of consultation are attached. Copies of the consultation memorandum on the transportation conformity processes may be obtained from MAG. Copies of the MAG Management Committee and MAG Regional Council meeting agendas and approved minutes will be available at www.azmag.gov, or they may also be requested from MAG.

If you have any questions or comments, please contact me at (602) 254-6300.

Attachment

cc: Eric Massey, Arizona Department of Environmental Quality
Scott Omer, Arizona Department of Transportation

RESPONSES TO COMMENTS ON THE PROPOSED TRANSPORTATION CONFORMITY PROCESSES FOR THE 2014 MAG CONFORMITY ANALYSIS

AUGUST 23, 2013

On July 30, 2013, the Maricopa Association of Governments transmitted for consultation the proposed Transportation Conformity Process for the 2014 MAG Conformity Analysis. The following represents the MAG responses to the comments received during the period of consultation.

COMMENTS FROM ERIC MASSEY, ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (Letter dated August 16, 2013.)

Comment: On page 36 it indicates that MAG will apply a 6% emissions reduction for fugitive dust emissions from agricultural unpaved roads to all conformity analysis years (2015, 2025, and 2035) based on Agricultural Best Management Practices (BMPs) requirements for Moderate PM-10 nonattainment areas that became effective July 2, 2012 for the West Pinal PM-10 area. It is not clear if this is 6% per year through 2035 or a one-time 6% emissions reduction in each of the three analysis years.

Response: Page 68 of the 2008 Periodic Emissions Inventory discusses two BMPs that apply to agricultural unpaved roads: access restriction (0.4%) and reduced vehicle speed (11.6%). The average benefit of these two BMPs is 6%. This 6% reduction in agricultural unpaved road emissions is applied in each of the three conformity analysis years.

Comment: On pages 40-41 it indicates that "The 2014 MAG Conformity Analysis does not need to include paved road emissions for the Pinal PM-2.5 nonattainment area, because EPA or ADEQ have not determined that paved road emissions are a significant contributor to the PM-2.5 nonattainment problem (see Section 93.119(f)(8) of the conformity rule)." This is true but will need to be confirmed upon completion of the final PM-2.5 Emission Inventory (EI).

Response: It is anticipated that the EPA Regional Administrator or ADEQ Director will not inform MAG and the U.S. Department of Transportation that paved road PM-10 emissions are a significant contributor to the PM-2.5 nonattainment problem before the conformity analysis begins (i.e. September or October 2013).

Comment: On page 46, it indicates that MAG expects that road construction emissions in Pinal County will be less than 3% of the emissions inventory and therefore an insignificant contributor, so that MAG will not include construction-related fugitive dust in its conformity analyses. If the PM-10 emissions inventory shows at least 3% for this category, MAG will add them in. This will need to be confirmed after completion of the final emissions inventory.

Response: Sierra Research has recently indicated that the total 2008 PM-10 emissions for the Pinal PM-10 Nonattainment Area will be approximately 200,000 tons per year. About 75% of this is windblown dust.

If windblown dust is removed, 2008 road construction emissions (185.31 tons/year) in the PM-10 Nonattainment Area are still less than one percent of the remaining emissions.

Comment: MAG will also take credit in the build scenario (for the build/no build test) "for projects that are scheduled to pave or stabilize unpaved roads and shoulders in the Pinal County nonattainment areas." ADEQ's attainment demonstration modeling for the two Pinal PM planning areas should include any scheduled paving or stabilization in MAG's Transportation Conformity Analysis.

Response: In MAG PM-10 Plans, paving projects are typically contingency measures with early implementation, rather than measures used in modeling for the attainment demonstration.

Comment: The Arizona Department of Transportation has noted that two projects are in the works but not yet included in the TIP for the Pinal planning areas:

1. Casa Grande to Maricopa Freeway road widening project is being designed to add one lane in each direction. This will be along side of the Cowtown monitor. Timeframe for construction is unknown because it has to be approved into the TIP first, which requires all funding to be determined and obligated. After completion of construction, this will reduce particulate matter. The construction phase could pose temporary emissions problems depending on duration and proximity to monitor. ADEQ recommends coordination with all parties concerned to ensure well-controlled emissions through periodic inspections during the construction phase.

2. Railroad overpass on Highway 347 (to Stanfield) is desired by Ak Chin and several towns. This project is not scoped or funded to date.

Response: The Casa Grande/Maricopa Highway project will be programmed in FY 2017 and the State Route 347 overpass project will be programmed in FY 2018 of the new FY 2014-2018 MAG Transportation Improvement Program for which the Maricopa conformity analyses will be performed.

Comment: A completed emissions inventory for Pinal PM-10 and PM-2.5 are necessary to populate any necessary Motor Vehicle Emissions Budgets (MVEBs).

Response: A build/no-build interim emissions test rather than an emissions budget test will be performed in the MAG 2014 Conformity Analysis since the MVEBs will not be submitted to EPA and found to be adequate or approved before this conformity analysis begins in September or October 2013.

Comment: The Pinal County Conformity Year appears to be 2011; however, the emission inventories base year is 2008, this may cause comparative issues.

Response: The conformity analysis years are 2015, 2025, and 2035. The Pinal County Air Quality Control District has provided 2008 data that has been used to develop unpaved and paved road emissions. The MAG travel demand model was validated against approximately 3,300 traffic counts collected in 2011. The model validation year is 2011. The MAG travel demand model will be used with socioeconomic projections approved in June 2013 to estimate vehicle miles of travel and speeds in the Pinal County Nonattainment Areas. Onroad mobile source emissions for the Pinal County

Nonattainment Areas will be estimated using the Motor Vehicle Emissions Simulator (MOVES) and the VMT and speeds produced by the MAG travel demand model for the years 2015, 2025, and 2035.

Comment: From the discussion on pages 26-27, note that the Arizona Department of Administration (ADOA) now performs population projections annually. Also, ADOA also claimed to be developing methodology to calculate subcounty populations. If these methodologies have been finalized, MAG should attempt to use ADOA subcounty population information.

Response: EPA Guidance for the Use of Latest Planning Assumptions indicates that population and employment projections used in conformity analyses must be approved by the Metropolitan Planning Organization. The 2015, 2025, and 2035 traffic assignments for the 2014 MAG Conformity Analysis will utilize the population projections approved by the MAG Regional Council and Central Arizona Governments in June 2013. The ADOA population projections are performed every three years (I. e. 2015, 2018), not annually. On page 27, we indicated that the next ADOA projections will be prepared in 2015.

Comment: On pages 31-32, If including comparative graphs for two periods of the day, please include all periods (e.g. PM peak speeds, nighttime speeds - if not included in "off-peak", etc). Also, if speed variability within certain time blocks is used in any modeling, it would also be good to present it here.

Response: MAG has typically included graphs for freeways and arterials for one peak and off-peak time period. We will look into providing additional graphs. The speeds on each link for each traffic assignment in each of the four time periods are used to develop the speed distribution used in running the EPA-approved air quality emissions model, MOVES.

Comment: On page 35, please include a citation on where to find an explanation of the rule effectiveness road construction emissions reduction methodology developed by MAG and EPA.

Response: We will add the citation: Appendix 3 of the 2008 PM-10 Periodic Emissions Inventory for Maricopa County. This also appears in Appendix A, Exhibit 1 of the MAG 2012 Five Percent Plan for PM-10.

Comment: On page 36, please include an appendix or Table which lists currently known upcoming "projects that are scheduled to pave or stabilize unpaved roads and shoulders in the Pinal County nonattainment areas".

Response: The conformity document will include such a table.

Comment: On page 38, "root mean square error of five percent or less" should be changed to "root mean square percentage error of five percent or less".

Response: The conformity document will state "percent root mean square error".

Comment: On page 38, please cite the online ADOA population projection methodology when referring to ADOA population projections.

Response: The conformity document will cite the ADOA population projection methodology link: http://www.workforce.az.gov/pubs/demography/ArizonaPopulationProjections2012.pdf .

Comment: On page 41, the Sky Harbor temperatures may not be appropriate for Pinal County MOVES modeling since Pinal County does not experience an urban heat island effect.

Response: The conformity document will reflect that Arizona Meteorology Network (AZMET) temperature data for the City of Maricopa for the years 2008-2012 will be used as MOVES input for Pinal County.

Comment: On page 44, "The PM-2.5 emissions from unpaved roads in the PM-2.5 nonattainment area will be derived by multiplying the total unpaved road PM-2.5 emissions in the Pinal County PM-10 nonattainment area by 24 percent. This factor represents the Pinal PM-2.5 nonattainment area (323 square miles) divided by the Pinal PM-10 nonattainment area (1.326 square miles)." A more accurate apportionment methodology might be performing a total miles of roadway fractionation or possibly even population fractionation between the PM-10 and PM-2.5 nonattainment areas.

Response: In the conformity analysis, MAG will use the percent of unpaved road miles in the PM-2.5 Nonattainment Area, relative to the PM-10 Nonattainment Area, which is 27.3%, rather than 24%.

APPENDIX B, Exhibit 4

"Notification of Conclusion of Consultation on Potentially Regionally Significant Projects for the Draft FY 2014-2018 MAG Transportation Improvement Program".

Memorandum to federal, state, and local air quality and transportation agencies*, and members of the public on the conformity mailing list from Dean Giles, Air Quality Planning Program Specialist, MAG, October 2, 2013.

MARICOPA ASSOCIATION of GOVERNMENTS

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October 2, 2013

TO: Leslie Rogers, Federal Transit Administration
Karla Petty, Federal Highway Administration
John Halikowski, Arizona Department of Transportation
Henry Darwin, Arizona Department of Environmental Quality
Maria Hyatt, City of Phoenix Public Transit Department
Stephen Banta, Valley Metro/RPTA
William Wiley, Maricopa County Air Quality Department
Kenneth Hall, Central Arizona Governments
Donald Gabrielson, Pinal County Air Quality Control District
Benjamin Bitter, Sun Corridor Metropolitan Planning Agency
Gregory Nudd, U.S. Environmental Protection Agency, Region IX
Other Interested Parties

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: NOTIFICATION OF CONCLUSION OF CONSULTATION ON POTENTIALLY REGIONALLY SIGNIFICANT PROJECTS FOR THE DRAFT FY 2014-2018 MAG TRANSPORTATION IMPROVEMENT PROGRAM

On September 3, 2013, the Maricopa Association of Governments transmitted for consultation the proposed potentially regionally significant projects for the Draft FY 2014-2018 MAG Transportation Improvement Program. This item was on the agenda for the September 11, 2013 MAG Management Committee and September 25, 2013 MAG Regional Council meetings for consultation. This memorandum completes the consultation process by notifying the agencies listed above and other interested parties of the record of consultation on the proposed potentially regionally significant projects and of any comments received during the period of consultation.

Comments on the proposed potentially regionally significant projects were requested by September 20, 2013. The response to the comment received is attached. Copies of the consultation memorandum on the potentially regionally significant projects may be obtained from MAG. Copies of the MAG Management Committee and MAG Regional Council meeting agendas and approved minutes will be available at www.azmag.gov, or they may also be requested from MAG.

If you have any questions, please call me at (602) 254-6300.

Attachment

cc: Eric Massey, Arizona Department of Environmental Quality
Scott Omer, Arizona Department of Transportation

RESPONSE TO COMMENT ON POTENTIALLY REGIONALLY SIGNIFICANT PROJECTS FOR THE DRAFT FY 2014-2018 MAG TRANSPORTATION IMPROVEMENT PROGRAM

October 2, 2013

On September 3, 2013, the Maricopa Association of Governments transmitted for consultation the proposed potentially regionally significant projects for the Draft FY 2014-2018 MAG Transportation Improvement Program. The following represents the MAG response to the comment received during the period of consultation.

COMMENT FROM DIANNE BARKER, CITIZEN (Comment received at the September 11, 2013 MAG Management Committee meeting)

Comment: Overall, probably some of the biggest emissions -- and MAG has recognized it this year -- is really coming from on-road and off-road particulates and that is everyplace, coming from everyplace because it is vehicular traffic. So where I'm going with this is that rather than just having EPA determine as it does where they are going to stick a monitor or how significant emissions on one lot can actually skew the results of one monitor and so forth, we need to look at this really with common sense. The people here that have been studying this air quality I'm asking for not only a conscience, but that we very much look to see how we are collectively going to get us out of the air quality problem.

Response: On May 23, 2012, the MAG Regional Council adopted the MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. The new plan contains a wide variety of existing control measures and projects that have been implemented to reduce PM-10 and a new measure designed to reduce PM-10 during high risk conditions, including high winds. The plan demonstrates that the measures will reduce emissions by five percent per year and results in attainment by December 31, 2012. As required by the Clean Air Act, the 2012 Five Percent Plan also includes contingency measures, which achieve emissions reductions beyond those relied upon for the five percent reductions and attainment of the standard.

APPENDIX C

AIR QUALITY MODELING VEHICLE MILES OF TRAVEL

AIR QUALITY MODELING VEHICLE MILES OF TRAVEL

In the Maricopa County Nonattainment and Maintenance Areas, the vehicle miles of travel (VMT) used to estimate emissions for each pollutant analyzed in the conformity analysis are reported in Table 1. For carbon monoxide, the VMT estimates reflect the carbon monoxide maintenance area and Friday in December episode day adjustment factors. For eight-hour ozone, the VMT estimates reflect the eight-hour ozone nonattainment area and Thursday in June episode day adjustment factors. For particulates, the VMT estimates reflect annual average daily traffic volumes for the PM-10 nonattainment area.

In the Pinal County Nonattainment Areas, the VMT used to estimate emissions for each pollutant analyzed in the conformity analysis are reported in Table 2. For particulates, the VMT estimates reflect annual average daily traffic volumes in the Build and No-Build scenarios for each analysis year in the West Pinal PM-10 Nonattainment Area and the West Central Pinal Nonattainment Area, respectively.

In general, MAG highway networks include those facilities which are functionally classified as freeways or arterials. Although the MAG regional network includes some collector streets, they are not generally coded on the network. Their inclusion would increase the number of traffic analysis zones and links to a size which would tax the capabilities of available computer software and hardware. For this same reason, local street improvements contained in the TIP are not coded on the highway network. The MAG transportation modeling area currently contains 3,009 traffic analysis zones and more than 30,000 highway links.

Although not explicitly assigned to the networks, traffic on most collector and all local streets is simulated in the models by use of abstract links called "centroid connectors". These represent a collection of collector streets, local streets and driveways which connect a neighborhood to a regionally-significant highway. Centroid connector travel is included in the model-estimated VMT from which emission estimates for the conformity analysis are generated.

TABLE 1. Total VMT Used in the 2014 MAG Conformity Analysis for the Maricopa Nonattainment and Maintenance Areas
(Daily vehicle miles of travel in thousands for pollutant-specific areas and episodes)

YEAR	CARBON MONOXIDE (Friday in December Episode Day)	EIGHT-HOUR OZONE (Thursday in June Episode Day)	PM-10 (Annual Average Day)
2015	93,602	96,759	87,852
2025	114,400	120,898	109,368
2035	132,418	144,900	129,668

TABLE 2. Total VMT Used in the conformity analysis for the Pinal County Nonattainment Areas
(Daily vehicle miles of travel in thousands for pollutant-specific areas)

YEAR	PM-10 NONATTAINMENT AREA		PM-2.5 NONATTAINMENT AREA	
	Build	No-Build	Build	No-Build
2015	4,794	4,802	613	615
2025	7,268	7,000	1,010	1,004
2035	11,069	10,154	1,668	1,592

APPENDIX D

MAG 1987 CARBON MONOXIDE PLAN
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

List of Exhibits:

1. MAG 1987 Carbon Monoxide Plan for the Maricopa County Area, Chapter Seven: Implementation of the MAG 1987 Carbon Monoxide Plan.

2. MAG 1987 Carbon Monoxide Plan for the Maricopa County Area, Chapter Eight: Demonstration of Attainment Status.

APPENDIX D, Exhibit 1

MAG 1987 Carbon Monoxide Plan for the Maricopa County Area, Chapter Seven: Implementation of the MAG 1987 Carbon Monoxide Plan.

CHAPTER SEVEN

IMPLEMENTATION OF THE MAG 1987 CARBON MONOXIDE PLAN

In order to improve air quality, it is important to effectively implement the measures contained in the MAG 1987 Carbon Monoxide Plan as soon as possible or as expeditiously as practicable. The implementing entities submitted specific commitments to implement the plan by July 10, 1987. These commitments have been reviewed and an implementation schedule has been prepared to reflect the time frames specified in the commitments for implementation.

IMPLEMENTATION SCHEDULE

The following implementation schedule provides a brief description of the commitments received by MAG to implement the measures in the plan and corresponding time tables. In addition to the commitments reflected in the schedule, Luke Air Force Base and Williams Air Force Base also submitted commitments to implement the plan which are contained in Chapter Ten.

1. Vehicle Inspection Maintenance Program - 1987 Legislation Statewide (Areawide Strategy)

   - City of Avondale agrees to urge the Arizona State Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis in the 1988 legislative session.

   - City of Chandler agrees to urge the Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis, beginning in the 1988 legislative session.

   - City of El Mirage agrees to urge the Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis in the 1988 legislative session.

   - Town of Gila Bend would support a statewide application of the Vehicle Inspection Maintenance Program. The Legislature should provide an exemption for rural areas.

   - Town of Gilbert agrees to lobby the Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis beginning in the 1988 legislative session.

- City of Glendale will support legislation for a statewide application of the Vehicle Inspection Maintenance Program. Glendale will work with the League of Arizona Cities and Towns in drafting and requesting introduction of this legislation. Efforts will begin in August, 1987.

- City of Goodyear agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include application on a statewide basis during the 1988 legislative session.

- City of Mesa agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include an application on a statewide basis as part of its 1988 legislative program.

- City of Peoria agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis during the 1988 legislative session.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support and encourage the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include an application on a statewide basis during the 1988 legislative session.

- Town of Surprise will support legislation requiring a mandatory Vehicle Inspection Maintenance Program.

- City of Tempe agrees to support the Maricopa Association of Governments in its efforts to urge the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to apply the program on a statewide basis during the 1988 legislative session.

- City of Tolleson supports this measure.

- Town of Wickenburg agrees, along with the Maricopa Association of Governments, to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis and, in such event, to locate and operate a vehicle emissions station in the Town of Wickenburg. This request will be made during the 1988 legislative session.

- Town of Youngtown supports this measure.

- Maricopa County Office of Government Relations agrees to advocate for and support legislation to amend the Vehicle Inspection Maintenance Program to include application on a statewide basis and no waiver repair limits. Efforts will begin in September, 1987 and continue through July, 1988.

- The Maricopa Association of Governments agrees to urge the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis beginning in the 1988 legislative session.

- Arizona Legislature passed S.B. 1360 in 1987 which expands the Vehicle Inspection Maintenance Program to include those persons who commute into a nonattainment area but live outside these areas. Universities and community colleges located inside a nonattainment area shall require all students who drive to have their vehicle inspected, regardless of where that vehicle is registered. Violators will be subject to a $50 fine on the first offense and a $300 fine for the second offense within a year. The fine is waived if the vehicle is inspected. The inspection maintenance requirements will be enforced through a program implemented by Motor Vehicle Division which will provide that all vehicles required to be tested be issued a modified validating tab or an air quality compliance decal. The bill also increases the amount of recommended repairs for model year 1975-79 vehicles from $100 to $200, and increases the waiver fee from $1 to $5. S.B. 1360 effective date - August, 1987.

2. Vehicle Inspection Maintenance Program - 1987 Legislation Countywide (Areawide Strategy)

- City of Avondale agrees to urge the Arizona State Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis in the 1988 legislative session.

- City of Chandler agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis should the Legislature decline to enact a statewide program beginning in the 1988 legislative session.

- City of El Mirage agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis in the 1988 legislative session.

- Town of Gila Bend would support a countywide application of the Vehicle Inspection Maintenance Program. The Legislature should provide an exemption for rural areas.

- Town of Gilbert prefers a statewide application of the Vehicle Inspection Maintenance Program. However, if only a countywide application can be obtained, Gilbert will support it beginning in the 1988 legislative session.

- City of Glendale will support legislation for a countywide application of the Vehicle Inspection Maintenance Program. Glendale will work with the League of Arizona Cities and Towns in drafting and requesting introduction of this legislation. Efforts will begin in August, 1987.

- City of Goodyear agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include application on a countywide basis during the 1988 legislative session.

- City of Peoria agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis during the 1988 legislative session.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support and encourage the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include an application of a countywide basis during the 1988 legislative session.

- Town of Surprise will support legislation requiring a mandatory Vehicle Inspection Maintenance Program.

- City of Tempe agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to apply it on a countywide basis if the Legislature refuses to approve a statewide application during the 1988 legislative session.

- City of Tolleson supports this measure.

- Maricopa County Office of Government Relations agrees to advocate for a countywide application of the Vehicle Inspection Maintenance Program with no waiver limits. Efforts will begin in September, 1987 and continue through July, 1988.

3. Short-Range Transit Improvements (Areawide Strategy)

- City of Avondale supports the short-range transit improvements under the authority of the Regional Public Transportation Authority (RPTA).

- Town of Buckeye supports the short-range transit improvements under the authority of the RPTA.

- City of Chandler will support and coordinate with the RPTA in the implementation of short-range transit improvements through the Chandler Public Works Department beginning in 1987.

- City of El Mirage will study the implementation of a local transit system and if practical, implement a system which will interconnect with the RPTA. Study will begin in August, 1987.

- Town of Gilbert will initiate active relations with the RPTA to determine the most effective role for Gilbert in the areawide transit planning process. Gilbert will develop short-range objectives by September, 1988.

- City of Glendale will continue to support the RPTA in the implementation of short-range transit improvements. The Mayor of Glendale serves on the RPTA Board and the Assistant City Manager serves on the RPTA Advisory Committee. Glendale is also currently studying the implementation of a downtown circulatory system. Council action on the downtown circulatory system - February, 1988. Express service expanded in North Glendale - September 30, 1987.

- City of Goodyear supports the short-range transit improvements under the authority of the RPTA.

- Town of Guadalupe supports this measure which is under the authority of the RPTA.

- City of Mesa agrees to study possible service extensions in terms of hours and days of transit service. The study will be completed by October, 1987. Mesa will also study corridors for new transit service

implementation by October, 1987. Mesa agrees to implement changes to transit service in FY 1988-89 if these two studies show that the expansion of transit service in Mesa would have a significant mitigating impact upon traffic congestion and if a long term dedicated funding source for such service expansion is available.

- City of Peoria will examine the feasibility of expanding the short-range transit improvements provided by the RPTA. Peoria has budgeted for a feasibility study to augment this transit service within city boundaries. Conduct study - February, 1988. Present study to Council - May, 1988.

- City of Phoenix Public Transit Department has submitted a $46,110,000 capital improvement program for the five year period 1987-88 through 1991-92. It includes 125 new buses, four transit centers, two park and rides, and numerous other support projects. The Department projects a continuation of the delivery of 40,500 miles of service per day, at a cost of $35,000,000 per year. Service improvements for 1987-88 includes $250,000 for evening bus service, $190,000 to expand dial-a-ride service in Deer Valley and $116,000 in miscellaneous routes improvements, totaling $556,000.

- City of Scottsdale has recently increased frequency and added additional transit routes to its transit system. Scottsdale now provides transit service on eight regular routes and three express routes. Since 1985, the new transit system has increased the size of the service area by 98 percent, to 323 square miles. Furthermore, yearly bus travel in Scottsdale has increased 79 percent over the old system, to 418,733 miles. Usage has increased 29 percent to 403,212 boardings per year.

- Town of Surprise will work with area officials including RPTA to support and publicize all alternative available means of public transportation. Possibly, facilities will be provided for boarding, waiting, and transfer of public transportation riders.

- City of Tempe agrees: 1) as a member of the Regional Public Transportation Authority, to participate in and support the efforts of the RPTA to implement short-range transit improvements through the use of the annual $5 million allocation for improved bus and community-funded transportation services, and 2) as funding permits, to continue to make improvements in existing levels of bus/trolley service, to add new service, including special needs transportation, and to effect enhancements in transit-related facilities (bus shelters, benches, etc.) designed to make the use of public transportation more attractive and comfortable.

  Ongoing, with the following specific improvements already effected or planned: One new RPTA express bus route implemented, bringing the total number of express routes serving Tempe to four - December, 1987. Two new RPTA local bus routes implemented - January, 1987. One new RPTA local bus route implemented, bringing the total number of local routes serving Tempe to five - April, 1987. $24,000 grant from the City to the Tempe Transit Authority for a 10-passenger, 5-wheelchair equipped van to provide special needs service - May, 1987. Dial-a-Ride or similar service to provide service within Tempe and among Tempe, Scottsdale and Mesa scheduled for

implementation - January, 1988. Bus shelters: 1986-87, four purchased; 1987-88, nine planned for purchase and installation. Other service: The City contracts with the City of Phoenix for bus service on two local and three express bus routes; it provides a subsidy (1986-87, $45,000) to the Tempe Transit Authority to support operation of three routes in Tempe; and it provides an annual allocation (1986-87, $5,000) to the Red Cross. Evaluation of these services is ongoing and improvements are made as funding permits.

- City of Tolleson supports short-range transit improvements.

- Maricopa County Human Resources Department agrees to advocate for increased short-range transit improvements to be developed through the Regional Public Transportation Authority. The Director of the Maricopa County Office of Human Resource Department will advocate specifically for: increased levels of service, expanded service, improved transit system security, and increased marketing and promotional activities. Efforts begin in September, 1987 and continue through August, 1988.

- The Arizona Department of Transportation as mandated by S.B. 1360 (Omnibus air quality) will explore public transportation alternatives which could improve air quality and meet regional transportation needs in the metropolitan Phoenix and Tucson areas. The range of projects under consideration presently includes: new transit service, fixed route extensions, ridesharing, vanpooling, and park and ride lots. Draft evaluation of project findings - September, 1988. Report to the Legislature - January, 1989.

- Regional Public Transportation Authority subsidizes the operation of 15 bus routes in Maricopa County. Two of the routes are operated by a private provider under a contract administered by the RPTA; the remaining 13 routes are operated by a private provider under a contract administered by the City of Phoenix Public Transit Department.

  Six of the 15 RPTA-subsidized bus routes are express routes which began service in December, 1986. Seven local routes began service in January, 1987, and an additional two local routes began service in April, 1987. Performance of these routes is evaluated on a continuous basis.

4. <u>Long-Range Transit Improvements (Areawide Strategy)</u>

- City of Avondale, through the intergovernmental process, will support the planning conducted by the Regional Public Transportation Authority and implementation of long-range transit improvements. Voter approval of a mass transit system will be encouraged.

- Town of Buckeye supports long-range transit improvements under the authority of the RPTA.

- City of Chandler will support the RPTA with long-range transit improvements and will promote the RPTA plan when submitted to the voters in 1989.

- City of El Mirage will support the RPTA plan and encourage voter approval when submitted to the voters in 1989.

- Town of Gilbert will actively solicit participation in and develop support for RPTA planning and implementation of its long-range transit improvements. Gilbert will support RPTA plan when submitted to voters in 1989.

- City of Glendale will support RPTA planning and implementation of long-range transit improvements. Glendale will support the RPTA plan when submitted to the voters in 1989.

- City of Goodyear will support, through the intergovernmental process, RPTA planning and implementation of long-range transit improvements. Goodyear will review and support the RPTA Plan and encourage voter approval when submitted to the voters in 1989.

- Town of Guadalupe supports this measure which is under the authority of the RPTA.

- City of Mesa will be responsible for the development of the Capital Improvement Program (CIP) and Transportation Improvement Program (TIP) with the RPTA being the lead agency in developing a comprehensive Valleywide transit master plan. The CIP should be completed by December, 1987. The RPTA plan is tentatively scheduled for completion in early 1989.

- City of Peoria will support the RPTA planning and implementation of long-range transit improvements.

- City of Phoenix will continue its practice to secure, on a project specific basis, commitments for dedication of rights-of-way to accelerate future transit improvements.

- City of Scottsdale will work cooperatively with the RPTA on its planning and promotion efforts. City of Scottsdale will also contribute to a feasibility study and preliminary assessment of a multi-modal mass transportation terminal in the Downtown area. Such a facility could be utilized by local and regional bus services, trolley systems, Dial-a-Ride, charter and limo services, and a variety of taxi and rental services. Such facilities are typically integrated with large parking facilities and mixed-use retail centers. If planned and managed effectively, there is a possibility that such a facility could ultimately become self-supporting or even profitable. City of Scottsdale will provide appropriate bus stop amenities including signage, benches, and passenger shelters. RPTA planning - July, 1987 - February, 1988. Terminal study - 180 days. Bus Stop Amenities - 12 Months.

- City of Tempe, as a member of the Regional Public Transportation Authority, agrees to participate in and support the development of a regional public transportation plan, to include rapid transit, bus and special needs service components, as provided in Laws 1985, Chapter 308 and the expeditious implementation of the plan (subject to voter approval of the specified up to one-half cent additional sales tax increase). Planning - July, 1986 through June, 1991. Countywide election - 1989.

- City of Tolleson supports long-range transit improvements.

- Maricopa County Human Resources Department agrees to advocate for increased long-range transit improvements to be developed through the Regional Public Transportation Authority. The Director of the Maricopa County Office of Human Resource Department will advocate for implementation, at a minimum, of the "superbus system" (more buses). Efforts begin in October, 1987 and continue through August, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which establishes a light rail study commission to evaluate the feasibility of a statewide light rail system. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and City of Phoenix have begun work to define the regional transit network including rapid transit plans for the most heavily-traveled corridors. RPTA and City of Phoenix staff will coordinate and supervise consultants in this effort.

  Set up project and review earlier transit systems planning work - March, 1987 to April, 1987.

  Establish study goals - March, 1987 to May, 1987.

  Define transportation problem - April, 1987 to July, 1987.

  Define transit market - May, 1987 to August, 1987.

  Identify candidate corridors - March, 1987 to August, 1987.

  Identify candidate technologies - June, 1987 to August, 1987.

  Develop and evaluate system concepts - August, 1987 to January, 1988.

  Recommend systems plan; prepare implementation and staging plan - December, 1987 to February, 1988.

5. <u>Exclusive Bus Lanes on Arterials and Freeways as Appropriate (Areawide Strategy)</u>

   - City of Avondale will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

   - Town of Buckeye supports this measure as appropriate.

   - City of Chandler agrees to provide dedicated bus lanes on arterials when traffic conditions warrant within sixty days after their need is determined.

   - City of El Mirage will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

   - Town of Gilbert agrees to provide dedicated bus lanes on arterials and freeways when appropriate.

   - City of Glendale will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate. Glendale will also study the feasibility of implementing exclusive bus lanes on arterials (one year study).

- City of Goodyear will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- Town of Guadalupe supports this measure.

- City of Mesa will encourage ADOT to provide exclusive bus lanes on freeways when appropriate and warranted by traffic conditions. Mesa will consider similar dedicated lanes on arterials at such time that traffic conditions warrant such action.

- City of Peoria will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- City of Phoenix will maintain the existing bus only lanes on Central/First Avenues. Bus only lanes will be restored on Central Avenue upon completion of construction of the underground parking structure. Phoenix will continue to look for opportunities for additional applications of this measure. FY 1986-87 Operating Budget includes $400,450 to support 10 full-time equivalent employees to evaluate additional traffic control measures, including this measure.

- City of Scottsdale Planning and Traffic Engineering Program will coordinate ongoing studies concerning the feasibility and appropriateness of providing facilities for busses and other high occupancy vehicles on arterial streets in the city. Since the Planning program also is responsible for implementing transit improvements, internal coordination and proper sequencing of transportation improvements will be assured. Additional coordination will be required with the Regional Public Transportation Authority, Phoenix Transit, and neighboring municipalities. The Arizona Department of Transportation is responsible for freeway bus lanes. The City of Scottsdale will request ADOT to consider providing exclusive bus lanes on freeways where appropriate. Efforts begin in July, 1987 and are ongoing. Feasibility studies for Bus/HOV Lanes begin July, 1987.

- City of Tempe agrees to encourage the Arizona Department of Transportation to implement exclusive bus lanes on selected freeways, provided: 1) substantial short and long-term transit improvements are effected which justify the dedication of such lanes; 2) traffic studies indicate that the implementation of exclusive bus lanes would not contribute to traffic congestion; 3) implementation can be accomplished without adversely affecting other programs promoting the use of high occupancy vehicles - i.e., ridesharing; and 4) implementation can be accommodated within existing or planned freeway design.

- City of Tolleson supports this concept as appropriate.

- Maricopa County Highway Department concurs in the policy of providing exclusive bus and HOV lanes on major arterials and freeways as appropriate. ADOT is the responsible agency for HOV lanes on freeways; Maricopa County Highway Department would have the responsibility for any county highway arterials for which the HOV requirement might exist. ADOT has provided to Maricopa County Highway Department its current plans for HOV construction on the valley freeway system. Maricopa County Highway Department concurs with that planned program and will continue to monitor progress for

those portions of the freeway system which are located in unincorporated areas of the county. At this time, there is no need within the existing highway system which might require this application. The concept is being retained as a highway planning policy on a permanent basis. This measure is fully implemented. The Maricopa County Highway Department will continue to monitor this as an ongoing activity.

- Regional Public Transportation Authority and City of Phoenix will continue to pursue the introduction of exclusive bus lanes. Ongoing.

6. Expanded MAG Regional Ridesharing Program (Areawide Strategy)

- City of Avondale will support the Public Awareness Program through local publicity efforts, disseminate ridesharing information, and encourage businesses and industry to initiate rideshare programs beginning in September, 1987. Ongoing efforts.

- Town of Buckeye supports an expanded MAG Regional Ridesharing Program.

- City of Chandler will assist MAG in expanding the Regional Ridesharing Program through the Regional Public Transportation Authority.

- City of El Mirage will support the MAG/RPTA Public Awareness Program and Clean Air Force, assist in the dissemination of ridesharing information, and encourage businesses and industry to initiate rideshare programs on an ongoing basis.

- Town of Gila Bend would support the expansion of the Ridesharing Program.

- Town of Gilbert will assist MAG in expanding the Regional Ridesharing Program through the RPTA. Gilbert will develop and encourage an employee ridesharing program or alternative transportation program during 1987-88.

- City of Glendale will coordinate public awareness programs with MAG, RPTA, and Clean Air Force. Glendale will initiate a ridesharing program for the 1,200 city employees. In addition, the Transit Division will be working with major employers and employment areas to initiate rideshare programs. Public awareness efforts will begin in August, 1988 and the rideshare program will be implemented in January, 1988.

- City of Goodyear will support the MAG/RPTA Public Awareness Program and Clean Air Force through local publicity efforts such as the City newsletter and local news media. Goodyear will also assist in the dissemination of ridesharing information and materials encouraging businesses and industry to initiate rideshare programs. Develop public awareness program - October, 1987. Coordinate with RPTA on dissemination of RPTA ridesharing materials - Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa, as a member of RPTA, is working to support the RPTA in expanding regional ridesharing. The City of Mesa is also surveying its employees in order to develop match lists and encourage carpooling

among its employees. The program will be in place and operating by September, 1987. Once the City of Mesa program is in operation, City staff will assist the RPTA in approaching other employers in Mesa.

- City of Peoria Community Services Department will participate jointly with MAG in promoting the Regional Ridesharing Program. Peoria will post signs that designate and promote ridesharing. Water bills will also contain information to promote ridesharing. Development of public awareness program - December, 1987. City calendar will promote ridesharing - January, 1988. Ongoing coordination efforts.

- City of Phoenix supports this measure.

- City of Scottsdale will continue to work with RPTA staff in the implementation of a rideshare program for employees. Scottsdale will work with the Scottsdale Chamber of Commerce in encouraging large employers to adopt similar programs for employees. The City Transit Program will begin implementation of the City Rideshare Program in June, 1987. Once the City Rideshare Program has begun, Scottsdale will encourage other firms, via the Chamber of Commerce, to adopt similar internal rideshare programs.

- Town of Surprise will encourage the use of carpools and vanpools.

- City of Tempe agrees to implement an in-house rideshare program for all City employees. The program will be based in the City Manager's Office, and commence with a comprehensive needs assessment/survey.

  The City of Tempe further agrees to support and assist the RPTA in all reasonable measures to expand the rideshare program to private employers. These measures may include such items as special inserts in the monthly water bill, articles in the TEMPE TODAY newsletter and letters to Tempe employers from the Mayor. Survey will begin - Fall of 1987. Rideshare program implementation - First Quarter of FY 88-89. Support and assistance to RPTA - Ongoing.

- City of Tolleson supports the expansion of the MAG Regional Ridesharing Program and will coordinate with MAG to expand it.

- Town of Wickenburg will support the MAG/RPTA Public Awareness Program and the efforts of the Clean Air Force, through local publicity efforts. The Town of Wickenburg will assist in the dissemination of ridesharing information and encourage businesses and industry to initiate rideshare programs relative to those persons who commute on a regular basis to and from the Phoenix metropolitan area in Maricopa County. The Town of Wickenburg will coordinate with the RPTA on the dissemination of RPTA ridesharing materials.

- Town of Youngtown supports the MAG efforts to expand the Regional Ridesharing Program.

- Maricopa County Facilities Management is an active participant in the MAG Rideshare Program. One staff person is assigned to coordinate the effort. The County has a computer link directly with MAG. A periodic schedule of employee notification is underway with

information being distributed with paychecks and in the in-house newsletter (Insider). Efforts began in September, 1986 and will continue through November, 1987. The County ridesharing program is ongoing.

- Arizona Department of Transportation annually has provided funding for the Capitol Complex Rideshare Program, administered by the Energy Office of the Arizona Department of Commerce. This program promotes the use of ridesharing by State employees working in the Capitol area. This program is coordinated with the MAG Regional Ridesharing Program operated by the Regional Public Transportation Authority. ADOT support for the Capitol Complex Rideshare Program will continue in fiscal year 1988, and will reflect a 53 percent increase compared to the FY 1987 funding level. Current program objectives include: initiate vanpool operation, conduct a computer survey, conduct a major promotional campaign, work with the City of Phoenix to promote bus ridership by State employees, distribute newsletters about carpooling, maintain the efforts of State agency rideshare coordinators, and continue cooperation with the Arizona Department of Administration, regarding parking management. Effective date of FY 1988 funding - October, 1987. Summary of program results - November, 1988.

- Maricopa Association of Governments agrees to expand the Regional Ridesharing Program through the Regional Public Transportation Authority. With a combination of Federal Highway Administration funds and monies from the Exxon Restitution Fund, the program has been expanded significantly. Staff has been increased from two to five people, with additional contract support for clerical activities. Three employer marketing representatives have been hired to work directly with valley employers to design internal rideshare programs for each business.

  The main objective for the program is to develop transportation management plans that will promote a number of different modes of travel, (i.e. transit, carpooling, vanpooling, bicycling), thereby reducing the use of single occupant vehicles. Other measures such as alternative work hours will be promoted to help reduce localized congestion problems. The goal for the 1987 program year is to develop programs in all local governments, the top 20 valley employers and a wide variety of small and medium sized businesses. A total of 125 firms will be contacted in 1987 and 700 firms will be contacted by 1995.

  In addition to the marketing services, the computer pool match systems have been enhanced and the efforts toward personalized matching services have been expanded. There is more direct contact with the rideshare applicants, and greater emphasis has been placed on informing them about the various transit alternatives that are available to them.

  Initiate program - January, 1987

  Upgrade pool match computer equipment - February, 1987

  Hire and organize staff for the expanded Rideshare Program - March, 1987

Develop marketing plan and promotional literature for site specific program; organize public awareness activities to promote "Rideshare Day" events - March to April, 1987

Develop employee transportation coordinator training; conduct major update of applicant data base - May, 1987

Develop video presentations on flextime, alternative transit modes, overcoming objections to ridesharing, and employer rideshare incentives - June to August, 1987

Ongoing Efforts:

a. Contact employers to develop specific programs
b. Conduct evaluation of program
c. Coordinate with local Chambers of Commerce to organize group employer meetings
d. Conduct employee transportation coordinator training sessions
e. Install off-site terminals in large employer rideshare programs
f. Publish quarterly rideshare newsletter
g. Establish vanpool program in Maricopa County

7. Model Trip Reduction Ordinance - Employer Based Transportation Management (Areawide Strategy)

- Town of Buckeye will provide a representative for the Working Group for the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program. Buckeye commits to adopt the ordinance within three months of final approval of the model by MAG.

- City of Chandler has appointed a local representative to serve on the Working Group for the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review and provide input on the proposed ordinance and consider for adoption in March, 1988.

- Town of Gila Bend would support the development of the Model Trip Reduction Ordinance by MAG although the only large employer in the area lies outside the town limits.

- Town of Gilbert supports the development of the Model Trip Reduction Ordinance and Coordinated Parking Management Program by MAG.

- City of Glendale staff will participate and assist in the MAG program to develop a Model Trip Reduction Ordinance. Glendale will adopt an ordinance that will embody appropriate trip reduction measures for Glendale. Efforts will begin in May, 1987 and continue through June, 1988.

- City of Goodyear supports the preparation of the Model Trip Reduction Ordinance by MAG. Goodyear will review and provide input on the proposed ordinance and consider for adoption. Efforts began in January, 1987 and continue through March, 1988.

- Town of Guadalupe will provide a representative for the Working Group for the MAG Model Trip Reduction Ordinance. Guadalupe commits to adopt and implement it when completed. Adoption will be three months after final approval by MAG.

- City of Mesa supports MAG in preparing the ordinance and has designated a representative of the City to serve on the Working Group for the preparation of the ordinance. Mesa will carefully review and consider the ordinance for adoption when completed. If Mesa adopts the ordinance, the City will develop a plan for implementation. Mesa will review and decide whether to adopt the Model Trip Reduction Ordinance within ninety after its completion and approval by MAG.

- City of Peoria supports MAG in the preparation of the Model Trip Reduction Ordinance and will consider adoption in March, 1988.

- City of Phoenix will participate and assist in the MAG program to develop a model ordinance for future consideration by Phoenix and other MAG area communities.

- City of Scottsdale will review the MAG Model Trip Reduction ordinance and determine which, if any, recommendations are appropriate and feasible. Adoption of a local ordinance could be considered 90 to 120 days after completion of the model ordinance by MAG.

- Town of Surprise will cooperate with other municipalities or governments in implementing the Model Trip Reduction Ordinance.

- City of Tempe agrees to support the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Study and to consider adoption of the measures recommended when the study is completed. Consideration by the Council will be in the third or fourth quaters of FY 1987-88 with implementation targeted for the first and second quarters of FY 1988-89.

- City of Tolleson supports the preparation of a Model Trip Reduction Ordinance which will be prepared by the Maricopa Association of Governments and will consider it for adoption when presented.

- Town of Wickenburg supports the hiring of a consultant to prepare the Model Transportation Systems Management or Trip Reduction Ordinance. The Town of Wickenburg will review and provide input on the proposed Ordinance and consider for adoption. Wickenburg will review the ordinance - January, 1988. Wickenburg will consider the adoption of an ordinance - March, 1988.

- Town of Youngtown supports MAG efforts in this measure.

- Maricopa County Office of the County Manager will designate a Maricopa County staff person to serve as a liaison to MAG in the development of a Model Trip Reduction Ordinance. Staff person designated - September, 1987. Efforts will continue through June, 1988.

- The Maricopa Association of Governments will prepare a Model Trip Reduction Ordinance and Coordinated Parking Management Program for consideration for adoption by the MAG cities, towns, and Maricopa County. Specifically, MAG has selected K. T. Analytics, Inc. as a

qualified consultant with expertise in transportation systems management. The consultant will be responsible for preparing the Model Transportation Systems Management or Trip Reduction Ordinance and Coordinated Parking Management Program. The consultant will also work closely with a short-term MAG Working Group composed of representatives from local jurisdictions, Maricopa County and the private sector. The working group will critically review consultant products and also solicit input from the private development community. Approximately six months will be required for the consultant to complete the proposed project. The estimated time required for each task is provided below. Tasks overlap one another in terms of time and a June, 1987 commencement date is targeted for consulting services.

- Arizona Legislature passed S.B. 1360 in 1987 which requires cities and counties to include air quality measures in their general plans. They may also adopt trip reduction ordinances. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority will have a representative on the MAG Working Group which will assist the consultant in designing the ordinance. Once the ordinance is drafted, Regional Rideshare staff will work with the local governments and MAG to see that the ordinances are adopted in the various jurisdictions. Assistance will be provided with designing the performance requirements for businesses and deciding which trip reductions measures would be best suited to the different locales. When the ordinances are adopted, the Rideshare staff can assist the local jurisdictions to inform businesses of the new requirements, train them on rideshare techniques, and help them develop specific programs tailored to their company's needs. Appoint rideshare representative to the Model Ordinance Working Group - June, 1987. Work with consultant to develop model ordinance - June to November, 1987. Ongoing efforts.

8. <u>Voluntary No Drive Days Program (Areawide Strategy)</u>

- City of Avondale will support this media campaign and will also develop and implement a local public awareness clean air program beginning in September, 1987.

- Town of Buckeye supports the Voluntary No Drive Days Program.

- City of Chandler agrees to support a regional campaign for Voluntary No Drive Days through public service announcements on City Cable Channel 35, utility bill inserts, and articles in monthly newsletter. Chandler Public Works Department will coordinate and conduct local traffic counts to measure any traffic reduction impact of the campaign. Activities will begin on approximately October 1, 1987.

- City of El Mirage Manager's Office will coordinate with the lead agency by preparing newsletters, encouraging staff to participate and proposing a resolution to support the areawide effort.

- Town of Gila Bend supports all efforts to encourage clean air no drive days and a campaign for public awareness. Gila Bend could promote this measure on the Cable TV Information Channel and use of local news media. Implementation as soon as possible.

- Town of Gilbert Manager and Engineering Department will support the no drive campaign through public service announcements on the Town public access channel and articles in the Citizens Newsletter. Town Engineering Department will coordinate and conduct local traffic counts to measure any traffic reduction impact of the campaign. Planning and preparation will continue through October 1, 1987.

- City of Glendale will support the campaigns of MAG and the Clean Air Force. Glendale will develop a clean air education/awareness program. Program development will begin in August, 1987 and the program will be initiated in January, 1988.

- City of Goodyear agrees to support the Maricopa County Health Department, Regional Public Transportation Authority, Maricopa Association of Governments, and the Phoenix Metropolitan and Local Chambers of Commerce in their media campaigns. City of Goodyear will develop and implement a local public awareness clean air program. Program development - September, 1987. Publications - October, 1987 through March, 1988.

- Town of Guadalupe supports this measure.

- City of Mesa will support the no drive campaign through public service announcements and utility newsletter inserts. Mesa will also work with the Mesa Chamber of Commerce to promote the no drive campaign with local businesses.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to support Maricopa County Health Department, the Regional Public Transportation Authority, Maricopa Association of Governments, and the Phoenix Metropolitan and Local Chambers of Commerce in their media campaigns. Peoria will also develop and implement a local public awareness campaign. Develop program - September, 1987. Initiate local publications - October 1, 1987-March, 1988.

- City of Phoenix supports this measure.

- City of Scottsdale Communications and Public Affairs Office working in conjunction with MAG, Maricopa County Health Department, and Regional Public Transportation Authority will support the public awareness/no drive day campaign conducted by the Phoenix Metropolitan Chamber of Commerce, and will institute a Scottsdale publicity campaign. Efforts will begin - July, 1987. Initiation of Scottsdale publicity campaign - August, 1987. Development of incentive program for no drive day volunteers - September, 1987.

- Town of Surprise will cooperate with regional governments and associations of government in publicizing the Voluntary No Drive Program. Surprise will cooperate with the County and other government officials to monitor the success of the voluntary program.

- City of Tempe agrees to support the efforts of the Phoenix Metropolitan Chamber of Commerce, the Regional Public Transportation Authority and the Maricopa Association of Governments in developing a Voluntary No Drive Days Program.

- City of Tolleson supports the concept of a Voluntary No Drive Days Campaign and will support and coordinate with a regional Authority when the program is implemented.

- Maricopa County Division of Public Health will provide air quality technical data at the beginning of the carbon monoxide season and periodically throughout the season whenever carbon monoxide exceeds the standard to radio and TV media, industries, interested public and private agencies for the Voluntary No Drive Days Program. The County Public Information Office will also support the program by providing appropriate notification to County employees. Public access phone line for general public - June, 1987 to October, 1987. Conduct press conference at beginning of carbon monoxide season - October, 1987. Coordination with Phoenix Metropolitan Chamber of Commerce - October, 1987 to February, 1988. Ongoing efforts.

- Phoenix Chamber of Commerce commits to serve as the coordinating entity for the Voluntary No Drive Days Program. The tentative goal of the program is a reduction in vehicle miles traveled in the metropolitan area of approximately three percent in 1987 and eventually increasing to ten percent by 1995. Program commencement - October, 1987 to January, 1988. Ongoing efforts.

- Regional Public Transportation Authority will assist the Phoenix Chamber of Commerce in the Voluntary No Drive Days Program. The Regional Rideshare staff will coordinate its current rideshare efforts with the No Drive Day activities to put together a consolidated promotional package that private employers can use. The general public awareness activities that will be sponsored by the Rideshare Program will also be tailored to fit into the No Drive Days plan. The Regional Rideshare staff will help the Phoenix Chamber to design the program and coordinate with other interested groups to insure that there is adequate coordination during the inversion season. Planning efforts began - May, 1987. Program implementation - October, 1987 to March, 1988. Program evaluation and planning for next year's program - April to May, 1988.

9. <u>Areawide Public Awareness Program (Areawide Strategy)</u>

- City of Avondale agrees to support the Phoenix Metropolitan Chamber of Commerce in the Areawide Public Awareness Campaign and will also conduct local publicity efforts beginning in September, 1987.

- Town of Buckeye supports the Areawide Public Awareness Program.

- City of Chandler agrees to support the public awareness program conducted by the Phoenix Chamber of Commerce.

- City of El Mirage Manager's Office will coordinate with the Phoenix Metropolitan Chamber of Commerce and will aid in distributing literature to the city staff and residents.

- Town of Gila Bend supports all efforts to encourage clean air no drive days and a campaign for public awareness. Gila Bend could promote this measure on the Cable TV Information Channel and use of local news media. Implementation will be as soon as possible.

- Town of Gilbert will make available coordination services and public facilities to facilitate areawide meetings and education forums. Time will be provided on the public access channel.

- City of Glendale will develop a clean air educational/awareness program to facilitate the implementation of carbon monoxide reduction measures. Program development will begin in August, 1987 and the program will be initiated in January, 1988.

- City of Goodyear agrees to support this effort. Goodyear will complement the regional campaign. Program development - October, 1987.

- Town of Guadalupe supports this measure.

- City of Mesa plans to develop a comprehensive public transit marketing plan for FY 1987-88. The marketing plan will include media buying strategies, public service announcements and community involvement campaigns all aimed at encouraging the citizens of Mesa to use public transit as an alternative to the automobile. Implementation of marketing plan - October 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to support the Phoenix Chamber of Commerce public awareness campaign. Peoria will complement the regional campaign with a local program. Development of public awareness program - December, 1987. Ongoing coordination efforts.

- City of Phoenix supports this measure.

- City of Scottsdale Communications and Public Affairs Office working in conjunction with MAG, Maricopa County Health Department, and Regional Public Transportation Authority will support the public awareness/no drive day campaign conducted by the Phoenix Metropolitan Chamber of Commerce, and will institute a Scottsdale publicity campaign. Efforts will begin - July, 1987. Initiation of Scottsdale Public Awareness Program - August, 1987.

- City of Tempe agrees to support, individually and as a member of the Maricopa Association of Governments, the areawide public awareness program initiated by the Phoenix Metropolitan Chamber of Commerce and other Valley Chambers. The City will also cooperate with the Regional Public Transportation Authority in its public transportation and ridesharing informational programs. In addition, the City of Tempe will use programs already in place to provide citizens with information on air pollution, ridesharing, transit and other mitigation strategies. These ongoing programs include the TEMPE TODAY newsletter, the monthly Mayor and Council Breakfast program, as well as one-time and special events such as the Youth Town Hall which could use air quality as a theme. The City will also continue to provide on request, through its Speakers' Bureau, speakers to schools and community organizations to address the issues of air quality, public transportation, ridesharing, etc.

- City of Tolleson will support and coordinate with the applicable agency to provide a public awareness program as it applies to the City of Tolleson.

- Town of Wickenburg agrees to support the areawide public awareness campaign initiated by the Phoenix Metropolitan Chamber of Commerce and other Valley Chambers. When the program is established, the Town of Wickenburg will begin its efforts.

- Town of Youngtown supports MAG efforts in this program.

- Maricopa County Division of Public Health will provide basic air quality data to all constituent members of MAG for use in Public Awareness Programs. Maricopa County will conduct a public awareness program in conjunction with interested parties and agencies to reach its citizens. County Public Information Office will continue to promote air quality awareness to county employees through coverage in the biweekly newsletter, the Insider and other internal notices. Efforts begin in May, 1987 and continue through August, 1988.

- The Maricopa Association of Governments agrees to support the public awareness program conducted by the Phoenix Chamber as well as other appropriate programs. The Phoenix Metropolitan Chamber of Commerce and the Valley chambers initiated an areawide public awareness campaign during the 1986-87 carbon monoxide season. The Phoenix Chamber intends to continue the public awareness program during the 1987-88 carbon monoxide season and possibly, expand the program to include a twelve month time frame. The Phoenix Chamber of Commerce is in the process of preparing a program implementation schedule for the 1987-88 carbon monoxide season.

- Phoenix Metropolitan Chamber of Commerce will conduct a Public Awareness Campaign for the 1987-88 carbon monoxide season. This will be the second year of the Public Awareness Campaign. Campaign will begin in October, 1987 and continue through March, 1988.

- Regional Public Transportation Authority will be working in concert with other interested groups to assist in a year around public awareness campaign. Some specific elements that RPTA will be involved in include: development of a speaker's bureau to discuss ridesharing, transit, and the design of a rapid transit system; production of public service announcements on alternative modes of transit; posting of carpool signs on valley freeways to encourage carpooling; participation at public events (i.e. State Fair, transportation fairs) to promote ridesharing; taping interviews for local radio, television and cable stations; production of videos related to alternative transit modes for use by community groups, schools and businesses; and production of promotional materials for distribution at public events, shopping malls and other public display areas. Efforts began in March, 1987 and are ongoing.

10. Park and Ride Lots (Areawide Strategy)

- City of Avondale agrees to work with the Regional Public Transportation Authority and City of Phoenix to locate park and ride lots and assist in securing land in conjunction with private entities.

- Town of Buckeye supports the use of park and ride lots.

- City of Chandler will support the inclusion of park and ride lots in the RPTA Regional Plan and projects under the Arizona Department of Transportation.

- City of El Mirage agrees to work with the RPTA and the City of Phoenix to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities on an ongoing basis.

- Town of Gilbert will support park and ride lots consistent with the RPTA Plan as it is developed. Gilbert will cooperate in the identification, placement, and use of park and ride lots to support a public transit network.

- City of Glendale will advocate the inclusion of park and ride lots in the RPTA Regional Plan as well as ADOT projects. Glendale's General Plan, currently under review, includes park and ride lots. The General Draft Plan will be completed in the Summer of 1987.

- City of Goodyear agrees to work with the RPTA and City of Phoenix to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities. Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa, RPTA, and the City of Phoenix Transit Office will work together whenever necessary to locate additional park and ride lots. Mesa will also work with private businesses to encourage the dedication of parking spaces for park and ride use in existing and planned parking facilities. Ongoing.

- City of Peoria agrees to work with the RPTA to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities. Peoria Community Center was designated as a park and ride location - January 26, 1987. Ongoing efforts.

- City of Phoenix Public Transit Department and RPTA will continue to assist ADOT to expand lots in new parkway, expressway, and freeway corridors. Phoenix will take necessary actions to implement a new Transit Center in the Sunnyslope area at a cost of $650,000. Over the next calendar year, final design and lease arrangements will be initiated for a new transit treatment at Westridge Mall at a cost of $100,000. Also during the next calendar year, engineering and design will begin on a new Express Bus Terminal to be located at Central Avenue and the Papago Freeway at a cost of $7,600,000. A Paradise Valley Mall Transit Center is budgeted at $230,000, as well as two as-yet-unlocated park and ride lots at $2,795,000.

- City of Scottsdale currently has seven Park and Ride lots. The City will continue to pursue lots and investigate opportunities for joint use of such facilities, particularly in new developments. Once a park and ride site is agreed upon by all concerned parties, implementation can occur in sixty to ninety days.

- Town of Surprise will provide parking as available for persons utilizing carpool, vanpool, or public transit facilities. Surprise will review park and ride availability in conjunction with development plans.

- City of Tempe agrees to cooperate with the Regional Public Transportation Authority, the City of Phoenix Public Transit Department and the Arizona Department of Transportation in determining appropriate locations for new park and ride lots and in securing land (although available land in landlocked Tempe is extremely limited) or use of existing facilities for such lots. Presently in Tempe, there are park and ride lots located at: Dorsey north of Apache; Price and Southern (NE); Southern and Mill (SW); Southern and Rural (SW); Baseline and McClintock (NE); Warner and McClintock (SW); and 6th and Maple. The City is currently working with ADOT to assure the relocation of the existing park and ride lot at Southern/Price (scheduled for demolition) in the ADOT right-of-way at the Pima Freeway/Superstition traffic interchange and the construction of a new park and ride facility at the Warner Road/I-10 traffic interchange. Tempe and ADOT have recently identified and, through the RPTA and Phoenix Transit, secured use of a shopping facility parking lot for a park and ride lot for the new south Tempe express route. Vacant land for new lots, however, will be difficult and expensive to acquire since Tempe cannot expand its corporate limits and undeveloped land is scarce. Ongoing efforts.

- City of Tolleson will support and assist with the responsible agency in locating potential park and ride lots within Tolleson as they become necessary.

- Maricopa County Highway and Planning and Development Departments concur with providing and encouraging the use of park and ride lots to enhance consolidation of vehicle trips along freeways or major arterials having an identified need. This planning principle has been retained on a permanent basis for incorporation into specific projects when justified. In addition, the County maintains monthly contact with ADOT for the valley freeway construction program, including provision of park and ride lots in unincorporated areas. Implementation of this measure has been completed. Maricopa County Highway Department will continue to monitor this as an ongoing activity.

- Arizona Department of Transportation (ADOT) has included in its Fiscal Year 1988-1992 Five-Year Transportation Facilities Construction Program the construction of a park and ride lot adjacent to Interstate 10 at 79th Avenue. In addition, a structure with high occupancy vehicle ramps accessing the interstate median will be constructed to enhance the system efficiency and usage of the 625 vehicle capacity park and ride lot. In addition, ADOT currently is studying potential sites for park and ride lots along the State Highway System and will provide the option to appropriate agencies of purchasing excess ADOT right-of-way for such use where appropriate. It is not anticipated that land specifically for the purpose of park and ride lots will be purchased by ADOT. However, ADOT will offer appropriate excess parcels for purchase by agencies wishing to implement such facilities. Efforts will begin in July, 1987 and construction will be completed by May, 1990.

- Regional Public Transportation Authority and City of Phoenix Public Transit Department will continue to assist ADOT in locating park and ride lots in new and existing parkway, expressway, and freeway corridors. In November, 1986, the RPTA established thirteen park and

ride locations for new regional bus service. These locations and potential new locations are continuously evaluated by the RPTA and City of Phoenix staff. Ongoing.

11. Financial Incentives Including Zero Bus Fares (Areawide Strategy)

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Ordinance and identify those incentives feasible to implement beginning in January, 1989.
- Town of Buckeye supports this measure.
- City of Chandler agrees to consider provisions establishing financial incentives in lieu of parking spaces for employees who do not drive to the workplace, as part of the MAG Model Trip Reduction Ordinance.
- City of El Mirage will review the recommendations in the MAG Model Trip Reduction Study and identify those incentives feasible to implement.
- Town of Gilbert agrees to consider provisions establishing financial incentives in lieu of parking spaces for employers who actively include alternate transportation technology into the employee environment and as part of the MAG Model Trip Reduction Ordinance by January 31, 1988.
- City of Glendale Strategic Planning Department will conduct a study to identify those incentives feasible to implement. The results of this study will be shared with private employers. The study completion date is December, 1988.
- City of Goodyear will review the MAG Model Trip Reduction Study which will address this measure. Goodyear will then identify those incentives feasible to implement. Results of the study will be shared with private employers. Efforts began in January, 1987 and will continue through January, 1989.
- Town of Guadalupe supports this measure.
- City of Mesa agrees to study and implement the subsidization of bus passes for City employees who use public transit to travel to and from work. Mesa also agrees to meet with representatives of Mesa's largest employers and the Chamber of Commerce to encourage similar studies. Study begins - September 1, 1987. Program implementation - January 1, 1988.
- City of Peoria will review the recommendations in the MAG Model Trip Reduction Ordinance and identify those measures feasible for implementation. Results of the study will be shared with private employers. Efforts will be conducted January, 1987 through January, 1989.
- City of Phoenix Rideshare Coordinator will assist Public Transit in its efforts to expand subsidized transit tickets to monthly transit passes. This effort should be completed by Fall, 1987. Phoenix Public Transit and Personnel staff with the assistance of the Air Quality Specialist and Rideshare Coordinator, will continue to provide approximately $100,000 in subsidized transit tickets/passes.

- City of Scottsdale Community and Economic Development will coordinate a program that will involve: 1) Allowing City Employees to work flexible schedules to coincide with bus service or carpools - July, 1987 to July, 1988. 2) Assisting Scottsdale Chamber of Commerce in developing incentive programs for employees - July to December, 1987. 3) Developing incentives for new employers who provide exceptional levels of support for public transit/ridesharing (dependent on a TSM Ordinance).

- City of Tempe agrees, as part of its ongoing employee parking and employee benefits review, to study the possibility of providing subsidized bus/trolley passes to employees who take public transit to the workplace, and to encourage major private employers, Arizona State University, and the high schools to do likewise (through letters). Study conducted - Fall, 1987. Program implementation, if feasible - July, 1988.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Maricopa County Personnel Department agrees to initiate a program with, support of the Maricopa County Board of Supervisors, to give to Maricopa County employees a $15.00 per month County subsidy to be used solely for the purpose of defraying bus fares. Upon approval by the Board of Supervisors, the program of bus fare subsidy would be administered through the Employee Relations Division existing network of the County's Industrial Recreation Council (IRC) representatives. Initiate program - July, 1987. Financial proposal and resolution to the Board of Supervisors - August, 1987. Begin subsidy program - December 1, 1987. Program analysis - January to June, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which allows a tax deduction for employers who pay for public transit for their employees to and from work. Also, the bill authorizes the Director of the Department of Administration to promulgate rules to reimburse state employees if they use public transit to and from work. Counties may adopt ordinances to reimburse their employees for using public transit. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and MAG Regional Rideshare staff will consult with employers to implement direct financial incentives that will encourage their employees to rideshare. Staff will attempt, whenever possible, to have employers subsidize 100 percent of the cost for employee transit passes. If this is deemed inappropriate, we will try to convince employers to provide a $15 per month transit subsidy. This $15 per month is the most common subsidy used because of its status as a Federal non-taxable benefit and since it is not tax deductible at State level.

  Regional Rideshare staff will also work with employers to subsidize vanpooling for their employees. Although vanpooling holds no employer tax benefits, it still can reduce company parking expenses and localized congestion. RPTA will also work with legislative aides to determine if

changes in state legislation can be made to make the allowable subsidies for vanpool equal to those for transit. Materials will also be developed which explain the Federal and State tax benefits on subsidies. Proposed legislation will be monitored and communicated to clientele. Efforts began in March, 1987 and will be ongoing.

12. Preferential Parking for Carpools and Vanpools (Areawide Strategy)

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Study and consider the implementation of this measure beginning in January, 1989.

- Town of Buckeye supports this measure.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review the results of the MAG Model Trip Reduction Study in January, 1987 and consider implementation of this measure.

- Town of Gilbert will review the recommended solutions developed in accordance with the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale will develop an internal policy to encourage carpooling and vanpooling among employees. Preferential parking in commercial and industrial areas will be addressed as part of the transportation element in the City's General Plan revision process. General Plan draft will be completed in the Summer of 1987 and the policy development will be completed in December, 1987.

- City of Goodyear will review the results of the Model Trip Reduction Study which will address this measure and then consider implementation of this measure. Efforts will begin January, 1987 and continue through January, 1989.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to conduct an in-house study to determine the feasibility of providing preferential parking for carpools and vanpools. Should study results prove favorable, Mesa agrees to provide parking for carpools and vanpools where feasible. Mesa will also work with the Mesa Chamber of Commerce and employers of large firms to encourage private sector evaluation and implementation. Evaluation completed - October 1, 1987. Development of implementation plan if feasible - April 1, 1988. Preliminary meetings with Chamber of Commerce - November 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will review the results of the MAG Model Trip Reduction Study and then consider implementation of this measure. January, 1987 through January, 1989.

- City of Phoenix Finance Department is working with the Rideshare Coordinator in developing a new City employee parking policy which will put increased emphasis on preferential parking for carpools and vanpools. The Finance Department and other appropriate staff, with the assistance of the Rideshare Coordinator, will develop and implement the policy.

- City of Scottsdale Community and Economic Development Department agrees to provide preferential parking for City employees who carpool immediately. Scottsdale will consider as part of the Model Trip Reduction Ordinance, an ordinance to require private employers to implement preferential parking policies for carpools and high occupancy vehicles. This would require approximately twelve months for implementation. Scottsdale will also work with the Chamber of Commerce in the development of a volunteer program which could be implemented by employers. This would require approximately six months for implementation.

- City of Tempe agrees, as part of its ongoing employee parking review and in conjunction with implementation of the ridesharing program, to study the possibility of providing preferential parking for carpools and vanpools and to encourage major employers, Arizona State University, and the school districts, to do likewise. Conduct study - Fall, 1987. Program implementation, if feasible - July, 1988.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Maricopa County Manager's Office has formed an adhoc committee to investigate solutions to the parking problems at the Downtown Complex in Maricopa County. County employees have been surveyed and recommendations have been forwarded to the Board of Supervisors. Process is ongoing. Efforts began in 1985. 146 parking spaces reserved for carpoolers - 1981 to December, 1987. Reallocation of 100 additional parking spaces for carpoolers - January, 1988. Ongoing computer programming for parking space management - April, 1986 to June, 1988.

- Arizona Department of Transportation will provide preferential, close-in parking for employee carpools. ADOT has maintained this policy for many years and will continue to do so. In addition, information on public transit services is made available to employees. Ongoing efforts.

- Arizona Legislature passed S.B. 1360 which requires that State employees must be given preferential parking if they carpool or vanpool. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and MAG Regional Ridesharing staff will attempt to convince all employers to provide preferential parking for their employees who carpool or vanpool. Rideshare staff will market this incentive during the company survey period and throughout the year to the maximum extent possible. Staff will also develop a guidebook to disseminate to employers explaining how to set up a preferential parking program as well as how to monitor

its use. After analyzing the company's needs, Regional Rideshare staff will explain to the employer which program they believe to be best suited for that particular company and try to obtain reserved spaces or parking areas, carpool/vanpool signs, or covered parking for carpools and vanpools. Ongoing.

13. Mandatory Parking Changes for Employees (Areawide Strategy)

- City of Avondale will review the results of the study and consider the implementation of this measure beginning in January, 1989.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review the results of the MAG Model Trip Reduction Study in January, 1989 and consider implementation of this measure.

- Town of Gilbert agrees to review this concept as developed in accordance with the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale will participate in the development of the MAG Model Trip Reduction Ordinance which will address Mandatory Parking Charges for Employees. Glendale will determine the feasibility of implementing this measure when the ordinance is completed. Efforts will begin in May, 1987 and continue through May, 1988.

- City of Goodyear will review the results of the MAG Model Trip Reduction Study which will address this measure and then consider implementation. Efforts will began in January, 1987 and continue through January, 1989.

- City of Mesa will review the recommendation for the MAG Model Trip Reduction Study which will be addressing this measure. The City of Mesa will be the responsible agency for its employees. Mesa will implement the program within ninety days after completion and approval by MAG.

- City of Peoria will review the results of the MAG Model Trip Reduction Ordinance which will address this measure and then consider implementation January, 1987 through January, 1989.

- City of Phoenix supports this measure.

- City of Scottsdale will continue to assess the feasibility of this measure and will implement the measure if it is appropriate and feasible to do so.

- City of Tempe agrees to consider the recommendation concerning Mandatory Parking Charges for Employees which will be included in the Maricopa Association of Governments Model Trip Reduction Ordinance and Coordinated Parking Management Study.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Regional Public Transportation Authority will have a representative on the MAG Working Group which will assist the consultant in developing a workable model for this region. Once the model ordinance is complete, Regional Rideshare staff will work with the local governments and MAG to see that the system is adopted in the various jurisdictions. The rideshare staff is currently working with these local governments and the private sector to define their parking problems and begin to outline what incentives could be used to promote ridesharing for their employees. When the model is developed, the rideshare representatives will be able to take their existing information and incorporate it into the parking management design. Efforts began in June, 1987 and will be ongoing.

14. <u>High Occupancy Vehicle Lanes on Freeways (Areawide Strategy)</u>

- City of Avondale will encourage the Arizona Department of Transportation to include HOV lanes in the design of new freeways. Ongoing efforts.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to include HOV lanes in the design of new freeways where feasible on an ongoing basis.

- City of El Mirage agrees to encourage ADOT to include HOV lanes in the design of new freeways on an ongoing basis.

- Town of Gilbert agrees to encourage ADOT to incorporate HOV lanes into the development/design of the San Tan Freeway as it passes through Gilbert, as well as encourage use of such designs in the urban freeway system.

- City of Glendale will support initiatives by MAG and the RPTA to get ADOT to include HOV lanes in the system. Ongoing efforts.

- City of Goodyear agrees to encourage ADOT to include HOV lanes in the design of new freeways. Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge and work with ADOT to carefully determine the locations and proposed funding sources for HOV lanes on freeways. Ongoing.

- City of Peoria agrees to encourage ADOT to include HOV lanes in the design of new freeways. Ongoing.

- City of Phoenix will aggressively work with the Arizona Department of Transportation and the Regional Public Transportation Authority toward the inclusion of additional HOV lanes on new freeways.

- City of Scottsdale agrees to ask the Arizona Department of Transportation to provide separate high occupancy vehicle lanes on all new freeways which are built to serve Scottsdale residents and businesses. Over fifteen miles of the Outer Loop Freeway will be built over the next fifteen years. Almost $3 billion has been earmarked by Maricopa County voters for the construction of a new set of freeways in Maricopa County. Efforts will begin in January, 1987. Ongoing.

- Town of Surprise will cooperate with regional transportation authorities and State Department of Transportation to designate lanes for high occupancy vehicle use.

- City of Tempe agrees, individually and through the Maricopa Association of Governments and the Regional Public Transportation Authority, to encourage the Arizona Department of Transportation to include high occupancy vehicle lanes in the design of new freeways where feasible, given right-of-way requirements and other design considerations. Ongoing.

- City of Tolleson supports this measure.

- Maricopa County Highway Department will coordinate with ADOT to ensure consideration of this measure as appropriate in county areas.

- The Arizona Department of Transportation has included in its Fiscal Year 1988-1992 (and prior) Five-Year Transportation Facilities Construction Programs the construction of sixty miles of high occupancy vehicle lanes in key central freeway corridors by 1995. The location of these projects and timing of completion are shown under the implementation schedule below. In addition, ADOT will evaluate the use of high occupancy vehicle lanes and/or bypass entrance ramps for all freeway/expressway corridors. High occupancy vehicle lanes have been evaluated for the Black Canyon and Maricopa Freeways in a study completed in December, 1986. The option for high occupancy vehicle lanes or bypass ramps is currently under investigation for each new freeway/expressway corridor being studied by ADOT for implementation in the MAG area. Fourteen miles of HOV lanes have been constructed as part of I-10 completion between 83rd Avenue and 17th Avenue - Completed. Twenty miles of HOV lanes are under or nearing construction as part of I-10 completion between 27th Avenue and 40th Street. This facility is expected to be open to traffic by 1990 - Open in 1990. Six miles of new HOV lanes are programmed for FY 1988 as part of an effort to improve I-10 between 40th Street and Southern Avenue. Design is now underway on this project - Open in 1990. Twenty miles of new HOV lanes are planned as part of the East Papago Freeway. Portions of this facility are now under construction, while other sections are under or nearing design. This facility is tentatively scheduled to be fully completed by 1994 - Open in 1994.

- Regional Public Transportation Authority is working with the City of Phoenix and ADOT on developing strategies for the operation of regional bus services on the freeway system. Included in the planning for these operations is the use of HOV lanes where they are provided. Ongoing.

15. High Occupancy Vehicle Lanes on Existing Arterials as Appropriate

- City of Chandler will consider providing high occupancy vehicle lanes on existing arterials where appropriate.

- Town of Gilbert will consider providing HOV treatments on existing arterials where use of such lanes is part of a comprehensive transportation plan from within the territory as well as adjacent cities.

- City of Glendale will review this measure for implementation where appropriate once the short and long range transit improvements are completed.

- City of Phoenix will maintain the existing bus only lanes on Central/First Avenues. Bus only lanes will be restored on Central Avenue upon completion of construction of the underground parking structure. Phoenix will continue to look for opportunities for additional applications of this measure. FY 1986-87 Operating Budget includes $400,450 to support ten full-time equivalent employees to evaluate additional traffic control measures, including this measure.

- City of Scottsdale Planning and Traffic Engineering Program will coordinate ongoing studies concerning the feasibility and appropriateness of providing high occupancy vehicle facilities on arterial streets in the city. Since the planning program also is responsible for implementing transit improvements, internal coordination and the proper sequencing of transportation improvements will be assured. Additional coordination will be required with the Regional Public Transportation Authority, Phoenix Transit, and neighboring municipalities. Efforts will be ongoing.

- Town of Surprise will cooperate with regional transportation authorities and State Department of Transportation to designate lanes for high occupancy vehicle use.

- Maricopa County Highway Department supports the installation and use of high occupancy vehicle lanes on heavily traveled freeways and some major arterials. In general, traffic on the county highway system is not nearly as congested as the more dense urban traffic in incorporated municipalities. Consideration of HOV lanes, as appropriate, will be part of Maricopa County Highway planning policies. At present there is no location in the existing Maricopa County Highway System for which HOV lanes might be feasible. When the need can be shown relative to a particular project, the feature will be included as appropriate.

16. High Occupancy Vehicle Ramps Which Bypass Freeway Ramp Metering Signals (Areawide Strategy)

- City of Avondale will recommend and support ramps in construction of transportation systems through Avondale.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage the Arizona Department of Transportation to provide HOV bypass ramps where appropriate and feasible on an ongoing basis.

- City of El Mirage will recommend and support ramps in construction of transportation systems through El Mirage.

- Town of Gilbert actively endorses the use of the urban interchange design for the San Tan Freeway through Gilbert. Gilbert agrees to work with ADOT to secure freeway access and exit technology which will minimize traffic delays. Ongoing through the year 2015.

- City of Glendale will recommend and support ramps in construction of the transportation system through Glendale. Ongoing efforts.

- City of Goodyear will recommend and support ramps in the construction of transportation systems through Goodyear.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge ADOT to study and implement, where feasible, bypass ramps for high occupancy vehicles. Ongoing.

- City of Peoria will recommend and support ramps in construction of transportation systems through Peoria.

- City of Phoenix will continue to cooperate with and assist ADOT in the formulation of a Freeway Management System, which addresses this measure. Staff from Streets and Traffic Department will assist ADOT in these efforts.

- City of Scottsdale agrees to ask the Arizona Department of Transportation to provide high occupancy vehicle ramps which bypass freeway ramp metering signals at all metered signals at all metered interchanges in the city. The planned Outer Loop in Scottsdale will have fifteen interchanges, all of which have the potential to provide separate bypass metering signals and ramps for high occupancy vehicles. Efforts began in June, 1987 and are ongoing.

- City of Tempe supports the use of high occupancy vehicle ramps which bypass freeway ramp metering signals and agrees, individually and through the Maricopa Association of Governments and the Regional Public Transportation Authority, to encourage the Arizona Department of Transportation to provide for such ramps where feasible and appropriate. Ongoing.

- City of Tolleson supports these ramps.

- Arizona Department of Transportation is giving consideration to constructing new freeway on-ramps of sufficient width to easily allow striping of HOV bypasses around ramp meters when warranted by traffic demands. These extra wide ramps are to be included in Outer Loop elements now under construction (seven miles), Outer Loop elements under design (twelve miles), and Hohokam/East Papago Extension facilities nearing design (thirteen miles). High occupancy vehicle lanes have also been evaluated for the existing Black Canyon and Maricopa Freeways in a study completed in December, 1986. In June, 1987 a bypass around the ramp meter on the southbound I-17 on-ramp at Dunlap Avenue was opened for buses. Complete design of Outer Loop elements now under design and elements of Hohokam/East Papago nearing design - July, 1991.

- Regional Public Transportation Authority is working with City of Phoenix staff to develop queue jumper plans for both transit vehicles and carpools, and is proposing to use these as a major marketing tool. Ongoing.

17. Mitigation of Freeway Construction Impacts (Areawide Strategy)

- City of Avondale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to take all feasible measures to reduce negative impacts of freeway construction on air quality on an ongoing basis.

- City of El Mirage will request that ADOT implement a construction mitigation program on freeways.

- Town of Gilbert supports active control and minimizing the interruption of traffic flow throughout the freeway construction process. Ongoing through the year 2015.

- City of Glendale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- City of Goodyear will request that ADOT implement a construction mitigation program on freeways.

- Town of Guadalupe supports this measure.

- City of Mesa will encourage ADOT to implement a construction mitigation program for new freeway construction according to ADOT's twenty year construction program.

- City of Peoria will request that ADOT implement a construction mitigation program on freeways.

- City of Phoenix, under contract with ADOT, will provide interim bus service paralleling I-17 during construction of the I-10/I-17 Interchange until January, 1988 at a cost of $163,000. Phoenix will respond to future requests by ADOT to contract for additional interim transit service.

- City of Scottsdale will urge the Arizona Department of Transportation, the development agency, to mitigate the negative impacts of construction on air quality. Concern has been expressed about the negative air quality impacts of this construction activity. ADOT uses an extensive fleet of water trucks to water down the exposed earth to prevent dust and reduce the concentration of other air pollutants. Other erosion and sedimentation control measures, such as project sequencing and scheduling to reduce air pollution also will be investigated. Efforts will begin in June, 1987 and are ongoing.

- City of Tempe agrees to encourage the Arizona Department of Transportation to take all reasonable measures to reduce the negative impact of freeway construction on air quality - i.e., dust reduction measures, detours constructed in a manner not to impede traffic unnecessarily, etc. - and to cooperate with ADOT in undertaking those measures where appropriate. Ongoing.

- City of Tolleson supports this measure and will coordinate with the Arizona Department of Transportation in these efforts if they become applicable to Tolleson.

- Arizona Department of Transportation will maintain a drive information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Starting in March, 1986, this type of program was effectively applied by the ADOT Community Relations Office to lessen the disruption resulting from the construction of the new freeway-to-freeway interchange between Interstate Routes 10 and 17. This program was recommended, together with traffic flow improvements and localized transit and ridesharing promotion, in a study of transportation system management options for mitigating traffic disruption in the I-10/I-17 construction area. Similar public information efforts will be pursued in the future as appropriate, to mitigate the traffic impacts of constructing other new freeways and expressways in the MAG area.

  Specific activities included in this effort involve production and airing of advertising campaigns for flex-time, carpooling, bus ridership, freeway driving tips, and driving only whenever absolutely necessary. Also, a major public information campaign for the State Fair to identify alternative routes and promote use of alternative modes will be pursued. Ongoing efforts will be directed at daily construction alerts, civic presentations, and monthly traffic system management meetings. New freeway driving tip brochure - July, 1987. Production of Fall advertising campaign and survival guide to freeway construction - August, 1987. Airing of campaign for flex-time, carpooling, and bus ridership - September, 1987. Plan mitigating measures for State Fair traffic - October, 1987. State Fair campaign for alternative routes, carpooling, flex-time, and bus ridership - November, 1987. Daily construction alerts - Ongoing. Presentations on freeway driving tips, flex-time, carpooling, bus ridership - Ongoing. Meetings of Traffic System Management Implementation Committee and TSM Marketing Committee - Ongoing.

18. & 19. <u>Freeway Surveillance, Ramp Metering, and Signage (Areawide Strategy)</u>

- City of Avondale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to install traffic surveillance and control systems and ramp metering where feasible on an ongoing basis.

- City of El Mirage will request that ADOT implement a traffic surveillance and control system including electronic surveillance and message signs.

- Town of Gilbert agrees to work with ADOT to secure freeway access and exit technology which will minimize traffic delays. Ongoing through the year 2015.

- City of Glendale will develop a computerized monitoring program to track the progress made by ADOT with the implementation of this measure.

- City of Goodyear will request that ADOT implement a construction mitigation program on freeways.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge and work with ADOT to implement a freeway surveillance and control system. Ongoing.

- City of Peoria will request that ADOT implement a construction mitigation program on freeways.

- City of Phoenix Streets and Traffic Department will continue to work with ADOT on the design of this system to insure proper interface with traffic flow on major streets.

- City of Scottsdale has contacted the Arizona Department of Transportation and has convinced the department to design and provide the necessary conduit and necessary pavement loops for ramp metering. While the standard design specifications do not include the fixtures themselves, a low cost opportunity is provided for the surveillance equipment when it is required in the future. The City of Scottsdale agrees to request the Arizona Department of Transportation to provide the complete set of freeway monitoring devices, meters, causes and electronic signs "up front" as the facility is under construction. Efforts will begin in June, 1987 and will be ongoing.

- City of Tempe agrees, individually and through the Maricopa Association of Governments, to encourage the Arizona Department of Transportation to install traffic surveillance and control systems and ramp metering on freeways where feasible and appropriate, to ensure a free flow of traffic. These measures should be used where the installation of such measures would not result in unacceptable traffic backup on ramps and/or increased congestion on arterials. Ongoing.

- City of Tolleson supports this measure and will coordinate with the appropriate agency in those efforts if it becomes applicable to Tolleson.

- Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the existing I-17/I-10 corridor, funds have been programmed over the next five years for installation of an extensive freeway management system which may include a control center, detector loops, call boxes, TV cameras, variable message signs, lane

control signs, intersection controllers, and ramp meters. Several variable message signs already have been installed to advise motorists of accidents, lane closures, and suggested alternative routes as a strategy to mitigate adverse traffic impacts resulting from road construction in the I-10/I-17 corridor. This system has been studied extensively in a report completed in December, 1986, and the system will be under design in 1988.

- Regional Public Transportation Authority and City of Phoenix staff will continue to work with ADOT on the design of this system to insure proper interface with traffic flow on major streets. Ongoing.

20. Computerized Synchronization of Traffic Signals

- City of Avondale proposes working with the City of Goodyear in studying the efficiency and feasibility of a synchronization traffic signal system.

- City of Chandler agrees to implement a computerized traffic signal system where feasible and appropriate.

- City of El Mirage will encourage ADOT to implement a synchronization of signals along the State highway within city limits.

- Town of Gilbert will actively work with surrounding communities in developing a comprehensive, integrated system of computer synchronized traffic controls.

- City of Glendale currently has a computerized, synchronized traffic signal system and will continue to expand the system as development occurs. Glendale is already in compliance with the 1987 Arizona air quality legislation. Glendale supports a regional study to determine the feasibility of an areawide, coordinated traffic system so that there will also be maximum synchronization at intersections along municipal boundaries. Ongoing.

- City of Goodyear Planning Department will study this measure along with the implementation of reversible lanes on arterials and one way streets. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Mesa agrees to continue to work on implementing the use of computerized synchronization of traffic signals for major arterial streets. Current plans call for computerized signalization of at least 75 arterial street miles with all 197 intersections having signals being computerized. The remaining 86 intersections are scheduled to be under system control by February, 1988. This will be followed by a fine tuning of timing plans which could take up to three months.

- Town of Paradise Valley will implement this measure.

- City of Peoria Public Works Department and Engineering Department will conduct a study to determine the feasibility of the coordination of groups of signals; the system timing of pre-timed signals; and the advanced master control of signal systems. Ongoing study.

- City of Phoenix will upgrade the communication system portion of the centralized computer managed signal control system during FY 1987-88. Thirty-five additional traffic signals will be placed under computer control during FY 1987-88. Included in the FY 1987-88 Capital Improvement Program budget is $158,100 for upgrading and expanding the communication system.

- City of Scottsdale is currently negotiating a contract with a consulting traffic engineer to accomplish a comprehensive revision of the current utilization of the system. After the current system is optimized, a trial period will be provided to evaluate the effectiveness of the current system. Pending the result of this evaluation, either the existing system will be expanded or a new system will be purchased. Complete contract negotiation - July, 1987. Efforts will continue through September, 1990.

- City of Tempe agrees to continue implementation of its computerized traffic signal system. The contract for the City's computerized traffic signal system which provides for synchronization was awarded in 1983. The City, as of June, 1987, had a total of 131 traffic signals in operation. Of these, 106 were under computer control as of December, 1986; eleven have been brought under control in the first six months of 1987 for a total of 117; and the remaining thirteen are scheduled to be placed under control by the end of fiscal year 1987-88. All new signals are placed under control at the time of installation. Ongoing.

- Maricopa County Highway Department supports the use of synchronized traffic signals on both city and county systems. In addition, ARS 49-474.01 requires synchronization of county traffic signals on county roadways having a traffic flow exceeding fifteen thousand motor vehicles per day. It is not believed, however, that synchronization is technically feasible where spacing between adjacent signals exceeds 1/2 mile. In addition, synchronization in both traffic directions is sometimes physically impossible when signal spacings are incompatible. Compliance with ARS 49-474.01 will require an analysis of the Maricopa County signalized intersections, the daily traffic of each intersection, and whether or not each signalized intersection exceeding 15,000 ADT can be synchronized. Synchronization equipment must then be installed as necessary. Complete analysis to identify signalized county intersections requiring synchronization - July, 1987. Complete installation of synchronization equipment at signalized intersections requiring synchronization and for which synchronization is physically possible - March, 1988.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will pursue synchronization of traffic signals on State Highways in the nonattainment area in cooperation with local municipalities. Typically, on urban portions of State Highways, local governments handle traffic control through an agreement with ADOT.

  ADOT will survey State Highway System mileage in the nonattainment area to determine the current synchronization status of municipal systems affecting State Routes. Based on appropriate criteria, those segments of the State System needing synchronization or upgraded

signal coordination will be identified and programmed for improvement. Effective date of S.B. 1360 - August, 1987.

- Arizona Legislature passed S.B. 1360 which requires that cities, counties and the state must synchronize traffic control signals on roads in a nonattainment area which exceed 15,000 vehicles per day. S.B. 1360 effective date - August, 1987.

21. Reversible Lanes on Arterials

- City of Avondale Public Works Department will study the efficiency and identify any appropriate situations where reversible lanes could be installed.

- Town of Gilbert agrees to review its transportation plans and development guidelines to use reversible lane arterials where such an approach results in improved traffic flow, reduced congestion, and represents compatibility with the transportation plan.

- City of Glendale General Plan will address the issue of reversible lanes and an engineering review will also be conducted. The reviews will then be presented to the City Council. The General Plan will be completed in the Summer of 1987, the engineering review will be completed in the Fall of 1987, and Council consideration will be in the Winter of 1988.

- City of Goodyear Planning Department will study the efficiency of this measure and identify any appropriate situations where reversible lanes could be used. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Mesa will identify any appropriate streets where reversible lanes would result in traffic flow improvements. Mesa will conduct a study by December 1, 1987 to determine streets where reversible lanes could be implemented. Implementation schedule will be developed after feasibility study is completed.

- City of Peoria Public Works and Engineering Department will study the efficiency of this measure and identify any appropriate uses of reversible lanes. Study completion - October, 1988. Decision on study - February, 1988.

- City of Phoenix will maintain the existing reverse lanes consistent with the maintenance of all traffic control on Phoenix streets. Striping is reaccomplished every four months or as needed, and signing is maintained as needed. Future reverse lanes will be installed wherever and whenever doing so would be beneficial. The FY 1987-88 Operating Budget includes $10,000 for the existing reverse lanes striping and two Equipment Operators, and $7,000 for the existing reverse lanes signing.

- City of Scottsdale's Downtown Plan adopted in 1983 includes a major couplet street system that surrounds the downtown by curving off of Scottsdale Road in the vicinities of Osborn Road and Camelback Road. The easterly leg of the couplet provides three northbound lanes and two southbound lanes, while the westerly leg provides three southbound lanes and two northbound lanes. The traffic signals will be timed to

provide progression in the direction with the most lanes. Partial completion of 70th Street Bridge - September, 1987. Couplet will be in operation - 1995.

- City of Tempe agrees to evaluate existing traffic splits and traffic control configurations and based on that evaluation, consider implementing reversible lanes on arterials where appropriate. The City will conduct an evaluation of existing traffic patterns and traffic control configurations during fiscal year 1987-88, with the intent of bringing any recommendations concerning reversible lanes before the Council by the fourth quarter of the year. The City cannot commit to implementing reversible lanes until the study is completed; there are conditions on major arterials which may operate against the use of reversible lanes - i.e., the extensive use of left turn signals, the actual traffic splits, etc. However, it is an option which will be explored.

- Maricopa County Highway Department concurs with the policy of providing reversible lanes as appropriate. Traffic safety is a major issue when installing reversible lanes unless physical barriers are present to eliminate the change of operator error in using the lane at the wrong time. The preference is to provide additional traffic lanes and/or lane width, if possible. Maricopa County has no portion of its existing system for which reversible lanes are considered appropriate. It is presently in place as a planning principle. The concept is being retained as a permanent traffic management alternative.

22. <u>One Way Streets</u>

- City of Avondale proposes to work with the City of Goodyear in studying appropriate one way streets.

- City of Chandler agrees to redesignate streets as one way where appropriate.

- Town of Gilbert agrees to review its transportation plans and development guidelines to use one way streets where such an approach results in improved traffic flow, reduced congestion, and represents compatibility with the transportation plan.

- City of Glendale will continue to study the feasibility of this measure for implementation and conduct on engineering review. Study completed - Winter, 1988. Engineering review completed - Spring, 1988.

- City of Goodyear Planning Department will study this measure. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Peoria will conduct a study to coordinate the locations of one way streets with local and regional plans. Study completion - October, 1988. Decision on study - February, 1988.

- City of Phoenix will begin construction on a Fourth/Fifth Street crossover to implement a Third/Fifth Street one way pair around the Civic Plaza. Construction of the First Street crossover, to implement the First Avenue/First Street one way pair from Harrison to Roosevelt,

is programmed for FY 1990-91. Continuous surveillance of traffic operations to detect where and when one way streets would be beneficial. Presently, all streets which would be beneficial to be "one way" are already "one way".

- City of Scottsdale Downtown Plan adopted in 1983 includes a major couplet street system that surrounds the downtown by curving off of Scottsdale Road in the vicinities of Osborn Road and Camelback Road. The easterly leg of the couplet provides three northbound lanes and two southbound lanes, while the westerly leg provides three southbound lanes and two northbound lanes. The traffic signals will be timed to provide progression in the direction with the most lanes. Partial completion of 70th Street Bridge - September, 1987. Couplet will be in operation - 1995.

- City of Tempe agrees to re-examine the possibility of implementing one way couplets. Re-examination - FY 1987-88.

23. Truck Restrictions During Peak Periods

- City of Avondale agrees to consider the recommendations made in the MAG Model Trip Reduction Study and consider implementation.

- Town of Buckeye will adopt Truck Restrictions During Peak Periods within three months of final approval of the Model Trip Reduction Ordinance by MAG.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will encourage truck traffic to make off peak hour deliveries through either informational newsletters, fliers, or by ordinance.

- Town of Gilbert supports the development of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program. This measure will be addressed in accordance with the ordinance.

- City of Glendale will participate in the development of the MAG Model Trip Reduction Ordinance which will address this measure. Glendale will determine the feasibility of implementing this measure when the ordinance is completed May, 1987 - May, 1988.

- City of Goodyear agrees to review the Model Trip Reduction Study recommendations and consider implementation of this measure. Efforts began January, 1987 and continue through January, 1989.

- Town of Guadalupe will adopt truck restrictions as part of the Model Trip Reduction Ordinance developed by MAG three months after final approval by MAG.

- City of Mesa will review the recommendation of the consultant study for the MAG Model Trip Reduction Ordinance which will address this measure; Mesa will implement those recommendations for truck restrictions which are feasible. The Mesa Truck Safety Committee has recommended that the City adopt an ordinance to regulate truck traffic

on residential streets. Mesa will implement those measures for truck restrictions which are feasible within ninety days after completion and approved by MAG.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to review the recommendations for the MAG Model Trip Reduction Study and consider implementation of this measure in January, 1987 - January, 1989.

- City of Phoenix will continue to enforce truck restrictions contained in the Traffic Code.

- City of Scottsdale will review the results of the MAG Model Trip Reduction Ordinance and will implement those recommendations which it deems appropriate and feasible. Currently, truck traffic specifically related to excavation is limited to off-peak hour travel by the City of Scottsdale.

- City of Tempe agrees to consider the implementation of either a voluntary or mandatory program restricting truck deliveries to certain hours, dependent upon the recommendations made in the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program Study which will address the issue of truck restrictions. Implementation of program if approved by Council - May through July, 1988.

- City of Tolleson is awaiting the results from the Model Trip Reduction Ordinance. If applicable, the city will incorporate the truck restrictions in the adoption of the ordinance.

24. Intersection Improvements

- City of Chandler agrees to continue its ongoing intersection/street improvements program and to work closely with the Arizona Department of Transportation on traffic interchanges.

- City of El Mirage will improve intersections to facilitate traffic flow by widening roadways and providing left and right hand turn lanes where practical. A curvelinear parkway is being designed to improve traffic flow through the City. Intersection improvements will begin in the Fall of 1987.

- Town of Gilbert is developing a five year capital improvements program which will propose a method of scheduling and funding these improvements. The 1987-88 budget reflects several major roadway and intersection improvements.

- City of Glendale will continue the Street Capital Improvement Program currently underway for the improvement of 62 intersections in 1987 through 1992.

- City of Goodyear will study and appropriate budget funds for intersection improvements. Ongoing.

- City of Mesa agrees to continue to study and appropriate funds for intersection improvements. This process is done on an annual basis as part of the budget process and Five Year Capital Improvement Program. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria Public Works and Engineering Departments will continue to coordinate with the developers for the improvement of City intersections. Ongoing.

- City of Phoenix determines projects on a yearly basis and has included them in the FY 1987-88 budget. Projects are usually constructed within eighteen months of selection.

- City of Scottsdale Traffic Engineering has an ongoing program of gathering traffic volumes, accident history, and intersection geometrics at locations throughout the City. This information is then utilized to determine deficiencies and appropriate improvements. Master Planning receives the recommendations and defines projects incorporating the improvements. Project Management receives the projects, completes the designs, and supervises the construction. The process is entitled "Bottleneck Projects" and is a continuous activity that is repeated annually. A newly established Citizens' Transportation Committee will provide additional recommendations for intersection improvements. Efforts will begin in June, 1987. Construction of projects - October, 1987-June, 1988. Prioritized list of projects (1988-89) submitted to City Council - May, 1988. The City of Scottsdale will conduct studies on two traffic signal operation investigations. The first study involves the development of a methodology for traffic signal removal. The second study will involve recommendations for "lag left turn" phases or "third car actuated lead left turn" phases. Efforts will begin in June, 1987. Study completion - October, 1987. Implementation will begin in November, 1987.

- Town of Surprise will cooperate with State and County officials regarding the flow of traffic through the Town of Surprise.

- City of Tempe agrees to continue its ongoing intersection/street improvements program, subject to annual review of needs, and further, to work closely with the Arizona Department of Transportation to attempt to ensure traffic interchanges affected by new freeway construction are designed to operate at maximum efficiency. Ongoing. Seventeen intersection/street improvement projects were budgeted and scheduled for start-up or continuation at an estimated cost of $11,197,096 - FY 1986-87. Nine intersection/street improvement projects are budgeted and scheduled for start-up or continuation at an estimated cost of $5,126,000 - FY 1987-88. $42,252,400 in intersection/street improvements are projected, subject to annual review, for start-up or continuation during this four year period - FY 1988-89 through 1991-92.

- City of Tolleson supports the improvements of intersections as appropriate to the situation. Right-of-way restrictions prohibit the city from making significant improvements to existing streets. However, with new development which includes street developments, the city will include these measures as appropriate when approving site plans.

- Maricopa County Highway Department has a current policy which includes the use of basic intersection improvement techniques such as adding or lengthening turn lanes, widening streets, left turn lanes, etc.

as indicated in this Traffic Control Measure. These practices will be continued for the future.

- Arizona Department of Transportation Five-Year Transportation Facilities Construction Program for Fiscal Years 1987-1991 and Fiscal Years 1988-1992 includes a number of projects directed at intersection improvements. These projects facilitate turning movements, helping to maximize intersection capacities. Specific projects and their timing are identified below under the implementation schedule.

Location	Project	Year Programmed
Peoria Avenue at I-17	Construct left turn lanes	FY 87
Cactus Road at I-17	Construct left turn lanes	FY 87
Thunderbird Road at I-17	Construct left turn lanes	FY 87
Van Buren Street at 17th Avenue	Intersection improvement	FY 87
7th Street at I-17	Intersection and median improvement	FY 88
7th Avenue at I-17	Intersection and median improvement	FY 88
Savage Street at U.S. 60	Intersection improvement	FY 88
Lake Pleasant Road at SR 74	Replace right angle turn with a gentle continuous turn	FY 88
Dobson-Gilbert Roads at SR 360	Construct left turn lanes at five overpasses	FY 88
Indian School Road at I-17	Widen structure	FY 89
75th-59th Avenues at SR 85	Mill, replace course and modify intersection	FY 90

25. On-Street Parking Restrictions

- City of Avondale will continue to enforce its current ordinance which prohibits parking on major streets. Ongoing effort.

- City of Chandler prohibits on-street parking along most major arterials and will remove on-street parking on State Route 98 (Arizona Avenue) and Chandler Boulevard when warranted.

- City of El Mirage will restrict on-street parking where appropriate.

- Town of Gilbert is actively removing on-street parking through Downtown Gilbert on Gilbert Road and creating a pedestrian oriented area. There should be no parking along arterials or collectors with the implementation of this project.

- City of Glendale will continue to implement this measure where appropriate along arterials. Ongoing.

- City of Goodyear will continue to enforce the current ordinance which does not allow on-street parking on major city streets. Ongoing.

- City of Mesa will continue to prohibit on-street parking along major arterials. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria will continue to enforce the ordinance which prohibits on-street parking on major streets in Peoria. Ongoing.

- City of Phoenix will eliminate on-street parking consistent with the Six-Year Major Street Improvement Program. Parking is scheduled to be eliminated on McDowell from Central Avenue to 16th Street during FY 1987-88, and on Dunlap from Central to 7th Street during FY 1989-90, in conjunction with major street improvements. Phoenix is also analyzing removal of parking on selected collector streets to facilitate peak hour travel. Total cost of $5,368,000 at these two locations, as reflected in the Six Year Major Street Program.

- City of Scottsdale has recently removed on-street parking on two streets. The consequences of the street modification are being carefully monitored on the more major of the two streets. It is currently being contemplated for other locations throughout the City pending the results of the evaluation. Efforts began in August, 1986 and will continue through February, 1988.

- City of Tempe will have eliminated all on-street parking on major arterials by mid-September, 1987 with the following exceptions: 1) Mill Avenue: All on-street parking will be eliminated as part of the Mill Avenue improvement project, which is currently (June, 1987) underway and scheduled for completion by mid-September, 1987; and 2) Apache Drive from Price Road east to the City boundary (one-half mile): Although no exact date has been set for the elimination of on-street parking along this half-mile segment, it is anticipated that the removal of the parking will take place at the same time as or prior to the opening of the Tempe portion of the Pima Freeway.

- Maricopa County Highway Department currently has a policy which includes the restriction of on-street parking where needed to reduce traffic congestion and help traffic flow, where other alternatives may not be available. Otherwise on-street parking is normally permitted. These practices will be continued for the future. At present there is no need for any additional locations on the county system where on-street parking should be restricted for this purpose. This proposed measure has been fully implemented by Maricopa County.

26. <u>Bus Pullouts in Curbs for Passenger Loading (Areawide Strategy)</u>

- City of Chandler will continue to evaluate locations for pullouts where they facilitate, not impede, transit operations.

- City of El Mirage will work with the Regional Public Transportation Authority on this measure should transit service become available.

- Town of Gilbert agrees to evaluate locations for pullouts and construct pullouts where right-of-way is available and where they facilitate, not impede, transit operations. Ongoing.

- City of Glendale Transit Plan and RPTA plans have and will provide for bus pullouts. Construction of planned bus pullouts will be a combination of the City (in existing developed areas) and by developers as part of the development process. Ongoing.

- City of Goodyear agrees to identify and establish appropriate bus pullouts in curbs through the Transportation Master Planning Process and the Development Review Process. Develop standards requiring appropriate bus pullouts - September, 1987. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria Engineering Department will use the standardized bus pullouts specification to accommodate transition of bus routes from city to city in the MAG area. Ongoing.

- City of Phoenix will construct approximately fifty bus pullouts annually in conjunction with major street construction consistent with the Six-Year Major Street Improvement Program. Phoenix will be encouraging private construction of bus pullouts in conjunction with new developments. The City Council has approved a program for a private contractor to install up to 1,000 passenger shelters with advertising. The private capital investment will approximate $6,000,000 in making passenger waiting at bus-stops more comfortable and convenient.

- City of Scottsdale is incorporating bus pullouts into all current and future major street widening projects. The City currently has seven bus pullouts and six more are planned in the near future. An additional section of the City's Design Procedures and Guidelines entitled "Transit Improvements" has been prepared to require private developers to include bus pullout construction when roadway construction is required due to the development of private property. Revisions to City ordinances are required to stipulate the defined improvements. The ordinance revisions are recommended in the draft version of the Short Range Transportation Plan that is currently being reviewed by the City Manager's Office prior to review by the City Council. After the ordinance revisions have been accomplished, Project Review and Project Coordination will ensure that all public and private street construction projects will incorporate these transit improvements. Hayden - Virginia to Osborn - roadway widening project that includes bus pullouts - June, 1987 through December, 1987. McDowell - 64th to 70th - roadway widening project that includes bus pullouts - July, 1987 to February, 1988. Scottsdale - Hummingbird to Eastwood - roadway widening project that includes bus pullouts - August, 1987 to January, 1988. Scottsdale - McDowell to Osborn - roadway widening project that includes bus pullouts - 1989. Ordinance revision, if deemed appropriate - January, 1988. Ordinance provisions incorporated into stipulations for zoning hearings presented to the City Council - March, 1988. Ongoing efforts.

- City of Tempe agrees to continue its ongoing program of evaluating locations for bus pullouts and constructing pullouts where need dictates and right-of-way is available and where they facilitate, not impede transit operations. Two bus pullouts have been constructed on River Parkway in the Arizona State University Research Park; one is in place on College Avenue, north of University Drive; and four are under construction as part of the joint City of Tempe/City of Phoenix/Maricopa County 48th Street project. The four previously planned as part of the Mill Avenue improvement project were eliminated after consultation with the RPTA. Given traffic volumes on Mill Avenue, it was concluded that these would act as significant impediments to transit operations. Other pullouts will be considered as part of street improvements projects along designated transit routes where adequate right-of-way is available and where they will facilitate traffic flow without substantially hindering transit operations.

- City of Tolleson supports installing bus bays to improve public transit. The city has begun to require new developers to set aside space for future bus bays when public transit becomes available in Tolleson. The city will continue this policy as appropriate.

- Maricopa County Highway Department concurs that bus pullouts should be provided on heavily traveled arterials to facilitate traffic flow in the curb lane for bus stopping. Maricopa County is not aware of any location on its system where traffic density requires construction of bus pullouts at present, although the lack of bus pullouts in the urban centers is believed to represent a significant traffic impediment. Maricopa County will join in encouraging urban jurisdictions to pursue the construction of bus pullouts to ease traffic congestion.

- Regional Public Transportation Authority and City of Phoenix staff work with cities to construct, where appropriate, bus pullouts in conjunction with major street construction and encourage private construction of bus pullouts in conjunction with new developments. Ongoing.

27. <u>Increased Bicycle Use</u>

- Town of Buckeye Planning and Zoning Department will develop a bicycle route plan, install bikeways along arterials as appropriate and include bike systems in subdivision developments (nine months to develop plan and nine months to develop amendment to Subdivision Ordinance).

- City of Chandler will implement the Parks and Recreation Master Plan, require developers to install bike paths in accordance with the Bike Path Plan, provided for connections of various bike path sections, and publish literature encouraging bicycle travel on an ongoing basis.

- City of El Mirage will encourage increased bicycle use for both its employees and its residents on an ongoing basis.

- Town of Gila Bend could promote increased bicycle use in conjunction with its campaign for Clean Air Public Awareness.

- Town of Gilbert will continue implementation of the General Plan which calls for the installation of a townwide system of paths for pedestrians and bicycles. Developers will be required to install bike paths in accordance with the Plan as part of the plan review process. Gilbert will publish literature encouraging bicycle travel and outlining the plan and path location/interconnection.

- City of Glendale is currently developing a Master Bikeways Plan. Bicycle travel is also being addressed in the General Plan. Master Bikeway Plan completed - June, 1988. General Plan Draft completed - Summer, 1987. Compliance with 1987 Arizona air quality legislation - December, 1987.

- City of Goodyear Transportation Coordinator along with the Planning Director will review current regulations and study the implementation of a Bikeways Plan as part of the Transportation Master Plan. Goodyear will also encourage this measure through the local air quality media program. Efforts began in November, 1987 and are ongoing.

- Town of Guadalupe will develop a bicycle route plan, install bikeways along arterials as appropriate, and include bikepath systems in subdivision developments. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance Amendment - Nine months. Construction - Ongoing as appropriate.

- City of Mesa agrees to make as a high priority in the planning of future district parks, the importance of providing bicycle, pedestrian, and riding trails. Mesa is in the early planning stage of the 962 acre Spook Hill District Park. The park is schedule to be designed over a six year period. Development of the park will occur over the next ten to fifteen years. The bikeway path study began in January, 1987 and is scheduled for completion in the Spring of 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to develop a citywide network of bicycle routes and bikeways. Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes. Ongoing efforts. Development of five year capital improvements plan for bicycling - August, 1987.

- City of Phoenix will continue to promote bike rallies in FY 87-88. Brochures describing bike routes will be updated and distributed from Parks, Recreation, and Library Departments. A bike suitability map produced by the City Manager's Bicycle Task Force will be completed and distributed by FY 87-88. The City Manager's Bicycle Task Force will continue during FY 1987-88 to coordinate City efforts toward improving bicycle use. The Rideshare Coordinator will work closely with the Parks Department to promote and encourage bicycle travel among City employees who can feasibly use that mode of transportation.

- City of Scottsdale has an ongoing program to encourage bicycle travel. The City has developed an extensive set of bicycle paths, especially along the nine mile Indian Bend Wash/Camelback Walk open space corridor. The Short Range Transportation Plan calls for four new bikeway segments: a 1.25 mile long Hayden Road bikeway which is already budgeted for next year, and three other priority one bikeways (Vista del Camino - 1.0 miles, 108th & Cholla - .5 miles, and Mescal parkat - .25 miles). Five other bikeway segments are called for under priority two on the Short Range Transportation Plan. The City's General Plan Circulation Element contains the blueprint for an extensive citywide bikeway system. The City has an extensive bicycle public relations program which includes the free distribution of over 3,000 bikepath maps each year. In addition, the City has created a Bikeways Task Force for the purpose of promoting bicycle use and safety. Efforts began in June, 1987 and will be ongoing.

- Town of Surprise will require bicycle or pedestrian walkways or travelways in the newly developing area of Surprise as plans for development are presented, where feasible.

- City of Tempe agree to continue its ongoing program of encouraging and supporting bicycle use through involvement of the bicycling community in the appropriate decision making processes and the construction of bicycle support facilities. The City of Tempe has a long history of encouraging bicycle use. A recent strategic planning survey conducted by Professor L. A. Wilson of ASU for the City showed that fourteen percent of the City's population relies on bicycling as its primary mode of travel. To ensure participation by the public, and members of the bicycling community in bicycle-related decision making, a Mayor's Advisory Bicycle Committee was created in 1985. In further recognition of the importance of the bicycling community, the bicycle committee was formally created by City Ordinance No. 86-65, adopted by the City Council on September 25, 1986. Appointments to that Committee were made on December 18, 1986. Staff support to the Committee is provided through the Community Services Department, and the Committee is active, meeting monthly, with minutes of all meetings referred to the City Council for review and approval. Currently the Committee is: reviewing existing bicycle ordinances; developing a bicycle routing system which will identify specific routes which can best and most safely be used by selected populations - i.e., school children, bicycle commuters, recreational riders, etc.; working with ASU to identify safe ingress and egress points to and from the campus; and preparing radio spots and other educational materials promoting safe bicycle use. As a long-term goal, the Committee is studying the possibility of converting canal banks and railroad right-of-ways into bicycle facilities.

  In addition, the City has in place an extensive bikepath system and is continuing to upgrade and expand that system. The Community Development Department, as part of its advance planning and General Plan Update, has prepared a bicycle facilities route map identifying and locating all elements of the Tempe bicycle system (bikepaths, bikeways, bike lanes, extended sidewalks, etc.) and is examining the role of bicycling within the overall transportation element in the General Plan. The revised General Plan, now in the final phases of consideration, heavily stresses both bicycle and pedestrian components.

The City also conducts an ongoing bicycle public information and enforcement program to ensure the safety of both the bicycling and driving public. The Police Department, through the City's Speakers Bureau, provides speakers on request for schools and community organizations to address the issue of bicycle safety. Bicycle safety information is periodically included in the City's newsletter (monthly circulation - 33,950 households) and a flier on the subject is produced by and provided through the Community Services Department. During 1986-87, the City at its expense bought advertisements promoting bicycle safety in each of the high school newspapers and in the ASU "State Press". Additionally, the Police Department carefully enforces laws governing bicycling. Ongoing efforts.

- City of Tolleson supports the encouragement of bicycle use. To make the public aware of the commitment, the City will adopt an annual resolution supporting bicycle travel and also annually encourage bicycle travel by placing an information brochure in all customer's water bill.

- Town of Youngtown in January, 1987 began to make announcement at all town meetings and asked local newspapers to write articles on Youngtown's efforts to support the reduction of carbon monoxide and ozone in the air by riding bicycles and tricycles whenever possible instead of driving automobiles. In July, 1987, water/sewer bills included a brochure to all Youngtown residents encouraging them to use bikes and trikes in lieu of cars whenever possible in an effort to participate in cleaning up the air.

- Maricopa County Department of Planning and Development is developing a Comprehensive Land Use Plan for the unincorporated portions of the County. Land Development goals and policies as well as a future land use map will be the product of the process. Adoption of certain transportation and land use policies will enable the Planning and Zoning Commission to encourage increased bicycle use. Amenities such as lockers and sheltered bicycle racks should be encouraged for use. Once the Comprehensive Plan is adopted, policies will be in place to allow the Planning and Zoning Commission and Board of Supervisors to continually address the issue of increased bicycle travel within the private development proposals that are approved. Efforts began in April, 1987. Plan adoption - September, 1988.

- Arizona Department of Transportation Transportation Planning Division will participate in bicycle safety and education efforts involving the Governor's Arizona Bicycle Task Force and the Arizona State Parks Department. These efforts will focus on identifying and developing strategies to address bicycle safety and education issues.

  In addition, ADOT is willing to assist jurisdictions which plan to develop bicycle paths adjacent to new MAG freeway/expressway facilities in the near future. For example, ADOT will replace existing facilities which get displaced by controlled access development, provide required features to accommodate connections for future path facilities, and increase shoulder widths on frontage roads to accommodate planned path facilities. Develop Arizona bicycle design standards - July, 1987. Conduct educational workshop for public officials - October, 1987. Develop and conduct bicycle safety and education program - Ongoing.

Identify and develop strategies to address bicycle safety and education issues - Ongoing.

- Arizona Legislature passed S.B. 1360 in 1987 which requires that cities over 50,000 population must include bicycle routes in the circulation and recreational elements of the general plan. Regulations governing subdivisions of counties must include bicycle facilities when providing for arrangement of streets and highways. Cities under 50,000 population and counties may include bicycle facilities in their plans. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist employers and local jurisdictions in promoting "cyclocommuting." In conjunction with efforts to increase awareness of the benefits of sharing a ride and utilizing transit and park and ride lots, there will also be a concerted attempt to peak interest in the bicycle as a commute alternative. Efforts began in June, 1987 and are ongoing.

28. Bicycle Travel and Support Facilities

- Town of Buckeye Planning and Zoning Department will begin encouraging this measure during subdivision and development review.

- City of Chandler will implement the Parks and Recreation Master Plan, require developers to install bike paths in accordance with the Bike Path Plan, provide for connections of various bike path sections, and publish literature encouraging bicycle travel on an ongoing basis.

- City of El Mirage Planning and Zoning Department will encourage the use of bicycle and pedestrian pathways in subdivision design. Requirements are being drafted for the city's new Zoning and Subdivision Ordinances which are excepted to be adopted in October, 1987.

- Town of Gila Bend supports this measure in concept.

- Town of Gilbert development guidelines will be revised to require bicycle parking facilities at all office, commercial, industrial and residential multi-family complexes, shared recreation facilities and community recreation sites. Developers will be encouraged to provide additional support facilities within their sites, as feasible. Gilbert will incorporate support facilities into the overall recreation facilities plan.

- City of Glendale is currently developing a Master Bikeways Plan which will address support facilities. Compliance with the 1987 Arizona air quality legislation - December, 1987.

- City of Goodyear agrees to review existing regulations and develop appropriate standards through the Transportation Master Planning Process and the Development Review Process. Efforts begin in November, 1987 and are ongoing.

- Town of Guadalupe Planning and Zoning Department can begin encouraging this measure during subdivision and development review. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance - Nine months. Construction - Ongoing as appropriate.

- City of Mesa agrees to make as a high priority in the planning of future district parks, the importance of providing bicycle, pedestrian, and riding trails. Mesa is in the early planning stage of the 962 acre Spook Hill District Park. The park is scheduled to be designed over a six year period. Development of the park will occur over the next ten to fifteen years. The bikeway path study began in January, 1987 and is scheduled for completion in the Spring of 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to develop a citywide network of bicycle routes and bikeways. Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes. Ongoing efforts. Development of five year capital improvements plan for bicycling - August, 1987.

- City of Phoenix will implement the planning, design, and construction of selected bike routes. A new proposed bicycle route plan which delineates 400 miles of bike routes and facilities is proposed for incorporation into the City of Phoenix General Plan during FY 1987-88. During the current fiscal year 87-88, $230,000 from 1984 Parks, Recreation, and Library Revenue Bonds are programmed for development of additional bicycle trails. In addition, $463,000 of 1984 Parks and Recreation Bonds revenues have been designated for construction along the Arizona Canal Diversion of five bicycle/pedestrian underpasses at the intersections of selected streets to be cost shared with the Corp of Engineers and County Parks Department in 1988-89 for a total expenditure of $1.3 million. An underpass will also be provided at I-17 with funding from 1984 Park and Recreation Bonds and cost shared with the Corps of Engineers for $350,000. The total for the next five years is $2,343,000.

- City of Scottsdale has an ongoing program to develop bicycle travel and support facilities. The two most recently completed city buildings - the One Civic Center office building and the new corporation yard - both contain shower facilities. All city buildings have bike racks. The City expands the bikeway system primarily by conditional development approval. When developers zone and improve land, the required bikepaths are also provided. The Scottsdale Park and Recreation Program also builds and maintains bikeways in the parks and along the many open space corridors. Furthermore, several Scottsdale streets have been designated, marked and signed for bikeways. The Bikeways Task Force will explore other cycling improvements including private employer bicycle support facilities, cycle actuated traffic signals, improved signage and extra wide arterial lanes. Efforts began in June, 1987 and will be ongoing.

- City of Tempe agrees to continue its ongoing program of improving and expanding its existing bikepath system, subject to annual review of needs, and to continue study of providing additional bicycle-related facilities. It further agrees to work with the Arizona Department of Transportation in attempting to ensure that bicycle facilities are included in new freeway and freeway improvement designs.

The City of Tempe has in place an extensive bikepath system and is continuing to improve and expand that system based upon a comprehensive study of bicycle needs and desires. More than thirty miles of bikepaths are already in place. Eight-foot sidewalk/bikepaths are included in all major street improvement projects. Budgeted for 1987-88 are other bikepath improvements totaling $340,000, and projected for 1988-89 through 1991-92 are enhancements adding to an additional $1,731,000. Also, the General Plan Update, now under consideration, includes a strong bicycle component.

Furthermore, the City has a policy of actively promoting the inclusion of pedestrian/bicycle facilities in the design of any new freeways or freeway improvements planned in Tempe. The City secured agreement from ADOT to construct dual sidewalk/bicycle paths on the recently completed Warner Road/I-10 interchange and to provide eight-foot sidewalks/bicycle paths along both frontage roads on the Pima Freeway through Tempe. As a condition of its approval of the Papago Freeway, the City has insisted that provision by made for like facilities along the alignment as well as for pedestrian/bicycle access under/over the roadway.

The City currently provides bicycle racks at its public buildings for both employee and public use. Since the major park and ride lot in Tempe is being relocated due to freeway construction and a number of key bus routes are new and may require some routing adjustments, no action has been taken on the installation of bicycle racks or lockers in park and rides and at strategic locations on bus/trolley routes. The City will, however, during fiscal year 1987-88 explore the possibility of installing such facilities at those locations as a means of encouraging the use of bicycles to key transfer points. Ongoing efforts.

- City of Tolleson will encourage the development of bicycle travel and support facilities as appropriate to the circumstance. The City will do this through the installation of bike paths where sufficient right-of-way allows and coordinate with contiguous jurisdictions. Further, the City will encourage the private sector to install applicable support facilities at all new developments.

- Regional Public Transportation Authority and the MAG Regional Rideshare consultant will work with employers and local jurisdictions in developing easier accessibility for bicyclists, since the climate and topography are highly conducive to cycling. Safe, connecting bikeways and safe storage will greatly encourage usage. Efforts began in June, 1987 and are ongoing.

29. <u>Pedestrian Travel</u>

- Town of Buckeye Planning and Zoning Department will make adequate provisions during the construction of arterials and platting of subdivisions for pedestrian traffic.

- Town of Carefree will encourage pedestrian travel within its commercial core by integrating this measure with the preparation of the general plan. Development of common parking lots for the commercial core will be encouraged.

- Town of Cave Creek will encourage pedestrian travel within its commercial area by integrating this measure with the preparation of the general plan. Development of common parking lots for the commercial area will be encouraged.

- City of Chandler agrees to evaluate bicycle and pedestrian needs and to implement bicycle and pedestrian-related improvements as need dictates on an ongoing basis.

- City of El Mirage Planning and Zoning Department will encourage the use of bicycle and pedestrian pathways in subdivision design. Requirements are being drafted for the City's new Zoning and Subdivision Ordinances which are expected to be adopted in October, 1987.

- Town of Gila Bend could promote pedestrian travel in conjunction with its campaign for Clean Air Public Awareness.

- Town of Gilbert General Plan development guidelines require the installation of adequate sidewalks throughout all types of development. The Plan also encourages the development of scaled commercial developments which would encourage pedestrian or bicycle traffic circulation to residential and commercial areas for convenient usage.

- City of Glendale is currently revising its General Plan which will address pedestrian travel. Awnings, benches, and trees are being added to encourage pedestrian travel. The design of new neighborhood shopping areas has also been modified to encourage pedestrian travel. General Plan draft completed - Summer, 1987. Downtown improvements completed - 1988.

- City of Goodyear Transportation Coordinator along with the Planning Director will review current regulations and study the implementation of pedestrian amenities in new developments along with bikeways. Goodyear will also encourage this measure through the local air quality media program. Efforts began in November, 1987 and are ongoing.

- Town of Guadalupe, in conjunction with the bicycle route plan, will make adequate provisions for pedestrian traffic during construction of arterials and platting of subdivisions. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance Amendment - Nine months. Construction - Ongoing as appropriate.

- City of Mesa along with the local downtown business community has made a number of sidewalk and other improvements in its Town Center area to encourage pedestrian travel. Additional plans to encourage pedestrian travel are an integral part of the next major development in the downtown. A recent study by the Urban Design Team recommended the development of pedestrian links across all irrigation canals and the establishment of a "desert walk" along overhead electrical easements. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to encourage pedestrian travel by incorporating sidewalks and walkways in the Comprehensive Master Plan. Ongoing.

- City of Phoenix will continue sidewalk improvements and installation of pedestrian signals at all signalized intersections in conjunction with major street construction. In addition to the costs included in major street construction, FY 1987-88 Operating Budget includes approximately $100,000 to support three full time employees to install and maintain pedestrian crossings. In the 1987-88 Operating Budget, an additional $102,000 has been provided for crosswalk maintenance, including two new full time employees.

- City of Scottsdale will continue to provide sidewalks and/or pathways as a condition of new development. The City's Park and Recreation division participates in the "Life: Be in It" exercise campaign which encourages walking. As a part of the review of new development proposals, staff, the Development Review Board, and the Planning Commission will continue to require pedestrian linkages between shopping, community service, and residential areas as a condition of development approval. In the Downtown area, specific design guidelines have been adopted which encourage physical links between buildings; the use of canal banks for pedestrian travel; the provision of covered walkways on arcades in front of new buildings; and landscaping to reduce temperatures, provide shade, and make walking more pleasant. Furthermore, the Civic Center Mall and strategically placed parking garages downtown encourage pedestrian travel. Efforts began in 1985 and will be ongoing. Scottsdale City Council endorsed measures to encourage pedestrian travel in June, 1987.

- Town of Surprise will require bicycle or pedestrian walkways or travelways in the newly developing area of Surprise as plans for development are presented, where feasible.

- City of Tempe agrees to continue its ongoing evaluation of pedestrian needs and to implement pedestrian-related improvements as need dictates. It further agrees to work with the Arizona Department of Transportation in attempting to ensure that pedestrian facilities are included in new freeway and freeway improvement designs.

  The City of Tempe has an ongoing program of sidewalk widenings, installation of pedestrian signals and crosswalks and construction of other pedestrian-related improvements. In addition to its continuing program of maintenance and repair - ie., replacement of broken curbs, gutters and sidewalks - the City schedules and budgets for the construction of improvements projects. A major sidewalk-widening project on Mill Avenue is currently underway and scheduled for completion in September, 1987, and two additional pedestrian/bicycle overpasses - across the Western Canal at Lakeshore Drive and at County Club Drive - are currently under design. The revised General Plan, now in the final phases of consideration, heavily stresses the pedestrian and bicycle components. Furthermore, the City has a policy of actively promoting the inclusion of pedestrian/bicycle facilities in the design of any new freeways or freeway improvements planned in Tempe. The City secured agreement from ADOT to construct dual sidewalks/bicycle paths on the recently completed Warner Road/I-10 interchange and to provide eight foot sidewalks/bicycle paths along both frontage roads on the Pima Freeway through Tempe. As a condition of its approval of the Papago Freeway, the City has insisted that provision be made for like facilities along the alignment as well as for pedestrian/bicycle access under/over the roadway. Ongoing efforts.

- City of Tolleson will adopt an annual resolution supporting pedestrian travel and also annually encourage pedestrian travel by placing an information brochure in all customer water bills.

- Town of Youngtown in January, 1987, began to make announcements at all town meetings and asked local newspapers to write articles on Youngtown's efforts to support the reduction of carbon monoxide and ozone in the air by walking to destinations in Youngtown rather than driving their cars. In July, 1987, water/sewer bills included a brochure to all Youngtown residents encouraging them to walk rather than use their cars whenever possible in an effort to participate in cleaning up the air.

- Maricopa County Department of Planning and Development is developing a Comprehensive Land Use Plan for the unincorporated portions of the County. Land development goals and policies as well as a future land use map will be the product of the process. Adoption of certain transportation and land use policies will enable the Planning and Zoning Commission to encourage pedestrian travel. Once the Comprehensive Plan is adopted, policies will be in place to allow the Planning and Zoning Commission and Board of Supervisors to continually address the issue of increased pedestrian travel within the private development proposals that are approved. Efforts began - April, 1987. Adoption of plan - September, 1988.

30. <u>Pedestrian and Bicycle Overpasses Where Safety Dictates</u>

- Town of Buckeye supports this measure.

- City of Chandler agrees to consider the installation of pedestrian/bicycle overpasses where safety dictates on an ongoing basis.

- Town of Gila Bend supports this measure in concept.

- Town of Gilbert agrees to consider requiring grade separations for pedestrian and bicycle traffic where safety dictates. Applicants seeking approval for new development will be encouraged to provide pedestrian and bicycle grade separations. Gilbert will request the Arizona Department of Transportation to address this issue in the planning of the San Tan Freeway.

- City of Glendale will request that ADOT address this issue in planning the design of the Paradise Corridor.

- Town of Guadalupe supports MAG in conducting the study.

- City of Mesa agrees to study opportunities to provide pedestrian and bicycle overpasses where safety dictates. Potential sites include school locations, major arterials, major employer locations, public recreation areas, Town Center area, etc. Mesa will explore the feasibility of providing overpasses along irrigation canals and/or overhead electrical easements. The report from the Urban Design Assistance Team will be studied during FY 1987-88 for opportunities to incorporate recommendations in the City of Mesa General Plan Update. Ongoing.

- City of Phoenix Streets and Traffic Department will continue to examine traffic and safety conditions to determine locations where such overpasses are needed. This is an ongoing activity reflected in the FY 1987-88 Operating Budget.

- City of Scottsdale has in the past, and will continue to provide overpasses and/or underpasses which will enhance pedestrian or bicycle safety. These facilities often are provided by the private sector as a condition of development such as at the Adobe Ranch underpass on East Shea Boulevard. Others, such as the underpasses and overpasses along the Indian Bend Wash Greenbelt, were provided by the City or the Army Corps of Engineers as part of the total recreation and flood management project. Efforts will begin in June, 1987 and will be ongoing.

- City of Tempe agrees to continue its ongoing evaluation of pedestrian needs and to consider installation of overpasses as need and safety dictate. The City has an ongoing program of sidewalk widenings, installation of pedestrian signals and crosswalks and construction of other pedestrian-related facilities, including overpasses where safety dictates. Overpasses are in place over the Superstition Freeway and over University Drive. Currently under design are overpasses across the Western Canal at both Lakeshore Drive and County Club Drive. The City also has a policy of actively promoting the inclusion of pedestrian/bicycle over or undercrossings, as appropriate, as well as pedestrian/bicycle paths on bridges and along frontage roads in new freeway or freeway improvement designs. As a condition of its approval of the Papago Freeway, the City has insisted that provision be made for pedestrian/bicycle over or undercrossings at strategic points along the alignment. Ongoing efforts.

31. <u>Use of Alternative Fuels on a Statewide Basis (Areawide Strategy)</u>

- City of Avondale will consider providing a financial contribution to the MAG Alternative Fuels Feasibility Study if needed.

- Town of Buckeye will support the MAG Alternative Fuels Feasibility Study.

- City of Chandler has appointed a local representative to serve on the Working Group for the MAG Alternative Fuels Feasibility Study.

- City of El Mirage supports MAG in conducting the study.

- Town of Gila Bend would encourage the MAG Alternative Fuels Feasibility Study.

- Town of Gilbert supports MAG in conducting the study.

- City of Glendale will participate in the MAG Alternative Fuels Feasibility Study and comply with the 1987 air quality legislation by September 30, 1989.

- City of Goodyear supports MAG in conducting the study and is willing to contribute funding if necessary.

- Town of Guadalupe supports this measure.

- City of Mesa supports the study being conducted by MAG.

- City of Peoria supports the study being conducted by MAG.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support the MAG Alternative Fuels Study and to take appropriate action on the study recommendations, including encouraging the Arizona Legislature to adopt applicable legislation.

- Town of Surprise supports statewide efforts with this measure.

- City of Tempe agrees to cooperate in the MAG Alternative Fuels Feasibility Study; to consider expeditiously the recommendations contained in the final report; and to implement those recommendations adopted. Additionally, the City has committed a staff person to serve on the MAG Alternative Fuels Working Group which is monitoring the progress of the Feasibility Study and meeting at least monthly with the consultant.

- City of Tolleson supports considering the use of alternative fuels. However, the City will wait to see the results of the study to be conducted by the Maricopa Association of Governments before making a commitment to the use of alternative fuels.

- Town of Wickenburg will support efforts to conduct the MAG Alternative Fuels Feasibility Study.

- Town of Youngtown supports MAG in these efforts.

- The Maricopa County Equipment Services Department will coordinate a test program. The Maricopa County Air Pollution Advisory Council has arranged and performed emission testing of vehicles using alternative fuels. The test will include 43 vehicles for a total of 172 tests at $14.00 per test. Twenty-seven light trucks from private fleets and sixteen passenger vehicles from public fleets will be converted for use of alternate fuels i.e., CNG and Gasohol for a study period of at least three months. Efforts will begin in September, 1987 and continue through May, 1988.

- The Maricopa Association of Governments is currently coordinating an alternative vehicle fuels study. The purpose of this study is to determine the feasibility of using alternative vehicle fuels on a statewide basis as an air pollution control strategy. The alternative fuels examined will include propane, compressed natural gas, ethanol, methanol, and methyl tert-butyl ether (MTBE), etc. Specific recommendations will be provided in the study report. The consultant hired by MAG to conduct the study is Energy and Environmental Analysis, Inc.

  The primary approach used for this study will be a literature search. Essentially, this approach will involve a literature search and compilation of existing information, analysis of existing data, application of this data to the air pollution problems, and

recommendations. If possible, limited vehicle testing will be included. The time frame for the study is not to exceed six months and a late September, 1987 completion date has been targeted.

- Arizona Legislature passed S.B. 1360 in 1987 which expanded the joint legislative study committee on alternative fuels to investigate the feasibility of converting public and private vehicles to propane or CNG. S.B. 1360 effective date - August, 1987.

32. Conversion of State, Local, and Corporate Fleets to Alternative Fuels (Areawide Strategy)

- City of Avondale will support and review the MAG Alternative Fuels Feasibility Study as a basis for converting the governmental fleet to a alternative fuels.

- Town of Buckeye will support this measure.

- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study and then determine how best to encourage the conversion of buses to alternative fuels.

- City of El Mirage will support and review the study by MAG as a basis for converting governmental and corporate fleets to alternative fuels.

- Town of Gila Bend would support this measure depending upon the results of the MAG Alternative Fuels Feasibility Study.

- Town of Gilbert Public Works and Police Departments will review the recommendations in the MAG Alternative Fuels Feasibility Study and determine how best to convert the fleet. Gilbert will volunteer to be a demonstration/test site for alternative fuel vehicles provided the test will not jeopardize the town economically or cause undue delays in public safety response.

- City of Glendale has received an Exxon Restitution Grant to study the use of compressed natural gas in fleet vehicles. CNG Pilot Program - Two years. Compliance with Arizona 1987 air quality legislation - September 30, 1989. Review of MAG and legislative alternative fuels studies - January, 1989.

- City of Goodyear will support and review the study by MAG as a basis for converting the governmental fleet to alternative fuels.

- Town of Guadalupe supports this measure.

- City of Mesa will determine during the next year whether to convert all remaining vehicles of 1980 or older to clean burning fuels by October 1, 1989 or to accelerate the replacement of these vehicles over the next two years. Mesa currently has 229 City vehicles of model year 1980 or older. Conduct study - September 1, 1987. Final decision - April 1, 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria will support and review the study by MAG as a basis for converting governmental fleets to alternative fuels.

- City of Phoenix will implement an alternative fuel fleet program which exceeds the requirement for fleet testing mandated under Senate Bill 1360. In order to provide an efficient and effective conversion of appropriate Municipal vehicles to the use of a clean burning fuel, the City will, during the current quarter, secure the services of an outside consultant to examine the existing fleet and distribution systems for compatibility with the new fuel, assist in selection of a representative portion of the fleet for inclusion in the test required under S.B. 1360, and suggest preventative maintenance procedures. Once the clean burning fuel can be secured and preventative maintenance is performed, the clean burning fuels will be introduced into appropriate fleet vehicles not later than October 1, 1987. Funds are available in the FY 1987-88 Operating Budget for consulting services and an additional $200,000 is also available for the purchase of clean burning fuels to offset any cost increase.

- City of Scottsdale Fleet Management Program agrees to continue to investigate and encourage the use of alternative fuels. At the present time the City of Scottsdale is operating 82 vehicles on compressed natural gas and will continue to encourage this use until a more efficient alternative fuel is available. The Fleet Management Program is also evaluating and experimenting with a ten percent blend of ethanol. Proposals have been requested from several vendors, and the use of this fuel will be evaluated prior to conversion of the City's gasoline fleet. Use of CNG - Ongoing. Evaluation of ethanol completed and Council decision - July, 1987. Decision packet for fifty additional CNG vehicles for consideration in FY 88-89 budget - January, 1988.

- City of Tempe agrees to consider, dependent upon the results of the Maricopa Association of Governments Alternative Fuels Feasibility Study, conversion of at least portions of its fleet to alternative fuels. Before committing to conversion, the City must have the best available data concerning costs, fuel availability and storage, impact on maintenance and driveability, effect on carbon monoxide emissions and ozone formation, etc. It is expected that the MAG Feasibility Study will provide the data necessary to make an informed decision. The City will, of course, comply with the new State statutory provisions requiring use of clean burning fuels during the carbon monoxide season in 1980 or older nondiesel vehicles by September 30, 1989. However, this requirement is expected to have little impact on Tempe since fleet turnover is now approximately every six years. In the interim, the City agrees to continue its current, rigorously-enforced preventive maintenance program to ensure that all fleet vehicles are properly tuned. The targeted completion date for the MAG Feasibility Study is late September, 1987. Evaluation of the recommendations contained in the study will follow.

- Town of Youngtown will monitor and review progress made in the area of alternative fuels and implement their use as funds permit.

- Maricopa County Equipment Services Department endorsed and will assist in the implementation of Senate Bill 1360 in all areas applicable to the County Fleet.

- Arizona Legislature passed S.B. 1360 in 1987 which requires the state and political subdivisions in a nonattainment area and private fleets (25 or more vehicles) to report quarterly to ADOT on the use of clean burning fuels. Beginning October 1, 1989, state and political subdivisions must use clean burning fuels in all nondiesel vehicles 1980 and older during the carbon monoxide season (October-March). Clean burning fuels will be available for sale after October, 1988. The state and the cities of Phoenix and Tucson will conduct a study of 10 percent of their fleet in nonattainment areas on the drivability of those vehicles using clean burning fuels. The Legislature also passed H.B. 2115 which requires ADOT to conduct an alternative fuels pilot program. Report on pilot project - October, 1988. Report on driveability tests - November, 1988.

33. Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service (Areawide Strategy)

- Town of Buckeye supports this measure.

- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study and then determine how best to encourage the conversion of buses to alternative fuels.

- City of El Mirage will consider this measure should the City contract for bus service.

- Town of Gila Bend would support this measure in concept.

- Town of Gilbert will review the recommendations included in the MAG Alternative Fuels Feasibility Study to determine how best to encourage the conversion of buses to alternative fuels.

- City of Glendale as part of the CNG Pilot Program will convert a minimum of two buses pending receipt of Exxon grant monies. CNG Pilot Program - Two years. Compliance with the Arizona 1987 air quality legislation - January 1, 1990.

- City of Goodyear Transportation Coordinator will review the MAG Alternative Fuels Feasibility Study as a basis for conversion to alternative fuels in the future.

- Town of Guadalupe supports this measure.

- City of Mesa would have to assume the costs of converting the fleet to compressed natural gas since Mesa's public transit bus fleet is owned and operated by a private company. Implementation is contingent upon finding a fuel source, agreement by contractor to convert the vehicles, and availability of State Air Quality Funds. Earliest implementation - April, 1988.

- City of Peoria supports the study being conducted by MAG.

- City of Phoenix Public Transit Department has included the purchase of two methanol fueled buses in its program for 1987-88 and Phoenix Transit has converted one bus to compressed natural gas fumigation.

Phoenix Transit has also included an upgrade to diesel fuel number one in its 1987-88 contract which will reduce particulates in the emissions of the entire fleet.

- City of Scottsdale will continue to review and assess the feasibility of this measure. Scottsdale will adopt it if and when it is found to be appropriate and feasible.

- City of Tempe, as a member of the RPTA, agrees to support the efforts of the RPTA and City of Phoenix Transit Department to assess the feasibility of converting buses to alternative fuels. The City of Tempe does not own any buses. Ongoing efforts.

- City of Tolleson supports the concept of the conversion of buses to alternative fuels and electricity. However, the city will await the results of the alternative fuels study performed by the Maricopa Association of Governments prior to making any commitment to the conversion.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will conduct a study of ten percent of its non-diesel and non-public safety motor vehicle fleets operating in the nonattainment area to determine how they perform with respect to drivability using clean burning fuels. Vehicles will be representative of the fleet. Also, as mandated by H.B. 2115 (Clean burning fuels, blends, pilot project - Chapter 139), ADOT will conduct a pilot project to determine the cost and effect of using clean burning fuel in motor vehicles. ADOT will designate certain ADOT motor vehicles which will be operated with clean burning fuel and monitor the motor vehicles to determine: the cost of maintaining a motor vehicle operated with clean burning fuel; the effect on miles-per-gallon of a motor vehicle operated with clean burning fuel; the availability of clean burning fuel; and the impact of clean burning fuel on vehicle emissions. Report findings on clean burning fuels pilot project (H.B. 2115) - October, 1988. Report findings on driveability test (S.B. 1360) - November, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which requires all buses purchased after January 1, 1990, to use clean burning fuels. Cities will report their efforts to convert buses to clean burning fuels. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority will work with its contractor, Valley Coach, and the City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit, to continue to study the feasibility of converting buses to alternative fuels. The City of Phoenix Pubic Transit Department has included the purchase of two methanol-fueled buses in its capital program for fiscal year 1987-88, and Phoenix Transit has converted one bus to compressed natural gas operation. Phoenix Transit will also upgrade from diesel fuel number two to diesel fuel number one in fiscal year 1987-98. This will reduce particulate emissions for the entire fleet.

34. Use of Emissions Control Devices on Public Diesel Powered Vehicles (Areawide Strategy)

- City of Avondale will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Buckeye supports this measure.
- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study to determine how best to encourage the conversion of buses to alternative fuels.
- City of El Mirage will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Gila Bend would support this measure in concept.
- Town of Gilbert will review the recommendations included in the MAG Alternative Fuels Feasibility Study. Gilbert Public Works Department would be responsible for conversion/installation of economical and effective control devices.
- City of Glendale will monitor technological changes in this area to determine appropriate availability of high quality devices.
- City of Goodyear Transportation Coordinator will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Guadalupe supports this measure.
- City of Mesa will monitor technological changes in this area. Mesa will contractually require installation of diesel emissions control devices on Mesa Dial-a-Ride vehicles when devices become economically and technologically feasible.
- Town of Paradise Valley will implement this measure.
- City of Peoria Public Works Director will monitor technological changes in the use of emission control devices to determine availability of these devices.
- City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit, will continue to monitor the state of development of emission control devices and will experiment with them when appropriate.
- City of Scottsdale Fleet Management Program agrees to investigate the use of diesel emission control devices when these devices become economically and technologically feasible.
- City of Tempe, as a member of the Regional Public Transportation Authority, agrees to support the efforts of the RPTA and the City of Phoenix Public Transit Department in working with their contractors to monitor developments in the use of emissions control devices on public diesel powered vehicles and in experimenting with such devices, when and if they become economically and technologically feasible.

- City of Tolleson will install emission control devices as expeditiously as practicable on public diesel powered vehicles when these devices become economically and technologically feasible.

- Maricopa County Equipment Services Department has acquired emission testing equipment and is testing the County's fleet of 330 diesel powered vehicles in accordance with State law. This figure represents 35 percent of the County's On-Road Fleet of 950 vehicles. By 1990 this figure will be 428 diesel vehicles or 45 percent of the On-Road Fleet. All of the vehicles must pass an emission test with no exemptions allowed. Those that do not pass are taken out of service. The cost of the emission testing is $14 per fleet vehicle including all wages and benefits for 1/3 hour. The yearly cost for this program applied to 950 On-Road Fleet Vehicles is $13,300. 950 @ $14 = $13,300. The County fleet is a new fleet comprised of 808 vehicles or 85 percent of all On-Road vehicles of 1982 or later model years. These are the cleanest burning vehicles for carbon monoxide emissions. By 1990 the entire 950 On-Road Fleet will be 1982 model year or newer. The County will also evaluate the effectiveness of emission control devices when they become available for diesel powered vehicles. All fleet vehicles passed emission testing or were taken out of service - June, 1987. All fleet vehicles will be of 1982 model year or newer - June, 1990.

- Regional Public Transportation Authority will work with its contractor, Valley Coach, and the City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit System, to continue to monitor the state of development of emission control devices. Experimentation with these devices will be undertaken when appropriate.

35. <u>Alternative Work Hours (Areawide Strategy)</u>

- City of Avondale Transportation Coordinator will study the implementation of flex time and encourage private employers to institute alternative work hours/days beginning in October, 1987 with program initiation in June, 1988.

- Town of Buckeye will study the feasibility of alternate office hours and work weeks for municipal employees. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Chandler agrees to support the use of alternative work hours for its employees and comply with the state requirement of having at least 85 percent of employees on adjusted work hours beginning January 1, 1989.

- City of El Mirage will study the effect on local government services that would result in the establishment of alternate work schedules and implement where feasible. Study will begin in October, 1987 and will be presented to the City Council in February, 1988.

- Town of Gila Bend would encourage this measure in those areas where it would alleviate traffic congestion.

- Town of Gilbert agrees to continue its program of supporting the use of alternative work hours for its employees. Gilbert will work with other employers to encourage this measure. Adjustments to employee work hours (85 percent of employees) will be made pursuant to the state mandate by the Arizona Legislature beginning January 1, 1989.

- City of Glendale has already instituted a flexible time program for employees. Ongoing. Compliance with the Arizona 1987 air quality legislation - December 31, 1988.

- City of Goodyear Transportation Coordinator will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to institute alternative work hours/days. Initiate study - October, 1987. Initiate program - July, 1988. Ongoing.

- Town of Guadalupe will study the feasibility of alternate office hours and work weeks. Implementation would be delayed until Guadalupe has 100 authorized positions. Private employers with over 100 employees would be encouraged to implement a similar program. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Mesa agrees to conduct a feasibility study to determine the areas of City operations where alternative work hours or flex-time could be extended. Mesa also supports the promotion of these policies to private employers through the MAG Regional Ridesharing Program. In-house study completed by December 31, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will study the implementation of a flexible time program and encourage private employers to institute alternative work hours/days. Ongoing.

- City of Phoenix Departments will continue to offer alternative work schedules to employees, based on their individual policies, if coverage during core hours is maintained and service to the public is not negatively affected. An evaluation of current alternative work hour practices will be completed in July, 1987 to find ways to expand the use of alternative work hours. The Rideshare Coordinator is working closely with Management and Budget staff in determining which Departments can perhaps make use of alternative work hours.

- City of Scottsdale Human Resources will assist General Managers in developing creative alternate schedules, so that by the legislatively mandated deadline, 85 percent of City employees work an alternate schedule during the months of October to March and still provide the same or better level of service to the public. Efforts began in June, 1987 and will be fully implemented in January, 1989.

- Town of Surprise will publicize and encourage employer cooperation regarding alternative work schedules and work weeks in town publications and newsletters.

- City of Tempe agrees to continue its ongoing program of supporting the use of alternative work hours for its employees. It further agrees, as required by state statute, to adjust the working hours of at least 85 percent of its employees during the October through March period and

to implement the adjusted schedule no later than January 1, 1989 and earlier if practicable. The City will also encourage major employers within the City to consider an alternative work hours program.

Currently, many City employees work during off-peak hours to provide critical, 24-hour services such as police and fire protection and automated data processing support. Other employees such as custodians and library staff work on alternative schedules - for example, 4:00 a.m. to noon and noon to 8:00 p.m. Most field workers also begin work during off-peak hours. Additionally, office personnel in most departments are allowed to stagger their work hours to take advantage of off-peak travel time.

To ensure compliance with the 85 percent statutory requirement, the City will initiate, during the first half of fiscal year 1987-88, a study to identify precisely current alternative work hour schedules and to develop a citywide alternative work hours plan which in addition to meeting the 85 percent criterion, will also attempt to correlate work hours with ridesharing and transit schedules and air quality considerations. The plan will be submitted to the Council Personnel Committee and then to the full City Council for consideration during the final quarter of fiscal year 1987-88, with implementation targeted for October 1, 1988. If, for any reason, implementation cannot be accomplished by the October date, the plan will be implemented, as mandated by State law, no later than January 1, 1989.

Letters will be mailed to major employers during the first half of fiscal year 1987-88, encouraging them to explore the possibility of implementing an alternative work hours schedule.

- Maricopa County Personnel Department has already implemented policies which permit departments to utilize alternative work hour programs. Approximately 7,400 Maricopa County employees have been identified as to variations in work week or work hours. Approximately 2,700 remaining employees need to be surveyed to determine the extent of work variances in fifteen departmental settings where employee work sites are not contiguous to the Downtown County Complex. Initiate program - June, 1987. Evaluation of program - June, 1988.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will follow rules developed by the Director of the Arizona Department of Administration to establish adjusted work hours for at least 85 percent of employees in the nonattainment area for the period October 1 to April. In addition, ADOT will continue to provide options, year-round, to employees of alternative work hours or four-day work weeks where service to the public will not be affected. Effective date of S.B. 1360 - August, 1987.

- Arizona Legislature passed S.B. 1360 in 1987 which requires adjusted work hours for 85 percent of county, city and state employees in a nonattainment area. Major employers will submit their adjusted hour schedules to the Air Quality Compliance Committee which will develop an adjusted work hour plan for private employers. Businesses with 100 or more employees are encouraged to implement their own adjusted work schedules. The bill also establishes a committee on air quality compliance to monitor the compliance of state, city and counties on air

pollution control, and to develop an adjusted work hour plan for private employers. The committee is established for five years and must submit a report by November 1 each year. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist private employers and local jurisdictions in establishing flexible work hour schedules. A video tape is being produced on the subject, and the rideshare marketing representatives will work with individual companies to tailor a program that will meet their needs. Efforts began in June, 1987 and will be ongoing.

36. Alternative Work Weeks (Areawide Strategy)

- Town of Buckeye will study the feasibility of alternate office hours and work weeks for municipal employees. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Chandler agrees to consider this measure as part of the Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will study the effect on local government services that would result in the establishment of alternate work schedules and implement where feasible. Study will begin in October, 1987 and will be presented to the City Council in February, 1988.

- Town of Gila Bend would encourage this measure in those areas where it would alleviate traffic congestion.

- Town of Gilbert agrees to consider provisions encouraging alternative work days as part of the Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale has already instituted a flexible time program for its employees. Compliance with the Arizona 1987 air quality legislation - December 31, 1988.

- City of Goodyear Transportation Coordinator will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to initiate alternative work hours/days. Initiate study - October, 1987.

- Town of Guadalupe will study the feasibility of alternate office hours and work weeks. Implementation would be delayed until Guadalupe has 100 authorized positions. Private employers with over 100 employees would be encouraged to implement a similar program. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Mesa agrees to conduct a feasibility study to determine any additional work areas that could switch to a four day work week. Several areas of the City currently operate on a four day work week. In-house study completed by December 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will study the implementation of a flexible time program and encourage private employers to institute alternative work hours/days. Ongoing.

- City of Phoenix Departments will continue to offer alternative work weeks to employees, based on their individual policies, if coverage during core hours is maintained and service to the public is not negatively affected. An evaluation of how current alternative work usage can be increased is underway, and will be completed by July, 1987.

- City of Scottsdale Human Resources will assist General Managers in developing creative alternate work schedules so that by the legislatively mandated deadline, 85 percent of City employees work on alternate schedules during the months October through March and still provide the same or better level of service to the public. Efforts began in June, 1987 and will be fully implemented in January, 1989.

- Town of Surprise will publicize and encourage employer cooperation regarding alternative work schedules and work weeks in town publications and newsletters.

- City of Tempe agrees to continue to study the feasibility of increasing the number of work units and individuals who are on a ten-hour day, four day work week. The City will also encourage major employers within Tempe to consider utilizing alternative workweek schedules where feasible.

  The City has a limited alternative work week program already in place. Three divisions within the Public Works Department - Field Services, Water and Wastewater and Traffic Engineering - have crews that work four day weeks. Certain employees in the Community Services Department also adhere to an alternative work week schedule, working on the weekends.

  While its review of these programs is ongoing, the City will, as part of its alternative work hours study, evaluate the feasibility of expanding alternative work week schedules to other work units or individuals. The time frame for the study, Council consideration and implementation is the same as that delineated under the "Alternative Work Hours' implementation program.

  Letters will be sent to major employers within the City during the first half of fiscal year 1987-88 encouraging them to consider implementing alternative work week schedules where appropriate and feasible.

- Maricopa County Personnel Policies now permit use of alternative work weeks for departments although public services must be provided in all areas at least five days a week with the exception of those seven day a week 24-hour departments. Alternative work weeks are now in place in approximately one-half of the County departments. Approximately fifteen remaining County departments need to be surveyed to determine the extent of work week variations involving approximately 2,700 employees. These fifteen departments are primarily found in work site locations not contiguous to the Downtown County Complex. Initiate program - June, 1987. Evaluation of program - June, 1988.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist private employers and local jurisdictions in establishing programs to promote alternative work weeks. A video tape is being produced on the subject, and the rideshare marketing representatives will work with each company to develop a tailored program. Efforts began in June, 1987 and will be ongoing.

37. Telecommunications - Telecommuting (Areawide Strategy)

- Town of Buckeye supports this measure.
- City of Chandler agrees to coordinate with the Chandler Chamber of Commerce to encourage telecommuting by private employers beginning October 1, 1987.
- City of El Mirage will study the effect on local government services and implement where feasible. Study will begin in October, 1987 and will be presented to City Council in February, 1988.
- Town of Gila Bend would encourage this measure for work and shopping purposes.
- Town of Gilbert Manager's Office will encourage telecommunications as an alternative to commuting or requiring travel. Town Information System Division is responsible for implementing the town electronic mail and messaging programs. The Town Personnel Office will review current operating environments to determine feasibility of "work at home" job opportunities. The Town will also work with the Gilbert Chamber of Commerce to educate and encourage use of technology in the private sector.
- City of Glendale will monitor the applicability of this technology. Ongoing.
- City of Goodyear Transportation Coordinator will monitor new research discussing the applicability of this measure over time. The Coordinator will also study possible implementation of this measure with a new computer and telecommunications system. Computer system on line - July, 1987. Telecommunications study - August, 1987. Ongoing.
- Town of Guadalupe supports this measure.
- City of Mesa will explore this measure with employees that have home computers. Mesa will also work with the Mesa Chamber of Commerce to encourage greater use of telecommuting in the private sector.
- Town of Paradise Valley will implement this measure.
- City of Peoria will monitor new research discussing the applicability of this measure over time and study the feasibility of implementing a new computer and telecommunications system. Computer system on line - June, 1987. Research - Ongoing.
- City of Phoenix supports this measure.
- City of Scottsdale currently places computers in City officials' homes in order to encourage work at home. The goal of the program thus far has been to facilitate communication between top staff, City

Councilmembers and selected positions with an identified need. The program currently includes about six percent of the total number of terminals and may be expanded further if appropriate to include more City staff at home during actual work hours.

- City of Tempe agrees to explore the possibility of providing telecommunications link-ups for selected employees. The Mayor and City Manager currently have terminals installed in their homes and tied into the City automated data processing system. Terminals for home use have also been programmed for the remaining six councilmembers. In addition, selected programmers and systems analysts in the Information Systems Division of the City's Management Services Department have at-home access to the data processing system and are encouraged to carry-out certain job activities via telecommuting. As a part of its annual review of employee positions and data processing requirements, the City will attempt to identify those employees who could perform all or part of their job responsibilities via a telecommunications link and to ascertain whether it is feasible, within the overall data processing program, to provide the necessary equipment. This analysis will coincide with the annual budget process, January through May. It is not possible to commit to implementation of an expanded telecommuting program, however, until the analysis is completed and the feasibility of such a program determined.

38. Telecommunications - Teleconferencing (Areawide Strategy)

- Town of Buckeye supports this measure.
- City of Chandler will televise City Council and Planning and Zoning Commission meetings, expand its use of video taped training tapes for municipal employees, expand its use of electronic mail applications on municipal data processing equipment on an ongoing basis.
- City of El Mirage will use teleconferencing to avoid long drives to meetings wherever possible. Ongoing efforts.
- Town of Gila Bend would encourage this measure as a substitute for traveling to the meeting place.
- Town of Gilbert will explore the televising of Town Council, Planning and Zoning and other meetings of community interest, expand its use of video taped training, expand its use of electronic mail applications, consolidate offices and services, and develop alternate transportation networks (bike and pedestrian) within public facilities to minimize commuting trips by the public to multiple sites. The planning and construction of a comprehensive municipal complex is approximately three years away.
- City of Glendale Police and Fire Departments use teleconferencing for training program presentations and briefing sessions. Glendale residents are also able to view City Council meetings on cable television. Ongoing.
- City of Goodyear Transportation Coordinator will monitor new research discussing the applicability of this measure over time. The Coordinator will also study possible implementation of this measure with a new computer and telecommunications system. Computer system on

- Town of Guadalupe supports this measure.

- City of Mesa currently broadcasts its City Council meetings on cable television and also uses teleconferencing on a limited basis for employee training. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria will monitor new research discussing the applicability of this measure over time and study possible implementation of a new computer and telecommunications system. Computer system on line - June, 1987. Research - Ongoing.

- City of Phoenix Clerk Department, etc. responsibility under the telecommunications category is fulfilled by the telecommunication capabilities of OASIS, the Office Automation Support Information System. The OASIS telecommunications network went on-line in July, 1985 linking together six computers supporting 78 terminals in nine geographic locations throughout the City. The electronic mail and message features of OASIS allow municipal employees to share information such as reports, calendars, messages and memos without having to travel to centralized meeting locations.

  Since initial implementation, OASIS has been expanded with over 125 terminals having access to OASIS. The main computer has been upgraded to accommodate 32 additional terminals and system capacity was expanded by 33 percent. Over 800 hours of training on OASIS was provided during the 1986-87 fiscal year to conduct over 200 classes on the uses of OASIS for all levels of City employees.

  OASIS currently provides telecommunications service, not only to employees in the Municipal Building at 251 West Washington Street, but also provides service to employees at all the following locations:

  Barrister Place, 202 South Central
  Sky Harbor International Airport, 3400 Sky Harbor Blvd.
  Real Estate Division, 324 West Adams
  Economic Development Offices, One North 1st Street
  Engineering Office, 920 East Madison
  Police Department, 620 West Washington
  Civic Plaza, 335 East Adams
  Municipal Annex, 302 West Washington
  Fire Administration, 520 West Van Buren
  Phoenix Union Municipal Building, 455 North 5th Street
  Plaza Municipal Building, 235 East Washington
  Traffic Court, 12 North 4th Avenue
  UDH Building, 830 East Jefferson

  Three-way teleconferencing capability currently exists as a function of the City's telephone system. A six-way teleconferencing trunk has been ordered, at a cost of $108 per month, to be installed on or about July 1, 1987. Additionally, AT&T's ALLIANCE teleconferencing service is available for up to 58 simultaneous users. Costs are approximately $0.44 per minute for the service plus $0.25 per station per minute and long distance charges for each station to the equipment location (Los Angeles).

- City of Scottsdale agrees to encourage teleconferencing as a substitute for traveling to the meeting place. Specifically, Scottsdale's Office of Management Systems will promote the use of available teleconferencing capabilities and will train City staff in the use of those features. The existing City phone network will support teleconferencing between six parties within the City and two parties from outside the City phone network. In addition, the City's voice mail system offers features that may eliminate the need for certain meetings. Training in the use of these teleconferencing and other phone system features will be primarily aimed at City staff in satellite facilities and the central City complex who meet on a regular basis. Certain voice mail features which eliminate the need for field personnel to travel to and from the office for check-in and assignments will be promoted with the City staff in field positions. Efforts will begin in August, 1987 and will be ongoing.

- City of Tempe agrees to examine, in conjunction with its annual budgetary process, the possibility of enhancing its existing teleconferencing capacity. The City currently uses telephone speaker attachments and its telephone conference calling capacity to conduct multi-part discussions which would otherwise require meetings. It also provides information and programming to the viewing public via its cable access channel and over the past two years has invested substantially in the development of an in-house video capacity. Further, the City has in place an office automation system which permits electronic exchange of information among and between its elected officials and managerial and administrative staff, thus reducing the need to travel to and from different city office sites for meetings. Access to the system is expanded as budget and data processing capacity allow. The possibility of electronically linking selected systems in state or other local government agencies has been discussed and is a subject for future exploration. However, there are significant costs, compatibility and security issues which must be resolved. No commitment for implementation can be made at this time, given present costs and benefits. Sophisticated modes of teleconferencing will likely be examined in conjunction with future evaluations and upgradings of the City's telecommunications and data processing systems.

- City of Tolleson will direct its employees to follow a plan of teleconferencing as feasible to the situation.

39. <u>Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts (Areawide Strategy)</u>

- Town of Buckeye will purchase the URBEMIS program from the California Air Resources Board and utilize it for air quality impact studies. Subdivision ordinance amendment will require six months.

- City of Chandler agrees to evaluate the impacts of new development on air quality and reduce any negative impacts on an ongoing basis.

- City of El Mirage will implement as part of the Development Review Process an evaluation program designed to identify potential adverse impacts. Ongoing efforts.

- Town of Gila Bend will evaluate the impacts of new development on air quality as part of its plan review process. The current development guidelines require a review and approval of traffic circulation, parking plans, bike and pedestrian ways to assure a planned, integrated transportation circulation system. These will be reviewed and modified to determine their adequacy in measuring air pollution impacts. Ongoing.

- City of Glendale will implement as part of the current development review process, an evaluation of projects for potential air quality impacts. If significant impacts are identified, a formal impact study will be done. Glendale will incorporate air quality for all general categories of land use in the General Plan. Evaluation incorporated into review process - August, 1987. General Plan Draft completed - Summer, 1987.

- City of Goodyear Planning Department will implement as part of the Planning and Development Review Process a program designed to evaluate new development projects, identify potentially adverse air quality problems and reduce negative impacts. Efforts will begin in November, 1987 and the program will be implemented in January, 1988. Ongoing.

- City of Mesa as part of its plan review process agrees to evaluate the impacts of new development on air quality. Mesa also agrees to study the feasibility of purchasing the URBEMIS program or similar software to help evaluate the impact of various land uses on air quality by October, 1987. Mesa agrees to add a new category called Air Quality Impact to the Development Impact Summary by January, 1988. Possible software program purchase date - January, 1988.

- City of Peoria's Comprehensive Master Plan states that it is the policy of the city to reduce only negative impacts caused by new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality impacts. This is part of the general review process. Ongoing.

- City of Phoenix requires the preparation of traffic and parking analyses to accompany all Formal Rezoning Applications. These data have been used to require, as stipulations in rezoning and parking waiver decisions, developer commitments to traffic flow improvements and trip reduction programs. This process will be enhanced over the next calendar year to utilize more air quality-specific data.

  Consistent with provisions of Senate Bill 1360 requiring consideration of the air quality in the land use element of the General Plan, the City will review the General Plan and if necessary, develop any needed amendments to this effect in the next amendment cycle.

- City of Scottsdale already requires traffic impacts studies as part of an application for a major rezoning. Traffic impact studies could be expanded to include an evaluation of the air quality impacts of major new, proposed development. This work would need to be coordinated with the Maricopa County Health Department because the County maintains the region's air quality monitoring system. Because of the

regional nature of this issue, Scottsdale will work with MAG and the County Health Department to develop a mitigation policy. Efforts began in June, 1987. City signs contract with Maricopa County to implement the program if such action is deemed appropriate by the City - Summer, 1988.

- Town of Surprise will encourage and require development plans and land uses resulting in the shortest number of automobile trips.

- City of Tempe agrees to evaluate the air quality impact of new development by examining traffic circulation on-site as well as in areas affected off-site, and to suggest changes in site plans which will facilitate the flow of traffic. Further, the City of Tempe agrees to encourage employers in new developments to conduct annual transportation surveys that will monitor any changes in commuting behavior and provide data on which to base commuting program options, such as ridesharing, bus/trolley subsidies, transit stops and bicycle facilities. The evaluation of traffic circulation on and off-site is currently practiced, and the City of Tempe will continue its efforts to achieve the optimal flow for each project in order to reduce negative air quality impacts. The City of Tempe agrees to encourage employers to conduct transportation surveys once the City has an in-house program in place. It is estimated that the first quarter of 1988 would be appropriate for implementation.

- Town of Youngtown will include in its Planned Area Development Ordinance for limitation of air pollutants by eliminating areas of traffic congestion from plans. There is at this time no plan for industry in Youngtown.

- Maricopa County Department of Planning and Development will review applications for land development and continue to refer these applications to the Bureau of Air Pollution Control the County Public Health Division for analysis of impacts and possible mitigation measures for air quality. Process initiated - 1976. Issue memorandum specifying policy as described above - July, 1987.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will prepare and submit to the Department of Environmental Quality an air quality impact report on any State-funded, transportation-related project which ADOT determines may have carbon monoxide or ozone impacts. This new provision does not apply to existing facilities nor to Federal Interstate highways. Previously, comparable reports have been prepared in the form of environmental impact assessments of Federally-funded projects. Effective date of S.B. 1360 - August, 1987.

40. <u>Land Use Patterns Which Support Public and Rapid Transit</u>

- City of Chandler agrees to encourage the clustering of high intensity uses at major intersection nodes. Chandler will address land use patterns and their relationship to public transportation when it updates its General Plan in fiscal year 1987-88.

- City of El Mirage will work with developers during the Development Review Process to encourage this measure. Ongoing efforts.

- Town of Gila Bend will encourage land use patterns which support public and rapid transit.

- Town of Gilbert General Plan includes several land use techniques to incorporate public and rapid transit technology into the development of the community. This includes designation of core areas of commercial or a hierarchy basis which should diminish daily trips to the core of Gilbert, incorporation of several intense areas of development throughout the community to dispose employment throughout the area as well as the inclusion of multi-family development within high intensity use areas. The designated civic core will be designed and developed to access all transportation technology. The Town General Plan and development guidelines will be reviewed to address land use patterns and their relationship to public transportation.

- City of Glendale is currently revising its General Plan which will address activity centers, densities, and their relationship to public transportation. General Plan Draft completed - Summer, 1987.

- City of Goodyear Planning Department will work with developers during the Specific Area Plan Program Process and the Development Review Process to encourage land use patterns which support public and rapid transit and increase land use density along transit routes. Initiate program - April, 1987. Ongoing.

- City of Mesa is currently revising its General Plan which will include a separate section on transportation and a discussion on various land use policies designed to promote public and rapid transit. The General Plan is scheduled to be completed by the Spring of 1988.

- City of Peoria's Comprehensive Master Plan states that it is the policy of the city to reduce any negative impacts caused by new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality impacts. This is part of the general review process. Ongoing.

- City of Phoenix will pursue implementation of this measure as reflected in the General Plan. This is a continuous activity which is already reflected in the 1987-88 Operating Budget.

- City of Scottsdale Advance Planning, Master Planning, and Traffic Engineering land use programs will continue to plan for land uses which support public and rapid transit. One of the guiding planning principles for the City is that of relatively urban mixed-use activity centers flanked by lower density residential uses. This approach creates a string of activity centers linked by major arterial roads which connect the centers. Of special importance is Downtown, which is the most intense mixed-use center in the City. Not only does the Downtown provide a transportation focus for the City, it also contains many of the jobs and more intense residential areas. In addition, Downtown will serve as home to the proposed transit center. The City of Scottsdale will continue to work with other valley cities, MAG, and the Regional

Transit Authority to create land use patterns which support public and rapid transit. Efforts began in June, 1987 and will be ongoing.

- City of Tempe is bordered on all sides by incorporated municipalities, and less than twenty percent of the land within its boundaries is available for new development. Increasing land use densities along corridors and major clusters are already the rule and not the exception. Single family development within the City is virtually completed, and new residential development is already planned and zoned as multi-family. In addition, the update of Tempe's General Plan targets growth nodes and corridors for dense mixed-use development which provide all the amenities needed to work, live, shop and recreate within walking distance. Furthermore, Tempe's future planning effort includes long-range plans to expand the connection of vital segments of the City through greenbelt linkages incorporating bikepaths. The Planning and Zoning Commission public hearing on the General Plan Update is scheduled for September of 1987, followed by the City Council public hearing in late October, 1987. Final City Council adoption of the revised General Plan is targeted for mid-November, 1987. Ongoing efforts.

- City of Tolleson will support land use policies that support public and rapid transit when they do not conflict with current zoning regulations. Current zoning policies will take precedence.

- Maricopa County Department of Planning and Development in cooperation with MAG agencies will guide the preparation of private development master plans and the countywide comprehensive plans to accommodate a public transportation network. Board of Supervisors to adopt plans - January, 1988. Private development master plans reviewed by staff - June, 1988.

- Regional Public Transportation Authority will continue working with state and local planning departments, public officials, citizens, and developers to encourage the development of land use patterns and plans which support public and rapid transit. Ongoing.

41. <u>Reduced Idling at Drive-Up Facilities</u>

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Study and determine feasibility for implementation beginning in January, 1989.

- Town of Buckeye will purchase appropriate signs and provide them to businesses which will be required to install them by ordinance. Ordinance development and signage procurement will require six months.

- City of Chandler agrees to discourage extensive idling by vehicles not equipped with catalytic converters as part of its air pollution public awareness activities beginning on October 1, 1987.

- City of El Mirage will initially address this measure on a voluntary basis. Appropriate signage will be developed and required as part of the permit process on an ongoing basis.

- Town of Gilbert agrees to discourage extensive idling by vehicles not equipped with catalytic converters as part of its air pollution public awareness activities. Gilbert will use public service announcements on the cable channel, work with the Chamber of Commerce, and review design of drive-up requests to determine their propriety in future developments. Efforts will begin on October 1, 1987.

- City of Glendale will initially address this measure be seeking voluntary compliance. The City will work with businesses to develop a plan to reduce idling time at these facilities. The location and number of drive-up facilities will be addressed in the General Plan. Public Awareness Program implemented - January, 1988. General Plan Draft completed - Summer, 1987.

- City of Goodyear will review the Model Trip Reduction Study recommendations and identify those incentives feasible to implement. Results of the study will be shared with private employers. January, 1987 - January, 1989.

- Town of Guadalupe will purchase appropriate signs and provide them to businesses which will be required to install them by ordinance. Ordinance development and procurement of signage - Six months.

- City of Mesa will initially address this measure through voluntary compliance. Mesa will develop appropriate signage to discourage idling by vehicles not equipped with catalytic converters. Implementation - July, 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria will review the recommendations from the Model Trip Reduction Study and identify those incentives feasible for implementation. Results of the study will be shared with private employers. January, 1987 - January, 1989.

- City of Phoenix Council has directed City staff to develop an enforceable program to reduce emissions associated with drive-up facilities at the Council meeting on June 30, 1987. Phoenix will keep MAG apprised of progress made on program development.

- City of Scottsdale will encourage businesses with drive-up facilities to post signs discouraging those automobiles not equipped with catalytic converters (usually cars of model year 1980 or older) from idling while waiting in drive-up line. After approval of Scottsdale Air Quality Plan by City Council, letters will be sent by Traffic Engineering Department to all businesses utilizing drive-up facilities in Scottsdale, explaining the desire to reduce idling at such facilities by automobiles without catalytic converters and asking and encouraging these businesses to post signage discouraging such automobiles from doing so. Installation of the sign shall be the responsibility of the business.

- City of Tempe agrees to encourage drive-up facilities voluntarily to post signage warning of the negative air quality impacts created by extensive idling. Further, the City of Tempe agrees to place educational articles in the TEMPE TODAY newsletter to increase awareness of the problem. The City of Tempe will begin to encourage the voluntary posting of signage during the late Summer and Fall of 1987. A newsletter article will be published in the Fall of 1987.

- City of Tolleson will encourage local businesses to provide signage at their drive-up facilities that discourage excessive idling.

42. Auto Free Zones and Pedestrian Malls Where Appropriate

- City of Avondale will address this measure during the Development Planning Process. Ongoing effort.

- City of Chandler will implement Auto Free Zones and Pedestrian Malls within the Downtown Area through initiation of municipal complex and development standards for private sector projects. Public facilities will be phased in over the next fifteen years.

- City of El Mirage will consider this measure during the drafting of its General Plan. General Plan is scheduled for completion in October, 1987.

- Town of Gilbert reviews the designs for the Urban Civic Core, the Town Civic Complex, and high intensity development areas to determine the feasibility of integrating auto free zones and pedestrian malls into the overall transportation network. The current design for downtown Gilbert reconstruction is pedestrian-oriented to encourage "one-stop" commercial enterprises. The downtown reconstruction should be substantially completed by Spring, 1988. The future designs for the Civic Center, the new core area and high intensity development areas will come as development occurs in these areas. The civic center is approximately three to five years from construction, the urban core five to ten years and the high intensity areas throughout the next three to twenty-five years.

- City of Glendale is currently revising its General Plan which will address these issues. General Plan Draft completed - Summer, 1987.

- City of Goodyear will address this measure during the Specific Area Plan Program Process and the Development Review Process. Ongoing.

- City of Mesa's master plan for the ten acre Town Center Redevelopment Site calls for the inner core to be an auto free zone. A series of parking garages will be built in the outer area creating an auto free zone in the core area. Future downtown redevelopment sites will be planned in a similar manner. Total site development - Five years. Construction will begin in late Fall, 1987.

- City of Peoria will address this measure during the specific area plan program for downtown redevelopment. Ongoing.

- City of Phoenix will consider these and related treatments in the context of the Central Avenue Image Study, Downtown Circulation Plan, the Village Plans, and the Peripheral Area A, B, C, and D Plans. The RPTA and the Public Transit Department are also considering these measures in the RPTA Central Corridor Study. This is a continuous activity.

- City of Scottsdale has already taken a nationally recognized leadership position in providing high amenity pedestrian mall space. Any

expansion of auto free malls and pedestrian only areas will be carefully integrated into the circulation plan in order to avoid off-site traffic congestion. The City has explored the use of incentives to encourage downtown plazas as part of the Downtown Plan. Free parking and shuttle service is provided to encourage pedestrian travel. With the completion of the couplet, downtown Scottsdale will not be required to accommodate major arterial traffic on streets used for downtown shopping. The couplet will provide for the separation of these types, thereby allowing auto free zones in the downtown. Additionally, the Galleria, the Portales, and other large indoor malls will allow shoppers to leave their autos while shopping in an environment which provides amenities that will encourage pedestrian traffic. Construction of the couplet - 1987 to 2000. Ongoing.

- City of Tempe is committed to a pedestrian orientation in the downtown. This commitment is evident in the elimination of on-street parking downtown in conjunction with the widening of the sidewalks by an additional six feet. In addition, parking is located in off-street facilities to encourage people to walk to destinations and not utilize their vehicles. Furthermore, the General Plan Update, now in the final phases of consideration, stresses pedestrian areas and facilities, targeting growth nodes and dense mixed-use developments which permit persons to live, work and play all within walking distance. Construction of wider sidewalks and elimination of on-street parking on Mill Avenue began in June of 1987 and will be completed by September of 1987. Final adoption of the revised General Plan is targeted for mid-November, 1987.

- City of Tolleson supports the establishment of the auto free zones and pedestrian malls, but at the current time, the City does not have any areas that warrant these measures. However, during future development the City will consider establishing them as appropriate.

43. Enforcement of Traffic, Parking, and Air Pollution Regulations (Areawide Strategy)

- City of Avondale Police Department will review and if appropriate revise policies dealing with traffic and parking and strictly enforce the policies. Ongoing efforts.

- Town of Buckeye will ticket visibly smoking vehicles, enforce parking and traffic regulations, and truck restrictions during peak periods immediately for applicable regulations.

- Town of Carefree will request the Maricopa County Sheriff's Office (under contract) to enforce state motor vehicle air pollution laws and local parking and traffic regulations beginning in January, 1987.

- Town of Cave Creek will request the Maricopa County Sheriff's Office (under contract) to enforce state motor vehicle air pollution laws and to enforce local parking and traffic regulations beginning in July, 1987.

- City of Chandler Police Department will continue to issue citations to drivers of vehicles in violation of related ordinances and laws.

- City of El Mirage Police Department will review and revise traffic and parking policies and strictly enforce those regulations. Review and revisions will be completed by February, 1988.

- Town of Gilbert will continue its ongoing, aggressive traffic and parking regulation and enforcement program. Citations will be issued to drivers in violation of ordinances and laws including enforcement of requirements for inspection identification stickers, parking regulations, etc.

- City of Glendale recently revised its Parking Enforcement and Ciation Follow-up Policy. Glendale Police will issue citations instead of repair orders/warnings to motor vehicles emitting visible emissions. Ongoing. Visible emissions enforcement increased - September, 1987.

- City of Goodyear Police Department will review and if appropriate, revise policies dealing with traffic and parking and will strictly enforce these policies. Efforts will begin in September, 1987 and the revised program will be implemented in January, 1988.

- Town of Guadalupe will implement this measure for applicable regulations, when appropriate. This includes the ticketing of visibly smoking vehicles, enforcement of parking and traffic regulations, and enforcement of special enacted anti-pollution measures, such as truck restrictions during peak periods.

- City of Mesa has entered into a contractual agreement with Mesa Town Center Corporation to enforce all parking regulations within the one square mile Town Center area. Twenty-three patrol officers will be added to the Police Department during FY 1987-88.

- Town of Paradise Valley will implement this measure.

- City of Peoria Police Department will review and if appropriate, revise policies dealing with traffic and parking. The policies will be strictly enforced. Efforts will begin in September, 1988. Implementation of revised program - January, 1988.

- City of Phoenix Police Department will continue to issue citations to drivers of vehicles in violation of related ordinances and laws.

- City of Scottsdale Police Department and City Court will emphasize this program to existing personnel at training sessions and by training bulletins to be issued by the Administrative Bureau by August 1, 1987. New officers will be instructed as to the importance of enforcing the excessive smoke statutes and other "clean air" statutes. This is an ongoing program as the officers are employed. The City Court will be contacted by the Special Operations Supervisor and the importance of these citations will be expressed. This will be accomplished by July 1, 1987. An advertising campaign will be requested by Communications and Public Affairs. This will be to educate the public in the prioritization of these citations. This should be in place by September 15, 1987.

- Town of Surprise will continue local police enforcement of restrictions regarding vehicles which burn oil and unnecessarily generate carbon monoxide pollution.

- City of Tempe agrees to continue its ongoing, aggressive traffic and parking regulation enforcement program. Any new traffic, parking or air pollution regulations which may be adopted by the City Council or imposed by state law will also be strictly enforced. Tempe strictly enforces its traffic and parking regulations. Its parking enforcement program includes "booting" of vehicles of repeat offenders, and overtime parking fines were raised from $2 to $10 per violation three years ago. Ongoing efforts.

- City of Tolleson supports the stricter enforcement of these regulations and as applicable to the city's jurisdiction, will make a concerted effort to enforce such regulations. The City supports other jurisdictions' efforts to implement this measure.

- Maricopa County Division of Public Health Bureau of Air Pollution Control (Stationary Source Control) hired an additional Public Health Engineer to work in the Enforcement Section and two new Air Quality Planners to revise existing regulations and develop new regulations. Applicable new Source Performance Standards will be adopted following promulgation by the Environmental Protection Agency. Efforts began in January, 1987. Present proposed revisions and new regulations presented to Board of Supervisors for approval and adoption - October, 1987 to December, 1987. Ongoing review and development of regulations - January, 1988.

44. <u>Expansion of the Areawide Monitoring Network (Areawide Strategy)</u>

- City of Avondale will support the Maricopa County Health Department in its efforts to increase the areawide air quality monitoring network.

- Town of Buckeye will support this measure.

- City of Chandler agrees to support and cooperate with the Maricopa County Health Department in the expansion of the areawide air quality monitoring system.

- City of El Mirage will support the Maricopa County Health Department in this measure.

- Town of Gila Bend would support the expansion of the monitoring system and assist Maricopa County if the decision was made to place a monitor in Gila Bend.

- City of Glendale will request that the air quality monitoring network be expanded. Ongoing.

- City of Goodyear will support the Maricopa County Health Department in its effort to increase the areawide air quality monitoring network.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to support this measure.

- Town of Paradise Valley will implement this measure.

- City of Peoria will support Maricopa County Health Department in expanding the network.

- City of Phoenix supports this measure.

- City of Scottsdale Traffic Engineering Department shall, when requested to do so by the Maricopa County Health Department, make recommendations for Scottsdale locations for new air quality monitoring stations.

- Town of Surprise supports this measure.

- City of Tempe agrees to support and cooperate with the Maricopa County Health Department in expansion of the areawide air quality monitoring network.

- City of Tolleson supports this measure.

- Maricopa County Bureau of Air Pollution Control will study sub-regions of the nonattainment area to determine the air quality benefits of establishing additional monitoring stations. The Bureau's mobile monitoring laboratory will be available for those studies. Efforts will begin in May, 1987 and continue through February, 1988.

45. Winter Daylight Savings Time

- City of Chandler agrees to urge the Arizona Legislature to make an appeal to the 1966 Uniform Time Act on behalf of the State of Arizona beginning in the 1988 session. If the Legislature declines, Chandler will urge Maricopa County to make the appeal.

- City of El Mirage supports this concept and will encourage a legislative appeal to the Uniform Time Act.

- Town of Gila Bend supports Winter Daylight Savings Time in concept.

- Town of Gilbert will request that the Legislature make an appeal to the 1966 Uniform Time Act beginning in the 1988 session. If the Legislature declines to initiate such a request, Gilbert will urge Maricopa County to make the appeal. Gilbert will make these requests if the study mandated by the Legislature (in the 1987 session) deems Winter Daylight Savings Time an appropriate action which will not endanger the community.

- City of Glendale supports an appeal by the Arizona Legislature to the U.S. Department of Transportation, Office of General Counsel. Efforts will begin in August, 1987 and continue through May, 1988.

- City of Goodyear supports the concept of Winter Daylight Savings Time and will encourage a legislative appeal to the Uniform Time Act on behalf of Arizona.

- City of Mesa agrees to reaffirm its support of this measure and lobby for its adoption if the study required by the Arizona Legislature indicates that it will have a positive impact on air pollution in the 1988 session.

- City of Peoria supports this concept and will encourage a Legislative appeal to the Uniform Time Act.

- City of Phoenix supports this measure.

- City of Scottsdale will request the Arizona Legislature to make an appeal necessary for implementation of this measure in the 1988 Legislative session.

- Town of Surprise will cooperate with County and State authorities in encouraging adoption of daylight savings time during the winter pollution season.

- City of Tempe agrees to encourage the Arizona State Legislature to take the action necessary to appeal to the 1966 Uniform Time Act and the U.S. Congress to make the shift to Winter Daylight Savings Time. Efforts will be during the 1988 Legislative Session.

- City of Tolleson supports the shift from Mountain Standard Time to Central Standard Time during the winter months in order to reduce driving during inversion conditions. However, the jurisdiction to do this lies with the State Legislature.

46. Contingency Plan

- City of Avondale will continue to participate with the MAG Air Quality Policy Committee on this measure.

- Town of Buckeye will support this measure.

- City of Chandler agrees to review annual progress reports prepared by the MAG Air Quality Policy Committee regarding annual efforts to reduce carbon monoxide and ozone beginning in 1988.

- City of El Mirage will continue to participate with the MAG Air Quality Policy Committee on this measure.

- Town of Gila Bend will support the Contingency Plan.

- Town of Gilbert agrees to review annual progress reports prepared by the MAG Air Quality Policy Committee regarding annual efforts to reduce pollution and participate as necessary.

- City of Glendale will develop a computerized monitoring program to track the progress made with the implementation of this measure. Ongoing.

- City of Goodyear will continue to participate with the MAG Air Quality Policy Committee.

- Town of Guadalupe supports this measure.

- City of Mesa will review the need to strengthen existing measures and use additional measures.

- City of Peoria will continue to participate on the MAG Air Quality Policy Committee.

- City of Phoenix supports this measure.

- City of Scottsdale will support the efforts of the MAG Air Quality Policy Committee in this measure through active involvement on the committee by a city elected official and a Scottsdale citizen. Ongoing.

- Town of Surprise will cooperate with the Maricopa Association of Governments to implement any modifications or contingencies required.

- City of Tempe, as a member of the Maricopa Association of Governments and with a representative on the MAG Air Quality Policy Committee, agrees to support and participate in the annual review of progress made to reduce carbon monoxide and ozone pollution and the consideration of additional measures, if necessary. It further agrees to monitor at the local level progress made toward meeting its individual commitments. The MAG Air Quality Policy Committee review will be conducted annually. Local reviews of progress made will be conducted quarterly. If additional measures are determined necessary as a result of the annual MAG review, implementation schedules will be developed at that time.

- City of Tolleson supports the MAG Air Quality Policy Committee in their efforts with this measure.

- Town of Youngtown supports this measure and will provide financial support if feasible and appropriate.

ADDITIONAL MEASURES

47. Land Use Patterns That Discourage Automobile Use

- Town of Carefree will provide for land use patterns that will discourage automobile use within the Town's commercial downtown core beginning in the Summer of 1987.

- Town of Cave Creek will provide for land use patterns that will discourage automobile use within the Town's commercial downtown area beginning in the Fall of 1987.

48. Reduced Parking Requirements for Firms with Ridesharing

- Town of Gilbert will review development guidelines to allow reduced parking lot coverage for developments employing high occupancy or transportation pooling techniques within their development proposals.

TRACKING PLAN IMPLEMENTATION

As discussed in Chapter Six, the Maricopa County Bureau of Air Pollution Control determines reasonable further progress and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.

In order to accurately monitor or track plan implementation, the Maricopa County Bureau of Air Pollution Control will be requesting that the implementing agencies and jurisdictions complete the annual progress report contained in Table 7-1. The Bureau of Air Pollution Control will then review and summarize this information, prepare an implementation status report, and then present the report to the MAG Air Quality Policy Committee. The Maricopa County Bureau of Air Pollution Control will also continue to have the responsibility for conducting ambient air quality monitoring.

Supplemental to the tracking efforts of the Maricopa County Bureau of Air Pollution Control, the Maricopa Association of Governments publishes regional traffic flow maps every two years and calculates regional vehicle miles of travel from these flow maps. MAG also conducts a vehicle occupancy study each year, publishes a monthly traffic count stations report each year, and performs special traffic volume and speed studies as needed. Phoenix Public Transit continuously monitors transit ridership and summarizes daily ridership for each month. The Regional Public Transportation Authority will also be collecting transit and carpooling ridership information. The Arizona Department of Health Services continuously monitors the number of vehicles inspected in the Vehicle Inspection Maintenance Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.

As indicated in the Contingency Plan, the MAG Air Quality Policy Committee will review progress made to improve air quality on an annual basis. If necessary, the Committee will consider strengthening existing measures and adding other measures.

TABLE 7-1

MAG 1987 CARBON MONOXIDE PLAN AND OZONE PLAN
ANNUAL PROGRESS REPORT FOR CALENDAR YEAR 1987

Control Measure _____

City/Agency _____

Contact Person _____ Title: _____ Phone No. _____

1) Describe legal commitment (include: adoption by city council/governing body, date of adoption, form of adoption, i.e. ordinance, resolution, budgetary commitment, etc).

2) Describe funding commitment (include total dollar amount allocated for this strategy, total dollar amount spent during this calendar year; identify funding source).

3) Describe the progress achieved on this control measure:

A. Prior to 1987 (see attachment "A")

B. During calendar year 1987 (see attachment "A").

SAMPLE

INSTRUCTIONS FOR DESCRIBING "PROGRESS" IN QUESTION #3

Information from the annual progress report will be summarized to measure the progress achieved on each control measure. To accomplish this, it is important the response in question #3 include uniform reporting units (e.g. miles of reversible lanes, number of spaces in park and ride lots). The specific reporting units for each strategy are listed below.

Part A of question #3 asks for a description of the progress achieved before January 1, 1987. For instance, the existing number of bus pullouts in curbs for passenger loading, or the existing miles of bike paths in place before 1987. Part B emphasizes progress achieved in calendar year 1987. The response in both A & B shall be quantified using the reporting units for that strategy.

LIST OF REPORTING UNITS FOR DESCRIBING PROGRESS ON MAG STRATEGIES

Control Measure	Reporting Unit
Computerization and synchronization of traffic signals	Number of intersections
Reversible lanes on arterials	Number of miles
Park and ride lots	Number of lots and Number of parking spaces
Preferential parking for carpools and vanpools	Number of parking spaces

etc.....

APPENDIX D, Exhibit 2

MAG 1987 Carbon Monoxide Plan for the Maricopa County Area, Chapter Eight: Demonstration of Attainment Status.

CHAPTER EIGHT

DEMONSTRATION OF ATTAINMENT STATUS

Based upon the air quality modeling analysis presented in Chapter Three, a 34.0 percent reduction in carbon monoxide emissions is needed to attain the carbon monoxide standard by December 31, 1987. For 1990 and 1995 respectively, a 31.2 percent and an 18.5 percent reduction in carbon monoxide emissions are needed to attain the standard. The control measures included in the MAG 1987 Carbon Monoxide Plan have the potential to reduce carbon monoxide emissions by 35.3 percent in 1987, 34.8 percent in 1990, and 34.1 percent in 1995.

The figures cited above represent potential emissions reductions obtainable from the plan. In Chapter Eight, the plan is evaluated in terms of emissions reductions that will result from actual commitments to implement control measures in the plan. These commitments were obtained from MAG member jurisdictions and other appropriate implementing agencies. Additional details concerning these commitments are provided in Chapter Ten.

Based on the evaluation of the commitments, it is estimated that the control measures will result in a 6.7 percent reduction in emissions by the end of 1987, a 13.9 percent reduction by 1990, and a 15.5 percent reduction by 1995. On this basis, it is estimated that the Maricopa County Area will not achieve the carbon monoxide standard by the December 31, 1987 deadline. The standard also would not be met by 1990 or 1995, given that only those commitments that have been received would be in place.

It is important to note that a broad range of commitments were received, addressing implementation of measures in the plan. The extensive commitments from MAG member jurisdictions demonstrate the level of effort that is being made to improve air quality in the region.

In the determination of attainment status, specific emissions reduction credits were not taken for commitments where the basis for estimating air quality benefits was limited. However, in many cases these commitments will produce emissions reductions above and beyond what has been quantified in the evaluation of attainment status. These measures represent additional efforts by MAG member jurisdictions to reduce emissions and improve air quality. It is anticipated that as additional experience is gained in the implementation of these measures, a more detailed assessment of their air quality benefits can be developed and reported.

ESTIMATED IMPACTS OF CONTROL MEASURES BASED UPON PLAN COMMITMENTS

In order to take credit for the full potential of the plan to reduce carbon monoxide emissions, the level of commitments to implement the plan must be comparable to the versions of the measures modeled. Accordingly, the commitments for implementation received by MAG in July, 1987 were reviewed and compared with the modeled versions of the control measures.

Table 8-1 summarizes the percent reduction in emissions estimated for the control measures as described above. Only those measures for which emissions reduction credit was taken are listed. The values reflect the change in total emissions with the measure in place divided by total emissions for the base year (1987, 1990, 1995) without any new measures in place. It should be noted that the estimated emissions reductions represent the incremental effect of the measure and not the total effect of the program area. For example, the reduction estimated for Short-Range Transit Improvements refers only to the effects of new services and not the total contribution of the entire transit system.

For each measure in the adopted plan, a brief discussion of the impact estimation is presented below. Following the review of individual control measures, the combined impact of the committed measures is estimated and attainment status is discussed.

Table 8-1

CARBON MONOXIDE EMISSIONS REDUCTIONS ESTIMATED FOR CONTROL MEASURE COMMITMENTS

Measure	1987 Percent Reduction in CO Emissions From Base	1990 Percent Reduction in CO Emissions From Base	1995 Percent Reduction in CO Emissions From Base
I/M Program - 1987 Legislation	2.5	2.1	1.8
Short-Range Transit Improvements	0-0.1	0-0.1	0-0.1
Expanded MAG Regional Ridesharing Program	0.1	0.3	0.5
Voluntary No Drive Days Program	4.2	11.0	12.5
High Occupancy Vehicle Lanes on Freeways	*	*	0.3
Freeway Surveillance, Ramp Metering, and Signage	*	*	0-0.1
Increased Bicycle Use	0.2	0.2	0.2
Pedestrian Travel	0-0.1	0-0.1	0-0.1
Conversion of State, Local and Corporate Fleets to Alternative Fuels	*	0-0.1	0-0.1
Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service	*	0-0.1	0.3
Alternative Work Hours	0.1	1.1	1.0

NOTE: In addition to the measures listed above, numerous commitments were made involving other control measures which would yield additional benefits. However, in many cases the impacts of these commitments were not readily quantifiable, and no credit was taken for emissions reductions.

* Indicates a scenario not applicable for certain year(s).

Vehicle Inspection Maintenance Program - 1986 Legislation Statewide (Areawide Strategy)

During the spring of 1987, the Arizona Legislature gave consideration to a variety of air pollution control measures including options for strengthening the State Vehicle Inspection Maintenance Program. MAG, Maricopa County, and the MAG cities and towns urged the Legislature to amend the State Vehicle Inspection Maintenance Program to require application on a statewide basis. In May, 1987 the Legislature passed a major air quality bill, Senate Bill 1360, which the Governor signed into law. This legislation did not expand the geographic coverage of the State Vehicle Inspection Maintenance Program, but did strengthen it in several ways as highlighted below.

- The new law applies inspection and maintenance requirements to "those vehicles registered outside of a nonattainment area but used to commute to the driver's principal place of employment located within a nonattainment area."

- The new law applies inspection and maintenance requirements to the vehicles of students attending State universities and State-supported community colleges within nonattainment areas, even if these vehicles are not registered in Maricopa or Pima County.

- The new law establishes a system whereby an air quality compliance sticker or comparable device will be used to identify vehicles which have complied with the requirements of the State Vehicle Inspection Maintenance Program. Vehicles which have been exempted from the program will also receive a sticker. Beginning in 1989, by which time each vehicle in compliance will have such a sticker, any vehicle without a sticker will be prohibited from parking on State campuses or in lots reserved for employees of the State or local governments. The Arizona Department of Administration is given the authority to institute further nonattainment area parking prohibitions affecting vehicles not in compliance.

- The new law increases to two hundred dollars the cost of repairs which may be required for a vehicle manufactured in model years 1975 through 1979 to be issued a certificate of waiver under the State Vehicle Inspection Maintenance Program. The previous waiver limit for these vehicles was one hundred dollars.

The carbon monoxide emissions reductions originally modeled for statewide application of the program were 4.5 percent for 1987, 4.4 percent of 1990, and 4.8 percent for 1995. By including the vehicles of college students and commuters from outside the nonattainment area, the new law will bring more vehicles under the requirements of the State Vehicle Inspection Maintenance Program. However, it will not reduce the emissions of vehicles of Arizona residents who enter the Maricopa County Area only on an occasional basis. Therefore, the emissions reduction attributable to the above provisions will be less than the reduction modeled for statewide application of the State Vehicle Inspection Maintenance Program. On this basis, it is estimated that the carbon monoxide impact of the newly legislated program modifications will be a 2.5 percent reduction for 1987, a 2.1 percent reduction for 1990, and a 1.8 percent reduction for 1995.

2. <u>Vehicle Inspection Maintenance Program - 1986 Legislation Countywide (Areawide Strategy)</u>

As discussed above, the Arizona Legislature in May, 1987 enacted new legislation strengthening the State Vehicle Inspection Maintenance Program. The new provisions do not include countywide application of the program, but they do expand inspection and maintenance requirements to include vehicles used to commute into nonattainment areas. The potential carbon monoxide emissions reductions modeled for countywide application of the State Vehicle Inspection Maintenance Program were 0.6 percent in 1987, 1990, and 1995. These estimates are not an assessment of the newly legislated program modifications. Emissions reduction credit for these modifications is addressed in the context of the preceding measure.

3. Short-Range Transit Improvements (Areawide Strategy)

In recent months the Regional Public Transportation Authority (RPTA) has initiated regional transit service to complement existing municipal fixed route and demand responsive services. Six new express routes began in December, 1986. Seven local routes began service in January, 1987 and nine local routes were added or modified in April, 1987. These improvements, funded from the $5 million annually available for RPTA service provision, were the basis of the short-range transit scenario modeled for this measure. Continued provision of the regional service will be funded with sales tax revenues as approved by Maricopa County voters in 1985 through the passage of Proposition 300.

In addition to the RPTA effort, local transit improvements are being made by the cities of Mesa, Phoenix, Scottsdale and Tempe. Other cities and towns are studying the potential for initiating local service. Transit improvements may be implemented during 1987-88 using part of the $250,000 appropriated by the Arizona State Legislature for transit and ridesharing projects in nonattainment areas. In addition, the Phoenix City Council has approved a program for a private contractor to install up to 1,000 passenger shelters with advertising. The private capital investment will approximate $6,000,000 in making passenger waiting at bus stops more comfortable and convenient.

The scenario originally modeled for short-range transit reflected only the service improvements initiated by the RPTA. To estimate the combined impact of the RPTA efforts and the additional transit improvements described above, the originally modeled reduction was factored upward in proportion to the increased funding commitments. After adjustment for the extra efforts described above, a 0.0 to 0.1 percent reduction was estimated for 1987. Comparable credit was taken for 1990 and 1995 because the RPTA effort has a continuing funding commitment.

4. Long-Range Transit Improvements (Areawide Strategy)

The Regional Public Transportation Authority, established in January, 1986, has as its primary mission the planning of a future rapid transit system. When completed, the RPTA plan will be considered for voter approval in a sales tax referendum to be held after September, 1988. The RPTA planning effort is currently underway with extensive cooperation from local governments.

As of April 1987, more than a half dozen consultant studies were underway, identifying regional travel demand, transit technology characteristics, facility design standards, and corridor-level service concepts. These studies are coordinated elements of the plan development process through which the RPTA will prepare a Regional Public Transportation System Plan. The plan will address regional rapid transit and regional bus service needs through the year 2015.

The major technical studies initiated during the spring of 1987 are described below:

- The Transit Systems Planning Study will quantify travel demand, identify corridors, develop regional service concepts, define corridor service characteristics, and assemble the long-range plan.

- The Rapid Transit Technology Inventory and Evaluation involves the examination of the full range of available transit technologies to determine which options are suitable for use in Maricopa County.

- The study of Transit Facility Design Standards addresses general policy and code issues related to the design of various transit facilities such as guideway, stations, transfer centers, and park and ride. A second phase will address the issues of functionality, maintainability, aesthetics, and design consistency.

- The Central Avenue Rapid Transit Corridor Analysis will define an alignment envelope for rapid transit service in the corridor along Central Avenue from Camelback Road to downtown Phoenix.

- The Sky Harbor International Airport Rapid Transit Analysis will identify an alignment envelope and station options for providing service to, within, and through the airport, including the existing three terminals and a fourth terminal presently under design.

- The Camelback Rapid Transit Corridor Analysis will define alignment envelopes along the Camelback Corridor in Scottsdale and in Glendale. A second phase will identify alignment envelopes in Phoenix.

At the state level, the 1987 air quality legislation established a Light Rail Study Commission charged with the responsibility of preparing a report for the Governor by the end of 1987.

Modeling results for a long-range transit scenario based on an earlier MAG study indicated a 0.4 percent reduction in carbon monoxide emissions in 1990, and a 1.6 reduction in 1995. In the event that the voters approve the RPTA plan, air quality impacts will be assessed and credit will then be taken for this measure.

5. Exclusive Bus Lanes on Arterials and Freeways as Appropriate (Areawide Strategy)

The Regional Public Transportation Authority will pursue the introduction of exclusive bus lanes in cooperation with affected local jurisdictions. In addition, several cities are studying potential applications of this measure. Existing bus lanes on Central and First Avenues in Phoenix will be maintained. As additional applications are programmed for implementation, air quality benefits can be investigated. This measure was not evaluated through computer modeling, and no additional emissions reduction credit was taken.

6. Expanded MAG Regional Ridesharing Program (Areawide Strategy)

The Maricopa Association of Governments will expand the Regional Ridesharing Program through the Regional Public Transportation Authority. With a combination of Federal Highway Administration funds and monies from the Exxon Restitution Fund, the program has been expanded significantly. The staff has been increased from two to five people, with additional contract support for clerical activities. Three employer marketing representatives have been hired to work directly with Valley employers to design internal rideshare programs for each business.

The main objective for the program is to develop transportation management plans that will promote a number of different modes of travel such as transit, carpooling, vanpooling, bicycling. This will reduce the use of single occupant vehicles. Other measures such as alternative work hours will be promoted to help reduce localized congestion problems. The goal for the 1897 program year is to develop programs in all local governments, the top 20 Valley employers and a wide variety of small and medium sized businesses. A total of 125 firms will be contacted in 1987 and 700 firms will be contacted by 1995. These goals correspond to the scenarios used for modeling this measure.

Related efforts to encourage ridesharing will be implemented through the Capitol Complex Rideshare Program, administered through the Energy Office of the Arizona Department of Commerce. The Arizona Department of Transportation (ADOT) will contribute funding for this program. In addition, a number of cities will administer in-house ridesharing promotion for their employees. Other cities and towns will publicize and promote ridesharing through various public information efforts.

The carbon monoxide emissions reductions for the modeled versions of this measure were 0.1 percent in 1987, 0.3 percent in 1990, and 0.5 percent in 1995. These same levels of reduction were credited for the commitments to

this measure. This is based upon the continuity of the expanded MAG Regional Ridesharing Program, as well as commitments to associated measures for which no additional credit was taken. Such measures include Park and Ride Lots, Preferential Parking for Carpools and Vanpools, and Auto Free Zones and Pedestrian Malls Where Appropriate.

7. Model Trip Reduction Ordinance - Employer Based Transportation Management (Areawide Strategy)

The Maricopa Association of Governments initiated the development of a model trip reduction ordinance in July, 1987. The resulting model ordinance will be considered for adoption by Maricopa County and the MAG cities and towns. Additionally, the 1987 Arizona air quality legislation specifically grants to counties, cities, and towns the power to make and enforce trip reduction ordinances, beginning in 1989. As such ordinances are adopted and implemented, credit can be taken for the emissions reduction benefits resulting from this measure. At this time, no credit was taken. Based upon the scenario modeled for trip reduction ordinances, this measure has the potential to reduce carbon monoxide emissions by 2.4 percent in 1987, 2.8 percent in 1990, and 2.7 percent in 1995.

8. Voluntary No Drive Days Program (Areawide Strategy)

The Phoenix Metropolitan Chamber of Commerce has made a commitment to establish a voluntary no drive days program anticipated to be in effect from October 15, 1987 through January 15, 1988. Numerous MAG member jurisdictions have indicated that they will support and promote this effort. The program will promote regular driving restraint during the carbon monoxide season. By encouraging the public to observe one no drive weekday every week, the program is expected to bring about a three percent reduction in average weekday vehicle miles of travel (VMT). In addition to this basic objection, further voluntary restraint may be promoted on occasions when meteorological forecasts indicate that severe or prolonged thermal inversion conditions may be anticipated.

Due to reliability problems in weather forecasting, the intermittent element of the program is not included in the estimation of emissions reductions for the measure. The underlying VMT reduction is the only benefit that was modeled. The three percent VMT reduction projected for this measure in 1987 is based upon the success of the Denver Better Air Campaign in its first year of operation. For 1995, the goal of the program is a 10 percent VMT reduction. These VMT reductions correspond to the modeled scenario for this measure, which yielded an estimated carbon monoxide emissions reduction of 4.2 percent for 1987, 11.0 percent for 1990, and 12.5 percent for 1995.

Initially, the MAG staff was advised by EPA that credit should not be taken for the Voluntary No Drive Days Program. Accordingly, in estimating the impacts of the alternative control measure packages for consideration by the MAG Air Quality Policy Advisory Committee, no credit was taken for this measure. Subsequently, EPA staff has indicated that credit would be allowable for the Voluntary No Drive Days Program. As a result, credit for the program has been incorporated into the assessment of attainment status.

9. Areawide Public Awareness Program (Areawide Strategy)

The Phoenix Metropolitan Chamber of Commerce conducted an areawide public awareness program called the "Clean Air Force" campaign during the six month period which began on November 17, 1986. Through this program a public awareness base was established which will contribute to the success of the Voluntary No Drive Days Program in 1987. Because the impact of continued public awareness efforts is fully included within the emissions reduction estimated for the Voluntary No Drive Days Program, no individual credit was taken for this measure.

10. Park and Ride Lots (Areawide Strategy)

The Regional Public Transportation Authority was instrumental in the establishment of thirteen new park and ride lots in November, 1986 and is continuing to work with local governments to identify potential sites for

additional lots. Commitments for providing additional lots have been made by Phoenix, Chandler, and the Arizona Department of Transportation. The City of Phoenix will take necessary actions to implement a new transit center in the Sunnyslope area at a cost of $650,000. During 1988, final design and lease arrangements will be initiated for new transit facilities at Westridge Mall at a cost of $100,000. In addition, engineering and design will begin on a new $7.6 million express bus terminal to be located at Central Avenue and the Papago Freeway. A Paradise Valley Mall transit center is budgeted at $230,000. Also budgeted are two park and ride lots at $2,795,000.

Utilization of park and ride lots tends to be correlated to the level of transit service provided and ridesharing activity. Therefore, park and ride lots were not separately evaluated through computer modeling, and no separate credit was taken for this measure.

11. Financial Incentives Including Zero Bus Fares (Areawide Strategy)

Several commitments were made during 1987 which may increase the use of financial incentives in the near future. The 1987 Arizona air quality legislation provides that businesses may take Arizona State tax deductions for the costs of providing transit subsidies to their employees. The new legislation also requires the Director of the Arizona Department of Administration to adopt rules which will permit reimbursement of transit costs to State employees. In addition Maricopa County committed to subsidize transit for its employees beginning December 1, 1987. Mesa will initiate a similar program on January 1, 1988. Numerous cities and towns also indicated that they would review the MAG Model Trip Reduction Ordinance when it is completed, as a basis for considering implementation of financial incentives.

Originally, this measure was modeled on the basis of free bus fares twenty-four hours each day for all trip purposes. This produced a 0.3 percent emissions reduction in 1987, 1990, and 1995. As data becomes available on the number of companies taking advantage of the State tax incentive, as well

as participation levels in government programs, air quality benefits can be fully assessed. No emissions reduction credit was taken for these commitments at this time.

12. Preferential Parking for Carpools and Vanpools (Areawide Strategy)

The 1987 Arizona air quality legislation requires the Director of the Arizona Department of Administration to designate preferential spaces for carpools and vanpools in State employee parking lots. Additional commitments to provide such spaces were made by Maricopa County and the City of Scottsdale. Numerous other cities and towns will consider the results of the MAG Model Trip Reduction Ordinance as a basis for implementing this strategy. In addition, the Regional Public Transportation Authority will encourage both public and private employers to implement the preferential parking measure.

This measure will promote regional ridesharing and thus contribute to the success of the Voluntary No Drive Days Program. It would also be useful in support of a trip reduction ordinance. This measure was not individually evaluated through computer modeling and no emissions reduction credit was taken.

13. Mandatory Parking Charges for Employees (Areawide Strategy)

The Maricopa Association of Governments has initiated a study of coordinated parking management in conjunction with the development of a model trip reduction ordinance. MAG member jurisdictions will review the results of the MAG study as a basis for considering an areawide strategy of mandatory parking charges. The scenario modeled for this measure assumed a parking charge of one dollar per day. On this basis, the potential carbon monoxide emissions reductions were estimated to be 1.1 percent in 1987, 0.8 percent in 1990, and 0.7 percent in 1995. At present, no jurisdiction has committed to implement mandatory parking charges. Therefore no emission reduction credit was taken for this measure.

14. High Occupancy Vehicle Lanes on Freeways (Areawide Strategy)

The Arizona Department of Transportation, in cooperation with local jurisdictions, is responsible for constructing the planned MAG Freeway/Expressway System. ADOT has committed to open high occupancy vehicle (HOV) lanes on Interstate 10 and the East Papago Freeway, which will encourage ridesharing and transit use. In FY 1988 and FY 1989, $81 million in Federal highway funds, including approximately a seven percent State match are programmed for completion of the Interstate 10 inner loop including HOV lanes. Also integrated into the design of Interstate 10 is a major regional transit transfer station, and a freeway traffic surveillance and control system. In FY 1988, an additional $7.4 million in Federal and State funds are programmed specifically for adding HOV lanes on Interstate 10 between 40th Street and Superstition Freeway. HOV lanes also will be considered for possible implementation in other freeway corridors.

The scenario originally modeled for this measure was based on hypothetical implementation of HOV lanes on all freeways existing in 1995, yielding an estimated 2.7 percent reduction in potential carbon monoxide emissions. This result was reduced in proportion to the mileage actually committed resulting in an estimated emissions reduction of 0.3 percent for 1995.

15. High Occupancy Vehicle Lanes on Existing Arterials as Appropriate

A number of cities and towns indicated they would be considering this measure, but no specific commitments to implement high occupancy vehicle lanes on arterials were made at the present time. This measure was not evaluated through computer modeling and no emissions reduction credit was taken.

16. High Occupancy Vehicle Ramps Which Bypass Freeway Ramp Metering Signals (Areawide Strategy)

The Arizona Department of Transportation, in cooperation with local

jurisdictions, is responsible for constructing the planned MAG Freeway/Expressway System. This includes the construction of freeway entry ramps where bypasses could be built to enable high occupancy vehicles (HOV) to access the freeway without being delayed by ramp metering controls. To facilitate such HOV bypasses when warranted by traffic demands, ADOT is considering the construction of extra wide ramps in several freeway corridors. In addition, an HOV bypass was opened in June, 1987 to facilitate southbound bus access to the Black Canyon Freeway at Dunlap Avenue.

The construction of freeway ramps designed to accommodate HOV bypasses is an important step toward implementing this measure. As a definite schedule for bypass implementation is developed, a basis for estimating emissions reduction benefits will be more readily available. At this time no specific emissions reduction credit was included for this measure.

17. Mitigation of Freeway Construction Impacts (Areawide Strategy)

The Arizona Department of Transportation will maintain a driver information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Public information efforts will be pursued in cooperation with other MAG member jurisdictions to mitigate the traffic impacts of constructing new freeways and expressways in the MAG area. Similar efforts are presently underway with respect to construction of a major interchange connecting Interstate 17 and Interstate 10, in Phoenix. The City of Phoenix has been actively involved in this effort.

Modeled air quality estimates for 1987 and future years did not explicitly take into account the detours, lane closures, or traffic delays which occur on existing roadways as the result of freeway construction. In general, these are short-term, localized impacts not relevant in the prediction of average traffic projections for most planning purposes. Measures taken to mitigate these traffic impacts typically do not improve traffic flow to a level better than the assumed base conditions. Therefore emissions reduction credit was

not included for this measure.

18. and 19. Freeway Surveillance, Ramp Metering, and Signage (Areawide Strategy)

The Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the existing Interstate 17/Interstate 10 corridor $24.8 million in Federal Highway funds including approximately a seven percent State match, have been programmed over the next five years for installation of an extensive freeway management system. This system may include a control center, detector loops, call boxes, television cameras, variable message signs lane control signs and ramp meters.

The committed traffic control system corresponds to the level of implementation which was evaluated as the modeling scenario for 1990. The carbon monoxide emissions reduction impact of this scenario was estimated to be in the range of 0.0 to 0.1 percent. Based on the ADOT commitment, this modeled reduction would be applicable in 1992 and beyond, rather than in 1990. Therefore a reduction of 0.0 to 0.1 percent was applied for this measure for 1995.

20. Computerized Synchronization of Traffic Signals

Significant portions of the street system in the region currently benefit from signal synchronization. In addition, the 1987 Arizona air quality legislation requires synchronization of traffic signals on streets with average daily traffic volumes over 15,000. This requirement will lead to continued expansion of the network of coordinated signals to keep pace with the growth in traffic in the region.

A number of jurisdictions are already in the process of improving and expanding their synchronization systems. Over five million dollars in signal improvements were included in the commitments submitted by Glendale, Mesa, Phoenix, Scottsdale, and Tempe. The presence of a synchronized

system was incorporated in the traffic and air quality model calibration process and is reflected in base system forecasts. Therefore no additional credit was taken for individual signal synchronization commitments.

21. Reversible Lanes on Arterials

Street mileage readily conducive to the application of reversible lanes has been converted in congested central areas. These streets will continue to be maintained as reversible lane facilities and have been reflected accordingly in base condition forecasts. The potential for the application of reversible lanes on additional facilities will receive ongoing evaluation by MAG member jurisdictions. Modeling data for this measure, based upon the assumption of adding 45 miles of reversible lanes, indicated a potential carbon monoxide emissions reduction of 1.3 percent for 1987 and 1990, declining to 0.2 percent for 1995. However, specific additional miles are not planned at this time and no reductions in emissions were credited for this measure.

22. One Way Streets

One way street applications have been implemented in a number of areas where they yield major traffic flow benefits. These streets will continue to be maintained as one way facilities and have been reflected accordingly in base condition traffic forecasts. In addition, the City of Phoenix has included over $2.7 million for two one way street projects in its Six Year Major Street Improvement Program. Other MAG member jurisdictions are studying potential new applications on an ongoing basis. This measure was not evaluated through computer modeling, and no additional emissions reduction credit was taken.

23. Truck Restrictions During Peak Periods

The potential benefits of peak period truck restrictions are being investigated as part of the MAG study concerning the model trip reduction ordinance and coordinated parking management program. The results will be used by the

MAG member jurisdictions as a basis for considering possible implementation of this measure. The scenario modeled for this measure indicated the potential for carbon monoxide emissions reductions of 2.0 percent in 1987, 1990, and 1995. No emissions reduction credit was taken for this measure at this time.

24. Intersection Improvements

Numerous MAG member jurisdictions have ongoing commitments to a wide range of street and intersection improvement projects. Such projects will increase intersection capacities, smooth traffic flow and increase speeds, thereby reducing emissions. These projects are generally reflected in the MAG Regional Transportation Improvement Program (TIP) which is a five-year guide for street, transit and airport projects in the region. For modeling purposes, base year street network characteristics were developed on the basis of improvements outlined in the TIP. These projects are implicit in the base condition forecasts and no additional credit was taken for specific individual project commitments.

25. On-Street Parking Restrictions

A number of MAG member jurisdictions already have on-street parking restrictions or programs underway leading to restrictions. These efforts will help to smooth traffic flow, increase speeds, and thereby reduce emissions. In general, parking on major arterials is extremely limited. This has been incorporated into the modeling process for estimating future traffic conditions. Therefore, this measure was not separately modeled, and no emissions reduction credit for was taken.

26. Bus Pullouts in Curbs for Passenger Loading (Areawide Strategy)

Several MAG member jurisdictions have identified project commitments involving the installation of bus pullouts. For example, the City of Phoenix will construct approximately 50 bus pullouts annually in conjunction with

major street construction. Phoenix has received a $1,064,800 Federal grant for bus pullout construction, and has programmed $200,000 of Local Transportation Assistance funds annually for this effort. In addition, Phoenix will encourage private construction of bus pullouts in conjunction with new developments. This measure was not evaluated through computer modeling and no specific emissions reduction credit was taken.

27. Increased Bicycle Use

Encouragement of bicycle use can consist of bicycle promotion, system planning, and educational activities, complementary to the provision of actual facilities. Numerous cities and towns have committed to participate in such activities. Additional support is provided by the State of Arizona, Maricopa County, and the Regional Public Transportation Authority. The 1987 Arizona air quality legislation requires that bicycle use be considered in county and municipal land use plans. All of these efforts will make bicycling a more viable transportation alternative.

For modeling purposes, it was assumed that an achievable goal for increased bicycle use would be a one percent reduction in auto trips of six miles or shorter. This scenario yielded a 0.2 percent reduction in modeled carbon monoxide emissions for 1987, 1990, and 1995. Because of the significant support for this measure and a closely related measure, Bicycle Travel and Support Facilities, the full modeled emissions reduction was credited.

28. Bicycle Travel and Support Facilities

Significant levels of bicycle facility planning and provision are reflected in the commitments of Maricopa County and numerous MAG cities and towns. Five cities have programmed funds for facility provision, while other cities and towns are developing bicycle plans or using zoning processes to encourage or require private sector participation. For example, the City of Phoenix reports that a bicycle plan element delineating 400 miles of bike routes and

facilities is proposed for incorporation into the City of Phoenix General Plan during 1987-88.

As another example, the City of Tempe has in place an extensive bikepath system and is continuing to improve and expand that system based upon a comprehensive study of bicycle needs and desires. More than 30 miles of bikepaths are already in place. Budgeted for 1987-88 are other bikepath improvements totaling $340,000, and projected for 1988-89 through 1991-92 are enhancements totaling an additional $1,731,000.

The air quality benefits from bicycle travel and support facilities are reflected in the emissions reductions credited to the preceding measure, Increased Bicycle Use.

29. Pedestrian Travel

Pedestrian travel in lieu of automobile use may be a feasible alternative for a variety of trip purposes in downtown areas and for certain short trips in suburban areas. Sidewalks, crosswalks, and other pedestrian amenities are typically included with most street construction in areas of at least moderate development density, often provided as a requirement in land development. Thus, most cities and towns in the Maricopa County Area have ongoing commitments for the provision, or requirement, and maintenance of these facilities.

The scenario developed to model this measure assumed that pedestrian travel could be used in place of 5 percent of all vehicle trips of less than one-half mile in length. This yielded an emissions reduction estimate of 0.0 to 0.1 percent for 1987, 1990, and 1995. Given that no credit was taken for associated measures such as Auto Free Zones and Pedestrian Malls Where Appropriate and Pedestrian and Bicycle Overpasses Where Safety Dictates, the full modeled reduction was credited for this measure.

30. Pedestrian and Bicycle Overpasses Where Safety Dictates

Grade separated pedestrian and bicycle crossings of heavily traveled, high speed arterials can improve safety and reduce delay for both motorists, bicyclists, and pedestrians alike. A number of pedestrian and bicycle overpasses already exist in the region, and additional facilities will be considered where appropriate. For example, the City of Phoenix reports that $2,343,000 is budgeted for the construction of a number of underpasses during the next five years. Tempe has budgeted $300,000 for two pedestrian overpasses in 1987.

The benefits from this measure would be reflected in increased pedestrian travel, as addressed in the preceding measure. Therefore no specific emissions reduction credit was taken for pedestrian and bicycle overpasses.

31. Use of Alternative Fuels on a Statewide Basis (Areawide Strategy)

At all levels of government, there is considerable interest in the possibility of utilizing alternative vehicular fuels to reduce pollutant emissions in the Maricopa County Area. In particular, carbon monoxide emissions during winter months may be reduced using oxygenated fuels such as ethanol, methanol, propane, compressed natural gas, or methyl tert-butyl ether. Previous studies from other areas have not clearly indicated what the emission reduction effects, availability, costs, and driveability effects of these fuels would be in Arizona. These and other considerations are being addressed in a $60,000 MAG study targeted for completion by the end of September, 1987. In addition, a joint legislative study committee will investigate the applicability of alternative fuel use in Arizona. The 1987 Arizona air quality legislation requires that this effort is required to be completed on or before December 31, 1987.

Several fleet tests will be conducted in order to determine the impacts of such fuels under local conditions. Under provisions of Senate Bill 1360, the State and the cities of Phoenix and Tucson are required to conduct a study of

ten percent of their nondiesel fleet vehicles to determine how these vehicles perform with respect to driveability using clean burning fuels. Each study is to be conducted for a one-year period beginning October 1, 1987. The City of Phoenix has indicated that it will conduct tests more extensively than minimally required.

In addition to the driveability tests, two studies will be conducted to determine the cost and emission effects of using clean burning fuels. The Arizona Department of Transportation will conduct the $400,000 pilot project mandated by House Bill 2115. Maricopa County will convert 43 vehicles for alternative fuel use for three months of testing to begin in January, 1988.

These studies and tests will produce the independent local data necessary to determine the feasibility of using alternative fuels as an air pollution control measure. The tests themselves are not presented as a control measure due to their temporary nature. Thus no emission credit was taken for 1987.

The alternative fuel scenarios used for modeling purposes were based upon the use of a blended fuel consisting of 90 percent gasoline and 10 percent methanol. For 1987 the modeled carbon monoxide emissions reduction for this measure was 0.7 to 7.3 percent, depending upon whether the use of the blended fuel would be voluntary or mandatory. The emissions reduction for 1990 was projected to be 2.8 to 5.6 percent. The estimated benefit would decline to the range of 1.4 to 2.9 percent for 1995. While significant reductions are potentially achievable, they were not included in the current demonstration of attainment.

32. <u>Conversion of State, Local, and Corporate Fleets to Alternative Fuels (Areawide Strategy)</u>

The 1987 Arizona air quality legislation requires all nondiesel vehicles of model year 1980 or older to use clean burning fuels during the months of October through March of each year, beginning in October, 1989. This requirement applies to each vehicle in a fleet of 25 or more vehicles, if the

vehicles are operated in a nonattainment area at least fifty percent of the time. The results of the MAG feasibility study on alternative fuels will be available in time to be used as a resource in selecting the type of fuel best suited for each particular vehicle fleet. Presumably, these fuels would be available in sufficient quantities to meet individual fleet needs, even if available supplies could not meet the demands of the entire population.

In preparing to meet this new requirement, the City of Scottsdale will be able to draw upon more than four years of experience in operating vehicles with compressed natural gas (CNG). The City of Glendale is preparing to convert vehicles to CNG use, with financial assistance granted from the Exxon Restitution Fund, part of the Arizona share of the national Petroleum Violators Escrow Account. The City of Phoenix has conducted internal studies and will be involved with alternative fuels through the driveability testing discussed under the preceding measure, Use of Alternative Fuels on a Statewide Basis.

For 1987, no emissions reduction would apply because of the lead time necessary for fleet conversion efforts to be implemented. For 1990 and 1995, the resulting carbon monoxide emissions reduction was estimated to be in the range of 0.0 to 0.1 percent.

33. <u>Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service (Areawide Strategy)</u>

The 1987 Arizona air quality legislation requires that beginning in 1990, all buses purchased by a city, town, or county for operation in a nonattainment area must use clean burning fuels. This requirement does not require the retrofitting of buses purchased prior to January 1, 1990. The requirement will yield increasing emission reductions over time, as newly purchased buses gradually replace older buses, until the entire stock of buses has been replaced.

It is estimated that this requirement will yield a carbon monoxide emission

reduction in the range of 0.0 to 0.1 percent for 1990. For 1995, the emissions reduction will depend upon the outcome of the regional transit sales tax referendum (see the related measure, Long-Range Transit Improvements). If the referendum passes, the effect of the requirement on a greatly expanded bus fleet would be an estimated 0.7 percent emission reduction. Otherwise, annual bus purchases for replacement purposes would yield a 0.3 percent reduction in carbon monoxide emissions. This latter estimate was the amount of credit taken for 1995 in the present demonstration of attainment status.

34. Use of Emissions Control Devices on Public Diesel Powered Vehicles (Areawide Strategy)

As described in the measure adopted by MAG and its member jurisdictions, public transit providers would be responsible for using emission control devices on publicly owned diesel powered vehicles when these devices become economically and technologically feasible. The City of Scottsdale has been involved in the development of an experimental diesel filter and will continue to pursue this technology. The Regional Public Transportation Authority, Scottsdale, and the other MAG member jurisdictions operating diesel powered buses in the Maricopa County Area will continue to monitor national developments in the search for suitable emission control devices. This measure has not been evaluated through modeling and no emissions reduction credit was taken.

In a related commitment, the City of Phoenix has budgeted the necessary funds to upgrade the fuel used for Phoenix Transit operations for 1987-88. Switching from diesel fuel number two to diesel fuel number one will primarily reduce particulate emissions, but may also have a secondary benefit of reducing carbon monoxide emissions.

35. Alternative Work Hours (Areawide Strategy)

The purpose of alternative work hours is to promote off-peak driving and to facilitate ridesharing and transit use. A related measure, Alternative Work

Weeks, reduces the total number of work trips by condensing a given number of work hours into a smaller number of work days. The MAG Regional Rideshare staff will actively promote alternative work hours in presentations to private employers and local jurisdictions. Video presentation materials are scheduled for production by August, 1987 to facilitate this effort. This will occur as part of the employer outreach efforts described under a related measure, Expanded MAG Regional Ridesharing Program. Alternative work hours also will be promoted by several of the MAG member jurisdictions. Many of these jurisdictions already have alternative work hour programs for their own employees, or have committed to study this measure for possible implementation.

In addition to the efforts described above, newly legislated requirements for the use of adjusted work schedules will apply during the carbon monoxide season. Under the 1987 Arizona air quality legislation, the Director of the Arizona Department of Administration must require the use of adjusted work hours for at least 85 percent of State employees with offices located in a nonattainment area. The requirements will apply each year, beginning October 1 and ending April 1, effective as of 1987. Beginning in 1989, the requirement will also be applied to County employees and to the employees of cities and towns which have a population of 50,000 or more.

With respect to the private sector, the 1987 legislation requires businesses to prepare an adjusted work hour proposal for submittal to the Department of Environmental Quality by October 1 each year. This requirement applies to firms with 500 or more employees at one site in a nonattainment area.

In estimating the impacts of the legislated requirements described above, it was assumed that all affected employees would report to work one hour earlier and would leave work one hour earlier than they would in the absence of the requirements. This assumption was based upon preliminary study of a related measure, Winter Daylight Savings Time, which indicated the value of completing work-to-home commuting prior to the onset of thermal inversion conditions in the early evening. Private sector implementation of such schedules was not assumed because it is not required in the legislation.

Because there is a one to one relationship between carbon monoxide concentrations and emissions, compliance by State employees was estimated to be equivalent to reducing carbon monoxide emissions by 0.1 percent for 1987. Compliance by State, County, and local government employees was reflected in estimated future reductions of 1.1 percent for 1990 and 1.0 percent for 1995.

36. Alternative Work Weeks (Areawide Strategy)

The use of alternative work weeks reduces the total number of work trips needed to facilitate a given number of work hours on a weekly basis. A related measure, Alternative Work Hours, does not change the total number of work trips, but provides flexibility regarding the times at which work trips are made. For jobs where full-time availability of services is required, the use of alternative work hours may be clearly preferable to the use of alternative work weeks. Implementation of alternative work weeks will be pursued by the MAG Regional Rideshare staff and MAG member jurisdictions by the means described for Alternative Work Hours.

The alternative work schedule scenario evaluated with computer modeling indicated a 0.2 percent reduction in carbon monoxide emissions would be achievable in 1987. This was based on the assumed use of alternative work weeks by 5 percent of all employees in the Maricopa County Area. For 1990 and 1995 respectively, a 0.6 percent reduction and a 1.4 percent reduction were estimated, based upon increasing levels of employee participation. There remains the potential that such reductions may be achieved, but at this time no credit was taken for this measure. Impacts of the adjusted work schedule requirements of the 1987 Arizona air quality legislation are addressed under the preceding measure, Alternative Work Hours.

37. Telecommunications - Telecommuting (Areawide Strategy)

With the availability of computerized telecommunications, increased potential exists to reduce commuting and travel for other purposes through

the substitution of electronic communications. Several cities have pursued this option as major employers, while many others anticipate future study and promotion of the concept. As the use of telecommunications increases in the future, regional emissions reductions will be felt. For example, it was modeled that if telecommunications could reduce the use of motor vehicles by three percent in 1990, carbon monoxide emissions would be reduced by an estimated 4.1 percent. If this traffic impact were achieved by 1995, the emissions reduction would be 3.7 percent. However, based upon the level of commitments existing at this time, no credit was taken for emissions reductions for this measure.

38. Telecommunications - Teleconferencing (Areawide Strategy)

The circumstances for this measure are similar to those described for the preceding measure. Thus, no emissions reduction credit was taken.

39. Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts (Areawide Strategy)

The 1987 Arizona air quality legislation requires every State agency, board, and commission to submit an air quality impact report to the Department of Environmental Quality on any State-funded transportation related project that it determines may impact air quality.

In addition, most MAG member jurisdictions have indicated that existing or planned development review procedures will include evaluation of the impacts of new development on air quality, with the goal of reducing negative impacts.

This measure can reduce vehicle miles of travel, as well as traffic congestion, thus improving air quality. It was not evaluated through computer modeling, and no emissions reduction credit was taken. A related measure, Model Trip Reduction Ordinance, addresses mitigation of similar development impacts.

40. Land Use Patterns Which Support Public and Rapid Transit

The encouragement of land use patterns which support public and rapid transit can play an important long term role in reducing vehicle miles of travel and increasing transit usage. Based on the scenario originally modeled for this measure, a 0.2 percent reduction in emissions was estimated for 1995, in addition to the benefits of transit without altered land use.

Areawide interest in this measure was demonstrated by the commitments of numerous MAG member jurisdictions to pursue the issue in their land use planning processes. Since this is a long term measure, its primary benefits would be felt well after the end of 1987. Over the longer term, the emissions reduction effects will be closely tied to the success of the long-range transit plans being developed by the Regional Public Transportation Authority. Therefore no emissions reduction credit was taken for this measure at this time.

41. Reduced Idling at Drive-Up Facilities

Vehicular emissions may be reduced by discouraging extensive idling for drive-up service by vehicles not equipped with catalytic converters. This could be accomplished, for example, by posting signs to discourages idling by older vehicles at drive-up facilities. A number of cities and towns indicated they would promote a voluntary approach to this measure through public information channels and contacts with merchants. Because of the generally voluntary nature of this measure with no past indicators of the possible level of participation, no specific emissions reduction credit was taken.

42. Auto Free Zones and Pedestrian Malls Where Appropriate

Auto free zones can help alleviate hot spot area problems and discourage use of automobiles in favor of public transportation. Virtually all MAG member jurisdictions indicated that auto use was discouraged in current land use planning or will be addressed in future planning. For example, Scottsdale and

Mesa have auto free zones in place or under development. With the success of the Civic Center Mall, Scottsdale has taken a nationally recognized leadership position in providing high amenity pedestrian mall space. The City has explored the use of incentives to encourage downtown plazas as part of the Downtown Plan. Free parking and shuttle service is provided to encourage pedestrian travel. The Downtown Plan also provides incentives for pedestrian plazas and the Canal Bank Committee just completed a full planning study on an auto free zone along the Arizona Canal in downtown Scottsdale. Many of the proposed improvements will be provided as a condition of development.

The City of Mesa has been pursuing this measure in the revitalization of its downtown area. The master plan of this ten-acre site calls for the inner core of the development to be an auto free zone. A series of parking garages will be built in the outer area, thus essentially creating an auto free zone in the core area. Future downtown redevelopment sites will be planned in a similar manner.

This measure was not evaluated through computer modeling, and no emissions reduction credit was taken.

43. Enforcement of Traffic, Parking, and Air Pollution Regulations (Areawide Strategy)

Recognition of the need for more effective enforcement is evident in the 1987 Arizona air quality legislation. The establishment of the air quality compliance sticker program will give law enforcement officials a means of visual verification to determine whether or not a vehicle is in compliance with the requirements of the State Vehicle Inspection Maintenance Program. The sticker program will be fully in place for this purpose as of January 1, 1989.

Commitments were received from several MAG member jurisdictions to review their existing law enforcement practices and determine whether or

not additional emphasis can be given to enforcing air quality statutes. Specific improvements in enforcement were committed to by Glendale, Mesa, Carefree, and Cave Creek. In addition, Maricopa County has recently expanded the staff of the Enforcement Section of its Bureau of Air Pollution Control. In terms of reducing carbon monoxide emissions, these efforts do not have readily quantifiable impacts and therefore no quantitative credit was taken.

44. Expansion of the Areawide Monitoring Network (Areawide Strategy)

This measure would involve the expansion of the existing air quality monitoring network to include additional areas. Although no reduction in carbon monoxide emissions would result from this action, its implementation could prove beneficial. Expansion of the monitoring network would promote a better understanding of regional air pollution problems, thus facilitating better application of air pollution control measures. Maricopa County will conduct a study to determine where an additional site or sites could be most beneficial and appropriate. The conclusions of the study will be used as the basis for pursuing the additional funds which would be necessary to support any new sites.

45. Winter Daylight Savings Time

Air pollution modeling efforts completed in April, 1987 indicated that utilization of a one hour clock shift strategy, or Daylight Savings Time, would have the potential to reduce carbon monoxide concentrations significantly during winter months. Conceptually, this strategy would permit more homebound commuter trips to be completed prior to the onset of thermal inversion conditions which trap emissions close to the ground overnight. Little or no reduction in total emissions would occur, but better dispersion of emissions would take place. This measure was proposed to the Arizona State Legislature for possible action, because implementation of a time change would require that the State make an appeal to the U.S. Department of Transportation -- Office of General Counsel.

The Legislature decided that a complete study should be conducted to determine the air quality impacts of this measure. There was some concern that the strategy might prove to be beneficial in Maricopa County but detrimental in Pima County. The 1987 Arizona air quality legislation appropriated $150,000 for the conduct of this study. The findings of the study are to be reported to the Legislature by April 1, 1988.

The scenario modeled for this measure assumed that all vehicular travel and other pollution generating activities expected under base case conditions would take place one hour earlier. No assessment was made of the possibility that people could make certain trips one hour later, thus partially reducing the impact of the time shift. On this basis, the model indicated a 21.6 percent reduction in the maximum eight hour average concentration of carbon monoxide. For 1990, a 20.4 percent reduction was indicated, and for 1995, an 18.4 percent reduction. Revised estimates of these impacts will be available in April, 1988. Because the necessary State endorsement and Federal authorization of this measure have not been obtained, no credit was taken in the determination of attainment status.

46. Contingency Plan

The MAG Air Quality Policy Committee will review the annual progress made to reduce carbon monoxide pollution in the Maricopa County Area. If necessary, the Committee will consider strengthening existing measures and recommending additional measures for inclusion in the carbon monoxide plan. MAG member jurisdictions have indicated their support for this approach, and their willingness to strive for additional air quality improvement.

COMBINED IMPACT OF COMMITTED MEASURES

Based on the estimated impacts of the individual control measure commitments, an evaluation of their combined impact was conducted. As in prior evaluation of packages of measures, care was taken to avoid double counting benefits from measures with overlapping areas of effectiveness. In addition, individual impacts were not simply added together but combined in a multiplicative fashion to account for reductions in base levels due to the effects of other measures.

Regarding the potential for overlapping effects, the Voluntary No Drive Days Program was of particular concern. In effect, this measure encompasses and amplifies efforts in other areas such as ridesharing, mass transit and employer based trip reduction programs. Success of the Voluntary No Drive Day Program would be the result of effective programs for these kinds of measures. If full credit is taken for the Voluntary No Drive Days Program, no credit should be taken for programs through which it achieves its goals.

In the evaluation of the combined effects of commitments, full credit was taken for the Voluntary No Drive Days Program targets, but no credit was taken for Short-Range Transit Improvements, Expanded MAG Regional Rideshare Program, High Occupancy Vehicle Lanes on Freeways, Increased Bicycle Use, and Pedestrian Travel. In addition, no credit was taken for any of the measures for which commitments were received but no reduction estimate was prepared. Full credit was given to all the remaining measures listed in Table 8-1.

On this basis, the combined impact of the commitments was estimated to result in a 6.7 percent reduction in carbon monoxide emissions by the end of 1987 compared to base conditions. For 1990, the reduction from base conditions was estimated to be 13.9 percent. For 1995, a 15.5 percent reduction was estimated.

ATTAINMENT STATUS

In Chapter Three it was estimated that emissions reductions of 34.0 percent in 1987, 31.2 percent in 1990, and 18.5 percent in 1995 would be needed to attain the national carbon monoxide standard. These goals are compared, with the estimated impacts of the committed control measures by year below.

Year	Emissions Reduction Goal	Emissions Reduction From Commitments
1987	34.0%	6.7%
1990	31.3%	13.9%
1995	18.5%	15.5%

As may be observed, the emissions reduction estimated to result from the commitments is less in each year than the target reduction required to meet the carbon monoxide standard. Based on this evaluation, it is estimated that the Maricopa County Area will not achieve the carbon monoxide standard by the end of 1987. Similarly, the standard would not be met by 1990 or 1995, given that only the committed measures would be in place.

It should be recognized that MAG member jurisdictions and other implementing agencies submitted a broad range of commitments beyond those taken directly into account in the determination of attainment status. These commitments address a variety of strategies and will result in lower emissions. However, in many cases the impacts of these measures were not readily quantifiable, and no credit was taken for emissions reductions. Nevertheless, they clearly represent additional efforts by MAG members to reduce emissions and improve air quality.

In addition, no credit was taken for several adopted measures which have significant potential benefits but are currently under study prior to implementation

action. Among these measures is Winter Daylight Savings Time, which is being studied by the Arizona Department of Health Services, with a report to be submitted in the Spring of 1988. Another example is Use of Alternative Fuels on a Statewide Basis, which is being studied by the Arizona Department of Transportation, the Cities of Phoenix and Tucson and MAG, with reports to be submitted in the Fall of 1987 and 1988. Also in this category is the study by MAG of a Model Trip Reduction Ordinance, including parking management and truck restriction strategies, which is to be completed in early 1988. Additionally, the extensive planning work of the Regional Public Transportation Authority, which is targeted for completion within approximately one year, may eventually lead to the implementation of a regional rapid transit system.

Finally, there were certain adopted measures which received significant commitments but await an assessment of participation levels, before benefits may be estimated effectively. Examples of these measures are Financial Incentives Including Zero Bus Fares, for which no credit was taken, and Alternative Work Schedules, for which only limited credit was taken. Both of these measures were the subject of new State legislation enacted in the Spring 1987 Session.

APPENDIX E

MAG 1993 CARBON MONOXIDE PLAN
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

List of Exhibits:

1. MAG 1993 Carbon Monoxide Plan for the Maricopa County Area, Chapter Eight: Implementation of the MAG 1993 Carbon Monoxide Plan.

2. MAG 1993 Carbon Monoxide Plan for the Maricopa County Area, Chapter Nine: Demonstration of Attainment Status.

APPENDIX E, Exhibit 1:

MAG 1993 Carbon Monoxide Plan for the Maricopa County Area, Chapter Eight: Implementation of the MAG 1993 Carbon Monoxide Plan.

CHAPTER EIGHT

IMPLEMENTATION OF THE MAG 1993 CARBON MONOXIDE PLAN

In order to improve air quality, it is important to effectively implement the measures contained in the adopted MAG 1993 Carbon Monoxide Plan as expeditiously as practicable as required in the 1990 Clean Air Act Amendments. The implementing entities have submitted specific commitments to implement various measures in the plan. These commitments have been reviewed and an implementation schedule has been prepared to reflect the timeframes specified in the commitments for implementation.

IMPLEMENTATION SCHEDULE

The following implementation schedule provides a brief description of the commitments received by MAG to implement the measures in the adopted plan and corresponding time tables. The schedule also includes the contingency measures. Please note that the measure numbers correspond to the measure numbers from the Suggested List (see Chapter Six).

1. Programs for Improved Public Transit

   a. Mass Transit Alternatives

   ■ Regional Public Transportation Authority indicates that enabling legislation was passed by the State Legislature in June 1990 to allow for a measure to go before Maricopa County voters for a joint half cent sales tax increase for highways and transit. The Regional Transit Plan for Maricopa County, Arizona was adopted by the Regional Public Transportation Authority Board of Directors on July 9, 1992. On July 29, 1992, the MAG Regional Council and the RPTA Board of Directors voted to postpone a county-wide sales tax election for transit and freeway improvements until a later date. The current economic conditions probably make a successful referendum unlikely. Since that time, the RPTA Board has been studying alternate methods to finance the plan.

   This plan expands the days and times when bus service is available and more than doubles the annual miles of bus service. Service improvements would include adding new bus routes and increasing the frequencies on existing routes. By the fifth year, the plan calls for:

   - 29 million miles of annual bus service
   - 625 buses in service
   - All routes operating 7 days a week
   - Service 5 a.m. to midnight, Monday - Saturday
   - Service 6 a.m. to 8 p.m., Sundays and Holidays
   - Dial-a-Ride service would triple

The plan also calls for conducting a feasibility study to determine the need for rail transit. This plan is not funded. Implementation will require securing some new funding source dedicated to public transportation. The RPTA and the City of Phoenix Public Transit Department are responsible for transit planning and program implementation. The Transit Department's financial resources for the 1992-93 operating budget include federal ($4.2 million), state lottery ($7.6 million), RPTA ($4.6 million), general purpose funds ($16.4 million) and farebox revenues ($15.0 million). The City of Phoenix has committed $16.5 million of its capital improvement program for 1992-93.

b. Expansion of Public Transportation Systems

- City of Chandler will implement a program to improve bus stop facilities for passengers to include bus shelters, benches, and trash receptacles. The City of Chandler currently has 34 bus shelters and 11 bus benches on its system. Installation of an additional 54 shelters and four benches is scheduled for FY 1994. The trip reduction program city employee will administer the program. A private advertising firm is installing 44 of the shelters and an Federal Transit Administration grant is approved for 10 shelters, 4 benches and 15 trash receptacles. City funding is budgeted at $59,000.

  The City of Chandler will also implement 105,862 annual miles of new bus service connecting with the regional transit system. Additional service implementation was in accordance with the following schedule:

  July 1, 1992 - began service on Route 156 = 73,502 miles.
  September 8, 1992 - began service on Route 72 = 10,328 miles.
  September 8, 1992 - began service on Route 81 = 22,032 miles.
  October 1, 1992 - expanded service frequency on portions of Route 156 with the assistance of an Arizona Department of Transportation (ADOT) air quality grant.

  This $200,000 program of local fixed route bus service is provided under contract to the Regional Public Transportation Authority (RPTA) and funded by the City of Chandler LTAF revenues ($136,944), ADOT air quality demonstration grant ($15,000), Federal Transit Administration operating subsidy ($19,313), private employer contributions ($3,250) and farebox revenues ($24,344).

- City of Glendale will continue to work in conjunction with the Regional Public Transportation Authority to improve the public transit system. The RPTA Citizens' Advisory Committee prepared a long-term transit improvement plan for the Maricopa County area in 1991. The City will work with the RPTA to expand and/or improve its bus service on an as needed basis. The City expects to complete its bus shelter plan in 1993. The City's Transit Department is responsible for transit planning and program implementation. The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund.

- City of Mesa currently operates five local bus routes with 21-passenger buses (1,568 miles per day, averaging 1,570 boardings per day), weekdays only, 6:30 a.m. to 7 p.m. and the Regional Public Transportation Authority (RPTA) operates five regional/local and three regional/express routes, primarily on weekdays, various hours.

  During FY 93-94, the City will order (for delivery in FY 94-95) 13 compressed natural gas-fueled, 35-passenger buses to run on the existing routes and add Saturday service on three routes, 8 a.m. to 7 p.m. (920 additional miles per day, 250 additional estimated boardings per day). A grant has been applied for that will, it received, expand the Saturday service to 1,449 miles per day, with boardings expected to be about 400 per day.

  In FY 94-95, an additional 10 CNG-fueled 35-passenger buses will be ordered. Annual service miles will be increased from 452,000 miles to nearly 1.1 million miles (139 percent more) through the addition of three new routes. Weekday service will be extended to 6 a.m. to 9 p.m. and Saturday service will be expanded to 8 a.m. to 9 p.m. on all routes. The City will work with the RPTA to seek expansion of regional service into Chandler, Tempe, and Phoenix, subject to the funding commitments of these cities.

  The Office of Special Programs is responsible for transit planning and program implementation. Transit operations are funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit fund, Federal Transit Administration and ISTEA funds. Funding for the transit improvements described above is projected to be approximately $2.6 million for FY 93-94 and $3.2 million in FY 94-95. Construction of a CNG fueling facility in FY 93-94 is expected to cost $700,000. Further expansion of the transit system would require a dedicated funding source not now available.

- City of Phoenix will continue to seek ways to improve public transportation through short range transit improvements as funding becomes available. Potential service changes could include: increasing the level of service, expanding service to areas currently without service, and attracting additional ridership through marketing and promotion.

  The City of Phoenix implemented a significant route restructuring on March 1, 1993. Several new routes were introduced using existing resources. These new EZ Lines were designed to follow the predominate travel patterns of the region and to reduce the number of transfers required to travel these routes. The goal of the new routing is to increase ridership system-wide.

  The City has also begun the process to purchase 43 new 40-foot buses to replace the oldest buses in the fleet. These new buses will have clean burning diesel engines through the use of electronic ignitions and the addition of particulate traps. The 43 new buses are expected to replace existing buses in 1994, based upon final approval of a funding grant request in July 1993.

The City has awarded a contract to retrofit 75 older buses with new clean burning diesel engines, transmissions, and particulate traps. The 75 retrofitted buses are expected to be completed in 1994.

The City designed and installed bike racks on all City buses in 1991-1993. This program will continue to be implemented as the fleet is expanded. Bike racks and lockers are provided in the Phoenix Park and Ride facilities and most City buildings and parks.

Transit funding is allocated through the annual budget process. Transit Department's operating budget for 1992-93 is $47.3 million, which includes federal ($4.2 million), state lottery ($7.6 million), RPTA ($4.6 million), general purpose funds ($15.5 million) and fare-box revenues ($15.0 million). Transit Department Capital Improvement Budget for 1992-93 is approximately $16.5 million, including: $13,265,000 (federal funds), $160,000 (Lottery), $435,000 (Other Agency), $1,740,000 (RPTA) and $875,000 (Capital Lease). An ADOT air quality grant of $30,000 was obtained to help market and promote new routes and other service changes involved in the 1993 route restructuring. The Bikes on Buses Program was created and implemented by the City of Phoenix. The project was supported by approximately $110,000 including: $88,000 FTA grant, $20,000 ADOT grant, and $2,000 City of Phoenix funds. Funding supported installation of racks on all RPTA buses.

- City of Scottsdale in the 1993-94 fiscal year will increase the annual miles of transit service offered in the City from approximately 470,000 to 670,000, which will increase total hours of service from about 57,000 to 67,000.

  The City's Transit Plan was adopted by the City Council in July of 1990. The plan called for a dedicated one quarter cent sales tax to fund the plan as recommended. It also recommended that if a dedicated funding source was not found, the City should double its existing $1 million budget over a five-year period with $200,000 annual increases. The City Council increased the Transit budget by $200,000 in FY 92-93, and again added another $200,000 to the base for FY 93-94. This funding will allow for the increasing of frequency on the Scottsdale Connection service. This service expansion will require that three vehicles be added to the three currently in use. Route 72 and 82 will be expanded. Route 72 will be expanded from the Scottsdale Airpark to serve the Princess Resort on 30-minute frequency. Route 82 will be expanded north of Shea Boulevard to serve the eastern side of the Scottsdale Airpark.

  Standard service delivery will be on going. Service expansion will take place in September of 1993. The City of Scottsdale will continue to work with the Phoenix Transit System and the Regional Public Transportation Authority to expand or improve bus service as funds become available.

- City of Tempe adopted a comprehensive Transit Plan in September 1990 in preparation for proposed local and regional elections which would have provided a dedicated transit revenue source. To date, there has not been a successful

election. However, the City has proceeded to implement several short-range aspects of its transit plan, including expansion of Dial-a-Ride to the Tempe city boundaries, bus route restructuring to add additional miles of bus route coverage in Tempe along three bus routes, a new grant-funded Route 56, and a planned local circulator route in conjunction with Arizona State University.

The City of Tempe contracts for all bus and Dial-a-Ride services within its boundaries through intergovernmental agreements in FY 1993-94 with the City of Phoenix for 187,390 annual miles of bus service, and with the Regional Public Transportation Authority (RPTA) for approximately 150,000 annual miles of service and weekday Dial-a-Ride service throughout the City limits. An additional 37,000 miles of bus service are anticipated to be provided in Tempe during FY 1993-94 with the January 1994 startup of an ASU/Downtown Tempe circulator route. Other miles of bus route service are provided by the RPTA on the City of Tempe's behalf with Prop. 300 monies and are reported separately in the RPTA's commitments. All of these service miles are subject to continued budgetary appropriation by the agencies involved, as well as continued federal funding. Ongoing. The City of Tempe will work with the RPTA and with neighboring cities to expand and/or improve its bus service as funds become available.

- City of Tolleson indicates that approximately three miles of bus service will be added providing, however, that the City of Tolleson and the City of Phoenix enter into an Intergovernmental Agreement for the purpose of extending proposed Bus Route 561 - from 75th Avenue and Van Buren to 91st Avenue and Van Buren.

  The City of Tolleson will commit General Fund and Lottery Funds if proposed Bus Route 561 is extended. Tolleson's estimated yearly share is approximately $20,000. September, FY 1994-95.

- Regional Public Transportation Authority indicates that a significant route restructuring was implemented on March 1, 1993. Several new routes were introduced using existing resources. These new EZ Lines were designed to follow the predominate travel patterns of the region and to take people where they wish to go directly, without having to transfer to another bus. An ADOT air quality grant of about $30,000 was obtained to help market and promote these new routes and other service changes involved in the restructuring. It is hoped that a 10 percent increase in ridership will be realized system-wide within a year of implementation.

  The City of Phoenix has also begun the process to purchase 49 new 40' buses to replace the oldest buses in the fleet. These new buses will have clean burning diesel engines through the use of electronic ignition and the addition of particulate traps. Seventy-five older buses will be rehabilitated with new clean burning diesel engines, transmission, and particulate traps. Ongoing. The RPTA will work with its member jurisdictions to expand and/or improve its bus service on an as needed basis.

c. Transit Service Improvements in Combination with Park-and-Ride Lots and Parking Management

- City of Glendale will continue to support and work in conjunction with the Regional Public Transportation Authority (RPTA) in improving the public transit system. The City will work with the RPTA to add new Park-and-Ride facilities and spaces on an as needed basis. The City's Transit Department is responsible for transit planning and program implementation (the Planning Department assists in the planning for transit infrastructure). The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund.

- City of Mesa indicates that park-and-ride facilities in Mesa are primarily identified and managed by the RPTA, which is the operator of regional express bus (commuter) service. Currently, there are nine lots with 205 spaces. The City of Mesa will cooperate with the RPTA in locating any needed new sites, and will install appropriate signs once the site is established. Regulations concerning parking fees are addressed by the Maricopa County Travel Reduction Program. Because of the regional nature of employment and public transit, utilizing parking fees as an incentive to increase use of public transit is best managed at a regional level. Ongoing implementation. The City of Mesa will work independently and with the RPTA to expand and/or improve bus service as funds become available locally and regionally and will assist the RPTA in locating and signing park and ride lots as passenger demand dictates.

- City of Phoenix - Refer to Measure 1a. and Measure 6.

- City of Scottsdale will add a 25-car park-and-ride lot in the vicinity of the Scottsdale Airpark, provided that the City can secure permission from a private owner to use a portion of a parking area. The expansion of the City's bus service in the Airpark area will allow the Transit Division to work with the Airpark business community in securing a park-and-ride facility. The City currently has the following park-and-ride locations:

NE corner Thomas & 68th Street	15 spaces
SE corner Thomas & 87th Street	25 spaces
SE corner Shea & 92nd Street	20 spaces
NE corner Frank Lloyd Wright & Shea	25 spaces
SE corner McDowell & Scottsdale	25 spaces
NW corner McDowell & Granite Reef	20 spaces
SE corner Jackrabbit & Hayden	10 spaces
SE corner Hayden & McCormick	20 spaces
SW corner Camelback & Miller	15 spaces

- City of Tempe - Refer to Measure 1b.

2. Restriction of Certain Roads or Lanes To, or Construction of Such Roads or Lanes For Use By, Passenger Buses or High Occupancy Vehicles

a. Fixed Lanes for Buses and Carpools

- City of Phoenix has implemented Transit/HOV lanes on portions of Central Avenue and will periodically analyze traffic projections and bus frequency to determine feasibility of additional lanes. Funding for maintenance of existing lanes and any new lanes is allocated through the Annual Operating Budget.

- City of Tempe Long Range Transit Plan provides for buses to have high priority treatment on Tempe streets and recommended further study of the specific implementation measures to provide the priority treatment as a higher level of transit service becomes available.

b. Fixed Lanes For Buses and Carpools on Freeways

- City of Peoria agrees to encourage the Arizona Department of Transportation to include High Occupancy Vehicle lanes in the design of new freeways.

- Arizona Department of Transportation will evaluate the use of HOV lanes and/or bypass entrance ramps for all freeway/expressway corridors completed or planned. In 1989, 14 HOV lane miles were open on I-10 from 83rd Avenue to 27th Avenue. Now, 46 HOV lane miles are operational on I-10 and the Red Mountain Freeway (S.R. 202L).

- Regional Public Transportation Authority indicates that as new fixed lanes for buses and carpools open, RPTA will coordinate the promotion of rideshare activities. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign (CAFC). RPTA will hold regular transportation fairs (information meetings) for employees of major employers. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employers' request; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Associations hold periodic meetings.

c. High Occupancy Vehicle Ramps Which By-Pass Freeway Ramp Meter Signals

- City of Peoria will recommend and support ramps in the construction of transportation systems through Peoria.

- Arizona Department of Transportation indicates that a bypass ramp meter signal on the southbound I-17 on-ramp at Dunlap Avenue is operational for buses. HOV ramps are in use on I-10 at 79th Avenue, 3rd Street, 3rd Avenue, 5th Avenue, and at I-10/Red Mountain TI. Current Freeway Management System (FMS) construction projects on I-10 and I-17 will incorporate 9 HOV bypass ramps at 67th, 59th, 43rd, 35th, 27th Avenues, Jefferson Street, Sky Harbor Boulevard, and at Buckeye and Broadway Roads.

In 1989, $745 million was programmed for the design and construction of the Outer Loop in FY 1988-1992. This included funding for ramps of sufficient width to permit HOV bypass lanes. In 1989, $358 million was programmed for the design and construction of the Hohokam/Red Mountain Freeway Extension facilities in FY 1988-1992. This included funding for ramps of sufficient width to permit HOV bypass lanes.

Projects In Which HOV Lanes & Bypass Ramps Are Mentioned:

Route	Location	Type of Project	Length miles	Program million	FY
I-10	79th Ave	construct HOV ramps		5.0	89
SR 202L	Red Mtn: I-10 - 40th St Phase III	construct roadway, HOV lanes	2.5	36.0	89
I-10	40th St - Southern Ave	construct HOV lanes	2.5	11.0	90
SR 202L	Red Mtn: 40th St - Priest	construct roadway, HOV lanes	2.5	38.5	91
I-10	Superstition TI-Baseline Rd TI, unit I	recst TI, widen mainline, I-10 HOV lanes	1.0	33.3	93
I-10	Superstition TI - Baseline Rd TI, unit II	recst TI, widen mainline, I-10 HOV lanes	1.0	34.4	94
SR 202L	Red Mtn: Priest - McClintock	construct roadway, HOV lanes	3.0	11.5	94
I-10	Baseline - Chandler	reconstruct roadway, widen Chandler TI (HOV lanes)	5.0	27.5	96
TOTAL				$197.2	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

- Regional Public Transportation Authority indicates that as new HOV ramps open, RPTA will coordinate the promotion of rideshare activities. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign and the Regional Ridesharing Program. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Association hold periodic meetings.

3. Employer-Based Transportation Management Plans, Including Incentives

a. Employer Rideshare Program Incentives

- City of Chandler will implement a variety of rideshare incentives to increase employee participation in carpooling. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included implementation of a monthly lottery with cash drawings for alternate mode participants. The trip reduction program employee will administer the program. An annual budget of $12,000 is extended in support of financial incentives and training/promotional activities.

- Town of Gilbert indicates that new development will be required to submit specific programs addressing ridesharing, parking fees and other trip reduction measures. The Town of Gilbert will implement the program per Zoning Ordinance requirements for new development, as recommended in the General Plan (see A.R.S. 9-461 and 462). Implement revised General Plan by January, 1994. Modify Zoning Code by April, 1994. 0.25 employee required (within current budget). Funding allocated is approximately $5,000. No certificate of occupancy would be issued until proof of a trip reduction program is submitted.

- City of Glendale is a participant in the Maricopa County Travel Reduction Program. The City established an Employee Rideshare Program in 1988. The City is required to submit a new plan to the County on an annual basis. The City's program consists of: (1) preferential parking spaces for carpool participants; (2) subsidized bus passes; and (3) the use of a bicycle (at no cost, including repairs) for those promising to use the bike for commuting purposes. Ongoing implementation. The City will review the effectiveness of its Employee Rideshare Program on an annual basis (in accordance with the schedule established by the County) and modify the program on an as needed basis. The participants in the City's carpool program are issued a preferred parking permit annually. Bus passes are purchased monthly by employees riding the bus to work. Bicycle program participants agree to ride their free bike to work an average of three days a week. Maricopa County is responsible for enforcing the Maricopa County Travel Reduction Program.

- City of Mesa has implemented a number of programs over the past few years to encourage alternative modes of travel to work. Some of these programs are part of the City Comprehensive Travel Reduction Plan developed in compliance with the Maricopa County Travel Reduction Program.

  The City will review the effectiveness of its efforts to encourage employee ridesharing on an annual basis (in accordance with the schedule established by the County) and modify the program on an as needed basis. The City of Mesa spent $750 to subsidize approximately 54 bus passes (50 percent subsidy) during FY 92-93. This program will continue into the future and funding will increase as the demand from employees warrants. The Special Programs Office has purchased a modem and dedicated a personal computer for the use of employees to access the Regional Rideshare computer to do instant carpool matching. The City will review the effectiveness of its Employee Rideshare Program on an as needed basis. Approximately $2,000 will be allocated to the holiday shopping trip reduction plan for FY 1994-95.

- Town of Paradise Valley indicates that the preparation of a home address location plot will be drafted, together with a reference list based upon the plot, suggesting ride share accomplices. This measure will be implemented by the Town of Paradise Valley Engineering Department. This measure does not require a statutory authorization, but will be initiated by staff. The schedule for activation of this program is as follows: October 1993 - Preparation of resident source chart and December 1994 - Full implementation of incentive plan. Administration of plan development for this measure will require staff time equivalent to 1/100th of a full-time employee at an approximate cost of $25.00. This will be done by department personnel under the adopted Town budget for FY 1994.

- City of Phoenix has implemented a number of programs over the past decade to encourage alternative modes of travel. In February 1989, those programs were incorporated into a comprehensive trip reduction plan in compliance with the Maricopa County Travel Reduction Program (TRP).

  Currently, employees are provided with 50 percent or 100 percent bus subsidies, carpool and vanpool computerized matching service, bicycle storage facilities and showers, alternative work schedule options, guaranteed emergency ride home service, new employee orientation, employee parking fees in the central business district, free and preferential parking for carpools, vanpools, telecommuting options, and flexible work hours where feasible. Components of the Trip Reduction Plan will be modified on an as needed basis.

  The City is a major employer under the Maricopa County Travel Reduction Program. The City will review the effectiveness of its employee Rideshare Program on an annual basis in accordance with the schedule established by the County.

  The City of Phoenix implements a program to encourage alternative work schedules during the high pollution season as defined in the measure, Flexible Work Schedules.

- City of Scottsdale will continue its carpool and rideshare incentive program, which is available to all full-time and part-time City employees (approximately 1,500) and currently has 95 employees registered for carpool parking privileges in 20 reserved spaces. The City will review the effectiveness of the Employee Rideshare Program annually and modify the program on an as needed basis.

- City of Tempe, since the 1988 implementation of a countywide Travel Reduction Program, has expanded its earlier programs to encourage alternative modes of travel. Each year, the City participates in the annual Clean Air Force Campaign and in the Maricopa County Travel Reduction Program survey and plan review process. The City is also a member of a local Transportation Management Association, is involved in a regional project to prepare a travel reduction geographic information system database, and provides support to Tempe employers via information dissemination regarding travel reduction options.

Travel Reduction Program options offered by the City to its employees as of FY 1993-94 include:

a) A 50 percent bus subsidy for all employees, using Bus Card Plus, an ATM-type card issued to employees at no charge. The maximum cost to an employee is $14 per month.

b) Showers and bike racks at all facilities to facilitate bicycling and walking.

c) A weekly cash drawing for all alternate mode users.

d) Rideshare matching through the RPTA and the local TMA

e) A guaranteed ride home program

f) A bike loan program

g) Bike to Work day activities

h) A new hire brochure detailing travel reduction options

i) Carpool spaces at two work sites

j) 1992 bus route improvements through restructuring of regional routes to serve more work sites, and the addition of new bus Route 56

k) Bicycle facility improvements accomplished through the City's pavement management plan

l) Compressed work weeks and alternate work schedules

Ongoing. The City will review the effectiveness of its Travel Reduction Program measures on an annual basis (in accordance with the schedule established by the County) and modify the program as needed.

- City of Tolleson commits to adopt an ordinance which will incorporate the measures such as rideshare programs; related parking requirements; modified business hours; incentives for employees; and possible free bus passes from nearby Westridge Mall merchants located at 75th Avenue and Thomas. October 1993.

- Maricopa County's Trip Reduction Ordinance encourages the use of employer rideshare program incentives, employer parking fees, preferential parking for carpools and vanpools, vanpools for employees, and modified business hours to meet the goals of the Trip Reduction Program. Maricopa County participates in the program as an employer. The Maricopa County Board of Supervisors adopted an ordinance authorizing the County to participate in the program as an employer.

- Arizona Department of Transportation indicates that their Air Quality Demonstration Programs begin each October and most projects are complete in one year. The programs are very successful with 85 percent of the projects reaching their objectives and 75 percent continuing on beyond the demonstration period. ADOT implements the Air Quality Demonstration Program which presently includes: new transit services, vanpooling, ridesharing, fixed route extensions, and park-and-ride lots. Annual funding for the Air Quality Demonstration Programs is approximately $440,000, which includes $400,000 for projects, and $40,000 for planning, evaluation, and administration. ADOT participates in the Capitol Rideshare Program which includes the State Travel Reduction Plan and Surveys.

  Highlights of Air Quality Demonstration projects include: over 85 percent of the projects reach project objectives; 75 percent of all projects continue after the demonstration period; 100% of the projects are completed; and over 75 percent of all projects are brand new.

  ADOT has provided annual funding for the Capitol Rideshare Program since 1983. The program is currently administered by the Arizona Department of Commerce Energy Office but will be transferred to the Arizona Department of Administration (ADOA) during fiscal year 1993-94. The purpose of Capitol Rideshare is to encourage the 20,000 state employees in Maricopa County to use alternate modes of transportation through education and incentives. The State of Arizona is the largest employer in Maricopa County and consequently offers the greatest potential savings in vehicle miles travelled from a single employer-based rideshare program. This program is coordinated with the Maricopa Association of Governments Regional Ridesharing Program operated by the Regional Public Transportation Authority (RPTA). State employees make up 32 percent of the entries in RPTA's rideshare matching network.

  Capitol Rideshare provides services such as: carpool matchlists, created in-house; benefits for alternate mode users, like preferential parking, a free ride home in case of an emergency, a coupon book, and preferential use of state vehicles; a bi-monthly publication distributed to every state employee in Maricopa County and quarterly press release distributed to other state publications; packets about the benefits of alternate mode usage for all new hires; semi-annual payroll enclosures; fifteen display racks of information, in state buildings, about the benefits of using alternate modes; a network of over fifty rideshare coordinators encouraging alternate mode usage throughout state agencies located in Maricopa County; the State's yearly Clean Air Campaign effort including a network of 80 Clean Air Representatives, interagency participation competitions and internal prize drawings; and the mandated annual Trip Reduction Survey and Plan for the State of Arizona.

  The Capitol Rideshare Program begins every July 1 for one year. Preferential parking permits and Commuter Club memberships are renewed each year at this time. Any state employee in Maricopa County who uses an alternate commuting mode at least twice a week qualifies for membership to the Capitol Rideshare Commuter Club which is free, and they are entitled to: a coupon book with discounts from Valley merchants; extra lead time when reserving ADOA Motor

Pool vehicles; a free ride home in case of an emergency; and, if they car pool at least three times a week, preferential parking (which includes close-in and some covered spaces).

- Regional Public Transportation Authority facilitates approximately up to 45 formal trainings annually targeted at employers with sites affected by the Maricopa County Trip Reduction Program and on an as needed basis does special in-house trainings for individual employers. As a voluntary participant with the MCTRP, RPTA continues to practice TDM strategies. RPTA formal trainings include a core curriculum with program essentials and nine electives specializing in effective plan development and implementation. Special workshops are also made available to the general public through the Clean Air Force Campaign (CAFC). "How to" manuals with detail implementation information for TDM strategies is available to employers and general public. RPTA staff contacts all employers affected by TRP to offer assistance several times annually. The schedule for planned activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Association hold periodic meetings.

b. Employee Parking Fees

- Town of Gilbert - Refer to Measure 3a.

- Town of Paradise Valley has approximately 12 employers, with more than 35 employees. Each employer will be encouraged to charge employees for parking. This measure will be implemented by the Town of Paradise Valley Town Manager and Mayor. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity; November 1993 - Circulation of mailers; and January 1994 - Personal visits to encourage participation. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Regional Public Transportation Authority indicates that special MCTRP training sessions will focus on parking management and demonstrate to employers methods by which they can develop a paid parking system. This will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program. Approximately 450 employers are planning or implementing strategies to reduce vehicle trips for the fourth year of the program. Because of the difficulty in achieving the annual five percent target reduction, many are looking to more enhanced methods of reducing vehicle trips. Mandatory fees for parking is one of the strongest incentives to rideshare (disincentives to driving). Additionally, a new

ordinance passed by the Maricopa County Board of Supervisors beginning January 1993 will strengthen the trip reduction effort by requiring employers with 75 or more employees to comply. This increases training requirements by more than 300 employers (more than 40 percent). Employees of RPTA pay current market rates for parking as a voluntary TRP organization.

c. Preferential Parking For Carpools and Vanpools

- City of Chandler increased the number of preferential parking spaces for carpools, including free/covered spaces adjacent to work locations. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included an increase in the number of reserved carpool spaces for city employees. The trip reduction program employee will administer the program. Costs for this strategy were minimal and included the production/installation of signage.

- Town of Gilbert indicates that 4 to 6 stalls for preferential parking in public parking lots located in the first row of parking will be provided. Implemented by the Town of Gilbert Administration. Legal authority is A.R.S. 9-461.05. To be monitored by one on-site coordinator (current staff member). Cost to start was $300.

- City of Glendale has established preferential parking spaces for carpoolers. Preferential parking spaces are available at City Hall, Operations Center, and the Public Safety and Courts Complex. Ongoing implementation. The City will continue to provide preferential parking spaces on an as needed basis. Preferential parking permits are issued annually to certified participants. Persons parking in a preferential parking space without a permit are given a parking ticket by the Police Department. All preferential parking spaces are signed.

- City of Mesa, during FY 93-94, will be designating 20 parking spaces for carpool/vanpool only. There will be at least two such spaces at each of the parking areas serving 75 or more employees.

- Town of Paradise Valley indicates that two preferential parking spaces for carpools and vanpools are estimated for each of the twelve employer sites. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Information program sent to each employer concerning the benefits of preferential parking, and January 1994 - Complete marking and other features of preferential parking at each employer. Administration of the plan development for this project will require staff time equivalent to 0.025 full-time employee, at an approximate cost of $500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 3a.

- City of Scottsdale Transit Division will continue to designate preferred parking spaces in various City employee parking lots for carpool and vanpool vehicles, as needed. Currently, the City has 20 labeled and identified carpool and vanpool parking spaces. There are no plans to add to that inventory based on current demand.

- City of Tempe - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Arizona Department of Transportation provides preferential, close-in parking for employee carpools and vanpools. Administrative Procedure MGT-1.03 is the ADOT Statewide Parking Policy. Parking is governed by the Manager of the General Operations Group and the Executive Quality Council provides input. Location and signing of reserved spaces remains with the Manager, General Operations Group. Parking lots will be managed and will reflect the appropriate number of rideshare, handicap, and customer parking spaces according to the changing needs of the Department.

  Carpool vehicles are certified by the Capitol Rideshare Administration. Carpool parking is preferential location parking (some covered, some not) and is open to carpool certified employees on a first-come-first served basis. Currently, in the ADOT Capitol Parking lots there are 1,736 total spaces. In 1993 ADOT changes it parking policy. The available spaces for Rideshare vehicles were increased from 63 to 67 for covered parking and 71 to 191 for uncovered parking. Reserved spaces for Rideshare participants are 24 hours a day. Additionally, 232 carpool decals have been issued to employees working in the Capitol area; 470 individuals are participating in the Rideshare program.

d. Encouragement of Vanpools for County and State Employees

- Regional Public Transportation Authority will assist employers in the formation of new vanpools. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. Currently 33 vanpools are operating with about 400 riders. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs and employer/employee vanpool presentations upon request and based on employer schedule; provide vanpool information to all interested parties (brochure and driver kit); provide vanpool matching on a daily basis; and hold periodic vanpool group formation meetings with potential groups (about 2-5 per month) at the request of an employer.

e. Vanpool Purchase Incentives

- City of Phoenix - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Regional Public Transportation Authority will continue to encourage the Legislature to provide incentives to increase ridesharing, such as tax credits, interest-free or low-interest financing for vanpool vehicles, or exemption of vanpool vehicles from annual vehicle registration fees and/or from the state fuel tax. Upon passage of such bills, RPTA would promote and educate the public on the benefits of the bill(s). Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. The schedule for planned activities are as follows: encourage Legislature during and at appropriate sessions to sponsor and pass legislation; MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs and employer vanpool presentations upon request and based on employers' schedule; and upon passage of legislative bills, RPTA will inform commuting public of additional commuting benefits through monthly newsletters and other publications.

f. Merchant Transportation Incentives

- Town of Gilbert indicates that the recommended 1993 General Plan update will suggest that zoning cases involving employers who meet trip reduction thresholds set by the County prepare an overall trip reduction plan. Implementation to be by the Town of Gilbert Community Development Department. Legal authority is A.R.S. 9-461.05. General Plan update to be completed by January 1994. Existing staff time, equivalent to 0.10 full-time employee at a cost of $3500. Funding is approved for the FY 1993-94. Ordinances prepared for future employers shall include stipulations for trip reduction. There may also need to be a Zoning Code amendment. The Community Development Department will monitor cases presented to the Town Council.

- City of Mesa indicates that during the 1993-94 carbon monoxide season, the City will embark on a joint marketing campaign with shopping areas served by the City Sunrunner and RPTA bus systems. The City and the merchants will develop a plan to encourage shoppers during the holiday season to take the bus to do their shopping.

- City of Scottsdale will continue to provide a variety of incentives for developers to provide facilities for alternative modes of transportation. In addition, the City's Nonmotorized Transportation Plan Task Force will develop a comprehensive plan for facilities for bicycle, pedestrian and other forms of nonmotorized travel. The City of Scottsdale Planning Department is responsible for administering City ordinances that provide development incentives for nonmotorized travel. Authority for such incentives is found in the following Sections of the Scottsdale Revised Code:

  9.104.C: Developers may obtain credit toward parking requirements by participating in a joint parking improvement project. Consolidated parking allows more flexibility in site plans to provide for better pedestrian access.

5.3074: In the downtown area, bicycle parking spaces may be substituted for automobile parking spaces at a ratio of eight to one for up to 2 percent of the required automobile spaces.

5.3081: A special Pedestrian Overlay District is permitted in the Downtown District, requiring covered pedestrian walkways and emphasizing pedestrian linkages.

5.3082: Planned Block Development (PBD) standards in the Downtown District permit reductions in the number of parking spaces for shared parking. Again, consolidated parking provides more flexibility to design developments which are more pedestrian-oriented.

5.3090: General bonus and incentive provisions for the downtown area include increased density allowances in return for contributions of special public improvements, which may include transportation facilities.

In addition, as part of its normal zoning review process, the City may stipulate that a development on an existing or planned transit route include a bus stop or transit shelter.

The City of Scottsdale Comprehensive Nonmotorized Transportation Plan Task Force is responsible for developing the Comprehensive Nonmotorized Transportation Plan under Resolution No. 3779. The Transportation Department is responsible for providing staff support for the Task Force.

g. Modified Business Hours For Private and Public Sector During the High Pollution Season to Reduce Cold Start Emissions

- City of Scottsdale will work with the Scottsdale Chamber of Commerce on a promotional campaign that will focus on the following:

  1) Promote and encourage early Holiday shopping during the Christmas season.

  2) Promote and encourage the consolidation of Holiday shopping trips.

  In addition, the City's Capital Projects Management Division has in place an internal policy that no major road construction takes place between Thanksgiving and mid-April. This policy helps alleviate traffic congestion during the peak periods for Holiday shopping and the peak tourism season.

- City of Tempe - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

4. Trip Reduction Ordinances

- City of El Mirage will adopt a trip reduction ordinance that will require employers with 75 or more employees at a work site to establish a trip reduction program for the employees. This measure will be implemented by the City of El Mirage Council. The schedule for completing this work is as follows:
  - October 1993 - Introduce legislation to City Council
  - November 1993 - Adoption of ordinance
  - December 1993 - Ordinance takes effect

  Administration of this measure will require staff time equivalent to .10 full-time employee, at an approximate cost of $4,500. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced at time of site plan and zoning application, whichever is applicable. Staff will present, as a condition of approval, a plan to be submitted, for implementation by the employer, that meets the requirements of the ordinance.

- Maricopa County adopted a Trip Reduction Ordinance on October 5, 1992, which requires employers and schools with 75 or more employees or students at a single work site or school to develop, implement and maintain a Trip Reduction Program to reduce single occupant motor vehicle use. The ordinance lowered the application threshold from 100 FTE to 75 FTE and established third, fourth and fifth year goals for employers participating in the program. Currently, 490 employers and schools with 410,800 employees and students participate in the program. The new provisions are estimated to bring at least 100,000 additional employees and students into the program consisting of 45,000 to 60,000 at smaller work sites and the balance from increased compliance at sites with 100 or more (future year goals). The Maricopa County Board of Supervisors adopted the ordinance in 1992 pursuant to A.R.S. § 49-588.E. The Maricopa County Department of Environmental Management, Trip Reduction Program, implements the Trip Reduction Program pursuant to A.R.S. § 49-584. Ongoing program.

October 1992	Board of Supervisors adopted Maricopa County Trip Reduction ordinance.
January 1993	Began phasing in new employers with 75-99 employees or students at a work site.
December 1993	Complete phasing in of new employers and additional work sites from employers already in the program.

Funding for the program consists of $948,575 from the Air Quality Fund and $400,000 from ISTEA funds for FY 93. The County has 18 staff members and will add 6 additional staff by August 1993. The County also subcontracts $527,000 to the Regional Public Transportation Authority to assist the employers with training and plan preparation and to coordinate a public awareness campaign for the program.

- Regional Public Transportation Authority conducts formal trainings and one-on-one assistance is targeted at the almost 800 employers with approximately 450,000 employees and students with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; and up to 12 Transportation Management Association hold periodic meetings.

5. Traffic Flow Improvement Programs That Achieve Emission Reductions

a. Removal of On-Street Parking

- City of El Mirage will require all commercial/industrial development to design and implement off-street parking as required by the El Mirage Zoning Code. This measure will be implemented by the City of El Mirage Manager. No schedule is needed since the requirements for off-street parking for commercial/industrial development are in place. As site plan and zoning application are submitted and approved, implementation of off-street parking will commence. Administration of this measure will require staff time equivalent to .10 full time employee, at an approximate cost of $4,500. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced at time of site plan and zoning application, whichever is applicable. Present zoning requirements dictate that off-street parking must be included in any commercial/industrial development. Certificate of occupancy will not be issued until off-street parking is constructed.

- Town of Gilbert indicates that on-street parking is not allowed as part of any required parking for businesses. The Town of Gilbert Planning Department monitors site plan review which shows required parking. Current staffing levels approved for FY 1993-94. This program is contained within the Zoning Code of the Town of Gilbert.

- City of Glendale Council adopted a revised General Plan in 1989. The City does not allow on-street parking on arterials and major arterials, except along portions of Glendale Avenue in the downtown area. The Police Department will enforce traffic and parking violations.

- City of Mesa has a standing policy of prohibiting on-street parking along major arterials. Currently, Main Street is the only major arterial street where on-street parking is permitted (in limited areas). The City will continue to prohibit on-street parking along major arterial streets, and will periodically review elimination of on-street parking on Main Street.

- Town of Paradise Valley indicates that of the 160 miles of roadway within the Town, no more than ten miles are appropriate for the removal of on-street parking. Such areas will be identified and appropriate steps taken by the posting of signs prohibiting parking. This measure will be implemented by the Town of Paradise

Valley Street Department. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule for implementing this measure is as follows: October 1993 through December 1993 - Survey of street system to determine the appropriate areas, and January 1994 through June 1994 - Placing of no parking signs. Administration of plan development for this project will require staff time equivalent to 0.25 full-time employee, at an approximate cost of $8,000. This will be accomplished by current Street Department personnel under the adopted Town budget for FY 1994.

- City of Phoenix program to eliminate on-street parking on all major arterials was completed by 1990. All major streets have had on-street parking removed, with the exception of the downtown area. Parking fees are imposed in the downtown area. Additional collector streets have had parking restrictions added due to implementation of the bikeway program. This will continue with future additions of bike lanes.

- City of Tempe currently has removed all on-street parking from arterial streets. Some on-street parking is currently available on collector streets in the downtown area but is currently metered, time-limited, or being considered for metering as part of a downtown parking management study planned for FY 1993-94. Ongoing implementation.

b. Optimize Freeway Ramp Meters

- Arizona Department of Transportation - Refer to Measure 2c.

c. Coordinate Traffic Signal Systems

- City of Chandler will include a traffic signal intertie system on Ray Road from Dobson Road to 56th Street and on Alma School Road from Pecos Road to Chandler Heights Road. The design process for this measure has been initiated. Construction will begin in FY 1994 or 1995 on the Ray Road improvement and Alma School will begin in FY 1995 or 1996. Design of this measure is being performed by a consulting engineering firm. Installation will also be performed by contracting with a construction firm. The project will be eligible for funding provided by the Intermodal Surface Transportation Efficiency Act (ISTEA) and/or federal economic stimulus program. In the event that federal funds are not available, the City will consider performing the work using funds allocated in the FY 1993-1998 Capital Improvement Program. The five year CIP includes $1,385,000 for traffic control systems. The cost of the improvements on Alma School Road and Dobson Road is estimated to be $500,000.

- City of Glendale has in-place a time based traffic signal system that synchronizes traffic signals to improve traffic flow. The City will continue to expand and refine the system as development occurs and as new signals are installed. The City will also continue to work with other local government agencies to improve the coordination of traffic signals where appropriate. Ongoing implementation. The City will install and coordinate traffic signals on an as needed basis. The City will

continue to work with the Arizona Department of Transportation and Maricopa County to further implement coordinated traffic signals. The City's Traffic Engineering Department is responsible for traffic planning and signalization. New traffic signals are budgeted through the Capital Improvement Program. Developers of large projects also may provide funding for new and/or improved traffic signals. Traffic signalization and traffic operation standards are contained in the City's "Design Guidelines for Site Development and Infrastructure Construction". The City Code authorizes the City Traffic Engineer to develop and enforce traffic standards for the City.

- City of Mesa indicates that as new traffic signals are installed, they are added to the City's signal system which provide coordination between signals. The City is participating in a countywide study (MAGIC) to determine improved methods of coordinating traffic signals across jurisdictional boundaries. Approximately $400,000 is budgeted annually to operate the City's signal system.

- Town of Paradise Valley indicates that ten miles of existing arterial streets may be included in the computerized traffic signal system implemented by the City of Phoenix. This measure will be implemented by joint action of the City of Phoenix and the Town of Paradise Valley under an existing intergovernmental agreement. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule for implementation is as yet undetermined. It depends upon the progress made by the City of Phoenix.

- City of Phoenix maintains a computerized traffic signal system that synchronizes traffic signals to improve traffic flow. The system has been expanded in recent years to include 98 percent of the City's 780 signalized intersections. The City will continue to add signals to the computerized system as development occurs and new signals are installed. The City of Phoenix will continue to work with other cities to coordinate regional traffic signal synchronization.

- City of Scottsdale will incorporate 15 additional traffic signals into a system coordinated by a central computer. A new central computer for signal coordination will be operational by October 1993.

  Currently, there are 166 signalized intersections in Scottsdale, 149 of which are coordinated by the central computer. Fifteen of the remaining signals will be incorporated into the system in 1994. The remaining two signals are isolated intersections located approximately three miles from the closest adjacent signal. Newly constructed traffic signals will be coordinated except for those signals that are at isolated locations.

  The new central computer of the signal coordination system will enable greater refinement of the signal coordination to correspond to traffic patterns.,

  October 1993 - New central computer operational.

  March 1994 - Fifteen existing signals included in the system.

  Continuous - Newly installed signals included in the system.

  Continuous - Monitoring and refinement of signal timing plans.

Approximately $500,000 has been encumbered for the new central computer. An additional $900,000 has been allocated for future Intelligent Vehicle Highway Systems (IVHS) applications involving the traffic signal system. A letter of interest was submitted to the FHWA for IVHS Early Deployment Program funding to supplement the planned program.

- City of Tempe computerized traffic signal system is scheduled for modernization during FY 1993-94 using ISTEA Surface Transportation Program funds allocated through the MAG region. This modernization, at a total cost of approximately $700,000, will be coordinated with signal synchronization activities of Maricopa County, ADOT, and other cities. Ongoing. The FY 1993-94 CIP budget for traffic signals and street lighting which will perform the signal modernization is $730,000. One FTE is responsible for this project. The City's FY 1993-94 budget for transportation and right-of-way improvements is $5.2 million.

- City of Tolleson, in coordination with the Department of Transportation and Maricopa County, commits to synchronize the five traffic signal systems currently within the City of Tolleson's jurisdiction. Since Maricopa County is currently maintaining the traffic signals within the Tolleson city limits, it is assumed that the synchronization can occur by the end of September 1993.

- Maricopa County, through authority granted by A.R.S. § 11-251 (General Powers of Board of Supervisors) and A.R.S. § 18-207, will continue to program traffic improvements to minimize congestion. Several programs to alleviate congestion are in various stages of implementation, such as the MAGIC (Maricopa Association of Governments Integrated Control) program for traffic signal optimization across jurisdictional boundaries. Other programs are the sole responsibility of the Arizona Department of Transportation, such as the Freeway Management System and improved ramp metering, currently undergoing installation. One-way streets, on-street parking restrictions, etc., are only appropriate in the urbanized areas under the jurisdiction of individual cities. MCDOT is actively pursuing IVHS strategies and funding. Compliance with A.R.S. § 49-474.01 will require an analysis of the Maricopa County signalized intersection, the daily traffic of each, and whether or not each signalized intersection exceeding 15,000 ADT can be synchronized. Synchronization equipment must then be installed as necessary.

Traffic signalization improvements have been ongoing since the 1987 plan. Approximately 15 to 20 intersection improvements have been completed yearly.

July 1987	Complete analysis to identify signalized county intersections requiring synchronization.
March 1988	Complete installation of synchronization equipment at signalized intersections requiring synchronization and for which synchronization is physically possible.
July 1991	Commence Maricopa Association of Governments Integrated Control study to implement synchronization of traffic signals across jurisdictional boundaries.
December 1994	Complete MAGIC study and implement all feasible integration.

Activities are provided through existing staff and funding. The MAGIC study is funded for $600,000 worth of work.

- Arizona Department of Transportation as mandated by A.R.S. § 9-500.04, will pursue synchronization of traffic signals on State Highways in the nonattainment area in cooperation with local municipalities. Typically, on urban portions of State Highways, local governments handle traffic control through agreements with ADOT. Many signals have been tied into local systems and efforts are continuing to increase the number of tie-ins, cooperating with local governments.

  A.R.S. § 28-642 "On a State highway which has a traffic flow exceeding 15,000 motor vehicles per day in a nonattainment area, in cooperation with local authorities, shall synchronize traffic control signals." All traffic control devices on highways conform to the state manual and specifications. The ADOT Highway Policy as stated in the Five-Year Transportation Facilities Construction Program includes funding of Transportation System Management (TSM) improvements of up to $2.0 million per year. Typical TSM projects might address signing and signalization, turn lanes, and traffic channelization, vehicle turn-outs, one-way streets, and access and parking controls.

  An ongoing process of ADOT's is to synchronize, where warranted, traffic signals on the Controlled Access Freeways. Traffic signals on all state routes that pass through the City of Phoenix, including Grand Avenue, and the City of Tempe are synchronized. The table below lists specific projects programmed in the Five-Year Transportation Facilities Construction Programs. A project is proposed to study an Integrated Traffic Management System (ITMS) for the I-17 corridor. A time frame of 24 months would be required. The study would include (1) adaptive control of ramp metering, (2) integrated control of interchange signals, (3) lane control, and (4) speed and route advisories on the radio.

TSM Projects

Route	Location	Type of Project	Length miles	Program million	FY
SR 87	Beginning Mile Post 165 (Chandler)	traffic signal coordination	.1	.6	91
US 60	Beardsley - Van Buren	Roadway & TSM Phase I	8.0	1.8	93
US 60	Beardsley - Van Buren	TSM Phase II	8.0	2.5	94
TOTAL				$4.9	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

d. Reduce Traffic Congestion at Major Intersections

- City of Chandler will provide for additional arterial street capacity by requiring right turn lanes at all arterial to arterial intersections and right turn lanes at all driveways on arterial streets where the driveway traffic exceeds 40 vehicles per hour. The measure is reflected in the City of Chandler Long Range Transportation Plan and in the Technical Design Manual Number 4 - Policies and Guidelines for

Street Design and Access Control. The measure became effective on May 27, 1993 when adopted by the Chandler City Council. All new construction or reconstruction along arterial streets must provide the required right turn lanes. This measure will be implemented through the City's plan review process and will not require any additional staff. Most arterial improvements will be constructed by developers. Arterial improvements that cannot be assigned to a developer will be done by the City of Chandler and funded under the street construction program in the City's Capital Improvement Program. The program provides for $1,000,000 per year for street construction projects. The number of right turn lanes constructed each year will vary according to the pace of development activity.

- Town of Gilbert will continue the requirement for arterial street improvements at major intersections that reduce congestion. This requirement is being implemented by the Engineering Department of the Town of Gilbert. The authority for these improvements are from A.R.S. 9-240. Current staff levels, approved by the Council for FY 1993-94. This program is enforced through the Zoning process for development. Stipulations are included requiring improvements.

- City of Glendale will continue to implement its existing programs that provide for intersection improvements to reduce traffic congestion at major intersections. Street development and engineering standards are contained in the City's "Design Guidelines for Site Development and Infrastructure Construction". The City Code authorizes the City Engineer to publish and amend standards for infrastructure construction within the City. Ongoing implementation. The City will construct and/or reconstruct major intersections as development occurs and on an as needed basis. The City's Traffic Engineering Department is responsible for traffic planning. Improvements of major intersections is budgeted through the Capital Improvements Program. Developers (landowners) participating in an improvement district also provide funding to improve major intersections.

- City of Mesa will implement intersection improvements such as adding turn lanes, lengthening turn lanes, adding through lanes, and otherwise eliminating bottlenecks. Approximately $15.1 million is budgeted for FY 93-94 and $6.9 million in FY 1994-95 for street improvement projects.

- Town of Paradise Valley has only one major arterial intersection. In addition, it has one minor arterial intersection. This measure will be implemented by the Town of Paradise Valley Engineering and Street Department. Legal authority for future action is provided under Section 9-240 B. of the Arizona Revised Statutes.

- City of Peoria is presently planning left and right turn lanes at all major intersections. The City is also working on street widening. The City of Peoria will continue to accomplish these projects through development improvements as well as City Capital Improvement funds on City street projects.

- City of Phoenix will continue to implement intersection improvements to reduce traffic congestion at major intersections. Most intersections are improved through the 5-Year Capital Improvement Program/Major Street Program which supports widening of arterial streets. Intersection improvements are included in these projects (typically 2-3 per mile).

  The City will construct and/or reconstruct major intersections as funding is allocated and as development occurs. Projects are supported by the Arizona Highway User Revenue funds through the Capitol Improvement Program. Funding is allocated through the annual budget process.

- City of Scottsdale will construct approximately 20 projects under the Bottleneck Removal Program and three larger projects under the Spot Street Program to help alleviate traffic congestion.

  Isolated intersection improvements occur in Scottsdale through two mechanisms in the Capital Improvement Program. Projects with an estimated cost of less than $300,000 are aggregated into a single program identified as Traffic Bottleneck Removal Projects. When two to five such projects are designed and ready for construction, the projects are solicited for bids as a group. The other mechanism is Spot Street Projects which have estimated costs greater than $300,000. Both project categories include the installation of turn lanes or through lanes, or the completion of partially constructed streets.

  Approximately $3,500,000 has been allocated for the Traffic Bottleneck Removal Program. This involves approximately 20 projects to be constructed in the 1993-1994 and 1994-1995 fiscal years. Approximately $1,700,000 has been allocated for the Spot Street Program to design and construct three projects in 1993-1994 and 1994-1995.

  Two individuals in the Traffic Engineering Division analyze and prioritize the projects identified for this program. This effort requires approximately three person-months each year. Approximately ten individuals in the Capital Project Management Division work on these projects. An estimated fifteen person-months was expended on this effort by this division in fiscal year 1992-1993. A similar time commitment is expected for the next two fiscal years.

- City of Tempe intersection improvements are completed on an annual basis through the City's CIP budget and in conjunction with ADOT freeway construction on I-10 and the Red Mountain freeways. Due to the City's landlocked nature, all arterial streets have been built and are only subject to improvements in the succeeding years.

- City of Tolleson has recently widened 83rd Avenue (Buckeye Road to Van Buren) to a four-lane arterial, including a left turn lane. The existing two-lane road had created bottlenecks during peak hours. Via an Intergovernmental Agreement with Maricopa County, the City of Tolleson has scheduled the widening of 91st Avenue (from Buckeye Road to I-10) during Fiscal Year 1994-1995. The widening of 91st

Avenue is scheduled to commence after July 1, 1995 and completed 12 months after the start of construction. A target date for commencement of construction has not been set.

- Arizona Department of Transportation Five-Year Transportation Facilities Construction Program has included projects directed at intersection improvements. These projects facilitate turning movements, thereby helping to maximize intersection capacities. ADOT rarely removes traffic signals.

In 1989, no interchange (freeway with arterial) improvements were made; on an average of one every two years, intersection (state highway with arterial) improvements were made. By 1994, an average of one every two years interchange (freeway with arterial) improvements may be programmed. An average of one per year intersection (state highway with arterial) improvements may be programmed.

Intersection Improvement Projects

Route	Location	Type of Project	Program million	FY
I-10	48th St & Broadway	modify TI	4.2	89
SR 87	Frye	traffic signal	0.1	89
I-17	Dunlap TI	widen overpass	0.3	90
I-17	Thunderbird TI	modify TI ramp	0.5	90
I-10	Elliot TI	reconstruct TI	10.0	91
I-10	Queen Creek TI	construct TI	5.5	91
I-17	NB ramp @ Peoria	lengthen left turn lane	0.2	91
I-17	Thunderbird TI	Modify NW frontage road	0.9	91
I-17	Indian School TI	widen	6.4	92
SR 87	McDowell - Shea	intersection improvements	0.6	92
SR 101L	Pima: 101L - US 60	construct 1/4 TI E&N ramps	2.0	92
I-10	107th Ave	construct TI	4.0	93
I-10	US 60 - Priest	construct 1/2 TI	2.0	94
I-10	Riggs Road TI	widen ramps	0.1	92
SR 101L	Pima: Red Mtn TI Phase I	construct 1/4 TI E-S & N-W & Dobson	13.6	93
I-17	Bell TI	reconstruct TI	6.3	94
SR 101L	Pima: Red Mtn TI Phase III	construct 1/4 TI E-N & S-W ramps	11.6	95
I-10	Baseline - Chandler	reconstruct roadway, add median lanes, improve Chandler TI	27.5	96
TOTAL			$101.5	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

e. Site-Specific Transportation Control Measures

- City of Glendale has already installed leading left-turn signals to improve traffic flow and for safety purposes. In 1990, the Arizona Department of Transportation conducted a study that indicated that lagging left-turn signals did not improve traffic flow or increase safety. The City has decided not to implement lagging left-turn signals because traffic flows/capacity would be reduced. The City's Traffic Engineering Department is responsible for traffic planning and signalization. New traffic signals are budgeted through the Capital Improvement Program. Developers of large projects also may provide funding for new and/or improved traffic signals.

- City of Mesa indicates that signalized intersections are evaluated periodically to determine if various control strategies can be implemented to reduce overall delay and improve traffic progression. The Traffic Signal Control System software is currently being modified to reduce side street delay in off-peak hours. A combination of leading and lagging left turn signal operations are used to improve progression. Approximately $1,000 is expended to convert each intersection.

- Town of Paradise Valley indicates that all 12 signalized intersections will be considered for lagging left turn signals. This measure will be implemented by the Town of Paradise Valley Engineering and Street Departments. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule allows for completion by June 1994. Administration of this measure will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by a current contract with specialists, under the adopted Town budget for FY 1994.

- City of Phoenix Street Transportation Department works with the Police to implement Special Event Traffic Control Plans for events involving large volumes of traffic (e.g., events at the America West Arena and the Coliseum).

  The Aviation Department has implemented transportation control measures at Sky Harbor International Airport. Traffic flow patterns have been designed to reduce congestion and vehicle idling; shuttle buses reduce single traffic occupancy vehicles traffic; and participation in City traffic reduction programs encourage employee carpools and transit use.

- City of Scottsdale will continue construction of the Downtown Couplet, which is designed specifically to alleviate traffic congestion in the Downtown area while maintaining access to shopping districts.

  The couplet roadway system in the Downtown has been planned and partially constructed. This roadway pair will provide three northbound lanes and two southbound lanes on the East Couplet, one-quarter mile east of Scottsdale Road, and three southbound lanes with two northbound lanes on the West Couplet west of Scottsdale Road. The traffic signals will be coordinated for the dominant direction, while the contraflow traffic signal timing will be ignored.

The City will continue to coordinate timing of traffic signals throughout the city to allow for variations in peak flows in different directions during the course of the day. Traffic signals on major streets are coordinated for southbound and westbound in the morning peak periods and eastbound and northbound in the evening peak periods. During the off peak periods, adjacent streets have signal coordination in opposite directions. However, the non-progressed flow is still considered, but at a lower priority.

The City will continue to analyze traffic movements at major intersections on a regular basis and evaluate site specific control measures. Traffic counts are obtained and analyzed for every major intersection in every odd-numbered year. Intersections where residents have specifically requested changes - such as new signalization or left turn arrow addition - are counted and analyzed as soon as possible. In either situation, the lane configuration and signal timing is analyzed and optimized. If the condition suggests it, a Traffic Bottleneck or Spot Street Project is considered.

1993	Traffic Counts obtained through the year.
1993	Intersections are analyzed throughout the year.
March 1994	Level of Service Map completed.
May 1994	Improvements completed.

A total of $7.8 million is included in the City's 1993-94 Capital Improvement Plan for construction of the final leg of the West Couplet from Indian School to Osborn Road. A total of $8.6 million is included for completion of the final leg of the East Couplet from 2nd Street to Earll Drive.

- City of Tempe conducts Traffic Impact Analysis for major developments as determined by the City's Traffic Engineer. Ongoing.

- Arizona Department of Transportation - Refer to Measure 5d.

f. Reversible Lanes

- City of Phoenix has installed 12 miles of reversible lanes (7th Avenue and 7th Street). Future reversible lanes will be considered as needed. Ongoing maintenance program. The City will periodically analyze traffic projections to determine whether there is a need to improve traffic flow and determine specific measures to implement on a case-by-case basis.

g. Freeway Incident Detection and Response Management Along With Motorist Information Systems.

- Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the I-17/I-10 corridor, funds have been programmed for the installation of an extensive Freeway Management System (FMS) which includes a control center, detector loops, call boxes, TV cameras, variable message signs, video wall, pump

monitoring equipment, tunnel management system, lane control signs, intersection controllers, and ramp meters. Several variable message signs already have been installed to advise motorists of accidents, lane closures, and suggested alternative routes as a strategy to mitigate adverse traffic impacts resulting from road construction in the I-17/I-10 corridor. This system design and installation implementation is scheduled in ADOT's Five-Year Transportation Facilities Construction Program.

This system has been studied extensively in a report completed in December 1986, and the system went under design in 1988. In 1989, ADOT had completed 7 miles of FMS. By 1994, the following will be completed: 29 miles of FMS will be completed on I-10 between 83rd Avenue and Southern Avenue and on I-17 between Thomas Road and Maricopa TI; 25 miles of completed ramp metering, which total 39 ramp meters for controlling freeway access to keep mainline traffic moving; 19 variable message signs to give advance warning of traffic conditions; 29 closed-circuit television cameras to verify incidents detected by pavement sensor; 403,000 linear feet of fiber optic cable to connect the highway to the control center; and 1,036 pavement sensors to monitor traffic flow to detect incidents.

h. Mitigation of Freeway Construction Impacts

- Arizona Department of Transportation will maintain a driver information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Specific activities included in this effort involve production and airing of advertising campaigns for flex-time, carpooling, bus ridership, freeway driving tips, and driving only whenever absolutely necessary. Also, a major public information campaign for the State Fair to identify alternative routes and promote use of alternative modes will be pursued. Ongoing efforts will be directed at daily construction alerts, civic presentation, and monthly traffic system management meetings.

Continuing efforts of ADOT to mitigate negative impacts on air quality during freeway construction include the following public awareness efforts: distribute door-to-door construction alert notices in neighborhoods affected by the construction project; daily FAX to all valley media outlets of road construction alerts, which are announced on the radio, included in newspapers, and reported during television news reports; produce "Valley Freeways" quarterly newspaper which includes information on the MAG freeway program including costs, locations, scheduling of projects and other information; proactive TSM committees made up of all jurisdictions affected by a project; purchase newspaper and radio advertising to announce and explain construction; produce 1/2 hour TV program in conjunction with Phoenix Channel called "Streetwise" which runs several times a week and addresses public transit freeway construction and other transportation concerns; and ADOT's Urban Freeway Information Line (255-8000) in English and Spanish which has current and upcoming information regarding: ADOT office hours, under construction or recently opened freeways, urban freeway planning, and weekend road conditions.

Additional efforts to mitigate negative impacts on air quality during construction include: detours, temporary signs, alternative construction hours, suggested alternative routes, dust control measures, and FMS.

ADOT as mandated by A.R.S. § 49-453 will prepare and submit to the Arizona Department of Environmental Quality (ADEQ) an air quality impact report on any State funded, transportation-related project which ADOT determines may have carbon monoxide or ozone impacts. This new provision does not apply to existing facilities nor to Federal Interstate Highways. Previously comparable reports have been prepared in the form of environmental impact assessments of federally funded projects.

Under the direction of ADOT's Environmental Planning Services (EPS), an appropriate environmental analysis is conducted for all proposed federal aid, state highway projects. ADOT's EPS section prepares written recommendations for each federal-aid highway project. All projects fall into three categories: an Environmental Assessment (EA), an Environmental Impact Statement (EIS), or a Categorical Exclusion (CE).

Air quality impacts in nonattainment areas is a criteria considered in evaluating interstate reconstruction projects, MAG Regional Route projects, and non-interstate major construction projects. Additionally, one priority used for the distribution of Federal-aid Interstate funds on controlled access projects is enhanced environment impacts. ADOT's Urban Controlled Access Development policies include three environmental elements as follows:

- Urban Controlled Access facilities will be planned and designed in such a manner that specific air quality and environmental mitigation measures will be incorporated.
- Urban Controlled Access facilities will reduce regional traffic congestion thereby reducing energy consumption and improving regional air quality.
- Alternative alignments within Urban Controlled Access corridors will be studied on a route-by-route basis to analyze environmental impacts.

i. One-Way Streets

- City of Peoria Council approved implementing a one-way street for Beardsley Road from 99th Avenue to 91st Avenue in 1991.

- City of Phoenix has designated portions of Washington Street, Jefferson Street, and several other downtown streets as one-way. The City will periodically analyze traffic projections to determine whether there is a need to improve traffic flow and determine appropriate traffic measures to implement on a case by case basis. Ongoing maintenance of one-way streets.

- City of Tempe completion of the second Mill Avenue Bridge during FY 1993-94 will provide one-way streets along the two bridges which provide the north gateway to Tempe.

j. On-Street Parking Restrictions

- Town of Paradise Valley - Refer to Measure 5a.

- City of Peoria indicates that currently, there is no on-street parking on major streets within the City. The City will continue to enforce the current ordinance.

- City of Glendale Council adopted a revised General Plan in January 1989. The City does not allow on-street parking on arterials and major arterials, except along portions of Glendale Avenue in the downtown area. The Police Department is responsible for enforcing traffic and parking violations. The General Plan restricts on-street parking on arterial streets, except in the downtown area.

- City of Mesa has a standing policy of prohibiting on-street parking along major arterial streets. Currently, Main Street is the only major arterial street where on-street parking is permitted (in limited areas). The City will continue to prohibit on-street parking along major arterial streets, and will periodically review elimination of on-street parking on Main Street.

k. Bus Pullouts in Curbs For Passenger Loading

- City of Chandler revised Section 3.7 of the Technical Design Manual Number 4 - Policies and Guidelines for Street Design and Access Control, adopted May 27, 1993, to add the following statement: "Bus bays will be generally required for far side bus stops on departures from major intersections (arterial street intersections with other arterial streets), on newly constructed or reconstructed arterial streets along which transit service is planned. Bus bays may be added to existing arterial streets when warranted by existing transit service." It is estimated that two bus pullouts will be constructed per year.

  Several bus pullouts have already been constructed in the City of Chandler. The resolution requiring bus pullouts was presented to the City Council for consideration in August 1993 and became effective upon passage by the Council. This measure will become a plan review check-off item which will not require any additional staff. Most bus pullouts will be constructed by developers at a cost of $5,000 to $6,000 per pullout. In the event that a pullout is needed in a location where the costs cannot be assigned to a developer, pullouts may be constructed using Federal Transit Administration grant funds. This measure is a street design policy that will be applied in plan reviews and construction plan reviews conducted by the plan review staff of the Development and Community Services Department and by the transportation staff in the Public Works Department.

- City of Glendale Council adopted new arterial linkage and intersection standards on March 30, 1990 (Ordinance 1635) as part of the "Design Guidelines for Site Development and Infrastructure Construction". The linkage standards require bus stops minimum of one-half mile intervals or otherwise as required by the City Traffic Engineer. The new intersection standards require bus pullouts on all corners of arterial-arterial intersections. Ongoing implementation. The City will

continue to install bus pullouts as development occurs or on an as needed basis. Development and City street plans will be reviewed through the normal plan approval/review process.

- City of Mesa indicates that bus pullouts will be installed as adjacent property on an existing bus route is developed.

- City of Peoria Engineering Department will use the standardized bus pullouts specification to accommodate transition of bus routes from city to city in the MAG area. These specifications have been applied at the intersection of 67th Avenue and Peoria to accommodate one of the new bus routes that started on January 26, 1987. Overall, these specifications should assist in reductions of traffic congestion at major intersections. Ongoing efforts.

- City of Phoenix Street Transportation Department will construct bus pullouts as needed in conjunction with major street construction. The City will encourage private construction of bus pullouts in conjunction with new developments.

  The Community and Economic Development Department (CEDD) works with the Street Transportation and Development Services Departments to ensure that CEDD sponsored projects address the need for bus pullouts and queue jumper lanes. Wherever possible, bus pullouts and queue jumper lanes are incorporated into projects that CEDD sponsors.

  Funding for the Street Department Program is included in the Five Year Capital Improvement Program and allocated through the annual budget process. Funding for CEDD projects is included in the Department's Annual Operating Budget.

- City of Scottsdale will continue to provide bus pullouts where feasible. Bus pullouts at the following locations have been constructed since the beginning of 1993 or will be constructed by the end of the 1993-94 fiscal year:
  - NW corner Pima & Shea
  - NW corner McDowell & 68th Street
  - Midblock Thomas & Hayden (westbound)
  - Midblock Thomas & Hayden (eastbound)
  - Granite Reef and Indian School
  - Cactus Road and Scottsdale Road
  - Cactus Road and 64th Street
  - 94th Street and Cactus Road

- City of Tempe provides a major transit stop adjacent to the university campus.

- City of Tolleson, via an ordinance, will incorporate bus pullouts in all future major street widening projects as well as future major land developments.

6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service (e.g. Park-and-Ride Lots)

- City of Glendale adopted a revised General Plan in January 1989. The General Plan recommended that a more detailed plan identifying locations of Park-and-Ride lots and transit stops be prepared. This plan would be prepared with the help of the Regional Public Transportation Authority and the Arizona Department of Transportation. Seven Park-and-Ride lots have been tentatively identified in the General Plan. Ongoing implementation. In the past, local businesses have agreed to allow Park-and-Ride uses on their property at no cost to the City. The City will continue work with the RPTA, Arizona Department of Transportation and local businesses to develop or establish new par-and-ride facilities in locations where they are needed. The City expects to complete its bus shelter plan in 1993.

- City of Mesa - Refer to Measure 1c.

- City of Phoenix works with the Regional Public Transportation Authority to promote and expand Park-and-Ride lots as a means to encourage transit travel. As of May 1993, sixty-eight Park-and-Ride lots and four transit centers with Park-and-Ride opportunities, exist in the City of Phoenix. The Park-and-Ride lots and transit centers include approximately 1,500 parking spaces. The opportunity for maintaining and expanding the number of lots and spaces fluctuates as transit routes and lot availabilities change.

- City of Scottsdale - Refer to Measure 1c.

- City of Tempe provides Park-and-Ride lots in conjunction with Phoenix Transit and the RPTA through agreements with private owners of major facilities such as shopping centers and institutions. As of FY 1993-94, there are 9 Park-and-Ride lots in Tempe. Ongoing. The City will continue work with the RPTA and ADOT to develop new Park-and-Ride facilities in locations where they are needed, especially adjacent to new freeways.

- Maricopa County Transportation Department will, through its permit authority A.R.S. § 11-251 General Powers of Board of Supervisors and A.R.S. § 18-209, seek joint funding of Park-and-Ride facilities where appropriate. MCDOT also provides a shuttle service between its Durango Complex facilities and RPTA transit service.

January 1992 to December 1992	Shuttle service implemented.
January 1993	Included Bell Rd. at I-17 Park-and-Ride facilities as part of the County's Capital Improvement Program, and other facilities will be requested where appropriate.

Durango Shuttle - $35,000 per year split between MCDOT and Flood Control District. $500,000 for a Park-and-Ride facility has been requested, but is not yet approved.

- Arizona Department of Transportation considers potential Park-and-Ride facilities on the State Highway System on a case by case basis when construction or reconstruction of an interchange or intersection is planned. It is not anticipated that land specifically for the purpose of Park-and-Ride lots will be purchased by ADOT. However, ADOT will offer appropriate excess parcels for purchase by agencies wishing to implement such facilities.

  At I-10 and 79th Avenue, a structure with HOV ramps accessing the interstate median has been constructed by ADOT with a 625 vehicle capacity Park-and-Ride lot. Operation of this lot is handled by the City of Phoenix. Approximately 75 cars utilize this Park-and-Ride lot. In addition, ADOT is studying potential sites for Park-and-Ride lots along the State Highway System and will provide the option to appropriate agencies of purchasing excess ADOT right-of-way for such use where appropriate. Three potential sites are at Bell Road and I-17, Shea Boulevard and S.R. 51, and Gilbert Road and S.R. 202L.

- Regional Public Transportation Authority works with member cities to promote and expand Park-and-Ride lots as a means to encourage ridesharing and the use of transit. As of May 1993, sixty-four Park-and-Ride lots and four transit centers provide more than 2,500 parking spaces throughout the region. The RPTA will continue to work with member jurisdictions to develop new Park-and-Ride facilities in locations where they are needed.

7. <u>Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration, Particularly During Periods of Peak Use</u>

   a. Off-Peak Goods Movement

- City of Phoenix indicates that the City Code Article 8-Section 36-87, defines restrictions for deliveries into the downtown area during peak hours (7:00 - 9:00 a.m. and 4:00 - 6:00 p.m.).

   b. Truck Restrictions During Peak Periods

- Town of Gilbert indicates that truck travel is limited to place rather than time. Truck routes are identified by Ordinance of the Town Council.

8. <u>Programs For the Provision of All Forms of High Occupancy, Shared Ride Services</u>

   a. Park-and-Ride Programs

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan calls for the preparation of a more detailed plan identifying locations of Park-and-Ride lots and transit stops. This plan would be prepared with the assistance of the Regional Public Transportation Authority and the Arizona Department of Transportation. Seven Park-and-Ride lots have been tentatively identified in the General Plan. Ongoing implementation. The City will continue work with the RPTA, Arizona Department of Transportation, and local businesses

work with the RPTA, Arizona Department of Transportation, and local businesses to develop or establish new Park-and-Ride facilities in locations where they are needed. The City's Transit Department is primarily responsible for transit service planning. The Planning Department is responsible for changes to the General Plan and its implementation. There are no costs associated with existing Park-and-Ride lots. Local businesses are allowing Park-and-Ride users on their premises at no cost to the City.

- City of Mesa - Refer to Measure 1c.

- City of Peoria agrees to work with the Regional Public Transportation Authority to locate additional park-and-ride lots and to provide assistance in securing land in conjunction with private entities. The City of Peoria Community Center was designated as a Park-and-Ride location in 1987.

- City of Phoenix - Refer to Measure 6.

- City of Scottsdale - Refer to Measure 1.

- Maricopa County Department of Planning and Development requires 15 percent of the employee parking spaces to be designated for carpools/vanpools. Maricopa County's Trip Reduction Ordinance encourages the use of Park-and-Ride programs and financial incentives to meet the goals of the Trip Reduction Program. 170 out of 434 employers (39 percent) in the Trip Reduction Program offer bus subsidies.

  Regulatory authority for the Maricopa County Department of Planning and Development program is provided by Maricopa County Zoning Ordinance, Section 23109i, added April 3, 1991. This ordinance is in place and each industrial site plan that is reviewed must conform if requiring 100 or more employee parking spaces.

b. Rideshare Programs

- Regional Public Transportation Authority will expand the MAG Regional Ridesharing Program to increase program marketing and number of employer contacts. Efforts will be targeted at about 800 employers with approximately 450,000 employees or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public to reduce home-based work trips through the Clean Air Force Campaign and the Regional Ridesharing Program. Beginning in January 1993, employers with 75 or more employees at a single site are being phased into the trip reduction program. Special matching services will expand to better facilitate the formation of carpools, vanpools and bicycling through our computerized matching service. The schedule for planned activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; up to 12 Transportation Management Association hold periodic meetings; carpool, vanpool and bicycle matching services offered daily; turn-key vanpool program available on an ongoing basis; and an area-wide awareness and promotion campaign is conducted year-round.

c. Financial Incentives, Including Zero Bus Fares

- City of Chandler subsidizes bus fares. Bus system charge cards are issued to employees who wish to commute to/from work via bus. The City subsidizes 100 percent of the fare. All employees who bus, bike, carpool or walk to/from work are also included in monthly lottery drawings and are eligible for $6,000 in annual lottery payout. The trip reduction program employee administers the program. A $12,000 budget is approved for trip reduction subsidies, awards, and administration of the trip reduction program.

- City of Glendale subsidizes bus passes for its employees up to 50 percent of the cost of regular priced tickets. Drawings for prizes are held quarterly for participants in the bus pass, carpool and bike to work programs. The City has not implemented zero bus fares (for the general public) because fare box revenues are needed to off-set the costs of providing transit service. These programs are administered by the City's Transit Department. The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund. Employees using subsidized bus passes pay for the passes through payroll deduction. Employees in the bike program agree to ride their bicycles to work an average of three days a week. If they do not, they notify the Transit Department and surrender the bike back to the City.

- City of Mesa subsidizes bus passes for its employees up to 50 percent of the cost of regularly priced monthly pass. The City has not implemented zero bus fares because it is not economically feasible and ridership would not be expected to dramatically increase. Additionally, bus fares for elderly (65+) and disabled passengers are already subsidized throughout the regional bus system (these passengers may ride for half the regular fare).

  The City would lose more than $160,000 in revenues which it cannot afford to give up if bus fares were reduced to zero. Furthermore, experience with zero bus fares in other ares of the country (Austin, TX for example) has shown that ridership rises to a peak due to a curiosity factor when zero bus fares are instituted, but then returns to levels only slightly higher than those when fares were being charged. The benefits of substantial new ridership are not sustained over time, as they would need to have an ongoing positive effect on air quality.

- City of Peoria distributed approximately 300 free passes to citizens who ride the City Transit system. A transportation fair was conducted in March, 1992. The City prepared a grant for free interchanges between Sun City, Peoria, and Glendale Dial-A-Rides. Monthly information is distributed through newsletters to all employees.

- City of Phoenix - Refer to Measure 3a.

- City of Scottsdale will continue to offer subsidized bus transportation to qualified employees under the "Bus Card Plus" program. A total of 73 employees are currently enrolled in the program; most of the City's workforce of about 1,500 full and part-time employees are eligible. Ongoing. The Bus Card Plus program--a pass card providing employer subsidized bus transportation to employees--began in July 1992. This program is carried out by the Transit Coordinator. Estimated annual cost of the program is $2,700.

- City of Tempe subsidizes bus fares for its employees up to 50 percent of the cost of a monthly local bus pass. The City has not implemented zero bus fares (for the general public) because it is committed to a regional fare structure to be determined jointly by all cities funding transit service; it is not economically feasible; and ridership would not be expected to dramatically increase because of the limited nature of transit service. However, the planned ASU/Downtown shuttle to begin January 1994 will be a free shuttle service. This service is free because of its short circulation and high frequency which is geared to easy access by riders and because it is augmented by metering and other paid parking programs. No ridership projections for this service have been made to date. Ongoing. The City will periodically evaluate and modify its bus subsidy to employees as part of its annual review of travel reduction program measures.

  The City's budget for the bus subsidy program is not to exceed $4,500 in FY 1993-94. The budget for the free local shuttle service includes a proposed commitment for operations not to exceed $200,000 annually and capital vehicle acquisition of $700,000 during FY 1993-94. These costs are subject to the receipt of federal funds, a completed intergovernmental agreement with ASU, and a successful bid award for the bus operations within the budgeted figures.

- Maricopa County - Refer to Measure 8a.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. Training classes will continue to offer information on commuting incentives and subsidies. As an example, RPTA is committed to an in-house effort to encourage employees not to drive. Some available encouragements to RPTA employees are the following: free bus passes for all employees; company cars available for business; alternate mode user (AMU) subsidy up to $15 per month for employees; monthly AMU drawing for half day-off with pay and other prizes; subsidize cost of bicycle helmet or other safety equipment; and guaranteed ride home for alternate mode users.

  The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Associations hold periodic meetings. RPTA strategies are ongoing with monthly prize drawings.

9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Nonmotorized Vehicles or Pedestrian Use, Both as to Time and Place

- Town of Gilbert will implement standard street profiles with bicycle lanes, mark an additional 24 miles with stripes and signs. Implement the Open Space Plan and Canal Design Guidelines. This measure is being implemented by the Departments of Planning and Engineering in the Town of Gilbert. The authority is by A.R.S. 9-240 and 9-461.05. Street profile specifications are currently adopted, Open Space Plan currently adopted and will be referred to in the General Plan, and Canal Design Guidelines to be implemented by January, 1994.

- City of Glendale indicates that although the City's General Plan does not contain policies regarding auto free zones or pedestrian malls, it does contain policies to encourage nonmotorized transportation or circulation.

- City of Mesa indicates that the recently formed Downtown Vision Committee is currently evaluating a wide variety of transportation, land use, and zoning issues in the downtown area. This Committee may recommend development of pedestrian mall areas in the downtown.

- City of Phoenix - Refer to Measures 10a, 10b, 15a, and 15b.

- City of Scottsdale will continue to encourage pedestrian travel as an alternative to automobile use. Among the programs designed to promote more pedestrian travel are:

  1) Establishment of a Task Force to write a comprehensive nonmotorized transportation plan, which will consider short-term and long-term needs for improved pedestrian circulation.

  2) Continued reviews by the Project Review Division staff to evaluate development projects for efficiency of the pedestrian circulation.

  3) Continued Planning and Implementation of the 1991 Arizona Canal Master Development Plan and the Waterfront Redevelopment Plan. These plans are aimed at providing an attractive pedestrian environment and the City is providing seed money for canal redevelopment.

  The Nonmotorized Transportation Plan is scheduled for completion in mid-1994. Review of projects for pedestrian linkages is ongoing. Implementation of the Canal Bank Master Plan will take place over several years. The timeframe for improvements will depend in large part on private development activity along the canal bank. Initial steps begun in 1993 include the undergrounding of utility lines along the canal bank.

- City of Tempe is committed to a pedestrian environment in its downtown area, and restricts its sidewalks there for use by pedestrians, with exclusive use bicycle lanes also available adjacent. The city is currently conducting a downtown transit center

feasibility study. If a downtown transit center is feasible, it will provide an auto-free zone in the block developed as the transit center. Ongoing. The City will continue to implement its General, Transit and Bicycle Plans.

10. Programs For Secure Bicycle Storage Facilities and Other Facilities Including Bicycle Lanes, For the Convenience and Protection of Bicyclists, in Both Public and Private Areas

a. Encouragement of Bicycle Travel

- Town of Carefree will continue to encourage bicycle travel through public announcements in the newspaper and Town newsletter. As improvements are made to bike facilities, the Town will continue to publicize these improvements and encourage their use. Newspaper publicity will be through normal coverage of Town activities. The 1993-94 newsletter budget is $2,000. Town Council announcements will be documented by the minutes of the meetings. Newspaper articles and copies of newsletters will document publicity.

- City of Chandler increased the promotion of all alternative modes of travel including bicycle use and public transportation. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included the following trip reduction strategies:

  - July 1, 1992 - increased promotion of all alternative modes to include bikes on buses, bike to work day/week, free bus day, trolley to work day, alternate mode participant recognition day, distribution/promotion of city bicycle plan, and new employee orientation program.
  - November 1992 - held transportation fair to promote bicycling, air quality improvement, vanpooling, electric vehicles, solar energy, walking, and carpooling/ridesharing.
  - February 1993 - established bicycle acquisition program for employees to receive confiscated/lost bicycles to enter into contractual agreement to commute to/from work by bicycle and ultimately acquire the bicycle. The trip reduction program requires .25 FTE (city employee) to administer the program. Budgeted expense for promotion was $3,000; transportation fair $1,000; and bicycle acquisition program was only in-kind administrative cost.

- City of Glendale Council adopted a Bicycle Plan in July 1990. The Bicycle Plan identifies the type and location of future bicycle facilities. A Transportation Coordinator was hired in December 1990 to implement the Bicycle Plan. The City's Transportation Coordinator is a member of the Maricopa Association of Government's Bicycle Committee and works with other MAG member cities to coordinate bicycle facility, events planning, and promotions.

  The City's Employee Ridesharing Program contains incentives to encourage bicycle use, e.g., the free use of a bicycle for those promising to use the bicycle to commute to work. The City also installed several bicycle racks at various City facilities in order to provide convenient and safe storage for bicycle users. The

City's Traffic Engineering Department is responsible for the implementation of the Bicycle Plan. The City has budgeted $50,000 in FY 1993-94 for continued implementation of the Bicycle Plan.

- City of Mesa indicates that 21 additional miles of bicycle routes will be installed during FY 93-94 to complement the existing 87 miles of bicycle routes and 17 miles of bicycle lanes. In June 1993, the Mayor established the Ad Hoc Bicycle and Pedestrian Amenities Committee. This Committee is directed to: create a Mesa bike route map and bike route narratives for recommended alternative routes; consider and recommend ways to use canal banks for bike and pedestrian use; study and make recommendations on cross-jurisdictional links of bike and pedestrian routes; identify possible sources of funds to implement recommendations; and study recommendations for future road widening projects to include bike lanes. The Committee is to have a report ready by September 30, 1993. The City's Employee Trip Reduction Program contains incentives to encourage bicycle use. The City will install and maintain bicycle racks and lockers at various City facilities in order to provide convenient and safe storage for bicycle users. Planning for purchase and installation of the racks and lockers is underway. Traffic and Streets staff represent the City at the Maricopa Association of Government's Bicycle Committee and work with other MAG member cities to coordinate bicycle facilities, events planning, and promotions. The City has budgeted $10,000 in FY 93-94 for installation of new signs for the new bicycle routes. A grant of $45,000 is expected during FY 93-94 from MAG CMAQ funding for the construction of an eight foot sidewalk for use by bicyclists on Eighth Street adjacent to Riverview Park. The City has received a grant for $9,000 to purchase bike lockers.

- Town of Paradise Valley will promote public awareness in the use of bicycling as an alternative to cars through the use of mailings and personal contracts. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The program will be implemented through the year on a regular basis. Implementation of the publicity program will be carried on through regular staffing under the adopted Town budget for FY 1994. Separate mailings and articles and regular mailings will be utilized.

- City of Peoria agrees on half-mile streets, as they become fully developed, to develop a city-wide network of bicycle routes and bike-ways. The City of Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes extending into and through the City of Peoria on the Arizona Canal, Skunk Creek and New River. Ongoing. Include bicycle routes and bike-ways in the transportation section of the City of Peoria Comprehensive Master Plan to include routes, facilities, traffic signals, route striping and signing.

- City of Phoenix encourages bicycle travel through a number of programs. The City has expanded the bikeway system from 75 miles to 340 miles since 1988 and plans to add 30 additional miles in 1993-94. The City publishes safety, educational, and promotional literature such as flyers, posters, brochures, and bike

maps and conducts bike events to encourage safe use of bicycles and bicycle commuting. The City has installed and maintained bicycle facilities at City buildings, parks, and bus terminals. New development is encouraged to promote bicycling through the inclusion of bike racks, lockers, and showers at work sites. Bicycle travel is promoted through the City's Bikes on Buses Program defined in Measure 1 - Expansion of Public Transportation Systems.

- City of Scottsdale has and will take the following actions through 1995 to encourage bicycle travel and develop bicycle travel facilities:

  1) The City Council has adopted a resolution establishing a Task Force to write a comprehensive nonmotorized transportation plan. This plan will identify needs, short and long-term goals, and a process whereby bicycles will become a formal part of the transportation mix.

  2) Two new miles of bicycle paths will be constructed in the Indian Bend Wash (IBW) low-flow channel.

  3) The City has and will make the following major improvements to the IBW path:
     - In 1993, all 12 miles received edge and centerline stripes, and the Thomas Road and Via de Ventura Road underpass areas were rebuilt.
     - A new path will be constructed and improvements made to the original between McKellips and McDowell Roads.
     - About 130 advisory signs will be added to the IBW path system.

  4) Approximately 20 miles of on-road bike lanes and routes will be added at various locations.

  5) Bike racks will be added to two bus shelters, a downtown parking lot, and to One Civic Center, a City building.

  6) About 7.6 miles of bike lanes will be designed and constructed on north Pima Road between Pinnacle Peak Road and the City boundary.

  7) About 8 miles of a combination of connected bike routes and paths is designed and will be constructed along south Pima Road from Fillmore to Via Linda.

The Council adopted Resolution No. 3779 in 1993, establishing a Nonmotorized Task Force to write a comprehensive plan. Meetings of the Nonmotorized Task Force will begin in June 1993. Completion of the document is expected in mid-1994. The new bicycle path in the IBW low-flow channel is scheduled to be completed by the end of 1995. The IBW path projects at Thomas Road and Via de Ventura, and the path striping projects were completed in June of 1993. The improvements from McKellips to McDowell will be completed in 1994. The path advisory signs will be installed in 1993. The on-road bike lanes and routes in various locations will be completed in 1994. The two bus shelters and downtown parking lot racks were

installed in 1993. The rack at One Civic Center will be in place by fall of 1993. The bike lanes on North Pima Road are scheduled to be completed by 1995. The south Pima Road route and path is set to be completed in 1994, funding permitting.

- City of Tempe adopted its first Bicycle Plan in 1974, with the most recent update in June 1991. The plan made a commitment to provide a bicycle-friendly community. This includes providing bicycle lanes or wide outside curb lanes on all arterial and collector streets where reasonable and practicable. The city's pavement management program is being used to provide bicycle facilities through resurfacing and restriping of existing streets. Other bicycle improvements are provided through private development stipulations and federal grants. All bus routes in the region include bicycle racks.

  The City has a Mayor's Bicycle Advisory Committee which meets monthly to address bicycle issues and recommend improvements to the system. A Transportation Planner was hired in May 1990 to coordinate the Bicycle, Transit and Pedestrian and Air Quality Plans. The City is represented on the Maricopa Association of Government's Bicycle Committee and works with other MAG member cities to coordinate bicycle facilities, events planning, and educational activities. City staff and the Committee have generated a local bicycle map, bicycle guide brochure, bicycle safety bookmarks, and a program of safety advertisements in local newspapers. The City's Travel Reduction Program contains incentives to encourage bicycle use, including bicycle racks, shower facilities, a bike to work day event, and a bike loan program.

  Ongoing efforts. The City will continue to implement and update its Bicycle Plan and participate in the Regional Bicycle Plan. The City's Transportation Division is responsible for the implementation of the Bicycle Plan. The City's CIP budget in FY 1993-94 includes $100,000 for bicycle facilities outside of those provided through the pavement management plan. The City also has federal grants for that period totaling $67,000 for bicycle facilities. The Bicycle Advisory Committee has access to a $25,000 annual budget for studies and educational publications such as the bicycle map.

- Maricopa County - Refer to Measure 10b.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. A "How To Implement a Bicycle Program" Manual will be published and will be marketed to all employers. A bicycle safety education video will be promoted to employers to show to their employees. Bicycle safety education information will be printed on the back of the MAG Regional Bicycle Map and distributed to employees and general public. The Regional Ridesharing Program will promote its computerized matching service to those who wish to bicycle with a companion to work. The schedule for planned activities are as follows: "How To Implement a Bicycle Program" Manual will be printed by November 1993; bicycle safety video will be available by November 1993; bicycle

safety education information/bike map will be available by mid-1994; and bicycle matching program will be promoted through MCTRP trainings, workshops and employer sponsored transportation fairs.

b. Development of Bicycle Travel Facilities

- Town of Carefree will construct bicycle lanes on both sides of 1/3 of a mile of Pima Road from Stagecoach Pass to Cave Creek Road for a total of 2/3 of a mile of bike lanes. Trim shrubbery and trees from the edges of the streets in Carefree to allow full utilization of the street surface for safe bicycle travel. Install four to six bike racks in the business district.

  The construction of the bike lanes on Pima Road will be completed by the Fall of 1993. The initial trimming of the shrubbery and trees from the street edges will be completed by the Fall of 1993. Trimming will be an ongoing maintenance program. The bike racks are scheduled to be installed in the Fall of 1993. The construction of the bike lanes on Pima Road is by contract for an estimated cost of $5,300. The funds are adopted in the Town budget for 1993-94. The trimming of shrubs and trees is estimated at $20,000 annually. The funds are adopted in the Town budget as part of the street maintenance budget. The installation of bike racks in the business district is estimated at $2,000. The funds are adopted in the Town budget as part of the street capital improvement budget.

- City of Chandler will implement an on-street bicycle striping program to include striping 143 miles of bike lanes on arterial and collector streets. The City Council approved the installation of 4-foot bicycle lanes on all new four-lane or wider street construction or reconstruction. Schedule is as follows:

  - July 1992 - begin construction on 96 miles of bike lanes on collector and residential streets.
  - May 1993 - completion of 14 miles of arterial bike lanes.
  - July 1993 - begin construction of 14 miles of arterial bike lanes.
  - January 1, 1994 - begin construction of 19 miles of arterial bike lanes.

  Striping costs for the entire 124 miles of bike lanes are estimated at $550,000.

  The City of Chandler will also improve bicycle facilities to include acquisition of employee showers and lockers, bicycle racks and bicycle storage lockers. The identification of and approval to use shower and locker facilities at seven city locations was completed in June 1993. The City of Chandler is currently working with the RPTA to purchase bicycle storage lockers for city employee use through the use of CMAQ funding. Implementation is anticipated by the end of FY 1994. The trip reduction program requires .25 FTE (city employee) to administer the program. No additional funds were required to allow use of existing showers and/or lockers at existing work sites. A total of $6,000 was requested and approved by MAG to be allocated to the RPTA for procurement of bicycle storage lockers of the City of Chandler.

- Town of Gilbert will install 28 bicycle racks and 15 lockers at public facilities. The Town of Gilbert Planning Department will initiate the process. Authority is by A.R.S. 9-240. Bike racks will be installed by August 1993. Bike lockers will be installed by September 1993. Existing personnel, approved in the FY 1993-94 budget will monitor the program. Initial cost is $1,500.

- City of Glendale will continue to implement its Bicycle Plan. Ongoing implementation. The City's Traffic Engineering Department is responsible for the implementation of the Bicycle Plan. The City has budgeted $50,000 in FY 1993-94 for continued implementation of the Bicycle Plan.

- City of Mesa - Refer to Measure 10a.

- Town of Paradise Valley indicates that ten miles of existing arterial streets will be signed and striped to provide new bike lanes. This measure will be implemented by the Town of Paradise Valley's Engineering and Street Departments. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statues. This measure will be implemented on an as available means during the interim of other street improvement measures. Implementation of this project has been budgeted at $30,000. This will be accomplished by current department personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 10a.

- City of Scottsdale - Refer to Measure 10a.

- City of Tempe - Refer to Measure 10a.

- Maricopa County Transportation Department, through its permit authority pursuant to A.R.S. § 11-251 General Powers of Board of Supervisors and A.R.S. § 18-209, will continue to develop bicycle facilities and encourage bicycle travel. The Maricopa County Department of Planning and Development implements parking standards for industrial property through an ordinance as provided in A.R.S. § 11-821.

January 1990	Hired bicycle coordinator.
April 3, 1991	Adopted addition to Maricopa County Zoning Ordinance requiring conformance for each industrial site plan reviewed which requires 100 or more employee parking spaces.
June 1992	Constructed bike lanes on Alma School Rd. (2 miles).
October 1992	Constructed bike lanes on Riggs Road (3 miles).
July 1992	Constructed bike lanes on Cave Creek Park Road (2 miles).
January 1993	Current capital improvement program request for the next five years includes adding 55 miles of bike lanes to county roads. Signed and striped bike lane on Sun Valley Parkway (30 miles).
July 1993	Adoption of a countywide bicycle plan. Constructed bike lanes on 32nd Street (2 miles).

1 FTE. $550,000 Local Match + $2,200,000 Federal Match. Ongoing program funded through existing County budget.

- Arizona Department of Transportation has a representative on the Arizona Bicycle Task Force. In addition, ADOT is willing to assist jurisdictions which plan to develop bikeway paths adjacent to new MAG freeway/expressway facilities in the near future. For example, ADOT will consider replacing existing facilities which are displaced by controlled access development, providing required features to accommodate connections for future bikeway facilities, and increasing shoulder widths on frontage roads to accommodate planned bikeway facilities.

  The ADOT Transportation Planning Division has fiscal oversight of the Bicycle Safety Fund (A.R.S. § 28-821) which is the operational fund for the Governor's Arizona Bicycle Task Force (GABTF). The Task Force, among other duties, develops and implements bicycle safety education programs. ADOT will provide for bicycle route crossings of state roadways when such crossings are funded and implemented according to an officially adopted local bike plan. ADOT also provides technical input for the GABTF and guidelines for planning and design of bicycle facilities. If any existing bicycle facility is adversely affected by state construction, ADOT will replace or restore the facility. The Transportation Safety Office of the Motor Vehicle Division of ADOT, in conjunction with the GABTF, publishes and distributes bicycle safety materials for public consumption.

- Regional Public Transportation Authority will assist in the development and distribution of a bicycle facilities planning guide in conjunction with the Governor's Arizona Bicycle Task Force to all MAG jurisdictions. Efforts for distribution will also be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. Subject to the availability of federal funds, the RPTA will provide the local match for and administer a bike rack distribution program. The schedule for planned activities are as follows: the bike rack program should have all racks in place by October 1994; distribution of the bicycle facilities planning guide will begin June 1995; and promotion to employers to provide bicycle facilities is ongoing. Approximately .3 of one full-time equivalent professional person's time will be assigned to bicycle promotions. The funding allocated from ISTEA for the bike rack program is $21,611.

11. <u>Programs to Control Extended Idling of Vehicles</u>

- Town of Carefree, annually in the Fall of the year, will request drive-up facilities to post signs or provide notice to customers not to idle their vehicles while waiting at drive-up facilities. The annual approximate cost to notify the two drive-up facilities in Carefree is less than $100. The funds are adopted in the Town budget as part of the administrative budget. Periodic reports will be made by the Town Administrator to the Town Council.

- City of Peoria Transit Division has issued a directive not to park and idle the engine while on breaks and lunches.

13. Employer-Sponsored Programs to Permit Flexible Work Schedules

a. Modification of Work Schedules

- City of Chandler implements alternate work schedules that flex the scheduled shift times for employees. The City of Chandler encourages the use of flexible or staggered work hours to promote off-peak driving and accommodate use of transit and carpooling. The goal is to shift 10 percent of the employees out of the peak period travel. The trip reduction program employee administers the program. No additional funding is required for this measure.

- Town of Gilbert implements flexible work schedules for public employees. The authority for the Town to regulate work hours is found in Gilbert Personnel Rules, Section 5.9.1. Implemented in May 1993. The program is monitored by existing personnel approved in the FY 93-94 budget. No cost is associated with the start of the program.

- City of Glendale has already implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 8/10 or 9/80 schedules) and/or to commute to work during off-peak hours. Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs. State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing implementation. The City will periodically review (annually) and modify its policy on flexible and/or modified work schedules based on usage and impact on service delivery.

- City of Mesa already has implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 4/10 or 9/80 schedules) and/or to commute to work during off-peak hours (e.g. working 7 a.m. to 4 p.m., rather than 8 a.m. to 5 p.m.). Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs.

  State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel.

As of the 1992 Maricopa County Travel Reduction Survey, 29 percent of City employees at the major work sites are working modified work schedules other than 8 a.m. to 5 p.m. This survey did not include the majority of firefighters who work at small, scattered work sites and who work alternative work schedules. 85 percent of City employees responded to the survey (1,940 out of 2,283). Of the respondents, 517 were working a modified schedule, eliminating 311 trips per week.

- City of Peoria will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to institute alternative work hours/days. At present, the City has the Police Department and Sanitation Department on 4-day work weeks. The City has sent out a questionnaire to Department Heads requesting they submit a plan for their employees to reduce their work week days by using the 9/80 or 4/10's or by Telecommuting.

- City of Phoenix offers alternative work schedules to employees as a means to promote off-peak driving and accommodate the use of transit and ridesharing. Because the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs.

  State law requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing. The City will periodically review its policy on flexible and/or modified work schedules based on usage and impact on service delivery and expand or modify as appropriate.

- City of Scottsdale Human Resources will continue to assist General Managers in developing creative alternate schedules, so that at least 85 percent of City employees work an alternate schedule during the months of October to March and still provide the same or better level of service to the public. As of this year, 1,068 of approximately 1,200 full-time employees were on alternate schedules.

- City of Tempe has implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 4/10 or 9/80 schedules) and/or to commute to work during off-peak hours. Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs. The City is currently reviewing the possibility of a City-wide policy to facilitate its travel reduction program.

  State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing. The City plans to review and modify its policy on flexible and/or modified work schedules during FY 1993-94 based on usage and impact on service delivery.

- Maricopa County - Refer to Measure 4.

- Arizona Department of Transportation will follow rules developed by the Director of the ADOA to establish adjusted work hours for at least 85 percent of employees in the nonattainment area for the period October 1 to April 1. In addition, ADOT will continue to provide options, year-round, to employees of alternative work hours or four-day work weeks where service to the public will not be affected. Currently available to ADOT employees are flexible hours and the four-ten work week. It is estimated that 8 percent of ADOT's 4,500 employees are on four-ten work weeks. ADOT is also conducting its own pilot program evaluating an alternative work schedule not currently available to all ADOT employees. The study involves 100 employees working nine hour days with a day off every other week. The study will be completed in September and then ADOT expects to evaluate the concept and consider expanding the nine day/80 hour plan Department wide.

b. Telecommunications-Telecommuting

- City of Glendale will periodically examine the feasibility of telecommuting based on applicability to the City, air quality benefits, available technology, and cost. Each department in the City will be responsible for periodically examining the feasibility of telecommunications on their operations based on available technology and cost.

- City of Mesa will proceed with establishment of a Telecommuting/Alternative Work Hours Coordinating Committee during FY 93-94. If the Committee's research shows that it is feasible to do so, it will initiate a pilot telecommuting program in one or more City departments by June 30, 1994. Recommendations will be implemented by June 30, 1994. Ongoing.

- City of Phoenix approved a policy in 1992 which allows departments to authorize telecommuting for appropriate staff where feasible. The City continues to evaluate the feasibility of telecommuting based on applicability to specific jobs, available technology, and fiscal impact. Employee discounts for home based computers have been negotiated and the City will continue to explore options for expansion of the use of telecommuting.

  A pilot study is being conducted at a Water Services satellite work center using employees who live within a five mile commuting distance.

- City of Scottsdale will continue to encourage the use of telecommunications and teleconferencing in place of motor vehicle use where appropriate. The City will take the following actions:

  1) Continue work on a telecommuting plan. A draft plan was submitted in June 1993 for review by top management. The draft plan emphasizes that some kinds of telecommuting may be available which would not require a significant up-front capital investment by the City.

2) Increasing from 10 to 12 the number of dial-in lines for officials and employees with computers at home or in other locations outside city offices to access the City's mainframe computer for electronic mail and a variety of other applications, including budgeting and programming.

3) Increasing the number of facsimile machines as demand dictates to facilitate teleconferencing and avoid the need for couriers to deliver documents when time does not permit standard delivery through interoffice mail. The number of facsimile machines in the City is expected to increase from 35 to 38 in FY 1993-94.

4) Continue programs that provide home computer terminals for about 35 city officials and provide portable computers on loan to City employees who may need them for temporary assignments.

The draft report on telecommuting is complete. No specific schedule has been established for further action pending review of the draft report. Two additional lines for dialing in to the mainframe computer are scheduled to be installed by the end of 1993. Additional facsimile machines will be purchased during FY 1993-94. Programs for in-home computers and portables are ongoing.

- City of Tempe Council meetings are televised to area residents on cable television to allow citizens to monitor Council actions and avoid the need to travel to attend meetings. The City staff is evaluating the possibility of a pilot telecommuting program for its employees during FY 1993-94 as part of its travel reduction efforts. Ongoing.

- Maricopa County - Refer to Measure 4.

- Arizona Department of Transportation estimates 100 employees will be participating in the telecommuting pilot program. This six month pilot program is overseen by the Arizona Department of Commerce and will begin in August 1993.

- Regional Public Transportation Authority encourages the use of telecommuting in place of motor vehicle use for applications such as working at home or remote work centers close to home. Networking together with other employers and jurisdictions, RPTA will develop support materials to encourage telecommuting. RPTA efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. As a part of RPTA's formal training curriculum, a one-hour elective on telecommuting is available at MCTRP trainings. Also available to employers is onsite assistance for individualized program development and assistance. RPTA participates in an in-house formal telecommuting program offered to all qualified employees. In 1994 it is estimated that 10 RPTA employees will participate in the telecommuting program on an average of one time weekly. According to Maricopa County Trip Reduction data, during 1992 approximately 31,800 or 3.8 percent of work trips are not taken weekly by employees telecommuting (affected by TRP with 100+ organizations).

RPTA staff also participates in the Arizona Telecommuting Advisory Council (Chapter member of the non-profit national Telecommuting Advisory Council), which encourages and assists Arizona employers in developing and implementing telecommuting programs.

The schedule for planned activities are as follows: MCTRP employer trainings at least once monthly; on an as needed basis, assist employers with all stages of implementation for telecommuting programs; and participate in monthly meeting with AzTAC for interagency cooperation and networking. RPTA's telecommuting program is ongoing. Approximately .3 of a full-time professional staff person's time will be used for development and implementation of telecommuting programs. Additionally, up to nine professional staff will spend portions of their time on this project. This measure is funded by portions of the total budget for the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

c. Telecommunications-Teleconferencing

- City of Glendale has installed teleconferencing equipment in the new Public Safety and Courts Complex (opened in September 1991). All police substations are furnished with teleconferencing equipment. The Police Department uses teleconferencing for officer briefings and training sessions. The police also conduct special teleconferencing sessions with outside agencies as needed. Glendale City Council meetings and workshop sessions are televised to Glendale area residents on cable television. Ongoing implementation. The City will consider the installation of telecommunication equipment in existing and new facilities on an as needed basis. Each City department will be responsible for identifying telecommunications and teleconferencing opportunities.

- City of Mesa Fire Department uses the cable television system to conduct training and briefing sessions at the various Fire Stations to reduce travel and maintain availability (if a call comes in, the firefighters set the VCR to record what they missed). The Police and Fire Departments also conduct special teleconferencing sessions with outside agencies as needed. Mesa City Council meetings and special public affairs events (such as candidate forums) are televised to residents on the City's cable television channel to allow citizens to monitor Council actions and avoid the need to travel to attend meetings. Ongoing.

- Town of Paradise Valley will encourage the use of telecommunications/ teleconferencing/telecommunting in place of the vehicular traveling to the meeting place or place of employment. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity, and November 1993 - Distribution of promotional materials, both individually and in mass. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix maintains an extensive telecommunications system: the Office Automation Support Information System (OASIS). The OASIS network went on line in 1985, originally linking six computers and supporting 78 terminals. By 1993, the system has been expanded to 500 terminals and personal computers in 30 different locations.

  The system has been upgraded to accommodate additional capacity. In 1992, the "Soft-Switch" project was completed to expand the communication network to include IBM and Hewlett-Packard computer users within the City. All users can exchange word processing documents and data files. This allows City employees to share information, and reduces the number of meetings and related travel.

  The City promotes the use of the system through staff training. During 1991-1992, over 970 hours of training and over 200 computer classes were provided to City employees.

  City Council policy meetings are televised on The Phoenix Channel, Channel 11. The City provides computer access to City Council Agendas, meeting notices, and Council Agenda Packets through a Public Agenda Access bulletin board. Citizens with a personal computer and modem can access this bulletin board 24 hours per day, seven days a week.

  In 1990, the City Clerk Department implemented an optical disk-based imaging system for the filing and retrieval of all official records. Citizens can request copies of records by phone and have them faxed to their homes or businesses.

  The City's communication network includes the ability for three-way teleconferencing, as a function of the City's telephone system, to all system users. Five-way teleconferencing is also available through the City operator. AT&T teleconferencing service is available for up to 58 users.

- City of Scottsdale - Refer to Measure 13b.

- City of Tempe - Refer to Measure 13b.

- Maricopa County - Refer to Measure 4.

- Regional Public Transportation Authority - Refer to Measure 13b.

d. Alternative Work Schedules

- City of Chandler implements compressed work week schedules that allow for less days/week of commuting. The City of Chandler encourages the use of compressed work weeks to promote less commute trips to the work place. The goal is to have 33 percent of employees working compressed work week schedules. The trip reduction program employee administers the program. No additional funding is required for this measure.

- City of Glendale will periodically (annually) review and modify its policy on flexible and/or modified work schedules based on usage and impact on service delivery.

- City of Mesa - Refer to Measure 13a.

- Town of Paradise Valley will encourage the use of alternative work schedules, such as a four day week or 9 day - 80 hour plans. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity, and November 1993 - Distribution of promotional materials, both individually and in mass. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 13a.

- City of Scottsdale - Refer to Measure 13a

- City of Tempe - Refer to Measure 13a.

- Maricopa County - Refer to Measure 4.

- Regional Public Transportation Authority facilitates at least one formal training per month with the subject of compressed/alternative work schedules. Invited to these trainings are the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program. On an as needed basis, RPTA does special in-house assistance for individual employers. Special workshops are also made available to the general public through the Regional Ridesharing Program. "How to" manuals with important implementation information for alternative work schedule strategies are available to employers and general public. RPTA staff contacts all employers affected by TRP to offer assistance several times annually. Formal MCTRP trainings will take place no less than an average of three times monthly. On site assistance for individual employers will be provided on an as-needed basis. Portions of nine professional staff and two support staff are allocated for the task of implementing trainings and special assistance for employers affected by the Maricopa County Trip Reduction Ordinance. This measure is funded by portions of the total budget for the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

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

a. Land Use/Development Alternatives

- Town of Gilbert will implement a revised General Plan that will encourage alternative modes of transportation and more efficient development design. The Town of Gilbert Planning Department is responsible for monitoring compliance with the policies of the General Plan. The legal authority is by A.R.S. 9-461.06. The updated General Plan may lead to other measures to be implemented by ordinance. Current design guidelines encourage access to uses by means other than the automobile. The General Plan will be updated by January 1994.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that allow land use patterns which support public and rapid transit. The development policies require fewer but larger shopping centers (12-15 acres in size located at major intersections), in residential areas; identify eight locations in the City for concentrations of commercial and industrial uses and employment; and locate large park-and-ride lots along freeways, expressways, and other major transportation corridors. The implementation of this policy is in large part dependent upon the type of public transportation and/or rapid transit system to be developed in the Phoenix metropolitan area in the future. Ongoing implementation. New developments are regulated by the General Plan. The City's Planning Department and the Development Services Center are responsible for developing and administering development policies. Both departments are funded through the General Fund.

- City of Mesa General Plan contains the following goals, objectives, and policies: Goal A: Promote a balanced transportation system that serves the diverse economic, social, physical, and geographical needs of Mesa's present and future residents. Objectives to meet this Goal: Develop a transportation system that meets the needs of all potential users by providing interrelated multi-modal services and facilities serving major activity centers; encourage the location of higher density, transportation-intensive uses in designated activity centers; fully integrate the various transit modes with the various surface transportation networks to ensure maximum transferability from one transportation mode to the other throughout Mesa.

  The General Plan establishes a variety of long-term use density designations for residential development. These are: Low Density (1-2 du/ac), Medium Density (3-5 du/ac), Medium-High Density (6-10 du/ac), and High Density (10+ du/ac). There are no specified densities for non-residential categories. Mesa does not have significant areas of what would be considered high density development, especially in residential categories. While there are various large apartment or condominium properties in the 15-25 du/ac range, these are fairly widely scattered. Higher density, non-residential areas include the Desert Samaritan Hospital/Mesa Community College area (Dobson and Southern), Fiesta Mall (Southern and Alma School), Superstition Springs Center (Power and Southern), and the Town Center Area (Main and Center).

- City of Phoenix implements general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural byproduct.

  The General Plan encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies. The City's planning and zoning programs will continue to support:

  - Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.
  - Designation of concentrated activity centers (village cores) with emphasis on pedestrian and alternative forms of travel.
  - Linkage of activity centers by transit and bikeways.
  - Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
  - Inclusion of traffic-demand management strategies in projects generating large amounts of traffic.
  - Designation of locations for Park-and-Ride lots and other transit facilities.
  - Development of trail systems Citywide through public and private dedications and financing.

  The Community and Economic Development Department (CEDD) will continue to support projects which encourage pedestrian travel as an alternative to the motor vehicle. CEDD has participated in the implementation of many projects which have enhanced the pedestrian environment.

  In 1992-93, CEDD is participating in implementing new street-scape improvements surrounding Block 21 in Downtown Phoenix. These improvements will include new landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage. CEDD is in the process of developing plans to improve the pedestrian environment along Adams and Monroe Streets in Downtown Phoenix.

- City of Scottsdale will continue to utilize several innovative planning and zoning techniques to encourage alternative modes of transportation. These include: density bonuses available to downtown developers who provide funds or other contributions for special public improvements such as transit facilities; incentives for "Mixed Use" developments that encourage more pedestrian trips with master-planned areas; trails for Bicycle Plans in the Circulation Element of the City's General Plan, identifying the locations for such facilities - the City normally stipulates that developments dedicate easements and construct trails and bicycle paths and trails when it grants zoning approvals; and the Transit Plan in the General Plan includes existing and planned Park-and-Ride lots and proposed transit centers. Developments are reviewed for consistency with this plan and the Transit Plan Guidelines.

- City of Tempe General Plan and Transit Plan, both adopted by the City Council, incorporate policies to promote land use patterns which support alternate modes. Developers along transit corridors have been encouraged or required to provide transit amenities or easements for transit facilities as part of their developments.

  The City is currently conducting a Street Classification Study with participation by various City departments and the public to identify land use relationships to transportation improvements and to define street cross sections and development standards accordingly.

  The City's Community Development Department and the Public Works Department are responsible for preparing and administering development and transportation policies. The Street Classification Study was funded through the City's Transportation budget at a cost of $35,000. Ongoing. New developments are regulated by the General Plan and Zoning Ordinance. The Street Classification Study is scheduled for completion in the fall of 1993.

- Maricopa County indicates that the County-Wide Goals, Policies and Standards are used to evaluate new master plan and rezoning applications. One section of the document encourages new residential developments of one dwelling unit per acre or greater to be situated near existing urbanized areas. Another section encourages multi-modal transportation.

  Maricopa County is a co-sponsor and implements an areawide public awareness program called the Clean Air Campaign which includes a Voluntary No Drive Days Program during the carbon monoxide season. These programs use various media, public events and newsletters to provide information on air pollution and encourage changes in driving behavior. Maricopa County Division of Air Pollution Control forecasts high pollution days and releases notices over the wire services which also request that the use of vehicles be minimized during the high pollution period. In 1993, 87 percent of the marketing study respondents indicated awareness of the campaign and 27 percent indicated that an alternate mode of transportation was used. Approximately 92,674 employees participated in challenge activities.

  Goals, Policies and Standards were adopted by the Maricopa County Board of Supervisors and are in place and operational, used by the Maricopa County Planning and Zoning Commissions, Board of Supervisors and Planning and Development staff to evaluate zoning and master plan applications (A.R.S. § 11-821). Maricopa County, as provided in A.R.S. § 49-506, implements and is a co-sponsor of the voluntary no drive days program and the Clean Air Campaign.

Ongoing since 1987	Clean Air Campaign and Voluntary No Drive Days Program.
May 17, 1993	Goals, Policies and Standards were adopted.

  Maricopa County receives a grant from the Air Quality Fund for this program. Maricopa County subcontracts $527,000 to the Regional Public Transportation Authority to coordinate these programs and provide employer assistance to employers in the Trip Reduction Program. Approximately 1.0 FTE of existing staff time is involved in contract oversight, program development and the forecasting program.

b. Voluntary No Drive Days Program

- City of Glendale will continue to support the Regional Public Transportation Authority and Maricopa County Voluntary No Drive Days Program. The City will continue to use newsletters and/or public service announcements to inform its employees and residents of air quality issues and air pollution programs. Ongoing implementation. The City's Marketing Department is responsible for citizen and employee newsletters. The Marketing Department is funded through the General Fund.

- Maricopa County - Refer to Measure 14a.

- Town of Paradise Valley will conduct a voluntary no drive days program during the carbon monoxide season through employer based public awareness activities. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Planning of the program, and November 1993 - March 1994 - Operate no drive days program through direct contact with employers in the Town. Development of publicity for this project will require staff time equivalent to 0.25 full-time employee, at an approximate cost of $5,000. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- Arizona Department of Transportation is one of six sponsors of the Clean Air Force which includes the Voluntary Don't Drive One in Five Campaign. The Regional Public Transportation Authority conducts the Clean Air Force Program. ADOT funds $30,000 per year to the Clean Air Force.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program and employers not affected by TRP and the general public through the Clean Air Force Campaign and the Regional Ridesharing Program. Special workshops will be held to work closely with the new and existing employers of the MCTRP program. A public and media relations program, an area-wide awareness/advertising campaign and up to four media events will be implemented throughout the year to encourage participation in alternate modes of transportation and alternate work schedules. Employer promotional kits will be developed and provided to the almost 800 employers involved in the TRP up to four times per year. Other promotional materials are also developed and provided to the general public and employers.

  The schedule for planned activities are as follows: a public and media relations program will be ongoing; advertising campaign elements will be placed with the media at various times during the year; up to 10 Clean Air Campaign Workshops will be held in mid-fall; up to four media events will be conducted during the year to increase awareness of alternate modes; and up to four employer promotional kits will be provided to the almost 800 employers involved in the TRP. Two full-time professional staff persons and one support staff are allocated for the task of implementing the Voluntary No Drive Days or Clean Air Force Campaign and the area-wide awareness and marketing programs. The level of annual funding for CAFC and the area-wide awareness programs is approximately $270,000.

c. Areawide Public Awareness Programs

- City of Glendale will continue to support the Regional Public Transportation Authority and Maricopa County public education and awareness programs. The City will continue to use newsletters and public service announcements to inform residents of air quality issues and air pollution programs.

- City of Tolleson will strengthen and increase the public awareness level via a Quarterly Newsletter. City of Tolleson General Fund, approximately $4,000.

- Maricopa County - Refer to Measure 14a.

- Arizona Department of Transportation - Refer to Measure 14a.

- Regional Public Transportation Authority - Refer to Measure 14b.

d. Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts

- Town of Gilbert will implement a revised General Plan amendment process. The Town of Gilbert Planning Department will monitor applications as they are made. Authority for the program is A.R.S. 9-461.06. The evaluation of General Plan amendments, including air quality impacts, will begin July, 1993. Existing personnel, approved for FY 93-94 will be used and there are no other costs associated with the ordinance.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that address adverse air quality impacts. The development policies require a traffic impact analysis in cases concerning proposed changes to the existing planned land use; require fewer but larger shopping centers (12-15 acres in size located at major intersections), in residential areas; identify eight locations in the City for concentrations of commercial and industrial uses and employment; locate large Park-and-Ride lots along freeways, expressways, other major transportation corridor (the implementation of this policy is in large part dependent upon the type of public transportation and/or rapid transit system to be developed in the Phoenix metropolitan area in the future); develop intersections to obtain Level of Service C or better during peak hour traffic periods; require synchronized traffic signalization; and require an integrated multi-use trail and pedestrian access system in master planned residential developments. Ongoing implementation. New developments are regulated under the General Plan. During FY 1992-93, the City adopted the North Valley Specific Area Plan and the Arrowhead Ranch Specific Area Plan. Both plans provide more specific development policies regarding Park-and-Ride lots and pedestrian access for those development projects.

- City of Mesa General Plan outlines the following goals and objectives related to air quality improvements: To assist in achieving significant reductions in the levels of air pollution throughout the region through working with the Maricopa Association

of Governments to reduce the levels of air pollution attributable to the transportation system. Implement, where feasible, the recommendations of the MAG 1987 Carbon Monoxide and Ozone Plan in an effort to reduce the pollutants in the air.

- City of Peoria has a review statement within the Comprehensive Master Plan which states that it is the City of Peoria's policy to reduce any negative impacts caused by the new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality level. This is part of the general review process. The City of Peoria Planning and Zoning Department implements this policy. In accordance with the Peoria Comprehensive Master Plan, under "Goals":

  Objective A-1: Strive to maintain high standards of air quality in Peoria.

  Policy A-1a: The City of Peoria shall utilize transportation system management (TSM) techniques, such as improved public transit, synchronized traffic lighting, and efficient traffic flow and turning movements to minimize automobile-generated air pollution.

  Policy A-1b: The City of Peoria shall encourage land use developments that minimize vehicle trips and trip lengths.

  Policy A-1c: Encourage paving of dirt and gravel roads.

Peoria Comprehensive Master Plan, adopted June, 1987. Plan is ongoing.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale will continue to require traffic studies for all large developments and any major traffic generator. Mitigation is required through zoning and development stipulations. Street widening or new street construction must be consistent with the Street Plan of the General Plan and with the traffic study.

  The City also will continue to require master planned developments to submit a Circulation Master Plan concurrently with the rezoning or prior to Development Review Board review. Circulation master plans identify the street classifications, sidewalks, trails, driveways, median breaks signal, and the timing of improvements. Street improvements must be phased in a timely manner to eliminate any congestion resulting from the development project.

- City of Tempe General Plan and Transit Plan propose long range planning policies which encourage alternate mode use, high density development along transit corridors, and support measures to address congestion mitigation and adverse air quality impacts from development. Traffic impact analysis of local developments is performed at the discretion of the Traffic Engineer. The City's Parking Ordinance allows for a parking demand analysis and credits for alternate mode availability/travel reduction measures.

15. Programs For New Construction and Major Reconstruction of Paths, Tracks, or Areas Solely For the Use by Pedestrian or Other Nonmotorized Means of Transportation When Economically Feasible and in the Public Interest

a. Encouragement of Pedestrian Travel

- Town of Carefree will continue to encourage pedestrian travel through public announcements in the newspaper and Town newsletter. As the trimming of shrubbery and trees progress, the Town will publicize the progress of the maintenance and encourage pedestrian travel. Newspaper publicity will be through normal coverage of Town activities. The 1993-94 newsletter budget is $2,000. Town Council announcements will be documented by the minutes of the meeting. Newspaper articles and copies of newsletters will document publicity.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that encourages pedestrian travel. The development policies require pedestrian walkways between sidewalks, along public streets and developments adjacent to those streets; provide special attention to pedestrian access in downtown Glendale; provide wide sidewalks in the downtown district with shade trees or shade structures, street benches that are designed to accommodate frequent and easy access to store fronts; and require an integrated multi-use trail and pedestrian access system in master planned residential community. Ongoing implementation. New developments are regulated by the General Plan. During FY 1992-93, extensive pedestrian path systems were constructed as part of the Arrowhead Town Center (regional mall); the master plan communities of Hillcrest Ranch and Arrowhead Ranch; and numerous single family subdivision.

- City of Mesa General Plan outlines the following goals and objectives related to pedestrian travel: The City shall provide for the needs of all reasonable modes of travel. The City has an active program to repair existing sidewalks, to implement bicycle lanes, and to install handicap ramps and other pedestrian facilities throughout Mesa. In June 1993, the Mayor established the Ad Hoc Bicycle and Pedestrian Amenities Committee. This Committee is directed to: create a Mesa bike route map and bike route narratives for recommended alternative routes; consider and recommend ways to use canal banks for bike and pedestrian use; study and make recommendations on cross-jurisdictional links of bike and pedestrian routes; identify possible sources of funds to implement recommendations; and study recommendations for future road widening projects to include bike lanes. The Committee is to have a report ready by September 30, 1993.

- City of Peoria agrees to encourage pedestrian travel by incorporating sidewalks and walkways in the Comprehensive Master Plan. Ongoing. Included in Comprehensive Master Plan: 80th Drive, 81st Drive, 82nd Avenue, 82nd Drive, 91st Avenue, Monroe Avenue, 90th Avenue, and Berry Lane for sidewalk construction. Added crosswalks and pedestrian buttons for 75th Avenue and Thunderbird Road. Participated in Clean Air Campaign, Trip Reduction Program and Clean Air Fair.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale - Refer to Measure 9.

- City of Tempe General Plan and Transit Plan contain long range planning and development policies to encourage pedestrian travel. The City's standard details include wide sidewalks, shade trees, shelter canopies and other street furniture such as benches, trash containers, water fountains, and street lights. During FY 1992-93 and 93-94, the City is conducting a street classification study which will identify other pedestrian improvements throughout the city. Ongoing.

- Maricopa County Department of Planning and Development requires the construction of sidewalks in subdivisions where lots contain less than 18,000 square feet. The Maricopa County Department of Planning and Development implements this measure. Legal authority for implementing subdivision regulations is provided in A.R.S. § 11-821. The Regulations were adopted December 10, 1990 and each subdivision reviewed must conform. Ongoing program funded through existing department budget.

- Regional Public Transportation Authority will encourage pedestrian travel. Educational efforts will be targeted at approximately 800 employers with sites affected by the Maricopa County Trip Reduction Program. RPTA will assist in the update of the Regional Pedestrian Plan and co-host more than 450,000 employees and/or students and the general public through the Clean Air Force Campaign. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; information will be distributed through transportation (information) fairs; support of MAG in the development and update of a regional pedestrian plan in 1994; and co-host with MAG, the second Pedestrian Conference in 1994. Portions of nine full-time professional staff persons' time will be allocated for the task of training and special assistance for employers who are encouraging pedestrian travel. This measure is funded by portions of the total budget of the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

b. Pedestrian and Bicycle Overpasses Where Safety Dictates

- City of Glendale has the North Valley Specific Area Plan (adopted in 1989) which designates a pedestrian underpass for Bell Road between 77th and 79th Avenues to encourage pedestrian and bicycle traffic. Ongoing implementation as development occurs. The City's Planning Department and Development Services Center are responsible for developing and administering development policies. Both departments are funded through the General Fund.

- City of Mesa has requested that the Ad Hoc Bicycle and Pedestrian Amenities Committee study the possibility of installing underpasses where canals meet arterial streets to allow for uninterrupted bicycle and pedestrian travel.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale has improved two bike/pedestrian underpasses and will construct an additional four underpasses on the Indian Bend Wash (IBW) multi-use path system through the low-flow channel from Camelback Road to McCormick Parkway, if funding permits. The Transit Division is responsible for planning improvements on the City's multi-use path system. The Capital Projects Management Division is responsible for construction.

  The City's authority to provide transportation facilities is generally spelled out in Sec. 1-3 of the City Charter. In addition, citizens in 1989 approved a bond issue which included $2.4 million to improve and add to the IBW multi-use path system.

  Two underpasses have been improved, and the other four will be built prior to 1995, depending on the availability of funding after improvements to other portions of the path system.

  A total of $2.4 million was included in the 1989 bond issue for improvements to the IBW path system. It is estimated that improvements to two existing underpasses and construction of four additional underpasses will cost about $1 million.

18. Use of Alternative Fuels

a. Alternative Fuels For Fleets

- City of Glendale already has a number of fleet vehicles and 6 Dial-a-Ride buses that have been converted to operate on compressed natural gas (CNG). The City owns and operates a CNG fueling station. The City does not own or operate passenger buses, except for vehicles used for the City's Dial-a-Ride services. Passenger bus service is provided by Phoenix Transit through a contract with the City of Glendale. Ongoing implementation.

  The City will periodically evaluate the need for and benefits of more fleet conversions. The City will also examine whether its CNG fueling facility should be available for use by other governmental agencies.

  The City's Equipment Maintenance Division is responsible for decisions regarding fleet vehicles. The City has budgeted (FY 1993-94) $48,000 to upgrade its CNG fueling station and $320,000 to purchase 4 CNG powered Dial-a-Ride buses. Federal and local funds are used to acquire CNG vehicles and improve CNG facilities.

- City of Mesa, during FY 93-94, will be converting 40 vehicles in the City fleet to operate on CNG. In addition, two CNG fueling facilities will be constructed (one for the general City fleet and one for buses). The CNG fueling facility for the general City fleet should be operating by early 1994. The conversion of the 40 vehicles in the City fleet should be completed by the time the fueling facility begins operation. The new CNG-fueled buses should be operating by late 1994/early 1995 and the fueling facility for the buses will be ready in time for delivery of the buses. The City will periodically evaluate the need for and benefits of more fleet conversions. The City will also examine whether its CNG fueling facilities should

be available for use by other governmental agencies or the public. The FY 93-94 budget contains $127,300 for converting 40 vehicles in the City fleet to CNG and approximately $927,000 has been allocated for the construction of the two CNG fueling facilities.

- City of Phoenix continues to investigate the technical and economic feasibility of the use of various alternative fuels and fuel technologies for fleet vehicles.

Alternative Fuels: In 1993, the Public Works Department operates two electric vehicles, two propane vehicles, and two Compressed Natural Gas (CNG) vehicles. Three additional CNG vehicles and two CNG/diesel solid waste collection trucks have been ordered and are expected to be in service in 1993.

The City continues to investigate cost effective CNG distribution options. In 1993, the CNG fleet vehicles are fueled through agreements with Arizona State University and Southwest Gas Corporation. These agreements are temporary measures until such time as a public fueling site is opened in the area.

The Aviation Department is actively pursuing contract agreements for the conversion of fleet vehicles to CNG. Based on the results of that effort, the Department will work with fuel suppliers to promote the use of CNG by other fleets associated with Sky Harbor Airport.

Particulate Traps: The Public Works Department is conducting a study on the use of particulate traps on heavy duty engines. The Department will retrofit five fleet diesel vehicles with particulate traps in 1993.

Clean Burning Diesel: The Public Works Department converted to Jet A fuel for Public Works diesel vehicles in 1992. Jet A will be replaced in 1993 with new diesel fuel which meets new federal standards for diesel.

Alternative fuels program funding is allocated through the annual budget process. Public Works Department program includes:

1991/92	Electric Van	$32,000
	CNG Conversions - Refuse Trucks	112,000
1992/92	Propane Conversion	2,500
	CNG Pick-Up Trucks (on-order)	15,000
1992/93	Particulate Trap Grant - ADEQ	130,000
	City matching funds	140,00
1992/93	Jet A fuel - added cost/year	47,000

- City of Scottsdale will continue to use compressed natural gas as an alternative fuel for 100 to 120 vehicles, approximately 20 to 25 percent of the licensed City fleet. The City is now in the process of replacing its first generation of CNG conversion

vehicles with new vehicles, and CNG conversion kits must be installed. The City expects to install about 10 CNG conversion kits on new vehicles annually, to keep the proportion of CNG-powered vehicles at the same level.

In addition, the City is now testing an electric-powered van. The van is used for mail and warehouse deliveries on a daily basis.

The City has installed two CNG refueling stations. No further major expenditures on refueling stations are expected in the coming year.

No staff is specifically assigned to this program. The Fleet Maintenance Division handles installation of the CNG kits and maintenance of CNG vehicles as part of its routine maintenance schedule. Annually -- Installation of approximately 10 CNG conversion kits to replace phased-out CNG vehicles.

The cost of conversion kits will be covered as part of the Division's annual operating budget. Kits are approximately $2,200 each and the division expects to spend about $22,000 for 10 of them during the 1993-94 fiscal year. Costs to the City to lease the electric van for the test program are $834 per month.

- Arizona Department of Transportation as mandated by A.R.S. § 49-455, conducted a study of 90 motor vehicles in the ADOT fleet operating in the nonattainment area. This pilot program was to determine how they performed with respect to driveability using clean burning fuels. Three maintenance fueling facilities were converted to dispense ethanol blends, methanol blends and MTBE blends. In addition, other selected vehicles were converted to compressed natural gas and propane. Contracts were made with appropriate vendors for a supply of fuel.

  Beginning in 1987, each vehicle was first tested for three months with unleaded fuel to establish a baseline and then for 3 more months with one of the alternative fuels. Based on this test several findings were determined as follows: no reported cases of vehicle failure, plugged fuel filters, nor fuel hose deterioration occurred; there were no reported increased maintenance costs; there was no indicating in the mileage comparisons that any particular fuel had a significant advantage over the entire range of vehicles; there was no significant difference found in tailpipe emissions for the various fuels, except for Compressed Natural Gas (CNG). However, there were many variables such as vehicle type, use, conditions, and operator characteristics that were not controlled.

c. Conversion of Buses to Alternative Fuels

- City of Glendale will periodically examine the performance, cost and air quality benefits of converting buses to low or non-polluting engine designs and other options as they become available. The City's Transit Department is responsible for decisions regarding the Dial-a-Ride bus fleet. The City has budgeted (FY 1993-94) $48,000 to upgrade its CNG fueling station and $320,000 to purchase 4 CNG powered Dial-a-Ride buses. Federal and local funds are used to acquire CNG vehicles and improve CNG facilities.

- City of Mesa is buying 13 CNG-fueled buses which will be in service in FY 94-95. These new buses will replace 13 older buses which are gasoline-powered. The current bus fleet is not owned by the City, and thus no engine conversions of the existing bus fleet will be made.

- City of Phoenix continues to evaluate the technical and economic feasibility of alternative fuels and clean diesel technologies for buses. In 1993, the Transit Alternative Fuels Program includes the following:

  Electric Bus: The City Council has approved the purchase of one 21-passenger electric bus. The bus is being designed as an all electric bus which includes an all electric air conditioning and heating system.

  Regular 40' Buses: The City has submitted an invitation for bid for up to 43 low floor transit buses. The buses will be powered with diesel engines with particulate traps and will be in compliance with the 1994 EPA emissions requirements.

  CNG Buses: The City bid for 43 new low floor transit buses includes an option for two buses to be powered with dedicated compressed natural gas engines.

  Rebuilt Diesel Engines: Public Transit Department has awarded a contact for the retrofit of 75 regular 40-foot buses with clean burning diesel engines and particulate traps. The rebuilt engines will meet 1994 EPA Urban Bus Heavy-Duty Engine Emission Standards.

  Clean Burning Diesel Fuel: The Public Transit Department has been using Jet A diesel fuel in buses since 1989 because of its cleaner burning characteristic. Jet A will be replaced with fuel which meets 1993 federal diesel standards.

  Opacity Standards: The City also has implemented a stringent maintenance program to ensure emissions below state standards. The average opacity of all buses is less than 10 percent, instead of the state required 20 percent.

  Particulate Traps: Particulate Traps will be included on 43 new buses and 75 engine rebuilds as defined in Measure 1(b) - Short Range Transit Improvements. The Public Transit Department is testing thirteen particulate traps on older type 4-cycle diesel engines and on engines utilizing the newest electronically controlled engine technology.

  The particulate traps have completely eliminated visible smoke for both types of engines. Emission results for the two types of engines are listed below. All engines were operated on Jet A fuel.

Engine	CO	NO_x	HC	PM	PM Reduced
MAN (1)	11.79	43.88	3.17	1.83	
MAN-PT*	12.92	34.05	2.12	0.15	89.98%
DET (2)	17.97	44.61	2.52	2.26	
DET-PT*	17.73	38.86	2.84	0.28	87.62%

(1) MAN model 1985 D2566 MLUM diesel
(2) Detroit Diesel model 6V-92TA diesel.
* Particulate Trap

Electric Bus: The total cost per electric bus is $190,000. Local match provided by Arizona Public Service.

New Buses: The estimated cost for the 43 new buses is $9.9 million with a local match commitment of $2.0 million. It is estimated that the two CNG powered buses will cost an additional $120,000 if CNG is available for the low floor.

Rebuilt Diesel Engines: $5,380,000 total cost for 75 rebuilt engines and particulate traps. Includes a local match of $307,000 to be provided by RPTA.

Clean Diesel Fuel: Jet A will be replaced with diesel fuel which meets new federal standards in 1993.

Opacity Standards: The Public Transit Department program to keep the opacity below the 10 percent level costs approximately $40,000 annually in operating funds.

Particulate Traps: Transit program cost to install and test the thirteen particulate traps is funded with $126,000 from ADEQ and $137,000 City of Phoenix operating funds.

- City of Scottsdale will continue to require its fixed route service provider to burn only CNG while the buses are on City routes. Three buses, on two City routes, now are dual-fueled: CNG and unleaded gasoline. The City will be adding two more buses to expanded/new routes in September 1993. These two additional buses will also be dual-fueled. The addition of two more dual-fueled buses is scheduled for September 1993.

- City of Tempe has required alternative fuel vehicles in several of its operating contracts, including:
  1) buses used to operate bus Route 56 provided by the RPTA
  2) Dial-a-Ride vehicles used to operate the Tempe/Scottsdale Dial-a-Ride
  3) new vehicles under order by the City of Tempe for the planned ASU/Downtown shuttle service.

These requirements total 6 buses and 16 Dial-a-Ride vehicles which operate using dual-fuel compressed natural gas. Four of these vehicles will be owned by the City of Tempe; all other vehicles are private contractor or RPTA-owned.

The City is currently working with the RPTA and Salt River Project to explore the use and availability of an electric bus for use on the ASU/Downtown shuttle in the event of any route expansion.

The City will periodically examine the performance, cost and air quality benefits of electric powered buses. The City has budgeted $700,000 (including 80 percent federal dollars) to purchase the CNG buses for the downtown shuttle.

- Regional Public Transportation Authority's contractor is operating three 1993 Collins CNG (compressed natural gas) 22-passenger buses to provide service in Mesa and Tempe. The City of Scottsdale's contractor is operating three 1992 Collins buses to provide service in Scottsdale. The City of Phoenix has two methanol-fueled buses in service since July 1990. The two buses have accumulated approximately 350,000 miles during that time. Emissions tests reveal that the methanol powered bus engine has the lowest overall emissions when compared to CNG and diesel powered bus engines.

  Future commitments include the RPTA order for nine CNG powered Wide One vans, two Elf CNG minibuses and six low floor minivans. These vehicles should be delivered in September 1993. The City of Tempe is expecting delivery of four Orion II CNG buses in November 1993.

  The Phoenix City Council has approved the purchase of a twenty passenger electric bus. Phoenix has also issued an invitation for bid on behalf of the RPTA, for up to forty-nine low floor transit buses. The buses would be powered with diesel engines with particulate traps which will be in compliance with the 1994 EPA emissions requirements. The bid includes an option for two buses to be powered with a dedicated CNG engine.

  A retrofit program is underway to replace the engines of 75 middle aged buses with clean burning diesel engines and particulate traps that will meet 1994 EPA Urban Bus Heavy-Duty Engine Standards. Sixty-seven of these buses belong to the City of Phoenix and eight are owned by the RPTA. The estimated cost of the electric bus is $190,000 with a local match provided by Arizona Public Service. The 49 regular buses are anticipated to cost $11,270,000 with a local match commitment of $2,250,000. The retrofit of 75 middle aged buses should cost about $5,380,000 with a local match commitment of $307,000.

19. Use of Emission Control Devices on Diesel Powered Vehicles

- City of Peoria Public Works Director will monitor technological changes in the use emission control devices to determine availability of these devices.

- City of Tolleson commits to install particulate traps, or other emission control technologies at the time of major over-hauls providing that the emission control devices are conducive to the model and make of the engine. City of Tolleson Public Works Department. City of Tolleson General Fund.

20. Other Air Quality Control Measures

j. Enforcement of Traffic, Parking, and Air Pollution Regulations

- City of El Mirage will continue to enforce new and existing traffic, parking and air pollution regulations more strictly. This measure is presently in effect and its implementation will be continued by El Mirage Police Department through a policy issued by the City of El Mirage City Council. Legal authority for this action is

provided under Section 9-240 of the Arizona Revised Statutes. The schedule for implementing this enforcement is as follows: August 1, 1993 - Adoption of policy; September 1, 1993 - Police Department given City Council policy on enforcement. Administration of this measure will require staff time equivalent .10 full-time employee, at an approximate cost of $3,600. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced daily by the El Mirage Police Department as part of their daily routine schedule.

- Town of Gilbert indicates that current standards for traffic movement, parking, etc. are strictly enforced by the Engineering and Planning Departments.

- City of Glendale Police Department will continue to enforce traffic and parking regulations. The Police Department is responsible for enforcing traffic and parking violations. The Police Department is funded by the General Fund.

- City of Mesa will continue its parking management/enforcement contract for the Town Center area and will continue to enforce all traffic and parking ordinances. Ongoing.

- Town of Paradise Valley will enforce new and existing traffic and parking regulations more strictly. This measure will be implemented by the Town of Paradise Valley Police Department. Statutory authority for this action is found in Title 28, Chapter 6, and Chapter 11 of the Town Code. The schedule for this measure is immediate and continuing implementation by the Police Department. This action will involve 22 police patrol offices currently employed. This will be accomplished by the adopted Town budget for FY 1994.

- City of Peoria Police Department will review and, if appropriate, revise policies dealing with traffic and parking and will strictly enforce the regulations.

- City of Phoenix will continue to enforce new and existing traffic, parking and air pollution regulations.

- City of Scottsdale will continue to enforce traffic, parking and air pollution regulations as a regular component of the City's overall traffic enforcement program. In Fiscal Year 1993-94, the City will expand by four the number of officers assigned to patrol duty for Fiscal Year 1993-94 in order to improve enforcement of traffic regulations.

- City of Tolleson commits to enforce the traffic, parking, and air pollution regulations via ordinances and policy as established by the City Council.

n. Stage II Vapor Recovery

- City of Glendale installed a Stage II vapor recovery system at its fuel station located at the Field Operations Center in FY 1992-93. The City's Equipment Maintenance Division is responsible for fuel facility decisions and its implementation.

not to use fireplaces and to reduce vehicular travel. In 1993, additional public information materials and public service announcements are being prepared.

December 1992	High pollution advisory which advised not to burn in fireplaces.
June 1993 to November 1993	Prepare additional public awareness information and public service announcements.
November 1993 to February 1994	High carbon monoxide pollution season advisory program.

An estimated annual commitment of 0.2 FTE from existing staff for the ongoing forecasting program. Maricopa County will spend up to $10,000 from the FY 93-94 budget on the fireplace informational materials.

TRACKING PLAN IMPLEMENTATION

The Maricopa County Bureau of Air Pollution Control determines reasonable further progress and reviews the implementation status of the various measures contained in the air quality plans on an annual basis. In order to accurately monitor or track plan implementation, the Maricopa County Bureau of Air Pollution Control will be requesting that the implementing agencies and jurisdictions complete the annual progress report contained in Table 8-1. The Bureau of Air Pollution Control will then review and summarize this information, prepare an implementation status report, and then present the report to the MAG Air Quality Policy Committee. The Maricopa County Bureau of Air Pollution Control will also continue to have the responsibility for conducting ambient air quality monitoring.

Supplemental to the tracking efforts of the Maricopa County Bureau of Air Pollution Control, the Maricopa Association of Governments publishes regional traffic flow maps every two years and calculates regional vehicle miles of travel from these flow maps. MAG also conducts a vehicle occupancy study each year, publishes a monthly traffic count stations report each year, and performs special traffic volume and speed studies as needed. Phoenix Public Transit continuously monitors transit ridership and summarizes daily ridership for each month. The Regional Public Transportation Authority will also be collecting transit and carpooling ridership information. The Arizona Department of Environmental Quality continuously monitors the number of vehicles inspected in the Vehicle Inspection Maintenance Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.

As indicated in the Contingency Plan, the MAG Air Quality Policy Committee will review progress made to improve air quality on an annual basis. If necessary, the Committee will consider strengthening existing measures and adding other measures.

TABLE 8-1

MAG 1993 CARBON MONOXIDE [OZONE] PLAN
ANNUAL PROGRESS REPORT FOR CALENDAR YEAR 1993

Control Measure _____

City/Agency _____

Contact Person _____ Title: _____ Phone No. _____

1) Describe legal commitment (include: adoption by city council/governing body, date of adoption, form of adoption, i.e. ordinance, resolution, budgetary commitment, etc).

2) Describe funding commitment (include total dollar amount allocated for this strategy, total dollar amount spent during this calendar year; identify funding source).

3) Describe the progress achieved on this control measure:

A. Prior to 1993 (see attachment "A")

B. During calendar year 1993 (see attachment "A").

SAMPLE

INSTRUCTIONS FOR DESCRIBING "PROGRESS" IN QUESTION #3

Information from the annual progress report will be summarized to measure the progress achieved on each control measure. To accomplish this, it is important the response in question #3 include uniform reporting units (e.g. miles or reversible lanes, number of spaces in park and ride lots). The specific reporting units for each strategy are listed below.

Part A of question #3 asks for a description of the progress achieved before January 1, 1993. For instance, the existing number of bus pullouts in curbs for passenger loading, or the existing miles of bike paths in place before 1991. Part B emphasizes progress achieved in calendar year 1993. The response in both A & B shall be quantified using the reporting units for that strategy.

LIST OF REPORTING UNITS FOR DESCRIBING PROGRESS ON MAG STRATEGIES

Control Measure	Reporting Unit
Computerization and synchronization of traffic signals	Number of intersections
Reversible lanes on arterials	Number of miles
Park and ride lots Number of lots and	Number of parking spaces
Preferential parking for carpools and vanpools	Number of parking spaces

etc.....

ASSURANCES THAT THE STATE HAS THE AUTHORITY TO IMPLEMENT THE MEASURES IN THE PLAN

In order to comply with Section 110(a)(2)(E) of the Clean Air Act, a State law was passed in 1992 which provides an approach for assurances that State and local committed measures will be adequately implemented (A.R.S. § 49-406 I. and J.). If any person (includes State, County, local governments, regional agencies, and other entities) fails to implement a committed measure, the County would file an action in Superior Court to have the court order that the measure be implemented. Likewise, the Director of the Arizona Department of Environmental Quality will backstop the County if it fails to implement a committed measure or if the County fails to backstop the local governments and regional agencies (see Appendix C, Exhibit 10).

Regarding committed measures, A.R.S. § 49-406 G. (passed by the Legislature in 1992) requires that each agency that commits to implement any control measure contained in the State Implementation Plan must describe the commitment in a resolution. The resolution must be adopted by the appropriate governing body of the agency. State law also requires the entity to specify the following information in the resolution: (1) its authority for implementing the limitation or measure as provided in statute, ordinance or rule; (2) A program for the enforcement of the limitation or measure; and (3) the level of personnel and funding allocated to the implementation of the measure.

As noted in the MAG regional air quality plans, the action taken by the MAG Regional Council to approve the Suggested Measures and Adopted Plan Measures does not commit each jurisdiction to implement those measures. As indicated in the resolutions and commitments, each jurisdiction determines which measures are reasonably available for implementation by that jurisdiction.

APPENDIX E, Exhibit 2:

MAG 1993 Carbon Monoxide Plan for the Maricopa County Area, Chapter Nine: Demonstration of Attainment Status.

CHAPTER NINE

DEMONSTRATION OF ATTAINMENT STATUS

The estimated emission reduction needed for attainment of the carbon monoxide standard of 9.0 parts per million has been estimated to be 22 percent in 1995 and 17 percent in 2005. These reduction targets are estimates of the emission reductions needed in the year noted to achieve attainment. These figures represent the base case conditions, assuming no new measures are implemented to improve air quality.

While the target emission reduction estimates do not include new measures, they are reflective of existing measures to improve air quality. Specifically, the following measures were included at their current program or legislated levels:

- Federal Motor Vehicle Control Program.
- Arizona Oxygenated Fuels Program and Volatility Requirements.
- Arizona Vehicle Inspection Maintenance Program.
- Countywide Travel Reduction Ordinance.
- Highway transportation network improvements identified in the draft FY 1994-98 MAG Transportation Improvement Program plus facilities proposed to be built by 2005 given current projections of existing sources of revenue.

In addition, there are other ongoing programs that help reduce carbon monoxide emissions such as ridesharing, alternative work hours and short range transit improvements. Such ongoing programs are discussed in Chapter Seven and their effect is reflected in base year data. This means that emission reduction credit can be taken only for activities over and above ongoing measures.

ESTIMATED IMPACTS OF CONTROL MEASURE COMMITMENTS

A broad range of commitments to implement air quality control measures were received. These commitments are contained in Chapter Eleven and discussed in detail in Chapters Seven and Eight. Appendix C, Exhibits 3 and 4, describe in further detail implementation of control measures. It is important to note that a major part of the effort by local governments in the MAG area is related to maintaining ongoing programs. Such programs fall primarily in the group of measures know as transportation control measures (TCMs). TCMs include strategies such as traffic operations and signalization, public transit, ridesharing, parking management and trip reduction ordinances.

Ongoing Transportation Control Measures

In approving the 1987 MAG Carbon Monoxide Plan and its 1988 Addendum, the U.S. Environmental Protection Agency allowed a total quantifiable emissions reduction credit for transportation control measures of 3.6 percent for 1991. Maintaining this level of reduction on an ongoing basis requires a continuing commitment of resources which is discussed in Chapter Seven.

According to a nationwide survey of metropolitan planning organizations in ozone and carbon monoxide nonattainment areas conducted by the U.S. General Accounting Office (GAO), transportation planners generally expect TCMs to reduce emission by less than 3 percent (See Appendix C, Exhibit 2). Eighty-three percent of the ozone nonattainment metropolitan planning organizations expressing an opinion said that TCMs could reduce emission by 0 to 3 percent. Eighty percent of carbon monoxide nonattainment metropolitan planning organizations expressing an opinion expected reductions in emissions of 0 to 3 percent. The GAO study also indicates that a 1992 Federal Highway Administration report concluded that TCMs in most cases would not yield more that a 2 percent reduction.

Emissions Impacts of Commitments

Commitments are creditable to the target reduction in emissions only to the extent that activities are above ongoing program levels. On this basis, commitments were reviewed to identify increases in program activity that would warrant quantifiable credit for emission reductions. The results of this review are described below. It should be recognized that MAG member jurisdictions and other implementing agencies submitted a broad range of commitments beyond those taken directly into account in the determination of attainment status. These commitments address a variety of strategies and will result in lower emissions. However, in many cases the impacts of these measures are not readily quantifiable, and no credit was taken for the associated emissions reductions. Nevertheless, they clearly represent additional efforts by MAG members to reduce emissions and improve air quality.

1(b). Expansion of Public Transportation Systems

A review of the commitments indicated that the following service additions were over and above ongoing service levels and would warrant consideration for emissions reduction credit.

- The City of Tempe anticipates an additional 37,000 bus miles of service in FY 1993-94 with an ASU/Downtown Tempe circulator route.
- City of Chandler implemented 105,862 annual miles of new bus service connecting with the regional, transit system by October 1, 1992.
- City of Mesa will increase annual bus miles of service form 452,000 to nearly 1.1 million bus-miles in FY 1994-95.
- The City of Phoenix implemented a significant route restructuring on March 1, 1993.
- City of Scottsdale will increase annual bus-miles of service from approximately 470,000 to 670,000 in FY 1993-94.

These increases in service represent approximately a seven percent addition to base service levels. The scenario modeled for 1995 assumed about a 30 percent increase and resulted in a .11 percent decrease in carbon monoxide emissions. On this basis commitments for this measure would yield approximately a .03 percent carbon monoxide reduction in 1995.

2(c). High Occupancy Vehicle Ramps Which By-Pass Freeway Ramp Meter Signals

The Arizona Department of Transportation has indicated that current construction projects will incorporate nine additional high occupancy vehicle ramps. This same scenario was modeled for 1995 and resulted in a .02 percent reduction in carbon monoxide.

5(c). Coordinate Traffic Signal Systems

Under this measure the following additional signal coordination efforts were identified:

- The City of Chandler will implement a traffic signal intertie system on Ray Road from Dobson Road to 56th Street and on Alma School Road from Pecos Road to Chandler Heights Road. (Assumed to primarily affect major cross-streets, including 11 signals)

- The City of Scottsdale will incorporate 15 additional traffic signals into a system coordinated by a central computer in 1994.

- The City of Tolleson will synchronize the five traffic signal systems currently within jurisdiction.

A scenario modeled for this measure calling for signal coordination at 55 locations resulted in a .07 percent reduction in carbon monoxide emission. On this basis the commitments for this measure would result in an estimated .04 percent reduction in carbon monoxide.

5(g). Freeway Incident Detection and Response Management with Motorist Information Systems

In the existing Interstate 17/Interstate 10 corridor, the Arizona Department of Transportation has programmed funds over the next five years for the installation of an extensive freeway management system (FMS) which includes a control center, detector loops, call boxes, TV cameras, variable message signs, intersection controllers, and ramp meters. By 1994, 29 miles of the FMS will be complete.

An analysis of the effect of freeway incident detection and response management on 75 miles of system estimated there would be a .20 percent reduction in carbon monoxide emission in 1995 (Source: Feasibility and Cost Effectiveness Study of New Air Pollution Control Measures Pertaining to Mobile Sources, Sierra Research, Inc, June 1993). On this basis the commitment for this measure would result in an estimated .08 percent reduction in carbon monoxide.

COMBINED IMPACT OF COMMITTED MEASURES

The combined impact of air quality control measures is ultimately assessed through application of the full modeling chain to the package of committed measures. This process provides a projection of pollutant concentration levels in the target year to determine if the committed package is sufficient to achieve the required air quality standard.

Since the additional commitments reviewed above have been estimated to produce a small effect, a full scale modeling of a package of committed measures was not conducted. By simply adding the estimated emission reductions, a reasonable expectation of the combined impact of the measures can be developed. Using this procedure a total reduction in carbon monoxide emissions of approximately 0.2 percent is anticipated to be achieved in 1995 from the implementation of the quantifiable commitments.

ATTAINMENT STATUS

Data from the regional monitoring network indicate that the Maricopa Nonattainment Area is currently in violation of the National Ambient Air Quality Standard for carbon monoxide of 9 ppm. However, both the frequency of exceedance days and the magnitude of observed CO concentrations have decreased since the early 1970s. This is likely due in large part to the implementation of various transportation and air quality control measures, including improved vehicle technology, inspection/maintenance programs and the wintertime oxygenated fuels program.

Air Quality Trends

As discussed in Chapter Three, any day on which an exceedance is recorded at one or more monitoring stations is considered an exceedance day. Multiple exceedances recorded at more than one station on the same day count as a single exceedance day.

The data for the region show four exceedance days in 1992. Nineteen exceedance days were recorded in 1988, and 54 in 1975. This represents decreases of 79 percent and 92 percent in the annual number of exceedance days relative to these two years. There was also a marked decline in exceedance days form 1989 to 1990, with 22 exceedance days in the former year and 4 in the latter.

The concentration data collected at individual monitors also provide an indication of the progress toward attainment status made by the MAG region. Historically, the Central Phoenix monitoring station has recorded the highest carbon monoxide concentrations of all neighborhood-scale monitoring sites. In 1988, the maximum recorded carbon monoxide concentration at the Central Phoenix site was 11.0 ppm. The last recorded exceedance at this site was a 9.5 ppm reading on December 12, 1990. In 1992, the highest recorded carbon monoxide concentration at the Central Phoenix station was 8.7 ppm; this represents a 21 percent decrease in maximum observed concentration compared to 1988. The number of exceedance days at the Central Phoenix monitoring station has also decreased from 54 in 1975 to zero in 1992.

In addition to examining data from the neighborhood scale monitors, it is also important to consider the data collected by the two microscale monitors. In 1981, the West Indian School Road microscale monitor was established near the intersection of 35th Avenue, Grand Avenue, and Indican School Road. This station recorded 69 exceedance days in its first year of operation. The number of observed exceedance days a the site decreased steadily in subsequent years, to the point where three exceedance days were recorded in 1991 and only one in 1992. Over this same period, the annual maximum concentration at the West Indian School Road monitor decreased over 50 percent, from 20.3 ppm in 1981 to 10.1 ppm in 1992.

Because only a single exceedance day was recorded a the West Indian School Road monitor in 1992, the NAAQS for carbon monoxide was not violated at this site. However, because three exceedance days were recorded a the 27th Avenue/Grand/Thomas Road microscale site during the same year, the Maricopa County Nonattainment Area remained in violation of the carbon monoxide standard for 1992. The Thomas microscale monitor was established by the Arizona Department of Environmental Quality in 1991 and operates in close proximity to the intersection of 27th Avenue, Grand Avenue, and Thomas Road. During its first year of operation, it recorded only one exceedance day, a reading of 11.0 ppm on December 6, 1991

Projected Attainment Status

Air quality modeling was performed to relate CO emissions to ambient CO concentrations in the nonattainment area. A December 1992 CO episode was simulated on an urban scale to account for the regional patterns of CO emissions and meteorological transport. Microscale modeling was also conducted to assess the impacts of vehicular emissions at two roadway intersection "hotspots". The results of the models were combined to determine whether existing control programs are likely to result in attainment of the CO standard in 1995, and whether additional controls are necessary to maintain the standard through 2005.

Peak 8-hour average concentrations for each base and future year set as simulations were tabulated. Both 1995 and 2005 base case simulations yielded 8-hour average CO concentration greater than 9 ppm in the modeling domain. A summary of the base case results is provided below. These reduction targets are estimates of the emission reductions needed in the year noted to achieve attainment. These figures represent the base case conditions, assuming no new measures are implemented to improve air quality.

Year	Estimated Emission Reduction for Attainment
1992	27%
1995	22%
2005	17%

The combined impact of commitments to implement control measures was previously estimated to represent approximately a 0.2 percent reduction in carbon monoxide emissions in 1995. In view of the estimated emission reduction requirements listed above, these commitments will not result in attainment of the carbon monoxide standard by December 1995.

As indicated in Chapter 7, the State of Arizona has been suggested as the implementing entity for a number of control measures on the MAG suggested List of Measures. The Arizona Legislature ended its most recent regular session in April 1993, and will reconvene in January 1994. In order to obtain any new air quality legislation prior to Legislative Oversight Committee on Air Quality on September 15, 1993 forwarded specific recommendations to the full Legislature for consideration in a potential special session (see Appendix C, Exhibit 6).

APPENDIX F

MAG 1993 CARBON MONOXIDE PLAN ADDENDUM
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

CHAPTER TWO

DESCRIPTION OF MEASURES IN H.B. 2001

A description of the air quality measures in H.B. 2001 is provided below. The first group of measures includes those measures which will be used for numeric credit. The modeling approach for the measures is also provided. The second group of measures includes additional measures in the legislation which are also designed to improve air quality but are not used for numeric credit. It was not possible to quantify these measures due to lack of available information regarding the measure or lack of methodology for quantification. House Bill 2001 and the Legislative Summary are included in Exhibits 1 and 2 in the Appendix.

I. Measures in H.B. 2001 Used for Numeric Credit

1. Transit Improvements

For transit improvements, H.B. 2001 establishes two new funding sources. The first funding source is a new multistate lottery game. A maximum of $18 million per year will be deposited into the statewide Local Transportation Assistance Fund (LTAF). The proceeds from the multistate game are allocated according to the proportion of ticket sales in each county. The monies are further distributed within each county to the county and cities based upon population. For the Maricopa County area, the bill requires that the share for the county be given to the Regional Public Transportation Authority for public transportation operating and related capital purposes. If the Lottery Director determines that lottery monies available to the general fund may not equal $45 million in a fiscal year, deposits to the LTAF from the multistate lottery game will be suspended until the general fund receives $45 million. The effective date of these provisions is July 1, 1994 (Bill Sections 2, 9, and 10).

The second new funding source for transit improvements is a one time appropriation of $6 million from the State Underground Storage Tank (UST) Revolving Fund. The bill requires that the $6 million UST appropriation be repaid in installments of no more than $2 million annually from the lottery funds, when the lottery revenues provided to the Maricopa County area exceed $2 million annually (Bill Sections 43 and 44).

Modeling Approach:

It was assumed that the Maricopa region would stand to receive 60 percent of the maximum $18 million allowed statewide per year, or approximately $10.8 million per year, from and after June 30, 1994. Out of this amount, $2 million would be repaid to the Underground Storage Tank Fund, leaving net funding of $8.8 million available annually for transit service. For modeling purposes, service levels were considered to be proportional to the amount of transit funding available. Compared to the existing outlay of approximately $60 million annually, an increase of $8.8 million would equal approximately a 15 percent increase in funding. Also,

commitments for expansion of public transit services were received by MAG from a number of cities in July 1993. A review of the commitments indicated that the service additions would represent approximately a seven percent addition to base service levels.

The combined impact of H.B. 2001 plus the local commitments for 1995/96 were estimated to result in a 0.1 percent reduction in daily regional Vehicle Miles of Travel (VMT). For 2005, a reduction of 0.075 percent was estimated. These reductions in daily VMT through transit would not occur throughout the 24-hour day, but only during hours of transit operation. Therefore, hourly VMT reduction during these hours was estimated based on the MAG 1988/1989 Household Travel Survey. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.11	0.12

2. Traffic Signal Coordination

In consultation with the metropolitan planning organization, H.B. 2001 requires that Maricopa County and the cities and towns in the vehicle emissions control area (Maricopa nonattainment area) synchronize traffic control signals on all roadways, within and across jurisdictional boundaries, which have a traffic flow exceeding 15,000 motor vehicles per day. The synchronization is required to be completed by September 30, 1994 (Bill Sections 3 and 24).

Modeling Approach:

In order to assess the effect of this measure, the emission reduction at a typical intersection due to improved signal coordination was determined for carbon monoxide and hydrocarbons. Intersections along jurisdictional boundaries on roadways exceeding 15,000 vehicles per day were reviewed including freeway interfaces with arterials. Generalized locations for intersections and freeway interchanges where signals could be better coordinated resulting in improved traffic flow were identified. In addition, based on commitments received from local governments, generalized intersection locations where additional signal synchronization would likely be applied were identified. These locations were correlated to air quality analysis cells for the carbon monoxide and ozone modeling areas and the estimated emission reductions were deducted. Cell locations remained the same for 1995/96 and 2005. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.08	0.05

3. Strengthened Trip Reduction Program (Ordinance)

House Bill 2001 requires Maricopa County to adopt and enforce a strengthened Travel Reduction Program Ordinance by May 31, 1994. The strengthened ordinance will apply to all employers with 50 or more employees at a worksite throughout the Maricopa County area. The annual goals are increased from a five percent to a ten percent reduction in employee single occupant vehicle trips or commuter vehicle miles of travel. The ordinance will contain annual goals for five years. The Travel Reduction Plan submitted by employers is required to include a telecommuting program for at least five percent of the employees at least one day each week (Bill Sections 24, 36 and 37).

While the new Maricopa County Travel Reduction Program Ordinance will apply throughout Maricopa County, H.B. 2001 requires that the cities and towns in Area A (Maricopa nonattainment area) also adopt and enforce travel reduction ordinances consistent with the County ordinance. The ordinances must be adopted by May 31, 1994 (Bill Section 3).

Modeling Approach:

With regard to the Maricopa County Trip Reduction Ordinance, main impacts of H.B. 2001 will be the increased trip reduction goals and the lowered site size applicability criterion. The mandatory telecommuting element will serve to enhance achievement of the higher goals. It is assumed that adoption of municipal trip reduction ordinances consistent with the Maricopa County ordinance will have no quantifiable impact because the county ordinance already affects municipal employees. The Maricopa County Travel Reduction Ordinance also applies within the county and within incorporated cities and towns in the county. Achievement of annual trip reduction goals will also be aided through a previous legislative provision allowing trip reduction credit for alternative vehicle use. The trip reduction impacts for each given size class of employer work sites were estimated. The Maricopa County Trip Reduction Ordinance, as strengthened by provisions of H.B. 2001, is expected to reduce regional Vehicle Miles of Travel by 2.9 percent in December 1995, by 3.0 percent by the 1996 summer ozone season and 3.4 percent by 2005. These daily reductions were converted to equivalent hourly trip reduction factors for modeling purposes. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	1.46	1.91

4. Alternative Fuels for Local Government Fleets and Buses

For this measure, H.B. 2001 requires Maricopa County and the cities, towns and school districts with an average daily membership greater than 3,000 within the county to develop and implement a vehicle fleet plan designed to encourage and progressively increase the use of alternative fuels in vehicles owned by the jurisdiction. The alternative fuels include liquified petroleum gas, natural gas, hydrogen, alcohol fuels that contain not less than 85 percent alcohol by volume, electricity, and solar energy. The plan must contain a timetable for increasing the use of alternative fuels in fleet vehicles through purchase or conversion. The timetable is required to reflect the following schedule and percentage of vehicles which operate on alternative fuels:

a. Not less than 10 percent of the total fleet by December 31, 1994.

b. Not less than 25 percent of the total fleet by December 31, 1996.

c. Not less than 50 percent of the total fleet by December 31, 1998.

d. Not less than 75 percent of the total fleet by December 31, 2000 and each year thereafter.

These requirements may be waived if the cost differential when compared to traditional gasoline or diesel fuel use is greater than 10 percent. The costs include the equipment or refueling facilities necessary to operate the vehicles on alternative fuels over the expected useful life of the equipment or facilities supplied (Bill Sections 3, 5, and 12).

To assist the school districts with compliance, the bill requires the Arizona Department of Administration (DOA) to distribute a $2.9 million appropriation from the Oil Overcharge Fund in FY 1993-1994 for the conversion of school vehicles to alternative fuels. Interested school districts in Area A (Maricopa nonattainment area) are required to submit a plan to the DOA for converting nondiesel power vehicles to alternative fuels. The school districts are required to complete the conversions by September 1, 1994 and submit a report on implementation to the DOA by September 15, 1994 (Bill Sections 41 and 42).

To further enhance the implementation of this measure, H.B. 2001 requires a state agency or political subdivision that operates a clean burning alternative fuel refueling station to permit other state agencies and political subdivisions to refuel their alternative fuel vehicles at these refueling stations. This requirement is contained in Section 35 of the bill.

For buses, the vehicle fleet plan of the city, town, or Regional Public Transportation Planning Agency is required to include provisions for the use of alternative fuels in buses, except that all newly purchased buses must be alternative fuel vehicles. The bus fleet timetable is the same as for local government fleet vehicles. The requirements for buses may be waived if the cost differential when compared to traditional fuel use is greater than 20 percent (Bill Section 3).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were used because there is already some CNG use in the region. It was estimated that for 1995/96 the county, cities, towns and school districts would operate approximately 11,900 cars and trucks, and 1,330 school buses. Based on a review of the size distribution of local fleets, it was assumed that the ten percent of total fleet vehicles accounted for by the smallest fleets would be excused from the requirement based on cost exemptions. Also, it was indicated by transit officials that the cost exemption is likely to preclude conversion of transit buses. This would leave approximately 10,700 cars and trucks and 1,200 school buses of the fleet affected by the law. Ten percent of the affected public fleet vehicles would need to use alternative fuels by the end of 1994. By the end of 1996, 25 percent alternative fuel vehicles would be required. By straight-line interpolation, it was assumed that 17.5 percent vehicles would be converted by December 1995 and summer 1996. By 2005, the higher fleet composition of 75 percent would be in effect. It was assumed that the number of fleet vehicles will increase proportionally to regional population growth. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.15	0.57

5. Alternative Fuels for State and Federal Fleets

House Bill 2001 requires the Arizona Department of Administration and the Energy Office of the Arizona Department of Commerce to develop and implement a vehicle fleet plan to reduce fuel consumption and to encourage and progressively increase the use of alternative fuels in state owned vehicles. The alternative fuels include liquified petroleum gas, natural gas, hydrogen, alcohol fuels that contain not less than 85 percent alcohol by volume, electricity, and solar energy. The timetable for the plan is required to reflect the following schedule and percentage of vehicles which operate on alternative fuels:

a. Not less than 10 percent of the total fleet by December 31, 1994.

b. Not less than 40 percent of the total fleet by December 31, 1995.

c. Not less than 90 percent of the total fleet operating in Maricopa County by December 31, 1997 (Bill Section 12).

In order to assist the State with compliance, H.B. 2001 contains an appropriation of $2 million to be used for the conversion of the Arizona Department of Administration's vehicles to alternative fuels. Priority must be given to convert state vehicles in the Maricopa nonattainment area. The Arizona Department of Administration is also required to submit a status report to the President of the Senate and the Speaker of the House by March 1, 1994 (Bill Sections 42 and 48).

H.B. 2001 also requires a state agency or political subdivision that operates a clean burning alternative fuel refueling station to permit other state agencies and political subdivisions to refuel at these stations, to the extent feasible. This is contained in Bill Section 35.

For federal vehicles, the bill requires the operator of a federal government owned vehicle fleet in the state to develop and implement a vehicle fleet plan to encourage and progressively increase the use of alternative fuels in federal government vehicles. The timetable for purchase or conversion is the same as for the state vehicle fleet (Bill Section 35).

For both state and federal vehicle fleets, these requirements may be waived if the cost differential when compared to traditional gasoline or diesel fuel use is greater than 30 percent. The costs include the equipment or refueling facilities necessary to operate the vehicles on alternative fuels over the useful life of the equipment or facilities supplied (Bill Sections 12 and 35).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were use because there is already some CNG use in the region. It was estimated that existing State and federal fleets total approximately 2,700 vehicles in 1995/96 and 40 percent would be CNG vehicles by 12/31/95 as required in H.B. 2001. By 2005, the higher fleet composition of 75 percent was assumed to be in effect. It was assumed that the number of fleet vehicles will increase proportionally to regional population growth. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.06	0.18

6. Tax Deductions for Alternative Fueled Vehicles

Individual and corporate state income tax deductions are provided in H.B. 2001 to further promote the purchase or conversion of vehicles to alternative fuels. The tax incentives apply beginning with taxable years from and after December 31, 1993. The alternative fuels include liquified petroleum gas, compressed or liquified gas, hydrogen, electricity, solar energy, and alcohol fuels that contain at least 85 percent alcohol by volume.

The maximum individual income tax deduction of 25 percent of the price for purchasing a new alternative fuel vehicle in this state is increased from $5,000 to $10,000 over a three year period and from $3,000 to $5,000 over a three year period for each vehicle conversion to alternative fuel. Limited partnership and sole proprietorship business operations are now included in this program.

The bill allows corporations an income tax deduction of 25 percent of the price of purchasing a new alternative fuel vehicle in this state with a maximum of $5,000 over a three year period. An income tax deduction of $3,000 is also allowed for each vehicle conversion to alternative fuel over a three year period. The refueling equipment deduction is $5,000 over a three year period (Bill Section 18).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were used because there is already some CNG use in the region. Also, due to refueling logistics and economies of scale, alternative fuel use would be technically and economically feasible primarily for corporations, rather than for private individuals. It was estimated that for 1995/96 there would be approximately 135,000 non-governmental fleet vehicles in the MAG region and that there would be a changeover to alternative fuels by 10 percent, which is consistent with targets set for local government fleets. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.74	1.00

7. Reduced Gasoline Volatility

House Bill 2001 reduces the maximum winter vapor pressure of gasoline fuel sold in Maricopa County from 10 to 9 pounds per square inch beginning October 1, 1994 through March 31, 1994. This requirement will be in effect from October through March 31 of each year thereafter (Bill Section 13).

Modeling Approach:

This measure was modeled through a reduction of winter gasoline volatility or Reid Vapor Pressure (RVP) from 10.0 psi to 9.0 psi. In addition, since the effect of eliminating the RVP waiver for ethanol blends was not included in the future year base cases when they were modeled, it is included in this measure. Therefore, the measure was modeled by changing the RVP in the MOBILE5a input file from 10.0 to 9.0, and by changing the RVP waiver flag. For the summer ozone period, RVP was reduced to 7.0 psi. The base case market shares for MTBE and ethanol blends were assumed to be unaffected by this measure.

The change in RVP was determined to have no effect on the CO non-road inventory. For the non-road hydrocarbon inventory, the lowering of the RVP during the summer ozone season resulted in a reduction which was incorporated into the emission inventory. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	5.92	7.80

Increased Oxygen Content of Ethanol Blends

The oxygen content of all winter gasoline ethanol blends sold in Maricopa County is increased from 7.3 to 10 percent ethanol by volume. The bill also specifies that unleaded gasoline - ethanol blends will not contain more than the maximum percentage of oxygen allowed by EPA fuel waiver provisions. The increased oxygen content provisions begin October 1, 1994 through March 31, 1994. This requirement will be in effect from October 1 through March 31 of each year thereafter (Bill Sections 14 and 15).

Modeling Approach:

The effects of this measure on the on-road mobile inventory were modeled simply as a change in the oxygen content for winter ethanol blends in the MOBILE5a input file. The measure does not apply to the summer ozone period. The base-case market shares for MTBE and ethanol blends were assumed to be unaffected by this measure. The effects of the increased oxygen content on non-road emissions were modeled by determining the change in emissions for non-catalyst motor vehicles using MOBILE5a. For the non-road carbon monoxide inventory, this resulted in a four percent reduction of the non-road inventory. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	5.86	5.92

9. Enhanced Vehicle Emissions Inspection Maintenance Program (I/M)

The Vehicle Emissions Inspection Maintenance Program was significantly enhanced and strengthened by H.B. 2001. The bill establishes a biennial, transient loaded (I/M 240) emissions test for gasoline powered vehicles model year 1981 or newer with a gross vehicle weight of up to 8,500 pounds, beginning January 1, 1995. A purge and pressure check will also be performed on these vehicles and the current tampering check will be eliminated for these vehicles. The I/M 240 test will also have a fast pass component. The fee for the I/M 240 test will be paid annually at the time of registration. The current $10 emissions inspection fee limit is an annual fee.

Gasoline powered vehicles model years 1967-1974 are required to pass a loaded test in addition to the current I/M test requirements. A motorcycle or constant four-wheel drive vehicle is required to take and pass an idle emissions test.

A snap idle test for diesel powered vehicles cannot be required until January 1, 1995. The rules for snap idle testing cannot be more stringent than the EPA rules for snap idle tests.

Vehicle fleet operators are required to comply with the new emission inspection requirements except that new and used vehicles sold by a licensed motor vehicle dealer must comply only with the curb idle test. Fleet operators are allowed to contract for emissions testing.

The bill provides an exemption from the vehicle emissions testing requirement for new vehicles that are sold by a motor vehicle dealer which are due for registration during the year the vehicle was manufactured. The exemption also applies to vehicles which are due for registration within one year after the year the vehicle was manufactured.

To enhance compliance, H.B. 2001 increases the civil penalty from $50 to $100 for commuters who reside outside the nonattainment area or college students attending school in the nonattainment area who fail to comply with the I/M test requirements. This penalty increase applies only to first-time violations.

The Arizona Department of Environmental Quality is required to establish a Vehicle Repair Loan Program for qualified applicants (food stamp recipients) who fail an emissions test. The qualified owner must pay up to 50 percent of the threshold repair limit and the State will pay the rest. To further assist those who fail the test, each emissions station must employ at least one mechanic to provide technical advice and assistance to the motorists. A special performance audit by a Committee of Reference is required for the Vehicle Repair Loan Program after the program has been in effect for two years (Bill Sections 26, 31, 46, and 47).

As specified in the bill, the Emissions Inspection Fund is established in the State Treasury to finance the costs to the State for administering the Vehicle Emissions Inspection Maintenance Program services performed by the independent contractor, including inspection station auditing, contractor training and certification, and motorist assistance; enforcement of fleet emissions inspections, exemptions, and certificates of waiver; payment of contractual services to independent contractors; funding of the state's portion of the Catalytic Converter Program costs; funding of the Vehicle Repair Grant Program costs; funding costs in excess of $10 per year for the transient loaded emissions test; and other costs of administering and enforcing the program (Bill Section 29).

Monies collected from the State Underground Storage Tank (UST) Fund are added as a funding source for the Emissions Inspection Fund. The Underground Storage Tank Revolving Fund accounts are required to be separated into two portions, one for monies generated and collected in Maricopa County and the remainder in the

other portion. The bill requires the transfer of $2 million for fiscal year (FY) 1994 and $8 million for FY 1995 and FY 1996 from the Underground Storage Tank Fund to the Emissions Inspection Fund. The bill further specifies, that beginning in FY 1996/1997, 50 percent of the monies received from the UST Tax and 50 percent of the interest income earned by the UST Fund (Maricopa County's share of the UST Fund) must be deposited by the State Treasurer into the Emissions Inspection Fund (Bill Sections 29, 38, and 43).

The next 4 measures also describe further improvements to the Vehicle Emissions Inspection Maintenance Program. These measures are modeled separately for numeric credit.

Modeling Approach:

This measure calls for a biennial I/M 240 program with purge and pressure test for 1981 and newer light-duty gasoline cars and trucks (LDGV, LDGT1, and LDGT2). It also calls for an annual loaded idle test (the current I/M test) for 1967 through 1980 light duty vehicles and 1967 and newer heavy duty gasoline vehicles. Other provisions are an annual snap-idle test for diesel vehicles and an annual idle test for motorcycles. The beginning date is January 1, 1995. Appropriate inputs were prepared for application of the MOBILE5a model. EPA has allowed the assumption of one full cycle for summer 1996 ozone modeling. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	2.95	13.26

10. Increased Waiver Limits for the Vehicle Inspection Maintenance Program (I/M)

House Bill 2001 increases the repair threshold limits for gasoline powered vehicles in order to be eligible for a waiver through the Vehicle Emissions Inspection Maintenance Program. The repair limits are increased in the following manner: 1967-74 from $50 to $100; 1975-80 from $200 to $300; and 1981 and newer from $300 to $450. The bill also increases the repair threshold limits from $300 to $500 for diesel powered vehicles with tandem axles or a gross vehicle weight in excess of 26,000 pounds (Bill Section 26).

Modeling Approach:

It was assumed that raising the waiver limit to $300 for model year 1975-1979 vehicles will decrease the waiver rate for those vehicles from ten percent to four percent. Also, it was assumed that pre-1975 vehicles constitute a negligible portion of 1995, 1996 and 2005 emissions, such that the 1975-1979 waiver rate represents the pre-1980 waiver rate. Finally, it was assumed that raising the waiver limit from $300 to $450 results in a decrease of the waiver percentage from four percent to

three percent for 1980 and newer vehicles. Since the MOBILE5a model does not include the I/M Program for diesel vehicles, it was assumed that the impact of this change is minimal. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.62	0.20

11. Vehicle Inspection Maintenance Program (I/M) Enforcement Through the Travel Reduction Program

In order to enhance the enforcement of the Vehicle Emissions Inspection Maintenance Program, H.B. 2001 requires employers with 100 or more employees in the Maricopa County Travel Reduction Program to notify their employees of their duty to comply with the Vehicle Emissions Inspection Program. All employees of these major employers are required to certify annually that they have complied with the emission testing requirements by filing a certification form with their employers. The Regional Task Force for the Maricopa County Travel Reduction Program is required to prepare and make available a standard certification form for use by all employees of those employers (Bill Section 37).

Modeling Approach:

In order to evaluate this measure, the number of additional vehicles that would be subject to the Inspection/Maintenance Program was estimated. It was assumed that the current estimated non-compliance rate for employee vehicles would be reduced by 80 percent. As a result, the overall inspection/maintenance participation rate was increased by 1.5 percent in 1995/96 and 1.6 percent in 2005. Carbon monoxide emission reductionS modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.44	0.39

12. Air Pollution Emergency

House Bill 2001 authorizes the Governor of Arizona to declare air emergencies on days when the National Ambient Air Quality Standards are likely to be exceeded. The Governor will prohibit, restrict, or condition the employment schedules for employees of the State and its political subdivisions (includes the County and local governments) in order to reduce vehicle emissions during air pollution emergencies. Any unscheduled leave that an employee of the State or its political subdivisions is required to take because of the altering of employment schedules will be leave with pay. On a voluntary basis, the Governor may encourage private employers to

develop similar work rules to restrict vehicle emissions during air pollution emergencies. The Governor is required to develop a plan for implementation of this measure and then transmit it to the Speaker of the House of Representatives and President of the Senate by September 1, 1994 (Bill Sections 23 and 45).

Modeling Approach:

In order to assess the effects of this measure for days on which an emergency is declared, it was assumed that city, county and state employees would leave work to perform their normal evening work-to-home trip no later than 3:00 p.m. Further, the distribution of departures would be uniform between the hours of 1:00 p.m. to 3:00 p.m. and all travel would be completed by 4:00 p.m. Data on city, county and state employment was obtained and the vehicle miles of travel generated by these employees was estimated. This travel was determined to represent .74 percent of total daily travel. This amount of travel was shifted from the normal afternoon peak travel period to earlier in the afternoon for 1995/96 and 2005. Therefore, this measure would not result directly in a reduction in vehicle miles of travel but rather a redistribution of the time of travel. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.38	0.40

13. Remote Sensing

A Random On-Road Testing Program (Remote Sensing) is established in the Maricopa County nonattainment area as a supplement to the periodic inspection requirement through the Vehicle Emissions Inspection Program. Remote sensing devices will be used. A minimum of six on-road testing units will be used throughout the nonattainment area. For first time identification, a letter containing the date, time, location, test results, brief description of the emissions control program, and benefits derived by the testing and repair procedures will be sent to the registered vehicle owner.

For a second notification within a 12 month period, a letter containing the test results and notification that an emissions test is required within 30 days of the date of the letter will be sent to the vehicle owner. The registration of the vehicle will be suspended if the registered owner fails to comply with this requirement. If the owner does not comply, the Arizona Department of Environmental Quality will notify the Arizona Department of Transportation by electronic means and the registered owner will be notified by letter of the registration suspension. The registered vehicle owner may apply for reinstatement of the vehicle registration after compliance with the testing requirements and payment of the applicable fees.

Commercial diesel powered vehicles are exempted from these provisions. Section 27 of the bill describes the remote sensing measure.

Modeling Approach:

This measure provides an incremental benefit over the existing I/M and Anti-Tampering Program by increasing compliance with the I/M Program and reducing the incidence of vehicle tampering or mal-maintenance. To model this program the compliance rate, currently specified as 97 percent, was increased to 98 percent to account for increased identification of non-complying vehicles. It was also assumed that 25 percent of the observed difference in fleet average rates when tampering is zeroed would correspond to the additional emissions benefit to be assumed from a remote sensing program. This percent emission change was applied to the overall mobile source inventory. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction is Emissions
Carbon Monoxide	0.79	0.62

14. Residential Wood Burning Restrictions

H.B. 2001 requires Maricopa County to develop, implement, and enforce an ordinance which contains residential wood burning restrictions by September 30, 1994. The ordinance is required to have a no burn restriction when monitoring or forecasting indicates that the carbon monoxide standard is likely to be exceeded.

The ordinance may provide an exemption for the use of residential wood stoves and wood or gas fireplaces that provide the sole or primary source of heat or fuel for cooking for a residence; meet the performance standards for Phase II new residential wood heaters; burn natural gas including gas logs; and meet the rules adopted by the County Air Pollution Control Officer for burning wood in approved appliances. The ordinance is also required to provide a civil penalty of $100 for a person who violates the ordinance (Bill Section 4).

In addition, the bill provides a State income tax deduction of up to $500 for the purchase or conversion of qualified wood stoves and wood or gas fireplaces or related equipment. The tax deduction begins in the 1994 taxable year (Bill Section 17 and 19).

Modeling Approach:

This measure was modeled as a 90 percent reduction in emissions from residential wood combustion. This results in a 34 metric ton reduction for 1995, which is an 81 percent reduction in the area source inventory and a 22 percent reduction in the total background inventory. For 2005, the measure resulted in a 43 metric ton reduction for 2005, or 24 percent of the total background inventory. This measure has no effect on the summer-based hydrocarbon inventory. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	4.26	5.02

15. Enhanced Remote Sensing Program - Contingency Measure

House Bill 2001 provides a strengthened version of the Remote Sensing Program as a contingency measure. For the first identification of a vehicle registered in Maricopa County as exceeding the emissions standards, a notification letter will be sent to the owner of the registered vehicle informing the owner of the test results. The letter will also indicate that an emissions test is required within 30 days of the letter.

If the owner does not comply with the test requirement, the Arizona Department of Environmental Quality will notify the Arizona Department of Transportation by electronic means. The Department of Transportation will send a letter to the registered owner indicating that the vehicle's registration is suspended. After complying with the test requirement, the registered owner may apply for reinstatement of the registration on payment of the applicable fees.

As a contingency measure, this measure is triggered if the U.S. EPA Administrator finds that the Maricopa County nonattainment area has failed to demonstrate reasonable further progress or has failed to attain the National Ambient Air Quality Standards for ozone or carbon monoxide by the attainment date (Bill Section 27).

Modeling Approach:

The modeling approach described under the basic remote sensing program was also assumed to apply under an enhanced program used as a contingency measure. The enhanced remote sensing program was modeled assuming it doubled the emission benefits of the basic remote sensing measure, yielding an additional emission benefit. The additional emission reduction benefit is shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.79	0.62

16. Freeway Incident Detection

This measure is from the November 1993 Plan and was included with the H.B. 2001 measures in a package modeled for numeric credit.

Recent technological advances in communications, computers, and video surveillance enable freeway management systems to be implemented, allowing for freeways to be monitored and controlled for optimal traffic flow. During normal operations, ramp metering signals are controlled from a central computer complex to optimize vehicle flow and increase average travel speeds. When a vehicle collision or other major incident occurs, the event is detected by computer and verified by video surveillance. Upstream traffic is warned with electronic variable message signs and entrance ramps may be closed to avoid major traffic jams. The installation of Freeway Management System equipment has been ongoing and a 29 mile component is scheduled for completion in 1995. The central Freeway Operation Control Center is now on-line.

Modeling Approach:

Using the analysis developed by Sierra Research (Feasibility and Cost Effectiveness of New Air Pollution Control Measures Pertaining to Mobile Sources), an average emission reduction in kilograms per freeway mile instrumented was developed. For the measure under analysis, 29 miles of system are under instrumentation by 1995/96 and 2005. The location of the affected portions of the freeway system were identified in terms of the cells in the carbon monoxide and ozone modeling areas. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.08	0.12

17. High Occupancy Vehicle Ramps

This measure is from the November 1993 Plan and was included with the H.B. 2001 measures in a package modeled for numeric credit.

Freeway ramp metering signals are stoplights on freeway on-ramps which control the flow of traffic onto the freeway. These devices are designed to facilitate the smooth flow of freeway mainline traffic and reduce air pollution. During peak congestion, the line of traffic waiting to enter the freeway can lengthen. The implementation of bypass ramps reserved for use by high occupancy vehicles can afford a significant savings of travel time under these conditions. The exact configuration of these bypass ramps at a specific location will vary depending upon traffic volumes and roadway geometry.

The Arizona Department of Transportation indicates that current Freeway Management System (FMS) construction projects on I-10 and I-17 will incorporate nine HOV bypass ramps at 67th, 59th, 43rd, 35th, 27th Avenues, as well as Jefferson Street, Sky Harbor and Lower Buckeye and Broadway Roads. These locations were assumed for both 1995/96 and 2005.

Modeling Approach:

In order to evaluate this measure, emission reductions were determined for high-occupancy vehicle by-pass locations that the Arizona Department of Transportation has indicated will be constructed. These emission reductions were determined on the basis of accelerations and queues avoided by vehicles by-passing meters. The estimated emission reductions were deducted from the study area cells where the ramps are located. Carbon monoxide emission reductions modeled are shown below.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.02	0.02

18. Traffic Diversion - Contingency Measure

This measure would divert Interstate through-traffic around the Maricopa Nonattainment Area during the high pollution season by the use of signage along alternative State Highway routes. This is a means of managing congestion by eliminating traffic from the urbanized portion of the nonattainment area.

The measure was approved by the MAG Regional Council in October 1992, subject to obtaining a commitment for implementation. The Arizona Department of Transportation adopted a resolution of commitment to install signing to reroute Interstate 10 through-traffic around the nonattainment area as a carbon monoxide contingency measure (Adopted by ADOT in November 1992).

The measure was forwarded to EPA and the Arizona Department of Environmental Quality (ADEQ) in November 1992, followed by additional documentation in February 1993.

Modeling Approach:

The traffic diversion measure was modeled based on the assumption that half of the Interstate 10 through-traffic with a trip ending west and south of the Maricopa County Nonattainment Area would be diverted to an alternate route consisting of State Route 85 and Interstate 8. Model runs from the MAG Regional Traffic Model projected a volume of 2,216 external-to-external trips using Interstate 10 in 1995. The projected total emissions attributable to all of these trips was estimated to account for 0.24 percent of regional carbon monoxide emissions. If half of these trips were voluntarily diverted through the use of alternative route signs, this would yield approximately a 0.1 percent reduction in regional carbon monoxide emissions.

	1995 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Carbon Monoxide	0.10	N.A.

II. Measures Which Improve Air Quality But Were Not Used For Numeric Credit

1. Catalyst Replacement Program - Contingency Measure

If the Administrator of the U.S. Environmental Protection Agency finds that the Maricopa County nonattainment area has failed to demonstrate reasonable further progress or has failed to attain the National Ambient Air Quality Standards for ozone and carbon monoxide by the applicable attainment date, the Arizona Department of Environmental Quality is required to administer a program to replace catalytic converters on certain motor vehicles. H.B. 2001 requires the adoption of rules for the program to include the following: replacement of catalytic converters on all high emitting vehicles which fail inspection due to the catalytic converter system; no waiver will be issued for any vehicle which has failed inspection due to the catalytic converter system; and establishment of a method for determining vehicle owners who qualify for financial assistance for the repair and replacement program. The Catalyst Replacement Program will be funded through the Emissions Inspection Fund (Bill Sections 26 and 29).

2. Vehicle Repair Grant Program

House Bill 2001 requires the Arizona Department of Environmental Quality to establish a Vehicle Repair Grant Program. Rules must be adopted to implement the program which will include: eligibility for receiving a grant, provided that eligibility will be limited to persons who own a high emitting vehicle that fails inspection and who are assistance recipients in the Food Stamp Program; an efficient and accurate system for proper verification of eligibility status; establishment of categories of repair and maximum grant amounts available for each category of repair; establishment of procedures which promote administrative efficiency and protect against fraud and abuse; and a system for expedited payment of grant amounts to mechanics who perform necessary repairs through the program.

A key feature of this program is that qualified vehicle owners will be responsible for the costs of qualified repairs up to 50 percent of the applicable threshold waiver amounts. The State will be responsible for any remaining costs of qualified repairs up to the threshold waiver amounts. The Vehicle Repair Grant Program will be funded through the Emissions Inspection Fund (bill Sections 26 and 29).

3. Inclusion of Government Fleets in the Vehicle Inspection Maintenance Program (I/M)

Federal, state, and local government fleet vehicles are required to comply with the new Enhanced Vehicle Emissions Inspection Program requirements. This provision in H.B. 2001 applies without regard to whether those vehicles are required to be registered in the State of Arizona (Bill Section 26).

4. Vehicle Inspection Maintenance Program (I/M) Evasion Penalty

House Bill 2001 specifies that a person who falsely registers a vehicle in another county is subject to a minimum civil sanction of $100. This provision is contained in Section 6 of the bill.

5. Noisy Muffler, Smoking Vehicle Law Penalty

A person who violates Arizona's noisy muffler, smoking vehicle law is subject to a minimum civil sanction of $100. This provision is contained in Section 7 of the bill.

6. Auto Mechanic Education Program

The Arizona Department of Environmental Quality is required to establish an education program for auto mechanics who repair vehicles that have failed an emissions test in the Maricopa nonattainment area. This provision is contained in Section 27 of the bill.

7. Grants for Intermodal Transportation, Pedestrian, and Bicycle Projects

House Bill 2001 authorizes the Arizona Department of Transportation to make grants from its portion of the State Air Quality Fund for intermodal transportation, pedestrian, and bicycle projects and activities. This provision is contained in Section 11 of the bill.

8. Alternative Fuel Vehicles/High Occupancy Vehicle Lanes

The Arizona Department of Transportation, in cooperation with the Arizona Department of Environmental Quality, is required to petition the U.S. Department of Transportation to allow single occupancy, alternative fuel vehicles to use High Occupancy Vehicle Lanes on Interstate or State Highways located in the Maricopa nonattainment area. This provision is contained in Section 49 of the bill.

9. Public Transportation Subsidy Program for State Employees

House Bill 2001 appropriates $24,200 in Fiscal Year 1993-1994 from the State Underground Storage Tank Fund to the Arizona Department of Administration to pay for the administrative cost associated with the public transportation subsidy program for State employees. This provision is contained in Section 51 of the bill.

These nine measures in H.B. 2001 are in addition to the several local government measures submitted previously in the November 1993 Carbon Monoxide and Ozone Plans which improve air quality but were not used for numeric credit towards attainment. It was not possible to quantify the air quality impacts of these measures due to lack of available information regarding the measure or lack of methodology for quantification. In the future, it may be possible to quantify the air quality impacts as the measure is implemented and additional information and new methodologies become available.

APPENDIX G

REVISED MAG 1999 SERIOUS AREA CARBON MONOXIDE PLAN EXCERPTS REGARDING CONTROL MEASURE COMMITMENTS AND SCHEDULES

List of Exhibits:

1. Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area, Chapter Eight: The Adopted Plan and Implementation Schedule for the Revised MAG 1999 Serious Area Carbon Monoxide Plan.

2. Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area, Chapter V of Technical Support Document (TSD): Evaluation of Committed Control Measures.

APPENDIX G, Exhibit 1:

Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area, Chapter Eight: The Adopted Plan and Implementation Schedule for the Revised MAG 1999 Serious Area Carbon Monoxide Plan.

CHAPTER EIGHT

THE ADOPTED PLAN AND IMPLEMENTATION SCHEDULE FOR THE REVISED MAG 1999 SERIOUS AREA CARBON MONOXIDE PLAN

During the process of developing this plan, the State and local governments reviewed the measures from the Suggested List which were under their respective authorities. The Suggested List included both carbon monoxide and particulate control measures since Serious Area plans for both pollutants were being prepared in close proximity. In addition, several of the measures impact both pollutants. Each entity then determined which measures were technologically and economically feasible for implementation by that entity.

Formal resolutions with commitments to implement carbon monoxide and particulate pollution control measures were received from the local governments, Maricopa County, Arizona Department of Transportation, and Regional Public Transportation Authority. The resolutions noted that Best Available Control Measures are required to be included in the Serious Area Particulate Plan for PM-10.

These resolutions were reviewed in order to determine which measures received firm commitments for inclusion in the MAG 1999 Carbon Monoxide Plan. According to the Arizona Department of Environmental Quality (ADEQ), the criteria for a firm commitment include: measures with the implementation, funding, and time frame specified; ongoing programs; commitments to implement measures without a specific funding source identified; commitments to draft documents; and commitments to conduct feasibility studies. Jurisdictional support for a measure is not a firm commitment unless the jurisdiction also agrees to enforce the measure. Measures were also analyzed by MAG to determine which measures could be used for numeric credit towards attainment (see Chapter Nine, Demonstration of Attainment Status).

At the state level, the Arizona Legislature passed legislation for several air quality measures in 1996, 1997 and 1998. Since legislation constitutes a firm commitment, these measures were also included in the adopted plan. The primary pieces of legislation included Senate Bill 1002 passed in a 1996 Special Session; House Bills 2237 and 2307 passed during the 1997 Regular Session; Senate Bills 1427 and 1269 and House Bill 2347 passed during the 1998 Regular Session; House Bill 2001 passed in a December 1998 Special Session, and House Bill 2254 passed during the 1999 Regular Season.

Collectively, a broad range of commitments were received from the State and local governments for the measures in the adopted plan. These extensive commitments demonstrate the level of effort that is being made to improve air quality. Many of these measures impact all three pollutants: particulates, carbon monoxide, and ozone. In the determination of attainment status, specific emissions reduction credits were not taken where the basis for estimating air quality benefits was limited. However, in many cases

these commitments will produce emission reductions above and beyond what has been quantified in the evaluation of attainment status. These measures represent additional efforts by the State and local jurisdictions to reduce emissions and improve air quality. It is anticipated that as additional experience is gained in the implementation of these measures over time, a more detailed assessment of their air quality benefits can be developed and reported.

The resolutions from the respective entities and the State legislation are included in Chapter Eleven and the corresponding commitment documents which accompany this plan.

The effective implementation of the measures in the adopted plan is an important element in expeditious air quality improvement. Based upon the Clean Air Act, the carbon monoxide attainment date for Serious Areas is December 31, 2000. Effective and expeditious implementation enhances the achievement of the standard by the attainment date and the continued maintenance of that standard.

COMMITTED MEASURES AND IMPLEMENTATION SCHEDULES

Based upon the commitments made by the State and local jurisdictions, the following describes the measures in the adopted plan and their schedule for implementation. The commitments involve the implementation of New Measures; Existing Measures Which Are Being Strengthened; and Additional Commitments for Measures Not on the Suggested List (see Table 8-1). The year in which the commitment was made is reflected in the left margin.

For Measure 31 Clean Burning Fireplace Ordinances, the Arizona Legislature, in 1998, mandated that local governments in Area A adopt and implement clean burning fireplace ordinances. The legislation is summarized under this measure. The local government commitments to comply with the legislation were submitted for inclusion in the MAG 1999 Serious Area Particulate Plan for PM-10. Since the local government commitments will also impact carbon monoxide, their commitments for clean burning fireplace ordinances are summarized in this chapter.

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PART 1: NEW MEASURES

1. Phased -In Emission Test Cutpoints

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which contains an appropriation of $120,000 from the State General Fund to the Arizona Department of Environmental Quality to develop and implement an alternative test protocol to reduce the false failure rates associated with the more stringent pass-fail standards for the Vehicle Emissions Testing Program (Section 19 of H.B. 2237).

1998 In 1998, the Arizona Legislature passed S.B. 1427 which requires that vehicles in Area A and B be emissions tested. The vehicles subject to the Vehicle Emissions Inspection Program that have been included within the new boundaries of Area A are required to comply beginning from and after December 31, 1998. The newest five model year vehicles are exempted from the Vehicle Emissions Inspection Program on a rolling basis. Owners of these vehicles are required to pay an in lieu fee equivalent to the price of the test unless they choose to take and pay for an emissions test. The in lieu fees will be deposited into the Arizona Clean Air Fund. S.B. 1427 also allows the Vehicle Emissions Inspection contract to be extended for three additional years (A.R.S. 49-542, 49-543, 49-545 and Section 41 of S.B. 1427).

In addition, the Arizona Department of Environmental Quality will be implementing Interim Test Cutpoints for the Vehicle Emissions Inspection Program until issues are resolved with the final test cutpoints for the I/M 240 Program. The Interim Cutpoints were selected in an attempt to achieve the following failure rates in all three vehicle class categories (Light Duty Gasoline Vehicles, Light Duty Gasoline Trucks 1, and Light Duty Gasoline Trucks 2: 50 percent for Model Years 1981-85; 25 percent for 1986 to 1989 model years, and 10 percent for Model Years 1990-93).

1998 The Arizona Legislature, in a December 1998 Special Session, passed H.B. 2001 which extended the duration of the Vehicle Emissions Inspection Program from January 1, 1999 to December 31, 2001. The bill included a statement of intent that the Legislature intends to ensure a cost-effective Vehicles Emissions Inspection Program which meets the objectives of ensuring clean air while not unduly burdening vehicle owners. Accomplishing the air quality goals will include implementation of the final cutpoints for the transient loaded emissions test (Section 1 and Section 7 of H.B. 2001 and Section 5. Laws 1989, Chapter 225, Section 10, as amended

by Laws 1991, Chapter 8, Section 11 as amended with Section 10. Delayed Repeal).

To improve the effectiveness of the program, H.B. 2001 also established a Vehicle Emissions Inspection Legislative Study Committee composed of five members of the Arizona House of Representatives and five members of the Arizona Senate. The role of the Committee is to review and make recommendations regarding the following issues on or before December 15, 1999:

1. The amount of pollution that is above the allowable standard and that is emitted by vehicles that receive waivers.
2. The actual net reduction of pollution by vehicles that fail the Vehicle Emissions Inspection and then subsequently pass the Vehicle Emissions Inspection.
3. Assistance to owners of motor vehicles that receive a one-time waiver and that subsequently cannot be registered.
4. The decentralization of the Vehicle Emissions Inspection Program.
5. The fostering of a competitive market for the Vehicle Emissions Inspection Program.
6. The requirement that a motor vehicle pass an emissions inspection test before it is registered.
7. The cost benefit relationship of the Vehicle Emissions Inspection Program.
8. A comparison of low Vehicle Emissions Inspection Program are operated in other jurisdictions and in this state.
9. The cost benefit relationship of all programs funded by the Vehicle Emissions Inspection Testing and Administrative Fee.
10. The use of vehicle emissions inspection stations throughout Maricopa County and Pima County by day, week and month and methods to even-out demand at vehicle emissions inspection stations to continue reasonable wait times.
11. The need for additional vehicle emissions inspection stations.
12. The funding requirements of the Vehicle Inspection Program through December 31, 2001.
13. The effectiveness of the Vehicle Emissions Inspection Program in reducing air pollution.
14. Any other issues related to the Vehicle Emissions Inspection Program that the Committee deems appropriate (Section 6 of H.B. 2001).

1999 In 1999, the Arizona Legislature passed H.B. 2254 which changes the statutory repeal of the Vehicle Emissions Inspection Program to a sunset

provision. According to A.R.S. 41-3009.01, the Vehicle Emissions Inspection Program terminates on January 1, 2009 and Title 49, Chapter 3, Article 5 is repealed on July 1, 2009 (A.R.S. 41-3009.01).

Regarding the emissions inspection agreement with an independent contractor, the following applies for any contract that takes effect beginning on or after January 1, 2002:

1. The Arizona Department of Environmental Quality is required to report at the end of each calendar quarter to the Joint Legislative Budget Committee on the status of the contract process, discussions, development of the request for proposal, contract negotiations, and any other information as may be requested.

2. The contract terms are subject to prior review by the Joint Legislative Budget Committee before placement of any advertisement relating to requests for proposal.

3. Any proposed modification or amendment to the contract is subject to prior review by the Joint Legislative Budget Committee (A.R.S. 49-545 H.).

H.B. 2254 also requires each vehicle that is owned by the United States government and that is domiciled in this state for more than ninety consecutive days and each vehicle owned by a state or political subdivision of this state to comply with A.R.S. 49-542. On compliance, the Arizona Department of Environmental Quality will issue a government entity compliance sticker for the vehicle. The government entity compliance sticker will be placed on the vehicle as prescribed by rules adopted by the Department (A.R.S. 49-557).

If the vehicle does not have a current government entity compliance sticker, a law enforcement officer will issue a citation to the vehicle operator for a violation. On receipt of the abstract of conviction for a violation, the Arizona Department of Transportation will immediately suspend the privilege to operate the vehicle on the highways of the state until the vehicle complies with A.R.S. 49-542.

Collectively, the provisions in H.B. 2254 that apply to the Phased-In Emission Test Cutpoints include A.R.S. 41-3009.01, 49-545 H., 49-557, and Section 7 of H.B. 2254.

2000 In 2000, the Arizona Legislature passed H.B. 2104 which repealed the Random On-Road Testing Requirements (Remote Sensing) for the Vehicle

Emissions Inspection Program. The legislation also required the Director of the Arizona Department of Environmental Quality to conduct a research study to evaluate the feasibility and effectiveness of methods to improve the monitoring of the performance of in-use emissions control systems using alternative technologies not currently utilized in Area A or Area B (Sections 3 and 10 of H.B. 2104).

The research study is to be conducted in areas outside and immediately adjacent to the boundaries of Area A and Area B. The study will address alternative testing technologies, including improvements in remote sensing, the utilization of on-board diagnostics and any other alternatives for identifying high emitting vehicles and facilitating their repair. In addition, the study will also address methods to improve motorist compliance with the current vehicle emissions inspection program and assess the methods to assure a high degree of motorist compliance with the options identified. Up to $927,200 may be expended from the Emissions Inspection Fund to fund the contractor selected to conduct the research study (Sections 3 and 10 of H.B. 2104).

At least every six months, the contractor will submit research results to the ADEQ Director. By June 30, 2002, a preliminary progress report on the research study, including major findings and conclusions, will be submitted by the ADEQ Director to the Governor, Speaker of the House of Representatives, President of the Senate, Joint Legislative Budget Committee, and the Vehicle Emissions Identification, Testing and Repair Research Study Oversight Committee. The research study will be concluded by June 30, 2005 and a final report of findings will be submitted by the contractor by that date. The Director will review the final report and prepare recommendations based on the report. The final report and recommendations will be submitted to the Governor, Speaker of the House of Representatives, President of the Senate, Joint Legislative Budget Committee, and the Vehicle Emissions Identification, Testing and Repair Research Study Oversight Committee by September 30, 2005, after a thirty day public review and comment period (Sections 3 and 10 of H.B. 2104).

2. <u>Enhanced Emission Testing of Constant Four-Wheel Drive Vehicles</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires motor vehicles, including constant four-wheel drive vehicles, manufactured in or after Model Year 1981, with a gross vehicle weight rating of 8,500 pounds or less, other than diesel powered vehicles, to take and pass a transient load emissions test (I/M 240). Previously, constant four-wheel drive vehicles were required to pass a curb idle emissions test (A.R.S. 49-542).

1999 In 1999, the Arizona Legislature passed H.B. 2254 which requires the Director of the Arizona Department of Environmental Quality to administer

a biennial emissions inspection program that requires the inspection of constant four-wheel drive vehicles manufactured in or after Model Year 1981 with a gross vehicle weight rating of 8,500 pounds or less, other than diesel vehicles. These vehicles will be required to take and pass a transient loaded emissions test. The Director will adopt minimum emissions standards and rules for the program (A.R.S. 49-541.01 A.).

These provisions of A.R.S. 49-541.01 A. apply to vehicles owned by a person who is subject to A.R.S. 15-1444 or A.R.S. 15-1627 and for those vehicles registered outside of the area defined in A.R.S. 49-541.01 C. but used to commute to the driver's principal place of employment located within the area defined in A.R.S. 49-541.01 C.

The program will be effective in the following areas (A.R.S. 49-541.01 C):

1. In Maricopa County:
Township 8 North, Range 2 East and Range 3 East
Township 7 North, Range 2 West Through Range 5 East
Township 6 North, Range 2 West Through Range 6 East
Township 5 North, Range 2 West Through Range 7 East
Township 4 North, Range 2 West Through Range 8 East
Township 3 North, Range 2 West Through Range 8 East
Township 2 North, Range 2 West Through Range 8 East
Township 1 North, Range 2 West Through Range 7 East
Township 1 South, Range 2 West Through Range 7 East
Township 2 South, Range 2 West Through Range 7 East

2. In Pinal County:
Township 1 North, Range 8 East and Range 9 East
Township 1 South, Range 8 East and Range 9 East
Township 2 South, Range 8 East and Range 9 East
Township 3 South, Range 7 East Through Range 9 East

3. In Yavapai County:
Township 7 North, Range 1 East and Range 1 West Through Range 2 West

The biennial emissions inspection program for constant four-wheel drive vehicles is conditionally effective from and after January 1, 2002 if legislation is enacted to continue a Vehicle Emissions Inspection Program in a nonattainment area or maintenance area as defined in A.R.S. 49-401.01. This provision is in Section 8 of H.B. 2254. In addition, the program ends on July 1, 2009 pursuant to A.R.S. 41-3102.

H.B. 2254 specifies that a person who violates this article (Article 5. Vehicle Emissions Inspection Program) or any rule of the Director adopted under this article is guilty of a Class 2 misdemeanor. A person who makes or issues any imitation or counterfeit of any official certificate or certifications of inspection or waiver is guilty of a Class 5 felony. A person who knowingly demands or collects a fee for the inspection of a vehicle other than the fee fixed by the Director for the inspection of vehicles of the same class is guilty of a Class 2 misdemeanor.

A person who violates A.R.S. 49-541.01 B. is subject to a civil penalty of 100 dollars for a first violation. For a second violation of Subsection B within a one year period, a court will impose a civil penalty of 300 dollars. A court will impose a civil penalty of 25 dollars for a first time violation of Subsection B if the owner presents evidence that the vehicle is in compliance with this article (A.R.S. 49-541.01 D. and E.).

Collectively, the provisions in H.B. 2254 that apply to the Enhanced Emissions Testing of Constant Four-Wheel Drive Vehicles include A.R.S. 49-541.01 A, B, C, D, E, and F, and Section 8 of H.B. 2254.

3. <u>One-Time Waiver from Vehicle Emissions Test</u>

1996 ■ Arizona Legislature passed S.B. 1002 in 1996 which limits the issuance of a waiver for failure to comply with the emission testing requirements to one-time only beginning January 1, 1997 (A.R.S. 49-542 D.).

1997 Also, the Arizona Legislature passed House Bill 2237 in 1997 which requires the Arizona Department of Environmental Quality to submit a report on one-time vehicle waivers to the Governor, President of the Senate, and Speaker of the House of Representatives by September 30,1997. The report is required to include: a description of the air quality benefits from the measure; recommendations on making the provision more effective, considering the impact on motorists; and recommendations on improving motorists access to the repair grant program (Section 25 of H.B. 2237).

4. <u>Increased Waiver Repair Limit Options</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which increases the amount a person must spend to repair a failing 1967-1974 vehicle in Area A to qualify for a waiver. The increased amount is $200 rather than the previous $100 (A.R.S. 49-542).

5. <u>Gross Polluter Option for I/M Program Waivers</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires that in order to obtain a waiver from compliance with the Vehicle Emissions Inspection

Program, the owner of a vehicle emitting more than twice the emission standard has to repair the vehicle sufficiently to reduce the emission levels to less than twice the standard (A.R.S. 49-542).

6. Catalytic Converter Replacement Program

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires a person whose vehicle fails the Vehicles Emissions Inspection Test due to a faulty catalytic converter to replace it in Area A. These vehicles are not eligible for a waiver. The catalytic converter replacements are exempt from the existing repair cost limits for qualification for a waiver. Also, $275,000 was appropriated from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 to the utilization of the Vehicle Repair Grant Program and to implement the Catalytic Converter Replacement Program (A.R.S. 49-542 and Section 39 of S.B. 1427).

7. Vehicle Repair Grant Program

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which appropriates $275,000 from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 to improve the utilization of the Vehicle Repair Grant Program and to implement the Catalytic Converter Replacement Program. The Vehicle Repair Grant Program also applies to Area A (Section 39 of S.B. 1427).

1998 The Arizona Legislature, in a December 1998 Special Session, passed H.B. 2001 which further enhanced the utilization of the Vehicle Repair Grant Program. For a vehicle that is issued a certificate of waiver after January 1, 1997, the vehicle's owner is eligible for a single grant from the Arizona Department of Environmental Quality without regard to participation in or eligibility for the food stamp program (A.R.S. 49-542 S. 1.)

8. Voluntary Vehicle Repair and Retrofit Program

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires Maricopa County to establish and coordinate a Voluntary Vehicle Repair and Retrofit Program in Area A. The County is required to coordinate the program with the Arizona Department of Environmental Quality and Arizona Department of Transportation. The program is required to begin by January 1, 1999 and provide for quantifiable emissions reductions based on actual emissions testing performed on the vehicle before repair and retrofit.

A vehicle owner may participate in the program if all of the following criteria are met: 1. The owner is willing to participate in the program. 2. The vehicle is functionally operational. 3. The vehicle has been titled in this state and registered in Area A for at least twenty-four months. 4. The vehicle is at least

twelve years older than the current model year passenger car or light duty truck. 5. The vehicle fails the emissions test. It is important to note that vehicles that are not required to take the emissions inspection test are not eligible to participate in the program.

The County is required to develop a Pilot Emissions Control Repair and Retrofit Program in cooperation with the ADEQ that has the following provisions:

1. Vehicle owners who qualify for the repair and retrofit program will pay the first $100 as a co-payment.

2. Vehicle owners that require more than $500 in repair costs or $650 in retrofit parts and labor costs are not eligible unless the vehicle owner chooses to pay additional costs.

Diesel powered motor vehicles with a gross vehicle rating of more than 8,500 pounds that are registered in Area A which fail any random roadside vehicle test conducted by the State are eligible for up to $1,000 in repair or retrofit costs from the program. Qualified vehicle owners will be responsible for one-half of the costs of the qualified repairs and the other one-half of the costs will be funded from the program up to $1,000. No more than 20 percent of the program funds in any year may be used for these purposes.

S.B. 1427 also establishes a Voluntary Vehicle Repair and Retrofit Program Fund consisting of monies appropriated by the Legislature and political subdivisions and gifts, grants, and donations. S.B. 1427 includes an appropriation of $800,000 from the State General Fund in fiscal year 1998-1999 for the Voluntary Vehicle Repair and Retrofit Program Fund.

The County Board of Supervisors is required to appoint an advisory committee composed of representatives from the Arizona Department of Transportation, Arizona Department of Environmental Quality, and the parties affected by the Voluntary Vehicle Repair and Retrofit Program, including automobile hobbyists and the automotive after-market products industry. The role of the committee is to advise and make recommendations on the development and implementation of the program.

By December 1 of each year, the County is required to prepare a report on the Voluntary Vehicle Repair and Retrofit Program that includes the number of vehicles repaired or retrofitted by model year, the cost effectiveness of the program in terms of dollars spent per ton of vehicle emissions reductions, any recommendations for improving the effectiveness of the program, and the administrative costs of the program. The report is required to be submitted to the Arizona Department of Environmental Quality, Arizona Department of Transportation, Speaker of the House of Representatives, President of the Senate, Governor, Secretary of State, and Director of the

Arizona Department of Library, Archives, and Public Records (A.R.S. 49-474.03 and Section 34 and 36 of S.B. 1427).

9. Tougher Enforcement of Vehicle Registration and Emissions Test Compliance

1997 ■ Arizona Department of Transportation indicates that this measure would use additional methods to increase the registration compliance of residents. According to the December 1996 Report of the Governor's Air Quality Strategies Task Force, the Motor Vehicle Division (MVD) of the Arizona Department of Transportation (ADOT) has instituted a comprehensive enforcement program. Three key elements of the new program are a Registration Enforcement Team, a Registration Enforcement Tracking System, and a New Resident Tracking Program. Through public participation, consistent policy and procedure application, and new tracking methods, MVD will enforce the Arizona registration laws to ensure vehicles in question are registered properly. This will be an ongoing effort.

Another phase of the Program is an initiative to coordinate ADOT efforts with other law enforcement agencies to assist MVD personnel in enforcing registration compliance. Other initiatives include a system user agreement between MVD and the City Courts to utilize information in conjunction with registration compliance and discussions with U.S. West for obtaining information relating to new connect customers.

The Registration Compliance Program began in January 1994 with one full time employee responding only to complaints. In April of 1996, this program was enhanced with five MVD officers periodically conducting a statewide effort locating and issuing warning notices on vehicles suspected of being in violation of Arizona registration laws. This effort resulted in a substantial increase in Vehicle Licenses Tax (VLT) for 1996. As the program continues, there will be an enhanced focus on the local vehicles not in compliance.

Administration of the program began with a required staff time equivalent to one full time employee. Currently, the required staff time is equivalent to eight full time employees. Additional staff requirements for the initial phase of the Registration Compliance Program will require a total of 12 full time (active) employees and one supervisor. The funding allocated for implementation of the Registration Compliance Program is included as part of the overall MVD budget.

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires school districts and special districts in Area A to prohibit parking in employee parking lots by employees who have not complied with emissions testing requirements.

Cities, towns, and counties in Area A and Area B are currently subject to this provision (A.R.S. 49-552).

1999 In 1999, the Arizona Legislature passed H.B. 2254 which requires each vehicle that is owned by the United States government and that is domiciled in this state for more than ninety consecutive days and each vehicle that is owned by a state or political subdivision of this state to comply with A.R.S. 49-542. On compliance, the Arizona Department of Environmental Quality will issue a government entity compliance sticker for the vehicle. The government entity compliance sticker will be placed on the vehicle as prescribed by rules adopted by the Department.

If the vehicle does not have a current government entity compliance sticker, a law enforcement officer will issue a citation to the vehicle operator for a violation. On receipt of the abstract of conviction for a violation, the Arizona Department of Transportation will immediately suspend the privilege to operate the vehicle on the highways of the state until the vehicle complies with A.R.S. 49-542 (A.R.S. 49-557).

H.B. 2254 specifies that a person who violates this article (Article 5. Vehicle Emissions Inspection Program) or any rule of the Director adopted under this article is guilty of Class 2 misdemeanor. A person who makes or issues any imitation or counterfeit of an official certificate or certificates of inspection or waiver is guilty of a Class 5 felony. A person who knowingly demands or collects a fee for the inspection of a vehicle other than the fee fixed by the Director for the inspection of vehicles of the same class is guilty of a Class 2 misdemeanor.

A person who violates A.R.S. 49-541.01 B. is subject to a civil penalty of 100 dollars for a first violation. For a second violation of Subsection B within a one year period, a court will impose a civil penalty of 300 dollars. A court will impose a civil penalty of 25 dollars for a first time violation of Subsection B if the owner presents evidence that the vehicle is in compliance with this article (A.R.S. 49-541.01 D. and E.).

Collectively, the provisions in H.B. 2254 that apply to Tougher Enforcement of Vehicle Registration and Emissions Test Compliance include A.R.S. 49-557 and 49-541.01 D. and E.

10. <u>Random Roadside Testing of Diesel Vehicles</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires the Arizona Department of Environmental Quality to implement a pilot random roadside emissions testing program for diesel vehicles over 8,500 pounds using the

snap acceleration test developed by the Society of Automotive Engineers (J 1167). This program will not be implemented unless the Directors of the Arizona Department of Transportation and Arizona Department of Public Safety agree that the program can be conducted safely and in compliance with federal regulations relating to interstate travel and safety.

If the program is implemented by November 15, 1999, the ADEQ Director will report on the results of the pilot program, including pass and fail rates, the nature of the registration of the failing vehicles, the extent of noncompliance of the failing vehicles, and recommendations for implementation of a permanent program. The report will be transmitted to the Governor, Speaker of the House of Representatives, and President of the Senate (Section 35 of S.B. 1427).

11. Snap Acceleration Test for Heavy-Duty Diesel

1996 ■ Arizona Legislature passed S.B. 1002 in 1996 which requires that beginning on March 1, 1997, a diesel powered motor vehicle applying for registration or reregistration in Area A more than 33 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:

- 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 8,500 pounds or less.

- a test that conforms with the Society for Automotive Engineers Standard J1667 for vehicles with a gross vehicle weight rating of more that 8,500 pounds (A.R.S. 49-542 F.2.(d).).

12. Require Pre-1988 Heavy-Duty Diesel Commercial Vehicles Registered in the Nonattainment Area to Meet 1988 Federal Emissions Standards; Provide Incentives to Encourage Voluntary Accelerated Vehicle Replacement By the Year 2004

1996 ■ Arizona Legislature passed S.B. 1002 in 1996 which requires that beginning on January 1, 2004, a diesel powered motor vehicle with a gross vehicle weight of more than 26,000 pounds and for which gross weight fees are paid pursuant to Section 28-206 in Area A will 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 does not apply to vehicles that are registered pursuant to Title 28, Chapter 2, Article 1.1. (A.R.S. 49-542 F.7.).

1998 ■ Regarding incentives to encourage accelerated replacement by the year 2004, the Arizona Legislature passed S.B. 1427 in 1998 which provided that diesel powered motor vehicles with a gross vehicle rating of more that 8,500 pounds that are registered in Area A which fail any random roadside vehicle test conducted by the State are eligible for up to $1,000 in repair or retrofit costs from the Voluntary Vehicle Repair and Retrofit Program. Qualified vehicle owners will be responsible for one-half of the costs of the qualified repairs and the other one-half of the costs will be funded from the program up to $1,000. No more than 20 percent of the program funds in any year may be used for these purposes. The Voluntary Vehicle Repair and Retrofit Program is administered by Maricopa County in coordination with the Arizona Department of Environmental Quality and Arizona Department of Transportation (A.R.S. 49-474.03 and Sections 34 and 36 of S.B. 1427).

13. Long - Term Fuel Reformulation: From and After May 1, 1999

1997 ■ Arizona Legislature passed H.B. 2307 in 1997 which contains requirements for the sale of gasoline from and after May 1, 1999 in Area A, subject to an appropriate waiver granted under Section 211 (c)(4) of the Clean Air Act, that meets the following fuel reformulation options:

- California Phase 2 Reformulated Gasoline, including alternative formulations allowed by the predictive model, as adopted by the California Air Resources Board pursuant to the California Code of Regulations, Title 13, Sections 2261 through 2262.7 and 2265, in effect on January 1, 1997, that meets the maximum 7.0 psi summertime vapor pressure requirements in A.R.S. Section 41-2083, Subsections D and F.

- Gasoline that meets the standards for Federal Phase II Reformulated Gasoline, as provided in 40 CFR Section 80.41, paragraphs (a) through (h), in effect on January 1, 1997, that meets the maximum 7.0 psi summertime vapor pressure requirement in A.R.S. Section 41-2083 Subsections D and F.

- From and after November 1 through March 31 of each year, both of these fuels are required to meet the oxygenated fuel requirements in A.R.S. 41-2123.

By September 15, 1997, the Director of the Arizona Department of Environmental Quality in consultation with the Director of the Weights and Measures, is required to adopt rules for the 1998 and 1999 fuel reformulation requirements.

House Bill 2307 also provides that if the Environmental Protection Agency fails to approve the sale and use of both reformulated gasolines, the Director of the Arizona

Department of Environmental Quality will adopt standards by rule for one of the following fuels:

- A gasoline that meets standards for Federal Phase II Reformulated Gasoline, as provided in 40 C.F.R. Section 80.41, paragraphs (a) through (h) in effect on January 1, 1997, that meets the maximum vapor pressure requirements of A.R.S. Section 41-2083, Subsections D and F. In addition, the requirements of A.R.S. Section 41-2123 must be met November 1 through March 31 of each year.

- California Phase 2 Reformulated Gasoline, including alternative formulations allowed by the predictive model, as adopted by the California Air Resources Board pursuant to the California Code of Regulations, Title 13, Sections 2261 through 2262.7 and 2265, in effect on January 1, 1997, that meets the maximum vapor pressure requirements of A.R.S. Section 41-2083, Subsections D and F. In addition, the requirements of A.R.S. Section 41-2123 must be met November 1 through March 31 of each year.

14. <u>Winter Fuel Reformulation: California Phase 2 Reformulated Gasoline with 3.5 Percent Oxygen Content November 1 through March 31</u>

1998 ■ Arizona Legislature passed H.B. 2347 in 1998 which contains requirements for all gasoline produced and shipped to Maricopa County and sold or offered for sale for use in motor vehicles in Area A from and after November 1, 2000 through March 31, 2001 and from the period beginning November 1 through March 31 of each subsequent year. The fuel must comply with the standards for California Phase 2 Reformulated Gasoline, including alternative reformulations allowed by the predictive model, as adopted by the California Air Resources Board, and must meet the maximum vapor pressure requirements of 9 pounds per square inch in A.R.S. 41-2083, Subsections D and F. The fuel must also contain a minimum oxygen content by weight of 3.5 percent as required in A.R.S. 41-2123, Subsection A, Paragraph 2.

From November 1, 2000 through March 31, 2001 and each winter season of November through March thereafter, the Director of the Arizona Department of Weights and Measures is required to determine the average levels of the constituents in the gasoline sold or offered for sale in Area A. The Director of the Arizona Department of Environmental Quality must analyze the data and no later than July 1, 2001 and each July thereafter, determine the average daily carbon monoxide reductions resulting from the use of the gasoline during the preceding winter season. If the average daily carbon monoxide reductions resulting from the gasoline are less than 90 percent of the goal of 32 tons per day in 2001, 31 tons per day in 2003 and 30 tons per

day in 2005, 29 tons per day in 2007, or 28 tons per day in 2009, the Arizona Department of Environmental Quality will immediately notify the Governor, President of the Senate, and Speaker of the Arizona House of Representatives.

Also, any registered supplier or oxygenate blender may petition the Director of the Department of Weights and Measures to authorize the use of other oxygenates if an ethanol shortage is imminent. A petition must: (a) Identify specific supply conditions that will result in a shortage of ethanol. (b) Identify which oxygenate or oxygenates will be blended into gasoline for sale or use in Area A. (c) Demonstrate that the alternative oxygenate blend comes closest to meeting a 3.5 percent by weight oxygen content at reasonable cost. (d) Specify a time period for compliance with any provision of A.R.S. 41-2123, Subsection A, not to exceed 60 days.

The Director of Weights and Measures will either grant or deny the petition within seven days of its receipt. The decision to grant a waiver will be equally equitable to all registered suppliers or oxygenate blenders. The petition may be reauthorized for up to 30 days if the shortage conditions continue. The Director of the Arizona Department of Weights and Measures is required to consult with the Director of the Arizona Department of Environmental Quality prior to granting, reauthorizing or denying any petition.

The legislation specifies the intent of the Legislature to re-evaluate the existing authorized measures as well as alternative measures if this winter gasoline reformulation does not result in the carbon monoxide emission benefits specified in the bill (A.R.S. 41-2124).

15. Limit Sulfur Content of Diesel Fuel Oil to 500 ppm

1996 ■ Arizona Legislature passed S.B. 1002 in 1996 which prohibits the sale of Diesel fuel (including off-road) in the nonattainment area that contains in excess of 500 ppm sulfur. In addition, federal regulations require that on-road Diesel fuel sold throughout the contiguous U.S. have a maximum sulfur content of 0.05 percent by weight (500 ppm). These provisions are contained in A.R.S. 41-2083 J.

16. Diesel Fuel Sampling and Reporting

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires that beginning on January 1, 1999 through July 1, 1999, gasoline refiners and other suppliers of diesel fuel that is supplied or sold as a final product for the fueling of diesel vehicles within Area A report to the Director of the Arizona Department of Weights and Measures on the quantity and quality of diesel fuel shipped to Maricopa County during the preceding month. The report is required to include by batch, the sulfur content, aromatic hydrocarbon

content, cetane number, specific gravity, American Petroleum Institute gravity, and the temperatures at which ten percent, fifty percent, and ninety percent of the diesel fuel has boiled off during distillation. The report is due on the fifteen day of each month.

In addition, the report must contain a certification of truthfulness and accuracy of the data submitted. By October 1, 1999, the Director of the Arizona Department of Weights and Measures is required to report the results of the six month sampling and reporting period to the Director of the Arizona Department of Environmental Quality, Governor, Speaker of the Arizona House of Representatives and President of the Arizona Senate (Section 40 of S.B. 1427).

17. Alternative Fuel Vehicles for Local Governments, School Districts, and Federal Government/Low Emission Vehicle Requirements

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which establishes additional requirements for vehicles owned by cities and towns, and counties in Area A. These provisions also apply to bus fleets operated by the cities, towns, and Regional Public Transportation Authority; school districts with a membership of more than 3,000 located within or which has bus routes running within Area A; the issuance of tax credits or subtractions for alternative fuel vehicles authorized by state law; and the federal government fleets. At a minimum, the alternative fuel vehicles are required to comply with any one of the following:

1. The U.S. Environmental Protection Agency Standards for Low Emission Vehicles pursuant to 40 Code of Federal Regulations Section 88.104-94 or 88.105-94.

2. The vehicle engine is certified by the engine modifier to meet the Addendum to Memorandum 1-A of the U.S. Environmental Protection Agency, as printed in the Federal Register, Volume 62, Number 207, October 27, 1997, pages 55635-55637.

3. The vehicle engine is the subject of a waiver for that specific engine application from the U.S. Environmental Protection Agency's Addendum to Memorandum 1-A requirements and that waiver is documented to the reasonable satisfaction of the Department of Commerce Energy Office.

The cities, counties, and school districts which have been included within the boundaries of Area A are required to comply with the provisions of A.R.S. 9-500.04 C. through G., 15-349, and 49-474.01 C. through E. relating to the conversion of fleet vehicles to alternative fuels according to the following schedule:

- At least 18 percent of the total fleet by December 31, 2000.
- At least 25 percent of the total fleet by December 31, 2001.
- At least 50 percent of the total fleet by December 31, 2003.
- At least 75 percent of the total fleet by December 31, 2005.

These provisions do not apply to cities and towns with a population of less than 7,500 according to the most recent U.S. decennial census and that lie outside Area A. Also, S.B. 1427 authorizes that monies in Arizona Clean Air Fund may be used for a public awareness program for alternative fuels. An accounting of the Arizona Clean Air Fund expenditures are to be included in the annual report to the Legislature on the fund activities (A.R.S. 9-500.04, 15-349, 41-1516, 49-474.01, 49-573 and Section 42 of S.B. 1427).

1999 In 1999, the Arizona Legislature passed H.B. 2254 which requires an operator of a United States government owned vehicle fleet based primarily in this state that does not comply with the statutory timetable and percentage goals for alternative fuel vehicles to file a report with the Arizona Department of Commerce Energy Office, the House of Representatives Federal Mandates and States' Rights and Environment Committees, or their successor committees, and the Senate Government and Environmental Stewardship and Commerce, Agriculture and Natural Resources Committees, or their successor committees. The report will include the total number of vehicles in the operator's fleet by class and the percentage that is capable of operating on alternative fuel. The operator is required to file the report on or before October 1, 1999, April 1, 2000 and October 1, 2000.

An operator of a fleet that does not file a report as prescribed will not operate a vehicle in Area A as defined in A.R.S. 49-541 ninety days after the reporting date. Once an operator of a fleet files the report, this subsection will not apply (A.R.S. 49-573 D. and E.).

18. <u>Alternative Fuel Vehicles for State Government/Low Emission Vehicle Requirements</u>

1998 ■ Arizona Legislature passed S.B. 1269 in 1998 which requires the Director of the Arizona Department of Administration (DOA) to appoint a State Motor Vehicle Fleet Alternative Fuel Coordinator to develop, implement, document, monitor and modify as necessary a Statewide Alternative Fuels Plan in consultation with all state agencies and departments that are subject to the alternative fuel requirements. Specifically, the plan is to include the agencies currently exempt from the state fleet alternative fuel conversion requirements (Arizona Department of Public Safety, Arizona Department of Corrections, Universities and Community Colleges, and Arizona State School for the Deaf and the Blind). These agencies are to submit their programs for alternative fuels and fuel economy to the Coordinator.

The Coordinator is required to approve all vehicle acquisitions by the state and assume several functions of the Director relating to the acquisition of alternative vehicle fuel (AFVs) refueling facilities, the development of the vehicle fleet energy conservation plan and the identification of the appropriate AFVs for each state agency. The legislation requires an increasing percentage of new state vehicles weighing less than 8,500 pounds purchased for operation in Maricopa and Pima counties, including all of the agencies exempted from the DOA fleet, to be capable of operating on alternative fuels. The schedule is as follows:

- 10 percent of all 1997 model years purchased
- 15 percent of all 1998 model years purchased
- 25 percent of all 1999 model years purchased
- 50 percent of all 2000 model years purchased
- 75 percent of all 2001 model years purchased

In addition, S.B. 1269 requires an increasing percentage of the AFVs weighing less than 8,500 pounds purchased for operation in Maricopa County to comply with the Environmental Protection Agency's standards for Low Emission Vehicles (LEVs) starting in model year 2000. The schedule is as follows:

- 40 percent of model year 2000 AFVs
- 50 percent of model year 2001 AFVs
- 60 percent of model year 2002 AFVs
- 70 percent of model year 2003 AFVs

Other provisions in S.B. 1269 include a deadline of December 31, 1999, for the Arizona Department of Administration to convert 40 percent of the DOA administered state fleet to alternative fuels. Fire suppression vehicles are excluded from the alternative fuel conversion requirements for the state fleet. For state agencies that use alcohol fueled AFVs, it must be demonstrated to the Director of DOA that the fuel for the vehicle is available within a ten mile radius of the primary home base for that vehicle.

Regarding reporting requirements, all state agencies, including those exempted from the state fleet, are required to report annually to the Director of DOA on vehicle costs, operation, maintenance, mileage and any other information that the Director deems necessary for the submittal of the annual report to the Legislature and the Governor. The Director of the DOA is required to submit an annual report to the Legislature, the Governor and each of these branches budget offices that provides information about the state fleet including detailed information regarding the conversion of the fleet to alternative fuels (A.R.S. 28-5805 and 41-803).

19. Alternative Fuel Vehicle and Equipment Tax Incentives/Low Emission Vehicle Requirements

1997 Arizona Legislature passed H.B. 2237 in 1997 which extends the existing individual and corporate tax credit for the purchase or conversion of an alternative fuel vehicle or the purchase of an alternative fuel delivery system through 2001 and expands the tax credit to include minimum three year leases of an alternative fuel vehicle. It also increases the tax credit to $1,000 from $500 in 1997 and $250 in 1998 (A.R.S. 43-1086).

1998 In 1998, the Arizona Legislature passed S.B. 1269 which provides a variety of tax incentives and financial assistance to encourage the use of alternative fuel vehicles (AFVs). The definition of alternative fuel is expanded to included an emulsion of water-phased hydrocarbon fuel that contains at least 20 percent water and that complies with one of three specified EPA standards and in combination of at least 70 percent alternative fuel and not more than 30 percent petroleum-based fuel for an engine that meets an equivalent of the EPA Low Emission Vehicle (LEV) standard.

The following tax incentives are provided in the bill:

1. AFV's and alternative fuel conversion equipment are exempt from the retail and personal property rental classifications and use taxation.
2. Corporate and individual income taxpayers are authorized to take both the AFV and equipment subtraction and credits for AFVs and equipment, as well as obtain a grant from the Arizona Clean Air Fund.
3. Individual and corporate income tax credits for tax years 1998 through 2001 are increased from $1,000 to $2,000 for the purchase, lease, or conversion of a dedicated AFV or purchase of a dedicated alternative fuel delivery system. The maximum credit for a bi-fueled AFV remains at $1,000.
4. Nonrefundable individual and corporate income tax credits for tax years 1998 through 2001 are authorized for expenses associated with constructing or operating an alternative fuel fueling station. The amount of the credit for a public-accessible station or a station dispensing renewable fuel is 50 percent of the costs incurred, up to $400,000. For other stations, the credit is the lesser of 25 percent of the costs incurred or $200,000.
5. The maximum corporate income tax subtraction for the purchase of a new AFV is increased from $5,000 to $10,000. This becomes effective for taxable years after December 31, 1997.

6. The maximum corporation income tax subtraction for the conversion to an AFV is increased from $3,000 to $5,000. This becomes effective for taxable years after December 31, 1997.

7. Nonrefundable individual and corporate tax credits are authorized for the purchase or lease (for at least three years) of original equipment manufactured AFVs. For tax years 1999 through 2011, the amount of credit ranges from 50 to 90 percent of the incremental cost above the cost of a conventionally fueled vehicle, based on the emissions levels of the AFV. For tax years 2012 through 2019, the amount of credit ranges from 25 to 75 percent of the incremental cost above the cost of a conventionally fueled vehicle, based on the emissions levels of the AFV.

8. Grants from the Arizona Clean Air Fund (ACAF) are made available for AFVs purchased or leased and the amount of the grant is increased from $1,000 to $2,000.

Passed by the Arizona Legislature in 1998, S.B. 1427 tax credits or subtractions for alternative fuel vehicles authorized by state law will only be allowed if the vehicle meets one of the following:

1. The vehicle is certified to meet at a minimum the U.S. Environmental Protection Agency Low Emission Vehicle Standard pursuant to 40 Code of Federal Regulations Section 88.104-94 or 88.105-94.

2. The vehicle meets the requirements of the Addendum to Memorandum 1-A, issued by the U.S. Environmental Protection Agency, as printed in the Federal Register, Volume 62, Number 207, October 27, 1997, pages 55635-55637.

3. The vehicle is the subject of a waiver for that specific engine application from the U.S. Environmental Protection Agency's Memorandum 1-A requirements and that waiver is documented to the reasonable satisfaction of the Department of Commerce Energy Office (A.R.S. 1-215, 41-1516, 42-5061, 42-5071, 42-5159, 43-1026, 43-1086, 43-1128.01, and 43-1174).

20. <u>Public Awareness Program for Alternative Fuels</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which allows monies from the State Clean Air Fund to be used to conduct public awareness programs for alternative fuels (A.R.S. 41-1516).

21. National Low Emission Vehicle Program

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires the State to participate in the National Low Emission Vehicle Program adopted in 40 Code of Federal Regulations Part 9, Part 85 and Part 86 effective March 9, 1998, as part of the long term air quality strategy. The State will not bear any of the administrative costs of the program. Also, the State retains the authority to adopt any alternative emissions reduction program which demonstrates air quality benefits for the State (A.R.S. 49-556).

22. Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program

1997 ■ Maricopa County indicates that this measure involves implementing a program to purchase and retire vehicles which produce excessive emissions, particularly pre-1980 model year light duty automobiles and trucks. Maricopa County is in the process of revising its Trip Reduction Ordinance to include the flexibility provisions authorized under A.R.S. Section 49-588 which includes voluntary vehicle trade-outs. The proposed revisions will allow tradeouts that have been completed after October 16, 1996 to be used to achieve the emission reduction goals established under the ordinance.

May 1997 -- A public workshop has been scheduled on May 22, 1997 to discuss the proposed revisions to the Trip Reduction Ordinance.

June 1997 -- A public hearing and Board consideration of the proposed revision is scheduled for June 25, 1997.

August 1997 -- Submittal as a SIP revision to ADEQ and EPA.

Personnel and funding will be provided through existing staff and funding. Additional resources will not be necessary to fulfill the commitment set forth.

Data collection and survey data analysis are consistent as TRP staff process and analyze all employers' surveys to prepare summary results which are then used by the employer to develop a trip reduction plan. When the TRP plan is submitted, it undergoes an intensive analysis by division staff. The staff follow a checklist which contains statute requirements, ordinance requirements, and Task Force guidelines.

After the plan has been approved, but prior to the next annual survey, division staff contact the transportation coordinator by phone or in person to monitor the implementation of the plan. They complete a monitoring checklist. If the plan has not been implemented, the Task Force shall describe the inadequacies and shall direct modifications in the plan

implementation. If the plan as modified is not approved, the Task Force shall evaluate all supporting data and determine if enforcement action is necessary.

23. Oxidation Catalyst for Heavy Duty Diesel Vehicles

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which requires cities, towns, Maricopa County, school districts, the state and the federal government to install a technology (oxidation catalyst) on their heavy duty Diesel vehicles if the entities receive a waiver to opt out of the alternative fuel requirements for fleets. The heavy duty Diesel vehicles with a gross vehicle weight of 8500 pounds or more manufactured in or before model year 1993 would have the catalyst installed based upon the following time schedule in A.R.S. 49-555:

a. 25 percent of the Diesel fleet vehicles by December 31, 1998.
b. 40 percent of the Diesel fleet vehicles by December 31, 1999.
c. 60 percent of the Diesel fleet vehicles by December 31, 2000.
d. 80 percent of the Diesel fleet vehicles by December 31, 2001.
e. 100 percent of the Diesel fleet vehicles by December 31, 2002.

The technology is to be effective at reducing particulate emissions by at least 25 percent and be approved by the Environmental Protection Agency pursuant to the Urban Bus Engine Retrofit/Rebuilt Program. This measure applies to Area A which is generally the nonattainment area (A.R.S. 9-500.04, 15-349, 41-803, 49-474.01, 49-573 and 49-555).

24. Mass Transit Alternatives

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which allows cities and towns to voluntarily refer an advisory question relating to public transportation to the voters at a special or general election (A.R.S. 9-500.15).

1997 ■ Town of Gilbert began providing public transit and dial-a-ride service during 1996. A local bus route in Mesa was extended through Gilbert, providing connections with several regional bus routes. This route provides 370 daily miles of service in Gilbert, amounting to 94,350 service miles annually, and is operated Monday through Friday from approximately 5 a.m. until 7 p.m.

An express bus route was extended into downtown Gilbert, providing service for commuters to downtown Phoenix. The Gilbert portion of this route accounts for 30 daily and 7,650 annual service miles, and is operated Monday through Friday from approximately 5 a.m. until 6:30 p.m.

In addition, the Town of Gilbert began providing town-wide dial-a-ride service by joining the Mesa/Chandler Dial-a-Ride (now the Mesa/Chandler/Gilbert Dial-a-Ride). This service is also provided Monday through Friday from about 4 a.m. until 7 p.m.

The Gilbert Town Council approved funding in May 1996. The Town of Gilbert began providing express bus service in August 1996. The Town of Gilbert began providing dial-a-ride service in September 1996. The Town of Gilbert began providing local bus service in March 1997.

Participation in regional and local transit planning is allocated through the annual budget process. The Gilbert Town Council dedicated $300,000 for the above described public transit measures during FY 1996-97.

1997 ■ City of Glendale is currently participating in a Major Investment Study (a regional planning process) to evaluate multi-modal transportation technologies and alignment alternatives to reduce traffic congestion and increase urban mobility. One part of the study is expected to be devoted to evaluating the feasibility of a regional fixed guideway transit system linking Glendale to the Greater Phoenix Metropolitan area. The City's Transportation Department is responsible for this measure. Legal authority for this action is provided under Section 9-240, "General powers of common council" of the Arizona Revised Statutes.

Project Initiation/Public Involvement Program: April 1997
Initial Screening of Alternatives: July 1997
Evaluation of Alternatives: November 1997
Conceptual Design/Detailed Evaluation of Alternatives: February 1998
Final Report: April 1998
End of Contract: June 1998

Funding will be determined through the City's annual budget development process.

1997 ■ City of Goodyear has participated in the Southwest Valley Transportation Study to develop a comprehensive transportation plan for the Southwest Valley. This study is a guide for future multi-modal transportation planning and programming for the next 25 years. The study contains alternative transit components and has been adopted by council.

Project initiation/Public involvement program: April 1998
Initial screening of alternatives: July 1998
Evaluations of Alternatives: November 1998
Conceptual Design/Detailed Evaluation of Alternatives: February 1999
Final Report: April 1999
End of Contract: June 1999.

The Transportation Study is completed and it contains a five-year (1996-2001) transportation improvement program, a ten year (2001-2006) medium range transportation plan, and a long range plan for 25-years. The five-year program is based on the current MAG Regional Transportation Improvement Program for the City. The City of Goodyear and Maricopa County Department of Transportation Capital Improvement Programs were also used for the study. The mayors of the Southwest Valley are working cooperatively to address regional transportation issues.

The City is exploring a local bus service, an express bus service, an inter-city bus service, and a Dial-a-Ride program. An option the City may have for mass transit is a commuter rail service. Although it may not be feasible at this time, it may require serious consideration in the future. Funding will be determined through the City's annual budget process.

1997 ■ City of Mesa is participating in a cooperative effort with the Federal Transit Administration (FTA), the Maricopa Association of Governments (MAG), the Regional Public Transit Authority (RPTA) and the cities of Tempe, Scottsdale, Phoenix and Glendale to conduct feasibility studies to evaluate the need and general location for high capacity transit corridors throughout the metropolitan area. This effort will also include a series of Major Investment Studies which focus on subregions within the metropolitan area. Studies are also planned to evaluate the feasibility of high-capacity transit options such as light rail, bus ways, and commuter rail.

These studies are part of a continuing effort to evaluate transportation options. Related studies include the Arizona Passenger Rail Feasibility Continuation Study (1994), Downtown Phoenix Rail Trolley Feasibility Study (1995), Commuter Rail Demonstration Project Feasibility Study (1995), and Major Investment Studies for the Squaw Peak and Superstition Corridors-Phase I.

Bus service in Mesa will continue to expand; one new express route has been added during the last year and during 1998 it is anticipated that Saturday service will be added to some sections of the system. The City will continue to explore additional funding sources to further expand the bus system. Evaluation of the feasibility of transit options is ongoing. Participation in regional transit planning is allocated through the annual budget process.

1997 ■ City of Peoria indicates that this measure will require commitment by other neighboring cities, State, and County jurisdictions. Plans and funding alternatives require commitment by all, coordinated through RPTA. Existing Public Works and Engineering Department Engineering Division staff will continue to attend scheduled meetings by RPTA to discuss and work out alternatives.

1997 ■ City of Phoenix is participating in a cooperative effort with the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Maricopa Association of Governments (MAG), the Regional Public Transit Authority (RPTA), and the cities of Tempe, Scottsdale, Mesa, and Glendale to conduct feasibility studies to evaluate the need and general location for high capacity transit corridors throughout the metropolitan area. This effort will also include a series of Major Investment Studies which focus on subregions within the metropolitan area. Studies are also planned to evaluate the feasibility of high-capacity transit options such as light rail, busways, and commuter rail.

These studies are part of a continuing effort to evaluate transportation options. Related studies include the Arizona Passenger Rail Feasibility Continuation Study (1994), Downtown Phoenix Rail Trolley Feasibility Study (1995), Commuter Rail Demonstration Project Feasibility Study (1995), and Major Investment Studies for the Squaw Peak and Superstition Corridors-Phase I.

The City has worked with the RPTA to submit an application for federal discretionary funds from the 1997 re-authorization of the Intermodal Surface Transportation Efficiency Act (ISTEA) and the FY 1998 U.S. Department of Transportation Appropriations Bill. The application requests $130 million to fund the initial 10-mile segment of a high-capacity rail system connecting the downtown areas of Phoenix and Tempe.

The City has also worked with the RPTA to submit an application for funds to support the purchase of transit buses from the 1997 re-authorization of the Intermodal Surface Transportation Efficiency Act (ISTEA) and the FY 1998 U.S. Department of Transportation Appropriations Bill. The application requests $29.2 million in fiscal year 1998 to purchase new buses. Matching funds will be required from local communities requesting buses.

The Major Investment Study for the Phoenix-Tempe corridor is in progress. Applications for ISTEA and DOT Appropriation Bills were submitted in February 1997. Participation in regional transit planning is allocated through the annual budget process.

1997 ■ City of Scottsdale is participating in a cooperative effort with the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Maricopa Association of Governments (MAG), the Regional Public Transit Authority (RPTA), and the cities of Phoenix, Tempe, Mesa, and Glendale to conduct feasibility studies to evaluate the need and general location for high capacity transit corridors throughout the metropolitan area.

One of the City of Scottsdale Transportation Department, Transit Division program objectives stated in the Biennial Budget for fiscal years 1997-1999 is completion of a Major Investment Study by December 1997, which focuses on subregions within the Phoenix metropolitan area. Studies are also planned to evaluate the feasibility of high-capacity transit options such as light rail, busways, and commuter rail.

These studies are part of a continuing effort to evaluate transportation options. Related studies include the update of the Transit Plan which is a Transportation Department Objective for fiscal years 1997-1999. Implementation is in progress. Participation in regional transit planning is allocated through the annual budget process.

1997 ■ City of Tempe indicates that this measure is envisioned as a major change to the scope and service levels offered by the existing public transportation system in the region.

The City of Tempe is currently participating in a cooperative effort with the Federal Transit Administration (FTA), the Maricopa Association of Governments (MAG), the Regional Pubic Transportation Authority (RPTA), and the cities of Phoenix, Scottsdale, Mesa and Glendale to conduct feasibility studies to evaluate the need and general location for high capacity transit corridors throughout the metropolitan area. This effort includes a series of Major Investment Studies which focus on subregions within the metropolitan area. The studies will evaluate the feasibility of high-capacity transit options such as light rail, busways and commuter rail. One subregional study area is downtown Tempe, Arizona State University, and Rio Salado. The City would continue these study efforts.

The City is working with the RPTA in an application for federal discretionary funds from the 1997 reauthorization of the Intermodal Surface Transportation Efficiency Act (ISTEA) and the FY 1998 U.S. Department of Transportation Appropriations Bill. The application requests $130 million to fund the initial ten mile segment of a high-capacity rail system connecting the downtown areas of Tempe and Phoenix.

The City is also working with the RPTA in the application for funds for purchase of transit buses from the 1997 reauthorization of the ISTEA and the FY 1998 U.S. Department of Transportation Appropriations Bill. The application requests $29.2 million in fiscal year 1998 and would require matching funds from local communities requesting buses.

The Major Investment Study for the Phoenix-Tempe corridor and the downtown Tempe, ASU, and Rio Salado is in progress. Applications for

ISTEA and DOT Appropriation Bills were submitted in February 1997. Participation in regional transit planning is provided through the dedicated sales tax for transit.

1997 ■ Regional Public Transportation Authority indicates that this measure involves implementing the long range transit improvements as described in the Regional Transit Plan for Maricopa County, Arizona prepared by the RPTA Citizen Advisory Committee. This plan expands the days and times when bus service is available and more than doubles the annual miles of bus service. Service improvements would include adding new bus routes and increasing the frequencies on existing routes. By the fifth year, the plan calls for:

- 29 million miles of annual bus service
- 625 buses in services
- All routes operating 7 days a week
- Service 5 a.m. to midnight, Monday-Saturday
- Service 6 a.m. to 8 p.m., Sundays and Holidays
- Dial-a-Ride service would triple

The plan also calls for conducting a feasibility study to determine the need for rail transit.

The Regional Transit Plan for Maricopa County, Arizona was adopted by the Regional Public Transportation Authority Board of Directors on July 9, 1992. In November, 1994, voters rejected a joint proposal which would have provided a half-cent tax increase for highways and transit. Since that time, the RPTA Board has been studying alternative methods to finance the plan. In 1996, voters in Tempe approved a one-half of one percent sales tax increase dedicated to public transit improvements. The City of Phoenix will hold an election on such a measure on September 9, 1997, and the Council of the City of Scottsdale is considering placing such a measure before its electorate on the same date. If these two communities follow Tempe's course, the transit needs of approximately 58 percent of the population of the MAG region can be addressed by such a dedicated funding source. Such action may compel other communities in the region to follow suit, as they may otherwise find it difficult to attract new employers and other developments with a lower level of infrastructure.

The level of personnel committed to transit operations in Fiscal Year 1997-1998 is equivalent to 5.5 FTE. This plan has not yet been funded (other than in Tempe). Implementation will require securing the new funding sources dedicated to public transportation described above. The RPTA is responsible for transit planning and program implementation. The projected

RPTA operating budget for fiscal year 1997-1998 is estimated at $17.9 million. Sources of operating revenue include federal and state grants, RPTA sales tax, farebox revenues, and other income sources including interest.

25. Develop Intelligent Transportation Systems

1997 ■ City of Chandler is participating in the AzTech Model Deployment Initiative, a three-year project to demonstrate application of currently available technology to improve collection and dissemination of information such as road closures, current operating conditions and services available for all modes of travel. Another goal of the project is to improve interagency coordination for traffic control and incident management. The City of Chandler has representatives on the AzTech Executive Committee and AzTech Technical Oversight Committee. The City will provide information about City of Chandler operations to support development of a data base, collection system, and communications network covering the Phoenix metropolitan area. Responsible agencies include Arizona Department of Transportation, Maricopa County, and the City of Chandler Public Works Department, Transportation Division. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of Glendale is participating in a regional effort to demonstrate intelligent transportation systems to enhance traffic flow and promote safety. A total of eight transportation corridors in the Phoenix Metropolitan area have been selected for testing. Three of the corridors are partially located in Glendale (Bell Road, Glendale Avenue and Grand Avenue). Currently in progress. The City's Transportation Department is responsible for implementing this measure. Funding for the measure will come from Glendale's share of the $7.5 million Intelligent Transportation Systems grant awarded to Arizona by the U.S. Department of Transportation.

1997 ■ City of Goodyear is participating in a regional effort to demonstrate intelligent transportation systems to enhance traffic flow and promote safety. Many jurisdictions in the west valley are coordinating with Maricopa County Department of Transportation to address transportation issues concurrently. The concept is to promote communication between the communities to ensure smoother traffic flows. Currently in progress. The City's Public Works Department is responsible for implementing this measure. The City is working with Arizona Department of Transportation and Maricopa County Department of Transportation for assistance in applying this measure. Funding for the measure will come from the City's annual budget process.

1997 ■ City of Mesa is working with the Arizona Department of Transportation to coordinate the synchronization of City traffic signals with ADOT freeway signals. Synchronization will be achieved by sharing traffic information through a new communication link between the City's traffic management system and the ADOT Freeway Management System (FMS). The interconnect of the two signal systems will allow both agencies the ability to share information on a real-time basis and adapt signal timing more effectively for unusual traffic conditions such as accidents and other obstructions.

The City is also working on a model deployment initiative (AzTech) for the development of intelligent transportation systems to provide feedback to motorists on unusual conditions. Mesa is participating in a $7.5 million project to develop this system. The City also works with the ADOT to ensure that timing for freeway ramp metering is designed to avoid unnecessary local traffic congestion. Implementation is ongoing. Funding is allocated through the annual budget process. Of the $7.5 million regional Intelligent Transportation System funding for implementation, Mesa will be providing in-kind matches including services, staff time, and possibly funding.

1997 ■ Town of Paradise Valley will be working with the Maricopa Department of Transportation on developing this measure in the form of monitors, signage and cameras on Lincoln Drive. This may be done with an inter-governmental agreement as the Arizona Department of Transportation grant money becomes available to Maricopa County. Town of Paradise Valley Engineering Department.

The plan will be presented to the Council this fiscal year. The Town Engineer will spend approximately 200 hours on this project at a cost of around $7,000. This is funded by the Town's annual budget. The Maricopa County Department of Transportation will fund the program with grant funds from the Arizona Department of Transportation.

1997 ■ City of Peoria participated with Maricopa County and other regional Cities to determine the existing and planned levels of signal control and coordination. All agreed that a coordinated, regional approach of traffic management is needed. Ten arterials were selected for development of regional signal coordination strategies. Peoria is willing to assist in any way to implement a signal coordination system. Maricopa County will be the lead agency and will prepare a schedule. The City will enter into an intergovernmental agreement.

1997 ■ City of Phoenix will work with the Arizona Department of Transportation (ADOT) to coordinate the synchronization of City Traffic Signals with ADOT Freeway signals. Synchronization will be achieved by sharing traffic information through a new communication link between the City's Advantage Traffic Management Center and the ADOT Freeway Management System (FMS). The interconnect of the two signal systems will allow both agencies the ability to share information on a real-time basis and adapt signal timing more effectively for unusual traffic conditions such as, accidents and other obstructions. Phoenix, with its 835 signals and central location, is key to the effectiveness of the program.

The City also works with the ADOT to ensure that timing for freeway ramp metering is designed to avoid unnecessary local traffic congestion. Implementation is in progress. Funding is allocated though the annual budget process. $1.8 million in funding has been allocated regionally for the connections of the ADOT FMS to seven Valley cities including Phoenix.

1997 ■ City of Scottsdale will work with the Arizona Department of Transportation (ADOT) and neighboring cities to coordinate the synchronization of City of Scottsdale traffic signals. Synchronization will be achieved by sharing traffic information through communication links.

Three program objectives for the City of Scottsdale Transportation Department, Traffic Engineering Division, which are reported in the Biennial Budget for fiscal years 1997-1999 are:

- Install preliminary phase of comprehensive traffic detection system by June 1998.
- Install preliminary phase of Traveler Information System by December 1997.
- Improve operation and accident analysis through video and computer technology enhancement.

The City of Scottsdale has negotiated a long-term agreement with U.S. West for leased telephone lines to communicate with the City's traffic signals. Implementation is in progress.

Funding is allocated through the biennial budget process. $1.8 million in funding has been allocated regionally for the connection of the ADOT FMS to seven Valley cities including Scottsdale.

1997 ■ City of Tempe indicates that this measure involves the application of new technology to produce more efficient use of existing transportation corridors.

The City will work with the Arizona Department of Transportation (ADOT) to coordinate the synchronization of City traffic signals with ADOT Freeway signals. The City will also participate in AzTech Model Deployment, Traffic Signal Coordination across city boundaries, and Advanced Public Transit system.

Implementation in progress. Funding for the Transportation Division is allocated through the annual budget process. A federal grant of $7.5 million was awarded to the region in October 1996. The grant requires matching funds from local public and private sector funds . Funds will be used as follows:

> $2 million to implement advanced information system, expanded on existing use of variable message signs and ADOT Internet page (real-time freeway camera views) and set up kiosks showing up-to-date information at shopping centers, bus terminals and the airport.
>
> $1.8 million will be used to standardize and link traffic signal synchronization systems used by the State, Phoenix, Tempe, Scottsdale, Glendale, and Mesa.
>
> $1.7 million to install cameras and sensors onto seven of the busiest streets in the Valley.
>
> $700,000 to be used to install automatic vehicle locators on buses and $100,000 on public outreach and education.

In addition, a city employee, Jim Decker, has been loaned to the ADOT for implementation of the Model Deployment Program.

1997 ■ Maricopa County indicates that the term "Intelligent Transportation Systems" includes a variety of technological applications intended to produce more efficient use of existing transportation corridors. The primary application currently implemented in the Maricopa County area is the Freeway Management System (FMS) operated by the Arizona Department of Transportation. The FMS combines the use of in-road sensors, surveillance cameras, ramp metering controls and variable message signs to detect and respond to freeway incidents.

Maricopa County is a major participant in the AzTech, public/private partnership to provide a variety of technological applications to produce more efficient use of existing transportation systems. As the regional jurisdiction, Maricopa County is devoting its resources and personnel to coordinating ITS efforts among smaller jurisdictions.

The AzTech Intelligent Transportation System (ITS) Model Deployment Initiative (MDI) is a seven year project (two year implementation and five year operation) that will develop an integrated intelligent transportation system for the Phoenix metropolitan area. When fully implemented in 1998, AzTech will produce freeway and arterial street networks that are safer and more efficient for the traveling public, decreasing travel time and enhancing traveler mobility. Once complete, the system will serve approximately 97 percent of the state's population.

AzTech is being developed through a wide partnership between the public and private sectors. Management of traveler information and client development is administered through a cooperative multi-agency and corporation effort.

Approximately $2.4 million will be used to implement an advance traveler information system which will expand on the existing use of variable freeway message signs and the ADOT Internet page (of real-time freeway camera views and link speeds) and set up kiosks showing up-to-date travel information at shopping centers, bus terminals, and the airport. It will also transmit information to pagers, mobile and stationary computers and in vehicle navigation devices.

Approximately $2.3 million will be used to standardize and link traffic signal synchronization systems used by the State and seven cities, including Phoenix, Tempe, Scottsdale, Glendale, and Mesa.

Approximately $1.7 million will install cameras and sensors (as currently used on freeways) onto eight of the busiest streets in the Valley. This will help traffic flow especially during special events. Maricopa County has committed $1.8 million of the total funding of this project from the Department of Transportation Budget. $6.4 million of the funds are from a FHWA grant, and $2.8 million is coming from ADOT. Other local jurisdictions are also participating in the funding.

1997 ■ Arizona Department of Transportation indicates that the term "Intelligent Transportation System" (ITS) includes a variety of technological applications intended to produce more efficient use of existing transportation corridors. The primary application currently in the Maricopa County area is the Freeway Management System (FMS) operated by ADOT. The FMS combines the use of in-road sensors, surveillance cameras, ramp metering controls, and variable message signs to detect and respond to freeway incidents. The system is managed from the ADOT Traffic Operations Center located on Durango Street just west of Interstate 17. This will be an ongoing effort.

A copy of the ITS Project Outline and Funded Projects as shown in the ADOT ITS Semi-Annual Report Project Life Cycle Plan is being provided to MAG for the required implementation schedule information. This report also contains information on future, and completed projects, and information on the Freeway Management System projects. The ITS Program has several user service bundles, or activities. The Freeway Management System currently utilizes ITS technology such as Incident Management and En-Route Drive Information. Route Guidance, or in-vehicle navigation system will soon be available through ITS technology as well as electronic clearance at the Ports-of-Entry. Longer term projects include those that would require automated highway systems for advanced vehicle control and safety systems. (Attachments)

The current plan contains a total of 17 phases covering an envisioned 240 miles of freeway for the Phoenix area. The first two phases have been implemented and the third, fourth, and fifth phases are in the process of being instituted. In addition, a $7.5 million grant was received from the FHWA to become a model for deployment of ITS. Only four of 23 proposals were selected for ITS model deployment. This project is referred to as the AzTech Project.

In October 1996, the U.S. Department of Transportation awarded to Arizona a $7.5 million grant to provide for ITS technology. The grant requires local public and private sector funds to match every federal dollar. Administration of the plan development and program began with required staff time equivalent to seven full time employees. Other funding sources include local governments and the private sector.

1997 ■ Regional Public Transportation Authority indicates that a total of 88 buses will be equipped with automatic vehicle locators by December 1997. There will be 23 City of Mesa buses, 55 City of Phoenix buses, and ten RPTA buses. The City of Phoenix and RPTA buses will be operated on routes 0, and 72, the Red Line and the Blue Line. The purpose of the project is to provide passengers with real time travel information of buses within the transit system. Information will be made available through variable message signs at selected locations throughout the Phoenix metropolitan region.

This measure will be implemented by the City of Phoenix Public Transit Department, the Regional Public Transportation Authority (RPTA), and the cities of Mesa, Scottsdale, and Tempe. Implementation of this measure is one activity made possible by a U.S. Department of Transportation grant for $7.5 million that was awarded to the State of Arizona to provide intelligent transportation systems. This measure is expected to be implemented in December 1997.

Administration of this measure is accomplished by the equivalent of 0.25 full time employee. The administrator is an employee of the City of Phoenix Public Transit Department, but officially represents both the City of Phoenix and the RPTA. The estimated cost of this measure is $700,000, consisting equally of the "Americas Model Deployment Initiative for Intelligent Transit Systems" federal grant funds, and local match monies.

26. Special Event Controls-Required Implementation from List of Approved Strategies

1997 ■ City of Avondale is working with the public and private sector stakeholders to evaluate options for managing parking and traffic associated with activity centers and PIR events. The City is developing a downtown parking program. Community Development will also work with the City departments, PIR, cultural and downtown property owners, and other stakeholders to address parking issues, to identify linkages to alternative modes of travel, and to consider the availability of public and private transportation services for these venues.

Expansion of Public Transportation Programs (Measure 97-TC-5) may result in increased funding for transit and ultimately help provide transit options for travel to activity centers. Without expansion of the current public transportation system, options of encouraging alternative transportation will be limited. However, Fiscal Year 1997-1998 the City has expanded the public transportation system to provide service to three new communities. Also see measure 97-TC-10: Site Specific Transportation Control Measures. Implementation is ongoing. Funding is allocated through the annual budget process.

1997 ■ City of Chandler indicates that transit service between the downtown area and remote parking areas (shopping center parking lots along north Arizona Avenue) was implemented on a trial basis during the last festival in Chandler. Since this festival attracts more than 200,000 people over a three-day period, this resulted in a reduction to the number of cars cruising the downtown area in search of parking spaces and less idling as a result of reduced congestion in and near downtown parking areas. Beginning 1998, remote parking areas will be provided for each of the two festivals Chandler holds each year. Funding is allocated through the annual budget process.

1997 ■ City of Glendale indicates that in the event that Maricopa County or the Arizona Department of Environmental Quality develops a rule with regionwide applicability, the City will consider implementing this measure. At this time, there is no legal definition of a "special event center". The City will explore the implementation of this measure after the legal definition of a special event center is developed by Maricopa County or the Arizona

Department of Environmental Quality. The City Traffic Engineer will be responsible to explore the feasibility of implementing this measure. Funding will be determined through the City's annual budget development process.

1997 ■ City of Goodyear indicates that in the event that Maricopa County or the Arizona Department of Environmental Quality develops a rule with regionwide applicability, the City will consider implementing this measure. At this time, there is no legal definition of a "special event center". The City will explore the implementation of this measure after the legal definition of a special event center is developed by Maricopa County or the Arizona Department of Environmental Quality. The Public Works Department will be responsible to explore the feasibility of implementing this measure. Funding will be determined through the City's annual budget process.

1997 ■ City of Mesa indicates that at this time there are a minimal number of large events in the City of Mesa. The City will continue to evaluate parking management and traffic control improvements for smaller special events.

Development of the ITS system may aid in the implementation of this measure. Mass Transit Alternatives (Measures 97-TC-1) and Expansion of Public Transportation Programs (Measure 97-TC-5) may result in increased funding for transit and ultimately help provide transit options for travel to activity centers. Without expansion of the current public transportation system, options of encouraging alternative transportation will be limited. Also see Measure 97-TC-10: Site Specific Transportation Control Measures. Coordination will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of Peoria indicates that this measure involves emission controls from special events resulting in parking and point source from vehicle and equipment. The type of controls are dependent upon the duration of the event and the anticipated number of participants. Events are categorized as either City sponsored or non-City sponsored events. Current staffing in the Community Services Department, Community Development Department, Police Department, and Public Services Department are utilized to implement the controls. Controls include dust preventative measures in paved and non-paved parking areas, and traffic control for large, short duration City sponsored events. The Community Services Department enforces the controls for the City sponsored events through coordination with other City departments. Non-City sponsored events are controlled through the Use Permit process administered by the Community Development Department by a series of conditions which stipulate dust and traffic control.

1997 ■ City of Phoenix is working with the public and private sector stakeholders to evaluate options for managing parking and traffic associated with activity centers and special events in the downtown area. The City has established a position for a temporary staff person with primary responsibility for developing a downtown parking program for City-owned parking facilities. The Coordinator will also work with City departments, the Downtown Phoenix Partnership. Cultural and sport venue management, downtown property owners, parking managers, and other stakeholders to address parking issues, to identify linkages to alternative modes of travel, and to consider the availability of public and private transportation services for these venues.

Mass Transit Alternatives (Measures 97-TC-1) and Expansion of Public Transportation Programs (Measure 97-TC-5) may result in increased funding for transit and ultimately help provide transit options for travel to activity centers. Without expansion of the current public transportation system, options of encouraging alternative transportation will be limited. Also see Measure 97-TC-10: Site Specific Transportation Control Measures.

Job responsibilities are currently assigned to an existing staff person. Recruitment for the Parking Management Coordinator is expected to be completed by July 1, 1997. Funding is allocated through the annual budget process. Temporary Parking Management Coordinator position (Estimated $85,000).

1997 ■ Town of Queen Creek does not have a large number of special events throughout the year. The Town, however, will include in the current special events application a requirement to obtain a Maricopa County dust permit. The Town estimates that ten (10) events would be affected by this measure with attendance which varies from 50 to 5,000.

It is expected that this measure will be implemented no later than January 1, 1998. Implementation would involve adding the requirement of a Maricopa County dust permit to the existing special events application. To implement the measure, the current Building Department staff would be adequate to check completed special event applications for a Maricopa County dust permit. Funding to implement this measure would be budgeted from the Town's General Fund.

1997 ■ City of Scottsdale evaluated traffic patterns before and during Super Bowl XXX, and programmed the signal computer to alleviate and avoid traffic predicaments.

The City of Scottsdale completed construction of two bridges associated with the Greenway/Hayden CAP crossing prior to the 1997 Phoenix Open to alleviate traffic congestion. The Phoenix Open is an annual event.

The City of Scottsdale Transportation Department's objective for 1997-1999 is to implement a traffic management program.

The City works with the Chamber of Commerce, public and private sector stakeholders to evaluate options for managing parking and traffic associated with activity centers and special events throughout Scottsdale.

Mass Transit Alternatives (Measure 97-TC-1) and Expansion of Public Transportation Programs (Measure 97-TC-5) may result in increased funding for transit and ultimately help provide transit options for travel to activity centers. Without expansion of the current public transportation system, options of encouraging alternative transportation will be limited. Also see Measure 97-TC-10: Site Specific Transportation Control Measures.

Implementation is in progress. Funding is allocated through the biennial budget process.

1997 ■ City of Tempe indicates that this measure would require new and existing owners/operators of special event centers to reduce mobile source emissions generated by their events. A list of available strategies would be available that reduce mobile source emissions. The definition of "special event center" would be developed through the rule process.

The expanded transit system, as referenced in Measure 97-TC-5, will assist special event promoters in providing alternative transportation to special events. In addition, the City is continuing to study a special event traffic management system.

The Events Task Force, comprised of representatives from various city departments, currently reviews special event applications. The Task Force serves as the means to address event issues such as traffic and safety. This measure can be implemented upon definition of special event center and development of available strategies. Funding is provided through the annual budget process.

27. <u>Voluntary Lawn Mower Emissions Reduction Program</u>

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which requires Maricopa and Pima Counties to establish a Voluntary Lawn Mower Emissions Reduction Program to begin no later than July 1, 1998. A lawn mower owner may

participate in the program if the lawn mower starts and is used for commercial or residential purposes. The voucher for retired commercial lawn mowers is $200 and must be used for the purchase of a lawn mower that generates lower emissions. The voucher for retired residential lawn mowers is $100 and must be used for the purchase of an electric lawn mower. Retired lawn mowers are prohibited from use in Arizona.

In order to fund this program, H.B. 2237 establishes the Voluntary Lawn Mower Emissions Reduction Fund consisting of monies appropriated by the Legislative and political subdivisions along with gifts, grants and donations. The Counties are required to prepare and submit a progress report on December 1 of each year which describes the number of lawn mowers retired by brand and year of manufacture; cost effectiveness of the program in terms of dollars spent per ton of emissions reductions; recommendations for improving the effectiveness of the program; and administrative costs of the program (A.R.S. 49-474.02).

The bill also contains a $1,000,000 appropriation for the State General Fund for fiscal year 1997-1998 for deposit into the Voluntary Lawn Mower Emission Reduction Fund (Section 21 of H.B. 2237).

1998 In 1998, the Arizona Legislature passed S.B. 1427 which expanded the program to include garden equipment as well as lawn mowers. The bill specifies that a voucher will be issued in the amount of $50 to the owner of a gasoline powered lawn or garden device that is retired. The voucher must be used for the purchase of a lawn or garden device that generates lower emissions. Retired equipment is prohibited in the state. In addition to lawn mowers, the progress report due from the counties on December 1 of each year must include garden equipment. The bill also contains an appropriation of $500,000 in FY 1998-1999 and $500,000 in FY 1999-2000 (A.R.S. 49-474.02 and Section 36 of S.B. 1427).

1997 ■ Maricopa County indicates that this measure involves implementing a voluntary program to purchase and retire commercial and residential lawn mowers which produce excessive emissions. This measure will be implemented by the Maricopa County Environmental Services Department, Community Service Division. Legal Authority for this action is provided under Section 49-474.02 of the Arizona Revised Statutes.

The Maricopa County Community Services Division is currently in the developmental stages of program implementation.

July 1997, Define program parameters
July 1997, Develop RFP for Vendors
August 1997, Issue RFP for Vendors
October 1997, Select Vendor
October 1997, Finalize paperwork
November 1997, Program implementation

Personnel will be provide through existing staff. The sum of $1,000,000 has been appropriated from the state general fund to be split among counties with a population of more than 500,000 persons.

28. Off-Road Vehicle and Engine Standards

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which requires the Arizona Department of Environmental Quality to adopt rules for air pollution emission standards for off-road vehicles and engines marketed in the State beginning with the 1999 model year. The standards may include the following categories:

f. Heavy duty Diesel vehicles rated at 175-750 horsepower.
g. Small utility and lawn and garden equipment engines rated at less than 25 horsepower.
h. Recreational vehicles rated at less than 25 horsepower.
i. Specialty engines and go-carts rated at greater than 25 horsepower.
j. Off-road motorcycles and all terrain vehicles.

The Arizona Department of Environmental Quality is also required to adopt air pollution emission standards for golf cart engines in Maricopa County (A.R.S. 49-542.04).

29. Encourage the Use of Temporary Electrical Power Lines Rather than Portable Generators at Construction Sites

1997 ■ City of Avondale would participate in program with the electrical utility companies and the Homebuilders Association to encourage the use of temporary construction power devices (meter socket receptacles) for construction sites. The receptacles connect to the power pole and eliminate the need for petroleum-powered generators. The reusable equipment is available through Arizona Public Service Company and Salt River Project Agricultural Improvement and Power District.

The City will assist with the creation and distribution of informational materials as appropriate. Public Works and Community Development Services Department staff will be familiar with the program and will encourage participation by developers and contractors. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Buckeye will encourage the use of temporary power by working with Arizona Public Service and contractors to consider the use of temporary power lines instead of portable generators. The Town's Building Safety Division is responsible for this measure. Legal Authority is provided by the adopted Uniform Electrical Code, adopted by the Town Council. This

measure is already being implemented. Funding is provided through the Town's General Fund for Building Safety personnel.

1997 ■ Town of Carefree is a semi-rural community with approximately 2300 residents located on the north edge of the Phoenix metropolitan area. The average annual new residential construction is approximately 60 dwelling units. The Town of Carefree, in conjunction with the Arizona Public Service Company, encourages the use of temporary power for new construction.

This measure will be implemented by the Town of Carefree. Legal authority for this action is provided under Section 9-270-A (14) of the Arizona Revised Statutes. The approval and encouragement of temporary electrical power for new construction is continual. The annual operating cost of the Town of Carefree Building and Safety Department is approximately $110,000. However, there is no additional cost to the Town in implementing this measure.

1997 ■ Town of Cave Creek will adopt requirements for all new construction to install Temporary Metered Power Outlet prior to pre-slab inspection. However, due to the remoteness of certain areas and the current backlog of the power company to hook up even primary services, this measure would not be attainable at all phases of construction but would be obtainable by 50 percent stage of construction. When primary power becomes available, Temporary Metered Power will be required by the Building Official.

1997 ■ City of El Mirage will work with other entities to encourage building contractors and developers to consider the use of temporary electrical power rather than portable generators, where appropriate. The City will work with other key partners, i.e., electrical utility companies, developer/builder associations and state and local governmental agencies to develop and/or distribute appropriate materials to encourage building contractors and developers to consider the use of temporary electrical power instead of portable generators. The City's Building Department is responsible for the implementation of this measure. Funding will be determined through the City's annual budget development process.

1997 ■ Town of Fountain Hills agrees to implement a program which encourages the use of Salt River Project ("SRP") temporary power devices at new construction sites. This measure is jointly implemented by the Town of Fountain Hills Building and Safety Department and SRP. Legal authority for this is provided under Arizona Revised Statutes Section 9-240-"General Powers of Council".

The Town of Fountain Hills Building and Safety Department currently encourages the use of "temporary power devices", however, the actual hook-

up and monitoring is controlled and managed by SRP. The program began on January 1, 1997. There are no funds allocated for this measure from the Town of Fountain Hills budget. This measures does not represent an ordinance, regulation, or rule requiring enforcement. SRP manages and enforces this "temporary power" program. All temporary power devices are installed and inspected by SRP personnel at the construction site.

1997 ■ Town of Gilbert indicates that homebuilders can choose to use SRP's Temporary Metered Power Outlet at subdivisions. The receptacles connect to the power pole and eliminate the need for petroleum-powered generators. The Town will assist with the creation and distribution of informational materials as appropriate. Building and Code Enforcement Department staff is familiar with the program and available to answer questions by developers and contractors. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale will work with other entities to encourage building contractors and developers to consider the use temporary electrical power rather than portable generators, where appropriate. The City will work with other key partners, e.g., electrical utility companies, developer/builder associations, and state and local governmental agencies to develop and/or distribute appropriate materials to encourage building contractors and developers to consider the use of temporary electrical power instead of portable generators. The City's Community Development Group is responsible for the implementation of this measure. Funding will be determined through the City's annual budget development process.

1997 ■ City of Goodyear will work with other entities to encourage building contractors and developers to consider the use of temporary electrical power rather than portable generators, where appropriate. The City will work with other key partners, e.g., electrical utility companies, developer/builder associations, and state and local governmental agencies to develop and/or distribute appropriate materials to encourage building contractors and developers to consider the use of temporary electrical power instead of petroleum powered generators. The City's Community Development Department is responsible for the implementation of this measure. Funding will be determined through the City's annual budget process.

1997 ■ City of Mesa has a program to facilitate installation of temporary power at any site within the City. The City will monitor the progress of a pilot program between electrical utility companies and the Homebuilders Association to encourage the use of temporary construction power pole and eliminate the need for petroleum-powered generators. The reusable equipment is available through the Salt River project Agricultural Improvement and Power District.

The City will assist with a regional effort to create and distribute informational materials as appropriate. The Building Inspection Department and the Environmental Division will be familiar with the program and will encourage participation by developers and contractors. Coordination and public education will be ongoing. Funding is allocated through the annual budget process.

1997 ■ Town of Paradise Valley indicates that the Town plans to include in it's requirements, the use of temporary electrical power during the construction process. This will be accomplished by the passing of Ordinance Number 445, prohibiting the use of gas generators at building sites unless temporary power is unavailable. Town of Paradise Valley Building Inspection Department. Implementation will be within the next calendar year. Funding is allocated through the Town's annual budget.

1997 ■ City of Peoria indicates that the use of temporary electrical power sources is a standard practice for commercial developers within the City of Peoria. Developers routinely connect to electrical source power rather than use portable generators and other portable equipment. Existing Off-Site and Building inspectors will be utilized.

1997 ■ City of Phoenix is participating in a pilot program with the electrical utility companies and the Homebuilders Association to encourage the use of temporary construction power devices (meter socket receptacles) for construction sites. The receptacles connect to the power pole and eliminate the need for petroleum-powered generators. The reusable equipment is available through Arizona Public Service Company and Slat River Project Agricultural Improvement and Power District.

The City will assist with the creation and distribution of informational materials as appropriate. Development Services Department staff will be familiar with the program and will encourage participation by developers and contractors. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Queen Creek will encourage homebuilders to arrange for installation of temporary power at construction sites by the local utility company. The number of housing units affected by this measure would be approximately six (6) per month. Commercial developments affected would be approximately one (1) per year.

It is expected that this measure will be implemented no later than January 1, 1998. Implementation would involve the addition of the SRP temporary power information packet to the existing materials that the

Building Department provides at building permit issuance. To implement the measure, the current Building Department staff would be adequate to encourage the use of temporary power. The funding to implement the measure would be budgeted from the Town's General Fund.

1997 ■ City of Scottsdale indicates that Arizona Public Service (APS) and Salt River Project (SRP) both have voluntary temporary construction power programs for residential construction. (See Attachments for details.)

The City of Scottsdale is cooperating with these voluntary programs in conjunctions with the electrical utility companies and the Homebuilders Association to encourage the use of temporary construction power devices (meter socket receptacles) for residential construction sites. The receptacles connect to the power pole and eliminate the need for petroleum-powered generators. The reusable equipment is available through Arizona Public Service Company (APS) and Salt River Project (SRP). Implementation is in progress. Staffing funding for inspection services is through the biennial budget process.

1997 ■ City of Tempe is implementing this measure by a change in the City's current Electric Code. When the change is completed, the City will work with the electrical utility companies, contractors, owners, and builders to encourage the use of temporary metered power outlets for construction sites. The temporary metered power outlets are connected to the building's electrical service pole and eliminate the need for petroleum-powered generators. The power outlets are available through Salt River Project and Arizona Public Service.

The City will assist with the creation and distribution of informational materials as appropriate. The Development Services Department staff will be familiar with the program and will encourage participation by developers and contractors. Implementation is in progress. Funding for Development Services is allocated through the annual budget process.

1997 ■ City of Tolleson Mayor and Council will adopt an ordinance requiring contractors to use temporary power lines only in those areas where it is fiscally and geographically possible. Developments not in close proximity to a permanent electrical power source will not be required to adhere to this measure. The Ordinance will be adopted by July, 1997. City of Tolleson Building Department Staff will fulfill the duties required for the proper implementation of this measure. Cost of $200 will be incurred for publication of said ordinance.

1997 ■ Maricopa County indicates that the emissions from the production of electrical power used in new home construction could be reduced substantially by the use of temporary electrical power rather than generators. Electrical service can usually be established within 30 days of the request. This voluntary measure would reduce noise as well as air pollution. Pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors), Maricopa County will hand out brochures, when issuing building or earthmoving permits, advising contractors of the availability of the program and appropriate contacts. Departments will obtain or design a handout in June 1997 and begin handing out the information to all permittee after July 1, 1997. Departments' permitting programs are ongoing and funded in the existing budget.

30. Defer Emissions Associated With Governmental Activities

1997 ■ City of Avondale indicates that the City uses 4-stroke lawnmowers and limits the use of 2-stroke lawn-care equipment wherever feasible. The City will consider options for a pilot program to evaluate electrical-powered lawn-care equipment as the battery technology becomes more feasible for large scale operations.

1997 ■ Town of Buckeye will evaluate ways to defer emissions associated with Town governmental activities during high pollution periods. The Town will evaluate new low or no emission lawn maintenance and other equipment when they become available for commercial use. The Town will look into establishing procurement standards which require bidders to provide information on substitute products with low or no-content reactive organic compounds in applicable procurement solicitations. Various Town Departments will be responsible for this measure. Legal authority for this action is provided under ARS 9-240, "General Powers of the Common Council". The Town's staff will periodically evaluate low or no emission lawn maintenance and other equipment as they become available for commercial use. Funding will be determined through the Town's annual budget process.

1997 ■ Town of Cave Creek indicates that wherever and whenever possible, the Town will schedule road construction and maintenance projects outside of the critical air pollution periods. Factors that would affect the Town's ability to re-schedule projects include the efficient use of equipment and manpower.

1997 ■ City of Chandler indicates that the City's Park Division has reduced the use of gas-powered blowers by limiting the number of days they can be used in the downtown colonnade area from five days per week to only one day per

week and by sweeping walks in lieu of using blowers in neighborhood parks when feasible. As contracts for maintenance of city-owned property are re-bid, the City will work with contractors to use cleaner-burning equipment; specifically, motors that comply with either "CARB 95" or "EPA Phase I" standards. The City's Public Works Department will replace worn-out two-cycle, gas-powered trimmers, chain saws, blowers, and lawn mowers with four-cycle equipment whenever possible. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of El Mirage will evaluate ways to defer emissions associated with City governmental activities during high pollution periods. The City will evaluate new low or no emission lawn and garden equipment when they become available for commercial use or when feasible. The City will look into establishing procurement standards which requires bidders to provide information on substitute products with low or no-content of reactive organic compounds in all applicable procurement solicitations.

The City's Parks Maintenance and Streets Department will periodically evaluate low or no emission lawn and garden equipment as they become available for commercial use. Funding will be determined through the City's annual budget development process.

1997 ■ Town of Gilbert, wherever feasible, will reduce activities in the Nonattainment Area that may contribute to seasonal air quality problems. Outside painting activities will be avoided during the summer months. The Town uses 4-stroke lawnmowers and limits the use of 2-stroke lawn-care equipment wherever feasible. The Town will consider options for a pilot program to evaluate electrical-powered lawn-care equipment as the battery technology becomes more feasible for large scale operations. The Town will continue to use employee newsletters or other communication tools to encourage employees to limit engine idling, reduce driving, and to avoid activities which may contribute to air pollution or to schedule activities in a manner to avoid peak pollution periods. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale will evaluate ways to defer emissions associated with City governmental activities during high pollution periods. The City will evaluate new low or no emission lawn and garden equipment when they become available for commercial use or when feasible. The City will explore the possibility of modifying its landscape maintenance contracts to encourage the use of low or no emissions lawn and garden equipment when existing contracts expire. The City has established procurement standards which requires bidders to provide information on substitute products with low or no-

content of reactive organic compounds in all applicable procurement solicitations.

The City's Park Maintenance Division and Right of Way Division will periodically evaluate low or no emission lawn and garden equipment as they become available for commercial use and explore the possibility of modifying landscape service contracts when existing contracts expire. City landscape maintenance crews currently do not use two-cycle engine lawnmowers. The City is currently requesting substitute products with low or no-content of reactive organic compounds in all applicable procurement solicitations. Funding will be determined through the City's annual budget development process.

1997 ■ City of Goodyear will evaluate ways to defer emissions associated with City governmental activities during high pollution periods. The City will evaluate new low or no emission lawn and garden equipment when they become available for commercial use or when feasible. The City will explore the possibility of modifying its landscape maintenance contracts to encourage the use of low or no emissions lawn and garden equipment when contracted work is required. The City will establish procurement standards which will require bidders to provide information on substitute projects with low or no content or reactive organic compounds in all applicable procurement solicitations.

The City's Park Maintenance Division and Right-of-Way Division will periodically evaluate low or no emission lawn and garden equipment as they become available for commercial use and explore the possibility of modifying landscape service contracts when existing contracts expire. Funding will be determined through the City's annual budget development process.

1997 ■ City of Mesa has been working with lawncare contractors to utilize cleaner burning equipment; specifically, motors that comply with either "CARB 95" or "EPA Phase I" standards. The City has developed a pilot program to require the use of equipment that meets either the CARB or EPA standards. As part of this program, two lawncare contractors have committed to using only the cleaner burning equipment for City projects after August 1997. Based on the results of the pilot program, the City will determine if the program can be expanded to all contractors beginning January 1, 1998.

The City is continuing to evaluate the feasibility of restricting the use of or limiting the hours of usage for lawncare and other gasoline powered equipment on City property. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ Town of Paradise Valley will use the Trip Reduction Program's communication to encourage employees to limit engine idling, reduce driving, and to avoid activities which may contribute to air pollution or to schedule activities in a manner to avoid peak pollution periods. This measure will be included in the annual Trip Reduction Program to be revised and submitted to the Maricopa County Trip Reduction Agency in November of 1997. A full-time exempt employee volunteers their services on off hours, at a cost of zero. The annual budget for this measure is from the Town's General Fund. Development and administration of the Trip Reduction Program Reduction Plan requires staff time equivalent to 0.20.

1997 ■ City of Phoenix, in 1997, established standard text to be included in City contracts which requires vendors to provide information on the amount of reactive organic compounds in their products and information on substitute products which contain either non-reactive or low-reactive organic compounds. Outside painting activity will be avoided during the summer months whenever feasible.

The City uses 4-stroke lawnmowers and limits the use of 2-stroke lawncare equipment wherever feasible. The City will consider options for a pilot program to evaluate electrical-powered lawncare equipment as the battery technology become more feasible for large scale operations.

The City will continue to use employee newsletters or other communication tools to encourage employees to limit engine idling, reduce driving, and to avoid activities which may contribute to air pollution or to schedule activities in a manner to avoid peak pollution periods.

1997 ■ City of Scottsdale Procurement Guidelines restrict purchase of certain chemicals, including some VOC products. City operational units defer certain painting and street striping operations whenever feasible. The City of Scottsdale Community Maintenance and Recreation Department no longer uses gas-powered leaf blowers to maintain landscaping in the Civic Center Mall. Various options including vacuum-brooming and use of electric powered equipment have been piloted.

City contracts with landscape maintenance companies for the Civic Center Mall prohibit use of gas-powered leaf blowers. City contract for cleaning and maintenance of Scottsdale Stadium prohibit use of gas-powered leaf blowers (except for six (6) select dates during the year). The City now purchases 4-stroke lawnmowers to replace older mowers. The City will consider options for a pilot program to evaluate alternatively powered lawncare equipment, including hydrogen powered and electric powered equipment.

The City will continue to use employee newsletters or other communication tools to encourage employees to limit engine idling, reduce driving, and to avoid activities which may contribute to air pollution or to schedule activities in a manner to avoid peak pollution periods. Implementation is in progress. Funding is allocated through the biennial budget process.

1997 ■ City of Surprise indicates that this measure involves limiting use or idling of Public Works vehicles or utility equipment and minimizing the use of two-cycle gasoline-powered lawn and garden maintenance equipment after 2:00 p.m. during the winter carbon monoxide season (October 1 through March 31). This measure will be implemented by the City of Surprise Public Works Department. Commitment to begin during the 1998 winter carbon monoxide season.

1997 ■ City of Tempe indicates that this measure involves shifting or postponing certain emission activities during critical air pollution periods.

- During the summer ozone season, the City will: prioritize and reschedule painting, metal coating, refinishing, and other VOC (Volatile Organic Compounds) emitting activities; restrict the use of 2-cycle gasoline-powered lawn and garden equipment, with no use allowed after 4:00 p.m; encourage the use of hand and electric equipment; stagger the time of day for refueling to avoid heavy emissions all at once, and; include in all procurement solicitations for VOC-containing products a request for a substitute product with a lower or no VOC content.

- During the winter CO (Carbon Monoxide) season, City personnel are asked: to minimize the use of 2-cycle gasoline-powered lawn and garden equipment after 2:00 p.m.; avoid idling vehicles or utility equipment; and schedule street construction and maintenance projects that disrupt traffic flow during the summer months, when feasible. In the downtown area, the City has committed to clean sidewalks four times a week. To use manpower efficiently, gas blowers are used in the early morning hours, 3:30 a.m. to 6:00 a.m.

Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Wickenburg indicates that this measure involves limiting the use of idling of Public Works vehicles or utility equipment and minimizing the use of 2-cycle gasoline-powered lawn and garden maintenance equipment after 2:00 p.m. during the winter carbon monoxide season (October 1st through

March 31st). An attempt will be made to operate this program during the winter months between October 1st and March 31st.

1997 ■ Town of Youngtown indicates that the Youngtown Police Department has implemented a four day, ten hour work week. This practice would stagger personnel schedules; thus decreasing Town vehicle usage. This program is currently in operation. No additional personnel or funding is required by the implementation.

1997 ■ Maricopa County indicates that this measure is aimed at reducing activities where feasible and appropriate, by State agencies and local governments in the Nonattainment Area that may contribute to seasonal air quality problems. This measure would involve a shift in the timing of activities or postponement altogether, until after critical air pollution periods.
Pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors) and the contracting authority set forth in A.R.S. Section 11-201(A), Maricopa County commits to insert a provision into the bid specifications for landscape maintenance to encourage the use of new lawnmower equipment meeting the EPA Phase I specifications, require the use of 4-cycle engines on gasoline powered lawnmower equipment, or restrict the use of 2-cycle equipment after 2:00 p.m. during the winter carbon monoxide season. The provision also states that should smaller 4-cycle engines become available on hand held lawn equipment (weed eaters, vacuums/blowers, etc.) contractors will be required to utilize such equipment.

Maricopa County is in the process of selecting a contractor to perform landscaping services.

May 1997	Finalize bid specifications
June 1997	Call for bids
August 1997	Award contract

Ongoing program funded through existing County budget.

1997 ■ Arizona Department of Transportation indicated that this measure is directed at reducing some activities by State Agencies and local governments where feasible and appropriate in the Nonattainment Area that may contribute to carbon monoxide air quality problems. This measure will require an internal policy and will be an ongoing effort.

A formal policy will be developed by the ADOT General Operations Group to limit the use or idling of utility equipment and to minimize the use of 2-cycle gasoline-powered lawn and garden maintenance after 2:00 p.m. during

the carbon monoxide season. No additional funding or employees would be required to implement this measure. Associated costs are covered by the ADOT administrative budget.

1997 ■ Regional Public Transportation Authority indicates that the RPTA will reduce activities where feasible and appropriate that may contribute to seasonal air quality problems. This would involve a shift in the timing of activities or postponement altogether, until after critical air pollution periods. RPTA will:

- encourage and ask contractors, employees, and over 1,250 employer-clients to reschedule painting and refinishing and other VOC emitting activities to occur outside of the summer months whenever feasible;
- include in procurement solicitations for VOC-containing commodities a request for substitute products with lower or no VOC content;
- limit use of idling of vehicles during the winter carbon monoxide season;
- encourage contractors and over 1,250 employer clients to minimize use of 2-cycle gas powered lawn equipment, go electric or use manual equipment, and to limit use after 2 p.m. in the winter. RPTA will work with the ADEQ and MAG, who are co-sponsors of the Clean Air Campaign, in dissemination of information on the above activities.

Summers/ongoing: seasonal activities to reduce emissions will be disseminated via HPA advisories, articles, fact sheets, internal E-mail, letters, etc.
Winters/ongoing: seasonal activities to reduce emissions will be disseminated via HPA advisories, articles, fact sheets, internal E-mail, letters to contractors, etc.

No additional funding or personnel is required to disseminate this information.

31. <u>Clean Burning Fireplace Ordinances</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which requires cities, towns, and counties in Area A to adopt, implement and enforce an ordinance that complies with the clean burning fireplace standards adopted by the Metropolitan Planning Organization that is responsible for air quality planning in Area A by December 31, 1998. The ordinance must prohibit the installation or construction of a fireplace or wood stove unless it is one of the following:

1. A fireplace that has a permanently installed gas or electric log insert.

2. A fireplace, a wood stove or any other solid fuel burning appliance that is any of the following:

   (a) Certified by the U.S. Environmental Protection Agency as in compliance with 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

   (b) A wood stove tested and listed by a nationally recognized testing agency to meet performance standards equivalent to those in 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

   (c) Determined by the County Air Quality Control Officer to meet performance standards equivalent to those in 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

3. A fireplace that has a permanently installed wood stove insert that complies with paragraph 2, subdivision (a), (b) or (c) of this section.

The ordinance is required to prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. The ordinance may provide for exemptions from regulation for heating or industrial equipment, cooking devices and outdoor fireplaces. The state income tax subtraction of $500 dollars for the purchase and installation of a qualified wood stove, wood fireplace or gas fired fireplace and non-optional equipment is removed. The subtraction of $500 dollars for the conversion of an existing wood fireplace to a qualified fireplace is retained.

A county that contains any portion of Area A that has a population of less than 1,200,000 according to the most recent U.S. decennial census shall adopt, implement, and enforce the ordinance only in those portions of the county which are located in Area A (A.R.S. 9-500.16 and 11-875).

1999 ■ City of Avondale indicates that this measure involves the use of clean burning fireplaces based on the MAG Regional Council Clean Burning Fireplace Standards for new construction and Senate Bill 1427. The City of Avondale will adopt the Clean Burning Fireplace Ordinance prior to July 30, 1999 so that the effective date of the ordinance is July 30, 1999. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permanent fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875).

This measure will be implemented by the City of Avondale Community Development Department. Legal authority for this action is provided under Senate Bill 1427 and a new City ordinance. The schedule for implementing this measure will be that prior to July 30, 1999, an ordinance that meets the MAG Regional Council approved Clean Burning Fireplace Standard for new construction with an effective date of July 30, 1999 or earlier will be adopted. There will be no increase in staff necessary for the implementation of this ordinance. The City administration will oversee the implementation of this measure.

1998 ■ Town of Carefree, on September 1, 1998, adopted an ordinance prohibiting the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance includes the requirements listed in Arizona Senate Bill 1427 (1998) and the MAG Clean Burning Fireplace Standard, dated October 23, 1997. The Town of Carefree Ordinance No. 98-14 becomes law thirty days after adoption. Ordinance No. 98-14 will be enforced by the Building Department staff. Legal authority is provided by Town ordinances and State statutes.

1998 ■ City of Chandler commits to adopt an ordinance designed to ensure that as new fireplaces are built, they will not be contributing to increased air pollution problems. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. This ordinance will include the state requirements listed in the S.B. 1427, Laws 1998, Chapter 217 and the MAG Clean Burning Fireplace Standard, dated October 23, 1997. City of Chandler, Planning and Development Department, Development Services Division will be responsible for implementation. Legal authority for this action is provided under A.R.S. 9-240, General Powers of Common Council and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance. Implementation will begin upon the effective date of the ordinance, January 1, 1999, and will be ongoing. Funding is allocated through the annual budget process.

1998 ■ City of El Mirage commits to adopt an ordinance designed to ensure that as new fireplaces are built, they will not be contributing to increased air pollution problems. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. This ordinance will include the state requirements listed in the Arizona Senate Bill 1427 (1998) and the MAG Clean Burning Fireplace Standard, dated October 23, 1997. The City of El Mirage has approximately 100 existing fireplaces and anticipates 10 built per

year in future construction. The ordinance will be implemented by the City of El Mirage. Legal authority for this action will be provided under A.R.S. 9-240, General Powers of Councils, and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance, as created under Senate Bill 1427. In accordance with A.R.S. 9-500.16, the ordinance must be developed, adopted, and implementation by December 31, 1998. Legal authority for this action will be provided under A.R.S. 9-240, General Powers of Council, and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance, as created under Senate Bill 1427.

1998 ■ Town of Fountain Hills commits to adopt an ordinance designed to ensure that as new fireplaces are built, they will not be contributing to increased air pollution problems. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. This ordinance will include the state requirements listed in the Arizona Senate Bill 1427 (1998) and the MAG Clean Burning Fireplace Standard, dated October 23, 1997.

The ordinance will be implemented by the Town of Fountain Hills. Legal authority for this action will be provided under A.R.S. 9-240, General Powers of Councils, and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance, as created under Senate Bill 1427. In accordance with A.R.S. 9-500.16, the ordinance must be developed, adopted, and implemented by December 31, 1998.

1998 ■ Town of Gilbert indicates that State law adopted in the 1998 legislative session requires cities and towns located in the Maricopa County Nonattainment Area to adopt, implement, and enforce an ordinance that complies with the Metropolitan Organization's clean burning fireplace standards by December 31, 1998, (A.R.S., Section 9-500.16). In December of 1997, the Town of Gilbert adopted Town Ordinance 1066, which prohibits: (1) the installation or construction of a fireplace or wood stove unless it is clean burning; and (2) the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use.

This measure will be implemented by the Town of Gilbert Code Enforcement Department. Legal authority for this action is provided under A.R.S., Section 9-240 General Powers of Common Council. The effective date for the Town's clean-burning fireplace ordinance is January 1, 1999. This measure will be implemented by existing personnel and funding will be allocated through the annual budget process. The ordinance will be enforced by the Town's Code Enforcement Department.

1998 ■ City of Glendale indicates that State law adopted in the 1998 legislative session requires cities and towns located in the Maricopa County Nonattainment Area to adopt, implement, and enforce an ordinance that complies with the clean burning fireplace standards by December 31, 1998. The ordinance prohibits the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance also prohibits the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875).

The City of Glendale's Building Safety Department is responsible for recommending changes to the City ordinances relating to new fireplace construction. Legal authority for this measure is provided under A.R.S. 9-240, General Powers of Common Council and the Glendale Charter. The City of Glendale will adopt a clean burning fireplace ordinance by December 31, 1998. The City of Glendale will implement and enforce the ordinance starting in 1999. The City of Glendale's Building Safety Department is adequately staffed to implement and enforce this measure. The City of Glendale's Building Safety Department will enforce this measure through its construction permit process.

1998 ■ City of Goodyear indicates that this measure involves the use of clean burning fireplaces based on the MAG Regional Council Clean Burning Fireplace Standards for new construction and Senate Bill 1427. The City of Goodyear will adopt the Clean Burning Fireplace Ordinance prior to December 31, 1998 so that the effective date of the ordinance is December 31, 1998. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The Ordinance will also prohibit the subsequent conversion or alteration of a permanent fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875).

This measure will be implemented by the City of Goodyear Community Development Department. Legal authority for this action is provided under Senate Bill 1427 and a new City ordinance. The schedule for implementing this measure will be that prior to December 31, 1998, an ordinance meets the MAG Regional Council approved Clean Burning Fireplace Standard for new construction with an effective data of December 31, 1998 or earlier will be adopted. There will be no increase in staff necessary for the implementation of this ordinance. City administration will oversee the implementation of this measure.

1998 ■ City of Mesa indicates that the City passed the Clean Burning Fireplace Ordinance (No. 3434) on February 2, 1998 that meets the requirements of S.B. 1427 (1998) for clean burning fireplaces. The ordinances prohibits the

installation or construction of a fireplace or wood stove unless it meets the clean burning requirements, and it prohibits the conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. The ordinance includes a penalty provision of fines not to exceed $2,500.00 and six months imprisonment for persons, and fines not to exceed $20,000.00 for firms or corporations.

The Building Inspections Division (BID) is responsible for issuing building permits for all new construction. Permits will not be issued after December 31, 1998 to any facility where the building plans indicate the installation of a nonclean burning fireplace. The BID is also responsible for inspecting new construction prior to approving it for occupancy. Certificates of Occupancy will not be issued to a facility where a nonclean burning fireplace has been installed in violation of Ordinance 3434. Implementation authority is found in: A.R.S., Section 9-240 General Powers of Councils; Mesa City Charter, Article I: Powers of the City; Mesa City Code, Section 4-1-2: Fireplace Restrictions; Mesa City Code, Section 4-9-1: Uniform Administrative Code.

The Ordinance has been adopted and will prohibit the installation of non-approved fireplaces on or after December 31, 1998. Funding is allocated through the annual budget process to fund staff positions in BID. The Building Inspections Division will enforce the clean burning fireplace requirements beginning December 31, 1998.

1998 ■ Town of Paradise Valley indicates that this measure involves an ordinance that requires all new fireplaces to conform to MAG standards. This measure is being implemented by the Town of Paradise Valley Community Development Department. Legal authority for this action is provided under A.R.S. 9-240 General Powers of Common Council. The ordinance was adopted on December 18, 1997. The Town of Paradise Valley will use its two full time building inspectors and one assistant planner to ensure compliance. The Town Administration will oversee the implementation of this measure.

1998 ■ City of Peoria indicates that this measure involves the use of clean burning fireplaces based on the MAG Regional Council Clean Burning Fireplace Standards for new construction and Senate Bill 1427. The City of Peoria will adopt the Clean Burning Fireplace Ordinance prior to December 31, 1998 so that the effective date of the ordinance is December 31, 1998. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permanent fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875).

This measure will be implemented by the City of Peoria Building Safety Division. Legal authority for this action is provided under Senate Bill 1427

and a new City ordinance, The schedule for implementing this measure will be that prior to December 31, 1998, an ordinance that meets the MAG Regional Council approved Clean Burning Fireplace Standard for New Construction with an effective date of December 31, 1998 or earlier will be adopted. There will be no increase in staff necessary for the implementation of this ordinance. The City administration will oversee the implementation of this measure.

1998 ■ City of Phoenix indicates that in December 1997, the City of Phoenix adopted Ordinance G-4062, which amends the City Code to prohibit the installation or construction of a fireplace or wood stove unless the appliance is "clean burning". This ordinance allows permanently installed electric or natural gas fireplace inserts, EPA-approved appliances, or other appliances which have been determined to be "as-clean-as" the EPA approved appliances, or other appliances (as determined by the Maricopa County Air Pollution Control Officer). The ordinance also prohibits the removal of a gas or electric log insert or wood stove insert from a fireplace for the purpose of converting the fireplace to directly burn wood or other solid fuel.

City of Phoenix, Development Services Department is responsible for enforcing the Ordinance through building permits. Authority for implementation includes: A.R.S., Section 9-240, General Powers of Councils; Arizona Constitution, Article 13, Section 2; Charter and Code of Phoenix AZ, Chapter II, General Powers, Rights, and Liabilities; Phoenix Charter, Chapter 4, Section 2: Powers Enumerated; Ordinance G-4062 which creates Phoenix City Code, Chapter 40, Environmental Protection; and Article I: Fireplace Restrictions.

The Ordinance is effective on December 31, 1998. Funding for implementation of the City's Building Code enforcement program is allocated through the annual budget process. The Ordinance will be enforced through the City's Building Permit process.

1998 ■ Town of Queen Creek indicates that this measure involves the adoption of an ordinance to prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. It also must prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. Senate Bill 1427 mandates this measure.

The Town of Queen Creek Building Department will implement this measure. Legal authority for this action is provided under A.R.S. 9-240, General Powers of Common Council. As required by S.B. 1427, the Clean Burning Fireplace Ordinance will be adopted, implemented and enforced by December 31, 1998. The current Engineering and Building Department staff

would be adequate to implement this measure. Funding to implement this measure would be budgeted from the Town's General Fund. The enforcement of this measure would be the responsibility of the Building Department. During the plan review phase of the building permit process, the plan reviewer will check for compliance with the Clean Burning Fireplace Ordinance.

1998 ■ City of Scottsdale indicates that this measure is intended to prohibit installation and/or construction of residential wood burning fireplaces unless they are clean burning. The City of Scottsdale participated in the process, which led to the development of a regional model fireplace ordinance. On December 1, 1997, the Scottsdale City Council passed Ordinance No. 3095 Clean Burning Fireplaces. The ordinance takes effect January 1, 1999. This ordinance is regarded as a Best Available Control Measure (BACM) for fireplace particulate emissions.

Subsequently, State law adopted May 29, 1998 in the 1998 legislative session requires cities and towns located in the Maricopa County Nonattainment Area to adopt, implement, and enforce an ordinance that complies with the Clean Burning Fireplace Standards by December 31, 1998. The ordinance prohibits the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance also prohibits the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875). The previously passed Scottsdale ordinance meets these requirements.

The City of Scottsdale Community Development Department is responsible for implementing the City ordinances relating to new fireplace construction. Legal authority for this measure is provided under A.R.S. Section 9-240, General Powers of Common Council. The City of Scottsdale Ordinance No. 3095 Clean Burning Fireplaces takes effect on January 1, 1999. The City of Scottsdale Community Development Department is adequately staffed to implement and enforce this measure. The City of Scottsdale Community Development Department will enforce this measure through its building permit process.

1998 ■ City of Surprise commits to review adoption of an ordinance designed to ensure that as new fireplaces are built, they will not be contributing to increased air pollution problems. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. This ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. This ordinance will include the state requirements listed in Arizona Senate Bill 1427 (1998) and the MAG Clean Burning Fireplace Standard, dated October 23, 1997.

The ordinance will be implemented by the City of Surprise. Legal authority for this action will be provided under A.R.S. Sections 9-240, 9-276, and 9-500.16. In accordance with A.R.S. 9-500.16, the ordinance must be developed, adopted, and implemented by December 31, 1998. Legal authority for this action will be provided under A.R.S. Sections 9-240, 9-276, and 9-500.16.

1998 ■ City of Tempe indicates that State law adopted in the 1998 legislative session requires each city and town located in the Maricopa County Nonattainment Area to adopt, implement, and enforce an ordinance that complies with the Clean Burning Fireplace Standards by December 31, 1998. The ordinance will prohibit the installation or construction of a fire place or wood stove unless it is clean burning. This ordinance also prohibits the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use (A.R.S. 9-500.16 and 11-875).

City of Tempe Ordinance No. 97-67 pertaining to clean burning fireplaces was adopted on December 11, 1997. The implementing City Department is the Development Services Department. Authority for implementation includes A.R.S., Section 9-240, General Powers of Council; Code of Tempe, Arizona. Implementation will begin January 1, 1999. Funding is provided through the annual budget process.

1998 ■ City of Tolleson commits to adopt a clean burning fireplace ordinance that complies with the standards set forth in Senate Bill 1427. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use.

The City of Tolleson Safety Services Department will implement and monitor this measure. Authority to enforce this ordinance will be granted by the Tolleson City Council via A.R.S. 9-240, General Powers of Council. The future ordinance addressing this measure will be adopted and implemented no later than December 31, 1998. Three full-time Safety Services Department employees are assigned to enforce any and all ordinances pertaining to housing development. Funding for implementation is strictly based on the salaries of these employees as well as the cost for administrative support.

Enforcement of the future ordinance will begin at all initial meetings with housing developers. At these meetings, developers will be made aware of the requirements of this ordinance. Furthermore, no site plan shall be approved before total compliance with all City of Tolleson ordinances, including the Clean Burning Fireplace Ordinance, is made evident within

such plans. Intermittent spot inspections will be made, before, during and after construction to ensure compliance with said ordinance. Any violation of this future ordinance will result in the issuance of a citation by code enforcement officials. Safety Services Building Inspectors will perform inspections at will to ensure compliance and report any violations, as well as any action taken against violators, to the Zoning Administrator (City Manager).

1998 ■ Town of Youngtown commits to adopt an ordinance designed to ensure that as new fireplaces are built, they will not be contributing to increased air pollution problems. The ordinance will prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance will also prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. This ordinance will include the state requirements listed in the Arizona Senate Bill 1427 (1998) and the MAG Clean Burning Fireplace Standard, dated October 23, 1997. The Town of Youngtown has approximately ten existing fireplaces and anticipates two built per year in future construction.

The ordinance will be implemented by the Town of Youngtown. Legal authority for this action will be provided under A.R.S. 9-240, General Powers of Councils, and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance, as created under Senate Bill 1427. In accordance with A.R.S. 9-500.16, the ordinance must be developed, adopted, and implemented by December 31, 1998. Legal authority for this action will be provided under A.R.S. 9-240, General Powers of Councils, and A.R.S. 9-500.16, Clean Burning Fireplace Ordinance, as created under Senate Bill 1427. The Town of Youngtown Building Safety Department will track the progress made with the implementation of this measure.

1999 ■ Maricopa County, in 1999, indicates that this measure involves amending Section 3102 of the Uniform Building Code to include the MAG Model Clean Burning Fireplace Standard. S.B. 1427 passed by the Arizona Legislature requires cities, towns and counties in Area A to adopt, implement, and enforce an ordinance that complies with the clean burning fireplace standards adopted by the Metropolitan Planning Organization in Area A by December 31, 1998. The ordinance must prohibit the installation or construction of a fireplace or wood stove unless it is clean burning. The ordinance is also required to prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use (A.R.S. 11-875).

Maricopa County under A.R.S. 11-875 is mandated to adopt, implement, and enforce an ordinance that complies with the clean burning fireplace

standards and additionally from its authority to adopt and enforce code provisions under A.R.S. 11-861 and 11-863. A new code provision was adopted by the Board on December 16, 1998.

Funding is provided by existing Planning and Development through the code amendment process and with normal plan review/building inspection staffing enforcement of the Building Code following adoption of the amendment. The Planning and Development Department will enforce the program through its authority to issue building permits. No permits will be issued unless the device(s) proposed for installation meets the requirements of the Clean Burning Fireplace building code amendment. The Building and Safety Division will not grant a clearance for final inspection sign-off until the fireplace meets the requirements of the Clean Burning Fireplace building code amendment.

32. Public Information Program on Wood Stoves and Wood Heat

1997 ■ Maricopa County indicates that this measure involves establishing a public information and education program to inform and educate citizens about relevant State, local and EPA regulations; general health risks of wood smoke; proper woodburning operations and maintenance; heating fuels and practices; new technology stoves; and alternatives to wood heating. The program is supported by two hotlines; fax notifications of high air pollution advisories to media, agencies and major employers; prepared information sheets for handouts, mailers and bill stuffers; and local newspaper articles (32 published during the 1996-1997 winter season).
Pursuant to A.R.S. Section 11-871, Maricopa County developed and implemented a residential woodburning restriction ordinance in October 1994. The Board of Supervisors authorized the Environmental Services Department to carry out the necessary investigations, inspections, and enforcement for County Air Pollution Control pursuant to A.R.S. Section 49-473. To support the residential woodburning restriction ordinance, the Department has developed a Public Information Program to inform and educate the public pursuant to the County's authorities under A.R.S. Section 11-201, 11-202 and 11-251.

To enhance the program, Maricopa County is completing the following actions:

1. In February 1997 published a Woodburning Booklet as part of Maricopa County Pollution Prevention Program. The Woodburning booklet is being distributed to the public and to the media and is available on the Department's Home Page.

2. In Winter 1996 completed an educational brochure to inform new home buyers about High Air Pollution advisories and to promote clean-burning fireplaces working with the Air Quality Committee of the Phoenix Environmental Quality Commission, the Homebuilders Association and the Hearth Products Association. The brochure is being distributed in model homes and by realtors and home builders throughout Maricopa County.

3. Beginning the winter season 1996-1997, Maricopa County in conjunction with RPTA designed a uniform symbol for high air pollution advisory days which is displayed during the weather reports on all except one of the major network affiliate stations. In addition, the local public television station also began running a "crawl" which appears at the bottom of the television screen announcing high air pollution advisories.

4. By August 1997, high air pollution advisories will appear on Maricopa County Environmental Services Home Page, ADOT's Home Page and RPTA's Home Page which is also linked to the Environmental Section of the Arizona Republic's Home Page. The National Weather Service agreed to include tips with its broadcast wire service air quality report on high air pollution advisory days beginning with the 1996 winter CO season.

The Department designates approximately $30,000 of its Federal 105 grant for the woodburning program including both public information and enforcement. The public involvement coordinator spends one quarter of her time from October to March on this program.

1997 ■ Regional Public Transportation Authority indicates that the RPTA provides information to the public regarding wood stoves and the no burn ordinance to reduce wintertime emissions of carbon monoxide. Information is disseminated through High Pollution Advisories to over 700 Valley employers via facsimile during both winter and summer high pollution seasons. Periodically, articles are written in employer newsletters and/or employee newsletters (made available in camera ready form to employers for duplication) on the importance of oxygenated fuels. RPTA provides information materials to the over 1,250 employers affected by the TRP that represent about 585,000 employees and students. Maricopa County is responsible for educating the public about the No Burn Day ordinance and wood stoves. RPTA works with the County to provide information to employers and residents.

- Fax to over 700 employers on High Pollution Advisory Days, on No Burn.

- Distribute fact sheets when made available by Maricopa County kits to 1,250 employers - Fall, 1997.
- Ongoing-disseminate information as requested by Maricopa County.

No additional funding or personnel is necessary to provide periodic information to residents.

33. Encourage Limitations on Vehicle Idling

1997 ■ Regional Public Transportation Authority updated its engine idling policy in June 1996. The updated policy provides that vehicle operators shall follow the accompanying guidelines on engine idling at layovers, unless actively loading or unloading wheelchair passengers (certain exceptions may apply).

1. Below 90 degrees and over 3 minutes layover, turn engine off.
2. Below 90 degrees and within 100 yards of any single- or multi-family residence, regardless of layover time, turn engine off.
3. Any time the temperature is between 90 and 99 degrees, allow engine to run at low idle.
4. Any time temperature is 100 degrees or higher, allow engine to run at high idle.

The Regional Public Transportation Authority working in cooperation with its member jurisdictions. The RPTA will continue to work with member jurisdictions to promote environmentally sensitive transit operations practices and policies. Promoting vehicle idling limitations and other environmentally sensitive transit operations practices and policies are included within the ongoing annual budgets of the RPTA and its member jurisdictions.

34. Expansion of Area A Boundaries

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which expands the boundaries of Area A. Previously, the Area A boundaries followed the boundaries of the carbon monoxide and ozone nonattainment area. Area A was expanded to include additional portions of Maricopa County, portions of Pinal County, and portions of Yavapai County. The Area A boundaries are delineated as follows:

(a) In Maricopa County:
Township 8 North, Range 2 East and Range 3 East
Township 7 North, Range 2 West Through Range 5 East
Township 6 North, Range 2 West Through Range 6 East
Township 5 North, Range 2 West Through Range 7 East
Township 4 North, Range 2 West Through Range 8 East
Township 3 North, Range 2 West Through Range 8 East

Township 2 North, Range 2 West Through Range 8 East
Township 1 North, Range 2 West Through Range 7 East
Township 1 South, Range 2 West Through Range 7 East
Township 2 South, Range 2 West Through Range 7 East

(b) In Pinal County:
Township 1 North, Range 8 East And Range 9 East
Township 1 South, Range 8 East And Range 9 East
Township 2 South, Range 8 East And Range 9 East
Township 3 South, Range 7 East Through Range 9 East

(C) In Yavapai County:
Township 7 North, Range 1 East And Range 1 West Through Range 2 West

The Area A map is provided in Figure 8-1. The Area A expanded boundaries are also depicted with the PM-10 nonattainment area boundaries in Figure 8-2.

All of the air quality measures and programs added or modified by S.B. 1427 for Area A will be effective from and after December 31, 2000 in the portion of Area A which includes Pinal County. This does not apply to the conversions of fleet vehicles to alternative fuels by cities, counties, and school districts. Also, the vehicles subject to the Vehicle Emissions Inspection Program that have been included within the new boundaries of Area A are required to comply beginning from and after December 31, 1998.

Collectively, the air quality measures which apply specifically to Area A are: Traffic Synchronization; Plans to Stabilize Targeted Unpaved Roads, Alleys, and Stabilize Unpaved Shoulders on Targeted Arterials; Crack Seal Equipment; Alternative Fuel Vehicles Requirements for Local Governments and School Districts; Adjusted Work Hours; Clean Burning Fireplace Ordinances; Use of Petroleum Products for Road Maintenance; Winter Fuel Reformulation: California Phase 2 Reformulated Gasoline with 3.5 Percent Oxygen Content by Weight; Stage I and II Vapor Recovery; Voluntary Vehicle Repair and Retrofit Program; Vehicle Emissions Testing Program Requirements (including Catalyst Replacement Program and Vehicle Repair Grant Program); Tougher Enforcement of Vehicle Registration and Emissions Test Compliance; Remote Sensing, and Travel Reduction Program (A.R.S. 49-541 and Section 41 and 42 of S.B. 1427).

35. <u>Voluntary No-Drive Days</u>

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which changes the Voluntary No Drive Days Program from a winter-time program to a year round program. Maricopa and Pima Counties are required to implement the program (A.R.S. 49-506).

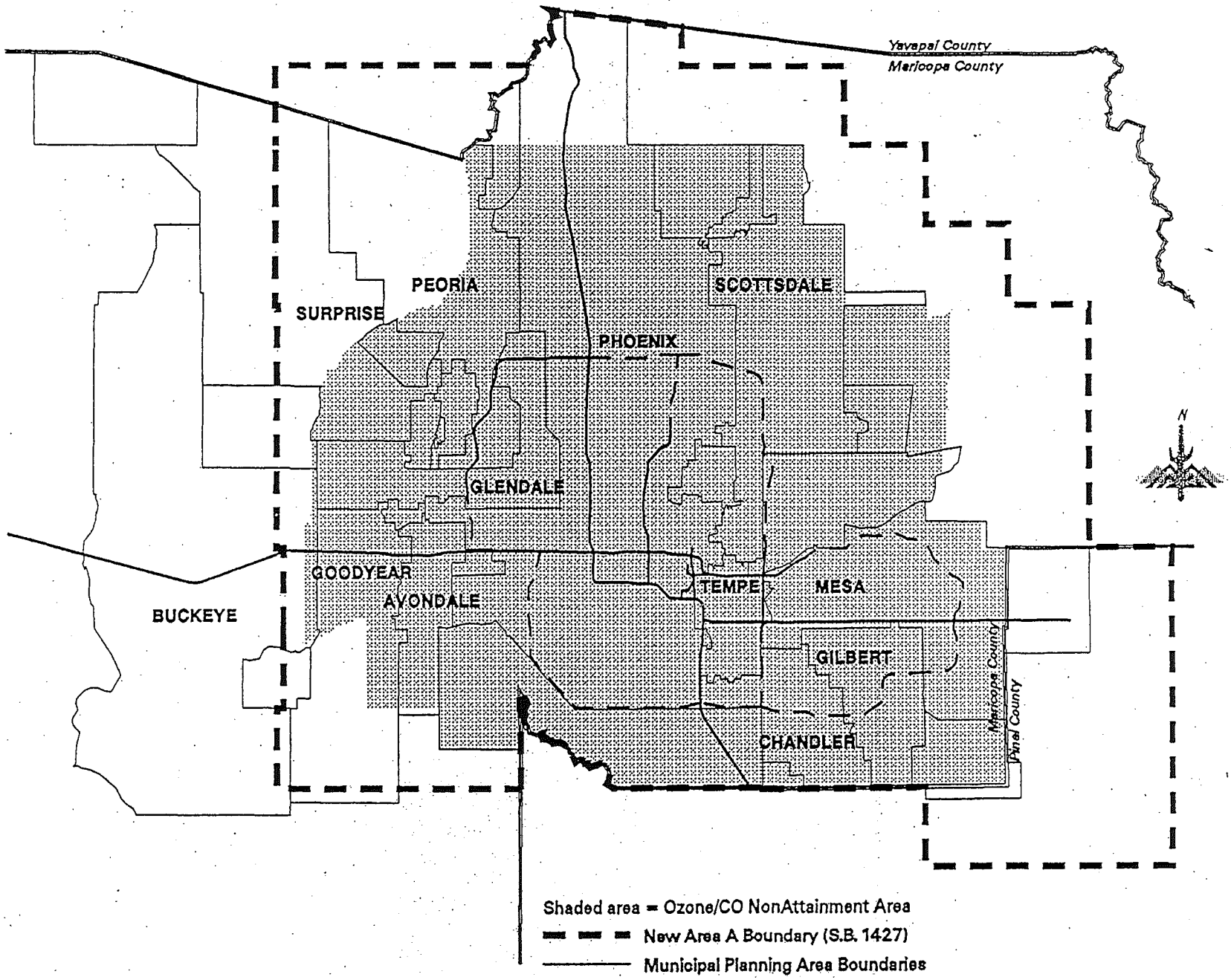
36. Analysis of Intersource Credit Trading and Banking Program

1998 ■ Arizona Legislature passed S.B. 1427 in 1998 which appropriated $75,000 from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 for the analysis of the environmental and economic feasibility of an intersource credit trading and banking program in Arizona for emission sources within the same nonattainment area, maintenance area, or modeling domain. In order to demonstrate environmental feasibility within a nonattainment area, maintenance area, or modeling domain, all emissions trading actions must result in overall reductions in total emissions within the same nonattainment area, maintenance area, or modeling domain. The general fund appropriation must be matched by an equal expenditure of monies from gifts, grants, or donations or the general fund monies revert to the State General Fund by the end of the fiscal year (Section 39 of S.B. 1427).

OZONE/CO NONATTAINMENT AREA & NEW AREA A BOUNDARIES

FIGURE 8-1

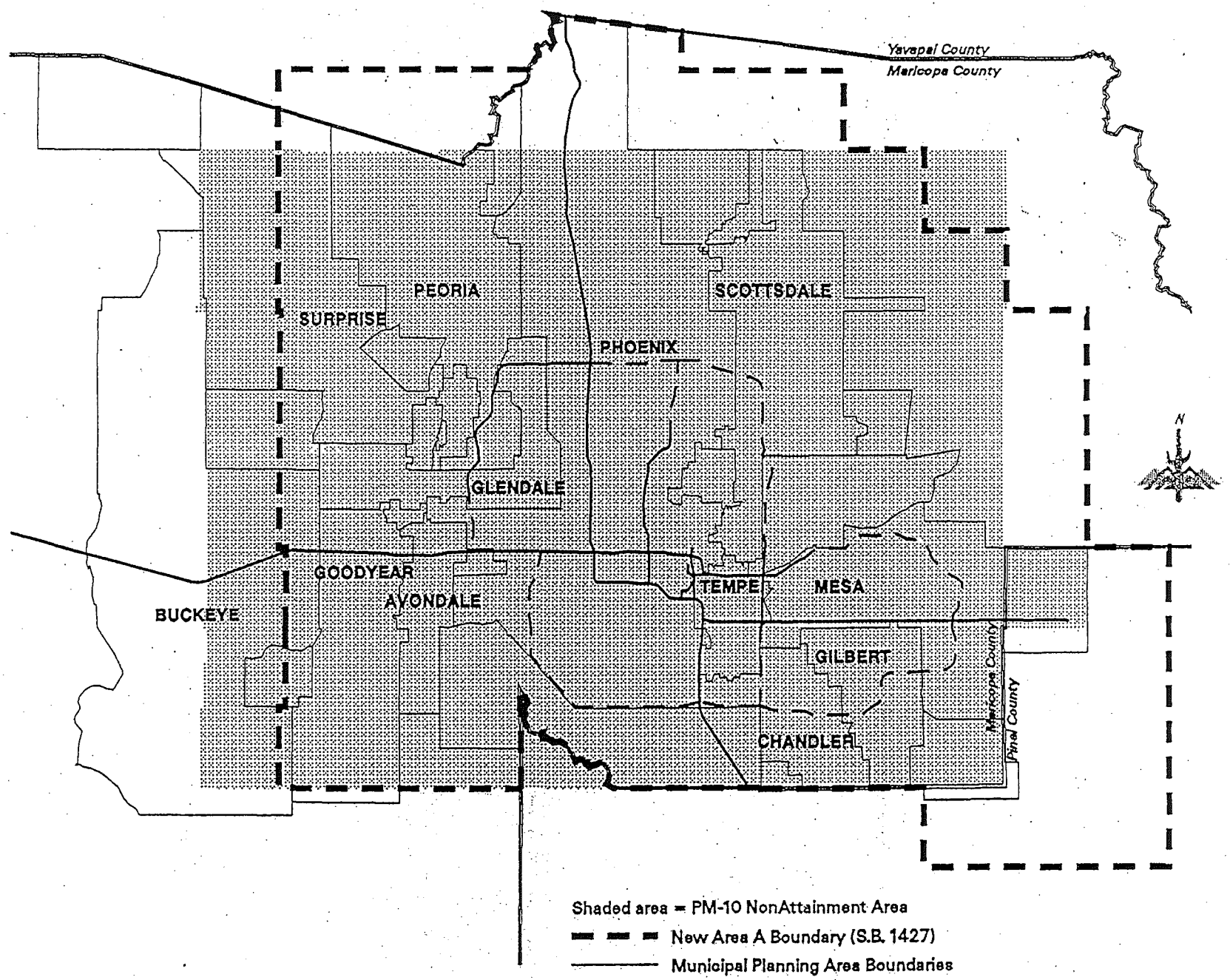
MARICOPA ASSOCIATION of GOVERNMENTS



PM-10 NONATTAINMENT AREA AND NEW AREA A BOUNDARIES

FIGURE 8-2

MARICOPA ASSOCIATION of GOVERNMENTS



aq/areaapm May,

PART 2: EXISTING MEASURES WHICH ARE BEING STRENGTHENED

37. Expansion of Public Transportation Programs

1997 ■ City of Avondale will continue to seek ways to improve public transportation through short range transit improvements. During FY 1997-1998 the City has expanded the Public Transportation System to provide service to three new communities. Potential service changes may include increasing the level of service, expanding service to areas currently without service, and attracting additional ridership through marketing and promotion. The City will continue to work with RPTA to install bike racks on all buses and to install bike racks at Park-and-Ride locations.

If voters approve future sales tax earmarked for transportation these funds would be used for services such as expanded local bus service on weekends and holidays, incorporate Dial-a-Ride service, and new transit services such as limited-stop commuter service, neighborhood mini-bus service, and high capacity rapid transit. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Chandler continues implementation of its program to improve bus stop facilities for passengers to include bus shelters and benches. Of 201 bus stops citywide, 81 stops currently have passenger amenities, i.e., shelters and benches. An additional 19 locations are planned for improvement in FY 1998.

The City has also completed the implementation of 76,000 annual miles of bus service on route #156; 11,000 miles on route #72; added 35,000 miles on route #136; and increased annual service to 44,000 miles on route #81. A new route, #108, will provide service to Chandler beginning August, 1997, adding an additional 6,100 miles.

In addition, the Mayor and Council have appointed a Task Force to develop a plan for additional transit in Chandler. The plan, adopted on April 27, 1997, calls for a grid bus system with 15 and 30 minute headways, expanded hours of service for bus and dial-a-ride and an expanded transit service area to cover the entire city. The plan also calls for planning for regional commuter/light rail at such time as it should expand to Chandler. A campaign committee from Chandler Chamber of Commerce is in the process of developing election strategies and will likely solicit Council to call for a half-cent sales tax election in 1998.

Improvements to the bus stop facilities will be completed in FY 1998. Increases in miles of service on bus routes is ongoing. If approved by the voters, the implementation of the transit plan is tentatively scheduled to be

phased in over a five year period. Transit services are currently funded with approximately $650,000 annually. Two FTEs administer the program. If approved by the voters, half-cent sales tax generates approximately $8.7 million annually. An additional three FTE would be added over the first four years of the plan. Participation in the regional transit planning is allocated through the annual budget process.

1997 ■ City of El Mirage will work in conjunction with the Regional Planning Transportation Authority (RPTA) to improve the public transit system. The City will continue to seek to expand and/or improve its dial-a-ride services, such as additional routes and providing transit service information to users. In progress. The City will work with the RPTA to expand and improve its bus service when it is deemed prudent. One of our Council members is a member of the RPTA Board of Directors. Funding for new or improved dial-a-ride service are determined in the City's annual budget development process.

1997 ■ Town of Fountain Hills agrees to upgrade and expand on the existing transit service by implementing a van-shuttle/dial-a-ride program this year on a trial basis. The program begins on September 29, 1997, and is called the Fountain Hills Shuttle Service. This measure will be jointly implemented by the Town of Fountain Hills in collaboration with the Regional Public Transportation Authority ("RPTA"), Maricopa County, and the American Red Cross. Legal authority for this is provided under ARS Section 9-240-"General Powers of Council".

Regarding implementation this service begins on September 29, 1997, and offers the Town of Fountain Hills' residents the opportunity now to connect with the 106 and 94 bus routes at Mayo Clinic (Shea Blvd.) With five departure times from each location. This service is free. The Town of Fountain Hills has included $27,000 in the Town budget to cover payment for the Red Cross personnel used to drive the vans. This measure does not represent an ordinance, regulation, or rule requiring enforcement.

1997 ■ Town of Gilbert began providing public transit and dial-a-ride service during 1996. A local bus route in Mesa was extended through Gilbert, providing connections with several regional bus routes. This route provides 370 daily miles of service in Gilbert, amounting to 94,350 service miles annually, and is operated Monday through Friday, from approximately 5 a.m. until 7 p.m.

An express bus route was extended into downtown Gilbert, providing service for commuters to downtown Phoenix. The Gilbert portion of this route accounts for 30 daily and 7,650 annual service miles, and is operated Monday through Friday from approximately 5 a.m. until 6:30 p.m.

In addition, the Town of Gilbert began providing town-wide dial-a-ride service by joining the Mesa/Chandler Dial-a-Ride (now the Mesa/Chandler/Gilbert Dial-a-Ride). This service is also provided Monday through Friday from about 4 a.m. until 7 p.m.

The Gilbert Town Council approved funding in May 1996. The Town of Gilbert began providing express bus service in August 1996. The Town of Gilbert began providing dial-a-ride service in September 1996. The Town of Gilbert began providing local bus service in March 1997. Participation in regional and local transit planning is allocated through the annual budget process. The Gilbert Town Council dedicated $300,000 for the above described public transit measures during FY 1996-97.

1997 ■ City of Glendale will work in conjunction with the Regional Planning Transportation Authority (RPTA) to improve the public transit system. The City will continue to seek to expand and/or improve its bus and dial-a-ride services, such as additional routes, providing transit service information to users and placing bicycle racks on transit buses. In progress. The City will work with the RPTA to expand and improve its bus service when it is deemed prudent. Glendale's Mayor is a member of the RPTA Board of Directors. Funding for new or improved bus and dial-a-ride service are determined in the City's annual budget development process.

1997 ■ City of Goodyear will work in conjunction with the Regional Planning Transportation Authority (RPTA) and neighboring cities to improve the public transit system. The City will seek to initiate a bus route and investigate the addition of a Dial-a-Ride service. In progress. The City will work with the RPTA to add a bus route when it is deemed prudent. Funding for a new bus service and a dial-a-ride program will be determined in the City's annual budget development process.

1997 ■ City of Mesa is participating in cooperative effort with the Federal Transit Administration (FTA), the Maricopa Association of Governments (MAG), the Regional Public Transit Authority (RPTA), and the cities of Tempe, Scottsdale, Phoenix, and Glendale to conduct feasibility studies to evaluate the need and general location for high capacity transit corridors throughout the metropolitan area. This effort will also include a series of Major Investment Studies which focus on subregions within the metropolitan area. Studies are also planned to evaluate the feasibility of high-capacity transit options such as light rail, busways, and commuter rail.

These studies are part of a continuing effort to evaluate transportation options. Related studies include the Arizona Passenger Rail Feasibility Continuation Study (1994), Downtown Phoenix Rail Trolley Feasibility Study

(1995), Commuter Rail Demonstration Project Feasibility Study (1995), and Major Investment Studies for the Squaw Peak and Superstition Corridors - Phase I.

Bus service in Mesa will continue to expand; one express route has been added during the last year and during 1998, it is anticipated that Saturday service will be added to some sections of the system. The City will continue to explore additional funding sources to further expand the bus system. Evaluation of the feasibility of transit options is ongoing. Participation in regional transit planning is allocated through the annual budget process.

1997 ■ City of Peoria indicates that the City's existing Dial-a-Ride program was not approved for expansion FY 1997-1998. Uncertainties of future Federal, State, County, and local support can make service expansions financially difficult. Currently in operation. The current program funding is $613,220.

1997 ■ City of Phoenix will continue to seek ways to improve public transportation through short range transit improvements. Potential service changes may include increasing the level of service, expanding service to areas currently without service, and attracting additional ridership through marketing and promotion. The City will continue to work with RPTA to install bike racks on all buses and to install bike racks at Park-and-Ride locations.

In April 1997, the City Council approved recommendations of the Ad Hoc Transit Steering Committee to include a proposition on the September general election ballot asking voters to approve a half-cent sales tax which would be used to support expansion of public transportation in the City of Phoenix. This measure commits to the election, which will seek voter approval of funding to support services. If voters approve the tax, the funds may be used for services such as expanded local bus service hours, increased frequency of service on current high-demand routes, expanded service on weekends and holidays, expanded Dial-a-Ride service days and hours, and new transit services such as limited-stop commuter service, neighborhood mini-bus service, and high capacity rapid transit.

The City Council action to approve the item for the ballot was completed on April 29, 1997.
The City general election is scheduled for September 9, 1997.
The schedule for expanded transit and transportation service is contingent upon the results of the election.
Funding is allocated through the annual budget process. Additional funding will be available if voters approve the half-cent sales tax.

1997 ■ City of Scottsdale has extended Route 72 (Scottsdale Road) from Tempe north to Fashion Square during evenings and weekends, and has extended the former Scottsdale Connection Route 81 (Hayden Road) south to Ray Road in Chandler (Route 82) through an agreement with the RPTA.

The City of Scottsdale completed construction and opened the Loloma Transit Station, Scottsdale's downtown transit center in May 1997 to facilitate transferring between four major routes.

Two transit routes are scheduled for expansion in the next two years Route 94 will be expanded to provide transportation to "Scottsdale Town Center", a major shopping mall at the S.E. corner of Pima and Frank Lloyd Wright Blvd. Route 76 will provide transit service counter clockwise to this route.

The City will continue to seek ways to improve public transportation through short range transit improvements. Potential service changes may include increasing the level of service, expanding service to areas currently without service, and attracting additional ridership through marketing and promotion.

See attachments for details of the Transit Plan Guidelines which are part of the Circulation Element of the General Plan. The schedule for expanded transit and transportation service is contingent upon the results of the election. Funding is allocated through the biennial budget process. Additional funding will be available if voters approve the half-cent sales tax.

1997 ■ City of Tempe indicates that this measure focuses on expanding and enhancing existing public transit services. With the passage of the transit funding election, Tempe has expanded hours and days and improved the frequency on existing public transit routes. In the next four years, the City will continue to make improvements including the implementation of new routes, improved frequency, and expanded hours. Implementation is in progress over the next four years. Funding is provided through the dedicated sales tax for transit.

1997 ■ City of Tolleson Mayor and Council will adopt a resolution addressing the extension of public transportation programs in Tolleson contingent upon the City of Tolleson and the City of Phoenix entering into an Intergovernmental Agreement of the purpose of extending Bus Route 560 - from 67th Avenue and Van Buren to 91st Avenue and Van Buren. Three miles of bus service will be added to include Tolleson corporate limits. Mayor and Council will adopt this resolution. The City of Tolleson will commit General Fund and Lottery Fund monies upon extension of proposed Bus Route 560. Tolleson's estimated yearly share is approximately $20,000. Cost of $200 will be incurred for publication of said resolution.

1997 ■ Arizona Department of Transportation indicates that, as mandated by Arizona Revised Statutes (A.R.S.) 28-2611, ADOT will explore public transportation alternatives which could improve air quality and meet regional transportation needs in the metropolitan Phoenix area.

Previous ADOT implementation commitments for the MAG 1993 Carbon Monoxide Plan included facilitating the increased use of transit and ridesharing and support of the Capitol Rideshare Program in coordination with MAG/RPTA efforts. In support of these measures ADOT has participated in the Capitol Rideshare Program which includes the State's Travel Reduction Survey and Plans.

ADOT is one of six sponsors of the Clean Air Force which includes the voluntary "Don't Drive One in Five" campaign. The Regional Public Transportation Authority conducts the Clean Air Force program. Each state agency has appointed a year-round travel reduction coordinator. ADOT has one employee who administers the Travel Reduction Survey and monitors the rideshare programs.

ADOT staff initiates and serves as project managers for non-construction air quality Intergovernmental Agreements for Travel Reduction Programs. The programs, projects, and funding are identified each year as part of the MPO Overall Work Programs.

ADOT participated as part of the technical committee for the recently completed Rural Maricopa County Transit Development Plan. This study was initiated by the Maricopa County Department of Transportation in response to a variety of issues regarding transportation in the County. Phase I of the Maricopa County Rural Transportation Development Program identified several alternatives for the provision of general public transit in rural portions of the study area. It was determined that implementing public transit service along the Gila Bend corridor would be the first priority and this is the focus of Phase II of the study. If general public service can be successfully implemented in the Gila Bend/Buckeye area with regional service to Phoenix, this program can be expanded to other corridors and areas. The Wickenburg corridor was identified as a potential second priority. Federal rural transit funding would be applied for through ADOT for this service.

1997 ■ Regional Public Transportation Authority indicates that this measure involves improving public transportation by restructuring existing service or as additional funding <u>may</u> become available through the Regional Public Transportation Authority or its member jurisdictions budget processes. Short range transit improvements could include increasing the level of service,

expanding service to areas currently without service and attracting additional ridership through marketing and promotion.

In September of 1996 the citizens of the City of Tempe approved a measure to provide a one-half of one percent sales tax increase for public transit. Tempe has already impacted the public transportation system by offering transit service in the City and specific destinations in bordering communities from approximately 5 a.m. to 10 p.m. Monday thru Saturday, and provides the regions only fixed route transit service operating on Sundays. Additionally, Tempe introduced the FLASHlite route, a local circulator which operates weekend service between downtown Tempe and the Phoenix Zoo.

In an effort to improve regional fixed route transit service, the RPTA and its member jurisdictions evaluate all regional routes on the basis of productivity and efficiency. As a result, non peak hour trips from RPTA funded routes 44, 72, 106, 520, and 570 were scaled back. The financial and capital resources that became available by these changes were used to add peak hour trips to the Red Line, extend route 90 to 67th Avenue, and combine routes 81 and 82 into a single regional route. Total revenue miles of transit service for the region, including fixed route and dial-a-ride service is estimated to exceed 19 million miles in fiscal year 1997-1998.

Other service expansion improvements include the implementation of three new routes including the Northwest Valley Grand, 184 and 533. Transit service that was recently expanded exclusive of City of Tempe improvements include routes 136 and 531, additionally, the Mesa/Chandler Dial-a-Ride was expanded to include the Town of Gilbert.

Should additional funding become available, the Regional Public Transportation Authority and the City of Phoenix Public Transit Department would be responsible for implementation. A.R.S. Section 9-240 (Attachment A) "General Powers of Common Council".

Ongoing. The RPTA will work with its member jurisdictions to expand and/or improve its bus service on an as needed basis.

The level of personnel committed to transit operations in FY 1997-1998 is equivalent to 5.5 FTE. The RPTA is responsible for transit planning and program implementation. The projected RPTA operating budget for FY 1997-1998 is estimated at $17.9 million. Sources of operating revenue include federal and state grants, RPTA sales tax, farebox revenues, and other income sources including interest.

38. Employer Rideshare Program Incentives

1997 ■ City of Avondale has developed a comprehensive Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Transportation Coordinator has been designated for the City. Currently the City's TRP plan includes 70 percent to 90 percent bus subsidies, regional carpool, guaranteed emergency ride home service, new employee information, preferential parking locations, flexible work hours where feasible, and employee communication programs through posters, challenges, awards, and employee news letters. Components of the Trip Reduction Plan will be modified as needed. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Chandler has implemented a variety of rideshare incentives to increase employee participation in carpooling, including providing cash awards on a monthly basis and emergency rides for carpools participants. The City maintains an employee data base to match employees who desire to rideshare. The City has also increased the amount of preferential parking spaces for carpools, including covered parking. An annual trip reduction plan is submitted within 30 days of county approval of the annual plan submitted after each year's compliance survey. Funding is allocated through the annual budget process.

1997 ■ Town of Gilbert has developed a Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated for the Town. Currently, the Town's TRP includes alternate work schedules, bike racks and storage areas, reserved/preferential parking, subsidized gas/commute expense, guaranteed/emergency ride home, telecommuting options, employee communication programs through bulletin boards, TRP information for new hires, and employee newsletters. The TRP will be modified as needed. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale is a participant in the Maricopa County Travel Reduction Program as mandated by state law (A.R.S. Section 49-588). The City is required to submit a new plan to the County on an annual basis. The City's program currently consists of preferential parking spaces for carpool participants, subsidized bus passes to employees, gift/drawings, and encouragement of flexible work schedules. The City will seek ways in which to attain a higher level of employee participation and make modifications to its employee ridesharing program as needed. An employee committee was established in 1996 to evaluate the current employer rideshare program. The committee is in the process of identifying ways to improve participation

in the program and will present those options to City Management, as appropriate. The City has a Transportation Coordinator who is responsible for implementing the City's Employee Travel Reduction Program. Funding will be determined through the City's annual budget development process.

1997 ■ City of Goodyear is intent on initiating a program that would consist of preferential parking spaces for carpools participants, gift/drawing for participants, and encourage flexible work schedules. When a bus route is established, subsidized bus passes to employees may be available. The City will seek ways in which to attain a higher level of employee participation and to promote the rideshare programs. The City will establish a employee committee to initiate a employee rideshare program. The committee will identify ways to promote participation in the program and will present options to the City Manager's Office, as appropriate. The City's rideshare committee will be responsible for promoting, designing, and implementing the City's employee rideshare program. Funding will be determined through the City's annual budget process.

1997 ■ City of Mesa has developed a comprehensive Trip Reduction Plan in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated to coordinate carpool activities and employee education and incentive programs. A "Clean Air Club" has been organized that has developed a reward system for employees who take alternate modes of transportation to work. Since 1996 the City has provided 100 percent bus subsidies for any employee who rides the bus. The City Rideshare Coordinator uses electronic mail, employee newsletters, and notices in pay stubs to notify employees of air quality advisories and to promote rideshare and alternate transportation activities. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ Town of Paradise Valley participates in the Maricopa County Trip Reduction Program. Part of this program provides for employees to be compensated $1.33 a day for ride sharing. This incentive is offered to all employees of the Town and is paid for all alternative modes of transportation. There are also special incentives such as a monthly award drawings for people who use alternative modes of transportation. This program has been implemented by the Trip Reduction Coordinator. This measure is currently in place.

Development and administration of the Trip Reduction Program Reduction Plan requires staff time equivalent to 0.20. A full-time exempt employee volunteers their services on off-hours, at a cost of zero. The annual budget for this measure is from the Town's General Fund.

1997 ■ The City of Peoria indicates that Peoria plans to make available several incentives in FY 1997-1998 to encourage City employees to rideshare and/or

reduce their single occupancy vehicle trips to work. A major component of the incentive program is a public awareness campaign. In the fall, a transit fair will be held to educate employees about the various modes of transportation available to them. The transit fair will feature free food, prizes, and RPTA and other rideshare related booths.

The Transit Division will also promote the ridesharing program at the annual employee benefits fair in May of 1998.

The City of Peoria will provide the following incentives to employees who rideshare: 100 percent bus subsidy; preferential parking (covered at City Hall, Police Department, Court, and Library); Free Bicycle Program to employees who commit to commuting via bicycle; Guaranteed Ride Home Program for employees required to miss their rideshare home; additional bus shelters (10 new shelters added in FY 1996-1997 alone); and monthly drawings for prizes to employees who rideshare.

Staff in the Transit Division will be responsible for promoting this program. The Transit Division will earmark a total of $10,000 in FY 1997-1998 towards rideshare incentives.

1997 ■ City of Phoenix has developed a comprehensive Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated for the City and for each City department. Currently the City's TRP plan includes 50 percent to 100 percent bus subsidies, employee emergency ride home service, new employee information, preferential parking locations and reduced parking fees for carpools and vanpools, telecommuting options, flexible work hours where feasible, and employee communication programs through posters, challenges, and employee newsletters. Components of the Trip Reduction Plan will be modified as needed.

The City will continue to implement a pilot program developed in 1996 to use electronic mail to notify employees of air quality advisories. Clean Air Tips are included in the electronic mail notifications. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Scottsdale May 9, 1997 year 7 Trip Reduction Plans for the City's two primary campuses (Via Linda Campus and Civic Center Campus) comply with the Maricopa County Travel Reduction Program. A Transit Coordinator has been designated for the City to implement and maintain the program.

Clean Air and Bike to Work Challenges are offered each year. Various awards/incentives are given to participating employees. Employees are

recognized for these rideshare efforts in the employee newsletter "Inside Scottsdale This Week".

The City of Scottsdale initiated the B.I.K.E.S. Program in 1997. It offers City employees a free bicycle in exchange for a commitment to ride the bike to work a certain number of times monthly for at least six months.

Various rideshare incentives include: 100 percent bus subsidies; Preferential parking for carpools and vanpools; Carpool and vanpool matching service database; Guaranteed emergency ride home service; Telecommuting options; Flexible work hours where feasible.

Electronic mail is used to notify employees of air quality advisories. Clean Air Tips are included in the electronic mail notifications.

Information about rideshare incentives are distributed to all new employees at orientation. Informational reminders are distributed through employee newsletters and posters. Components of the Trip Reduction Program will be modified as needed. Implementation is in progress. Funding is allocated through the biennial budget process. A full-time Transit Coordinator staffs this program.

1997 ■ City of Tempe indicates that this measure provides a variety of employer rideshare incentives as well as introducing strategies designed to reduce single occupant vehicle trips. The City has developed a comprehensive Travel Reduction Plan in compliance with the Maricopa County Travel Reduction Program. The City has a designated Rideshare Coordinator. The City's plan includes: weekly cash drawings for use of alternative modes and alternative work schedules; preferential parking for carpools; public awareness campaigns; alternative work hours, bike loan program, 100 percent subsidized bus fares, new employee information and guaranteed emergency ride home service. The City is creating and testing telecommuting as an option for applicable employees. Implementation is in progress. Funding is provided through the annual budget process.

1997 ■ City of Tolleson indicates that this measure includes the adoption of a Resolution addressing rideshare programs and other incentive related programs for those employers with less than 50 employees at a worksite. Additionally, the City will embark on a public awareness campaign to further enhance the carpool and vanpool concept. Adoption of City of Tolleson Resolution by July 15, 1998 and commencement of campaign thereafter. Administration of plan will be coordinated by City Administrative and Planning Staff. Estimated cost for publication of Resolution and printing of brochures is $2,000.

1997 ■ Maricopa County indicates that this measure provides a variety of employer rideshare incentives as well as introducing strategies designed to reduce single occupant vehicle trips. Maricopa County is providing a 100 percent Bus Card Plus Program subsidy for employees.

Pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors), A.R.S. Section 49-588 and A.R.S. Section 49-474.01 the Board adopted Maricopa County Ordinance P-8 Reduction of Commuter Use of Motor Vehicles by County Employees in 1992. The ordinance provides the County Administrative Officer with the authority to approve and implement non-financial measures and to implement budgeted measures to reduce employee commute trips or the number of miles driven by county employees to and from work.

Maricopa County increased its subsidy of the Bus Card Plus Program for employees from 50 to 100 percent, effective June 26, 1996. On May 28, 1997, the subsidy was reauthorized for Fiscal Year 1998. Funding for the subsidy is estimated to cost approximately $280,000 which will be absorbed by Maricopa County Departmental budgets. The program is administered by the Human Resources Department.

1997 ■ Arizona Department of Transportation indicates that this measure provides a variety of strategies/incentives designed to reduce single occupant vehicle trips. Such strategies/incentives could include: preferential parking for carpools and vanpools, public awareness campaigns, Transportation Management Associations among employers, alternative work hours, vanpools for County and State employees, and vanpool purchase incentives. This will be an ongoing effort.

The 1993 Moderate Area Plan Commitments made by ADOT were to facilitate increased use of transit and ridesharing and to support the Capitol Rideshare Program in coordination with MAG/RPTA efforts. No additional funding or employees are required to implement the above programs. Associated costs are covered by the ADOT administrative budget.

To ensure that all employees are provided an opportunity to participate in rideshare programs, ADOT, through the Transportation Planning Group, will develop reporting procedures to identify participation levels in current programs and to identify possible opportunities for increased participation.

ADOT will continue to develop strategies and provide incentives to employees to increase the participation in existing and future rideshare programs. ADOT, through the Transportation Planning Group Air Quality Planner, will conduct a study to evaluate the effectiveness of existing strategies and incentives. This will provide possible opportunities for

increased participation through elimination of existing barriers and also provide reasoned justification for those work areas that are not able to participate in the programs.

As baselines for the effectiveness of existing strategies and incentives are developed and reasoned justifications for non-participation are evaluated, opportunities for improvement will be identified to provide for enhanced or additional rideshare strategies/incentives. For the purposes of describing the Commitment the number of strategies and types of incentives would be the reporting unit.

1997 ■ Regional Public Transportation Authority indicates that this measure involves expanding the Regional Ridesharing Program to increase awareness of participation in alternate modes and work schedules. Efforts will be targeted at 1,250 employers with over 580,000 employees and students affected by the Maricopa County Trip Reduction Program (MCRTP) and the general public through the Regional Ridesharing Program. Since the last commitment, an additional 450 employers have been added to the TRP program. RPTA employee incentives include: free bus pass, alternate work hours, telecommuting, alternate mode subsidy, and guaranteed ride home. The single occupant vehicle rate for RPTA employees has dropped from 42 percent to 36 percent since 1994.

The Regional Public Transportation Authority, as the regional transit agency for Maricopa County (A.R.S. 48-5101) provides these services to improve mobility and air quality.

The schedule for planned activities are as follows:

- Carpool, vanpool and bicycle matching services offered daily by phone and interactively on the internet home page
- Turn-key vanpool program available on an ongoing basis
- Fourteen Transportation Management Associations hold periodic meetings
- Area-wide awareness and promotion campaign with paid advertising conducted
- RPTA employee rideshare incentives ongoing
- Employer Transportation Fairs based on employer request
- RPTA's Internet web site offers information on the following rideshare topics: carpooling programs; Commuter Club promotions; Vanpooling programs; Training sessions available.

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by

a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000. Of this total, $394,000 is budgeted for the Rideshare Program through ISTEA funding.

39. Preferential Parking for Carpools and Vanpools

1997 ■ City of Avondale has developed a comprehensive Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Transportation Coordinator has been designated for the City. Currently the City's TRP plan includes 70 percent to 90 percent bus subsidies, regional carpool, guaranteed emergency ride home service, new employee information, preferential parking locations, flexible work hours where feasible, and employee communication programs through posters, challenges, awards, and employee newsletters. Components of the Trip Reduction Plan will be modified as needed. Funding is allocated though the annual budget process. Implementation is in progress.

1997 ■ City of Chandler increased the number of preferential permitted parking spaces for carpoolers including free/covered spaces adjacent to work locations. An annual trip reduction plan is submitted within 30 days of county approval of the annual plan submitted after each year's compliance survey. Funding is allocated through the annual budget process.

1997 ■ Town of Gilbert has developed a Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated for the Town. Currently, the Town's TRP includes alternate work schedules, bike racks and storage areas, reserved/preferential parking, subsidized gas/commute expense, guaranteed/emergency ride home, telecommuting options, and employee communication programs through bulletin boards, TRP information for new hires, and employee newsletters. The TRP will be modified as needed. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale indicates that preferential parking spaces for employees that carpool have been established at major City facilities. Additional preferential parking spaces will be established in existing and new facilities, where appropriate. An employee committee was established in 1996 to evaluate the current employer rideshare program. The committee is in the process of identifying ways to improve participation in the program and will present those options to City Management, as appropriate. The City's Transportation Coordinator is coordinating the City's efforts. Funding to implement this measure is determined in the City's annual budget development process.

1997 ■ City of Goodyear indicates that preferential parking spaces for employees that carpool have not yet been established at major City facilities. Additional preferential parking spaces will be established in existing and new facilities, where appropriate. The City will establish an employee committee to evaluate the possibilities of a preferred parking program. The committee will identify ways to improve participation in the program and will present those options to the City Manager's Office, as appropriate. The City's employee committee is coordinating the City's efforts. The City's employee committee will be responsible for promoting, designing, and implementing the City's employee carpools program. Funding will be determined through the City's annual budget process.

1997 ■ City of Mesa has developed a comprehensive Trip Reduction Plan in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated to coordinate carpool activities and employee education and incentive programs. A "Clean Air Club" has been organized that has developed a reward system for employees who take alternate modes of transportation to work. Since 1996, the City has provided 100 percent bus subsidies for any employee who rides the bus.

The City Rideshare Coordinator uses electronic mail, employee newsletters, and notices in pay stubs to notify employees of air quality advisories and to promote rideshare and alternate transportation activities. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ Town of Paradise Valley will provide a special parking space for car-poolers. The space will be closer to the building. This program will be implemented by the Trip Reduction Coordinator. This measure will be included in the annual Trip Reduction Program to be revised and submitted to the Maricopa County Trip Reduction Agency in November of 1997. Development and administration of the Trip Reduction Program Reduction Plan requires staff time equivalent to 0.20. A full-time exempt employee volunteers their services on off-hours, at a cost of zero. The annual budget for this measure is from the Town's General Fund.

1997 ■ City of Peoria has made available covered, preferential parking spaces at City Hall, Peoria Municipal Court, Peoria Library, and the Peoria Police Department at no charge for employees who carpool. The City of Peoria has also made available uncovered preferred parking spaces at the Municipal Operations Center and Peoria Community Center.

While the City of Peoria will continue to implement and enforce this measure for its own employees, this measure is not reasonably available throughout the community. As a suburban area, Peoria has only a few city-operated

public parking facilities (downtown Peoria, Peoria Municipal Complex, Peoria Community Center, and parks). In the downtown, the city-operated parking is very limited and located on the street adjacent to the independent retail shops. As part of the City's revitalization efforts to improve the downtown business district, the businesses have opposed eliminating the street parking in favor of parking lots. It should also be noted that the employers located in the downtown area employ less than fifty (50) employees and are not subject to the mandatory Maricopa County travel Reduction Program.

The City of Peoria plans to continue offering preferential parking for employees who rideshare. Costs include maintaining painted stalls and the issuance of carpool permits. The cost of implementing this measure is minimal and will be absorbed by the Facilities Division of the Public Works Department.

1997 ■ City of Phoenix has developed a comprehensive Trip Reduction Plan (TRP) in compliance with the Maricopa County Travel Reduction Program. A Rideshare Coordinator has been designated for the City and for each City department. Currently the City's TRP plan includes 50 percent to 100 percent bus subsidies, employee parking fees in the downtown area, regional carpool and vanpool matching service, guaranteed emergency ride home service, new employee information, preferential parking locations and reduced parking fees for carpools and vanpools, telecommuting options, flexible work hours where feasible, and employee communication programs through posters, challenges, and employee news letters. Components of the Trip reduction Plan will be modified as needed.

The City will continue to implement a pilot program developed in 1996 to use electronic mail to notify employees of air quality advisories. Clean Air Tips are included in the electronic mail notifications. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Scottsdale May 9, 1997 year 7 Trip Reduction Plans for the City's two primary campuses (Via Linda Campus and Civic Center Campus) comply with the Maricopa County Travel Reduction Program. A Transit Coordinator has been designated for the City to implement and maintain the program.

Employees who carpool and/or vanpool are given preferential parking at both campuses. In addition, there is a matching service database for those who wish to carpool or vanpool. City vehicles are available for work related travel. A guaranteed emergency ride home program is available to all employees. All employees are eligible to receive free bus passes.

Information about carpool and vanpool options are distributed to all new employees at orientation. Informational reminders are distributed through

employee newsletters. The City of Scottsdale is also active in the Greater Scottsdale Transportation Management Association, a public/private partnership which encourages rideshare activities. Implementation is in progress. Funding is allocated through the biennial budget process.

1997 ■ City of Tempe indicates that this measure provides a variety of employer rideshare incentives as well as introducing strategies designed to reduce single occupant vehicle trips. The City has developed a comprehensive Travel Reduction Plan in compliance with the Maricopa County Travel Reduction Program. The City has a designated Rideshare Coordinator. The City's plan includes: weekly cash drawings for use of alternative modes and alternative work schedules; preferential parking for carpools; public awareness campaigns; alternative work hours, bike loan program, 100 percent subsidized bus fares, new employee information and guaranteed emergency ride home service. The City is creating and testing telecommuting as an option for applicable employees. Implementation is in progress. Funding is provided through the annual budget process.

1997 ■ City of Tolleson indicates that this measure involves the Adoption of a Resolution addressing rideshare program and other incentive related programs for those employers with less than 50 employees at a worksite. As mentioned under the employer rideshare program, the City of Tolleson will embark on a public awareness campaign to further enhance the carpool and vanpool concept. Adoption of City of Tolleson Resolution and Commencement of Campaign by July 15, 1998. Administration of plan will be coordinated by City Administrative and Planning Staff. Estimated cost for publication of Resolution and printing of publicity brochures is estimated at $2,000.

1997 ■ Maricopa County indicates that this measure encourages public and private employers to provide preferential parking spaces for carpools and vanpools to decrease this number of single occupant automobile work trips. Pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors), A.R.S. 49-588 and A.R.S. Section 49-474.01 the Board adopted Maricopa County Ordinance P-8 Reduction of Commuter Use of Motor Vehicles by County Employees in 1992. The ordinance provides the County Administrative Officer with the authority to approve and implement non-financial measures and to implement budgeted measures to reduce employee commute trips or the number of miles driven by county employees to and from work.

Maricopa County has relocated carpool preferential parking spaces closer to the building entrance. Moreover, the new parking plan also provides for open parking in place of reserved parking. This policy reduces the motivation for non-carpoolers to park in carpool spaces. The new parking plan was implemented for the Jefferson parking garage in April 1997. This

is an ongoing program administered by the Protective Services Office covered by the existing budget.

1997 ■ Arizona Department of Transportation indicates that this measure encourages public and private employers to provide preferential parking spaces for carpools and vanpools to provide an incentive to decrease the number of single occupant automobile work trips. The preferential treatment could include covered parking spaces or close-in spaces. This will be an ongoing effort and additional spaces will be provided on an as needed basis.

ADOT provides preferential, close-in parking for employee carpools and vanpools, both covered and uncovered. The preferential parking program is governed by the Manager of the General Operations Group with input from the Executive Quality Council. Location and signing or reserved spaces remains with the Manager, General Operations Group. Parking lots will be managed and will reflect the number of rideshare, handicap, and customer parking spaces according to the changing needs of the Department.

Carpool vehicles are certified by the Capitol Rideshare Administration. Carpool parking holds preferential location parking and is open to carpool certified employees on a first-come-first-served basis.

Currently in the ADOT Headquarters Area, there are approximately 1800 parking spaces. In 1993, ADOT changed its parking policy to provide additional spaces for the Rideshare program on an as needed basis. Available spaces for Rideshare vehicles have been increased from 134 in 1993 to 354 in 1997. This includes spaces provided at other ADOT locations in the nonattainment area.

As preferential parking spaces for 30 year employees become available through employee retirement, they will be used for the Rideshare Program. No additional funding or employees are required to implement the parking programs. Associated costs are covered by the ADOT administrative budget.

Providing preferential parking spaces does not ensure participation. ADOT, through the Transportation Planning Group Air Quality Planner, will conduct a study to determine the effectiveness of the Program for air quality purposes. This study will provide information as to the number of actual participants in the program, i.e., the number of occupants per vehicle. This number becomes significant as the criteria is being developed for the use of HOV lanes for future freeways. The study should also provide information to forecast future preferential parking space requirements.

For describing the Commitment the number of preferential spaces for carpools and vanpools will be the reporting unit. This information will be provided to the Maricopa County Environmental Services Division for the required annual report for the Environmental Protection Agency.

1997 ■ Regional Public Transportation Authority indicates that a special RPTA employer workshop focuses on parking management and demonstrates methods by which employers can develop preferential parking systems. This is targeted primarily at employers with sites affected by the Maricopa County Trip Reduction Program. Approximately 1250 employers are planning to implement strategies with goals to reduce vehicle commuting trips.

Because of the difficulty in achieving the annual trip reduction target, many employers are looking to more enhanced methods of reducing vehicle trips. Mandatory fees for parking is one of the strongest incentives to rideshare (or disincentives to driving alone). Many employers are subsidizing alternative mode usage in their current parking management programs and Commuter Club and more are implementing fee based parking. Employees of the RPTA currently pay market rates for parking of $30 to $50 per month. RPTA participates as a voluntary TRP organization.

The Regional Public Transportation Authority, through a contract with the Maricopa County, and according to the Omnibus Air Quality Legislation provided under A.R.S. 49-581 through 49-593 (Attachment B), provides these services.

Collateral materials and "how to" manuals on various aspects of parking management are available throughout the year. Employer trainings on parking management given about every quarter.

40. Coordinate Traffic Signal Systems

1997 ■ Arizona Legislature passed H.B. 2237 in 1997 which contains an appropriation of $500,000 in each of fiscal years 1997-1998 and 1998-1999 from the State General Fund to the Arizona Department of Transportation for distribution to cities and counties for synchronization of traffic control signals within and across jurisdictional boundaries (Section 23 of H.B. 2237).

1997 ■ City of Chandler is currently coordinating traffic signal timings with the Cities of Tempe and Mesa. The City provides for progression of traffic along all north-south arterial streets crossing city boundaries from 56th Street to Alma School Road during peak travel periods. Signals are also timed for progression of traffic along Arizona Avenue, McQueen Road, and all east-west streets from Elliot Road to Chandler Boulevard within the City of

Chandler. Reliability of signal coordination will be substantially improved by installation of intertie cabling along Ray Road from 56th Street to Dobson Road and along Alma School Road from Frye Road to Ocotillo Road. Installation of intertie cabling along all other arterials streets in the City of Chandler is programmed for completion by FY 2000.

In addition, Chandler's City Code requires installation of conduit for cabling to interconnect signals on all newly-constructed arterial streets. Implementation will be ongoing. Installation of intertie cabling along Ray Road from 56th Street to Dobson Road will be completed in June 1997 and along Alma School Road from Frye Road to Ocotillo Road by July 1997. Installation of intertie cabling along all other arterials streets in the City of Chandler is programmed for completion by FY 2000. One new position, traffic signal systems engineer, has been added in FY 1998 to monitor the operation of arterial streets and to optimize signal timing for minimum delays and progression efficiency. Funding is allocated through the annual budget process.

1997 ■ Town of Gilbert is purchasing equipment capable of time-based coordination. The Town is also completing a signal system feasibility study to recommend a centralized control system. Implementation is in progress. By August the following corridors should have peak hour progression established: Val Vista Drive (Elliot Road to Baseline Road), Cooper Road (Warner Road to Baseline Road), McQueen Road (Elliot Road to Baseline Road). Other corridors will follow as equipment is acquired and updated. Funding is allocated through the annual budget process.

1997 ■ City of Glendale currently has a coordinated time-based traffic signal system. The City will install signal interconnect conduit and fiber optic cable that will serve as the communications link to improve the City's existing traffic signal system. These improvements will help enable the City to develop intelligent transportation systems in the future.

The project is anticipated to occur in three phases. The initial installation of the conduit system will occur at 59th Avenue, between Camelback Road and Glendale Avenue (it will be part of the 59th Avenue street improvement project which began in March 1997). The second phase will be on 59th Avenue, from Glendale Avenue to Bell Road. The third phase of the conduit installation will be on 59th Avenue from Bell Road to the Loop 101 Freeway. Phases two and three are currently in the design phase. The City's Transportation Department is responsible for the implementation of this measure. Funding to implement this measure is determined in the City's annual budget development process.

1997 ■ City of Goodyear is currently in the process of establishing coordinated time-based traffic signal system. The City will install signal interconnect conduit and fiber optic cable that will serve as the communications link to improve the City's existing traffic signal system. These improvements will help enable the City to develop intelligent transportation systems in the future. The project is expected to take 2-3 years to complete. The traffic signals located on Litchfield Road between MC 85 and Indian School Road will be on the system. This portion of the project is close to being completed. The fiber optic cable and interconnect conduit will be installed when feasible. The City's Public Works Department is responsible for the implementation of this measure. Funding to implement this measure is determined in the City's annual budget process.

1997 ■ City of Mesa currently maintains a computerized traffic signal system that provides coordination of traffic signals for improved traffic flow. In fiscal year 1996-1997 approximately $250,000 was spent for system upgrades. The City will continue to work with MAG to coordinate a regional traffic synchronization program. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of Peoria indicates that Peoria has received a Federal Grant, administered by the Arizona Department of Transportation for conducting a study of various methodologies and systems available to coordinate the timing and operation of the City's traffic signals. The studies will recommend a specific system and an implementation strategy. Upon completion of the study, the City will commence actual construction. Currently the City has received a grant totaling $800,000 and has $170,000 available from the sale of General Obligation Bonds.

1997 ■ City of Phoenix currently maintains a computerized traffic signal system that provides coordination of traffic signals for improved traffic flow. Approximately 98 percent of the City's 835 signals are synchronized through this computer control and a time-based system. Only a few signals in developing areas with low traffic volumes are not synchronized.

Over the next few years Phoenix will be implementing a new computerized signal system that will centralized the operation of the City's signals into an Advanced Traffic Management System (ATMS). The ATMS will include new communication links, traffic signal controller equipment, system detection, video cameras for downtown traffic management, as well as connectivity to the ADOT Freeway Management System and other municipalities. The improved data collection, real-time graphical displays, and video will allow for the City to more closely monitor and more effectively adjust signal timing for improved traffic flow.

Implementation is in progress. The connection of existing traffic signals to the ATMS is expected to be completed by the year 2000. The ATMS has been designed to allow expansion to accommodate the connection up to 2000 traffic signals. $6.3 million dollars has been allocated for the implementation of the ATMS.

1997 ■ City of Scottsdale traffic signal system is computerized. It provides coordination of traffic signals for improved traffic flow. The computerized system can be programmed to accommodate special events and traffic incidents. Approximately 98 percent of the City's traffic signals are synchronized through this computer control and a time-based system. Only a few signals in developing areas with low traffic volumes are not synchronized.

The City will work with the Arizona Department of Transportation (ADOT) and neighboring cities to coordinate the synchronization of City of Scottsdale traffic signals. Synchronization will be achieved by sharing traffic information through communication links.

Three program objectives for the City of Scottsdale Transportation Department, Traffic Engineering Division, which are reported in the Biennial Budget for fiscal years 1997-1999 are: Install preliminary phase of comprehensive traffic detection system by June 1998; Install preliminary phase of Traveler Information system by December 1997; and Improve operation and accident analysis through video and computer technology enhancement.

The City of Scottsdale has negotiated a long-term agreement with U.S. West for leased telephone lines to communicate with the City's traffic signals. Implementation is in progress. The connection of existing traffic signals to the ATMS is expected to be completed by the year 2000. The ATMS has been designed to allow expansion to accommodate the connection up to 2000 traffic signals. Funding is allocated through the biennial budget process.

1997 ■ City of Tempe indicates that this measure implements and enhances synchronization and has been implemented by most of the larger municipalities in the area. The City currently maintains a computerized traffic signal system that provides coordination of traffic signals for improved traffic flow. Efforts are underway for large-scale coordination across the entire MAG region. The City would continue to work on this effort and Model Deployment as described in Measure 97-TC-2. Implementation is in progress. Funding is provided through the annual budget process.

1997 ■ City of Tolleson Mayor and Council will adopt a resolution to this measure provided the following conditions are met. The City of Tolleson, in coordination with the Department of Transportation and Maricopa County commits to synchronize the five traffic signal systems currently within the City of Tolleson's jurisdiction, if and when traffic volumes reach state mandated 15,000 trips per day, per intersection. Because increases in traffic volume are unpredictable and average daily traffic is well under the above-mentioned state mandated guidelines, setting an implementation date would be premature at this time. Highway User Funds. Allocation of personnel is the responsibility of the Maricopa County Highway Department.

1997 ■ Arizona Department of Transportation indicates that this measure implements and enhances synchronized traffic signal systems to promote steady traffic flow at moderate speeds. Signal synchronization has been implemented by most of the larger municipalities in the area, and efforts are underway for large-scale coordination across the entire MAG region. This will be an ongoing effort.

ADOT, as mandated by A.R.S. 9-500.04, will pursue synchronization of traffic signals on State Highways in the nonattainment area in cooperation with local municipalities. Typically on urban portions of State Highways, local governments handle traffic control through agreements with ADOT.

A.R.S. 28-642 states, "On a State highway which has a traffic flow exceeding 15,000 motor vehicles per day in a nonattainment area, the director, in cooperation with local authorities, shall synchronize traffic control signals."

Included as part of the approved 1997 air quality House Bill 2237, monies will be appropriated from the General Fund to ADOT in the sum of $500,000 in each of the fiscal years 1997-1998 and 1998-1999 for distribution to cities and counties in Area A and Area B as defined in A.R.S. 49-541, for the mandatory synchronization of traffic control signals within and across jurisdictional boundaries.

An ongoing ADOT process is to synchronize, where warranted, traffic signals on the Controlled Access Freeways. Traffic signals on all state routes that pass through the City of Phoenix, including Grand Avenue, and the City of Tempe are synchronized. This measure is also a work element of the ongoing Intelligent Transportation System Program. (Refer to BACM #97-TC-3).

As part of a clean-air package signed into law by the Governor on April 29, 1997, House Bill 2237 appropriates the sum of $500,000 in each of the fiscal years 1997-1998 and 1998-1999 from the general fund to ADOT

for distribution to cities and counties for synchronization of traffic control signals within and across jurisdictional boundaries.

41. Reduce Traffic Congestion at Major Intersections

1997 ■ City of Avondale indicates that the City will continue to implement intersection improvements to reduce traffic congestion at major intersections. Intersections are improved through the five-year Capital Improvement Program/Major Street Program, which supports widening of arterial streets. Intersection improvements are included in these projects and new development. The above program improves intersections by adding left turn lanes, thru lanes, and/or right turn lanes. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Cave Creek indicates that the Town has one major intersection. This intersection is signalized with turn lanes and median dividers. The Town is in the process of conducting a five year transportation plan, and will be in a position to respond to traffic needs as they arise.

1997 ■ City of Chandler is installing three to five traffic signals per year. The City continues to construct curbed medians on all new arterial streets, and control access for new development (provision of deceleration lanes, location of median openings, and location of driveways relative to public street intersections) is guided by policies documented in Technical Design Manual Number 4. Implementation will be ongoing. Funding is allocated through the annual and five year capital budget process.

1997 ■ Town of Gilbert continues to make improvements to reduce traffic congestion at major intersections. This is being done through improved signal timing and street widening. Implementation is in progress. Funding allocated through the annual budget process.

1997 ■ City of Glendale will use a variety of traffic control strategies and devices, such as traffic signals, turn lanes and median dividers to facilitate traffic flow on substandard or excessively congested intersection. In progress. Traffic control strategies and devices are determined on a case-by-case basis as the need arises. Traffic control decisions are made by the City Traffic engineer. Funding to implement this measure is determined in the City's annual budget development process.

1997 ■ City of Goodyear will use a variety of traffic control strategies and devices, such as traffic signals, turn lanes and median dividers to facilitate traffic flow on substandard or excessively congested intersections. A timing study is in

progress to synchronize the traffic signals along the City's major corridor. The timing plan will have a lag-left system which will be activated when the timing study is completed. In progress. Traffic control strategies and devices are determined on a case-by-case basis as the need arises. Traffic control decisions are made by the Public Works Department. Funding to implement this measure is determined through the City's annual budget process.

1997 ■ City of Mesa indicates that signalized intersections are evaluated periodically to determine if various control strategies can be implemented to reduce overall delay and improve traffic flow. The Traffic Signal Control System software reduces side street delays during off-peak hours. A combination of leading and lagging left turn signal operations are used to improve progression at major intersections. Bus pullouts are installed as adjacent property on existing bus routes is developed to reduce congestion on the streets. Intersection improvements such as adding turn lanes, lengthening turn lanes, and adding through lanes are continuously evaluated and added to the five year capital budget plan as appropriate.

Traffic patterns associated with special events are continuously evaluated and appropriate temporary congestion remediation measures are implemented such as dedicated through lanes, dedicated event access lanes and manual traffic flow assistance. Implementation will be ongoing. Funding is allocated through the annual and five year capital budget process.

1997 ■ City of Peoria requires the intersections to be widened as development occurs adjacent to the intersection. The City also budgets funding to conduct warranted studies, design, and construct signals at three intersections per year. Three intersections are signalized each year. Intersections are widened as adjacent development occurs. The City budgets funding to signalize three intersections per year.

1997 ■ City of Phoenix will continue to implement intersection improvements to reduce traffic congestion at major intersections. Most intersections are improved through the five year Capital Improvement Program/Major Street Program which supports widening of arterial streets. Intersection improvements are included in these projects.

The City of Phoenix Bottleneck Removal (BN) Program improves intersections by adding left turn lanes, thru lanes, and/or right turn lanes. Additional intersection improvements and traffic management programs will be implemented if voters approve the proposed half-cent sales tax in 1997. Implementation is in progress.

Funding is allocated through the annual budget process. Additional funding for intersection improvements and traffic management programs will be available through the Arizona Highway User Revenue Fund for the Capital Improvement Program.

1997 ■ City of Scottsdale will continue to implement intersection improvements to reduce traffic congestion at major intersections. One of the goals of the City of Scottsdale Transportation Department, Traffic Engineering Division, as stated in the Biennial Budget for FY 1997-1999, is to maintain 70 percent or more of the 36 major intersections in Scottsdale at levels of service (LOS) or better. Intersection improvement budget for 1996-1997 was $300,000. Actual expenditure was $400,000. The forecast for 1997-1998 is $1,250,000 and for 1998-1999 is $1,250,000 (Reported in the Biennial Budget for FY 1997-1999).

The City of Scottsdale Botteneck Removal (BN) Program improves intersections by adding left turn lanes, thru lanes, and/or right turn lanes. Additional intersection improvements and traffic management programs could be implemented if voters approve the proposed half-cent sales tax in 1997.

Implementation in progress. Funding is allocated through the biennial budget process. Additional funding for intersection improvements and traffic management programs will be available if voters approve the one-half cent sales tax in 1997. Annual funding may also be available through the Arizona Highway User Revenue Fund for the Capital Improvement Program.

1997 ■ City of Surprise indicates that this measure involves widening Dysart Road (Road of Regional Significance) from Greenway Road to Bell Road and adding a traffic signal at the Greenway Road/Dysart Road intersection. Other roadway widening and intersection improvement projects will be completed, by either the City or the adjacent developer(s), as problems are identified and as funding becomes available. The Dysart Road widening and the Greenway Road/Dysart Road intersection improvements will be constructed in two phases. The schedule for completing this work is as follows: PHASE I Greenway Road to Grand Avenue; May 1997, complete design; June 1997, advertise bid for construction service; June 1997, initiate construction; September 1997, complete construction. PHASE II: Grand Avenue to Bell Road, fiscal year 1998, complete design; fiscal year 1998, advertise bid for construction services; fiscal year 1998-1999, initiate construction; fiscal year 1998-1999, complete construction.

Administration of Phase I improvements for this project will require staff time equivalent to .25 full-time employee, at an approximate cost of $12,000. This will be accomplished by current department personnel under the

adopted City budget for FYs 1997 and 1998. The estimated cost for design and construction of Phase I is $187,000 which has been budgeted. Phase II design and construction is contingent upon grants and City funds becoming available.

1997 ■ City of Tempe indicates that this measure implements a wide range of traffic control techniques designed to facilitate smooth, safe travel through intersections. These techniques include stabilization, turn lanes or median dividers. The City would continue to evaluate and implement these traffic control techniques as needed at various intersections throughout the City. In addition, the transit plan calls for implementation of bus pull-outs at major intersections where feasible.

Implementation is in progress. Funding is provided through the annual budget process. Bus pull-outs are funded through private development during the development review process, and through the transit sales tax.

1997 ■ City of Tolleson will continue to monitor traffic flows and street congestion and make improvements on an as-needed basis. Maricopa County currently reports traffic flow and street congestion findings to the City of Tolleson. A set schedule will be made available should data reveal necessary improvements. City of Tolleson Improvement District Funds. Maricopa County Highway Department funds will finance improvements to those streets that fall under County maintenance jurisdiction. Personnel allocations depend on the jurisdiction of the streets in question.

1997 ■ Town of Wickenburg indicates that the Town has but one "major" intersection (U.S. Highway 60 where it intersects with U.S. Highway 93), which is governed by a traffic signal under the control and operation of the Arizona Department of Transportation (ADOT). An ongoing effort in coordination with ADOT is being made to reduce stopping and idling time and to move the traffic. The implementation schedule will depend on engineering studies by ADOT and any corrective measures that ADOT may make.

No funding will be required, as the Town of Wickenburg does not pay the cost of maintenance, operation and timing of the traffic light, but it does pay for the electricity used in its operation. The Town will continue, and is continuing, to fund the electrical costs.

1997 ■ Arizona Department of Transportation indicates that this measure would implement a wide range of traffic control techniques designed to facilitate smooth, safe travel through intersections. These techniques include signalization, turn lanes, or median dividers. This will be an ongoing effort.

The ADOT Commitment for the Moderate Area Plan was to implement intersection improvements such as adding turn lanes, lengthening turn lanes, widening streets, eliminating bottlenecks and jogs, and eliminating unnecessary traffic signals.

Pursuant to A.R.S. 28-104, ADOT is responsible for the planning, construction, and management of facilities on the State Highway System. The ADOT Five-Year Transportation Construction Program includes projects directed at intersection improvements. These projects facilitate turning movements, thereby helping to maximize intersection capacities. ADOT rarely removes traffic signals.

Intersection improvement projects are an ongoing ADOT construction activity and are included in the Five -Year Construction Program, when applicable. Intersection improvements can be included in the reconstruction of a roadway. Funding is then shown as an item in the Five-Year Highway Construction Program, when applicable.

Freeway Management Systems (FMS) as part of the Intelligent Transportation Systems (ITS) use cameras, road sensors, and variable message signs to collect and distribute traffic information. A total of 17 phases covering 240 miles of freeway is envisioned for the Phoenix area. Refer also to the measure, Develop Intelligent Transportation Systems.

Software is being developed to give drivers access to updated traffic conditions on freeways and surface streets in Arizona. The ADOT internet site (www.azfms.com) and a network of kiosks will provide access to "real-time" information on road conditions.

The first two stages of the software development for the Phoenix Traffic Operations Center are complete. Additional enhancements have been identified and are included in future software stages.

A recent study was conducted to develop a traffic Interchange Improvement Prioritization Process to assist ADOT in establishing a systematic interchange improvement program. A final report was prepared by JHK & Associates in January 1997.

Several steps were required to complete the study including ranking and prioritizing potential construction locations. Nineteen interchanges were identified as potential project locations for complete reconstruction. Of these, ten are in the Phoenix metropolitan area. These potential projects include what improvements would be required to improve traffic flow and safety at each interchange.

For describing the Commitment, ADOT, through the Transportation Planning Group Air Quality Planner, will review progress on the traffic interchange improvement recommendations for potential reconstruction. ADOT will also review progress data on traffic interchange projects in the nonattainment area when shown as part of the Five-Year Highway Construction Program. This information will be provided to the Maricopa County Environmental Services Divisions for the required annual report for the Environmental Protection Agency.

42. Site-Specific Transportation Control Measures

1997 ■ City of Avondale indicates that the Street Department works with the Police Department to implement Special Event Traffic Control Plans for events involving large volumes of traffic. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Cave Creek indicates that the Town has one major intersection in its jurisdiction. This intersection will be evaluated for reprogramming to lag rather than lead. The Town is in the process of conducting a five year transportation plan, and will be in a position to respond to traffic needs as they arise.

1997 ■ City of Chandler indicates that two intersections are programmed for major reconstruction to provide dual left turn lanes. We will be identifying and prioritizing potential spot improvements for other major intersections throughout the City with consultant assistance during the transportation plan update programmed for FY 1998. The first intersection at Alma School Road and Elliot Road is programmed for construction in FY 1999. Construction at the second intersection is tentatively programmed for FY 2001, depending upon availability of funding. Funding is allocated through the annual budget process.

1997 ■ Town of Gilbert hired a traffic engineer during calendar year 1996. His responsibilities include obtaining traffic counts to determine the number of vehicles at intersections throughout the day and making changes to traffic control signals to ensure that vehicle delays do not occur. The data that is obtained will determine where improvements (traffic signalization) will need to be made. Prior to the hiring of the traffic engineer, the Town hired a consultant to conduct traffic counts.

The Town has installed traffic controllers at four (4) intersections: Gilbert and Elliot, Lindsay and Elliot, Val Vista and Elliot, and Val Vista and Juniper. In addition, the Town created the position of traffic signalization technician, and hired two employees in July 1996. One of their main responsibilities is to

provide operation and maintenance to all traffic signals. The Town will continue to monitor conditions and plan for needed improvements. Implementation is now in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale will use a variety of traffic control strategies and devices to facilitate traffic flow on currently substandard or excessively congested intersections. The City will evaluate site-specific transportation control measures on a case-by-case basis, taking into consideration traffic volume capacities and safety. In progress. For example, the City is currently providing signal protected U-turns (in conjunction with bus bays) where medians limit vehicular access to businesses, thus reducing vehicle miles traveled. Decisions on site-specific transportation control measures are made by the City Traffic Engineer. Funding for the implementation of this measure are determined in the City's annual budget development process.

1997 ■ City of Goodyear will use a variety of traffic control strategies and devices to facilitate traffic flow on currently substandard or excessively congested intersections. The City will evaluate site-specific transportation control measures on a case-by-case basis, taking into consideration traffic volume capacities and safety. In progress. For example, the City is currently providing signal protected U-turns (in conjunction with bus bays) where medians limit vehicular access to businesses, thus reducing vehicle miles traveled. The City is considering reducing the amount of curb cuts to promote through traffic and is exploring traffic signals at major access points. Decisions on site-specific transportation control measures are made by the Public Works Department. Funding for the implementation of this measure are determined in the City's annual budget process.

1997 ■ City of Mesa indicates that signalized intersections are evaluated periodically to determine if varius control strategies can be implemented to reduce overall delay and improve traffic flow. The Traffic Signal Control System software reduces side street delays during off-peak hours. A combination of leading and lagging left furn signal operations are used to improve progression at major intersections. Bus pullouts are installed as adjacent property on existing bus routes is developed to reduce congestion on the streets. Intersection improvements such as adding turn lanes, lengthening turn lanes, and adding through lanes are continuously evaluated and added to the five capital budget plan as appropriate.

Traffic patterns associated with special events are continuously evaluated and appropriate temporary congestion remediation measures are implemented such as dedicated through lanes, dedicated event access lanes and manual traffic flow assistance. Implementation will be ongoing. Funding is allocated through the annual and five year capital budget process.

1997 ■ City of Peoria attempts to budget funding to study and modify two to three existing traffic signals per year of installing separate protected/permissive left turn movements. Two to three intersections studied each year for installation of left turn movements. The City attempts to budget $50,000 each year.

1997 ■ City of Phoenix Street Transportation Department works with the Police Department to implement Special Event Traffic Control Plans for events involving large volumes of traffic. The existing traffic control plan for the America West Arena will be revised as needed to incorporate the newer venues in the downtown area (Bank One Ballpark, theaters, museums, retail shops etc.).

The City will hire a consultant to conduct traffic/parking information feasibility study for downtown Phoenix. The study will evaluate the feasibility of an automated system to provide traffic conditions and parking information to the traveling public as they approach the downtown area. The concept to be evaluated would include a system of radio-controlled electronic message boards to direct traffic away from congestion and to open parking sites. As currently envisioned, the system would primarily be used on days when multiple events are scheduled in the downtown area.

The Aviation Department implements transportation control measure at Sky Harbor International Airport. Traffic flow patterns have been designed to reduce congestion and vehicle idling. Regional shuttle bus services reduce single occupancy vehicle traffic. Off-site employee parking airport shuttle buses reduce congestion near the terminals. Implementation is in progress. Funding is allocated through the annual budget process Traffic/parking feasibility study (estimated $150,000).

1997 ■ City of Scottsdale evaluated traffic patterns before and during Super Bowl XXX, and programmed the signal computer to alleviate and avoid traffic predicaments. The City of Scottsdale completed construction of two bridges associated with the Greenway/Hayden CAP crossing prior to the 1997 Phoenix Open to alleviate traffic congestion. The Phoenix Open is an annual event. The City of Scottsdale Transportation Department's objective for 1997-1999 is to implement a traffic management program. The City works with the Chamber of Commerce, public and private sector stakeholders to evaluate options of managing parking and traffic associated with activity centers and special events throughout Scottsdale.

Mass Transit Alternatives (Measure 97-TC-1) and Expansion of Public Transportation Programs (Measure 97-TC-5) may result in increased funding for transit and ultimately help provide transit options for travel to activity

centers. Without expansion of the current public transportation system, options of encouraging alternative transportation will be limited. Also see Measure 97-TC-10: Site Specific Transportation Control Measures. The Street Transportation Department works with the Police Department.

The Aviation Department implements transportation control measures at Scottsdale Airport. Traffic flow patterns have been designed to reduce congestion and vehicle idling. Regional shuttle bus services reduce single occupancy vehicle traffic. Off-site employee parking airport shuttle buses reduce congestion near the terminals.

Implementation is in progress. Funding is allocated through the biennial budget process. Traffic/parking feasibility study (estimated $150,000).

1997 ■ City of Tempe indicates that this measure encourages the implementation of any available transportation control measures targeting specific locations or subareas. This could include geometric or traffic control improvements at specific congestion intersection or at other substandard locations.

In April 1995, the City Council approved a plan to create a downtown parking management system as recommended by the Downtown Tempe Community Inc. (DTC), a management association of the downtown. Upon further study and testing, the DTC recommended that the parking management system include: the installation of multi-space meters on City controlled parking lots and on-street parking spaces; and the installation of wayfinder system, which would help people locate available parking areas. In February 1997, this system was implemented in Downtown Tempe.

As part of the development review process, the City reviews site plans and recommends traffic control measures to improve traffic flow as well as measures to encourage the use of alternative modes. Alternative mode measures include pedestrian amenities, bicycle parking and transit stops. The City will continue to implement and encourage transportation control improvements as opportunities occur. Implementation in progress. Funding is provided through the annual budget process and through private development during the development review process.

1997 ■ City of Tolleson indicated this measure involves the installation of left turn signals at three City of Tolleson traffic signals when traffic counts warrant installation. Current Average Daily Traffic counts are too low for change in traffic patterns. Not being able to predict high average daily traffic, the City of Tolleson will commit to conduct traffic count studies periodically to determine the need for left turn signal installation. Public Works Department will be responsible for the administration and implementation of the left turn

signal lights. The conversion of three traffic signal systems is estimated to cost $75,000 from approved City Highway User Funds (HURF).

1997 ■ Arizona Department of Transportation indicates that the 1993 Moderate Area Plan Commitment by ADOT was to implement intersection improvements such as adding turn lanes, lengthening turn lanes, widening streets, eliminating bottlenecks and jogs, and eliminating unnecessary traffic signals. This Commitment is addressed here and will also be addressed in the 1998 MAG Serious Area Carbon Monoxide Plans BACM #97-TC-9. This will be an ongoing effort.

Roadway and intersection improvement projects are an ongoing ADOT construction activity and are included in the attached Five-Year Highway Construction Program. These projects can include widening of roadways and adding turn lanes. Intersection improvements can be included in the reconstruction of a roadway. Funding for each year is shown as an item in the Five-Year Highway Construction Program.

As the proposed Freeway Management System and Intelligent Transportation System projects are developed and implemented, site-specific intersection improvements could be shown or identified. As part of the recently completed Traffic Interchange Improvement Prioritization Process Study, a total of 17 potential intermediate and 183 potential minor improvement projects were identified statewide. Nine of the potential intermediate projects that were identified are in the Phoenix metropolitan area. Forty-six of the potential minor projects are located in the Phoenix metropolitan area and Maricopa County.

For the purposes of describing the Commitment, ADOT, through the Transportation Planning Group Air Quality Planner, will review progress data on site-specific improvement projects and provide the Maricopa County Environmental Services Division the information needed for the required annual report for the Environmental Protection Agency. As requested, this data will include reporting units from BACM #97-TC-8 and BACM #97-TC-9.

1997 ■ Regional Public Transportation Authority indicates that the RPTA facilitates Transportation Management Associations in the region. There are fourteen TMAs currently active representing 210 employers. Two of the fourteen TMA's are formal dues paying organizations. RPTA staff supports the other twelve informal TMA's groups. The employers in these associations work together to promote alternate mode use by coordinating transportation fairs, sponsoring educational workshops, networking and sharing ideas and jointly implementing programs or incentives that motivate employees i.e., guaranteed ride home programs, carpool matching or vanpool promotions, etc.

The Regional Public Transportation Authority as the regional transit agency for Maricopa County (A.R.S. 48-5101) provides these services to improve mobility and air quality. The TMAs meet monthly or bi-monthly. In 1997, mini-trainings will be scheduled at these meetings on the following topics:

- Motivation through Recognition
- New TRP Flexibility Options
- Air Pollution 101
- Bus Card Plus
- Carpools/Vanpools

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000. RPTA supports the two formal TMAs by contracting with them for $10,000 per year to provide rideshare and trip reduction support services on its behalf.

43. Encouragement of Bicycle Travel

1997 ■ City of Avondale encourages bicycle travel through establishing bike lanes with new road development. The Avondale Bikeway System includes bike lanes, bikeable streets, multi-use paths and to facilitate bicycle travel in the Phoenix area. The City continues to install and maintain bike facilities at City parks, bus terminals, and Park and Ride lots. The City has adopted street cross section standards which provide on-street bike lanes on almost all new arterial and collector streets. Implementation is in progress. Additional bikeways are scheduled for the 1997-1998 fiscal year. The City has designated a Planner. Developers pay as development occurs.

1997 ■ Town of Carefree is a semi-rural community with a population of approximately 2300 residents located on the north edge of the Phoenix metropolitan area. Approximately 96 percent or 48 miles of its 50 miles of streets are paved. The Town of Carefree has an ongoing maintenance program of mowing and trimming the shoulders of streets to provide for full usage of street surfaces for vehicles, bicycles, and pedestrians. The Town of Carefree will continue to encourage bicycle and pedestrian travel and public awareness through its newsletter.

This measure will be implemented by the Town of Carefree. Legal authority for this action is provided under Section 9-240-3(c) of the Arizona Revised Statutes. The maintenance of the streets and shoulders is continuous. The encouragement of bicycle and pedestrian travel and public awareness announcements will be periodical. The shoulder maintenance will be

inspected periodically by the Street Superintendent who will provide reports to the Town Administrator.

The annual cost of mowing and trimming the street shoulders is approximately $15,000 which is budgeted in the Street Department Maintenance Budget. The Town newsletter is published and distributed three times per year for an annual cost of approximately $8,000 which is budgeted in the Town Council Budget.

1997 ■ City of Chandler has increased the promotion of bicycle use, including conducting an annual Bike-to-Work Week. This year's promotion included incentives such as free bikes and bike equipment as well as other prizes for participation. Another program offered by the City, provides bicycles that have been confiscated by the police department to employees who commit to using bikes to commute to work. In addition, street design standards were revised in 1993 to require bike lanes on all newly-constructed arterial streets. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of El Mirage will look into promoting public/employee awareness of bicycle use as an alternative transportation to motor vehicles. The City will explore innovated ways, i.e., demonstration programs to promote bicycle use. The schedule for completing this work is as follows: February 1998-Promote public/employee awareness of bicycle use. Funding for this program is determined in the City annual budget development process.

1997 ■ Town of Fountain Hills is identifying bikeway routes along arterials, collections, and local roadways and will be signing and striping such routes. The Town of Fountain Hills will promote bicycle travel by encouraging and requiring, where appropriate, both residential and commercial developers to provide bicycle lanes and/or trails within or adjacent to their projects. This measure will be implemented by the Town of Fountain Hills. Legal authority for this action is provided under ARS Section 9-240-"General Powers of Council". The schedule for completing this work is as follows: Year -1998 - Town-wide signing and striping.

Administration of plan development for this project will require staff time equivalent to 0.2 full-time employee, at an approximate cost of $8,000. This measure will be accomplished by current street maintenance department personnel under the adopted Town budget for FY 1997-1998. This estimated total cost for completion will be $20,000, consisting of $20,000 from approved Town budget, as programmed in the Town Capital Improvement Program.

This measure does not represent an ordinance, regulation, or rule requiring enforcement. Routine enforcement of traffic laws applicable to motorists and bicyclists on the affected streets will be provided by the Town Police Department. Maintenance of pavement and signage on the affected streets and bikeways will be provided by the Town Streets Department, under the Town's routine maintenance program.

1997 ■ Town of Gilbert encourages the use of bicycles for commuter trips and recreation through the planning and construction of striped, marked bike lanes in collector and arterial streets and off street improved trails. In 1996, these efforts were aided by:

- Spending $54,537 to develop the Town of Gilbert 1996-2001 Parks, Open Space and Trails Plan. The study includes an inventory of existing facilities and policies for the implementation of new bicycle trails and facilities.

- Spending $74,500 to develop an impact fee structure for new development. A portion of the revenue is earmarked for use by the Parks and Recreation Department who will budget a portion for expansion of the bicycle trail system.

- Programmed the use of approximately $1.08 million for the future expansion of the bicycle trail system as defined in the capital improvements plan.

- Spent $77,000 for the design and construction of bicycle trail improvements along the Western Canal.

- Constructed approximately 8.4 miles of arterial and collector streets that include additional width and striping for reserved bike lanes and approximately 5.6 miles of off-street bikepaths within private developments. The Town's system currently is 55 miles.

Implementations in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale promotes public/employee awareness of bicycle use as an alternative transportation to motor vehicles. The City will explore innovated ways, e.g., demonstration programs to promote bicycle use. In progress. The City has purchased an electric powered bicycle and an electric powered retryke (3 wheel cycle) to spark public and employee interest in bicycling. The electric powered bicycle and retryke are available for employees to use.

The City has started an employee bicycle club to provide employees more confidence to ride safely. The club will continue as long as there is employee interest. Bicycle club participants are rewarded with gifts based on miles traveled to work. The City currently provides employees with a bicycle if they promise to ride it to work on a regular basis. The City's Bicycling Coordinator is assigned to promote bicycle use. Funding for this program is determined in the City annual budget development process.

1997 ■ City of Goodyear will promote public/employee awareness of bicycle use as an alternative transportation to motor vehicles. The City will explore innovated ways, e.g., demonstration programs to promote bicycle use. In progress. The Southwest Valley Transportation Study has provided the City with recommendation on bike routes. A public committee will be established to initiate a bicycle awareness program. The committee will identify ways to promote bicycle travel and will present options to the City's Manager's Office, as appropriate. The City's public/employee committee is assigned to promote bicycle use. Funding for this program is determined in the City annual budget development process.

1997 ■ City of Mesa hired a Bicycle Coordinator in 1996. A Bicycle Plan has been developed that includes designs for additional bike lanes on arterials streets and bikepaths separated from the roadway throughout the City. In conjunction with a federal aid project a bike path along one major east-west arterial will be developed with rest stops at City Parks.

The City distributes information on bike safety including educational and promotional flyers, posters and brochures, and conducts an annual bike event for employees to encourage the safe use of bicycles for commuting. The City installs and maintains bike facilities at City parks, bus terminals, and Park-and-Ride lots. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ Town of Paradise Valley encourages bicycle travel. The Town has installed bike racks at the Town facilities. There are bike maps available at the Town Hall. The Town's General Plan calls for bike lanes on newly constructed roadways. The Town's Trip Reduction Program encourages bike travel and pays employees $1.33 per day to employees who ride their bike to work. Implementation has been in progress for three years. The General Plan was revised in July 1997. Development and administration of the Trip Reduction Program Reduction Plan requires staff time equivalent to 0.20. A full-time exempt employee volunteers their services on off-hours, at a cost of zero. The annual budget for this measure is from the Town's General Fund.

1997 ■ City of Peoria adopted a bicycle route study in 1993 for implementation of a class two bike route. A class two bike route is provided by a striped bike lane or bike path on collector streets or along rivers or other waterways to connect major destinations such as City Hall, parks and schools. Each new development constructed along a collector street is required to stripe the street with a bike lane. Also, the City received a Federal Enhancement Grand to re-stripe City streets to designate a bike lane. This project will be completed in fall of 1997. Peoria attempts to include funding each year for the striping of City streets. Funding varies from year to year.

1997 ■ City of Phoenix encourages bicycle travel through a number of programs. The City has expanded the bikeway system from 75 miles in 1987 to approximately 422 miles in FY 1996-1997. The Phoenix Bikeway System includes bike lanes, bikeable streets, multi-use paths and grade-separated structures to facilitate bicycle travel in the Phoenix area. Approximately 19 additional miles of bikeways are scheduled for FY 1997-1998, raising the total system to approximately 441 miles. Additional bikes and facilities can be constructed if the voters approve the proposed half-cent sales tax in 1997.

The City publishes and distributes safety, educational, and promotional flyers, posters, brochures, and bike maps and conducts bike events to encourage safe use of bicycles and safe commuting. The City continues to install and maintain bike facilities at City parks, bus terminals, and Park-and-Ride lots. Private developers and businesses are encouraged to include bike racks, lockers, and showers at work site and other facilities. The City has adopted street cross section standards which provide on-street bike lanes on almost all new arterial and collector streets.

The City is assisting Maricopa County in a pilot program, to provide free purple bikes (Purple People Movers) for use in the downtown area. This community bike program was created through a partnership of local governments, community organizations, and local businesses. The program estimates that over 100 purple bikes and 30 purple bike racks will be made available in the downtown area to encourage visitors, employees, tourists and residents to use bikes for short trips to get around downtown, rather than driving a car.

Implementation is in progress. Additional bikeways are scheduled for the 1997-1998 fiscal year. The Purple Bike Pilot Program began in April 1997. The City has designated a Bicycle Coordinator. AHUR funds, City bonds and federal grants provide the funding source for the Phoenix Bikeway Program. From 1987 through FY 1997-1998, the City invested approximately $5.3 million with approximately $300,000 annual expenditures.

The annual investment of additional funding for bikeways will be available if the voters approve the half-cent sales tax in 1997.

1997 ■ City of Scottsdale considers bicycle transportation to be an integral part of citizen mobility. The City has an adopted Bicycle/Pedestrian Transportation Plan. The City encourages bicycle travel through a number of programs. Presently the City publishes and distributes a map of the multi-use path system which includes safety information. We also intend to publish a comprehensive map designed for bicycle commuters.

The City has a program, B.I.K.E.S., for employees to "earn" a donated bicycle by using it to commute to work a certain amount.

The City also has a program, Handlebar Helpers, for community youth and adults to "earn" donated bicycles through community volunteer work.

The City distributes safety, educational, and promotional flyers, posters, brochures, and bike maps and advertises bike events to encourage safe use of bicycles and safe commuting. The City continues to install and maintain bike facilities at City parks. Private developers and businesses are encouraged to include bike racks, lockers, and showers at work site and other facilities.

Implementation has been in progress since the early seventies. The Transit Division has developed five and ten-year CIP plans. If the voters approve the sales tax increase for Transit in September 1997, then these plans can be accelerated and expanded. Funding is allocated through the biennial budget process. The City has designated a full-time Bicycle Coordinator. Funding comes from sales tax revenue, City bonds, other City funds, and federal grants. The City expects to spend approximately $1,000,000 for FY 1997-1999.

1997 ■ City of Tempe facilitates and promotes bicycle travel through a variety of programs. More than 85 miles of bikeways currently exist in Tempe; approximately 70 miles have been implemented since 1990. More than half of all collector and arterial streets in Tempe have a dedicated bicycle facility. These include bicycle lanes, routes, paths and wide outside curb lanes, grade separated crossings and canal crossing treatments. Installation of bicycle racks for parking is ongoing, and required with all new developments.

In the Spring of 1997, Tempe was recognized as a "Bicycle Friendly Community" by the League of American Bicyclists (LAB) and received a Silver Spoke award from the Governor's Task Force on Bicycles for outstanding contributions to bicycle facilities planning and engineering.

The City publishes and distributes safety, educational and promotional information to encourage the use of bicycles and safe commuting including: air quality brochures, a Tempe Bicycle Parking Requirement Guide, a bikeways map and a quarterly newsletter. A bicycle safety and educational video is currently being developed and will be available for public use. Tempe hosted numerous events during Valley Bike Week 1997, including the regions most well-attended Bike to Work and School Day. Tempe, additionally, hosts an annual Fall Tour de Tempe Bike Rally to showcase existing and new bikeways, and provide instruction for appropriate cycling.

The City of Tempe has included art into the design of bicycle lockers and racks. In an effort to improve the experience of the cyclist, four artist-designed bicycle racks have been installed in the Downtown Tempe area. Additionally, four artist-designed bicycle lockers are currently being completed and will be located at three City of Tempe sites. These projects are created through a partnership with the Tempe Arts Commission and the Transit Section.

In September 1996, Tempe citizens passed the sales tax for transit, thereby creating a dedicated source of funding for significant improvements to the local bus, bicycle and pedestrian programs. Additionally, in February 1997 the City hired an Alternative Modes Specialist, with responsibility for bicycle coordination.

Implementation is ongoing. Expansion of the Tempe Bikeway System is done in accordance with the Bicycle Plan. Bicycle racks are installed with new development, and promotional activities are held annually.

Transit Tax funds, federal grants and the City of Tempe Capital Improvement Program provide the funding source for the Tempe Bicycle Program. A base of $250,000 is earmarked from Transit Tax dollars annually. ISTEA and CMAQ grant monies have been used to supplement and maximize Tempe's funding.

1997 ■ Maricopa County indicates that this measure would involve the promotion of bicycle travel to reduce automobile use and improve air quality. One useful channel for public sector encouragement of bicycling is bikeway system planning. Identifying and publicizing appropriate routes for inter-city bike trips could help bicyclists avoid other, less safe facilities. Another area for potential actions is the development and distribution of educational materials, regarding bicycle use and safety.

Maricopa County Transportation Department, through its permit authority pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors) and A.R.S. Section 18-209, will continue to develop bicycle facilities and

encourage bicycle travel. Maricopa County continues to do extensive planning for bicycle facilities throughout the County. Maricopa County will be updating their bicycle plan and completing an implementation plan by May 1998 to better help ensure that new bicycle facilities are built in the future. This is a very important encouragement to the residents who may choose to ride their bicycle in place of driving a car.

In the last revision to the Department of Transportation Design Manual (11/93), a complete bicycle facilities design chapter was added, and a requirement for provision of bike lanes or sufficient width for bike lanes was added for most types of roadways. Funding will be constrained by revenues received by Maricopa County from the Highway User Revenue Fund for capital projects.

Maricopa County also provides other types of encouragement through the distribution of the regional bicycle facilities map and the bicycle education that is provided as part of Traffic Engineering's Roadway Safety Program provided to school children all over Maricopa County. Ongoing program funded through existing County budget.

1997 ■ Regional Public Transportation Authority indicates that efforts will be targeted at the 1,250 employers with about 580,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. The following materials are made available to employers to help them implement bicycle programs to employees and promote safe bicycling; A "How to Implement a Bicycle Program" manual, "Bike Rack Guide", bike helmet information, bike safety brochure, bike-on-bus brochure and bicycle safety education video. RPTA will also distribute up to 22,000 MAG Regional Bike maps in 1997-1998. RPTA will assist the Governor's Arizona Bicycle Task Force in sponsoring a bicycle conference and/or workshop that will be marketed to employers and the general public. The Regional Ridesharing Program will promote its computerized matching service to those who wish to bicycle with a companion to work. The Clean Air Campaign will co-sponsor and coordinate Valley Bike Week event.

The schedule for planned activities are as follows:

- Distribution of bicycle educational information is ongoing
- Bicycle matching program will be promoted through MCTRP trainings, workshop, the home page and employer sponsored transportation fairs
- Valley Bike week and conference are annual events

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

44. Development of Bicycle Travel Facilities

1997 ■ City of Avondale encourages bicycle travel through establishing bike lanes with new road development. The Avondale Bikeway System includes bike lanes, bikeable streets, multi-use paths and to facilitate bicycle travel in the Phoenix area. The City continues to install and maintain bike facilities at City parks, bus terminals, and Park and Ride lots. The City has adopted street cross section standards which provide on-street bike lanes on almost all new arterial and collector streets. Implementation is in progress. Additional bikeways are scheduled for the 1997-1998 fiscal year. The City has designated a Planner. Developers pay as development occurs.

1997 ■ City of Chandler revised its street design standards in 1993 to require bike lanes on all newly-constructed arterial streets. The City of Chandler is in the process of completing the implementation of bike lane striping of collector streets as recommended in the City's Bicycle Plan. Further, the City has re-striped portions of four arterial streets to provide north-south and east-west connectivity with other regional bike routes. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of El Mirage will maintain existing bicycle lanes and provide additional bicycle lane miles on the public street system and other areas, as appropriate. Implementation of the City's bicycle plan is currently in process. The City currently has approximately one mile of bicycle lanes in the City. The City Manager's Office is responsible for planning for and installing new bicycle lanes. Funding for this program is determined in the City's annual budget development process.

1997 ■ Town of Gilbert encourages the use of bicycles for commuter trips and recreation through the planning and construction of striped, marked bike lanes in collector and arterial streets and off street improved trails. In 1996, these efforts were aided by:

- Spending $54,537 to develop the Town of Gilbert 1996-2001 Parks, Open Space and Trails Plan. The study includes an inventory of existing facilities and policies for the implementation of new bicycle trails and facilities.

- Spending $74,500 to develop an impact fee structure for new development. A portion of the revenue is earmarked for use by the Parks and Recreation Department who will budget a portion for expansion of the bicycle trail system.

- Programmed the use of approximately $1.08 million for the future expansion of the bicycle trail system as defined in the capital improvements plan.

- Spent $77,000 for the design and construction of bicycle trail improvements along the Western Canal.

- Constructed approximately 8.4 miles of arterial and collector streets that include additional width and striping for reserved bike lanes and approximately 5.6 miles of off-street bikepaths within private developments. The Town's system currently is 55 miles.

Implementations in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale will maintain existing bicycle lanes and provide additional bicycle lane miles on the public street system. Implementation of the City's bicycle plan is currently in progress. The City currently has approximately 100 miles of bicycle lanes in the City. The City anticipates adding 10 miles of bicycle lanes in 1997. The City's Bicycling Coordinator and the Traffic Signs and Signals Division are responsible for planning and installing new bicycle lanes. Funding for this program is determined in the City's annual budget development process. It costs the City approximately $3,000 per mile to add new bicycle lanes. The operational and maintenance cost for bicycle lanes is estimated at $1,500 per mile.

1997 ■ City of Goodyear will maintain existing bicycle lanes and provide additional bicycle lane miles on the public street system and other areas, as appropriate. Implementation of the City's bicycle plan is currently in progress. The City currently has approximately 24 miles of bicycle lanes in the City. Since roadways within the City's jurisdiction belong to MCDOT, the City is looking for County participation to create connectivity concerning bikeways. The City anticipates adding bicycle lanes as funding allows. The City's Public Works Department is responsible for planning for and installing new bicycle lanes. Funding for this program is determined in the City's annual budget process.

1997 ■ City of Mesa hired a Bicycle Coordinator in 1996. A Bicycle Plan has been developed that includes designs for additional bike lanes on arterials streets

and bike paths separated from the roadway throughout the City. In conjunction with a federal aid project a bike path along one major east-west arterial will be developed with rest stops at City parks.

The City distributes information on bike safety including educational and promotional flyers, posters and brochures, and conducts an annual bike event for employees to encourage the safe use of bicycles for commuting. The City installs and maintains bike facilities at City parks, bus terminals, and Park-and-Ride lots. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of Peoria has adopted a bicycle route plan for the implementation of a class two bike lane. The class two bike lane is to be located on streets with lower traffic volume, such as collector streets. Lanes will be striped, bike decals installed and signed. Peoria will re-stipe sections of collector streets in the fall of 1997 and continue to have new lanes installed as development continues. The City of Peoria currently has $125,000 for re-striping certain streets. The City will continue to have new facilities installed each year as development occurs. The City will attempt to include funding each year in the CIP.

1997 ■ City of Phoenix encourages bicycle travel through a number of programs. The City has expanded the bikeway system from 75 miles in 1987 to approximately 422 miles in FY 1996-1997. The Phoenix Bikeway System includes bike lanes, bikeable streets, multi-use paths and grade-separated structures to facilitate bicycle travel in the Phoenix area. Approximately 19 additional miles of bikeways are scheduled for FY 1997-1998, raising the total system to approximately 441 miles. Additional bikes and facilities can be constructed if the voters approve the proposed half-cent sales tax in 1997.

The City publishes and distributes safety, educational, and promotional flyers, posters, brochures, and bike maps and conducts bike events to encourage safe use of bicycles and safe commuting. The City continues to install and maintain bike facilities at City parks, bus terminals, and Park-and-Ride lots. Private developers and businesses are encouraged to include bike racks, lockers, and showers at work site and other facilities. The City has adopted street cross section standards which provide on-street bike lanes on almost all new arterial and collector streets.

The City is assisting Maricopa County in a pilot program, to provide free purple bikes (Purple People Movers) for use in the downtown area. This community bike program was created through a partnership of local governments, community organizations, and local businesses. The program estimates that over 100 purple bikes and 30 purple bike racks will be made

available in the downtown area to encourage visitors, employees, tourists and residents to use bikes for short trips to get around downtown, rather than driving a car.

Implementation is in progress. Additional bikeways are scheduled for the 1997-1998 fiscal year. The Purple Bike Pilot Program began in April 1997. The City has designated a Bicycle Coordinator. AHUR funds, City bonds and federal grants provide the funding source for the Phoenix Bikeway Program. From 1987 through FY 1997-1998, the City has invested approximately $5.3 million with approximately $300,000 annual expenditures. The annual investment of additional funding for bikeways will be available if the voters approve the half-cent sales tax in 1997.

1997 ■ City of Scottsdale considers bicycle transportation to be an integral part of citizen mobility. The City has an adopted Bicycle/Pedestrian Transportation Plan. Our bikeway system is expanding through inclusion of bicycle facilities in Capital Improvement Projects, Flood Control Districts, new development, and specific bicycle projects. In 1990, the system had about 36 miles of off-road paved paths and two miles of bike lanes. Today the numbers would be 45 miles of path, and 35 miles on-street.

FY 1997-1998 is expected to add nine miles of separated path, three pedestrian/bicycle/equestrian bridges over three canals, and 15 miles on-street lanes and routes. Presently the City publishes and distributes a map designed for bicycle commuters.

The City of Scottsdale completed the Pima Bike Route from Fillmore Street to Chaparral Road within the past two years. The City of Scottsdale completed 8.5 miles of bike lanes, and three miles of multi-use paths within the past two years. The City of Scottsdale completed Phases II and III of the new Indian Bend Wash path, McCormick Parkway to MacDonald Drive within the past two years. Additional bikes and facilities can be constructed if the voters approve the proposed half-cent sales tax in 1997.

Implementation has been in progress since the early seventies. The Transit Division has developed five and ten-year CIP plans. If the voters approve the sales tax increase for Transit in September 1997, then these plans can be accelerated and expanded. Funding is allocated through the biennial budget process. The City has designated a full-time bicycle Coordinator. Funding comes from sales tax revenue, City bonds, other City funds, and federal grants. The City expects to spend approximately $1,000,000 for FY 1997-1999.

1997 ■ City of Tempe facilitates and promotes bicycle travel through a variety of programs. More than 85 miles of bikeways currently exist in Tempe;

approximately 70 miles have been implemented since 1990. More than half of all collector and arterial streets in Tempe have a dedicated bicycle facility. These include bicycle lanes, routes, paths and wide outside curb lanes, grade separated crossings and canal crossing treatments. Installation of bicycle racks for parking is ongoing, and required with all new developments.

In the Spring of 1997, Tempe was recognized as a "Bicycle Friendly Community" by the League of American Bicyclists (LAB) and received a Silver Spoke award from the Governor's Task Force on Bicycles for outstanding contributions to bicycle facilities planning and engineering.

The City publishes and distributes safety, educational and promotional information to encourage the use of bicycles and safe commuting including: air quality brochures, a Tempe Bicycle Parking Requirement Guide, a bikeways map and a quarterly newsletter. A bicycle safety and educational video is currently being developed and will be available for public use. Tempe hosted numerous events during Valley Bike Week 1997, including the regions most well-attended Bike to Work and School Day. Tempe, additionally, hosts an annual Fall Tour de Tempe Bike Rally to showcase existing and new bikeways, and provide instruction for appropriate cycling.

The City of Tempe has included art into the design of bicycle lockers and racks. In an effort to improve the experience of the cyclist, four artist-designed bicycle racks have been installed in the Downtown Tempe area. Additionally, four artist-designed bicycle lockers are currently being completed and will be located at three City of Tempe sites. These projects are created through a partnership with the Tempe Arts Commission and the Transit Section.

In September 1996, Tempe citizens passed the sales tax for transit, thereby creating a dedicated source of funding for significant improvements to the local bus, bicycle and pedestrian programs. Additionally, in February 1997 the City hired an Alternative Modes Specialist, with responsibility for bicycle coordination.

Implementation is ongoing. Expansion of the Tempe Bikeway System is done in accordance with the Bicycle Plan. Bicycle racks are installed with new development, and promotional activities are held annually. Transit Tax funds, federal grants and the City of Tempe Capital Improvement Program provide the funding source for the Tempe Bicycle Program. A base of $250,000 is earmarked from Transit Tax dollars annually, ISTEA and CMAQ grant monies have been used to supplement and maximize Tempe's funding.

1997 ■ Maricopa County indicates that the Transportation Element of the Maricopa County Comprehensive Plan encourages an efficient, integrated, accessible, environmentally sensitive, and safe Countywide multi-modal system that promotes transit, bikeways, and pedestrian travel. Bicycling is recognized as an alternative method of transportation for recreational and work trips. Increased use of bicycles could be accommodated with improved facilities, increased public awareness of safety issues, and through enforcement of traffic laws.

The following units could be used to measure attainment:

1. Number of bicycle trips per household.
2. Percentage of bicycle facilities used.

The Maricopa County Department of Planning and Development under A.R.S. Section 11-806 (County Planning and Zoning) is mandated to prepare a comprehensive plan that may include recommendations relative to the location of bicycle facilities.

The Comprehensive Plan is scheduled for adoption by the Maricopa County Board of Supervisors in 1997. Upon approval, implementation of items in the plan are foreseen to occur in an ongoing basis over the course of the planning horizon.

Funding is provided by existing Planning and Development Department budget through the Comprehensive Plan adoption process and with normal Zoning/Plan Review staffing enforcement of the Zoning Code and Subdivision Regulations following adoption of the Plan.

1997 ■ Regional Public Transportation Authority indicates that previously, the RPTA has administered three bike rack distribution programs (for jurisdictions, employers, and the downtown community bike program). Subject to the availability of future federal funds and local match, the RPTA would administer a bike rack distribution program. RPTA will also:

- Assist in the coordination of the Purple Bike Program with the County Adult Probation Department to provide free bikes for short trips in downtown.
- Encourage employers to procure secured bike parking for employees.
- Provide for the use of bike racks on all RPTA fixed route buses.

All activities are ongoing. Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified

activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

45. Alternative Work Schedules

1997 ■ City of Avondale will offer alternative work schedules to employees to encourage off-peak driving and to accommodate the use of transit and ridesharing. The City management encourages department directors to meet and exceed the 85 percent participation rates defined in A.R.S. 49-454. Alternative work schedules are not limited to the time frame prescribed in the state law and are encouraged throughout the calendar year. Year-round alternative work schedule options are currently in progress. No additional funding is necessary to promote and monitor alternative work schedules.

1997 ■ Town of Cave Creek has already implemented a 9-80 flextime policy, which is an option for all existing employees. In addition, the Town's public works crew works a staggered schedule and therefore is not required to commute during peak hours. Fifty percent of the Town's work force participates in these programs.

1997 ■ City of Chandler has increased the number of employees who use alternate/flex work schedules or compressed work week schedules. Citywide, approximately 75 percent of all employees are on some type of alternate work week, with approximately 45 percent working a compressed work schedule. Additionally, the City has recently begun a telecommuting pilot project in an effort to identify appropriate positions and employees for telecommuting opportunities. Results of the pilot will be evaluated to determine how the program can be improved and expanded. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of El Mirage will look into the use of alternative work hours, to include: (1) workdays that either begins between the hours of 6:00 a.m. to 8:30 a.m. or avoids ending between 4:30 p.m to 5:30 p.m.; and (2) compress work schedules, i.e., four ten-hour days or nine-day eight-hour pay period, to promote off-peak driving. Each City Department is responsible for establishing employee work schedules. Funding for this program is determined in the City's annual budget development process.

1997 ■ Town of Gilbert offers alternative work schedules to employees to encourage off-peak driving and to accommodate the use of Ridesharing. The Town management encourages department directors to meet and exceed the 85

percent participation rates defined in A.R.S. 49-454. Alternative work schedules are not limited to the time frame prescribed in the state law and are encouraged throughout the calendar year. Year around alternative work schedule options are currently in progress. No additional funding is necessary to promote and monitor alternative work schedules.

1997 ■ City of Glendale currently encourages the use of alternative work hours, including: 1) workdays that either begin at 7:30 a.m. and 8:30 a.m. or avoids ending between 4:30 p.m. to 5:30 p.m.; and 2) compressed work schedules, e.g., four ten-hour days or a nine-day eight-hour pay period, to promote off-peak driving. Currently in progress. Each City department is responsible for establishing employee work schedules. Funding for this program is determined in the City's annual budget development process.

1997 ■ City of Goodyear currently encourages alternative work hours which includes four-ten-hour days to promote off-peak driving. Another option currently being evaluated is the "work at home" concept. With the upgrades in technology, City-issued equipment would allow employees to work at home which would reduce travel time. Currently in progress. Each City department is responsible for establishing employee work schedules. Funding for this program is determined in the City's annual budget development process.

1997 ■ City of Mesa encourages the use of flexible or staggered work hours for its employees to promote off-peak driving and to accommodate the use of transit and ridesharing. Use of alternate work schedules including a four-day, ten-hour work week and nine-day-80 hour plans are encouraged to reduce the number of peak-hour work trips per employee. Since 1996, the alternative work schedule program has been encouraged on a year-round basis. Year around alternative work schedule options are currently in progress. No additional funding is necessary to implement the alternate work schedules. Schedules are monitored on an individual departmental basis to insure that service levels are maintained throughout the City.

1997 ■ Town of Paradise Valley encourages alternative work schedules and offers the use of these schedules through the Maricopa County Trip Reduction Program. These schedules include 4-10 hour days, 9-day 80 hour weeks. The Town is in the process of developing a system for managers to have the capability to work at home as well. Over 70 percent of the Town's employees are currently on an alternative work schedule. All Town Departments participate in this program. Year-round alternative work schedule options are currently in progress. A full-time exempt employee volunteers their services on off-hours, at a cost of zero. The annual budget for this measure is from the Town's General Fund. Development and

administration of the Trip Reduction Program Reduction Plan requires staff time equivalent to 0.20.

1997 ■ City of Peoria indicates that a 9-80 alternative work schedule will be implemented in FY 1997-1998 for overtime-exempt employees to help improve air quality in Maricopa County. The City of Peoria has already successfully implemented a 4 day, 10 hour work week for approximately 141 employees, or 20 percent of the workforce. In FY 1997-1998, the City of Peoria will expand the alternative work schedule program to include 9-80 plans for overtime-exempt employees. Overtime-exempt employees include department directors, mid-management, supervisory and technical employees, and other professionals.

The City of Peoria projects an additional 50 employees will participate in alternative work schedules by June 30, 1997. This will increase the total participation rate from 20 percent in FY 1996-1997 to 27 percent in FY 1997-1998. This will also provide an estimated reduction of 1,250 employee trips to the workplace. The following is the projected timeline for implementing the measure:

July to August 1997- Identify eligible overtime-exempt employees to participate in program; September 1997 - Kick off of 9-80 alternative work schedule program; March 1998 - Track program and evaluate success of measure; May 1998 - Make modifications, if any, to 9-80 program.

Implementation of the alternative work schedule measure requires no additional personnel or funding. Existing personnel in the Transit Division will absorb the direct costs, if any, of administering the alternative work schedule program.

1997 ■ City of Phoenix offers alternative work schedules to employees to encourage off-peak driving and to accommodate the use of transit and ridesharing. The City management encourages department directors to meet and exceed the 85 percent participation rates defined in A.R.S. 49-454. Alternative work schedules are not limited to the time frame prescribed in the state law and are encouraged throughout the calendar year. Year-round alternative work schedule options are currently in progress. No additional funding is necessary to promote and monitor alternative work schedules.

1997 ■ City of Scottsdale encourages alternative work schedules to employees to encourage off-peak driving or enhance service levels to our citizens. City management encourages department general managers and directors to meet and exceed the 85 percent participation rates defined in A.R.S. 49-454. Alternative work schedules are not limited to the time frame prescribed in the state law and are encouraged throughout the calendar year.

A June 1996 survey in response to Governor Symington's Air Pollution Emergency Proclamation showed that Scottsdale had 253 part-time and 1243 full-time employees. Of this number 390 worked alternative hours, 737 worked a compressed work week (9-80 or 4-10) and 137 traveled to and from work by means other than driving to work alone.

The May 9, 1997 year 7 Trip Reduction Plans for the two major campuses of City facilities reported that 514 employees (in excess of 1/3 total employee base) currently have alternative work schedules. Year-round alternative work schedule options are currently in progress. The City has designated a full-time Transportation Coordinator. The City of Scottsdale Biennial Budget includes Transit Budget increases of 48.8 percent and 18.9 percent respectively for FY 1997-1999 over the previous budgets. No additional funding is necessary to promote and monitor alternative work schedules.

1997 ■ City of Tempe indicates alternative work hours, or flextime, is currently used extensively throughout the City. In addition, staggered work hours are used. The City is creating and testing telecommuting as an option for applicable employees. Implementation is in progress. Funding is provided through the annual budget process.

1997 ■ City of Tolleson indicates that in an effort to reduce commuter traffic at peak travel times during the summer months, the City of Tolleson commits to encourage the use of staggered work schedules that allow employees to select their own working hours with certain parameters. Measure is already in place. All employees of the City of Tolleson are encouraged to participate.

1997 ■ Town of Youngtown indicates that the Youngtown Police Department has implemented a 4-day, 10-hour work week. This practice will stagger personnel schedules; thus decreasing Town and personnel vehicle usage. Currently in operation. No additional personnel or funding is required by this implementation.

1997 ■ Maricopa County indicates that alternative work hours, or flextime, is an employer policy which enables workers to choose their own working hours within certain constraints. Flextime provides the opportunity for employees to use public transit, ridesharing, and other nonmotorized transportation. A related strategy, staggered work hours, is designed to reduce peak congestion in the vicinity of the workplace.

Pursuant to A.R.S. Section 11-251 (General Powers of Board of Supervisors), A.R.S. Section 49-588 and A.R.S. 49-474.01 the Board adopted Maricopa County Ordinance P-8 Reduction of Commuter Use of Motor vehicles by County Employees in 1992. The ordinance provides the County Administrative Officer with the authority to approve and implement

non-financial measures and to implement budgeted measures to reduce employee commute trips or the number of miles driven by county employees to and from work.

Maricopa County conducted an employee awareness program in June 1996 and established goals of 90 percent participation in alternate modes for departmental employees. The County surveyed employees in the summer and again in the fall. This is an existing program administered by the designated transportation coordinator in the Human Resources Department. All supplemental costs for the outreach effort were absorbed by existing budgets.

1997 ■ Arizona Department of Transportation indicates that as mandated by A.R.S. 41-796.01, 49-474.01, and Arizona Administrative Code R2-1-601-605, ADOT follows the rules developed by the Director of the ADOA to establish adjusted work hours for at least 85 percent of employees in the nonattainment area for the period October 1 to April 1. In addition, ADOT will continue to provide employees year-round options of alternative work schedules where service to the public will not be affected. This measure is also a component of the Employer Rideshare Incentives Program. Refer to BACM 97-TC-6.

Statistical information compiled by ADOT for the period of October 1, 1996 through April 1, 1997 indicates that 90.2 percent of the 2,363 Phoenix area ADOT employees were participating in various types of adjusted work hour programs in the nonattainment area. These programs included flextime, staggered work hours, 4-ten hour days, telecommuting, and the 9 day-80 hour program

No additional ADOT funding or employees were required to implement the above programs. Associated costs are covered by the ADOT administrative budget. Current adjusted work hours for ADOT employees in the Maricopa County nonattainment area reflect a 90.2 percent compliance with regulations. Compliance figures are required each year by ADOA. Programs will be monitored through the normal ADOT management reporting processes and reported to the ADOA as appropriate.

An additional reporting requirement this year will be a Telecommuting report from all Arizona agencies, boards, and commissions to report on their progress in achieving a goal of 15 percent of state employees in Maricopa County participating in the program by December 31, 1998.

For the purposes of describing the Commitment, ADOT through the Transportation Planning Group Air Quality Planner, will conduct a study to evaluate the availability of opportunities for employees to participate in the adjusted work hour, trip reduction, and telecommuting programs in the

nonattainment areas. This will identify possible opportunities for increased participation by removing current barriers and also provide documented reasoned justification for those work areas that are not able to participate. The reporting unit will be the number of employees participating.

1997 ■ Regional Public Transportation Authority indicates that the RPTA facilitates up to one formal training bimonthly on compressed work weeks and/or alternative work schedules. Invited to these trainings are approximately 1,250 employers with about 580,000 employees and/or students at sites affected by the Maricopa County Trip Reduction Program. As needed, RPTA conducts special in-house training sessions and one-on-one assistance to employers. A "How to Implement a Compressed Work Week (CWW) Program" manual is available as part of the class. RPTA staff contacts employers affected by TRP to offer assistance several times annually, and is especially promoting the implementation of compressed work weeks to employers. A special mailing on compressed weeks to CEO's was mailed in 1997 with a brochure. A strong response from employers is generating follow up briefings and presentations to employer management committees. RPTA maintains an Internet web site with the following information on alternative work schedules:

- Do CWW produce more trips
- Picture Brochure
- Sample Employer Survey
- CWW's Impact on Air Pollution and Traffic Congestion
- Training Schedule
- Fact Sheet
- Research Findings

Formal MCTRP trainings will take place no less than an average of three times monthly. On-site assistance for individual employers is provided on an as-needed basis. Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

46. <u>Land Use/Development Alternatives</u>

1997 ■ City of Avondale is implementing an In-Fill Program to encourage development of single-family homes in the central parts of the City. The program provides fee waivers and expedited development reviews to projects meeting certain standards of quality. Developers are required to provide pedestrian paths per the open space plan.

In addition, the City of Avondale continues to implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural by-product.

The General Plan and Area Specific Plans encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies.

The City's planning and zoning program continue to support:

- Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.
- Designation of concentrated activity centers with emphasis on pedestrian and alternative forms of travel.
- Linkage of activity centers by transit and bikeways.
- Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
- Inclusion of traffic-demand-management strategies in projects generating large amounts of traffic.
- Development of trail systems Citywide through public and private dedications and financing.

The Community and Economic Development (CEDD) continues to promote projects to encourage land use planning goals and objectives through building permits and approval of plot plans. The City continues to implement street-scape improvements including landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage.

Implementation is in progress. Public funded projects are included in the Capital Improvements Program adopted annually as part of the City's budget.

General Plan policies are revised or added as required. Zoning and subdivision ordinances are amended as needed. Zoning stipulations for privately financed development are approved in conjunction with rezoning cases continually. Single and multi-family development and nonresidential development on major streets undergo site plans and/or design reviews, based on their proximity to residential areas or specific zoning districts.

Planning and Zoning Department staff are funded through the City's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ Town of Gilbert has committed to ensuring land use development is planned with the pedestrian in mind by creating an interrelated set of development policies.

Staff drafted the Residential Subdivision Design guidelines that the Town Council adopted on September 10, 1996. The Town will use the document to encourage subdivision developers to create bicycle links between subdivisions and within planned bicycle trail corridors along canals and transmission easements.

The Town Council enacted a residential zoning moratorium on September 24, 1996. One of the stated reasons for the moratorium was to allow the Town time to incorporate goals and policies from the 1996-2001 Parks, Open Space and Trails Plan into the General Plan.

Implementation is in progress. Planning and Zoning Department staff are funded through the Town's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ City of Glendale indicates that the City's General Plan contains land use development policies that supports public transit and reduces travel distances. Currently in progress. The City's current General Plan contains several policies that encourages land use patterns which support public transit and reduces travel distances. General Plan policies are evaluated and revised on an annual basis. The City's Planning Department is responsible for land use planning. Funding for this program is determined in the City's annual budget development process.

1997 ■ City of Goodyear indicates that the General Plan contains land use development policies that supports public transit and reduces travel distances. Currently in progress. A citizen's committee, with the help of local business representatives, will assist in evaluating the City's current General Plan. The General Plan contains several policies that encourages land use patterns which support public transit and reduces travel distances. General Plan policies are evaluated and revised on an annual basis. The City's planning department is responsible for establishing employee work schedules. Funding for this program is determined in the City's annual budget development process.

1997 ■ City of Mesa indicates that the Mesa General Plan outlines goals, objectives and policies to promote a balanced transportation system that serves the needs of diverse economic, social, physical and geographical needs of Mesa's present and future residents. The City has an ongoing program to redevelop the downtown area. A major aspect of that planning process is a

re-design of the downtown commercial and cultural area to encourage and promote pedestrian travel.

The City is also pursuing the installation of new industrial and commercial developments to enhance and expand the local employment base. One of the goals of this efforts is to decrease the percentage of Mesa residents that must travel to employment sites outside of the City. Implementation is ongoing. New developments are regulated by the General Plan. Zoning and Planning and Community Development is responsible for developing and administering development policies and the General Plan and is funded through the annual budget process.

1997 ■ Town of Paradise Valley indicates that the Town's general land use planning and one house per acre zoning requirement is a land use that contributes to, and promotes clean air by limiting the number of homes that could be built. The promotion of air quality is an integral part of the Town's commitment to reduce pollution. The Town's General Plan was recently revised and includes the implementation of landscaping, sidewalk, and recreation paths that encourage alternative modes of transportation throughout the Town. The Special Use Permit process now prohibits any use that will result in adverse pollution. Town of Paradise Valley, Planning Department. Implementation in progress. Personnel include the Town Planner, Town Zoning Administrator, Town Engineer. Annual budget, general fund.

1997 ■ City of Peoria (through SPANS) will begin their annual update of the Peoria Comprehensive Master Plan in September 1997. At that time, staff will analyze the various use categories and land use policies to ensure the land use/development alternatives are supporting public transit and other alternative modes of transportation. Further, the Current Planning Division of Community Development will review all land use applications ensuring that alternative modes of transportation (e.g., bus bays, bike paths, sidewalks) are being obtained when possible. Three full time staff members are assigned to the General Plan update and analysis. Four full time staff members are assigned to land use application reviews in Current Planning. The funding sources are through the City budget process which is not under review by the Peoria City Council.

1997 ■ City of Phoenix is implementing an In-Fill Program to encourage development of single-family homes in the central parts of the City. The program provides fee waivers and expedited development reviews to projects meeting certain standards of quality and has assisted with the construction of 450 homes during 1996 and 1997.

The City is also assessing impact fees on new development located in the northern and southern peripheral areas of the City at the time of building permit issuance. These fees are to help cover the cost of facilities to serve development in the areas covered by specific infrastructure financing plans. In 1996, the City updated the plans and raised the fees. Since these fees are not charged citywide, there is an incentive for development to locate in areas closer to most employment and services.

In addition, the City of Phoenix continues to implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural by-product.

The General Plan encourages alternatives to single-occupancy vehicles trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies.

The City's planning and zoning programs continue to support:

- Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.

- Designation of concentrated activity centers (village cores) with emphasis on pedestrian and alternative forms of travel.

- Linkage of activity centers by transit and bikeways.
- Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
- Inclusion of traffic-demand-management strategies in projects generating large amounts of traffic.
- Designation of locations for Park-and-Ride lots and other transit facilities.
- Development of trail systems citywide through public and private dedications and financing.

The Community and Economic Development Department (CEDD) continues to promote projects to encourage land use planning goals and objectives through building permits and approval of plot plans. The City continues to implement street-scape improvements including landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage.

Implementation is in progress. The In-Fill Program and revised development fees began in 1996. Public funded projects are included in the Capital

Improvements Program adopted annually as part of the City's budget. General Plan policies are revised or added annually. Zoning and subdivision ordinances are amended as needed. Zoning stipulations for privately financed development are approved in conjunction with rezoning cases continually. Multi-family development and nonresidential development on major streets undergo site plans and/or design reviews, based on their proximity to residential areas or specific zoning districts. Planning and Zoning Department staff are funded through the City's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ City of Scottsdale continues to implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural by-product.

The General Plan is currently being studied for revision. Revised air guidelines could include continued promotion of mass transit alternatives, future land use development and community design policy recommendations which specifically recognize air quality benefits of certain land use patterns.

The Circulation Element of the General Plan encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies. The Transportation Departments objectives for 1997-1999 is to update the Circulation Element of the General Plan.
The City of Scottsdale continues to promote projects to encourage land use planning goals and objectives through building permits and approval of plot plans. The City continues to implement streetscape improvements including landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage. Implementation is in progress. City of Scottsdale, Community Planning, Community Development, Redevelopment, Economic Development and Transportation staff are funded in the Biennial Budget for FY 1997-1999.

1997 ■ City of Tempe indicates that the recently adopted Tempe General Plan 2020 is committed to encourage City growth through in-fill development, land re-use and redevelopment efforts. This is especially critical to Tempe, since it is a land-locked community with less than 10 percent land available for development. The General Plan 2020 goals which support this measure include:

- Develop and implement a Comprehensive Multi-modal Circulation Plan which provides mobility for all, complements land use and improves air quality. This includes the development of evaluation standards for arterial streets, the development of a multi-modal streets and travelways plan, and the development of a pedestrian plan. The Bicycle and Transit plans have already been developed.

- Promote land development that integrates multiple modes of transportation, including transit, pedestrians and bicycles.

- Create ordinances policies or design guidelines that support the Comprehensive Multi-modal Circulation Plan. In addition, development-related documents and review processes will be revised to encourage transit oriented development with new projects or redevelopment projects.

- Encourage mixed use development and promotion of non-polluting modes of travel into urban design.

Tempe has a very successful track record in implementing development projects in the downtown area. Over the next five years, there are an estimated 16 in-fill development projects which will bring over 2,000,000 square feet of mixed use development, 260 hotel rooms, and 700 housing units to the downtown area.

The City currently promotes pedestrian travel by improving pedestrian facilities such as the Mill Avenue and University Drive Pedestrian Enhancement projects which include improved landscaping, sidewalks, pedestrian lighting, and signage. The City will continue to improve pedestrian facilities and provide transit shelters at bus stops with a portion of the transit sales tax monies.

The Development Services Department has recently created several new higher residential zoning districts and is in process of creating new zoning districts within the City which emphasize mixed use and encourage transit oriented locations. They will also continue to promote in-fill mixed use development projects in the downtown area. The Public Works Department, Transportation Division is hiring a planner to develop transit oriented guidelines and participate in the development review process. In September 1996, Tempe citizens passed the Tempe Transit Tax, thereby creating a dedicated source of funding for significant improvements to the local bus, bicycle and pedestrian programs. This revenue will allow the City to hire the additional planner position. The zoning work is being accomplished by current Development Services staff and funding is provided through the annual budget process.

1997 ■ Maricopa County indicates that the Land Use Element of the Maricopa County Comprehensive Plan encourages efficient land development that is compatible with adjacent land uses, well integrated with the transportation system, and sensitive to the natural environment. The Department of Planning and Development may integrate transportation planning with existing and future land use and promote the use of Development Master Plans (DMPs). DMP design plans strive to reduce the dependency on automobiles and consider alternative transportation modes such as transit, bikeways, equestrian trails, and pedestrian networks.

The following units could be used to measure attainment:

1. Number of vehicle trips per dwelling unit.
2. Average trip length compared to existing developments.

The Maricopa County Department of Planning and Development through its comprehensive plan has the authority under Arizona Revised Statutes Section 11-806 (County Planning and Zoning) and additionally from its authority to adopt and enforce Zoning ordinance provisions under A.R.S. Section 11-808 and A.R.S. Section 11-821.B.

The Comprehensive Plan is scheduled for adoption by the Maricopa County Board of Supervisors in 1997. Upon approval, implementation of items in the plan are foreseen to occur on an ongoing basis over the course of the planning horizon. Funding is provided by existing Planning and Development Department budget through the Comprehensive Plan adoption process and with normal Zoning/Plan Review staffing enforcement of the Zoning Code and Subdivision Regulations following adoption of the Plan.

1997 ■ Regional Public Transportation Authority publishes a Passenger Facilities Handbook. This guide explains and blueprints off-street improvements for transit. Information is disseminated to assist local land planners, designers and developers on techniques for facilitating transit service delivery and encouraging transit patronage in new developments.

The RPTA will continue to work with member jurisdictions, land planners, designers, and developers to develop new transit facilities when needed. Assistance with the development of off-street improvements for transit is included within the ongoing annual budget of the RPTA.

47. <u>Encouragement of Pedestrian Travel</u>

1997 ■ City of Avondale is implementing an In-Fill Program to encourage development of single-family homes in the central parts of the City. The

program provides fee waivers and expedited development reviews to projects meeting certain standards of quality. Developers are required to provide pedestrian paths per the open space plan.

In addition, the City of Avondale continues to implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural by-product.

The General Plan and Area Specific Plans encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies, zoning and subdivision ordinances, zoning stipulations, and design review policies.

The City's planning and zoning program continue to support:

- Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.
- Designation of concentrated activity centers with emphasis on pedestrian and alternative forms of travel.
- Linkage of activity centers by transit and bikeways.
- Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
- Inclusion of traffic-demand-management strategies in projects generating large amounts of traffic.
- Development of trail systems Citywide through public and private dedications and financing.

The Community and Economic Development Department (CEDD) continues to promote projects which encourage land use planning goals and objectives through building permits and approval of plot plans. The City continues to implement street-scape improvements including landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage.

Implementation is in progress. Public funded projects are included in the Capital Improvements Program adopted annually as part of the City's budget.
General Plan policies are revised or added as required. Zoning and subdivision ordinances are amended as needed. Zoning stipulations for privately financed development are approved in conjunction with rezoning cases continually. Single and multi-family development and nonresidential development on major streets undergo site plans and/or design reviews, based on their proximity to residential areas or specific zoning districts.

Planning and Zoning Department staff are funded through the City's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ Town of Carefree is a semi-rural community with a population of approximately 2300 residents located on the north edge of the Phoenix metropolitan area. Approximately 96 percent or 48 miles of its 50 miles of streets are paved. The Town of Carefree has an ongoing maintenance program of mowing and trimming the shoulders of the streets to provide for full usage of street surfaces for vehicles, bicycles, and pedestrians. The Town of Carefree will continue to encourage bicycle and pedestrian travel and public awareness through its newsletter.

This measure will be implemented by the Town of Carefree. Legal authority for this action is provided under Section 9-240-3(c) of the Arizona Revised Statutes. The maintenance of the streets and shoulders is continuous. The encouragement of bicycle and pedestrian travel and public awareness announcements will be periodical. The shoulder maintenance will be inspected periodically by the Street Superintendent who will provide reports to the Town Administrator.

The annual cost of mowing and trimming the street shoulders is approximately $15,000 which is budgeted in the Street Department Maintenance Budget. The Town newsletter is published and distributed three times per year for an annual cost of approximately $8,000 which is budgeted in the Town Council budget.

1997 ■ Town of Fountain Hills agrees to encourage pedestrian travel within its commercial core and other areas. Developers that seek site plan approval for commercial development will be encouraged to provide easy and comfortable pedestrian connections with other commercial buildings in downtown Fountain Hills, thereby encouraging easy and comfortable pedestrian travel within the core. To the extent possible within existing deed restrictions, the development of common parking lots for the commercial core will be encouraged. The Town of Fountain Hills may also encourage developers to provide additional sidewalks where needed in multi-family and single family zoned areas to complete proposed pedestrian walking routes.

This measure will be implemented by the Town of Fountain Hills Engineering Department. Legal authority for this action is provided under ARS Section 9-240- "General Power of Council". Encouragement of pedestrian travel will be integrated in the Fountain Hills' General Plan. Since most of the commercial core, including the streets, is privately owned, the implementation schedule depends in large part upon the development of that

core by private owners. Fountain Hills has little control over the timing of either commercial or multi-family development.

Administration of plan development for this project will require staff time equivalent to 0.2 full-time employee, at an approximate cost of $8,000. This will be accomplished by current department personnel under the adopted Town budget for FY 1997-1998. This estimated total cost for construction will be $30,000, form the approved Town budget, as programmed in the Town Capital Improvement Program, plus substantial developer stipulations. This measure does not represent an ordinance, regulation, or rule requiring enforcement. Maintenance of sidewalks will be provided by the Town of Fountain Hills Street Department under the Town's routine maintenance program.

1997 ■ Town of Gilbert has committed to ensuring land use development is planned with the pedestrian in mind by creating an interrelated set of development policies.

- Staff drafted the Residential Subdivision Design Guidelines that the Town Council adopted on September 10, 1996. The Town will use the document to encourage subdivision developers to create bicycle links between subdivisions and within planned bicycle trail corridors along canals and transmission easements.

- The Town Council enacted a residential zoning moratorium on September 24, 1996. One of the stated reasons for the moratorium was to allow the Town time to incorporate goals and policies from the 1996-2001 Parks, Open Space and Trails Plan into the General Plan.

Implementation is in progress. Planning and Zoning Department staff are funded through the Town's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ City of Glendale indicates that the City's General Plan contains policies that encourage pedestrian travel. Currently in progress. The City's current General Plan contains policies that encourage land use patterns that encourage pedestrian travel. General Plan policies are evaluated and revised on an annual basis. The City's Planning Department is responsible for land use planning. Funding for this program is determined in the City's annual budget development process.

1997 ■ City of Goodyear indicates that the City's General Plan contains policies that encourage pedestrian travel. The City is considering a open space plan which will feature pedestrian walkways, bikeways, and equestrian trails. Currently in progress. The City's current General Plan contains policies that encourage land use patterns that encourage pedestrian travel. General Plan polices are evaluated and revised on an annual basis. The City's Planning Department is responsible for land use planning. Funding for this program is determined in the City's annual budget process.

1997 ■ City of Peoria indicates that this process is ongoing through the review of capital improvement projects, subdivision and site plan review, and assisting the school districts in their long term planning. Every project is now analyzed to ensure that development is encouraging pedestrian travel. Conditions of approval for all site plans and subdivisions include sidewalks and pathways. All land use development applications are referred to the appropriate school district to enable them to better locate their school sites to serve the neighborhoods. Further, the Public Works Department sponsors a clean air campaign which encourages the use of pedestrian travel. This campaign involves contacting the majority of Peoria citizens through promotional efforts.

The Public Works Department employs seven full time staff members who review capital improvement projects, site plans and subdivisions. One full time employee oversees the public transit division and oversees promotional efforts. The Current Planning Division of the Community Development Department employs four full staff time members who review site plans and subdivisions as well as work with the School District planners.

1997 ■ City of Phoenix is implementing an In-Fill Program to encourage development of single-family homes in the central parts of the City. The program provides fee waivers and expedited development reviews to projects meeting certain standards of quality and has assisted with the construction of 450 homes during 1996 and 1997.
The City is also assessing impact fees on new development located in the northern and southern peripheral areas of the City at the time of building permit issuance. These fees are to help cover the cost of facilities to serve development in the areas covered by specific infrastructure financing plans. In 1996, the City updated the plans and raised the fees. Since these fees are not charged citywide, there is an incentive for development to locate in areas closer to most employment and services.

In addition, the City of Phoenix continues to implement general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote

accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural by-product.

The General Plan encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies, zoning and subdivision ordinances, zoning stipulations, and design review policies.

The City's planning and zoning programs continue to support:

- Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.
- Designation of concentrated activity centers (village cores) with emphasis on pedestrian and alternative forms of travel.
- Linkage of activity centers by transit and bikeways.
- Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
- Inclusion of traffic-demand-management strategies in projects generating large amounts of traffic.
- Designation of locations for Park-and-Ride lots and other transit facilities.
- Development of trail systems citywide through public and private dedications and financing.

The Community and Economic Development Department (CEDD) continues to promote projects to encourage land use planning goals and objectives through building permits and approval of plot plans. The City continues to implement streetscape improvements including landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage.

Implementation is in progress. The In-Fill Program and revised development fees began in 1996. Public funded projects are included in the Capital Improvements Program adopted annually as part of the City's budget. General Plan policies are revised or added annually. Zoning and subdivision ordinances are amended as needed. Zoning stipulations for privately financed development are approved in conjunction with rezoning cases continually. Multi-family development and nonresidential development on major streets undergo site plans and/or design reviews, based on their proximity to residential areas or specific zoning districts. Planning and

Zoning Department staff are funded through the City's General Fund which is partially supported by rezoning and other development fees. Funding is allocated through the annual budget process.

1997 ■ City of Scottsdale considers pedestrian travel to be an integral part of citizen mobility. The City has an adopted Bicycle/Pedestrian Transportation Plan. Presently the City publishes and distributes a map of the multi-use path system which includes safety information.

The Circulation Element of the General Plan encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies. The Transportation Department's objectives for 1997-1999 is to update the Circulation Element of the General Plan.

Implementation is in progress. Planning and Zoning Department staff are funded in the Biennial Budget for FY 1997-1999.

1997 ■ City of Tempe indicates that the recently adopted Tempe General Plan 2020 is committed to encourage City growth through in-fill development, land re-use and redevelopment efforts. This is especially critical to Tempe, since it is a land-locked community with less than 10 percent land available for development. The General Plan 2020 goals which support this measure include:

- Develop and implement a Comprehensive Multi-modal Circulation Plan which provides mobility for all, complements land use, and improves air quality. This includes the development of evaluation standards for arterial streets, the development of a multi-modal streets and travelways plan, and the development of a pedestrian plan. The Bicycle and Transit plans have already been developed.

- Promote land development that integrates multiple modes of transportation, including transit, pedestrians, and bicycles.

- Create ordinance policies or design guidelines that support the Comprehensive Multi-modal Circulation Plan. In addition, development-related documents and review processes will be revised to encourage transit oriented development with new projects or redevelopment projects.

- Encourage mixed use development and promotion of non-polluting modes of travel into urban design.

Tempe has a very successful track record in implementing development projects in the downtown area. Over the next five years, there are an estimated 16 in-fill development projects which will bring over 2,000,000 square feet of mixed use development, 260 hotel rooms, and 700 housing units to the downtown area.

The City currently promotes pedestrian travel by improving pedestrian facilities such as the Mill Avenue and University Drive Pedestrian Enhancement projects which include improved landscaping, sidewalks, pedestrian lighting, and signage. The City will continue to improve pedestrian facilities and provide transit shelters at bus stops with a portion of the transit sales tax monies.

The Development Services Department has recently created several new higher residential zoning districts and is in process of creating new zoning districts within the City which emphasize mixed use and encourage transit oriented locations. They will also continue to promote in-fill mixed use development projects in the downtown area. The Public Works Department, Transportation Division is hiring a planner to develop transit oriented guidelines and participate in the development review process.

In September 1996, Tempe citizens passed the Tempe Transit Tax, thereby creating a dedicated source of funding for significant improvements to the local bus, bicycle and pedestrian programs. This revenue will allow the City to hire the additional planner position. The zoning work is being accomplished by current development services staff and funding is provided through the annual budget process.

1997 ■ City of Tolleson encourages pedestrian travel among its citizens and employees. This measure will be strengthened by further raising awareness via the Tolleson Flyer, the City Newsletter, outlining the benefits of walking as well as other alternative modes of transportation. The scheduled duration of this measure encompasses the months of September through December 1997 and March through June 1998. City of Tolleson General Funds, approximately $7,600 yearly for newsletter publication.

1997 ■ Maricopa County indicates that the Transportation Element of the Maricopa County Comprehensive Plan encourages an efficient, integrated, accessible, environmentally sensitive, and safe County-wide multi-modal system that promotes transit, bikeways, and pedestrian travel. Provisions for pedestrian travel are included in the plan. Walking is recognized as a useful mode of travel for school, convenience shopping, recreation, social, and work trips and can be accommodated with improved facilities and appropriate urban design.

The following units could be used to measure attainment:

1. The percentage of Development Master plans constructed with pedestrian enhancements.

2. Average vehicle trips per household compared to existing developments.

The Maricopa County Department of Planning and Development under Arizona Revised Statutes Section 11-806 (County Planning and Zoning) is mandated to prepare a comprehensive plan that may include recommendations relative to the location of bicycle facilities.

The Comprehensive Plan is scheduled for adoption by the Maricopa County Board of Supervisors in 1997. Upon approval, implementation of items in the plan are foreseen to occur on an ongoing basis over the course of the planning horizon.

Funding is provided by existing Planning and Development Department budget through the Comprehensive Plan adoption process and with normal Zoning/Plan Review staffing enforcement of the Zoning Code and Subdivision Regulations following adoption of the Plan.

1997 ■ Regional Public Transportation Authority indicates that the RPTA will encourage pedestrian travel. Educational efforts including a "Pedestrian Friendly Guidebook" and "Livable Cities" presentation will be targeted at approximately 1,250 employers with sites affected by the Maricopa County Trip Reduction Program. RPTA will assist and co-host a pedestrian conference with MAG.

The Regional Public Transportation Authority as the regional transit agency for Maricopa County (A.R.S. 48-5101) provides these services to improve mobility and air quality. The schedule for planned promotional activities are as follows:

- MCTRP employer trainings
- Information will be distributed through transportation (information) fairs
- Co-host the annual Pedestrian Conference with MAG

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

48. Restrictions on the Use of Gasoline-Powered Blowers for Landscaping Maintenance

1997 ■ City of Avondale indicates that the Community Development Department continues to have a policy to avoid the use of blowers for City landscaping activities. The operations have generally been replaced with vacuums and brooms. Desert landscaping will continue to be used where practical to reduce the need for mowing and other lawn care. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Buckeye indicates that desert landscaping will be encouraged to reduce the need for blowers. City ordinance disallows for the use of blowers. The Public Works Department is already implementing this measure, ongoing. Funding is provided through the Town's General Fund.

1997 ■ City of Chandler will reduce the use of gasoline powered blowers by City employees during FY 1998. As contracts for the maintenance of City owned property are re-bid, the City will work with contractors to use cleaner-burning equipment; specifically, motors that comply with either "CARB 95" or "EPA Phase I" standards. Implementation will be ongoing. Funding is allocated through the annual budget process.

1997 ■ City of El Mirage currently does not use any gasoline-blowers for landscape maintenance on City facilities. If the need arises to purchase blowers, the City will explore the possibility of restricting the use of gasoline-blowers. Implementation as needed. The City's Parks Maintenance and Streets Department will provide the evaluations. Funding for the implementation of this measure is determined in the City's annual budgeting process.

1997 ■ Town of Gilbert commits to adopt restrictions on the use of blowers concurrently with the county and other municipalities. The Town will consider purchasing a vacuum during FY 1997-1998. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Glendale will explore the possibility of restricting the use of gasoline-blowers for landscape maintenance on City facilities. In progress and as needed. The City's Parks Maintenance and Right-of-Way divisions will provide the evaluations. Funding for the implementation of this measure is determined in the City's annual budgeting process.

1997 ■ City of Goodyear will explore the possibility of restricting the use of gasoline-blowers for landscaping maintenance on City facilities. In progress as needed. The City's Parks Maintenance and Right-of-Way divisions will

provide the evaluations. Funding for the implementation of this measure is determined in the City's annual budgeting process.

1997 ■ City of Phoenix continues to have a policy to avoid the use of blowers for City landscaping activities. The operations have generally been replaced with vacuums and brooms. Desert landscaping will continue to be used where practical to reduce the need for mowing and other lawn care. In 1994, the citizen-based City's Environmental Quality Commission studied options for restrictions on blowers used by private citizens and businesses. The Commission recommended that the City should not adopt restrictions on private use landscape blowers based on the emerging EPA standards for non-road engines and the information available on relative contribution of this activity to PM-10 levels. Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ City of Scottsdale Community Maintenance and Recreation Department no longer uses gas-powered leaf blowers to maintain landscaping in the Civic Center Mall. Various options including vacuums, brooms, and use of electric powered equipment have been piloted.

City contracts with landscape maintenance companies for the Civic Center Mall prohibit use of gas-powered leaf blowers. City contract for cleaning and maintenance of Scottsdale Stadium prohibits use of gas-powered leaf blowers (except for 6 select dates during the year).

The City now purchases 4-stroke lawnmowers to replace older mowers. The City will consider options for a pilot program to evaluate alternatively powered lawn-care equipment, including hydrogen powered and electric powered equipment.

Widespread use of desert landscaping will continue where practical to reduce the need for mowing and other lawn care.

The City of Scottsdale Environmental Management Office (EMO) has studied options for restrictions on blowers used by private citizens and businesses. EMO will consider recommending a voluntary scrappage program for gas-powered leaf blowers, rather than recommending that the City adopt restrictions on private use landscape blowers. These recommendations will be based on: The emerging EPA standards for non-road engines and the information available on relative contribution of this activity to PM-10 and PM-2.5 air pollution levels. Implementation is in progress. Funding is allocated through the biennial budget process.

1997 ■ City of Surprise will utilize electric blowers where power is reasonably available. In addition, the City recently purchased a chipper/vac ($1,700) as an alternative to blowing. The City will purchase an electric blower in FY 1998. Funding for this measure will come from the City's General Fund.

1997 ■ City of Tempe currently allows gas blowers to be used only in the downtown area, and only during certain hours, generally before 6:00 a.m. This action is part of the Downtown Merchants Association agreement and will continue to be enforced. Other areas of the City are blown less frequently, and only during the early morning hours. Electrical equipment is used wherever possible.

The City continues to avoid the use of gas powered landscape equipment as much as possible. Many operations are generally being done by brooms. Desert landscaping will continue to be used where practical to reduce the need for mowers and blowers.

Implementation is in progress. Funding is allocated through the annual budget process.

1997 ■ Town of Wickenburg will utilize alternative blowers in maintenance of its parks and recreational facilities insofar as it is practical. Some of these facilities are so located, however, that electrical power is not practical.

As present equipment wears out, efforts will be made to replace gasoline-powered blowers with electrical blowers. However, as above mentioned, there are facilities outside the reach of electrical power. Funding will come from the Town's General Fund, which annually includes appropriation for capital equipment.

49. <u>Alternative Fuels for Fleets</u>

1997 ■ Regional Public Transportation Authority indicates that State law (A.R.S. Section 49-571; Clean Burning Fuel Requirements for New Buses; 1992) requires a city, town, or county which purchases buses for use in a county with a population of more than five hundred thousand persons from and after December 31, 1993 shall only purchase buses which operate on clean burning alternative fuel. RPTA purchases only alternatively fueled buses for operation by its contractors.

RPTA, and its member agencies, have already begun an aggressive campaign to purchase, convert, and replace older, higher polluting Diesel buses. The regional transit fleet now consists of 52 dedicated compressed

natural gas (CNG) vehicles, 43 bifuel CNG/gas dial-a-ride vehicles, 11 propane powered dial-a-ride vehicles, and one electric bus.

Future commitments include the pending delivery of 180 low floor, forty-foot buses. These vehicles should be delivered beginning May 1998 and will operate solely on liquefied natural gas (LNG). The City of Tempe is expecting delivery of nine, thirty-five foot buses and 15 thirty-foot buses which shall also operate on LNG.

A retrofit program has already replaced the engines of 75 middle aged buses with clean burning Diesel engines and oxidation catalysts that meet 1994 EPA Urban Bus Heavy-Duty Engine Standards. Sixty-seven (67) of these buses belong to the City of Phoenix and eight are owned by the RPTA.

This measure represents an ordinance. Funding shall come from the RPTA and member agency capital improvement budgets. Incremental costs for alternative fueled vehicles may be reimbursed by the Arizona Department of Commerce Energy Office through the Clean Air Fund.

50. Areawide Public Awareness Programs

1997 ■ Regional Public Transportation Authority indicates that an areawide public awareness program will be targeted to the almost 1,250 employers with about 580,000 employees and students for all sites affected by the Maricopa County Trip Reduction Program, employers not affected by TRP and the general public through the Clean Air Campaign. Employer promotional kits are mailed to 1,250 employers with 2,500 sites up to four times per year. There is paid radio and TV advertising for eight weeks during the winter pollution season. Events will be conducted to increase awareness of alternative modes of transportation and work schedules through Rideshare Week and Valley Bike Week. Workshops will be held to increase participation in Clean Air Campaign events.

By Arizona Statute 49-506, Maricopa County must conduct a voluntary no-drive day campaign. Maricopa County contracts with RPTA to conduct this campaign. Other sponsors of the Clean Air Campaign include the Arizona Departments of Transportation and Environmental Quality, MAG, Maricopa County and the Phoenix Chamber of Commerce.

The schedule for planned activities are as follows:

- Ongoing public and media relations program
- TV, radio, and print advertising is placed during the winter high pollution season.
- Clean Air Campaign event workshops will be held in the fall.

- Promotional events are scheduled:

  Rideshare Week-November 1997
  Earth Day activities - April 1998
  Valley Bike Week - Week 1998
  Fresh Air Science Fair - March 1998
  Summer ozone pollution promotion - June - September - 1998
  Telecommute America Campaign - October

- High Pollution Advisory faxes are sent to over 700 Valley employers during the winter and summer high pollution season when it is "forecast" by the County or ADEQ to potentially exceed federal air quality standards. Tips are provided to encourage high levels of participation on these days.

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000. The Clean Air Campaign budget is estimated to be about $350,000 of this total.

PART 3: ADDITIONAL COMMITMENTS FOR MEASURES NOT ON THE SUGGESTED LIST

51. Encouragement of Vanpooling

1997 ■ Regional Public Transportation Authority indicates that this measure involves assisting employers in the formation of new vanpools. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. Currently 121 vanpools are operating with about 1085 riders. This represents a 270 percent increase from 33 vanpools since RPTA's last air quality commitment.

The Regional Public Transportation Authority as the regional transit agency for Maricopa County (A.R.S. 48-5101) provides these services to improve mobility and air quality. The schedule for promotional activities are as follows:

- Vanpool presentations to employers upon request, estimated one per month.
- Provide vanpool collateral material to all interested parties. New material is being developed in 1997.

- Provide vanpool matching on a daily basis.
- Conduct vanpool group formation meetings with potential groups (about 2-5 per month) at request of employer.
- RPTA staff will assist employers in promoting vanpools and will encourage employers to provide subsidies to their employees.

RPTA commits one full-time professional staff to promote vanpooling. RPTA has budgeted $680,000 for the vanpool services contract in 1997-1998 which will accommodate 155 vanpools by the year end. Funding for capital expenses will be made available to RPTA through a Federal Transit Administration Section 9 grant and local match. Seventy percent are FTA Section 9 funds and 30 percent are local funds. Passenger fares account for 100 percent of operating costs.

52. Trip Reduction Program

1997 ■ Regional Public Transportation Authority indicates that the RPTA provides formal trainings, one-on-one assistance, facilities Transportation Management Associations (TMA), and provides informational materials to over 1,250 employers in Maricopa County with 50 or more employees at a site. The Trip Reduction Program affects approximately 580,000 employees and students at 2,500 sites countywide. The Regional Public Transportation Authority is on contract with Maricopa County to provide services to employers affected in the Trip Reduction Program under A.R.S. 49-581 through 49-593.

The schedule for planned promotional activities are as follows:

- Employer trainings (attended by 20-60 employers a month include: Introduction to TRP, Plan Writing Workshop, Marketing TRP, Telecommuting, Compressed work week programs).
- Employer Transportation Fairs based on employer request.
- Fourteen Transportation Management Associations (TMA's) periodic meetings.
- Over 400 employer contacts made monthly.

Portions of up to fourteen professional staff (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000 of which $819,000 is specific to the Trip Reduction Program. Maricopa County contracts with RPTA to provide TRP support services.

53. Park and Ride Lots

1997 ■ Regional Public Transportation Authority indicates that the RPTA works with member agencies to promote and expand Park and Ride lots as a means to encourage ridesharing and the use of transit. As of December 1996, sixty (60) Park and Ride lots and four (4) transit centers provided 2,556 parking spaces throughout the region. Currently, two new permanent park and ride facilities are being developed. These facilities will be located near 32nd Street and SR 51 (Squaw Peak Highway) and Bell Road and I-17 (Black Canyon Freeway).

The RPTA will continue to work with member jurisdictions, private entities, and employers in the development, design, and implementation of new Park and Ride facilities in locations where they are needed. Park and Ride activities are in the ongoing annual budgets of the RPTA and its member jurisdictions.

54. Encouragement of Telecommuting, Teleworking and Teleconferencing

1997 ■ Regional Public Transportation Authority indicates that the RPTA encourages the use of telecommuting and telecommunications to replace motor vehicle trips such as working at home or remote work centers close to home. RPTA efforts are targeted largely at the 1,250 employers with about 580,000 employees and/or students. A *Step-By-Step* telecommuting training class is provided to employers planning to implement a telecommuting program. A "how to" implement guidebook is provide to those attending. On-site assistance to employers is also available. RPTA pro-actively seeks out employers with an interest and gives management briefings and follow up consultation until their programs are up and running. RPTA maintains an Internet web site to include the following telecommuting information and materials:

Telecommuting Preview w/FAQs
Telecommuting Fact Sheets
Sample Telecommuting Policies
Research Instruments
Training Schedule
Sample Management Presentations
Sample Agreement
Telecommuting Research Projects

RPTA participates in an in-house formal telecommuting program. In 1996, 15 of RPTA's 25 employees participated as telecommuters. RPTA staff also participates in the Arizona Telecommuting Advisory Council (Chapter member of TAC): The International Telework Association, which encourages and assists Arizona employers in developing and implementing telecommuting programs.

The schedule for planned activities are as follows:

- MCTRP telecommuting trainings are given at least once monthly.
- On an as needed basis, assist employers with all stages of implementation for telecommuting programs including management briefings.
- Participate monthly in AzTAC meetings for interagency cooperation.
- RPTA's telecommuting program is ongoing.
- Promote during Telecommute America Week, October 1997 (national campaign)

Portions of up to fourteen professional (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

55. Promotion of High Occupancy Vehicle Lanes and By-Pass Ramps

1997 ■ Regional Public Transportation Authority indicates that as new facilities open, RPTA will coordinate the promotion of rideshare activities. Efforts will be targeted at 1,250 employers representing over 500,000 employees and students affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Campaign (CAC).

The Regional Public Transportation Authority as the regional transit agency for Maricopa County (A.R.S. 48-5101) provides these services to improve mobility and air quality. The schedule for planned promotional activities are as follows:

- Employers' Transportation Fairs based on employers request.
- Fourteen Transportation Management Associations periodic meetings as appropriate.
- Mailings to employers prior to new HOV lane segment opening or expansion.

Portions of up to fourteen professional (10 RPTA and 4 contract staff) will spend part of their time providing this information to the public and employers through the above specified activities. This measure is funded by a portion of the total budget for the Regional Ridesharing Program, TRP (RPTA) and CAC programs which is $1,248,000.

TRACKING PLAN IMPLEMENTATION

The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis. In order to accurately monitor or track plan implementation, the Maricopa County Environmental Services Department will be requesting that the implementing agencies and jurisdictions complete the annual progress report form contained in Appendix C, Exhibit 1. The Environmental Services Department will then review and summarize this information, prepare an implementation status report, and then present the report to the MAG Air Quality Policy Committee. The Maricopa County Environmental Services Department will also continue to have the responsibility for conducting ambient air quality monitoring. The most recent progress report entitled, MAG Air Quality Plan 1996 Annual Progress Report (July 1998) is provided in Appendix B, Exhibit 2.

Supplemental to the tracking efforts of the Maricopa County Environmental Services Department, the Maricopa Association of Governments publishes regional traffic flow maps and calculates regional vehicle miles of travel from these flow maps. MAG also conducts vehicle occupancy studies and performs special traffic volume and speed studies, as needed. Phoenix Public Transit continuously monitors transit ridership and summarizes daily ridership for each month. The Regional Public Transportation Authority will also be collecting transit and carpooling ridership information. The Arizona Department of Environmental Quality continuously monitors the number of vehicles inspected in the Vehicle Inspection Maintenance Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.

In addition, the MAG Air Quality Technical Advisory Committee will review the implementation report prepared by the Maricopa County Environmental Services Department. The committees will also review the air quality monitoring data on an annual basis to assist in tracking air quality improvement over time.

ASSURANCES THAT THE STATE HAS THE AUTHORITY TO IMPLEMENT THE MEASURES IN THE PLAN

In order to comply with Section 110(a)(2)(E) of the Clean Air Act, a State law was passed in 1992 which provides an approach for assurances that State and local committed measures will be adequately implemented (A.R.S. Section 49-406 I. and J.). If any person (includes State, County, local governments, regional agencies, and other entities) fails to implement a committed measure, the County would file an action in Superior Court to have the Court order that the measure be implemented. Likewise, the Director of the Arizona Department of Environmental Quality will backstop the County if it fails to implement a committed measure or if the County fails to backstop the local governments and regional agencies (see Appendix C, Exhibit 2).

Regarding committed measures, A.R.S. Section 49-406 G. (passed by the Legislature in 1992) requires that each agency which commits to implement any control measure contained in the State Implementation Plan must describe the commitment in a resolution. The resolution must be adopted by the appropriate governing body of the agency. State law also requires the entity to specify the following information in the resolutions: (1) its authority for implementing the limitation or measure as provided in statute, ordinance, or rule; (2) a program for the enforcement of the limitation or measure; and (3) the level of personnel and funding allocated to the implementation of the measure.

As noted in the MAG regional air quality plans, the action taken by the MAG Regional Council to approve the Suggested Measures and Adopted Plan Measures does not commit each jurisdiction to implement those measures. As indicated in the resolutions and commitments, each jurisdiction determines which measures are reasonably available for implementation by that jurisdiction.

APPENDIX G, Exhibit 2:

Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area, Chapter V of Technical Support Document (TSD): Evaluation of Committed Control Measures.

V. EVALUATION OF COMMITTED CONTROL MEASURES

A description of the committed air quality measures is provided below. The sources of these measures include H.B. 2307, H.B. 2237, H.B. 2254, H.B. 2347, S.B. 1002, S.B. 1269, S.B. 1427, and local government commitments. The first group of measures includes those measures which were used for numeric credit. The modeling approach for the measures is also summarized below, with more detailed descriptions presented in Appendix V, Exhibit 1. The second group of measures includes those measures that were used as contingency measures. Detailed descriptions of the modeling approaches for the contingency measures are presented in Appendix V, Exhibit 2. The third group of measures includes those measures for which emission reductions have been quantified, but no numeric credit was taken in the attainment demonstration or as contingency measures. These measures were placed in this category because of their voluntary nature, their implementation timetable, or a moderately high level of uncertainty in the emission reductions. The detailed descriptions of the modeling approaches for the measures quantified, but not used for credit are presented in Appendix V, Exhibit 3. The fourth group of measures includes additional measures for which commitments were received, but were not used for numeric credit. The impacts of these measures were not readily quantifiable and no credit was taken for the associated reductions. However, the measures clearly represent additional efforts by the region to reduce emissions and improve air quality.

The general approaches used to model the emissions reductions from the individual measures are the same as those used in the evaluation of suggested measures, described in Section IV of this document. One additional methodology was employed in the evaluation of the committed measures that was not used for the suggested measures. This methodology is the modification of MOBILE5a output files. Measures involving the application of some nonstandard I/M 240 cutpoints require the adjustment of the emission rates output by MOBILE5a before those rates are input to EXPLORA.

Estimated emission reductions are provided below the description of each measure quantified under item A. Modeling Methodology. The reduction reflects the design day conditions of Friday December 16, 2000 and are reductions from the revised base case emissions inventory total of 714.9 metric tons. Estimated emission reductions are provided in metric tons reduced and as a percent reduction from the base case inventory. Measures which were not modeled or whose benefit results in a redistribution rather than reduction of emissions have no emission reduction estimate provided. The percent reduction in total CO emissions has been included in bar chart format as Figure V-1 and Figure V-2. Please refer to Section VI for the evaluation of the committed measures in combination for the attainment demonstration.

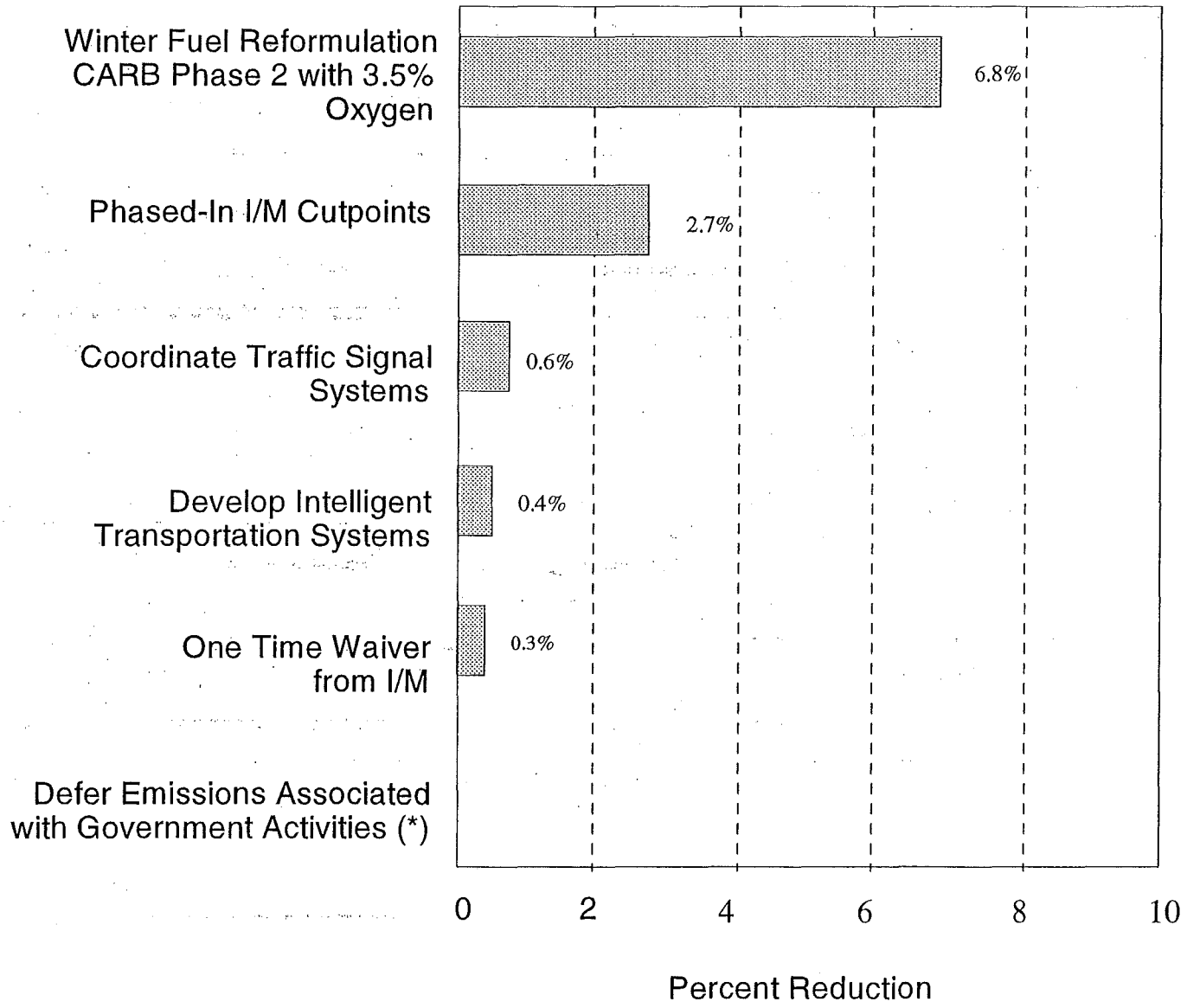
In response to EPA comments on the Draft MAG 1998 Carbon Monoxide Plan, revisions to this section were made and submitted in the MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area. In general, the control measures quantified for numeric credit were reformatted at the request of EPA. It is important to note that the modeling methodology describes the procedures and assumptions for determining the emission reduction credit for each measure. In addition, both the tonnage reduction

and percent reduction are provided for each measure quantified. A table summarizing the tonnage reduction and percent reduction is provided at the end of each group of measures. This format was transmitted to EPA in draft form for review and comment. All comments received were addressed and/or incorporated in the MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area.

Subsequent to the submission of the MAG 1999 Serious Area Carbon Monoxide Plan, the Arizona Legislature passed House Bill 2104 during the 2000 regular session, which repealed the Random Onroad Testing Requirements (remote sensing program) from the Vehicle Emissions Inspection Program. House Bill 2104 also required the Director of the Arizona Department of Environmental Quality to evaluate the feasibility and effectiveness of methods to improve the monitoring of the performance of in-use emission control systems using alternative technologies. The Environmental Protection Agency then indicated that the MAG 1999 Serious Area CO Plan, including the attainment demonstration for December 2000, would need to be revised to reflect the repeal of the remote sensing program. In response, the air quality modeling submitted to EPA in June 1999 has been revised accordingly.

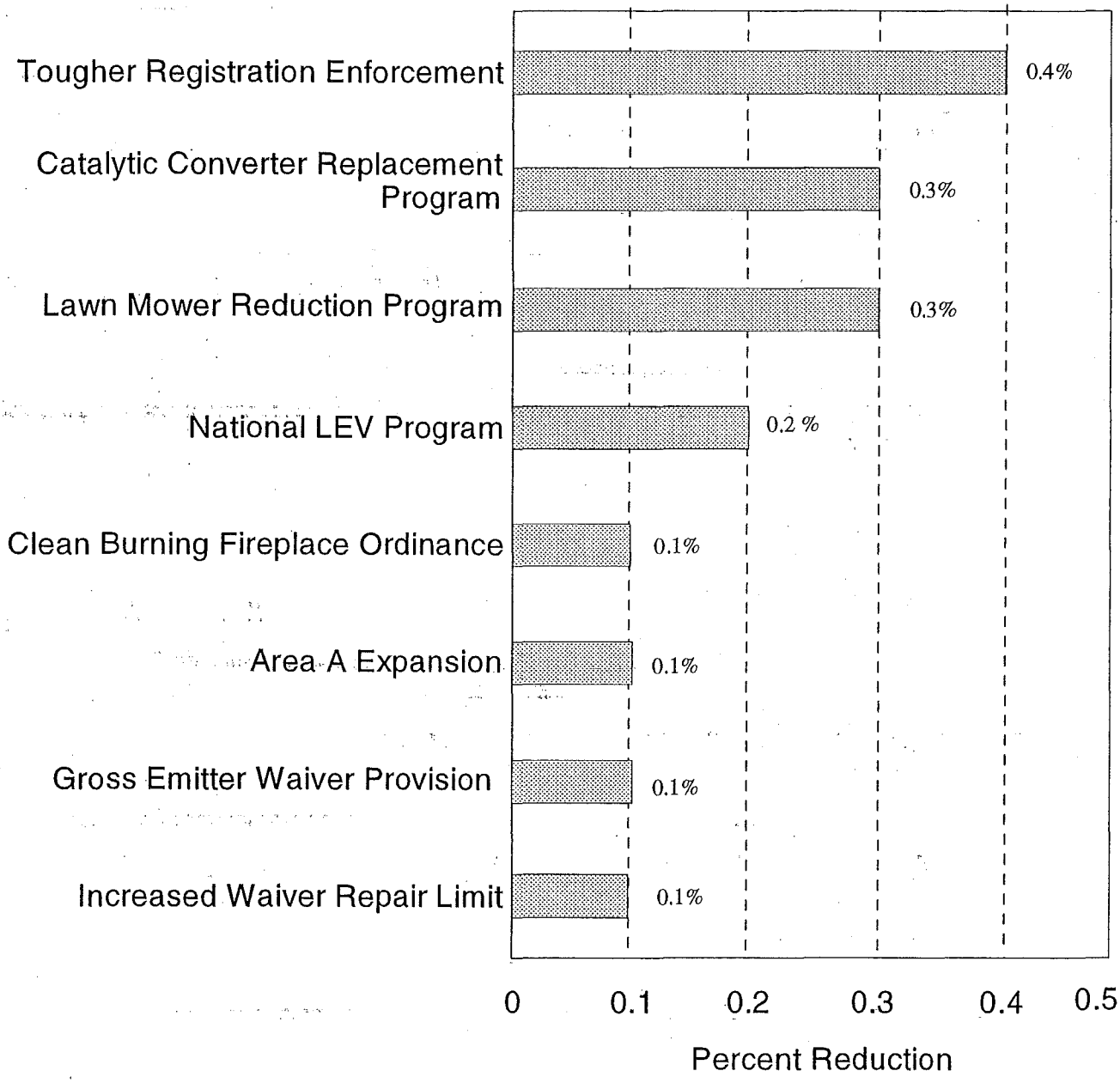
The revised 2000 base case emissions inventory total increased by approximately 1 metric ton per day. The percent reductions attributed to individual committed control measures have been updated to reflect the revised 2000 base case emissions total. In addition, the individual onroad mobile committed control measures were reevaluated to reflect the discontinuation of the existing remote sensing program. The resulting emission reduction changes are reflected where appropriate in this section and in the supporting documentation for this section provided in APPENDIX V.

FIGURE V-1
2000 CARBON MONOXIDE EMISSION REDUCTIONS FROM COMMITTED CONTROL MEASURES
(Percent Reduction in Total Emissions)



* This measure influences when emissions occur rather than their magnitude.
NOTE: Individual impact of measures are not additive.

FIGURE V-2
2000 CARBON MONOXIDE EMISSION REDUCTIONS FROM COMMITTED CONTINGENCY MEASURES
(Percent Reduction in Total Emissions)



MEASURES USED FOR NUMERIC CREDIT

Modeling Approaches for Individual Measures

1. Winter Fuel Reformulation: California Phase 2 Reformulated Gasoline with 3.5 Percent Oxygen Content November 1 Through March 31

Arizona Legislature passed H.B. 2347 in 1998 which contains requirements for all gasoline produced and shipped to Maricopa County and sold or offered for sale for use in motor vehicles in Area A from and after November 1, 2000 through March 31, 2001 and from the period beginning November 1 through March 31 of each subsequent year. The fuel must comply with the standards for California Phase 2 Reformulated Gasoline, including alternative reformulations allowed by the predictive model, as adopted by the California Air Resources Board, and must meet the maximum vapor pressure requirements of 9 pounds per square inch in A.R.S. 41-2083, Subsections D and F. The fuel must also contain a minimum oxygen content by weight of 3.5 percent as required in A.R.S. 41-2123, Subsection A, Paragraph 2.

From November 1, 2000 through March 31, 2001 and each winter season of November through March thereafter, the Director of the Arizona Department of Weights and Measures is required to determine the average levels of the constituents in the gasoline sold or offered for sale in Area A. The Director of the Arizona Department of Environmental Quality must analyze the data and no later than July 1, 2001 and each July thereafter, determine the average daily carbon monoxide reductions resulting from the use of the gasoline during the preceding winter season. If the average daily carbon monoxide reductions resulting from the gasoline are less than 90 percent of the goal of 32 tons per day in 2001, 31 tons per day in 2003 and 30 tons per day in 2005, 29 tons per day in 2007, or 28 tons per day in 2009, the Arizona Department of Environmental Quality will immediately notify the Governor, President of the Senate, and Speaker of the Arizona House of Representatives.

Also, any registered supplier or oxygenate blender may petition the Director of the Department of Weights and Measures to authorize the use of other oxygenates if an ethanol shortage is imminent. A petition must: (a) Identify specific supply conditions that will result in a shortage of ethanol. (b) Identify which oxygenate or oxygenates will be blended into gasoline for sale or use in Area A. (c) Demonstrate that the alternative oxygenate blend comes closest to meeting a 3.5 percent by weight oxygen content at reasonable cost. (d) Specify a time period for compliance with any provision of A.R.S. 41-2123, Subsection A, not to exceed 60 days.

The Director of Weights and Measures will either grant or deny the petition within seven days of its receipt. The decision to grant a waiver will be equally equitable to all registered suppliers or oxygenate blenders. The petition may be reauthorized for up to 30 days if the shortage conditions continue. The Director of the Arizona Department of Weights and Measures is required to consult with the Director of the

Arizona Department of Environmental Quality prior to granting, reauthorizing or denying any petition.

The legislation specifies the intent of the Legislature to re-evaluate the existing authorized measures as well as alternative measures if this winter gasoline reformulation does not result in the carbon monoxide emission benefits specified in the bill (A.R.S. 41-2124).

A. Modeling Methodology

A January 30, 1998 Draft report from MathPro titled Evaluation of Gasoline and Diesel Fuel Options for Maricopa County suggests an average future fuel formulation which is likely to be present in Area A with the passage of a law requiring CARB Phase 2 fuel.

Market fuel analysis after the winter of 1994-1995 indicates a shift toward 100 percent ethanol market share occurring before the requirement that ethanol be the oxygenate in all winter gasoline takes effect. Data provided by the Arizona Department of Weights and Measures, in Appendix 2, Exhibit 1, Attachment 3, indicate that in the months of October 1996 to March 1997 the market share of ethanol had risen to 95 percent and the market share for MTBE had fallen to 5 percent. In both the base case and committed measure runs for the year 2000, a market share of 100 percent ethanol was assumed.

This measure was modeled by emissions post-processing. The CO COMPLEX model, although not an official model of the EPA, provides an estimate of the benefits of different fuel formulations on CO emissions from gasoline-powered onroad vehicles. No other model is available which estimates the effects of as wide of a range of fuel properties on carbon monoxide emissions as does the CO COMPLEX model. The MOBILE5a model estimates only the effect of oxygenate content and RVP on carbon monoxide emissions. The California Predictive Model accepts a wide range of fuel properties as input to the model, but does not estimate the effect on carbon monoxide emissions.

The difference between CO emissions from the MathPro formulation and a baseline fuel representative of wintertime fuel characteristics in the Maricopa County area was estimated with the CO COMPLEX model. This difference was applied as an across-the-board percentage reduction to the CO onroad mobile output totals from gasoline vehicles. Detailed information on the modeling methodology and fuel properties analyzed is contained in Appendix V, Exhibit 1.

The effect of the MathPro formulation on nonroad mobile sources was estimated with the same methodology as for the onroad mobile sources, except that the base sulfur content was maintained in the committed measure case. The CO COMPLEX model is tuned to estimate the effects of fuel on vehicles with 1990 model year technology. The effect of reformulated fuel on engines which have no catalytic converter (including nonroad engines) may be estimated by removing the effect of

sulfur changes from the model. With the effect of sulfur content changes removed from the model, the emission reduction from nonroad engines without catalysts was estimated.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
48.6	6.8

B. Enforceable Commitment

According to A.R.S. 41-2124(F), the Director of the Arizona Department of Environmental Quality in consultation with the Director of the Arizona Department of Weights and Measures shall adopt rules to incorporate the provisions of H.B. 2347, including requirements for recordkeeping, reporting, and analytical methods. The regulatory requirements for the Cleaner Burning Gasoline program were adopted in September 1998, and are contained in A.A.C. Title 20, Chapter 2, Article 7. These rules will be revised to implement the provisions of H.B. 2347, with a final rule effective date no later than February 2000.

C. Legal Authority

- H.B. 2347
- A.R.S. 41-2083, Subsections D and F
- A.R.S. 41-2123, Subsection A, Paragraph 2
- A.R.S. 41-2124, Subsection B, C, and D
- A.A.C. Title 20, Chapter 2, Article 7

D. Implementing Agency

Arizona Department of Weights and Measures

E. Schedule and Resources

The Arizona Cleaner Burning Gasoline Program was initially authorized under H.B. 2307, which provided the Arizona Department of Weights and Measures the authority to implement and enforce the provisions of the statute and rules related to reformulated gasoline. Additionally, H.B. 2307 appropriated $120,000 for the implementation of the rule. The Department has hired one staff member to enforce the Cleaner Burning Gasoline provisions of Article 7. Additionally the Department conducts gasoline sampling and analysis to ensure the quality of gasoline within Maricopa County and other areas within Arizona. Under Article 7, producers of gasoline supplied to Area A are required to conduct gasoline sampling and analysis, recordkeeping, and reporting to ensure the quality of gasoline meets the provisions of the rule.

F. Monitoring and Tracking Program

- Article 7 contains recordkeeping and reporting requirements for regulated facilities within the gasoline distribution system. The Arizona Department of Weights and Measures conducts an extensive sampling program to enforce the regulatory requirements within the gasoline distribution system. In addition, gasoline refiners complying with averaging standards are required to conduct surveys to verify the quality of gasoline in Area A.
- The Director of the Arizona Department of Weights and Measures is required to determine the average levels of the constituents in the gasoline sold or offered for sale in Area A.
- The Director of the Arizona Department of Environmental Quality must analyze the data and no later than July 1, 2001 and each July thereafter, determine the average daily carbon monoxide reductions resulting from the use of the gasoline during the preceding winter season. If the average daily carbon monoxide reductions resulting from the gasoline are less than 90 percent of the goal of 32 tons per day in 2001, 31 tons per day in 2003, 30 tons per day in 2005, 29 tons per day in 2007, or 28 tons per day in 2009, the Arizona Department of Environmental Quality will immediately notify the Governor, President of the Arizona Senate, and Speaker of the Arizona House of Representatives.
- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 (I) and (J).

2. Phased-In Emission Test Cutpoints

Arizona Legislature passed H.B. 2237 in 1997 which contains an appropriation of $120,000 from the State General Fund to the Arizona Department of Environmental Quality to develop and implement an alternative test protocol to reduce the false failure rates associated with the more stringent pass-fail standards for the Vehicle Emissions Testing Program (Section 19 of H.B. 2237).

In 1998, the Arizona Legislature passed S.B. 1427 which requires that vehicles in Area A and B be emissions tested. The vehicles subject to the Vehicle Emissions Inspection Program that have been included within the new boundaries of Area A are required to comply beginning from and after December 31, 1998. The newest five model year vehicles are exempted from the Vehicle Emissions Inspection Program on a rolling basis. Owners of these vehicles are required to pay an in lieu fee equivalent to the price of the test unless they choose to take and pay for an emissions test. The in lieu fees will be deposited into the Arizona Clean Air Fund. S.B. 1427 also allows the Vehicle Emissions Inspection contract to be extended for three additional years (A.R.S. 49-542, 49-543, 49-545 and Section 41 of S.B. 1427).

In addition, the Arizona Department of Environmental Quality will be implementing Interim Test Cutpoints for the Vehicle Emissions Inspection Program until issues are resolved with the final test cutpoints for the I/M 240 Program. The Interim Cutpoints were selected in an attempt to achieve the following failure rates in all three vehicle class categories (Light Duty Gasoline Vehicles, Light Duty Gasoline Trucks 1, and Light Duty Gasoline Trucks 2: 50 percent for Model Years 1981-85; 25 percent for 1986 to 1989 model years, and 10 percent for Model Years 1990-93).

A. Modeling Methodology

The alternative protocol is anticipated to consist of a change from the current I/M 240 test to a test consisting of dual phase 2 tests where phase two is the second phase of the traditional I/M 240 test.

This measure was modeled by modification of MOBILE5a output files. According to the ADEQ, this measure provides for implementation of the cutpoints called "Alternative #2 with current +4" by January 2000.

The I/M 240 program is limited to light duty gasoline powered vehicles of model years 1981 and newer. Vehicles subject to the I/M 240 test are scheduled to be tested every other year. Because of the biennial nature of the scheduling, any change in the I/M 240 program is not fully effective until a minimum of two years have passed from the effective date of change of the program.

MOBILE5a was run with the non-standard base I/M 240 cutpoints (2.00, 30.0, and 3.00) input. The emission rates from MOBILE5a for the appropriate vehicle type categories in model years 1981 and newer were adjusted to reflect 50 percent of the emission reductions estimated by Sierra Research for the "Alternative #2 with current +4" scenario. The reduction was applied with a MAG FORTRAN program. The Sierra Research reduction estimate is based on a full I/M 240 cycle, which means that the alternative cutpoints would be in place for two years because the program is biennial. ADEQ has indicated that the alternative cutpoints will be implemented by January 1, 2000, which means only half (or one year) of a full I/M 240 cycle is expected to be completed by December 2000.

The "Alternative #2" of "Alternative #2 with current +4" reflects a set of cutpoints expected to achieve a nominal failure rate of 50 percent for 1981-85 model year vehicles, 25 percent for 1986-89 model year vehicles, and 10 percent for 1990-93 model year vehicles. The "current +4" of "Alternative #2 with current +4" reflects that the current model year plus the four previous model years, or the five newest model years are exempt.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
19.4	2.7

B. Enforceable Commitment

ADEQ has been working with EPA, the current Vehicle Emissions Inspection Program contractor Gordon-Darby, Inc. (GD), and Sierra Research to conduct the necessary research for the development of an appropriate testing methodology for the more stringent pass/fail standards. Sierra Research submitted a draft report recommending the more stringent pass/fail standards and testing methodology to EPA in December 1998. The report is expected to be finalized by March 1999. Once the appropriate pass/fail standards and methodology are finalized, ADEQ rules will be revised to provide for the implementation no later than January 1, 2000.

C. Legal Authority

- Section 19 of H.B. 2237
- A.R.S. 49-542, 49-543, 49-545
- Section 41 of S.B. 1427
- AAC Title 18, Chapter 2, Article 10

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

ADEQ has contracted with GD to perform vehicle emissions testing. In order to implement the more stringent pass/fail standards, GD will modify the software used for vehicle emissions testing to reflect the new testing standards and methodology. Implementation of the new testing methodology will increase the time required for conducting the vehicle emission test and reduce the throughput capacity of the testing network. In order to avoid public dissatisfaction with the testing program, the testing network will be expanded to account of the increased testing times. The software modification, implementation of the testing methodology, and increased network capacity is scheduled for completion by January 1, 2000.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- The Arizona Department of Environmental Quality continuously monitors the number of vehicles inspected in the Vehicle Emissions Inspection Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.
- A.R.S. Section 49-406 (I) and (J).

3. Coordinate Traffic Signal Systems

House Bill 2237 contains an appropriation of $500,000 in each of fiscal years 1997-1998 and 1998-1999 from the state general fund to the Arizona Department of Transportation for distribution to cities and counties for synchronization of traffic control signals within and across jurisdictional boundaries (Section 23 of H.B. 2237).

In addition, cities and towns responded to measure 97-TC-8, Coordinate Traffic Signal Systems. The synchronization of existing signals, as well as the enhancement of coordination in signal systems which are already synchronized, has been identified by many jurisdictions through a number of programs. Enhancement efforts range from large scale programs covering broad geographic areas to incremental additions of a few synchronized signals to the network. This includes both individual city projects and regional level programs, such as AZ Tech which is noted under Develop Intelligent Transportation Systems below.

A. Modeling Methodology

Based on submittals from local governments, as well as the provision in H.B. 2237 for signal coordination, it is estimated that the coordination will be enhanced for approximately 435 signals in the region by the end of the year 2000.

This measure was modeled by modification of MOBILE5a input files and by emissions post-processing. The enhancement of traffic signal synchronization will reduce the idling time at traffic signals. The average CO emission rate at idle were estimated with the MOBILE5a model. The emission rate at idle was multiplied by the estimated reduction in idle time across the modeling domain due to the control measure. The resulting product was a total reduction in CO emissions in the modeling domain. This emissions reduction was applied as an across-the-board reduction to the onroad CO emissions inventory.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
4.2	0.6

B. Enforceable Commitment

An ongoing ADOT process is to synchronize, where warranted, traffic signals on the Controlled Access Freeways. Traffic signals on all state routes that pass through the City of Phoenix, including Grand Avenue, and the City of Tempe are synchronized.

C. Legal Authority

- Section 23 of H.B. 2237
- A.R.S. 9-500.04

- A.R.S. 28-642

D. Implementing Agency

Arizona Department of Transportation

E. Schedule and Resources

House Bill 2237 appropriates the sum of $500,000 in each of the fiscal years 1997-1998 and 1998-1999 from the general fund to ADOT for distribution to cities and counties for synchronization of traffic control signals within and across jurisdictional boundaries.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- ADOT, through the Transportation Planning Group Air Quality Planner, will annually review this measure to ensure the commitment is met by collecting data on the current synchronization status of municipal systems affecting State Routes in the nonattainment area.
- A.R.S. Section 49-406 I. and J.

4. Develop Intelligent Transportation Systems

Nearly all the local jurisdictions have begun planning and implementing advanced technology based solutions to address complex traffic management issues on the regional transportation network. These technologies involve the application of electronics, telecommunications and sensor technologies and are collectively referred to as Intelligent Transportation Systems.

A key component of the regional Intelligent Transportation Infrastructure is the Freeway Management System(FMS) operated by Arizona Department of Transportation (ADOT). The FMS currently covers 42 miles of the freeway system and provides services such as traveler advisories and incident management. The other major regional ITS initiative is the AZTech project. This project was selected and funded by USDOT to serve as one of four ITS Model Deployment Initiatives in the nation. Key elements of the AZTech project are the interconnection of 13 local traffic management centers and the instrumentation of eight "smart" corridors that cover nearly 150 miles or arterial streets.

More than 90 city buses have been equipped with Global Positioning Satellite receivers to report their location. Electronic kiosks have been installed at more than 20 locations.

A. Modeling Methodology

This measure was modeled by modification of MOBILE5a input files and by emissions post-processing. The emission reductions from the three components of this measure, FMS, the installation of ITS instrumentation from AZTech, and enhancing of signal coordination were modeled separately.

The emissions benefits of the continued installation of the FMS was estimated using the modeling methodology developed by Sierra Research in Feasibility and Cost Effectiveness of New Air Pollution Control Measures Pertaining to Mobile Sources. A reduction in emissions per mile of FMS installed was multiplied by the number of additional miles of FMS installed, resulting in a total emissions reduction. It was estimated that an additional 33 centerline miles will be implemented by 2000.

The installation of ITS instrumentation from AZTech on 150 miles of arterials will result in an increase in average vehicle speeds due to the rerouting of traffic around congestion. The increase in vehicle speeds and average trip length were estimated in the November 15, 1996 Alternative Transportation System Task Force report.

The change in average vehicle emission rates due to the increase in vehicle speeds was estimated with MOBILE5a. The change in emission rates was multiplied by the estimated volume of traffic effected by the control measure, also estimated in the Alternative Transportation System Task Force report. The resulting product estimates the change in emissions due to the speed change. This change was added to the change in total emissions estimated for increase in average trip length. The resulting sum is a total change in CO emissions in the modeling domain due to the control measure.

The enhancing of traffic signal coordination through AZTech was modeled by modification of MOBILE5a input files and by emissions post-processing. The enhancement of traffic signal synchronization will reduce the idling time at traffic signals. The average CO emission rate at idle was estimated with the MOBILE5a model. The emission rate at idle was multiplied by the estimated reduction in idle time across the modeling domain due to the control measure. It is estimated that approximately 95 signals will be affected. The resulting product is a total reduction in CO emissions in the modeling domain.

The three emission reductions modeled from the separate aspects of this measure were totaled. The total was applied as an across-the-board reduction to the onroad CO emissions inventory.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
2.9	0.4

B. Enforceable Commitment

The Arizona Department of Transportation, Maricopa County, and local jurisdictions have submitted commitments to implement this measures (see Commitments for Implementation).

C. Legal Authority

- A.R.S. Section 9-240

D. Implementing Agency

- Arizona Department of Transportation
- Maricopa County Department of Transportation
- Local Jurisdictions

E. Schedule and Resources

Resources cited in the Arizona Department of Transportation, Maricopa County, and local jurisdiction commitments are assumed to be adequate for implementation of this measures (see Commitments for Implementation).

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

5. One-Time Waiver from Vehicle Emissions Test

Arizona Legislature passed S.B. 1002 in 1996 which limits the issuance of a waiver for failure to comply with the emission testing requirements to one-time only beginning January 1, 1997.

Also, the Arizona Legislature passed House Bill 2237 in 1997 which requires the Arizona Department of Environmental Quality to submit a report on one-time vehicle waivers to the Governor, President of the Senate, and Speaker of the House of Representatives by September 30, 1997. The report is required to include: a description of the air quality benefits from the measure; recommendations on making the provision more effective, considering the impact on motorists; and recommendations on improving motorists access to the repair grant program.

A. Modeling Methodology

This measure was modeled by an adjustment of the weighting between I/M and non-I/M emission factors from MOBILE5a and the modification of MOBILE5a input

files. This measure cannot be modeled directly through the use of MOBILE5a, which does not have the option of limiting the number of waivers to a given number of years. MOBILE5a does have the option of reducing the percentage of vehicles receiving waivers to zero. MOBILE5a was run with zero waivers allowed in order to estimate the resulting decrease in carbon monoxide emission rates in 2000.

It is assumed that the average remaining vehicle life of a vehicle which has received a waiver is three years (page E-5 of Feasibility and Cost-Effective Study of New Air Pollution Control Measures Pertaining to Mobile Sources). It is assumed that the base case run includes the three-year life after waiver implicitly through MOBILE5a. This measure would effectively reduce that three-year life to one year, and result in approximately two thirds of the reductions of a change to zero waivers. EXPLORA was run with the no waiver MOBILE5a emission rates weighted at twice the waiver MOBILE5a emission rates to produce final emission totals which reflect a reduction to a single waiver per vehicle. The waiver rate, which was four percent for pre-81 model years and three percent for 1981 and later model years, was changed to 1.33 percent and 1.00 percent, respectively.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
2.4	0.3

B. Enforceable Commitment

The provisions of SB 1002 for the one-time waiver were implemented beginning January 1, 1997. Under the authority of SB 1002, the one-time waiver provision was able to be implemented prior to incorporation into a rule. However, for consistency purposes with the statue, ADEQ is currently undergoing a rulemaking to incorporate the provisions for the one-time waiver into current rules.

C. Legal Authority

- S.B. 1002

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

The measure has been in effect since Gordon-Darby, Inc. modified the software and informational brochures to implement the provisions of the one-time waiver, beginning January 1, 1997.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- The Arizona Department of Environmental Quality continuously monitors the number of vehicles inspected in the Vehicle Emissions Inspection Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.
- A.R.S. Section 49-406 (I) and (J).

6. Defer Emissions Associated with Government Activities

A number of jurisdictions have identified their intent to pursue methods for deferring emissions out of critical air pollution periods. These activities include restructuring use of two-cycle gasoline-powered lawn and garden maintenance equipment after 2:00 p.m. placing requirements on maintenance contractors, and encouraging employees to limit vehicle idling and other activities which may contribute to air pollution during critical periods.

A. Modeling Methodology

Based on commitments received, it is estimated that approximately six percent of two-stroke engine powered nonroad emissions occurring after 2:00 p.m. are shifted to between 6:00 a.m. and 2:00 p.m. This measure was modeled in the TMPRL module of EPS2.0. The TMPRL module is capable of allocating emissions to certain hours of the day.

It is assumed that this measure will result in a reduction in the use of two-stroke gasoline engine equipment by governmental agencies in the afternoon during the winter CO season. It is further assumed that six percent of the total affected emissions occurring after 2:00 p.m. are shifted to between 6:00 a.m. and 2:00 p.m.

Based on these assumptions, the temporal profile for two-stroke gasoline powered equipment was adjusted to reflect a decrease in emissions after 2 p.m. by six percent. These emissions were reallocated to between 6:00 a.m. and 2:00 p.m.

B. Enforceable Commitment

Maricopa County and 14 cities and towns have submitted commitments to implement this measure as part of the Serious Area PM-10 Plan.

C. Legal Authority

- A.R.S. Section 9-240

D. Implementing Agency

Local Jurisdictions

E. Schedule and Resources

Fourteen cities and towns are already implementing this measure and have indicated in their formal commitments that existing resources are adequate to implement this measure.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

TABLE V-1

Summary of 2000 Emission Reductions from Committed Control Measures

Control Measure	CO Reduction (mtons/day)	Percent Reduction Total CO
Base Case	714.9	
1. Winter Fuel Reformulation: CARB Phase 2 with 3.5 Percent Oxygen	48.6	6.8
2. Phased-In I/M Cutpoints	19.4	2.7
3. Coordinate Traffic Signal Systems	4.2	0.6
4. Develop Intelligent Transportation Systems	2.9	0.4
5. One Time Waiver from I/M	2.4	0.3
6. Defer Emissions Associated with Government Activities	Measure influences when emissions occur rather than their magnitude	Measure influences when emissions occur rather than their magnitude

CONTINGENCY MEASURES USED FOR NUMERIC CREDIT

Modeling Approaches for Individual Measures

1. Tougher Enforcement of Vehicle Registration and Emission Test Compliance

Arizona Department of Transportation indicates that this measure would use additional methods to increase the registration compliance of residents. According to the December 1996 Report of the Governor's Air Quality Strategies Task Force, the Motor Vehicle Division (MVD) of the Arizona Department of Transportation (ADOT) has instituted a comprehensive enforcement program. Three key elements of the new program are a Registration Enforcement Team, a Registration Enforcement Tracking System, and a New Resident Tracking Program. Through public participation, consistent policy and procedure application, and new tracking methods, MVD will enforce the Arizona registration laws to ensure vehicles in question are registered properly. This will be an ongoing effort.

Another phase of the Program is an initiative to coordinate ADOT efforts with other law enforcement agencies to assist MVD personnel in enforcing registration compliance. Other initiatives include a system user agreement between MVD and the City Courts to utilize information in conjunction with registration compliance and discussions with U.S. West for obtaining information relating to new connect customers.

The Registration Compliance Program began in January 1994 with one full time employee responding only to complaints. In April of 1996, this program was enhanced with five MVD officers periodically conducting a statewide effort locating and issuing warning notices on vehicles suspected of being in violation of Arizona registration laws. This effort resulted in a substantial increase in Vehicle Licenses Tax (VLT) for 1996. As the program continues, there will be an enhanced focus on the local vehicles not in compliance.

Administration of the program began with a required staff time equivalent to one full time employee. Currently, the required staff time is equivalent to eight full time employees. Additional staff requirements for the initial phase of the Registration Compliance Program will require a total of 12 full time (active) employees and one supervisor. The funding allocated for implementation of the Registration Compliance Program is included as part of the overall MVD budget.

Arizona Legislature passed S.B. 1427 in 1998 which requires school districts and special districts in Area A to prohibit parking in employee parking lots by employees who have not complied with emissions testing requirements. Cities, towns, and counties in Area A and Area B are currently subject to this provision (A.R.S. 49-552).

In 1999, the Arizona Legislature passed H.B. 2254 which requires each vehicle that is owned by the United States government and that is domiciled in this state for

more than ninety consecutive days and each vehicle that is owned by a state or political subdivision of this state to comply with A.R.S. 49-542.

Collectively, the provisions in H.B. 2254 that apply to Tougher Enforcement of Vehicle Registration and Emissions Test Compliance include A.R.S. 49-557 and 49-541.01 D. and E.

A. Modeling Methodology

The report of the Governor's Air Quality Strategies Task Force (December 2, 1996) estimated that an additional 41,000 vehicles would be emission tested as a result of this measure. This figure has since been confirmed with ADOT as being a reasonable, and perhaps somewhat conservative, estimate of the number of vehicles registered due to this measure.

This measure was modeled for CO by an adjustment of the weighting between I/M and non-I/M emission factors from MOBILE5a. The number of vehicles registered in Maricopa County is approximately 1.83 million. The inspection of an additional 41,000 vehicles would be an additional 2.0 percent of the vehicles being emissions tested. The number of vehicles which participate in the I/M program was increased by 2.0 percent, changing the weighting from 89.6/10.4 to 91.6/8.4.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
2.6	0.4

B. Enforceable Commitment

This measure has been implemented by the Motor Vehicle Division of the Arizona Department of Transportation.

C. Legal Authority

- S.B. 1427
- A.R.S. 49-542, 557
- A.R.S. 49-541.01 D. and E.
- A.R.S. 49-552
- A.R.S. Title 28-202&203

D. Implementing Agency

Arizona Department of Transportation

E. Schedule and Resources

The Registration Compliance Program began in January 1994 with one full-time employee responding only to complaints. In April 1996, the program was enhanced with five MVD officers periodically conducting a statewide effort locating and issuing warning notices on vehicles suspected of being in violation of Arizona registration laws. This resulted in a substantial increase in Vehicle License Tax for 1996. As the program continues there will be an enhanced focus on the local vehicles not in compliance.

Administration of the program began with a required staff time equivalent to one full-time employee. Currently, the required staff time is equivalent to eight full time employees. Additional staff requirements for the initial phase of the Registration Compliance Program will require a total of 12 full time (active) employees and one supervisor. The funding allocated for implementation of the Registration Compliance Program is included as part of the overall MVD budget.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

2. Catalytic Converter Replacement Program

Arizona Legislature passed S.B. 1427 in 1998 which requires a person whose vehicle fails the Vehicles Emissions Inspection Test due to a faulty catalytic converter to replace it in Area A. These vehicles are not eligible for a waiver. The catalytic converter replacements are exempt from the existing repair cost limits for qualification for a waiver. Also, $275,000 was appropriated from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 to the utilization of the Vehicle Repair Grant Program and to implement the Catalytic Converter Replacement Program (A.R.S. 49-542 and Section 39 of S.B. 1427).

A. Modeling Methodology

This measure was modeled by an adjustment of the weighting between I/M and non-I/M emission factors from MOBILE5a in the EXPLORA model and an adjustment of the waiver rate in MOBILE5a. The Emissions Research Laboratory (ERL) of the Arizona Department of Environmental Quality (ADEQ) estimates that approximately 68 percent of vehicles which fail the I/M test do so primarily because of a faulty catalytic converter. This estimate is derived from research done for the Automotive Catalytic Converter Testing Program by the ERL.

The ERL is also expected to have a catalyst efficiency test in place as a part of the I/M program by 1999. This program would be designed to identify vehicles with

faulty catalytic converters. These vehicles will not be eligible for I/M waivers and will be required to have a functioning catalytic converter in order to be registered in Area A. The program is expected to reduce the waiver rate by 68 percent, as the 68 percent of vehicles failing the I/M program will have a catalyst installed.

This measure cannot be modeled directly through the use of MOBILE5a, which does not have the option of estimating the reduction in emissions from any given fractional reduction in waiver rate from the base waiver rate, in this case 68 percent. MOBILE5a does have the option of reducing the percentage of vehicles receiving waivers to zero. MOBILE5a was run with zero waivers allowed in order to estimate the resulting decrease in carbon monoxide emission rates in 2000. EXPLORA was run with the no waiver MOBILE5a emission rates weighted at approximately twice the base waiver MOBILE5a emission rates to produce final emission totals which reflect a reduction to the waiver rate by 68 percent. The waiver rate, which was four percent for pre-81 model years and three percent for 1981 and later model years, was effectively changed to 1.28 percent and 0.96 percent, respectively.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
2.5	0.3

B. Enforceable Commitment

ADEQ is currently revising the vehicle emissions inspection rules found in Chapter 2, Article 10 to incorporate a methodology for testing the efficiency of catalytic converters on vehicles that fail the emissions inspection test. The rulemaking will be completed and effective no later than December 31, 1999.

C. Legal Authority

- S.B. 1427
- A.R.S. 49-542
- AAC Title 18, Chapter 2, Article 10

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

ADEQ is in the process of purchasing the equipment for the testing of catalytic converters. Once the equipment is received, the testing equipment will be integrated into the Gordon-Darby, Inc. testing system. ADEQ has staff in place who will perform the catalytic converter testing at the waiver facilities, beginning January 1, 2000.

F. Monitoring and Tracking Program

- The catalytic converter replacement program will be a routine part of the Vehicle Emissions Inspection Program.
- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 (I) and (J).

3. Voluntary Lawn Mower Emissions Reduction Program

Arizona Legislature passed H.B. 2237 in 1997 which requires Maricopa and Pima Counties to establish a Voluntary Lawn Mower Emissions Reduction Program to begin no later than July 1, 1998. A lawn mower owner may participate in the program if the lawn mower starts and is used for commercial or residential purposes. The voucher for retired commercial lawn mowers is $200 and must be used for the purchase of a lawn mower that generates lower emissions. The voucher for retired residential lawn mowers is $100 and must be used for the purchase of an electric lawn mower. Retired lawn mowers are prohibited from use in Arizona.

In order to fund this program, H.B. 2237 establishes the Voluntary Lawn Mower Emissions Reduction Fund consisting of monies appropriated by the Legislative and political subdivisions along with gifts, grants and donations. The Counties are required to prepare and submit a progress report on December 1 of each year which describes the number of lawn mowers retired by brand and year of manufacture; cost effectiveness of the program in terms of dollars spent per ton of emissions reductions; recommendations for improving the effectiveness of the program; and administrative costs of the program (A.R.S. 49-474.02).

The bill also contains a $1,000,000 appropriation for the State General Fund for fiscal year 1997-1998 for deposit into the Voluntary Lawn Mower Emission Reduction Fund (Section 21 of H.B. 2237).

In 1998, the Arizona Legislature passed S.B. 1427 which expanded the program to include garden equipment as well as lawn mowers. The bill specifies that a voucher will be issued in the amount of $50 to the owner of a gasoline powered lawn or garden device that is retired. The voucher must be used for the purchase of a lawn or garden device that generates lower emissions. Retired equipment is prohibited in the state. In addition to lawn mowers, the progress report due from the counties on December 1 of each year must include garden equipment. The bill also contains an appropriation of $500,000 in FY 1998-1999 and $500,000 in FY 1999-2000 (A.R.S. 49-474.02 and Section 36 of S.B. 1427).

Maricopa County indicates that this measure involves implementing a voluntary program to purchase and retire commercial and residential lawn mowers which produce excessive emissions. This measure will be implemented by the Maricopa

County Environmental Services Department, Community Service Division. Legal Authority for this action is provided under Section 49-474.02 of the Arizona Revised Statutes.

The Maricopa County Community Services Division is currently in the developmental stages of program implementation.

July 1997, Define program parameters
July 1997, Develop RFP for Vendors
August 1997, Issue RFP for Vendors
October 1997, Select Vendor
October 1997, Finalize paperwork
November 1997, Program implementation

Personnel will be provided through existing staff. The sum of $1,000,000 has been appropriated from the state general fund to be split among counties with a population of more than 500,000 persons.

A. Modeling Methodology

Although this measure is voluntary, emission reduction credit was only assumed for the equipment which has been actually replaced in 1998. Therefore, this credit is not subject to guidelines specified in the October 24, 1997 EPA memorandum subject "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs)". This measure was modeled consistent with the methodology used to estimate lawn mower emissions in the EPA NEVES inventory which served as the basis for the nonroad mobile portion of the modeling inventory. To evaluate this measure, lawn mower emissions were calculated using the methodology in the NEVES inventory. The emission reduction from the retirement of lawn mowers was calculated as the difference between the emissions of the retired lawn mowers and the replacement lawn mowers. The replacement residential lawn mowers are electric-powered and have no CO emissions. The replacement commercial mowers are lower emitting models than the retired commercial mowers.

The emission reduction estimated for this measure only reflects the impact in 2000 from the lawn mowers collected before December 1998. Additional reductions will result from additional lawn mower retirements associated with the implementation of this program in 1999 and 2000.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
1.9	0.3

B. Enforceable Commitment

The numeric credit calculated above reflects actual data regarding the impact of the program for calendar year 1998. Numeric credit was not estimated for the impacts of this voluntary program after 1998.

C. Legal Authority

- H.B. 2237
- S.B. 1427
- A.R.S. 49-474.02

D. Implementing Agency

Maricopa County Environmental Services Department

E. Schedule and Resources

The numeric credit calculated above reflects data regarding the program for calendar year 1998. Numeric credit was not estimated for the future impacts of this voluntary program.

F. Monitoring and Tracking

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 (I) and (J).

4. National Low Emission Vehicle Program

Arizona Legislature passed S.B. 1427 in 1998 which requires the State to participate in the National Low Emission Vehicle Program adopted in 40 Code of Federal Regulations Part 9, Part 85 and Part 86 effective March 9, 1998, as part of the long term air quality strategy. The State will not bear any of the administrative costs of the program. Also, the State retains the authority to adopt any alternative emissions reduction program which demonstrates improved air quality benefits for the State (A.R.S. 49-556).

A. Modeling Methodology

This measure was modeled by modification of MOBILE5a input files. The MOBILE5a model has an undocumented diagnostic feature which makes the modeling of the National LEV program possible.

As a non-OTR state (ozone transport region), Arizona will receive cars that meet the National Low Emission Vehicle (NLEV) standards beginning in the 2001 model year at the latest. MOBILE5a assumes that new model year light duty vehicles become

available on October 1 of the previous year. Therefore, some NLEV vehicles are expected to be registered and operating in the nonattainment area prior to December 2000.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
1.3	0.2

B. Enforceable Commitment

The Environmental Protection Agency will be responsible for implementation and enforcement of the NLEV program.

C. Legal Authority

- S.B. 1427
- A.R.S. 49-556
- 40 CFR Parts 9, 85, and 86

D. Implementing Agency

Environmental Protection Agency

E. Schedule and Resources

The NLEV program is enforced by EPA through a federal rule promulgated on March 9, 1998 (40 CFR Parts 9, 85, and 86). According to the provisions of the rules, vehicles meeting the NLEV program standards will be required to be sold in Arizona, beginning with the 2001 model year.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

5. Clean Burning Fireplace Ordinance

Arizona Legislature passed S.B. 1427 in 1998 which requires cities, towns, and counties in Area A to adopt, implement and enforce an ordinance that complies with the clean burning fireplace standards adopted by the Metropolitan Planning Organization that is responsible for air quality planning in Area A by December 31, 1998. The ordinance must prohibit the installation or construction of a fireplace or wood stove unless it is one of the following:

1. A fireplace that has a permanently installed gas or electric log insert.

2. A fireplace, a wood stove or any other solid fuel burning appliance that is any of the following:

   (a) Certified by the U.S. Environmental Protection Agency as in compliance with 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

   (b) A wood stove tested and listed by a nationally recognized testing agency to meet performance standards equivalent to those in 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

   (c) Determined by the County Air Quality Control Officer to meet performance standards equivalent to those in 40 Code of Federal Regulations Part 60, Subpart AAA in effect on July 1, 1990.

3. A fireplace that has a permanently installed wood stove insert that complies with paragraph 2, subdivision (a), (b) or (c) of this section.

The ordinance is required to prohibit the subsequent conversion or alteration of a permitted fireplace or wood stove to a nonpermitted use. The ordinance may provide for exemptions from regulation for heating or industrial equipment, cooking devices and outdoor fireplaces. The state income tax subtraction of $500 dollars for the purchase and installation of a qualified wood stove, wood fireplace or gas fired fireplace and non-optional equipment is removed. The subtraction of $500 dollars for the conversion of an existing wood fireplace to a qualified fireplace is retained.

A county that contains any portion of Area A that has a population of less than 1,200,000 according to the most recent U.S. decennial census shall adopt, implement, and enforce the ordinance only in those portions of the county which are located in Area A (A.R.S. 9-500.16 and 11-875).

A. Modeling Methodology

This measure was modeled in the CNTLEM module of EPS 2.0. The CNTLEM module is capable of applying a reduction factor to emissions by ASC.

It is assumed that this measure will be implemented in 1999. It is further assumed that all newly constructed residential fireplaces and all newly installed residential wood stoves will be "low-emitters" or EPA-certified Phase II or equivalent. Based on the 1996 MAG Residential Wood Combustion Survey, 28 percent of residences have fireplaces and one percent have wood stoves. Fireplace and wood stove population estimates were derived by combining the aforementioned percentages with the estimated number of residences in the CO Nonattainment Area. These 1994 population estimates were projected to the years 1998 and 2000 to determine

the number of new fireplaces and wood stoves constructed in 1999 and 2000. All fireplaces constructed in 1999 and 2000 were assumed to be EPA certified fireplaces that emit at a rate 49 percent the rate of non-Phase II fireplaces. All wood stoves installed in 1999 and 2000 were assumed to be EPA-certified Phase II or equivalent stoves that emit at 77 percent (CO) the rate of the emission rate of the AP-42 category "all stoves". Based on these assumptions, it is estimated that fireplace emissions could be reduced to 97 percent of the base case total for CO. Wood stove emissions could be reduced to 98.7 percent of the CO base case total.

A /PROJECT AMS/ packet applied factors of 0.97 to fireplaces (ASC 2104008001) for CO, and 0.9868 to wood stoves (ASC 2104008010). The newly created packet was applied by an additional execution of the CNTLEM module after the base case projections and controls were applied.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.8	0.1

B. Enforceable Commitment

In addition to the State Law requiring Maricopa County and all 22 cities and towns in Area A to adopt and implement a Clean Burning Fireplace Ordinance, Maricopa County and 17 jurisdictions to date have submitted commitments for the Serious Area PM-10 Plan to implement this measure on or before December 31, 1998.

C. Legal Authority

- S.B. 1427
- A.R.S. 9-500.16 and 11-875
- A.R.S. 9-240

D. Implementing Agency

Local Jurisdictions

E. Schedule and Resources

State Law requires this measure to be adopted and implemented by December 31, 1998. Maricopa County and 17 cities and towns have indicated in their formal commitments that existing resources are adequate to implement this measure.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.

- A.R.S. Section 49-406 I. and J.

6. Expansion of Area A Boundaries

Arizona Legislature passed S.B. 1427 in 1998 which expands the boundaries of Area A. Previously, the Area A boundaries followed the boundaries of the carbon monoxide and ozone nonattainment areas. Area A was expanded to include additional portions of Maricopa County, portions of Pinal County, and portions of Yavapai County. The Area A boundaries are delineated as follows:

(a) In Maricopa County:
Township 8 North, Range 2 East and Range 3 East
Township 7 North, Range 2 West Through Range 5 East
Township 6 North, Range 2 West Through Range 6 East
Township 5 North, Range 2 West Through Range 7 East
Township 4 North, Range 2 West Through Range 8 East
Township 3 North, Range 2 West Through Range 8 East
Township 2 North, Range 2 West Through Range 8 East
Township 1 North, Range 2 West Through Range 7 East
Township 1 South, Range 2 West Through Range 7 East
Township 2 South, Range 2 West Through Range 7 East

(b) In Pinal County:
Township 1 North, Range 8 East And Range 9 East
Township 1 South, Range 8 East And Range 9 East
Township 2 South, Range 8 East And Range 9 East
Township 3 South, Range 7 East Through Range 9 East

(c) In Yavapai County:
Township 7 North, Range 1 East And Range 1 West Through Range 2 West

All of the air quality measures and programs added or modified by S.B. 1427 for Area A will be effective from and after December 31, 2000 in the portion of Area A which includes Pinal County. This does not apply to the conversions of fleet vehicles to alternative fuels by cities, counties, and school districts. Also, the vehicles subject to the Vehicle Emissions Inspection Program that have been included within the new boundaries of Area A, except those within Pinal County, are required to comply beginning from and after December 31, 1998. Vehicles in the Pinal County area are required to comply beginning from and after January 1, 2001.

Collectively, the air quality measures which apply specifically to Area A are: Traffic Synchronization; Plans to Stabilize Targeted Unpaved Roads, Alleys, and Stabilize Unpaved Shoulders on Targeted Arterials; Crack Seal Equipment; Alternative Fuel Vehicles Requirements for Local Governments and School Districts; Adjusted Work Hours; Clean Burning Fireplace Ordinances; Use of Petroleum Products for Road Maintenance; Winter Fuel Reformulation: California Phase 2 Reformulated Gasoline with 3.5 Percent Oxygen Content by Weight; Stage I and II Vapor Recovery; Voluntary Vehicle Repair and Retrofit Program; Vehicle Emissions Testing Program Requirements (including Catalyst Replacement Program and Vehicle Repair Grant

Program); Tougher Enforcement of Vehicle Registration and Emissions Test Compliance; and Travel Reduction Program (A.R.S. 49-541 and Section 41 and 42 of S.B. 1427).

A. Modeling Methodology

This measure was modeled by adjusting the weighting between I/M and non-I/M emission factors from MOBILE5a. MAG estimates that an additional 15,555 people will reside in the expanded section of Area A in 2000. The vehicles registered to these people will be required to participate in the I/M program. The ratio of the number of registered vehicles (ADOT data) to the number of residents in the county (MAG data) as of 1997 was one vehicle for every 1.48 people in the county. Assuming that this ratio is accurate for all areas of Maricopa County, it is assumed that approximately 10,500 additional vehicles will be registered in 2000 for the expanded section of Area A.

An increase of 10,500 vehicles participating in the I/M program is anticipated to increase the weighting of I/M vehicles by approximately 0.5 percent. The number of vehicles which participate in the I/M program was increased by 0.5 percent, changing the weighting ratio from 89.6/10.4 to 90.1/9.9. It is important to note that not all vehicles participating in the I/M program are subject to an I/M test because of age or vehicle type.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.7	0.1

B. Enforceable Commitment

By statute, the expansion of Area A was effective beginning August 21, 1998. Vehicles located within the expanded portions of Area A in Maricopa and Yavapai Counties were required to undergo vehicle emissions inspection testing beginning January 1, 1999. Vehicles with Area A in Pinal County will be required to undergo testing beginning January 1, 2001. The Arizona Department of Transportation, Motor Vehicle Division, has a listing of the areas to be included in the expanded portions of Area A and the owners of those vehicles will receive notice that their vehicle requires testing at the time of vehicle registration. ADEQ is currently in the process of updating the vehicle emissions program rules to reflect the provisions of SB 1427, to be effective January 1, 2000.

C. Legal Authority

- S.B. 1427

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

- Vehicles subject to the Vehicle Emissions Inspection Program that have been included within the Maricopa and Yavapai County boundaries of expanded Area A are required to comply beginning from and after December 31, 1998.
- All of the air quality measures and programs added or modified by S.B. 1427 for Area A will be effective from and after December 31, 2000 in the expanded Area A, which includes Pinal County.
- The Arizona Department of Transportation, Motor Vehicle Division has already received a listing of areas included in the expanded portions of Area A. The owners of vehicles requiring testing during 1999 will receive notice that their vehicle requires testing at the time of registration.

F. Monitoring and Tracking Program

- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

7. Gross Polluter Option for I/M Program Waivers

Arizona Legislature passed S.B. 1427 in 1998 which requires that in order to obtain a waiver from compliance with the Vehicle Emissions Inspection Program, the owner of a vehicle emitting more than twice the emission standard has to repair the vehicle sufficiently to reduce the emission levels to less than twice the standard (A.R.S. 49-542).

A. Modeling Methodology

The modeling analysis for this measure was conducted by the Arizona Department of Environmental Quality. The number of vehicles of each age that received a waiver and whose tested emissions were twice the emission cutpoints (gross emitters) was estimated. The number of gross emitters was multiplied by an age-specific estimate of the number of miles a vehicle travels in a day. The product of these two estimates is the number of miles per day driven by gross emitters of each age. The difference in emission rates, for each vehicle age, between gross emitters and double the I/M cutpoints was estimated. This emission rate difference was multiplied by the estimated number of miles per day driven by gross emitters of each age to estimate the emissions reduction achieved by repairing the gross emitters to emit at a level less than twice the standard before they are eligible for a waiver. This methodology may result in a conservative estimate of the benefits since some vehicles will be repaired to cleaner than twice the emission standard.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.5	0.1

B. Enforceable Commitment

In accordance with statute, the waiver prohibition for vehicles exceeding the emissions testing standards by more than two times the standard was implemented on August 21, 1998.

C. Legal Authority

- S.B. 1427
- A.R.S. 49-542

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

Gordon-Darby, Inc. has modified the necessary software for program implementation and literature for vehicle owner notification purposes.

F. Monitoring and Tracking Program

- The gross polluter option is a routine part of the Vehicle Emissions Inspection Program.
- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

8. Increased Waiver Repair Limit Options

Arizona Legislature passed S.B. 1427 in 1998 which increases the amount a person must spend to repair a failing 1967-1974 vehicle in Area A to qualify for a waiver. The increased amount is $200 rather than the previous $100 (A.R.S. 49-542).

A. Modeling Methodology

This measure was modeled by modification of the MOBILE5a input files. To estimate the effect of raising the waiver limit to $200 from $100, it is assumed that the base case pre-81 vehicle waiver rate is reduced from 4 percent to 2.6 percent. This estimate is based upon repair cost distribution data from the Vehicle Emissions Inspection Program. MOBILE5a was rerun with the base waiver rate for pre-81 model year vehicles changed to 3 percent in the first case and 2 percent in the second case. Both of these MOBILE5a output files was input to EXPLORA. The emission totals output from the EXPLORA runs reflecting a 2 percent waiver rate and the run reflecting a 3 percent waiver rate were interpolated to estimate a net emission total for a waiver rate of 2.6 percent.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.4	0.1

B. Enforceable Commitment

In accordance with statute, the repair cost limit provision was implemented on August 21, 1998.

C. Legal Authority

- S.B. 1427
- A.R.S. 49-452

D. Implementing Agency

Arizona Department of Environmental Quality

E. Schedule and Resources

Gordon-Darby, Inc. has modified the necessary software for program implementation and literature for vehicle owner notification purposes.

F. Monitoring and Tracking Program

- The repair cost limit is a routine part of the Vehicle Emissions Inspection Program.
- The Maricopa County Environmental Services Department determines reasonable further progress, and reviews the implementation status of the various measures contained in the air quality plans on an annual basis.
- A.R.S. Section 49-406 I. and J.

TABLE V-2

Summary of 2000 Emission Reductions from Committed Contingency Measures

Control Measure	CO Reduction (mtons/day)	Percent Reduction Total CO
Base Case	714.9	
1. Tougher Registration Enforcement	2.6	0.4
2. Catalytic Converter Replacement Program	2.5	0.3
3. Lawn Mower Reduction Program	1.9	0.3
4. National LEV Program	1.3	0.2
5. Clean Burning Fireplace Ordinance	0.8	0.1
6. Area A Expansion	0.7	0.1
7. Gross Emitter Waiver Provision	0.5	0.1
8. Increased Waiver Repair Limit	0.4	0.1

MEASURES WHOSE EMISSION REDUCTIONS WERE QUANTIFIED, BUT WERE NOT USED FOR NUMERIC CREDIT OR FOR CONTINGENCY MEASURES

In addition to the contingency measures described in the previous section, emissions reductions have been quantified for an additional set of implemented measures, described in this section. These measures serve to ensure that the CO standard is maintained, despite increases in population, employment, and vehicle travel. Emission reductions quantified from these measures were not taken for numeric credit or included as contingency measures.

Modeling Approaches for Individual Measures

1. Voluntary Vehicle Repair and Retrofit Program

Arizona Legislature passed S.B. 1427 in 1998 which requires Maricopa County to establish and coordinate a Voluntary Vehicle Repair and Retrofit Program in Area A. The County is required to coordinate the program with the Arizona Department of Environmental Quality and Arizona Department of Transportation. The program is required to begin by January 1, 1999 and provide for quantifiable emissions reductions based on actual emissions testing performed on the vehicle before repair and retrofit.

A vehicle owner may participate in the program if all of the following criteria are met: 1. The owner is willing to participate in the program. 2. The vehicle is functionally operational. 3. The vehicle has been titled in this state and registered in Area A for at least twenty-four months. 4. The vehicle is at least twelve years older than the current model year passenger car or light duty truck. 5. The vehicle fails the emissions test. It is important to note that vehicles that are not required to take the emissions inspection test are not eligible to participate in the program.

The County is required to develop a Pilot Emissions Control Repair and Retrofit Program in cooperation with the ADEQ that has the following provisions:

1. Vehicle owners who qualify for the repair and retrofit program will pay the first $100 as a co-payment.

2. Vehicle owners that require more than $500 in repair costs or $650 in retrofit parts and labor costs are not eligible unless the vehicle owner chooses to pay additional costs.

Diesel powered motor vehicles with a gross vehicle rating of more than 8,500 pounds that are registered in Area A which fail any random roadside vehicle test conducted by the State are eligible for up to $1,000 in repair or retrofit costs from the program. Qualified vehicle owners will be responsible for one-half of the costs of the qualified repairs and the other one-half of the costs will be funded from the program up to $1,000. No more than 20 percent of the program funds in any year may be used for these purposes.

S.B. 1427 also establishes a Voluntary Vehicle Repair and Retrofit Program Fund consisting of monies appropriated by the Legislature and political subdivisions and gifts, grants, and donations. S.B. 1427 includes an appropriation of $800,000 from the State General Fund in fiscal year 1998-1999 for the Voluntary Vehicle Repair and Retrofit Program Fund.

The County Board of Supervisors is required to appoint an advisory committee composed of representatives from the Arizona Department of Transportation, Arizona Department of Environmental Quality, and the parties affected by the Voluntary Vehicle Repair and Retrofit Program, including automobile hobbyists and the automotive after-market products industry. The role of the committee is to advise and make recommendations on the development and implementation of the program.

By December 1 of each year, the County is required to prepare a report on the Voluntary Vehicle Repair and Retrofit Program that includes the number of vehicles repaired or retrofitted by model year, the cost effectiveness of the program in terms of dollars spent per ton of vehicle emissions reductions, any recommendations for improving the effectiveness of the program, and the administrative costs of the program. The report is required to be submitted to the Arizona Department of Environmental Quality, Arizona Department of Transportation, Speaker of the House of Representatives, President of the Senate, Governor, Secretary of State, and Director of the Arizona Department of Library, Archives, and Public Records (A.R.S. 49-474.03 and Section 34 and 36 of S.B. 1427).

Modeling Methodology

This measure was modeled by an adjustment of the weighting between I/M and non-I/M emission factors from MOBILE5a in the EXPLORA model and an adjustment of the waiver rate in MOBILE5a. According to ADEQ data, approximately 12,000 vehicles per year received waivers before the limitation to a single waiver took effect. According to Maricopa County Environmental Services Division, 1,200 vehicles are assumed to be repaired or retrofitted under this program to pass the emissions test. It is assumed that the reductions in waivers are applied proportionally to the MOBILE5a model year categories pre-1981 and 1981 and later.

MOBILE5a was rerun with the base case waiver rates changed from 3 percent for pre-81 model years and 4 percent for 1981 and later model years to zero percent for both age groups. EXPLORA was rerun using the adjusted MOBILE5a outputs. The output from this EXPLORA run estimates the emissions reduction which would occur if the waiver rate was reduced by 100 percent. Considering that 1,200 of the base 12,000 vehicles will no longer receive waivers, the waiver rate is assumed to be reduced by ten percent, rather than 100 percent. The reduction as a result of this measure is assumed to be one tenth the reduction estimated by the revised EXPLORA run.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.4	0.1

NOTE: The estimated impact of this measure is less than that documented in the Draft TSD due to revised assumptions regarding the number of vehicles repaired.

2. Oxidation Catalyst for Heavy Duty Diesel Vehicles

Arizona Legislature passed H.B. 2237 in 1997 which requires cities, towns, Maricopa County, school districts, the state and the federal government to install a technology (oxidation catalyst) on their heavy duty diesel vehicles if the entities receive a waiver to opt out of the alternative fuel requirements for fleets. The heavy duty diesel vehicles with a gross vehicle weight of 8500 pounds or more manufactured in or before model year 1993 would have the catalyst installed based upon the following time schedule in A.R.S. 49-555:

a. 25 percent of the diesel fleet vehicles by December 31, 1998.
b. 40 percent of the diesel fleet vehicles by December 31, 1999.
c. 60 percent of the diesel fleet vehicles by December 31, 2000.
d. 80 percent of the diesel fleet vehicles by December 31, 2001.
e. 100 percent of the diesel fleet vehicles by December 31, 2002.

The technology is to be effective at reducing particulate emissions by at least 25 percent and be approved by the Environmental Protection Agency pursuant to the Urban Bus Engine Retrofit/Rebuilt Program. This measure applies to Area A which is generally the nonattainment area (A.R.S. 9-500.04, 15-349, 41-803, 49-474.01, 49-573 and 49-555).

Modeling Methodology

An information sheet for the Voluntary Vehicle Repair, Retrofit, and Recycle (VVRRR) program estimates that the installation of a catalyst reduces CO emissions by 81 percent.

It was estimated that 864 pre-1994 heavy duty diesel government fleet vehicles would be retrofitted with oxidation catalysts by the end of 2000. The average emission rate of the affected heavy-duty diesel fleet vehicles before the retrofit was estimated using MOBILE5a. The effect of the reduction in emissions from the vehicles was assumed to be 81 percent reduction from the MOBILE5a estimated emission rates. The percentage reduction on the total fleet emissions was applied as an across-the-board reduction to the onroad mobile CO emission totals.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
0.3	< 0.1

3. Require Pre-1988 Heavy-Duty Diesel Commercial Vehicles Registered in the Nonattainment Area to Meet 1988 Federal Emission Standards; Provide Incentives to Encourage Voluntary Accelerated Vehicle Replacement by the Year 2004

Arizona Legislature passed S.B. 1002 in 1996 which requires that beginning on January 1, 2004, a diesel powered motor vehicle with a gross vehicle weight of more than 26,000 pounds and which gross weight fees are paid pursuant to Section 28-206 in Area A will 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 does mot apply to vehicles that are registered pursuant to Title 28, Chapter 2, Article 1.1. (A.R.S. 49-542 F.7.).

Regarding incentives to encourage accelerated replacement by the year 2004, the Arizona Legislature passed S.B. 1427 in 1998 which provided that diesel powered motor vehicles with a gross vehicle rating of more than 8,500 pounds that are registered in Area A which fail any random roadside vehicle test conducted by the State are eligible for up to $1,000 in repair or retrofit costs from the Voluntary Vehicle Repair and Retrofit Program. Qualified vehicle owners will be responsible for one-half of the costs of the qualified repairs and the other one-half of the costs will be funded from the program up to $1,000. No more than 20 percent of the program funds in any year may be used for these purposes. The Voluntary Vehicle Repair and Retrofit Program is administered by Maricopa County in coordination with the Arizona Department of Environmental Quality and Arizona Department of Transportation (A.R.S. 49-474.03 and Sections 34 and 36 of S.B. 1427).

Modeling Methodology

This measure was modeled by modification of the MOBILE5a input files. To estimate the effect of incentives encouraging accelerated replacement by 2000, it was assumed that 15 percent of the pre-1988 heavy-duty diesel commercial vehicles would be replaced with vehicles meeting 1988 emission standards. The registration distribution was adjusted to replace 15 percent of the pre-1988 heavy-duty diesel vehicles with 1988 heavy-duty diesel vehicles to provide a conservative estimate. This may provide a conservative estimate of benefits, because some vehicles may be replaced with newer than 1988 model year vehicles.

Estimated Reduction in Total CO Emissions in the Year 2000:

Metric Tons	Percent
< 0.1	< 0.1

MEASURES WHICH IMPROVE AIR QUALITY, BUT WERE NOT USED FOR NUMERIC CREDIT

Descriptions of Individual Measures

1. Enhanced Emission Testing of Constant Four-Wheel Drive Vehicles

   Arizona Legislature passed S.B. 1427 in 1998 which requires motor vehicles, including constant four-wheel drive vehicles, manufactured in or after Model Year 1981, with a gross vehicle weight rating of 8,500 pounds or less, other than diesel powered vehicles, to take and pass a transient load emissions test (I/M 240). Previously, constant four-wheel drive vehicles were required to pass a curb idle emissions test (A.R.S. 49-542).

2. Vehicle Repair Grant Program

   Arizona Legislature passed S.B. 1427 in 1998 which appropriates $275,000 from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 to improve the utilization of the Vehicle Repair Grant Program and to implement the Catalytic Converter Replacement Program. The Vehicle Repair Grant Program also applies to Area A (Section 39 of S.B. 1427).

3. Random Roadside Testing of Diesel Vehicles

   Arizona Legislature passed S.B. 1427 in 1998 which requires the Arizona Department of Environmental Quality to implement a pilot random roadside emissions testing program for diesel vehicles over 8,500 pounds using the snap acceleration test developed by the Society of Automotive Engineers (J 1167). This program will not be implemented unless the Directors of the Arizona Department of Transportation and Arizona Department of Public Safety agree that the program can be conducted safely and in compliance with federal regulations relating to interstate travel and safety.

   If the program is implemented by November 15, 1999, the ADEQ Director will report on the results of the pilot program, including pass and fail rates, the nature of the registration of the failing vehicles, the extent of noncompliance of the failing vehicles, and recommendations for implementation of a permanent program. The report will be transmitted to the Governor, Speaker of the House of Representatives, and President of the Senate (Section 35 of S.B. 1427).

4. Snap Acceleration Test for Heavy-Duty Diesel

   Arizona Legislature passed S.B. 1002 in 1996 which requires that beginning March 1, 1997, a diesel powered motor vehicle applying for registration or reregistration in Area A more than 33 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:

- 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 8,500 pounds or less.

- a test that conforms with the Society of Automotive Engineers Standard J1667 for vehicles with a gross vehicle weight rating of more than 8,500 pounds (A.R.S. 49-542 F.2.(d).).

5. Long - Term Fuel Reformulation: From and After May 1, 1999

Arizona Legislature passed H.B. 2307 in 1997 which contains requirements for the sale of gasoline from and after May 1, 1999 in Area A, subject to an appropriate waiver granted under Section 211 (c)(4) of the Clean Air Act, that meets the following fuel reformulation options:

- California Phase 2 Reformulated Gasoline, including alternative formulations allowed by the predictive model, as adopted by the California Air Resources Board pursuant to the California Code of Regulations, Title 13, Sections 2261 through 2262.7 and 2265, in effect on January 1, 1997, that meets the maximum 7.0 psi summertime vapor pressure requirements in A.R.S. Section 41-2083, Subsections D and F.

- Gasoline that meets the standards for Federal Phase II Reformulated Gasoline, as provided in 40 CFR Section 80.41, paragraphs (a) through (h), in effect on January 1, 1997, that meets the maximum 7.0 psi summertime vapor pressure requirement in A.R.S. Section 41-2083 Subsections D and F.

- From and after November 1 through March 31 of each year, both of these fuels are required to meet the oxygenated fuel requirements in A.R.S. 41-2123.

By September 15, 1997, the Director of the Arizona Department of Environmental Quality in consultation with the Director of the Weights and Measures, is required to adopt rules for the 1998 and 1999 fuel reformulation requirements.

House Bill 2307 also provides that if the Environmental Protection Agency fails to approve the sale and use of both reformulated gasolines, the Director of the Arizona Department of Environmental Quality will adopt standards by rule for one of the following fuels:

- A gasoline that meets standards for Federal Phase II Reformulated Gasoline, as provided in 40 C.F.R. Section 80.41, paragraphs (a) through (h) in effect on January 1, 1997, that meets the maximum vapor pressure requirements of A.R.S. Section 41-2083, Subsections D and F. In addition, the requirements of A.R.S. Section 41-2123 must be met November 1 through March 31 of each year.

- California Phase 2 Reformulated Gasoline, including alternative formulations allowed by the predictive model, as adopted by the California Air Resources Board pursuant to the California Code of Regulations, Title 13, Sections 2261

through 2262.7 and 2265, in effect on January 1, 1997, that meets the maximum vapor pressure requirements of A.R.S. Section 41-2083, Subsections D and F. In addition, the requirements of A.R.S. Section 41-2123 must be met November 1 through March 31 of each year.

6. Limit Sulfur Content of Diesel Fuel Oil to 500 ppm

Arizona Legislature passed S.B. 1002 in 1996 which prohibits the sale of diesel fuel (including off-road) in the nonattainment area that contains in excess of 500 ppm sulfur. In addition, federal regulations require that on-road diesel fuel sold throughout the contiguous U.S. have a maximum sulfur content of 0.05 percent by weight (500 ppm). These provisions are contained in A.R.S. 41-2083 J.

7. Diesel Fuel Sampling and Reporting

Arizona Legislature passed S.B. 1427 in 1998 which requires that beginning on January 1, 1999 through July 1, 1999, gasoline refiners and other suppliers of diesel fuel that is supplied or sold as a final product for the fueling of diesel vehicles within Area A report to the Director of the Arizona Department of Weights and Measures on the quantity and quality of diesel fuel shipped to Maricopa County during the preceding month. The report is required to include by batch, the sulfur content, aromatic hydrocarbon content, cetane number, specific gravity, American Petroleum Institute gravity, and the temperatures at which ten percent, fifty percent, and ninety percent of the diesel fuel has boiled off during distillation. The report is due on the fifteen day of each month.

In addition, the report must contain a certification of truthfulness and accuracy of the data submitted. By October 1, 1999, the Director of the Arizona Department of Weights and Measures is required to report the results of the six month sampling and reporting period to the Director of the Arizona Department of Environmental Quality, Governor, Speaker of the Arizona House of Representatives and President of the Arizona Senate (Section 40 of S.B. 1427).

8. Alternative Fuel Vehicles for Local Governments and School Districts, and Federal Government/Low Emission Vehicle Requirements

Arizona Legislature passed S.B. 1427 in 1998 which establishes additional requirements for vehicles owned by cities and towns, and counties in Area A. These provisions also apply to bus fleets operated by the cities, towns, and Regional Public Transportation Authority; school districts with a membership of more than 3,000 located within or which has bus routes running within Area A; the issuance of tax credits or subtractions for alternative fuel vehicles authorized by state law; and the federal government fleets. At a minimum, the alternative fuel vehicles are required to comply with any one of the following:

1. The U.S. Environmental Protection Agency Standards for Low Emission Vehicles pursuant to 40 Code of Federal Regulations Section 88.104-94 or 88.105-94.

2. The vehicle engine is certified by the engine modifier to meet the Addendum to Memorandum 1-A of the U.S. Environmental Protection Agency, as printed in the Federal Register, Volume 62, Number 207, October 27, 1997, pages 55635-55637.

3. The vehicle engine is the subject of a waiver for that specific engine application from the U.S. Environmental Protection Agency's Addendum to Memorandum 1-A requirements and that waiver is documented to the reasonable satisfaction of the Department of Commerce Energy Office.

The cities, counties, and school districts which have been included within the boundaries of Area A are required to comply with the provisions of A.R.S. 9-500.04 C. through G., 15-349, and 49-474.01 C. through E. relating to the conversion of fleet vehicles to alternative fuels according to the following schedule:

1. At least 18 percent of the total fleet by December 31, 2000.

2. At least 25 percent of the total fleet by December 31, 2001.

3. At least 50 percent of the total fleet by December 31, 2003.

4. At least 75 percent of the total fleet by December 31, 2005.

These provisions do not apply to cities and towns with a population of less than 7,500 according to the most recent U.S. decennial census and that lie outside Area A. Also, S.B. 1427 authorizes that monies in Arizona Clean Air Fund may be used for a public awareness program for alternative fuels. An accounting of the Arizona Clean Air Fund expenditures are to be included in the annual report to the Legislature on the fund activities (A.R.S. 9-500.04, 15-349, 41-1516, 49-474.01, 49-573 and Section 42 of S.B. 1427).

In 1999, the Arizona Legislature passed H.B. 2254 which requires an operator of a United States government owned vehicle fleet based primarily in this state that does not comply with the statutory timetable and percentage goals for alternative fuel vehicles to file a report with the Arizona Department of Commerce Energy Office, the House of Representatives Federal Mandates and States' Rights and Environment Committees, or their successor committees, and the Senate Government and Environmental Stewardship and Commerce, Agriculture and Natural Resources Committees, or their successor committees. The report will include the total number of vehicles in the operator's fleet by class and the percentage that is capable of operating on alternative fuel. The operator is required to file the report on or before October 1, 1999, April 1, 2000 and October 1, 2000.

An operator of a fleet that does not file a report as prescribed will not operate a vehicle in Area A as defined in A.R.S. 49-541 ninety days after the reporting date. Once an operator of a fleet files the report, this subsection will not apply (A.R.S. 49-573 D. and E.).

9. Alternative Fuel Vehicles for State Government/Low Emission Vehicle Requirements

Arizona Legislature passed S.B. 1269 in 1998 which requires the Director of the Arizona Department of Administration (DOA) to appoint a State Motor Vehicle Fleet Alternative Fuel Coordinator to develop, implement, document, monitor and modify as necessary a Statewide Alternative Fuels Plan in consultation with all state agencies and departments that are subject to the alternative fuel requirements. Specifically, the plan is to include the agencies currently exempt from the state fleet alternative fuel conversion requirements (Arizona Department of Public Safety, Arizona Department of Corrections, Universities and Community Colleges, and Arizona State School for the Deaf and the Blind). These agencies are to submit their programs for alternative fuels and fuel economy to the Coordinator.

The Coordinator is required to approve all vehicle acquisitions by the state and assume several functions of the Director relating to the acquisition of alternative vehicle fuel (AFVs) refueling facilities, the development of the vehicle fleet energy conservation plan and the identification of the appropriate AFVs for each state agency. The legislation requires an increasing percentage of new state vehicles weighing less than 8,500 pounds purchased for operation in Maricopa and Pima counties, including all of the agencies exempted from the DOA fleet, to be capable of operating on alternative fuels. The schedule is as follows:

- 10 percent of all 1997 model years purchased
- 15 percent of all 1998 model years purchased
- 25 percent of all 1999 model years purchased
- 50 percent of all 2000 model years purchased
- 75 percent of all 2001 model years purchased

In addition, S.B. 1269 requires an increasing percentage of the AFVs weighing less than 8,500 pounds purchased for operation in Maricopa County to comply with the Environmental Protection Agency's standards for Low Emission Vehicles (LEVs) starting in model year 2000. The schedule is as follows:

- 40 percent of model year 2000 AFVs
- 50 percent of model year 2001 AFVs
- 60 percent of model year 2002 AFVs
- 70 percent of model year 2003 AFVs

Other provisions in S.B. 1269 include a deadline of December 31, 1999, for the Arizona Department of Administration to convert 40 percent of the DOA administered state fleet to alternative fuels. Fire suppression vehicles are excluded from the alternative fuel conversion requirements for the state fleet. For state agencies that use alcohol fueled AFVs, it must be demonstrated to the Director of DOA that the fuel for the vehicle is available within a ten mile radius of the primary home base for that vehicle.

Regarding reporting requirements, all state agencies, including those exempted from the state fleet, are required to report annually to the Director of DOA on vehicle

costs, operation, maintenance, mileage and any other information that the Director deems necessary for the submittal of the annual report to the Legislature and the Governor. The Director of the DOA is required to submit an annual report to the Legislature, the Governor and each of these branches budget offices that provides information about the state fleet including detailed information regarding the conversion of the fleet to alternative fuels (A.R.S. 28-5805 and 41-803).

10. Alternative Fuel Vehicle and Equipment Tax Incentives/Low Emission Vehicle Requirements

Arizona Legislature passed H.B. 2237 in 1997 which extends the existing individual and corporate tax credit for the purchase or conversion of an alternative fuel vehicle or the purchase of an alternative fuel delivery system through 2001 and expands the tax credit to include minimum three year leases of an alternative fuel vehicle. It also increases the tax credit to $1,000 from $500 in 1997 and $250 in 1998 (A.R.S. 43-1086).

In 1998, the Arizona Legislature passed S.B. 1269 which provides a variety of tax incentives and financial assistance to encourage the use of alternative fuel vehicles (AFVs). The definition of alternative fuel is expanded to included an emulsion of water-phased hydrocarbon fuel that contains at least 20 percent water and that complies with one of three specified EPA standards and in combination of at least 70 percent alternative fuel and not more than 30 percent petroleum-based fuel for an engine that meets an equivalent of the EPA Low Emission Vehicle (LEV) standard.

The following tax incentives are provided in the bill:

1. AFV's and alternative fuel conversion equipment are exempt from the retail and personal property rental classifications and use taxation.

2. Corporate and individual income taxpayers are authorized to take both the AFV and equipment subtraction and credits for AFVs and equipment, as well as obtain a grant from the Arizona Clean Air Fund.

3. Individual and corporate income tax credits for tax years 1998 through 2001 are increased from $1,000 to $2,000 for the purchase, lease, or conversion of a dedicated AFV or purchase of a dedicated alternative fuel delivery system. The maximum credit for a bi-fueled AFV remains at $1,000.

4. Nonrefundable individual and corporate income tax credits for tax years 1998 through 2001 are authorized for expenses associated with constructing or operating an alternative fuel fueling station. The amount of the credit for a public-accessible station or a station dispensing renewable fuel is 50 percent of the costs incurred, up to $400,000. For other stations, the credit is the lesser of 25 percent of the costs incurred or $200,000.

5. The maximum corporate income tax subtraction for the purchase of a new AFV is increased from $5,000 to $10,000. This becomes effective for taxable years after December 31, 1997.

6. The maximum corporation income tax subtraction for the conversion to an AFV is increased from $3,000 to $5,000. This becomes effective for taxable years after December 31, 1997.

7. Nonrefundable individual and corporate tax credits are authorized for the purchase or lease (for at least three years) of original equipment manufactured AFVs. For tax years 1999 through 2011, the amount of credit ranges from 50 to 90 percent of the incremental cost above the cost of a conventionally fueled vehicle, based on the emissions levels of the AFV. For tax years 2012 through 2019, the amount of credit ranges from 25 to 75 percent of the incremental cost above the cost of a conventionally fueled vehicle, based on the emissions levels of the AFV.

8. Grants from the Arizona Clean Air Fund (ACAF) are made available for AFVs purchased or leased and the amount of the grant is increased from $1,000 to $2,000.

Passed by the Arizona Legislature in 1998, S.B. 1427 tax credits or subtractions for alternative fuel vehicles authorized by state law will only be allowed if the vehicle meets one of the following:

1. The vehicle is certified to meet at a minimum the U.S. Environmental Protection Agency Low Emission Vehicle Standard pursuant to 40 Code of Federal Regulations Section 88.104-94 or 88.105-94.

2. The vehicle meets the requirements of the Addendum to Memorandum 1-A, issued by the U.S. Environmental Protection Agency, as printed in the Federal Register, Volume 62, Number 207, October 27, 1997, pages 55635-55637.

3. The vehicle is the subject of a waiver for that specific engine application from the U.S. Environmental Protection Agency's Memorandum 1-A requirements and that waiver is documented to the reasonable satisfaction of the Department of Commerce Energy Office (A.R.S. 1-215, 41-1516, 42-5061, 42-5071, 42-5159, 43-1026, 43-1086, 43-1128.01, and 43-1174).

11. <u>Public Awareness Program for Alternative Fuels</u>

Arizona Legislature passed S.B. 1427 in 1998 which allows monies from the State Clean Air Fund to be used to conduct public awareness programs for alternative fuels (A.R.S. 41-1516).

12. Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program

Maricopa County is in the process of revising its Trip Reduction Ordinance to include voluntary vehicle trade-outs. The proposed revisions will allow trade-outs that have been completed after October 16, 1996 to be used to achieve the emission reduction goals established under the ordinance. This measure is assumed to be a mechanism for implementation of the Trip Reduction Program goals.

13. Mass Transit Alternatives

Many cities are pursuing a variety of mass transit alternatives. These include feasibility studies to evaluate the need and general location for high-capacity transit corridors throughout the metropolitan area, efforts to obtain Federal assistance for high-capacity rail transit and plans for local taxes to support expanded transit service.

14. Special Event Controls-Required Implementation from List of Approved Strategies

Several cities are evaluating options for managing parking and traffic associated with special events. An important aspect is the linkage of reducing vehicular congestion with alternative modes of travel.

15. Off Road Vehicle and Engine Standards

Arizona Legislature passed H.B. 2237 in 1997 which requires the Arizona Department of Environmental Quality to adopt rules for air pollution emission standards for off-road vehicles and engines marketed in the State beginning with the 1999 model year. The standards may include the following categories:

a. Heavy duty diesel vehicles rated at 175-750 horsepower.
b. Small utility and lawn and garden equipment engines rated at less than 25 horsepower.
c. Recreational vehicles rated at less than 25 horsepower.
d. Specialty engines and go-carts rated at greater than 25 horsepower.
e. Off-road motorcycles and all terrain vehicles.

The Arizona Department of Environmental Quality is also required to adopt air pollution emission standards for golf cart engines in Maricopa County (A.R.S. 49-542.04).

16. Encourage the Use of Temporary Electrical Power Lines Rather than Portable Generators at Construction Sites

A number of local governments are taking steps to begin implementing this measures. Efforts include providing information brochures to developers, adjusting electrical codes, identifying reusable equipment, and conducting pilot projects.

17. Public Information Program on Wood Stoves and Wood Heat

Maricopa County, which was identified as the suggested implementing agency, is continuing the implementation of the public information and education program to inform and educate citizens about issues pertaining to woodburning. The program includes two hotlines, fax notifications of high air pollution advisories, information sheets, and newspaper articles. Maricopa County also indicated that it will post High Pollution Advisories on the Maricopa County Environmental Services Home Page and distribute educational brochures to promote clean-burning fireplaces. This measure is assumed to be a mechanism for implementing the Residential Woodburning Restriction Ordinance which is reflected in the base emission inventories.

18. Encourage Limitations on Vehicle Idling

The Regional Public Transportation Authority (RPTA) updated its engine idling policy in June 1996. The RPTA will continue to work with member jurisdictions to promote environmentally sensitive transit operations practices and policies. Promoting vehicle idling limitations and other environmentally sensitive transit operations practices and policies are included within the ongoing annual budgets of the RPTA and its member jurisdictions.

19. Voluntary No-Drive Days

Arizona Legislature passed S.B. 1427 in 1998 which changes the Voluntary No Drive Days Program from a winter-time program to a year round program. Maricopa and Pima Counties are required to implement the program (A.R.S. 49-506).

20. Analysis of Intersource Credit Trading and Banking Program

Arizona Legislature passed S.B. 1427 in 1998 which appropriated $75,000 from the State General Fund to the Arizona Department of Environmental Quality for fiscal year 1998-1999 for the analysis of the environmental and economic feasibility of an intersource credit trading and banking program in Arizona for emission sources within the same nonattainment area, maintenance area, or modeling domain. In order to demonstrate environmental feasibility within a nonattainment area, maintenance area, or modeling domain, all emissions trading actions must result in overall reductions in total emissions within the same nonattainment area, maintenance area, or modeling domain. The general fund appropriation must be matched by an equal expenditure of monies from gifts, grants, or donations or the general fund monies revert to the State General Fund by the end of the fiscal year (Section 39 of S.B. 1427).

21. Remote Sensing

In 2000, the Arizona Legislature passed H.B. 2104 which repealed the Random On-Road Testing Requirements (Remote Sensing) for the Vehicle Emissions Inspection Program. The legislation also required the Director of the Arizona Department of Environmental Quality to conduct a research study to evaluate the

feasibility and effectiveness of methods to improve the monitoring of the performance of in-use emissions control systems using alternative technologies not currently utilized in Area A or Area B. The study will address alternative testing technologies, which includes improvements in remote sensing, utilization of on-board diagnostics and other alternatives for identifying high emitting vehicles and facilitating their repair. The study will also address methods to improve motorist compliance with the current vehicle emissions inspection program.

22. Expansion of Public Transportation Programs

Many individual cities, as well as regional agencies, have ongoing public transportation programs. Most recently a number of local jurisdictions are considering sales tax sources to provide funding for service expansions.

23. Employer Rideshare Program Incentives

Many local governments are providing incentives for employees to participate in the rideshare program. These employers have designated Rideshare Coordinators and are promoting their incentives programs through public awareness campaigns, employee matching services, and new employee information. Incentives include preferential parking for carpools, bus subsidies, emergency rides home, and weekly or monthly prize drawings. Some jurisdictions have also included telecommuting and alternate work schedule options in their Trip Reduction Plans. Funding for these programs are usually allocated through the annual budget process. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

24. Preferential Parking for Carpools and Vanpools

Many cities and towns are providing preferential parking spaces for carpools and vanpools as part of their Trip Reduction Plans. Funding for this measure has been provided through each jurisdiction's individual Trip Reduction Program budget in conjunction with other various local departments such as Transportation or Public Works. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

25. Reduce Traffic Congestion at Major Intersections

In addition to congestion reductions from traffic signal coordination and intelligent transportation systems (covered under those measures), many local governments have identified other ways of reducing traffic congestion at major intersections. These methods include bus pullouts, additional turn lanes, parking access controls, and median treatments.

26. Site-Specific Transportation Control Measures

This measure is closely related to Reduce Traffic at Major Intersections. Activities being pursued by jurisdictions to implement site-specific improvements are generally directed at major intersections, and include turn lanes, parking access controls, and

median work. In addition, under this measure transportation management associations (TMAs) covering 14 different areas were identified. TMAs provide implementation methods for the Trip Reduction Program.

27. Encouragement of Bicycle Travel

Many local governments are pursuing continuing improvements in bicycle information and educational programs. These programs include safety, educational and promotional flyers, posters, brochures and bike events to encourage safe use of bicycles and safe commuting. Also bike plans and a regional bike maps are prepared. This measure is assumed to be an implementing mechanism for the Trip Reduction Program.

28. Development of Bicycle Travel Facilities

A number of cities and towns are continuing programs to improve and expand bicycle facilities. Those programs cover provisions for bike lanes on arterial streets installation of bike racks, showers and lockers, and construction of multi-use paths accessible to bikes. This measure is assumed to be an implementing mechanism for the Trip Reduction Program.

29. Alternative Work Schedules

Many local governments are encouraging alternative work schedules. Strategies, such as 4-day, 10-hour work weeks, 9-day, 80-hour work plans, staggered work schedules, and Flextime have been successfully implemented by many of the local governments. Some jurisdictions have set goals to incorporate up to 85 percent of their employees into some type of alternative work schedule. This measure is usually funded through individual departmental budgets. This measure is assumed to be an implementation mechanism for the Trip Reduction Program. Also, work schedule adjustments as a result of the Governor's authority to declare an air pollution emergency are included in the base case air quality inventories.

30. Land Use/Development Alternatives

Many local governments are encouraging land use patterns that support public transit and other alternative modes of travels. General plans outline goals, objectives and policies to promote a balanced transportation system. Development master plans strive to reduce dependency on automobiles, increase densities, provide for shorter trips, and consider alternative modes of travel. Also, plans and fee structures which encourage development in-fill have been adopted. Land use patterns and plans are reflected in the socioeconomic databases used in the air quality/transportation modeling process.

31. Encouragement of Pedestrian Travel

This measure is closely related to Land Use/Development Alternatives. Activities pursued by local governments to encourage pedestrian travel are included in land use/development planning. Efforts to increase densities, shorten trip lengths, and

promote alternative transportation modes all encourage pedestrian travel. Land use patterns and plans are reflected in the socioeconomic databases used in the air quality/transportation modeling process.

32. Restrictions on the Use of Gasoline-Powered Blowers for Landscaping Maintenance

Many local governments are reducing the use of gasoline powered blowers. These governments will reduce the use of blowers by restricting them during certain hours and replacing them with vacuums and brooms.

33. Alternative Fuels for Fleets

The RPTA and its member agencies have begun an aggressive campaign to purchase, convert, and replace older, higher polluting diesel buses. Additional commitments include the delivery of 180 low floor, forty foot buses which operate solely on liquefied natural gas.

This measure represents an ordinance. Funding comes from the RPTA and member agency capital improvement budgets. Incremental costs for alternative fuel vehicles may be reimbursed by the Arizona Department of Commerce Energy Office through the Clean Air Fund.

34. Areawide Public Awareness Programs

The RPTA is carrying out an area-wide public awareness program. The program is targeted to employers and employees affected by the Maricopa County Trip Reduction Program (TRP), employers not affected by TRP and the general public. The awareness program includes paid radio and television advertising for eight weeks during the winter pollution season, promotional mailings to TRP participants up to four times per year, workshops to increase participation in Clean Air Campaign events, and events to increase awareness of alternative modes of transportation and work schedules. High Pollution Advisory faxes are also sent to over 700 Valley employers during the winter and summer high pollution season when it is "forecast" to potentially exceed federal air quality standards. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

35. Encouragement of Vanpooling

The RPTA is assisting employers in the formation of new vanpools through presentations to employers, providing materials to all interested parties, conducting vanpool group formation meetings, and providing vanpool matching. The RPTA staff also assist employers in promoting vanpools and will encourage employers to provide subsidies to their employees. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

36. Trip Reduction Program

The RPTA is under contract with Maricopa County to provide services to employers affected in the Trip Reduction Program under Arizona Revised Statutes 49-581 through 49-593. The RPTA provides formal training, one-on-one assistance, facilitates Transportation Management Associations and provides informational materials to over 1,250 employers in Maricopa County with 50 or more employees at a site. The Trip Reduction Program affects approximately 580,000 employees and students at 2,500 sites county-wide. The benefits of the Trip Reduction Program are reflected in the base case modeling.

37. Park and Ride Lots

The RPTA is continuing to work with member jurisdictions, private entities, and employers in the development, design, and implementation of new Park and Ride facilities in locations where they are needed. Park and Ride activities are in the on-going annual budgets of the RPTA and its member jurisdictions. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

38. Encouragement of Telecommuting, Teleworking, and Teleconferencing

The RPTA is carrying out a regional effort to increase telecommuting in the area. The RPTA provides training classes, on-site assistance, and an Internet web-site to valley employers interested in implementing telecommuting programs. This effort is on-going and is funded as part of the budget for the Regional Rideshare Program. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

39. Promotion of High Occupancy Vehicle (HOV) Lanes and By-Pass Ramps

The regional effort to promote HOV lanes is incorporated into the Maricopa County Trip Reduction Program and the Clean Air Campaign. As part of the regional effort to promote HOV lanes and by-pass ramps, the RPTA has made a commitment to coordinate Employer Transportation Fairs, periodic Transportation Management Association meetings, and mailings to employers prior to new HOV lane segment openings. This measure is assumed to be an implementation mechanism for the Trip Reduction Program.

APPENDIX H

MAG 1978 OZONE PLAN
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENT AND SCHEDULES

List of Exhibits:

1. Nonattainment Area Plan for Carbon Monoxide and Photochemical Oxidants, Maricopa County Urban Planning Area, 1978, prepared by Bureau of Air Quality Control, Chapter Four: Selected Control Strategies.

2. Nonattainment Area Plan for Carbon Monoxide and Photochemical Oxidants, Maricopa County Urban Planning Area, 1978, prepared by Bureau of Air Quality Control, Chapter Five: Impact of Selected Control Strategies.

APPENDIX H, Exhibit 1:

Nonattainment Area Plan for Carbon Monoxide and Photochemical Oxidants, Maricopa County Urban Planning Area, 1978, prepared by Bureau of Air Quality Control, Chapter Four: Selected Control Strategies.

4.0 Selected Control Strategies

The nonattainment area reanalysis, which is discussed in Section 3.0 determined that three mandatory control strategies are necessary in order to attain the National Ambient Air Quality Standards required by the Clean Air Act Amendments of 1977. Implementation of these strategies will provide for attainment of CO standards in 1982 and O_x standards in 1985, and will maintain these standards through the year 2000. In addition, two voluntary control strategies were recommended on the basis that they would exert a positive effect on air quality improvement even though the magnitude of their contribution could not be accurately quantified. Accordingly, no emission reduction credit was assumed for the implementation of these voluntary strategies.

The technical analysis included the basic assumption that the regional development and transportation plan, adopted by the Maricopa Association of Governments Regional Council on January 4, 1978, would be adhered to in the future. This plan includes the elements of improved traffic systems (including freeways), mass transit improvements, and regional development planning. The population level used was that projected by the Department of Economic Security (the single responsible agency designated by the Governor of the State of Arizona through executive order 77-5 dated August 3, 1977 (see appendix B): approximately 2.3 million people in Maricopa County in the year 2000. The same population projections and employment distributions are used in all planning activities including 208, 201, and HUD 701 programs.

The Phoenix AQMA task force, at its final meeting on January 20, 1978, approved the incorporation of these strategies into the nonattainment area plan.

4.1 Descriptive and Supporting Information

Mandatory Strategies:

1. INSPECTION/MAINTENANCE (I/M)

To be continued in accordance with existing statutory requirements. The emissions inspection standards should be adjusted annually, or as necessary, to attain the CO standards by 1982 and to assist in the attainment of the O_x standards by 1985.

Impact (30% stringency factor)

CO reduction in 1982: 41%; O_x reduction in 1982: 9%

Program Description

All vehicles less than 14 years of age, except golf carts and vehicles less than 90cc, are required to undergo an annual inspection. Vehicles must achieve the idle test exhaust emissions standard for that model year or obtain a waiver in order to be registered in Maricopa County.

Estimated Cost

$7-$10 million/year; includes inspection fee and average cost of repair for failed vehicles.

Implementation

Ongoing program administered by the Arizona Department of Health Services by authority of Arizona House Bill 2080-A.

2. VAPOR RECOVERY - STAGE I

To be implemented in accordance with the necessary rules and regulations.

Impact

O_x reduction in 1982: 10%; no impact on CO.

Program Description

Controls vapor emissions from fuel transfer and storage at bulk terminals, service stations and solvent operations.

Estimated Cost

$6.0 million; or approximately $1.50/year/vehicle over a four year period.

Implementation

Régulations enacted by the Maricopa County Board of Supervisors and enforced by Maricopa County.

3. VAPOR RECOVERY - STAGE II

To be implemented by December 31, 1982, provided a prior period of determination establishes the actual need and feasibility.

Impact

O_x reduction in 1982: 8%; no impact on CO.

Program Description

Controls vapor emissions from transfer and storage of fuel at the gasoline pump.

Estimated Cost

$3.6 million; or approximately $1.00/year/vehicle over a four year period.

Implementation

Same as Stage I.

Voluntary Strategies:

1. CARPOOLING

To be implemented on a voluntary basis and administered with the objective of increasing automobile occupancy.

Program Description

Voluntary programs involving computerized matching services and publicity campaigns aimed at increasing work trip occupancy.

Cost

Project Pool-It funded $91,630 in FY 1979; in addition local sponsors donate facilities and services.

Implementation

Ongoing program administered by Project Pool-It under contract to the Maricopa Association of Governments.

2. MODIFIED WORK SCHEDULES

To be implemented on a voluntary basis with emphasis on the winter period of maximum temperature inversions.

Program Description

Voluntary program encouraging employers' adoption of staggered or flexible work hours within the period 6:30-7:30 a.m. and 3:00-4:00 p.m., October through February, to decrease congestion and lower peak period CO emissions trapped at sunset.

Cost

Local sponsors presently donate support and publicity.

Implementation

Necessary implementation to be accomplished through the local Chamber of Commerce and the cooperation of the business community.

4.2 Implementation of Control Strategies

Air Pollution Control responsibility in Arizona is divided between the State and the counties. Arizona statutes assign to the State all mobile sources and stationary sources capable of emitting more than 75 tons per day of pollutants, and all remaining stationary sources to the counties.

The authority to implement the mandatory recommended control strategies has already been legislated and is a matter only of appropriate State or Maricopa County action to effect the necessary rules and regulations.

The implementation of the voluntary control strategies becomes the responsibility of the nonattainment area community and consequently calls into play the considered efforts of the State, county and municipalitites as well as the business segment and public interest groups.

Federal agencies also will continue an important role in the implementation of the plan. As in the past, the U.S. Environmental Protection Agency must continue to provide technical assistance. Important oxidant control issues, such as long range transport and the precise role of nitrogen oxides in oxidant formation, will need further research and classification.

Federal agencies will also be needed to provide financial assistance for further planning, monitoring activities and the annual plan review as well as the incorporation of more current emission factors as may become evident through AP-42 and other EPA directives. It is assumed under the Clean Air Act Amendments of 1977 that funds for planning and carrying out air pollution control programs will continue to be granted to Arizona.

4.2.1 Mandatory Control Strategies

(1) Inspection/Maintenance

Motor vehicle manufacturers are required by Federal law to reduce the emission or air pollutants through the use of stringent emission control technology. However, the cornerstone of a successful campaign against automobile related air pollution must involve periodic inspection and maintenance to insure that emission levels from automobiles are maintained within acceptable limits. Without vehicular emissions inspection, clean air in metropolitan areas is an elusive goal.

In Arizona, the legislative intent for the vehicular emissions inspection program was set forth in 1969 with the "Arizona Clean Air Act" (Chapter 14, Article 1 of the Arizona Revised Statutes) which requires the adoption

of rules and regulations setting forth standards controlling the release of air contaminants from motor vehicles and combustion engines. This was followed by legislation in 1972 which required that all State, county, city, town, and school district light-duty motor vehicles operated in Maricopa and Pima counties be inspected for emissions control and that any vehicle failing to meet these standards be adjusted or repaired to bring it into compliance with the standards. The 1972 law also required the submission of a report to the Legislature with recommendations concerning the implementation of a mandatory inspection plan for motor vehicles in Maricopa and Pima counties by July 1, 1975.

A further commitment to vehicular emissions inspection and maintenance was made in 1973 in the State of Arizona Air Pollution Control Implementation Plan when Arizona proposed vehicular emissions inspection as one of its transportation control strategies in order to meet the ambient air quality standards in Phoenix and Tucson. The Legislature responded in 1974 by enacting legislation which implemented a mandatory vehicular emissions inspection program in counties with a population in excess of 350,000 commencing January 1, 1976.

Implementation of the Inspection/Maintenance program began on January 2, 1976, under a five-year contract with a private operator. Amendments to the legislation in 1975 had delayed mandatory maintenance until January 1, 1977, and therefore the program operated for the first year with a voluntary requirement for maintenance of those vehicles failing the test. The average emissions levels for the total vehicle population tested each month for the years 1976 and 1977 are charted in Figure 4.2-1 for carbon monoxide and in Figure 4.2-2 for hydrocarbons. The dramatic reductions in 1977 as compared to 1976, of 25% in CO emissions and 41% in HC emissions, can be attributed in great measure to the mandatory maintenance requirements.

Inspection of vehicles was confined to Maricopa and Pima counties only since the majority of the vehicular population was located in these two areas, and since violations of auto-related air pollutant standards occurred only in these two counties within Arizona.

The inspection/maintenance program had originally been designed to use the loaded mode test procedure. Accordingly, dynamometers were installed in the inspection lanes.

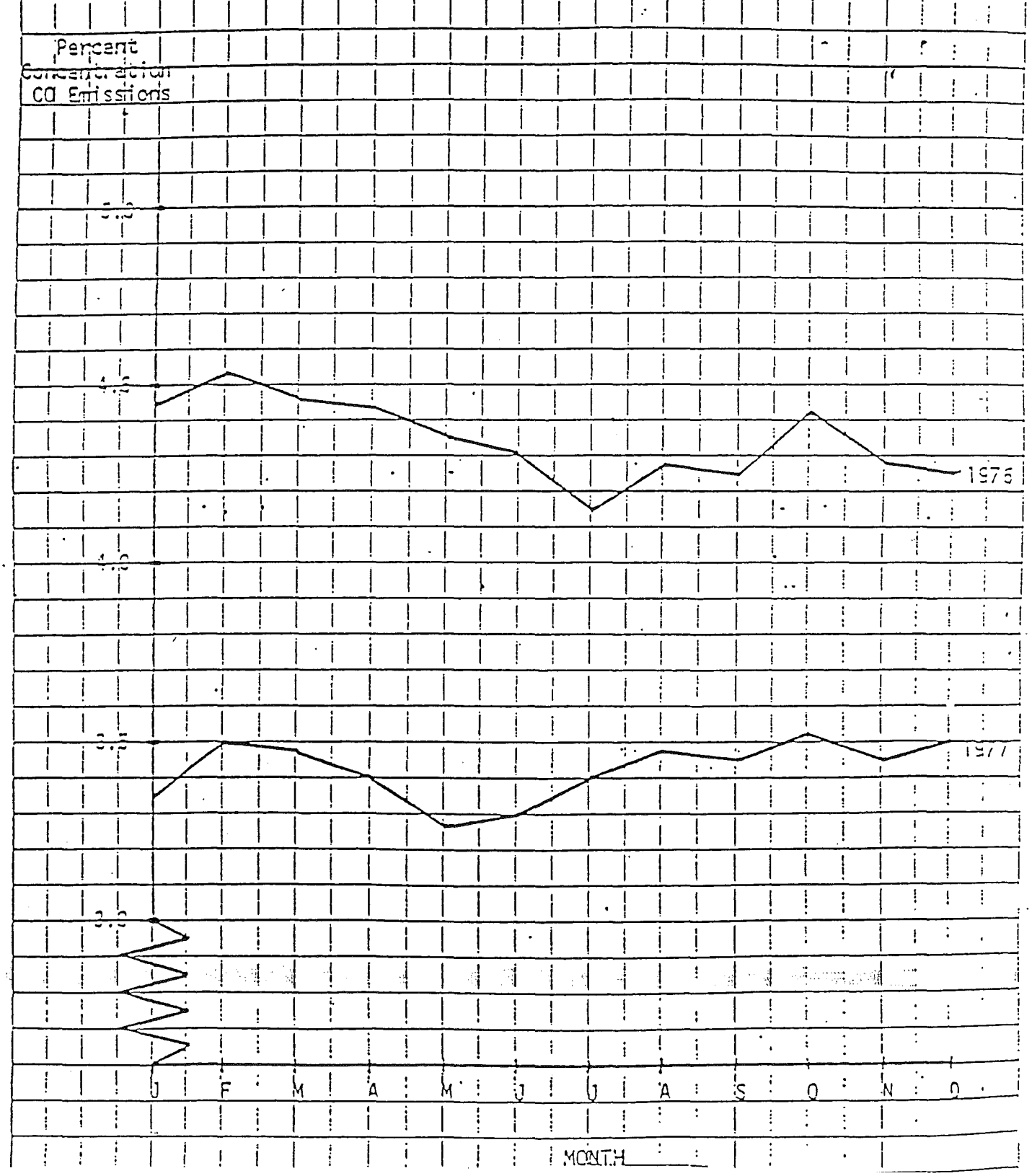
AVERAGE EMISSION LEVELS OF CO

OF THE

TOTAL VEHICLE POPULATION TESTED EACH MONTH

IN

1976 AND 1977



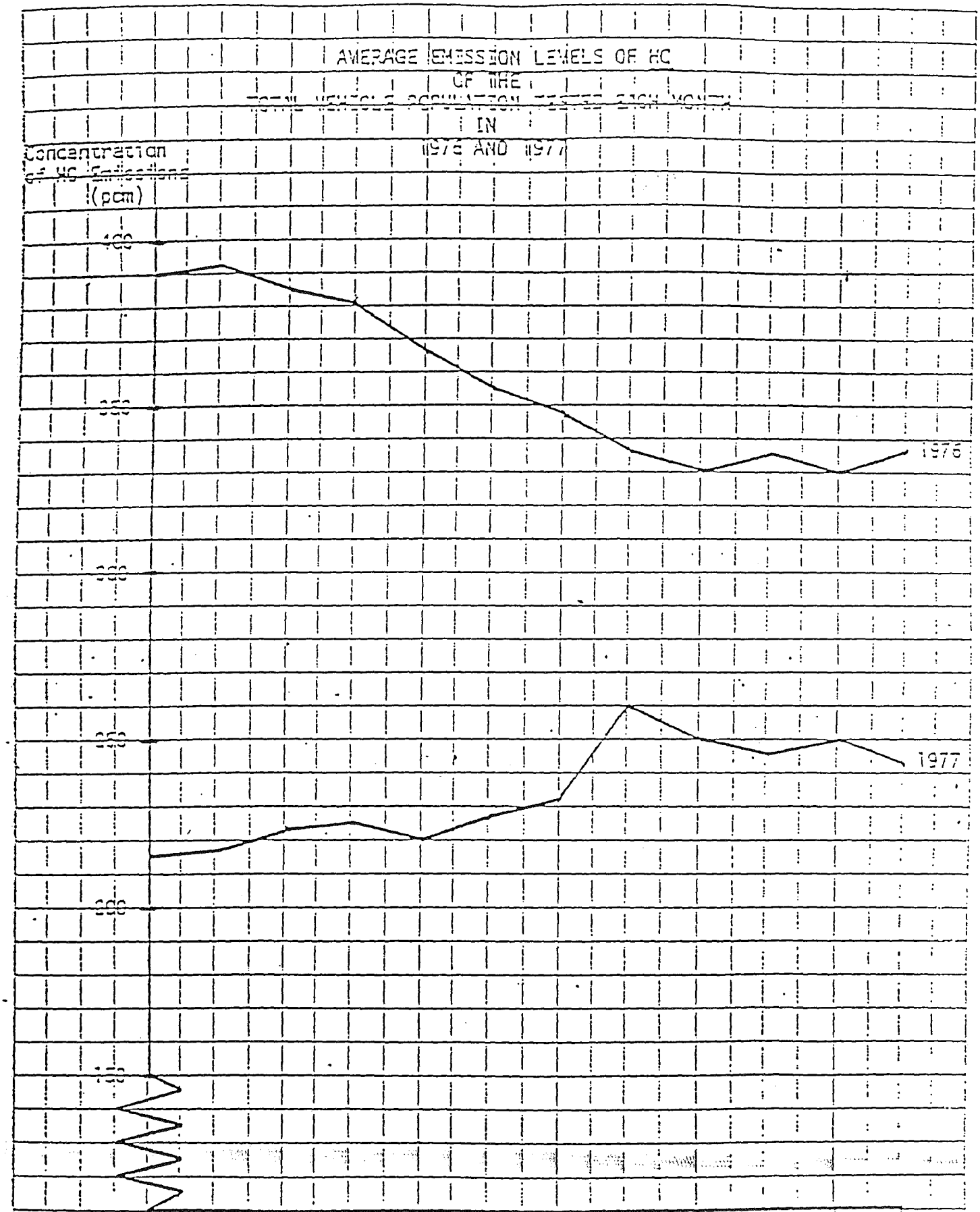

AVERAGE EMISSION LEVELS OF HC
OF THE
TOTAL VEHICLE POPULATION TESTED EACH MONTH
IN
1976 AND 1977
Concentration of HC Emissions (ppm)
400
300
200
100
1976
1977
J F M A M J J A S O N D
MONTH

FIGURE A 2-2

In 1976, however, the Legislature revised the law to require an idle test only. The three-mode test has been continued voluntary in the interests of diagnostic information for vehicles failing the idle test standards. The official Arizona Vehicular Emissions Inspection network is comprised of twelve fixed inspection stations with 36 test lanes and one mobile test unit. There are six multi-lane stations in Tucson. Single-lane stations are located in Wickenburg, Buckeye and Ajo. The mobile test unit services Gila Bend in Maricopa County and Green Valley in Pima County.

In 1977, 948,401 vehicles were tested in the contractor-operated network of which 140,524 were free re-tests. Registered owners and licensed automobile dealers with 25 or more vehicles may inspect their own vehicles provided they meet the requirements specified in the Administrative Rules and Regulations. Three hundred twenty-two (322) fleet station permits are currently in effect. These fleet emission inspection stations have performed over one million inspections of vehicles since the beginning of 1977. About 93% of the inspections were performed by licensed dealers on resale vehicles prior to sale. The remaining 7% of the inspections were performed by fleets for annual registration.

There are approximately 16,000 governmental vehicles that must be inspected every year. These vehicles are inspected at fleet stations operated by the governmental entity or at either the Phoenix or Tucson stations operated by the Bureau of Vehicular Emissions Inspection or on site at the governmental entity using the Bureau operated mobile test unit. In the first six months of 1977 Bureau personnel inspected 2327 governmental vehicles. Federal agencies inspected their vehicles at their own fleet stations which must meet standards established by the Bureau.

Section 36-1772 of the Arizona Revised Statutes provides for the issue of a certificate of waiver to vehicles which have received specified repairs and that fail reinspection. Accomplishment of the repairs is determined by certification from the vehicle owner or mechanic on the reverse side of the Vehicle Inspection Report at the time of reinspection.

In order to minimize abuse of the waiver procedure, Bureau personnel make spot checks of vehicles failing reinspection. These spot checks also provide an evaluation of the repair performed and diagnostic information which is used in the training and education of individuals and the repair industry. Further, the engine adjustments that are made as a result of the diagnosis will lower emissions and demonstrate to the vehicle owner the benefits of a properly tuned vehicle.

Spot checks were made on 1190 vehicles which were voluntarily brought to the Bureau facilities in Phoenix and Tucson. Additional vehicles received follow-up reinspection failure diagnosis as a result of referrals by the contractor-operator. When it appeared no effort had been made to repair or adjust the vehicle prior to reinspection, Bureau personnel withheld the waiver. Seventy-seven waivers were withheld during 1977. Seventy-two percent of the vehicles that failed reinspection and received the follow-up diagnosis were brought into compliance with the State idle standards after making all adjustments to manufacturer's specifications. Those vehicles that could not be brought into compliance with State emission standards, within the cost limitation, generally had internal carburation malfunctions or low compression.

Diagnoses made by Bureau personnel showed that all vehicles so treated reduced the average HC idle emissions of those vehicles by 52% and the average CO idle emissions by 68%. The results of the waiver surveillance activity suggest that the failure rate on reinspection could be less than 8%. This means that over 98% of the vehicles tested are capable of compliance with the current standards at a reasonable cost and that the program is capable of obtaining a greater reduction in the average emissions of the vehicles tested. The average cost of repairs of $30.03 to those vehicles failing reinspection would not have been increased by setting engine parameters to manufacturer's specifications during the initail corrective repairs.

The Bureau of Vehicular Emissions Inspection maintains quality assurance surveillance over the emissions testing equipment at the Arizona Vehicular Inspection Stations operated by the contractor. Quality assurance of emission analyzers used by both the fleet emissions inspection stations and the services and repair industry that are voluntarily registered with the Bureau is also maintained. The Bureau maintains standard gases and a master gas analyzer which provides a reference for all calibration gases and the working gases.

Inspectors verify the accuracy of the analyzers used in the Arizona Vehicular Inspection Station test lanes once every two weeks, and the mean and standard deviations are determined monthly. The contractor-operator calibrates the equipment once each week. Analyzers not meeting State-specified accuracy requirements are retired from use until they are repaired. Analyzers were consistently found to meet the State tolerances and the mean and standard deviation were well below State tolerances. These checks indicate that the weekly calibration of equipment performed by the contractor-operator is adequate and that the equipment is performing well and within State specifications.

Bureau inspectors determine the qualification of applicants for fleet emissions inspection stations and verify emission analyzer accuracy at least once every 90 days. In addition to an inventory of 25 vehicles or more, fleet emissions inspection station applicants must employ a licensed emissions inspector, have a vehicle repair facility and possess an emissions analyzer that meets State specifications. Surveillance is maintained over 283 fleet emissions inspection stations. In addition to assuring that the emission analyzers are operating properly, Bureau inspectors examine records of inspections and reinspect vehicles that have been certified as meeting emissions requirements.

In order to maintain consistency of emission measurements between State stations and the automotive repair industry, repair facilities may voluntarily register their emission analyzers with the Bureau. These analyzers are checked for accuracy initially upon registration and at least once each 90 days thereafter. Owners of registered emissions analyzers may request additional checks if there is reason to believe the analyzer is not operating properly. As of December 31, 1977, there were 910 registered emission analyzers of which approximately 300 were owned by fleet emissions inspection stations.

An additional service that is performed to assure the consistency of emission measurements is the calibration (determining the composition) of working gases used by analyzer repair facilities in the maintenance and repair of emission analyzers.

The success of any vehicular emissions inspection program is dependent on the quality of repairs performed on the vehicle fleet in the program, either in preparation for the inspection or after the vehicle has failed the emissions test. Bureau personnel are working to upgrade the quality of repairs in several ways. Under a U.S. Environmental Protection Agency grant to the Arizona Department of Education, Bureau personnel have conducted five workshops for vocational education instructors in the public school system. Forty-one instructors attended these workshops which were held under the auspices of Northern Arizona University. A pyramid affect in the training of mechanics in the field is anticipated from this form of instruction.

Monthly training clinics were scheduled in Phoenix and Tucson for both mechanics and the general public. During 1977, 110 evening clinics were held. A special program was begun in November, 1977, aimed at correcting the high number of carburetor maladjustments made by tune-up mechanics. In a two-month period, 138 mechanics were trained in 20 classes averaging 2-1/2 hours each.

Bureau personnel also conducted 47 training sessions for motorcycle mechanics at various motorcycle shops in Phoenix and Tucson.

Contacts were made with individuals and repair facilities concerning specific maintenance problems or procedures. These contacts have been initiated by both Bureau personnel and mechanics or individuals. Personal contacts with the automotive service industry in Maricopa County by Bureau personnel have utilized the Bureau's demonstration and training engine to show the cause for and the correction of emission failures. This demonstration engine also provided hands-on training for the mechanic.

As a follow-up to waiver surveillance, many calls were made to repair facilities to discuss the results of the engine diagnostic investigations. The calls or visits were made to franchised dealers, service stations and independent garages.

Bureau personnel conducted training sessions for the licensing and relicensing of fleet emissions inspectors. At the completion of training, the trainees were examined to determine their qualification for licensing. As of December 31, 1977, there were 751 licensed fleet emissions

inspectors. The syllabus and examinations used were developed by Bureau personnel. Classes were also conducted on visible emissions for licensing emissions inspectors working with diesel fleets. One hundred and four inspectors were certified or recertified to read smoke.

Testing accomplished during the first half of 1977 in the Arizona Vehicular Inspection Program indicates that the repairs or adjustments of vehicles either before the inspection or after failure of the test can result in significant reductions in carbon monoxide and hydrocarbon emissions. Comparison of emissions from vehicles during 1976 with the emissions from vehicles tested during the first half of 1977 shows a 23% reduction in CO emissions at idle and a 39% reduction in idle HC emissions. It was estimated that by the end of 1977 these reductions would result in 250 tons less vehicular related air pollutants being emitted each day in Maricopa and Pima counties. It is also estimated that gasoline consumption can be reduced by 30 to 35 million gallons annually with properly tuned vehicles.

The average cost of repairs to vehicles that failed the emissions test and returned for the free reinspection was $22.60. This is $2.40 less than the statutorily required expenditures for 1967 and older vehicles and is $52.40 less than the statutorily required expenditures for 1968 model year and newer vehicles.

Approximately 16% of the vehicles failed to meet the emission standards on the initial test and about 27% failed the free retest. Adjustments or repairs in accordance with manufacturer's specifications would have reduced the failure rate on retest to less than 8% at no additional cost. With the current standards, more than 98% of all vehicles tested could have been in compliance. Greater reductions in emissions can be accomplished with more stringent standards and higher quality repairs.

On October 12-13, 1978, public hearings were held on revising the I/M standards to increase the stringency factor in keeping with the technical analysis substantiating such increase in order to attain ambient air quality standards as required by the CAAA of 1977. The revised standards are shown on the following Table 4.2-1.

(2) Vapor Recovery - Stage I

Rules and Regulations for Stage I Vapor Recovery were approved by the Maricopa Board of Supervisors on October 2, 1978.

EMISSIONS STANDARDS

(MAXIMUM ALLOWABLE)

TYPE	VEHICLE MODEL YEAR	VEHICLE CURB WEIGHT (POUNDS)	NUMBER OF CYCLINDERS	HIGH CRUISE HC PPM	HIGH CRUISE CO %	LOW CRUISE HC PPM	LOW CRUISE CO %	IDLE MODE HC PPM	IDLE MODE CO %
4-stroke MOTORCYCLES	ALL	ALL	ALL					2,000 1,800	9.0 5.5
4-STROKE	1975 and NEWER	6000 or LESS	4 CYLINDERS OR LESS	100**	0.9**	120	1.0	250	3.3 2.5
4-STROKE	1975 and NEWER	6000 or LESS	MORE THAN 4 CYLINDER	100**	0.9**	120	1.0	250	3.3 2.2
4-STROKE	1975 and NEWER	GREATER THAN 6000	ALL	300	2.5	300	3.0	400 350	7.0 5.0
4-STROKE	1972 - 1974	ALL	4 CYLINDERS OR LESS	380**	3.0**	380	3.50	450	7.2 6.0
4-STROKE	1972 - 1974	ALL	MORE THAN 4 CYLINDERS	300**	2.50**	300	3.0	400	7.0 5.5
4-STROKE	1968 - 1971	ALL	4 CYLINDERS, OR LESS	450**	3.75**	450	4.25	880 800	8.0 6.5
4-STROKE	1968 - 1971	ALL	MORE THAN 4 CYLINDERS	380**	3.00**	380	3.50	750	8.0 6.5
4-STROKE	1967 & OLDER	ALL	4 CYLINDERS OR LESS	1000**	5.00**	1000	6.00	2,000 1,800	9.50 7.5
4-STROKE	1967 & OLDER	ALL	MORE THAN 4 CYLINDERS	700**	4.25**	700	5.25	1,600 1,200	9.5 7.5
2-STROKE	ALL	ALL	ALL	23,000* 18,000*	8.0			18,000*	6.0 5.0

*Measured as propane equivalent gas. All other HC values measured as N-hexane.

**LOW CRUISE STANDARD WILL BE SUBSTITUTED FOR HIGH CRUISE STANDARD AND LOW CRUISE WILL BE ELIMINATED IF THE VEHICLE WEIGHS LESS THAN 2000 POUNDS CURB WEIGHT.

The amendments and additions to Rule 33 of the Maricopa County Air Pollution Control Rules and Regulations to include this strategy can be summarized as follows:

1. Require a vapor gathering system capable of retaining 90 percent by weight of the vapors that would escape to the atmosphere.

2. Apply to facilities loading more than 20,000 gallons per day into any tank truck, trailer, railroad tank car or any other delivery vessel.

3. Also apply to loading facilities of less than 20,000 gallons per day constructed after adoption of the rule.

4. Exempt existing facilities of less than 20,000 gallons per day provided submerged filling is utilized.

5. Apply to owner or operator of any gasoline, petroleum or petroleum distillate loading facility installed or constructed after adoption of the rule.

6. Existing facilities must comply within 18 months after adoption of the rule and submit a final control-compliance plan within 6 months of adoption of the rule.

7. Contracts for facilities modifications must be negotiated and signed within 9 months after adoption of the rule.

8. Construction must start within 14 months after adoption of the rule and be completed within 17 months with final compliance within 18 months.

In addition to loading facilities, rule also controls delivery vessels and storage containers over 250 gallons.

Vapor recovery systems covered by the rule are:

1. A system which processes the displaced vapor and recovers at least 90 percent by weight of the vapors being processed.

2. A vapor handling system which directs at least 90 percent by weight of the displaced vapors to a fuel gas system.

3. Other equipment of an efficiency equal to or greater than 1 or 2 approved by the control officer.

Even with certain built-in exemptions, this control strategy is expected to reduce the current hydrocarbon emissions of 12,041.3 tons per year for this category by 5,737.2 tons per year or 47.6 percent.

(3) Vapor Recovery - Stage II

This control strategy is somewhat more complex in that it involves the link between a bulk storage tank and the gasoline tank of the vehicle. The variety of automobile filler inlet designs frequently prevents the attainment of a tight seal and, in many instances, lowers the efficiency of this system. In addition, costs associated with the installation of the vapor recovery equipment are difficult to quantify for several reasons. First, the breaking of ground to gain access to the gasoline storage tank is often accompanied by or causes the initiation of work unassociated with vapor recovery projects. This work could include the repair of tanks, the addition of new equipment, or breaking ground for additional tanks. Second, station modification cost is very much a function of the number and location of tanks at the station, as well as the type of ground being broken for modifications. For instance, a station whose tanks are located under concrete will have a high cost associated with the installation of the vapor recovery equipment. Third, if ground must be broken for Stage I equipment installation, it is obvious that costs can be minimized by the installation of the piping for the two stages of vapor recovery equipment at once.

Because of the complications and difficulties associated with placing this control strategy into operation, it has been deemed more advisable to allow for a period of determination in order to enable further evaluation of the technology available (presently under EPA study) and the trend of air quality resulting from application of the other control strategies of the plan. This prior period of determination will give consideration to a schedule allowing for implementation of Vapor Recovery-Stage II by December 31, 1982 if proven to be necessary.

4.2.2 Voluntary Control Strategies

(1) Carpooling

The administration of the voluntary carpooling program in the Phoenix Metropolitan Area is carried out by an organization known as Project Pool It. Project Pool It was established in June 1974 immediately following the gasoline shortage, which occured during the winter of 1973 and spring of 1974. The project is an area-wide

carpooling program combining the ride-sharing efforts initiated by business, community organizations and private individuals to ease the gasoline shortage problems. The program has expanded its aims encouraging carpools for economic advantages, reduction of air pollution and traffic congestion, as well as energy conservation. While the project can provide a complete carpooling program, matching people regardless of who their employer is, some companies prefer their own in-house program and Project Pool It provides these companies with any assistance and support they desire.

Project Pool It is an activity of Valley Forward Association, a civic organization active in cultural, environmental and community improvement projects throughout Metropolitan Phoenix. The funding for Project Pool It is supplied through the Maricopa Association of Governments Overall Work Program. A budget of $91,630 has been approved by the MAG Regional Council to operate Project Pool It in FY 1979.

(2) Modified Work Schedules

This voluntary control strategy evolved as a result of the study, "Spatial and Temporal Resolutions of Urban Air Pollution Models for Evaluation of Transportation Strategies in Phoenix, Arizona" conducted by the School of Engineering of Arizona State University under contract to the U.S. Department of Transportation. The analysis conducted as part of this study determined that shifting traffic for each hour to one hour earlier could reduce carbon monoxide readings by as much as 17% in the evenings. Because of these results, the control strategy of modified work schedules was included in the recommendations for the Phoenix air quality maintenance plan as a voluntary measure.

Since this strategy could not be mandated and because voluntary effectiveness would require emphasis on community response, the Phoenix Metropolitan Chamber of Commerce in November of 1977 indicated to the Mayor of Phoenix that the Chamber supported modified work schedules and carpooling and would take an aggressive role in promoting these useful strategies. (See Chamber letter, Appendix 8.)

In March of 1978, the Phoenix Metropolitan Chamber of Commerce met with the Mayor of Phoenix and executives of Maricopa County and the business community in a workshop on car/van pooling and staggered work hours.

At the workshop it was pointed out to the industrial and business community that if they were interested in setting up or updating a carpool program, the Project Pool It staff could supply all of the services and materials needed. Executives and representatives present were also given a fact sheet and application form along with the suggestion that the carpool application form could be incorporated into the employee package along with W-2 forms, health insurance forms, etc.

4.3 Legal Authority and Enforcement

Section 172(b)(10) of the CAAA of 1977 establishes the requirement that nonattainment plans (SIP revisions) include written evidence that the State, the general purpose local government or governments, or a regional agency designated by general purpose local governments for such purpose, have adopted by statute, regulation, ordinance, or other legally enforceable document, the necessary requirements and schedules and timetables for compliance, and are committed to implement and enforce the appropriate elements of the plan.

Such documentation constitutes this portion of the SIP revision as follows:

4.3.1 Legal Enforceability - Mandatory Control Strategies

CONTROL STRATEGY	LEGALLY ENFORCEABLE DOCUMENT	GOVERNMENT
INSPECTION/MAINTENANCE	Arizona Revised Statutes Chapter 14 Article 1 § 36-1717 Article 2 § 36-1751 thru § 36-1754 Article 3 § 36-1771 thru § 36-1780 Arizona Rules and Regulations Title 9, Chapter 3 Article 10 R9-3-1001 thru R9-3-1030	State
Enforcement accomplished through annual vehicle registration procedure.		
VAPOR RECOVERY-STAGE I	Arizona Revised Statutes Chapter 6 Article 8 § 36-779 Maricopa County Rules and Regulations Chapter XII Regulation III Rule 33	State/Maricopa County
Enforcement accomplished through permit procedure.		

VAPOR RECOVERY-STAGE II	Arizona Revised Statutes Chapter 6 Article 8 § 36-779 Applicable County Rules and Regulations to be Developed as Necessary	State/Maricopa County

4.3.2. Legal Enforceability - Voluntary Control Strategies

CONTROL STRATEGY	LEGALLY ENFORCEABLE DOCUMENT	GOVERNMENT
CARPOOLING	Emergency Highway Conservation Act of 1974 U.S.D.O.T. letter to MAG-June 1974 letter of Agreement-MAG/ADOT (See Appendix C)	Federal/ State

Participative - no enforcement. See Phoenix Metropolitan Chamber of Commerce letter (Appendix B)

4.3.3 Legal Enforceability - Basic Planning Elements

CONTROL STRATEGY	LEGALLY ENFORCEABLE DOCUMENT	GOVERNMENT
IMPROVED TRAFFIC SYSTEM	Ordinance S-10372 six-year major street program (See Appendix B)	Phoenix/ etc.
MASS TRANSIT IMPROVEMENTS	MAG Transportation Improvement Program-Approved Sept. 27, 1978	

Enforcement supported by approval of MAG Regional Council and separate ordinances such as the one for Phoenix in Appendix B. See MAG Transportation Improvement Program Report dated October 1978 for programs of other municipalities in Urban Planning Area.

REGIONAL DEVELOPMENT PLANNING	OMB Circular A-95 24 CFR 600 (HUD Regulations) 23 CFR 450 (FHWA/UMTA Regulations) Section 102 NEPA Joint Powers Agreement	State/MAG

Participation through MAG Regional Council.

APPENDIX H, Exhibit 2:

Nonattainment Area Plan for Carbon Monoxide and Photochemical Oxidants, Maricopa County Urban Planning Area, 1978, prepared by Bureau of Air Quality Control, Chapter Five: Impact of Selected Control Strategies.

5.0 IMPACT OF SELECTED CONTROL STRATEGIES

5.1 Control Strategies Emission Reduction Estimates

The "Technical Support Documentation" (Appendix A) quantifies the emission reduction potential of the individual and combined NAP control strategies. Table 5.1-1 summarizes the total regional emission reductions in tons/day to be achieved with each NAP strategy in the years 1980, 1982, 1985 and 2000. Figures 5.1-1 and 5.1-2 illustrate CO and NMHC emission trends by source category with the NAP strategies. Figure 5.1-3 and 5.1-4 identify the short and long-term impact of the NAP strategies by source category.

5.2 Incremental Reductions in Emissions

The CAAA of 1977 requires that the SIP revision demonstrate reasonable further progress toward attainment of the established standards in the period prior to the prescribed date for attainment. "Reasonable further progress" is defined by EPA as annual incremental reductions in total emissions (from new as well as existing sources) to provide for attainment by the prescribed date.

EPA guidance goes on to state that reasonable further progress will be determined for each area by dividing the total emission reductions required to attain the applicable standard by the number of years between 1979 and the date projected for attainment (in this case, for the Phoenix NAP, there are two dates involved--December 31, 1985, for attainment of the CO standard, and December 31, 1985, for attainment of the NMHC standards). This is then represented graphically by a straight line drawn from the emissions inventory submitted by January 1, 1979, to the allowable emissions on the attainment date.

Figures 5.2-1 and 5.2-2 illustrate the incremental reductions in CO and non-methane hydrocarbons to be achieved with the NAP mandatory control strategies of I/M and vapor recovery. Baseline and standard amounts shown were obtained from the "Technical Support Documentation" (Appendix A). Although voluntary ridesharing and modified work schedules are also NAP control strategies, these programs have not been assigned direct emission reduction credit. Rather, they are expected to serve as backup strategies to ensure achievement of the level of effectiveness assumed for the mandatory controls.

Both reasonable further progress (RFP) and new source review (NSR) are intended to play essential roles in ensuring that NAAQS will be met on time. They are feedback mechanisms designed to identify possible errors made in developing the control strategy or in selecting the area and sources of concern. NSR is covered in Section 7.0 of this plan.

Table 5.1-1

INDIVIDUAL CONTROL STRATEGY EMISSION
REDUCTION ESTIMATES

	1980	1982	1985	2000
		(tons/day)		
Total CO Emissions With NAP Strategies	851.4	720.9	607.6	572.3
I/M Reduction Potential @ 30% Stringency	326.0	294.6	245.1	180.4
Total CO Emissions With NAP Strategies	525.4	426.3	362.5	391.9
Total NMHC Emissions With NAP Strategies	205.0	183.7	163.5	168.2
I/M Reduction Potential @ 30% Stringency	18.5	17.0	13.6	7.4
Vapor Recover Reduction Potential				
Stage I	17.9	19.0	20.6	29.2
Stage II	- -	14.3	15.5	22.0
Total NMHC Emissions With NAP Strategies	168.6	133.4	113.8	109.6

FIGURE 5.1-1

CARBON MONOXIDE EMISSION TRENDS
WITH NAP CONTROL STRATEGIES

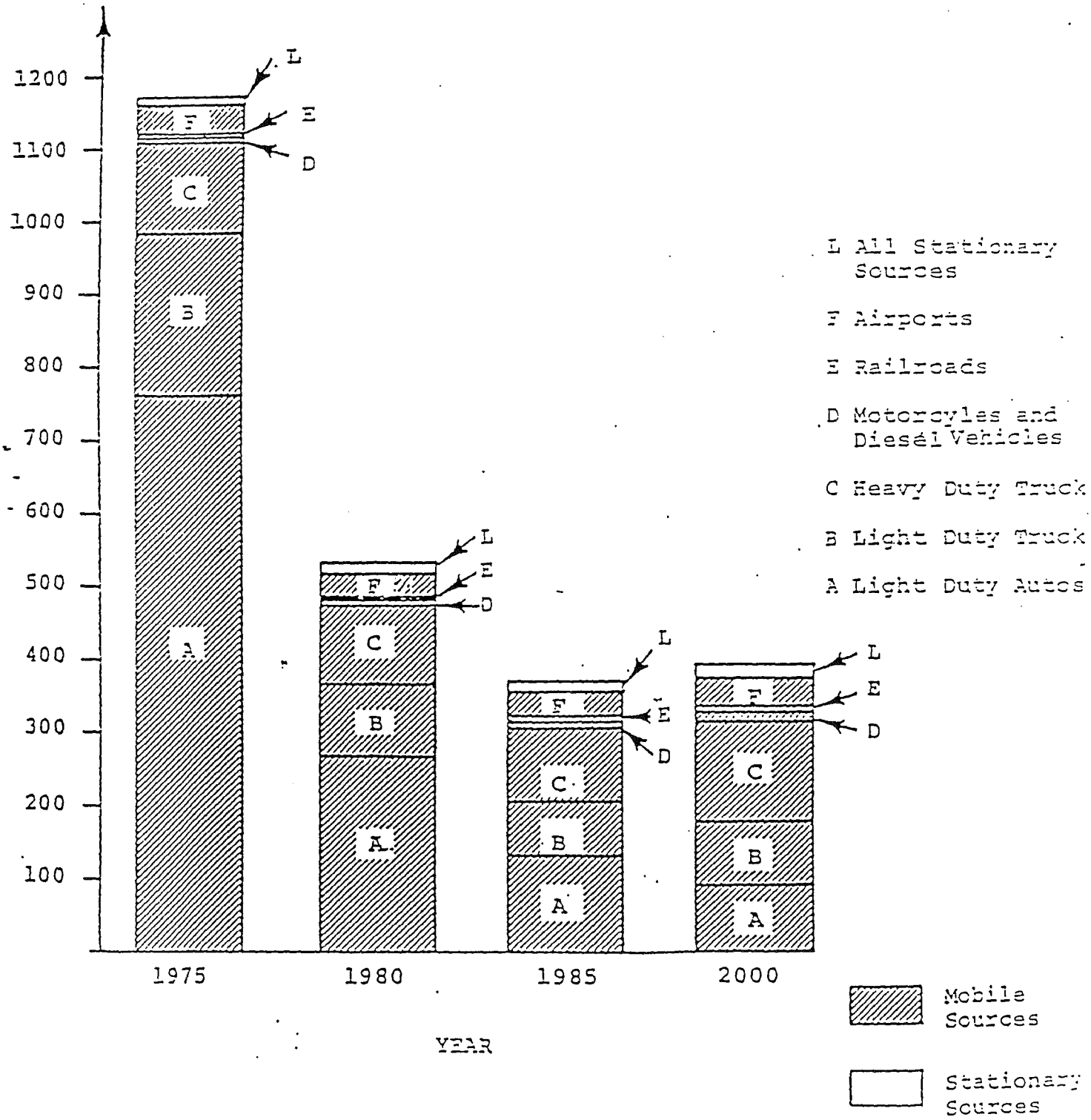


FIGURE 5.1-2
NON-METHANE HYDROCARBON EMISSION TRENDS
WITH NAP CONTROL STRATEGIES

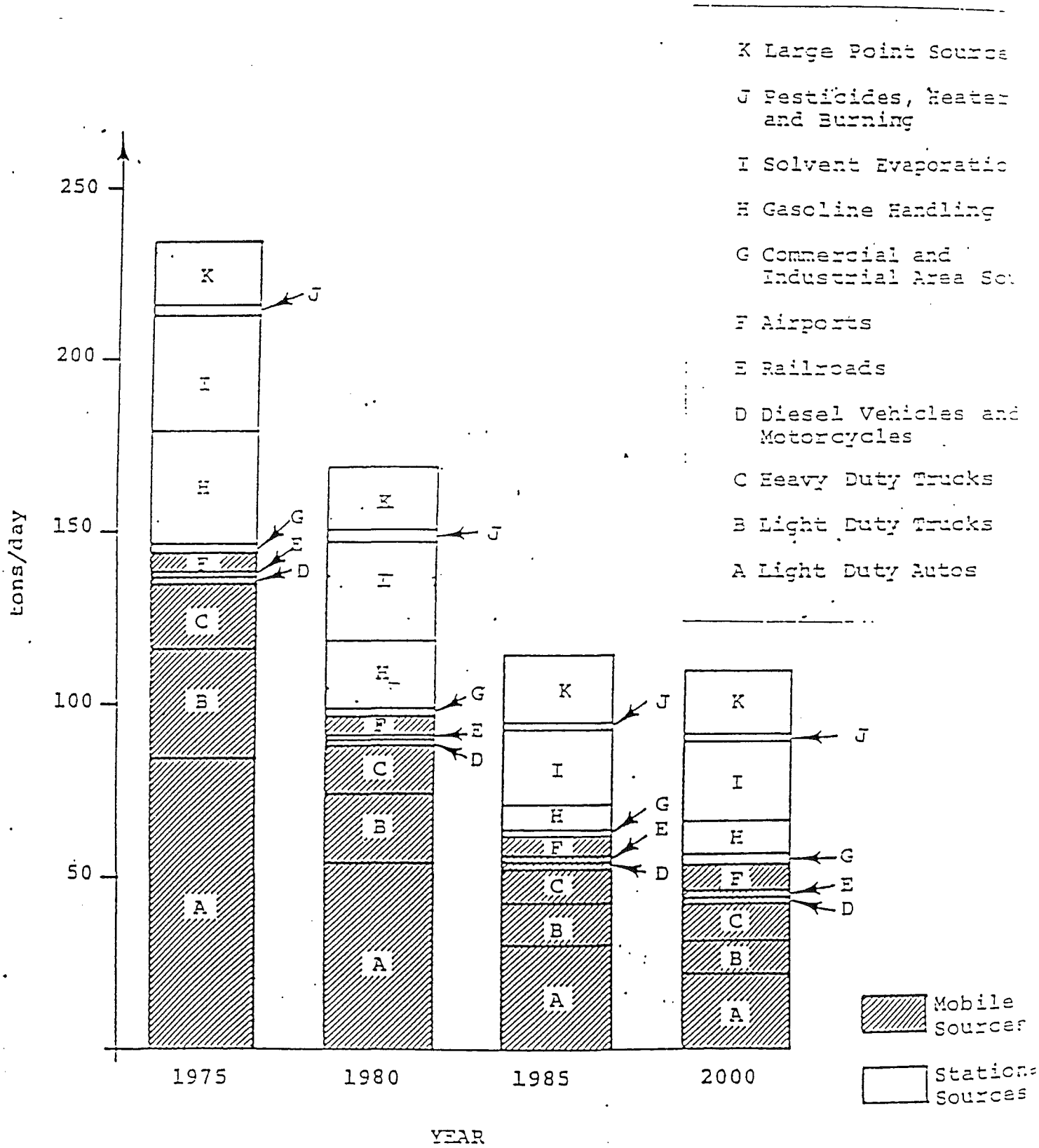
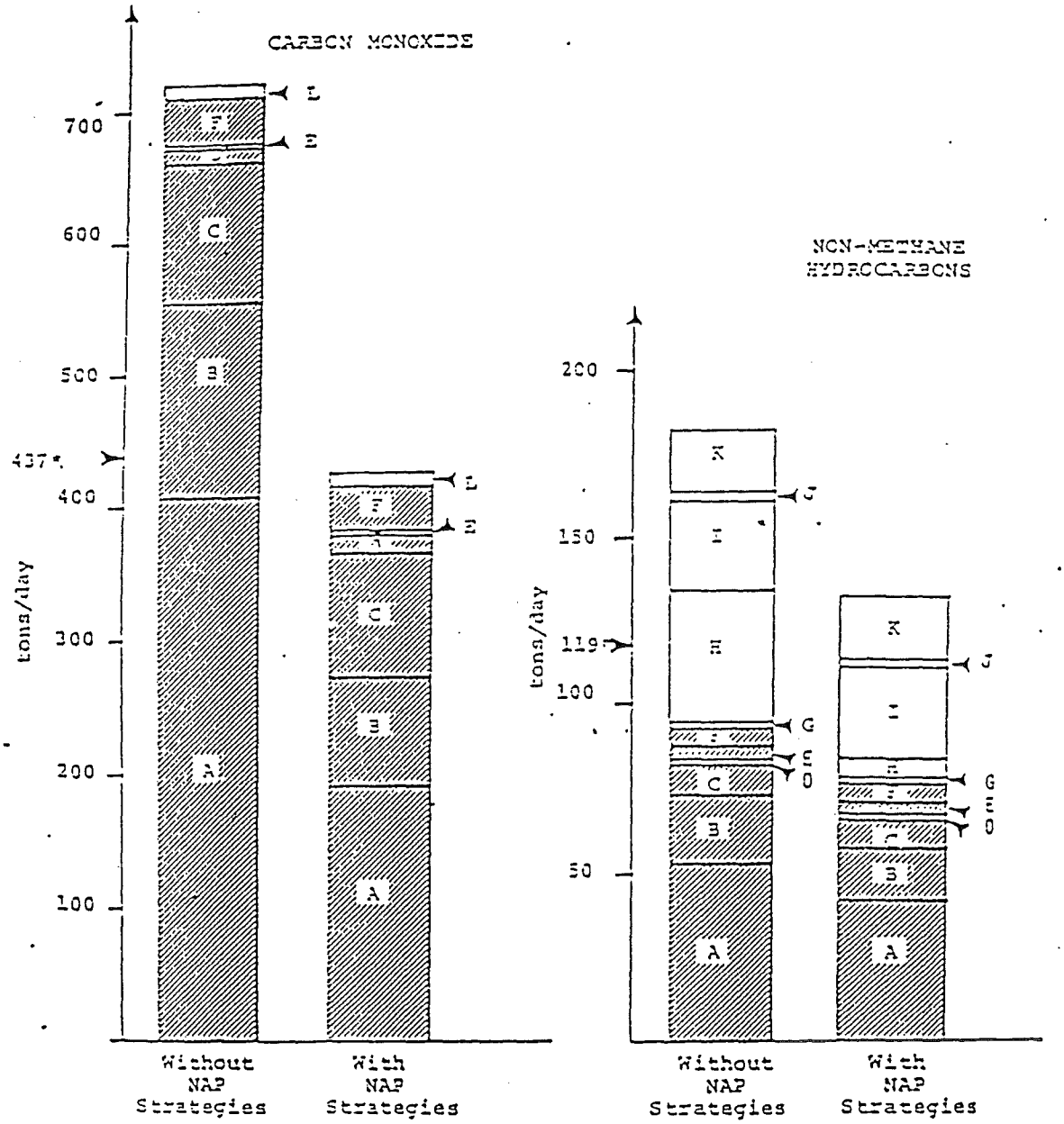


FIGURE 5.1-3

1982 EMISSION INVENTORIES
WITH AND WITHOUT NAP CONTROL STRATEGIES



A - Light Duty Autos
B - Light Duty Trucks
C - Heavy Duty Trucks
D - Diesel Vehicles and Motorcycles
E - Railroads
F - Airports
G - Commercial and Industrial Area Sources

*Emission Standards

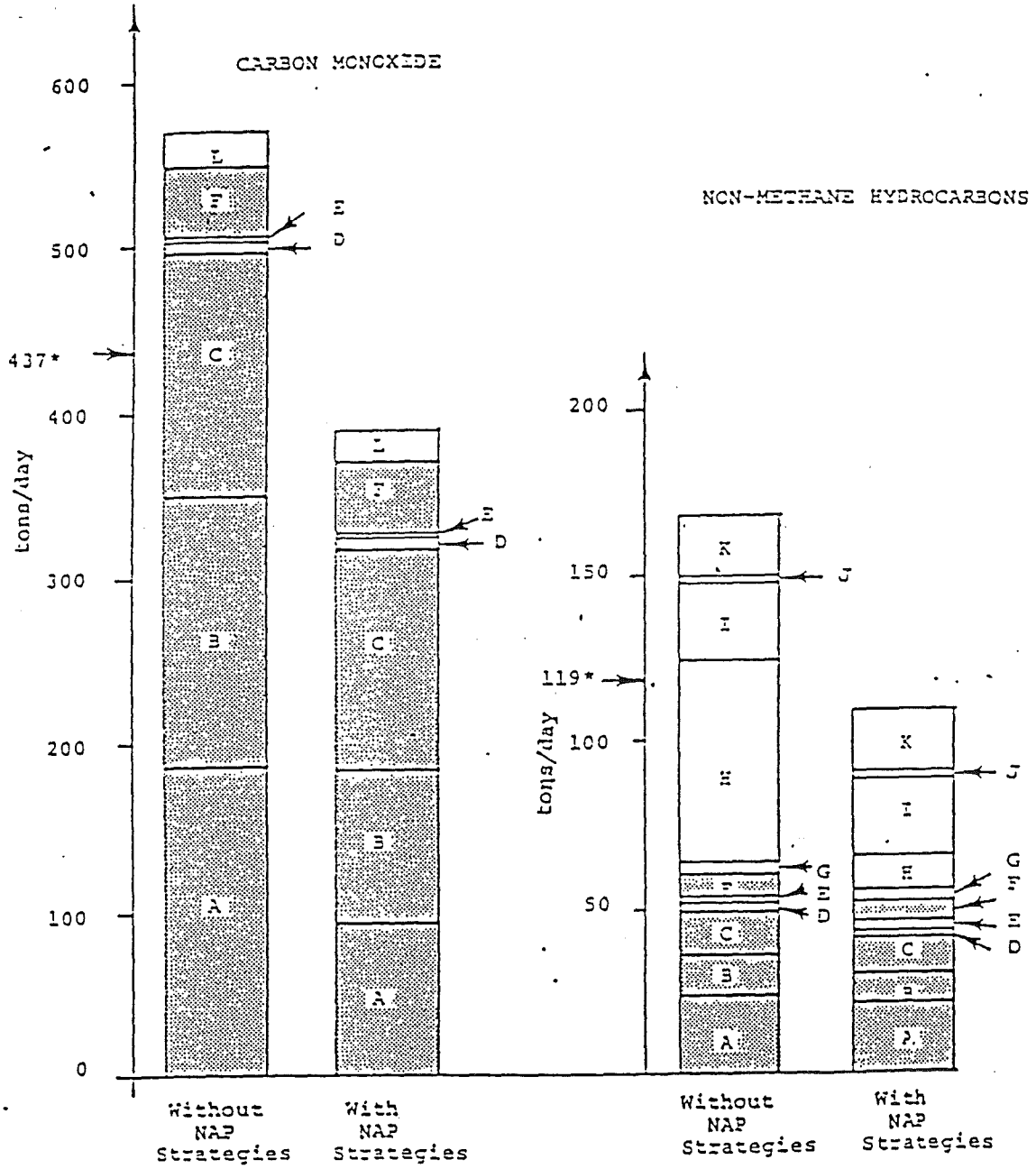
H - Gasoline Handling
I - Solvent Evaporation
J - Pesticides, Heaters and Burning
K - Large Point Sources
L - All Stationary Sources of CO

Mobile Sources

Stationary Sources

FIGURE 5.1-4

2000 EMISSION INVENTORIES
WITH AND WITHOUT NAP CONTROL STRATEGIES



A - Light Duty Autos
B - Light Duty Trucks
C - Heavy Duty Trucks
D - Diesel Vehicles and Motorcycles
E - Railroads
F - Airports
G - Commercial and Industrial Area Sources

H - Gasoline Handling
I - Solvent Evaporation
J - Pesticides; Heaters and Burning
K - Large Point Sources
L - All Stationary Sources of CO

Mobile Sources

Stationary Sources

* Emission Standards

RFP is essentially a two-part process in which a schedule is first developed (typically linear as shown in Figures 5.2-1 and 5.2-2) and then a yearly tracking exercise is performed. The schedule is intended only as a guideline but failure to meet the designated milestones must be explained and could well result in adjustments to: the control strategy; the geographic boundaries of the designated nonattainment area; or the approach taken to review new sources. An annual report for RFP is to be submitted which is intended to be a brief but effective exercise in (1) tracking the emission reductions accomplished and (2) verifying that these decreases, taking into account growth, are consistent with the RFP goal of attainment.

The reasonable further progress shown in Figures 5.2-1 and 5.2-2 is sufficient to achieve the primary and secondary eight-hour carbon monoxide standard of 9 ppm in 1982 and the one-hour primary and secondary ozone standard of .08 ppm in 1985.

The estimated 1982 NMHC emission level of 133.4 tons/day (Table 5.1-1) is well below the 164 tons/day (Figure 5.2-2) required to show reasonable further progress. Similarly, the estimated 1982 carbon monoxide emission level of 426.3 tons/day is below the standard of 437 tons/day.

5.3 Allowable Emissions Growth

The baseline and projected emission levels illustrated in the reasonable further progress charts (Figure 5.2-1 and 5.2-2) were derived from the "Technical Support" document. The growth in population and employment levels specified in Figure 3.2-3 were assumed in preparing the forecast year traffic emission inventories. Tables 5.3-1 and 5.3-2 demonstrate the growth assumptions related to uncontrolled non-traffic sources for 1975-2000 in five-year increments.

The growth factors (GF) in Table 5.3-1 reflect expected increases in population and employment, while the offsetting emission factors (EF) incorporate anticipated improvements in stationary source emission control technologies.

The reduction in power plant growth factors was due to the assumed displacement of some plants to locations outside the nonattainment area. Emissions from major existing point sources were held constant over time. Aircraft emissions were projected independently for each airport; the totals are summarized in Table 5.3-2.

Future increases in emissions due to plant expansions or new construction will be accommodated within the industrial or commercial area source allowances in Tables 5.3-3 and 5.3-4. These inventories reflect total allowable emission growth increments in tons/day by source category, assuming expected population growth increases and emission reduction credit for the NAP control strategies.

FIGURE 5.2-1

CARBON MONOXIDE
REASONABLE FURTHER PROGRESS TO BE ACHIEVED
WITH NAP CONTROL STRATEGIES

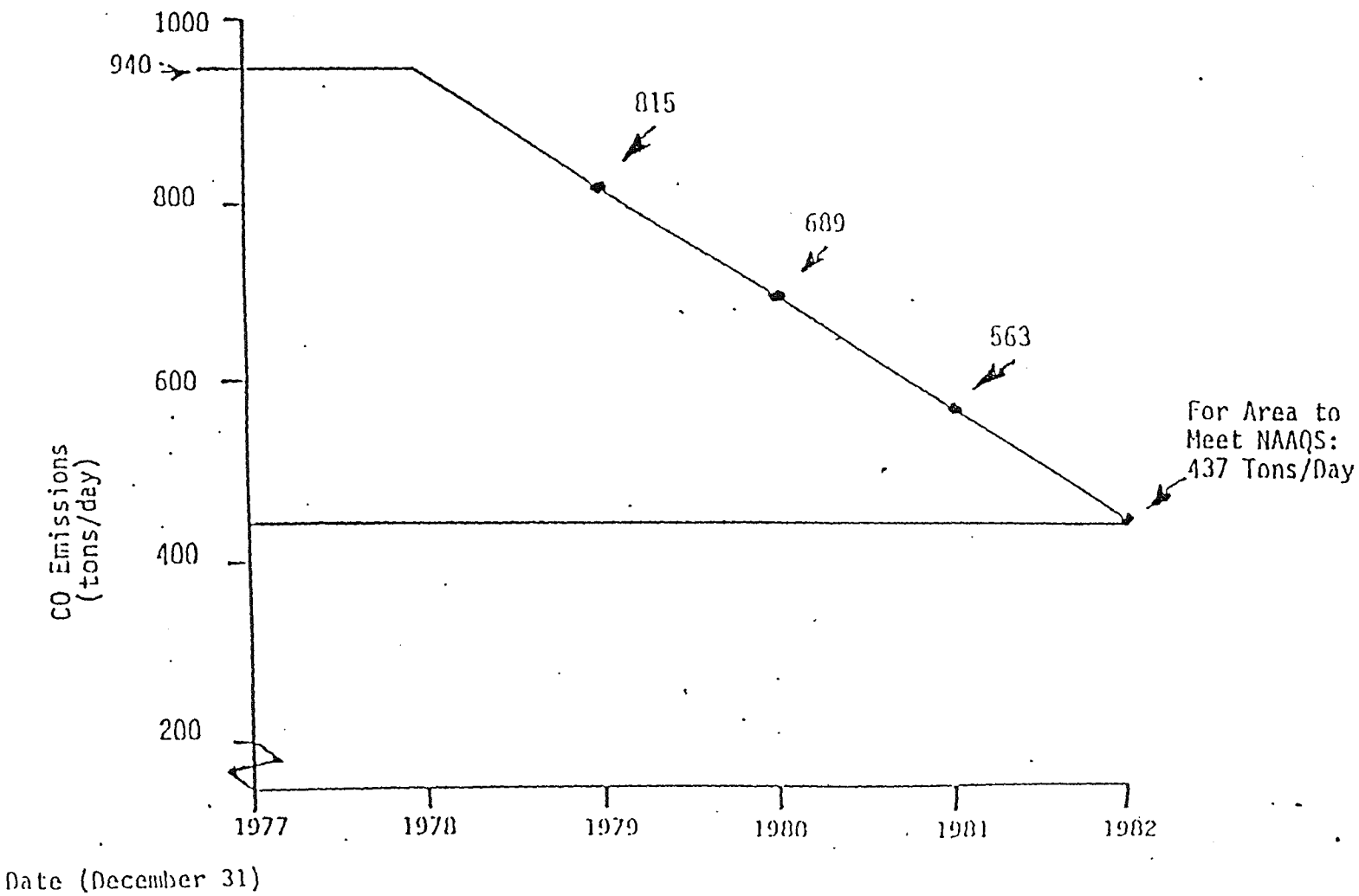


FIGURE 5.

NON-METHANE HYDROCARBONS
REASONABLE FURTHER PROGRESS TO BE ACHIEVED
WITH NAP CONTROL STRATEGIES

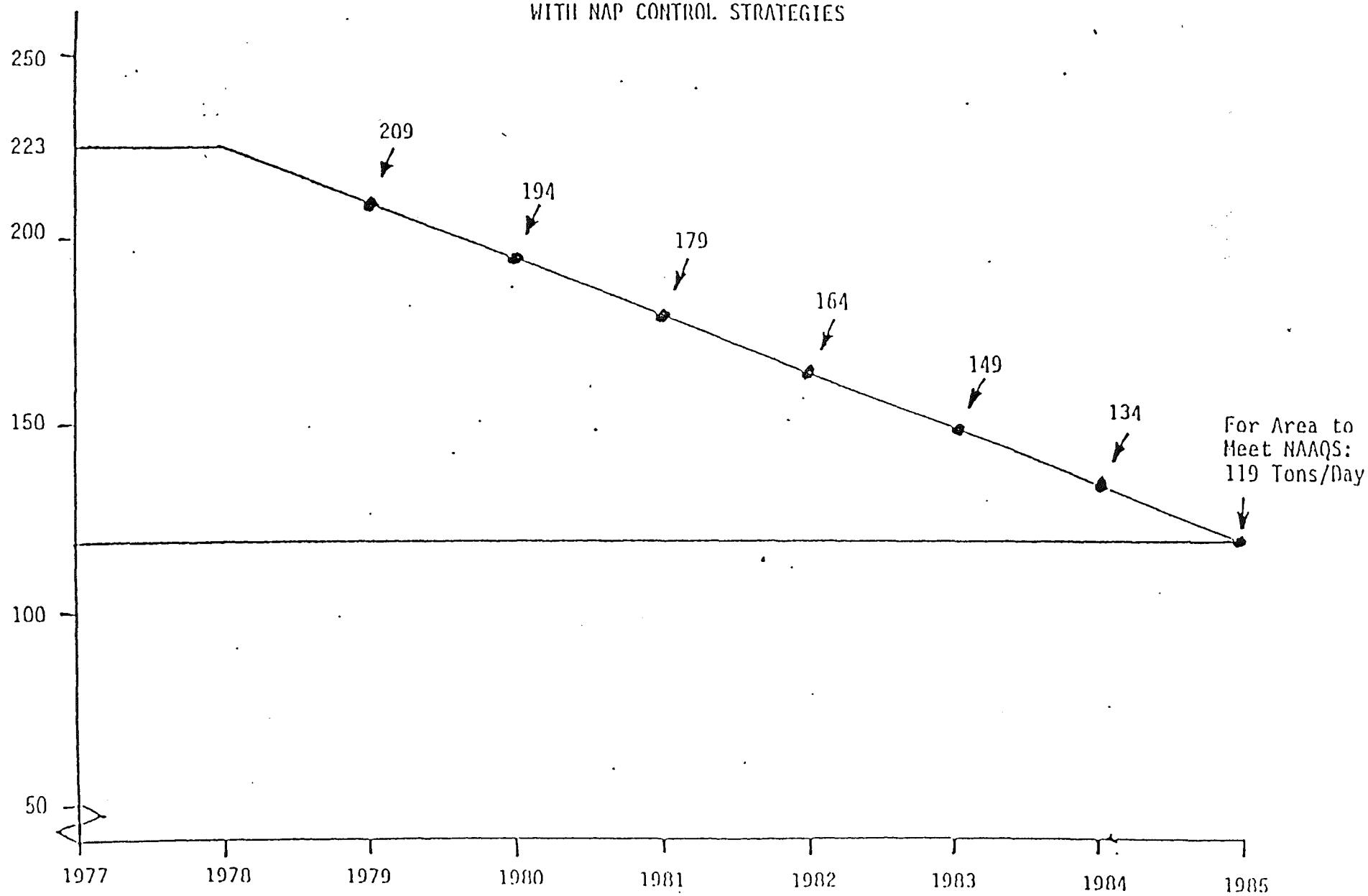


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TABLE 5.3-1

NON-TRAFFIC SOURCE
GROWTH AND EMISSION FACTORS

	1980		1985		1990		1995		2000	
	GF	EF	GF	EF	GF	EF	GF	EF	GF	EF
Residential	1.20	.91	1.56	.84	1.84	.78	2.12	.74	2.40	.75
Commercial/Institutional										
Fuel Combustion	1.21	.90	1.43	.95	1.64	.90	1.85	.85	2.06	.85
Incineration	1.21	1.00	1.43	1.00	1.64	.93	1.85	.85	2.06	.85
Industrial										
Fuel Combustion	1.50	.90	2.01	.80	2.51	.83	3.01	.85	3.51	.90
Incineration	1.50	.80	2.01	.60	2.51	.65	3.01	.70	3.51	.80
Miscellaneous										
Gas Handling	1.14	1.00	1.31	1.00	1.48	1.00	1.66	1.00	1.86	1.00
Solvent Evaporation	1.14	.75	1.31	.50	1.48	.45	1.66	.40	1.86	.35
Pesticides, Orchard Heaters, and Agricultural Debris	.90	1.00	.80	1.00	.70	1.00	.60	1.00	.50	1.00
Structural Fires and Unauthorized Burns	1.14	1.00	1.31	1.00	1.48	1.00	1.66	1.00	1.86	1.00
Training Fires and Range Improvement	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Railroads	1.06	1.00	1.13	1.00	1.20	1.02	1.27	1.04	1.35	1.06
Power Plants	.95	1.00	.90	1.00	.85	1.00	.80	1.00	.80	1.00
Other Point Sources	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Airports	(See Figure 5.3-2.)									

SOURCE: (AV, 1977) with modifications based on August, 1977 DES population projections.

GF = Growth Factor Applied to 1975 Emissions
EF = Emission Factor Applied to 1975 Emissions

Airport Emissions: 1975-2000

County Population (Millions)	1975				1980				1985			
	1.23				1.41				1.61			
Tons/Year	CO	THC	NMHC	NO_x	CO	THC	NMHC	NO_x	CO	THC	NMHC	NO_x
Sky Harbor Aircraft												
Commercial	404.0	160.0	160.0	851.0	411.7	152.9	152.9	1,100.9	419.3	137.8	137.0	1,366.7
Civil	1,009.0	10.0	10.0	21.6	740.0	17.0	17.0	48.7	407.0	17.6	17.6	75.0
Military	250.0	35.3	35.3	36.7	250.0	35.3	35.3	36.7	250.0	35.3	35.3	36.7
Civil Aircraft	2,458.6	43.6	41.4	52.5	3,125.7	75.4	71.6	211.9	3,867.0	110.5	105.0	309.0
Military Airports*												
Aircraft	5,779.0	811.0	811.0	850.0	5,779.0	811.0	811.0	850.0	5,779.0	811.0	811.0	850.0
Stationary	105.4	694.6	463.1		105.4	694.6	463.1		105.4	694.6	463.1	
Total	10,006.0	1,770.5	1,536.0	1,819.0	10,419.0	1,787.0	1,551.7	2,264.2	10,907.7	1,806.0	1,569.0	2,726.2

County Population (Millions)	1990				1995				2000			
	1.83				2.05				2.30			
Tons/Year	CO	THC	NMHC	NO_x	CO	THC	NMHC	NO_x	CO	THC	NMHC	NO_x
Sky Harbor Aircraft												
Commercial	419.3	137.0	137.0	1,366.7	419.3	137.0	137.0	1,366.7	419.3	137.0	137.0	1,366.7
Civil	407.0	17.6	17.6	75.0	407.0	17.6	17.6	75.0	407.0	17.6	17.6	75.0
Military	250.0	35.3	35.3	36.7	250.0	35.3	35.3	36.7	250.0	35.3	35.3	36.7
Civil Aircraft	4,602.4	149.3	141.0	503.0	5,497.7	180.1	170.7	770.5	6,424.3	232.1	220.5	999.9
Military Airports*												
Aircraft	5,779.0	811.0	811.0	850.0	5,779.0	811.0	811.0	850.0	5,779.0	811.0	811.0	850.0
Stationary	105.4	694.6	463.1		105.4	694.6	463.1		105.4	694.6	463.1	
Total	11,723.1	1,845.6	1,606.6	2,921.0	12,530.4	1,884.4	1,643.5	3,115.7	13,465.0	1,928.4	1,685.3	3,337.1

Source for Aircraft Emissions: (PES, 1976).

Source for Military Airport Stationary Emissions: AQAM Military Airport Emissions Model, 1976.

*Assumed to operate 250 days/year; all other airports operate 365 days/year.

Table 5.3-3

CARBON MONOXIDE EMISSIONS WITH NAP STRATEGIES
(Tons/Winter Day)

	1975	1980	1982	1985	2000
Light Duty Gas Autos	756.78	266.37	191.76	131.08	93.62
Light Duty Gas Trucks	229.25	97.55	80.11	73.82	90.04
Heavy Duty Gas Vehicles	128.42	105.59	97.41	99.26	132.80
Diesel Vehicles	3.75	4.11	4.36	4.67	6.71
Motorcycles	3.28	2.53	2.50	2.24	.35
Residential	.98	1.14	1.20	1.28	1.75
Commercial/Institutional					
Fuel Combustion	.71	.84	.89	.96	1.24
Incineration	.52	.63	.67	.74	.91
Industrial					
Fuel Combustion	.10	.14	.15	.16	.32
Incineration	4.68	5.62	5.63	5.64	13.14
Miscellaneous					
Structural Fires	.99	1.13	1.20	1.30	1.84
Railroads	3.04	3.22	3.31	3.44	4.35
Aircraft	34.82	35.96	36.50	37.30	44.31
Power Plants	.43	.41	.40	.39	.34
Other Point Sources	.19	.19	.19	.19	.19
Total Emissions	1,167.94	525.43	426.28	362.47	391.93

Table 5.3-4

NMHC EMISSIONS WITH NAP STRATEGIES
(Tons/Summer Day)

	1975	1980	1982	1985	2000
Light Duty Gas Autos	84.34	53.36	41.92	30.04	21.94
Light Duty Gas Trucks	32.52	20.87	15.89	12.06	8.77
Heavy Duty Gas Vehicles	18.09	12.65	9.71	9.30	11.15
Diesel Vehicles	.70	.80	.84	.92	1.36
Motorcycles	.86	.62	.63	.57	.23
Residential	- -	- -	- -	- -	- -
Commercial/Institutional					
Fuel Combustion	.08	.09	.10	.11	.14
Incineration	.15	.18	.19	.21	.25
Industrial					
Fuel Combustion	.03	.04	.04	.05	.09
Incineration	1.37	1.64	1.64	1.65	3.85
Miscellaneous					
Gas Handling	32.99	19.71	6.58	7.13	10.12
Solvent Evaporation	33.70	28.81	26.11	22.07	21.94
Pesticides and Orchard Heaters	3.06	2.75	2.63	2.45	1.53
Waste Burning					
Agricultural Debris	.22	.20	.19	.18	.11
Range Improvement	.01	.01	.01	.01	.01
Training Fires	.15	.15	.15	.15	.15
Unauthorized Burns	.09	.10	.11	.12	.17
Railroads	2.16	2.29	2.35	2.44	3.09
Airports	5.82	5.86	5.88	5.91	6.22
Power Plants	.34	.32	.32	.31	.27
Other Point Sources	18.15	18.15	18.15	18.15	18.15
Total Emissions	234.83	168.60	133.44	113.83	109.55

APPENDIX I

MAG 1987 OZONE PLAN
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

List of Exhibits:

1. MAG 1987 Ozone Plan for the Maricopa County Area, Chapter Seven: Implementation of the MAG 1987 Ozone Plan.

2. MAG 1987 Ozone Plan for the Maricopa County Area, Chapter Eight: Demonstration of Attainment Status.

APPENDIX I, Exhibit 1

MAG 1987 Ozone Plan for the Maricopa County Area, Chapter Seven: Implementation of the MAG 1987 Ozone Plan.

CHAPTER SEVEN

IMPLEMENTATION OF THE MAG 1987 OZONE PLAN

In order to improve air quality, it is important to effectively implement the measures contained in the MAG 1987 Ozone Plan as soon as possible or as expeditiously as practicable. The implementing entities submitted specific commitments to implement the plan by July 10, 1987. These commitments have been reviewed and an implementation schedule has been prepared to reflect the time frames specified in the commitments for implementation.

IMPLEMENTATION SCHEDULE

The following implementation schedule provides a brief description of the commitments received by MAG to implement the measures in the plan and corresponding time tables. In addition to the commitments reflected in the schedule, Luke Air Force Base and Williams Air Force Base also submitted commitments to implement the plan which are contained in Chapter Ten.

1. Vehicle Inspection Maintenance Program - 1987 Legislation Statewide (Areawide Strategy)

   - City of Avondale agrees to urge the Arizona State Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis in the 1988 legislative session.

   - City of Chandler agrees to urge the Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis, beginning in the 1988 legislative session.

   - City of El Mirage agrees to urge the Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis in the 1988 legislative session.

   - Town of Gila Bend would support a statewide application of the Vehicle Inspection Maintenance Program. The Legislature should provide an exemption for rural areas.

   - Town of Gilbert agrees to lobby the Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis beginning in the 1988 legislative session.

- City of Glendale will support legislation for a statewide application of the Vehicle Inspection Maintenance Program. Glendale will work with the League of Arizona Cities and Towns in drafting and requesting introduction of this legislation. Efforts will begin in August, 1987.

- City of Goodyear agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include application on a statewide basis during the 1988 legislative session.

- City of Mesa agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include an application on a statewide basis as part of its 1988 legislative program.

- City of Peoria agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a statewide basis during the 1988 legislative session.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support and encourage the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include an application on a statewide basis during the 1988 legislative session.

- Town of Surprise will support legislation requiring a mandatory Vehicle Inspection Maintenance Program.

- City of Tempe agrees to support the Maricopa Association of Governments in its efforts to urge the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to apply the program on a statewide basis during the 1988 legislative session.

- City of Tolleson supports this measure.

- Town of Wickenburg agrees, along with the Maricopa Association of Governments, to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis and, in such event, to locate and operate a vehicle emissions station in the Town of Wickenburg. This request will be made during the 1988 legislative session.

- Town of Youngtown supports this measure.

- Maricopa County Office of Government Relations agrees to advocate for and support legislation to amend the Vehicle Inspection Maintenance Program to include application on a statewide basis and no waiver repair limits. Efforts will begin in September, 1987 and continue through July, 1988.

- The Maricopa Association of Governments agrees to urge the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include program application on a statewide basis beginning in the 1988 legislative session.

- Arizona Legislature passed S.B. 1360 in 1987 which expands the Vehicle Inspection Maintenance Program to include those persons who commute into a nonattainment area but live outside these areas. Universities and community colleges located inside a nonattainment area shall require all students who drive to have their vehicle inspected, regardless of where that vehicle is registered. Violators will be subject to a $50 fine on the first offense and a $300 fine for the second offense within a year. The fine is waived if the vehicle is inspected. The inspection maintenance requirements will be enforced through a program implemented by Motor Vehicle Division which will provide that all vehicles required to be tested be issued a modified validating tab or an air quality compliance decal. The bill also increases the amount of recommended repairs for model year 1975-79 vehicles from $100 to $200, and increases the waiver fee from $1 to $5. S.B. 1360 effective date - August, 1987.

2. <u>Vehicle Inspection Maintenance Program - 1987 Legislation Countywide (Areawide Strategy)</u>

- City of Avondale agrees to urge the Arizona State Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis in the 1988 legislative session.

- City of Chandler agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis should the Legislature decline to enact a statewide program beginning in the 1988 legislative session.

- City of El Mirage agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis in the 1988 legislative session.

- Town of Gila Bend would support a countywide application of the Vehicle Inspection Maintenance Program. The Legislature should provide an exemption for rural areas.

- Town of Gilbert prefers a statewide application of the Vehicle Inspection Maintenance Program. However, if only a countywide application can be obtained, Gilbert will support it beginning in the 1988 legislative session.

- City of Glendale will support legislation for a countywide application of the Vehicle Inspection Maintenance Program. Glendale will work with the League of Arizona Cities and Towns in drafting and requesting introduction of this legislation. Efforts will begin in August, 1987.

- City of Goodyear agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to include application on a countywide basis during the 1988 legislative session.

- City of Peoria agrees to urge the Legislature to apply the Vehicle Inspection Maintenance Program on a countywide basis during the 1988 legislative session.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support and encourage the Arizona Legislature to amend the Vehicle Inspection Maintenance Program to include an application of a countywide basis during the 1988 legislative session.

- Town of Surprise will support legislation requiring a mandatory Vehicle Inspection Maintenance Program.

- City of Tempe agrees to urge the Arizona State Legislature to amend the Vehicle Inspection Maintenance Program to apply it on a countywide basis if the Legislature refuses to approve a statewide application during the 1988 legislative session.

- City of Tolleson supports this measure.

- Maricopa County Office of Government Relations agrees to advocate for a countywide application of the Vehicle Inspection Maintenance Program with no waiver limits. Efforts will begin in September, 1987 and continue through July, 1988.

3. Short-Range Transit Improvements (Areawide Strategy)

- City of Avondale supports the short-range transit improvements under the authority of the Regional Public Transportation Authority (RPTA).

- Town of Buckeye supports the short-range transit improvements under the authority of the RPTA.

- City of Chandler will support and coordinate with the RPTA in the implementation of short-range transit improvements through the Chandler Public Works Department beginning in 1987.

- City of El Mirage will study the implementation of a local transit system and if practical, implement a system which will interconnect with the RPTA. Study will begin in August, 1987.

- Town of Gilbert will initiate active relations with the RPTA to determine the most effective role for Gilbert in the areawide transit planning process. Gilbert will develop short-range objectives by September, 1988.

- City of Glendale will continue to support the RPTA in the implementation of short-range transit improvements. The Mayor of Glendale serves on the RPTA Board and the Assistant City Manager serves on the RPTA Advisory Committee. Glendale is also currently studying the implementation of a downtown circulatory system. Council action on the downtown circulatory system - February, 1988. Express service expanded in North Glendale - September 30, 1987.

- City of Goodyear supports the short-range transit improvements under the authority of the RPTA.

- Town of Guadalupe supports this measure which is under the authority of the RPTA.

- City of Mesa agrees to study possible service extensions in terms of hours and days of transit service. The study will be completed by October, 1987. Mesa will also study corridors for new transit service

implementation by October, 1987. Mesa agrees to implement changes to transit service in FY 1988-89 if these two studies show that the expansion of transit service in Mesa would have a significant mitigating impact upon traffic congestion and if a long term dedicated funding source for such service expansion is available.

- City of Peoria will examine the feasibility of expanding the short-range transit improvements provided by the RPTA. Peoria has budgeted for a feasibility study to augment this transit service within city boundaries. Conduct study - February, 1988. Present study to Council - May, 1988.

- City of Phoenix Public Transit Department has submitted a $46,110,000 capital improvement program for the five year period 1987-88 through 1991-92. It includes 125 new buses, four transit centers, two park and rides, and numerous other support projects. The Department projects a continuation of the delivery of 40,500 miles of service per day, at a cost of $35,000,000 per year. Service improvements for 1987-88 includes $250,000 for evening bus service, $190,000 to expand dial-a-ride service in Deer Valley and $116,000 in miscellaneous routes improvements, totaling $556,000.

- City of Scottsdale has recently increased frequency and added additional transit routes to its transit system. Scottsdale now provides transit service on eight regular routes and three express routes. Since 1985, the new transit system has increased the size of the service area by 98 percent, to 323 square miles. Furthermore, yearly bus travel in Scottsdale has increased 79 percent over the old system, to 418,733 miles. Usage has increased 29 percent to 403,212 boardings per year.

- Town of Surprise will work with area officials including RPTA to support and publicize all alternative available means of public transportation. Possibly, facilities will be provided for boarding, waiting, and transfer of public transportation riders.

- City of Tempe agrees: 1) as a member of the Regional Public Transportation Authority, to participate in and support the efforts of the RPTA to implement short-range transit improvements through the use of the annual $5 million allocation for improved bus and community-funded transportation services, and 2) as funding permits, to continue to make improvements in existing levels of bus/trolley service, to add new service, including special needs transportation, and to effect enhancements in transit-related facilities (bus shelters, benches, etc.) designed to make the use of public transportation more attractive and comfortable.

  Ongoing, with the following specific improvements already effected or planned: One new RPTA express bus route implemented, bringing the total number of express routes serving Tempe to four - December, 1987. Two new RPTA local bus routes implemented - January, 1987. One new RPTA local bus route implemented, bringing the total number of local routes serving Tempe to five - April, 1987. $24,000 grant from the City to the Tempe Transit Authority for a 10-passenger, 5-wheelchair equipped van to provide special needs service - May, 1987. Dial-a-Ride or similar service to provide service within Tempe and among Tempe, Scottsdale and Mesa scheduled for

implementation - January, 1988. Bus shelters: 1986-87, four purchased; 1987-88, nine planned for purchase and installation. Other service: The City contracts with the City of Phoenix for bus service on two local and three express bus routes; it provides a subsidy (1986-87, $45,000) to the Tempe Transit Authority to support operation of three routes in Tempe; and it provides an annual allocation (1986-87, $5,000) to the Red Cross. Evaluation of these services is ongoing and improvements are made as funding permits.

- City of Tolleson supports short-range transit improvements.

- Maricopa County Human Resources Department agrees to advocate for increased short-range transit improvements to be developed through the Regional Public Transportation Authority. The Director of the Maricopa County Office of Human Resource Department will advocate specifically for: increased levels of service, expanded service, improved transit system security, and increased marketing and promotional activities. Efforts begin in September, 1987 and continue through August, 1988.

- The Arizona Department of Transportation as mandated by S.B. 1360 (Omnibus air quality) will explore public transportation alternatives which could improve air quality and meet regional transportation needs in the metropolitan Phoenix and Tucson areas. The range of projects under consideration presently includes: new transit service, fixed route extensions, ridesharing, vanpooling, and park and ride lots. Draft evaluation of project findings - September, 1988. Report to the Legislature - January, 1989.

- Regional Public Transportation Authority subsidizes the operation of 15 bus routes in Maricopa County. Two of the routes are operated by a private provider under a contract administered by the RPTA; the remaining 13 routes are operated by a private provider under a contract administered by the City of Phoenix Public Transit Department.

  Six of the 15 RPTA-subsidized bus routes are express routes which began service in December, 1986. Seven local routes began service in January, 1987, and an additional two local routes began service in April, 1987. Performance of these routes is evaluated on a continuous basis.

4. <u>Long-Range Transit Improvements (Areawide Strategy)</u>

- City of Avondale, through the intergovernmental process, will support the planning conducted by the Regional Public Transportation Authority and implementation of long-range transit improvements. Voter approval of a mass transit system will be encouraged.

- Town of Buckeye supports long-range transit improvements under the authority of the RPTA.

- City of Chandler will support the RPTA with long-range transit improvements and will promote the RPTA plan when submitted to the voters in 1989.

- City of El Mirage will support the RPTA plan and encourage voter approval when submitted to the voters in 1989.

- Town of Gilbert will actively solicit participation in and develop support for RPTA planning and implementation of its long-range transit improvements. Gilbert will support RPTA plan when submitted to voters in 1989.

- City of Glendale will support RPTA planning and implementation of long-range transit improvements. Glendale will support the RPTA plan when submitted to the voters in 1989.

- City of Goodyear will support, through the intergovernmental process, RPTA planning and implementation of long-range transit improvements. Goodyear will review and support the RPTA Plan and encourage voter approval when submitted to the voters in 1989.

- Town of Guadalupe supports this measure which is under the authority of the RPTA.

- City of Mesa will be responsible for the development of the Capital Improvement Program (CIP) and Transportation Improvement Program (TIP) with the RPTA being the lead agency in developing a comprehensive Valleywide transit master plan. The CIP should be completed by December, 1987. The RPTA plan is tentatively scheduled for completion in early 1989.

- City of Peoria will support the RPTA planning and implementation of long-range transit improvements.

- City of Phoenix will continue its practice to secure, on a project specific basis, commitments for dedication of rights-of-way to accelerate future transit improvements.

- City of Scottsdale will work cooperatively with the RPTA on its planning and promotion efforts. City of Scottsdale will also contribute to a feasibility study and preliminary assessment of a multi-modal mass transportation terminal in the Downtown area. Such a facility could be utilized by local and regional bus services, trolley systems, Dial-a-Ride, charter and limo services, and a variety of taxi and rental services. Such facilities are typically integrated with large parking facilities and mixed-use retail centers. If planned and managed effectively, there is a possibility that such a facility could ultimately become self-supporting or even profitable. City of Scottsdale will provide appropriate bus stop amenities including signage, benches, and passenger shelters. RPTA planning - July, 1987 - February, 1988. Terminal study - 180 days. Bus Stop Amenities - 12 Months.

- City of Tempe, as a member of the Regional Public Transportation Authority, agrees to participate in and support the development of a regional public transportation plan, to include rapid transit, bus and special needs service components, as provided in Laws 1985, Chapter 308 and the expeditious implementation of the plan (subject to voter approval of the specified up to one-half cent additional sales tax increase). Planning - July, 1986 through June, 1991. Countywide election - 1989.

- City of Tolleson supports long-range transit improvements.

- Maricopa County Human Resources Department agrees to advocate for increased long-range transit improvements to be developed through the Regional Public Transportation Authority. The Director of the Maricopa County Office of Human Resource Department will advocate for implementation, at a minimum, of the "superbus system" (more buses). Efforts begin in October, 1987 and continue through August, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which establishes a light rail study commission to evaluate the feasibility of a statewide light rail system. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and City of Phoenix have begun work to define the regional transit network including rapid transit plans for the most heavily-traveled corridors. RPTA and City of Phoenix staff will coordinate and supervise consultants in this effort.

  Set up project and review earlier transit systems planning work - March, 1987 to April, 1987.

  Establish study goals - March, 1987 to May, 1987.

  Define transportation problem - April, 1987 to July, 1987.

  Define transit market - May, 1987 to August, 1987.

  Identify candidate corridors - March, 1987 to August, 1987.

  Identify candidate technologies - June, 1987 to August, 1987.

  Develop and evaluate system concepts - August, 1987 to January, 1988.

  Recommend systems plan; prepare implementation and staging plan - December, 1987 to February, 1988.

5. <u>Exclusive Bus Lanes on Arterials and Freeways as Appropriate (Areawide Strategy)</u>

- City of Avondale will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- Town of Buckeye supports this measure as appropriate.

- City of Chandler agrees to provide dedicated bus lanes on arterials when traffic conditions warrant within sixty days after their need is determined.

- City of El Mirage will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- Town of Gilbert agrees to provide dedicated bus lanes on arterials and freeways when appropriate.

- City of Glendale will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate. Glendale will also study the feasibility of implementing exclusive bus lanes on arterials (one year study).

- City of Goodyear will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- Town of Guadalupe supports this measure.

- City of Mesa will encourage ADOT to provide exclusive bus lanes on freeways when appropriate and warranted by traffic conditions. Mesa will consider similar dedicated lanes on arterials at such time that traffic conditions warrant such action.

- City of Peoria will support RPTA and MAG efforts to have exclusive bus lanes established on highways and freeways as appropriate.

- City of Phoenix will maintain the existing bus only lanes on Central/First Avenues. Bus only lanes will be restored on Central Avenue upon completion of construction of the underground parking structure. Phoenix will continue to look for opportunities for additional applications of this measure. FY 1986-87 Operating Budget includes $400,450 to support 10 full-time equivalent employees to evaluate additional traffic control measures, including this measure.

- City of Scottsdale Planning and Traffic Engineering Program will coordinate ongoing studies concerning the feasibility and appropriateness of providing facilities for busses and other high occupancy vehicles on arterial streets in the city. Since the Planning program also is responsible for implementing transit improvements, internal coordination and proper sequencing of transportation improvements will be assured. Additional coordination will be required with the Regional Public Transportation Authority, Phoenix Transit, and neighboring municipalities. The Arizona Department of Transportation is responsible for freeway bus lanes. The City of Scottsdale will request ADOT to consider providing exclusive bus lanes on freeways where appropriate. Efforts begin in July, 1987 and are ongoing. Feasibility studies for Bus/HOV Lanes begin July, 1987.

- City of Tempe agrees to encourage the Arizona Department of Transportation to implement exclusive bus lanes on selected freeways, provided: 1) substantial short and long-term transit improvements are effected which justify the dedication of such lanes; 2) traffic studies indicate that the implementation of exclusive bus lanes would not contribute to traffic congestion; 3) implementation can be accomplished without adversely affecting other programs promoting the use of high occupancy vehicles - i.e., ridesharing; and 4) implementation can be accommodated within existing or planned freeway design.

- City of Tolleson supports this concept as appropriate.

- Maricopa County Highway Department concurs in the policy of providing exclusive bus and HOV lanes on major arterials and freeways as appropriate. ADOT is the responsible agency for HOV lanes on freeways; Maricopa County Highway Department would have the responsibility for any county highway arterials for which the HOV requirement might exist. ADOT has provided to Maricopa County Highway Department its current plans for HOV construction on the valley freeway system. Maricopa County Highway Department concurs with that planned program and will continue to monitor progress for

those portions of the freeway system which are located in unincorporated areas of the county. At this time, there is no need within the existing highway system which might require this application. The concept is being retained as a highway planning policy on a permanent basis. This measure is fully implemented. The Maricopa County Highway Department will continue to monitor this as an ongoing activity.

- Regional Public Transportation Authority and City of Phoenix will continue to pursue the introduction of exclusive bus lanes. Ongoing.

6. Expanded MAG Regional Ridesharing Program (Areawide Strategy)

- City of Avondale will support the Public Awareness Program through local publicity efforts, disseminate ridesharing information, and encourage businesses and industry to initiate rideshare programs beginning in September, 1987. Ongoing efforts.

- Town of Buckeye supports an expanded MAG Regional Ridesharing Program.

- City of Chandler will assist MAG in expanding the Regional Ridesharing Program through the Regional Public Transportation Authority.

- City of El Mirage will support the MAG/RPTA Public Awareness Program and Clean Air Force, assist in the dissemination of ridesharing information, and encourage businesses and industry to initiate rideshare programs on an ongoing basis.

- Town of Gila Bend would support the expansion of the Ridesharing Program.

- Town of Gilbert will assist MAG in expanding the Regional Ridesharing Program through the RPTA. Gilbert will develop and encourage an employee ridesharing program or alternative transportation program during 1987-88.

- City of Glendale will coordinate public awareness programs with MAG, RPTA, and Clean Air Force. Glendale will initiate a ridesharing program for the 1,200 city employees. In addition, the Transit Division will be working with major employers and employment areas to initiate rideshare programs. Public awareness efforts will begin in August, 1988 and the rideshare program will be implemented in January, 1988.

- City of Goodyear will support the MAG/RPTA Public Awareness Program and Clean Air Force through local publicity efforts such as the City newsletter and local news media. Goodyear will also assist in the dissemination of ridesharing information and materials encouraging businesses and industry to initiate rideshare programs. Develop public awareness program - October, 1987. Coordinate with RPTA on dissemination of RPTA ridesharing materials - Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa, as a member of RPTA, is working to support the RPTA in expanding regional ridesharing. The City of Mesa is also surveying its employees in order to develop match lists and encourage carpooling

among its employees. The program will be in place and operating by September, 1987. Once the City of Mesa program is in operation, City staff will assist the RPTA in approaching other employers in Mesa.

- City of Peoria Community Services Department will participate jointly with MAG in promoting the Regional Ridesharing Program. Peoria will post signs that designate and promote ridesharing. Water bills will also contain information to promote ridesharing. Development of public awareness program - December, 1987. City calendar will promote ridesharing - January, 1988. Ongoing coordination efforts.

- City of Phoenix supports this measure.

- City of Scottsdale will continue to work with RPTA staff in the implementation of a rideshare program for employees. Scottsdale will work with the Scottsdale Chamber of Commerce in encouraging large employers to adopt similar programs for employees. The City Transit Program will begin implementation of the City Rideshare Program in June, 1987. Once the City Rideshare Program has begun, Scottsdale will encourage other firms, via the Chamber of Commerce, to adopt similar internal rideshare programs.

- Town of Surprise will encourage the use of carpools and vanpools.

- City of Tempe agrees to implement an in-house rideshare program for all City employees. The program will be based in the City Manager's Office, and commence with a comprehensive needs assessment/survey.

  The City of Tempe further agrees to support and assist the RPTA in all reasonable measures to expand the rideshare program to private employers. These measures may include such items as special inserts in the monthly water bill, articles in the TEMPE TODAY newsletter and letters to Tempe employers from the Mayor. Survey will begin - Fall of 1987. Rideshare program implementation - First Quarter of FY 88-89. Support and assistance to RPTA - Ongoing.

- City of Tolleson supports the expansion of the MAG Regional Ridesharing Program and will coordinate with MAG to expand it.

- Town of Wickenburg will support the MAG/RPTA Public Awareness Program and the efforts of the Clean Air Force, through local publicity efforts. The Town of Wickenburg will assist in the dissemination of ridesharing information and encourage businesses and industry to initiate rideshare programs relative to those persons who commute on a regular basis to and from the Phoenix metropolitan area in Maricopa County. The Town of Wickenburg will coordinate with the RPTA on the dissemination of RPTA ridesharing materials.

- Town of Youngtown supports the MAG efforts to expand the Regional Ridesharing Program.

- Maricopa County Facilities Management is an active participant in the MAG Rideshare Program. One staff person is assigned to coordinate the effort. The County has a computer link directly with MAG. A periodic schedule of employee notification is underway with

information being distributed with paychecks and in the in-house newsletter (Insider). Efforts began in September, 1986 and will continue through November, 1987. The County ridesharing program is ongoing.

- Arizona Department of Transportation annually has provided funding for the Capitol Complex Rideshare Program, administered by the Energy Office of the Arizona Department of Commerce. This program promotes the use of ridesharing by State employees working in the Capitol area. This program is coordinated with the MAG Regional Ridesharing Program operated by the Regional Public Transportation Authority. ADOT support for the Capitol Complex Rideshare Program will continue in fiscal year 1988, and will reflect a 53 percent increase compared to the FY 1987 funding level. Current program objectives include: initiate vanpool operation, conduct a computer survey, conduct a major promotional campaign, work with the City of Phoenix to promote bus ridership by State employees, distribute newsletters about carpooling, maintain the efforts of State agency rideshare coordinators, and continue cooperation with the Arizona Department of Administration, regarding parking management. Effectiye date of FY 1988 funding - October, 1987. Summary of program results - November, 1988.

- Maricopa Association of Governments agrees to expand the Regional Ridesharing Program through the Regional Public Transportation Authority. With a combination of Federal Highway Administration funds and monies from the Exxon Restitution Fund, the program has been expanded significantly. Staff has been increased from two to five people, with additional contract support for clerical activities. Three employer marketing representatives have been hired to work directly with valley employers to design internal rideshare programs for each business.

  The main objective for the program is to develop transportation management plans that will promote a number of different modes of travel, (i.e. transit, carpooling, vanpooling, bicycling), thereby reducing the use of single occupant vehicles. Other measures such as alternative work hours will be promoted to help reduce localized congestion problems. The goal for the 1987 program year is to develop programs in all local governments, the top 20 valley employers and a wide variety of small and medium sized businesses. A total of 125 firms will be contacted in 1987 and 700 firms will be contacted by 1995.

  In addition to the marketing services, the computer pool match systems have been enhanced and the efforts toward personalized matching services have been expanded. There is more direct contact with the rideshare applicants, and greater emphasis has been placed on informing them about the various transit alternatives that are available to them.

  Initiate program - January, 1987

  Upgrade pool match computer equipment - February, 1987

  Hire and organize staff for the expanded Rideshare Program - March, 1987

Develop marketing plan and promotional literature for site specific program; organize public awareness activities to promote "Rideshare Day" events - March to April, 1987

Develop employee transportation coordinator training; conduct major update of applicant data base - May, 1987

Develop video presentations on flextime, alternative transit modes, overcoming objections to ridesharing, and employer rideshare incentives - June to August, 1987

Ongoing Efforts:

a. Contact employers to develop specific programs
b. Conduct evaluation of program
c. Coordinate with local Chambers of Commerce to organize group employer meetings
d. Conduct employee transportation coordinator training sessions
e. Install off-site terminals in large employer rideshare programs
f. Publish quarterly rideshare newsletter
g. Establish vanpool program in Maricopa County

7. Model Trip Reduction Ordinance - Employer Based Transportation Management (Areawide Strategy)

- Town of Buckeye will provide a representative for the Working Group for the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program. Buckeye commits to adopt the ordinance within three months of final approval of the model by MAG.

- City of Chandler has appointed a local representative to serve on the Working Group for the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review and provide input on the proposed ordinance and consider for adoption in March, 1988.

- Town of Gila Bend would support the development of the Model Trip Reduction Ordinance by MAG although the only large employer in the area lies outside the town limits.

- Town of Gilbert supports the development of the Model Trip Reduction Ordinance and Coordinated Parking Management Program by MAG.

- City of Glendale staff will participate and assist in the MAG program to develop a Model Trip Reduction Ordinance. Glendale will adopt an ordinance that will embody appropriate trip reduction measures for Glendale. Efforts will begin in May, 1987 and continue through June, 1988.

- City of Goodyear supports the preparation of the Model Trip Reduction Ordinance by MAG. Goodyear will review and provide input on the proposed ordinance and consider for adoption. Efforts began in January, 1987 and continue through March, 1988.

- Town of Guadalupe will provide a representative for the Working Group for the MAG Model Trip Reduction Ordinance. Guadalupe commits to adopt and implement it when completed. Adoption will be three months after final approval by MAG.

- City of Mesa supports MAG in preparing the ordinance and has designated a representative of the City to serve on the Working Group for the preparation of the ordinance. Mesa will carefully review and consider the ordinance for adoption when completed. If Mesa adopts the ordinance, the City will develop a plan for implementation. Mesa will review and decide whether to adopt the Model Trip Reduction Ordinance within ninety after its completion and approval by MAG.

- City of Peoria supports MAG in the preparation of the Model Trip Reduction Ordinance and will consider adoption in March, 1988.

- City of Phoenix will participate and assist in the MAG program to develop a model ordinance for future consideration by Phoenix and other MAG area communities.

- City of Scottsdale will review the MAG Model Trip Reduction ordinance and determine which, if any, recommendations are appropriate and feasible. Adoption of a local ordinance could be considered 90 to 120 days after completion of the model ordinance by MAG.

- Town of Surprise will cooperate with other municipalities or governments in implementing the Model Trip Reduction Ordinance.

- City of Tempe agrees to support the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Study and to consider adoption of the measures recommended when the study is completed. Consideration by the Council will be in the third or fourth quaters of FY 1987-88 with implementation targeted for the first and second quarters of FY 1988-89.

- City of Tolleson supports the preparation of a Model Trip Reduction Ordinance which will be prepared by the Maricopa Association of Governments and will consider it for adoption when presented.

- Town of Wickenburg supports the hiring of a consultant to prepare the Model Transportation Systems Management or Trip Reduction Ordinance. The Town of Wickenburg will review and provide input on the proposed Ordinance and consider for adoption. Wickenburg will review the ordinance - January, 1988. Wickenburg will consider the adoption of an ordinance - March, 1988.

- Town of Youngtown supports MAG efforts in this measure.

- Maricopa County Office of the County Manager will designate a Maricopa County staff person to serve as a liaison to MAG in the development of a Model Trip Reduction Ordinance. Staff person designated - September, 1987. Efforts will continue through June, 1988.

- The Maricopa Association of Governments will prepare a Model Trip Reduction Ordinance and Coordinated Parking Management Program for consideration for adoption by the MAG cities, towns, and Maricopa County. Specifically, MAG has selected K. T. Analytics, Inc. as a

qualified consultant with expertise in transportation systems management. The consultant will be responsible for preparing the Model Transportation Systems Management or Trip Reduction Ordinance and Coordinated Parking Management Program. The consultant will also work closely with a short-term MAG Working Group composed of representatives from local jurisdictions, Maricopa County and the private sector. The working group will critically review consultant products and also solicit input from the private development community. Approximately six months will be required for the consultant to complete the proposed project. The estimated time required for each task is provided below. Tasks overlap one another in terms of time and a June, 1987 commencement date is targeted for consulting services.

- Arizona Legislature passed S.B. 1360 in 1987 which requires cities and counties to include air quality measures in their general plans. They may also adopt trip reduction ordinances. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority will have a representative on the MAG Working Group which will assist the consultant in designing the ordinance. Once the ordinance is drafted, Regional Rideshare staff will work with the local governments and MAG to see that the ordinances are adopted in the various jurisdictions. Assistance will be provided with designing the performance requirements for businesses and deciding which trip reductions measures would be best suited to the different locales. When the ordinances are adopted, the Rideshare staff can assist the local jurisdictions to inform businesses of the new requirements, train them on rideshare techniques, and help them develop specific programs tailored to their company's needs. Appoint rideshare representative to the Model Ordinance Working Group - June, 1987. Work with consultant to develop model ordinance - June to November, 1987. Ongoing efforts.

8. <u>Voluntary No Drive Days Program (Areawide Strategy)</u>

- City of Avondale will support this media campaign and will also develop and implement a local public awareness clean air program beginning in September, 1987.

- Town of Buckeye supports the Voluntary No Drive Days Program.

- City of Chandler agrees to support a regional campaign for Voluntary No Drive Days through public service announcements on City Cable Channel 35, utility bill inserts, and articles in monthly newsletter. Chandler Public Works Department will coordinate and conduct local traffic counts to measure any traffic reduction impact of the campaign. Activities will begin on approximately October 1, 1987.

- City of El Mirage Manager's Office will coordinate with the lead agency by preparing newsletters, encouraging staff to participate and proposing a resolution to support the areawide effort.

- Town of Gila Bend supports all efforts to encourage clean air no drive days and a campaign for public awareness. Gila Bend could promote this measure on the Cable TV Information Channel and use of local news media. Implementation as soon as possible.

- Town of Gilbert Manager and Engineering Department will support the no drive campaign through public service announcements on the Town public access channel and articles in the Citizens Newsletter. Town Engineering Department will coordinate and conduct local traffic counts to measure any traffic reduction impact of the campaign. Planning and preparation will continue through October 1, 1987.

- City of Glendale will support the campaigns of MAG and the Clean Air Force. Glendale will develop a clean air education/awareness program. Program development will begin in August, 1987 and the program will be initiated in January, 1988.

- City of Goodyear agrees to support the Maricopa County Health Department, Regional Public Transportation Authority, Maricopa Association of Governments, and the Phoenix Metropolitan and Local Chambers of Commerce in their media campaigns. City of Goodyear will develop and implement a local public awareness clean air program. Program development - September, 1987. Publications - October, 1987 through March, 1988.

- Town of Guadalupe supports this measure.

- City of Mesa will support the no drive campaign through public service announcements and utility newsletter inserts. Mesa will also work with the Mesa Chamber of Commerce to promote the no drive campaign with local businesses.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to support Maricopa County Health Department, the Regional Public Transportation Authority, Maricopa Association of Governments, and the Phoenix Metropolitan and Local Chambers of Commerce in their media campaigns. Peoria will also develop and implement a local public awareness campaign. Develop program - September, 1987. Initiate local publications - October 1, 1987-March, 1988.

- City of Phoenix supports this measure.

- City of Scottsdale Communications and Public Affairs Office working in conjunction with MAG, Maricopa County Health Department, and Regional Public Transportation Authority will support the public awareness/no drive day campaign conducted by the Phoenix Metropolitan Chamber of Commerce, and will institute a Scottsdale publicity campaign. Efforts will begin - July, 1987. Initiation of Scottsdale publicity campaign - August, 1987. Development of incentive program for no drive day volunteers - September, 1987.

- Town of Surprise will cooperate with regional governments and associations of government in publicizing the Voluntary No Drive Program. Surprise will cooperate with the County and other government officials to monitor the success of the voluntary program.

- City of Tempe agrees to support the efforts of the Phoenix Metropolitan Chamber of Commerce, the Regional Public Transportation Authority and the Maricopa Association of Governments in developing a Voluntary No Drive Days Program.

- City of Tolleson supports the concept of a Voluntary No Drive Days Campaign and will support and coordinate with a regional Authority when the program is implemented.

- Maricopa County Division of Public Health will provide air quality technical data at the beginning of the carbon monoxide season and periodically throughout the season whenever carbon monoxide exceeds the standard to radio and TV media, industries, interested public and private agencies for the Voluntary No Drive Days Program. The County Public Information Office will also support the program by providing appropriate notification to County employees. Public access phone line for general public - June, 1987 to October, 1987. Conduct press conference at beginning of carbon monoxide season - October, 1987. Coordination with Phoenix Metropolitan Chamber of Commerce - October, 1987 to February, 1988. Ongoing efforts.

- Phoenix Chamber of Commerce commits to serve as the coordinating entity for the Voluntary No Drive Days Program. The tentative goal of the program is a reduction in vehicle miles traveled in the metropolitan area of approximately three percent in 1987 and eventually increasing to ten percent by 1995. Program commencement - October, 1987 to January, 1988. Ongoing efforts.

- Regional Public Transportation Authority will assist the Phoenix Chamber of Commerce in the Voluntary No Drive Days Program. The Regional Rideshare staff will coordinate its current rideshare efforts with the No Drive Day activities to put together a consolidated promotional package that private employers can use. The general public awareness activities that will be sponsored by the Rideshare Program will also be tailored to fit into the No Drive Days plan. The Regional Rideshare staff will help the Phoenix Chamber to design the program and coordinate with other interested groups to insure that there is adequate coordination during the inversion season. Planning efforts began - May, 1987. Program implementation - October, 1987 to March, 1988. Program evaluation and planning for next year's program - April to May, 1988.

9. <u>Areawide Public Awareness Program (Areawide Strategy)</u>

- City of Avondale agrees to support the Phoenix Metropolitan Chamber of Commerce in the Areawide Public Awareness Campaign and will also conduct local publicity efforts beginning in September, 1987.

- Town of Buckeye supports the Areawide Public Awareness Program.

- City of Chandler agrees to support the public awareness program conducted by the Phoenix Chamber of Commerce.

- City of El Mirage Manager's Office will coordinate with the Phoenix Metropolitan Chamber of Commerce and will aid in distributing literature to the city staff and residents.

- Town of Gila Bend supports all efforts to encourage clean air no drive days and a campaign for public awareness. Gila Bend could promote this measure on the Cable TV Information Channel and use of local news media. Implementation will be as soon as possible.

- Town of Gilbert will make available coordination services and public facilities to facilitate areawide meetings and education forums. Time will be provided on the public access channel.

- City of Glendale will develop a clean air educational/awareness program to facilitate the implementation of carbon monoxide reduction measures. Program development will begin in August, 1987 and the program will be initiated in January, 1988.

- City of Goodyear agrees to support this effort. Goodyear will complement the regional campaign. Program development - October, 1987.

- Town of Guadalupe supports this measure.

- City of Mesa plans to develop a comprehensive public transit marketing plan for FY 1987-88. The marketing plan will include media buying strategies, public service announcements and community involvement campaigns all aimed at encouraging the citizens of Mesa to use public transit as an alternative to the automobile. Implementation of marketing plan - October 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to support the Phoenix Chamber of Commerce public awareness campaign. Peoria will complement the regional campaign with a local program. Development of public awareness program - December, 1987. Ongoing coordination efforts.

- City of Phoenix supports this measure.

- City of Scottsdale Communications and Public Affairs Office working in conjunction with MAG, Maricopa County Health Department, and Regional Public Transportation Authority will support the public awareness/no drive day campaign conducted by the Phoenix Metropolitan Chamber of Commerce, and will institute a Scottsdale publicity campaign. Efforts will begin - July, 1987. Initiation of Scottsdale Public Awareness Program - August, 1987.

- City of Tempe agrees to support, individually and as a member of the Maricopa Association of Governments, the areawide public awareness program initiated by the Phoenix Metropolitan Chamber of Commerce and other Valley Chambers. The City will also cooperate with the Regional Public Transportation Authority in its public transportation and ridesharing informational programs. In addition, the City of Tempe will use programs already in place to provide citizens with information on air pollution, ridesharing, transit and other mitigation strategies. These ongoing programs include the TEMPE TODAY newsletter, the monthly Mayor and Council Breakfast program, as well as one-time and special events such as the Youth Town Hall which could use air quality as a theme. The City will also continue to provide on request, through its Speakers' Bureau, speakers to schools and community organizations to address the issues of air quality, public transportation, ridesharing, etc.

- City of Tolleson will support and coordinate with the applicable agency to provide a public awareness program as it applies to the City of Tolleson.

- Town of Wickenburg agrees to support the areawide public awareness campaign initiated by the Phoenix Metropolitan Chamber of Commerce and other Valley Chambers. When the program is established, the Town of Wickenburg will begin its efforts.

- Town of Youngtown supports MAG efforts in this program.

- Maricopa County Division of Public Health will provide basic air quality data to all constituent members of MAG for use in Public Awareness Programs. Maricopa County will conduct a public awareness program in conjunction with interested parties and agencies to reach its citizens. County Public Information Office will continue to promote air quality awareness to county employees through coverage in the biweekly newsletter, the Insider and other internal notices. Efforts begin in May, 1987 and continue through August, 1988.

- The Maricopa Association of Governments agrees to support the public awareness program conducted by the Phoenix Chamber as well as other appropriate programs. The Phoenix Metropolitan Chamber of Commerce and the Valley chambers initiated an areawide public awareness campaign during the 1986-87 carbon monoxide season. The Phoenix Chamber intends to continue the public awareness program during the 1987-88 carbon monoxide season and possibly, expand the program to include a twelve month time frame. The Phoenix Chamber of Commerce is in the process of preparing a program implementation schedule for the 1987-88 carbon monoxide season.

- Phoenix Metropolitan Chamber of Commerce will conduct a Public Awareness Campaign for the 1987-88 carbon monoxide season. This will be the second year of the Public Awareness Campaign. Campaign will begin in October, 1987 and continue through March, 1988.

- Regional Public Transportation Authority will be working in concert with other interested groups to assist in a year around public awareness campaign. Some specific elements that RPTA will be involved in include: development of a speaker's bureau to discuss ridesharing, transit, and the design of a rapid transit system; production of public service announcements on alternative modes of transit; posting of carpool signs on valley freeways to encourage carpooling; participation at public events (i.e. State Fair, transportation fairs) to promote ridesharing; taping interviews for local radio, television and cable stations; production of videos related to alternative transit modes for use by community groups, schools and businesses; and production of promotional materials for distribution at public events, shopping malls and other public display areas. Efforts began in March, 1987 and are ongoing.

10. Park and Ride Lots (Areawide Strategy)

- City of Avondale agrees to work with the Regional Public Transportation Authority and City of Phoenix to locate park and ride lots and assist in securing land in conjunction with private entities.

- Town of Buckeye supports the use of park and ride lots.

- City of Chandler will support the inclusion of park and ride lots in the RPTA Regional Plan and projects under the Arizona Department of Transportation.

- City of El Mirage agrees to work with the RPTA and the City of Phoenix to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities on an ongoing basis.

- Town of Gilbert will support park and ride lots consistent with the RPTA Plan as it is developed. Gilbert will cooperate in the identification, placement, and use of park and ride lots to support a public transit network.

- City of Glendale will advocate the inclusion of park and ride lots in the RPTA Regional Plan as well as ADOT projects. Glendale's General Plan, currently under review, includes park and ride lots. The General Draft Plan will be completed in the Summer of 1987.

- City of Goodyear agrees to work with the RPTA and City of Phoenix to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities. Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa, RPTA, and the City of Phoenix Transit Office will work together whenever necessary to locate additional park and ride lots. Mesa will also work with private businesses to encourage the dedication of parking spaces for park and ride use in existing and planned parking facilities. Ongoing.

- City of Peoria agrees to work with the RPTA to locate additional park and ride lots and to provide assistance in securing land in conjunction with private entities. Peoria Community Center was designated as a park and ride location - January 26, 1987. Ongoing efforts.

- City of Phoenix Public Transit Department and RPTA will continue to assist ADOT to expand lots in new parkway, expressway, and freeway corridors. Phoenix will take necessary actions to implement a new Transit Center in the Sunnyslope area at a cost of $650,000. Over the next calendar year, final design and lease arrangements will be initiated for a new transit treatment at Westridge Mall at a cost of $100,000. Also during the next calendar year, engineering and design will begin on a new Express Bus Terminal to be located at Central Avenue and the Papago Freeway at a cost of $7,600,000. A Paradise Valley Mall Transit Center is budgeted at $230,000, as well as two as-yet-unlocated park and ride lots at $2,795,000.

- City of Scottsdale currently has seven Park and Ride lots. The City will continue to pursue lots and investigate opportunities for joint use of such facilities, particularly in new developments. Once a park and ride site is agreed upon by all concerned parties, implementation can occur in sixty to ninety days.

- Town of Surprise will provide parking as available for persons utilizing carpool, vanpool, or public transit facilities. Surprise will review park and ride availability in conjunction with development plans.

- City of Tempe agrees to cooperate with the Regional Public Transportation Authority, the City of Phoenix Public Transit Department and the Arizona Department of Transportation in determining appropriate locations for new park and ride lots and in securing land (although available land in landlocked Tempe is extremely limited) or use of existing facilities for such lots. Presently in Tempe, there are park and ride lots located at: Dorsey north of Apache; Price and Southern (NE); Southern and Mill (SW); Southern and Rural (SW); Baseline and McClintock (NE); Warner and McClintock (SW); and 6th and Maple. The City is currently working with ADOT to assure the relocation of the existing park and ride lot at Southern/Price (scheduled for demolition) in the ADOT right-of-way at the Pima Freeway/Superstition traffic interchange and the construction of a new park and ride facility at the Warner Road/I-10 traffic interchange. Tempe and ADOT have recently identified and, through the RPTA and Phoenix Transit, secured use of a shopping facility parking lot for a park and ride lot for the new south Tempe express route. Vacant land for new lots, however, will be difficult and expensive to acquire since Tempe cannot expand its corporate limits and undeveloped land is scarce. Ongoing efforts. *

- City of Tolleson will support and assist with the responsible agency in locating potential park and ride lots within Tolleson as they become necessary.

- Maricopa County Highway and Planning and Development Departments concur with providing and encouraging the use of park and ride lots to enhance consolidation of vehicle trips along freeways or major arterials having an identified need. This planning principle has been retained on a permanent basis for incorporation into specific projects when justified. In addition, the County maintains monthly contact with ADOT for the valley freeway construction program, including provision of park and ride lots in unincorporated areas. Implementation of this measure has been completed. Maricopa County Highway Department will continue to monitor this as an ongoing activity.

- Arizona Department of Transportation (ADOT) has included in its Fiscal Year 1988-1992 Five-Year Transportation Facilities Construction Program the construction of a park and ride lot adjacent to Interstate 10 at 79th Avenue. In addition, a structure with high occupancy vehicle ramps accessing the interstate median will be constructed to enhance the system efficiency and usage of the 625 vehicle capacity park and ride lot. In addition, ADOT currently is studying potential sites for park and ride lots along the State Highway System and will provide the option to appropriate agencies of purchasing excess ADOT right-of-way for such use where appropriate. It is not anticipated that land specifically for the purpose of park and ride lots will be purchased by ADOT. However, ADOT will offer appropriate excess parcels for purchase by agencies wishing to implement such facilities. Efforts will begin in July, 1987 and construction will be completed by May, 1990.

- Regional Public Transportation Authority and City of Phoenix Public Transit Department will continue to assist ADOT in locating park and ride lots in new and existing parkway, expressway, and freeway corridors. In November, 1986, the RPTA established thirteen park and

ride locations for new regional bus service. These locations and potential new locations are continuously evaluated by the RPTA and City of Phoenix staff. Ongoing.

11. Financial Incentives Including Zero Bus Fares (Areawide Strategy)

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Ordinance and identify those incentives feasible to implement beginning in January, 1989.
- Town of Buckeye supports this measure.
- City of Chandler agrees to consider provisions establishing financial incentives in lieu of parking spaces for employees who do not drive to the workplace, as part of the MAG Model Trip Reduction Ordinance.
- City of El Mirage will review the recommendations in the MAG Model Trip Reduction Study and identify those incentives feasible to implement.
- Town of Gilbert agrees to consider provisions establishing financial incentives in lieu of parking spaces for employers who actively include alternate transportation technology into the employee environment and as part of the MAG Model Trip Reduction Ordinance by January 31, 1988.
- City of Glendale Strategic Planning Department will conduct a study to identify those incentives feasible to implement. The results of this study will be shared with private employers. The study completion date is December, 1988.
- City of Goodyear will review the MAG Model Trip Reduction Study which will address this measure. Goodyear will then identify those incentives feasible to implement. Results of the study will be shared with private employers. Efforts began in January, 1987 and will continue through January, 1989.
- Town of Guadalupe supports this measure.
- City of Mesa agrees to study and implement the subsidization of bus passes for City employees who use public transit to travel to and from work. Mesa also agrees to meet with representatives of Mesa's largest employers and the Chamber of Commerce to encourage similar studies. Study begins - September 1, 1987. Program implementation - January 1, 1988.
- City of Peoria will review the recommendations in the MAG Model Trip Reduction Ordinance and identify those measures feasible for implementation. Results of the study will be shared with private employers. Efforts will be conducted January, 1987 through January, 1989.
- City of Phoenix Rideshare Coordinator will assist Public Transit in its efforts to expand subsidized transit tickets to monthly transit passes. This effort should be completed by Fall, 1987. Phoenix Public Transit and Personnel staff with the assistance of the Air Quality Specialist and Rideshare Coordinator, will continue to provide approximately $100,000 in subsidized transit tickets/passes.

- City of Scottsdale Community and Economic Development will coordinate a program that will involve: 1) Allowing City Employees to work flexible schedules to coincide with bus service or carpools - July, 1987 to July, 1988. 2) Assisting Scottsdale Chamber of Commerce in developing incentive programs for employees - July to December, 1987. 3) Developing incentives for new employers who provide exceptional levels of support for public transit/ridesharing (dependent on a TSM Ordinance).

- City of Tempe agrees, as part of its ongoing employee parking and employee benefits review, to study the possibility of providing subsidized bus/trolley passes to employees who take public transit to the workplace, and to encourage major private employers, Arizona State University, and the high schools to do likewise (through letters). Study conducted - Fall, 1987. Program implementation, if feasible - July, 1988.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Maricopa County Personnel Department agrees to initiate a program with, support of the Maricopa County Board of Supervisors, to give to Maricopa County employees a $15.00 per month County subsidy to be used solely for the purpose of defraying bus fares. Upon approval by the Board of Supervisors, the program of bus fare subsidy would be administered through the Employee Relations Division existing network of the County's Industrial Recreation Council (IRC) representatives. Initiate program - July, 1987. Financial proposal and resolution to the Board of Supervisors - August, 1987. Begin subsidy program - December 1, 1987. Program analysis - January to June, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which allows a tax deduction for employers who pay for public transit for their employees to and from work. Also, the bill authorizes the Director of the Department of Administration to promulgate rules to reimburse state employees if they use public transit to and from work. Counties may adopt ordinances to reimburse their employees for using public transit. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and MAG Regional Rideshare staff will consult with employers to implement direct financial incentives that will encourage their employees to rideshare. Staff will attempt, whenever possible, to have employers subsidize 100 percent of the cost for employee transit passes. If this is deemed inappropriate, we will try to convince employers to provide a $15 per month transit subsidy. This $15 per month is the most common subsidy used because of its status as a Federal non-taxable benefit and since it is not tax deductible at State level.

  Regional Rideshare staff will also work with employers to subsidize vanpooling for their employees. Although vanpooling holds no employer tax benefits, it still can reduce company parking expenses and localized congestion. RPTA will also work with legislative aides to determine if

changes in state legislation can be made to make the allowable subsidies for vanpool equal to those for transit. Materials will also be developed which explain the Federal and State tax benefits on subsidies. Proposed legislation will be monitored and communicated to clientele. Efforts began in March, 1987 and will be ongoing.

12. Preferential Parking for Carpools and Vanpools (Areawide Strategy)

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Study and consider the implementation of this measure beginning in January, 1989.

- Town of Buckeye supports this measure.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review the results of the MAG Model Trip Reduction Study in January, 1987 and consider implementation of this measure.

- Town of Gilbert will review the recommended solutions developed in accordance with the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale will develop an internal policy to encourage carpooling and vanpooling among employees. Preferential parking in commercial and industrial areas will be addressed as part of the transportation element in the City's General Plan revision process. General Plan draft will be completed in the Summer of 1987 and the policy development will be completed in December, 1987.

- City of Goodyear will review the results of the Model Trip Reduction Study which will address this measure and then consider implementation of this measure. Efforts will begin January, 1987 and continue through January, 1989.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to conduct an in-house study to determine the feasibility of providing preferential parking for carpools and vanpools. Should study results prove favorable, Mesa agrees to provide parking for carpools and vanpools where feasible. Mesa will also work with the Mesa Chamber of Commerce and employers of large firms to encourage private sector evaluation and implementation. Evaluation completed - October 1, 1987. Development of implementation plan if feasible - April 1, 1988. Preliminary meetings with Chamber of Commerce - November 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will review the results of the MAG Model Trip Reduction Study and then consider implementation of this measure. January, 1987 through January, 1989.

- City of Phoenix Finance Department is working with the Rideshare Coordinator in developing a new City employee parking policy which will put increased emphasis on preferential parking for carpools and vanpools. The Finance Department and other appropriate staff, with the assistance of the Rideshare Coordinator, will develop and implement the policy.

- City of Scottsdale Community and Economic Development Department agrees to provide preferential parking for City employees who carpool immediately. Scottsdale will consider as part of the Model Trip Reduction Ordinance, an ordinance to require private employers to implement preferential parking policies for carpools and high occupancy vehicles. This would require approximately twelve months for implementation. Scottsdale will also work with the Chamber of Commerce in the development of a volunteer program which could be implemented by employers. This would require approximately six months for implementation.

- City of Tempe agrees, as part of its ongoing employee parking review and in conjunction with implementation of the ridesharing program, to study the possibility of providing preferential parking for carpools and vanpools and to encourage major employers, Arizona State University, and the school districts, to do likewise. Conduct study - Fall, 1987. Program implementation, if feasible - July, 1988.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Maricopa County Manager's Office has formed an adhoc committee to investigate solutions to the parking problems at the Downtown Complex in Maricopa County. County employees have been surveyed and recommendations have been forwarded to the Board of Supervisors. Process is ongoing. Efforts began in 1985. 146 parking spaces reserved for carpoolers - 1981 to December, 1987. Reallocation of 100 additional parking spaces for carpoolers - January, 1988. Ongoing computer programming for parking space management - April, 1986 to June, 1988.

- Arizona Department of Transportation will provide preferential, close-in parking for employee carpools. ADOT has maintained this policy for many years and will continue to do so. In addition, information on public transit services is made available to employees. Ongoing efforts.

- Arizona Legislature passed S.B. 1360 which requires that State employees must be given preferential parking if they carpool or vanpool. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and MAG Regional Ridesharing staff will attempt to convince all employers to provide preferential parking for their employees who carpool or vanpool. Rideshare staff will market this incentive during the company survey period and throughout the year to the maximum extent possible. Staff will also develop a guidebook to disseminate to employers explaining how to set up a preferential parking program as well as how to monitor

its use. After analyzing the company's needs, Regional Rideshare staff will explain to the employer which program they believe to be best suited for that particular company and try to obtain reserved spaces or parking areas, carpool/vanpool signs, or covered parking for carpools and vanpools. Ongoing.

13. Mandatory Parking Changes for Employees (Areawide Strategy)

- City of Avondale will review the results of the study and consider the implementation of this measure beginning in January, 1989.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will review the results of the MAG Model Trip Reduction Study in January, 1989 and consider implementation of this measure.

- Town of Gilbert agrees to review this concept as developed in accordance with the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale will participate in the development of the MAG Model Trip Reduction Ordinance which will address Mandatory Parking Charges for Employees. Glendale will determine the feasibility of implementing this measure when the ordinance is completed. Efforts will begin in May, 1987 and continue through May, 1988.

- City of Goodyear will review the results of the MAG Model Trip Reduction Study which will address this measure and then consider implementation. Efforts will began in January, 1987 and continue through January, 1989.

- City of Mesa will review the recommendation for the MAG Model Trip Reduction Study which will be addressing this measure. The City of Mesa will be the responsible agency for its employees. Mesa will implement the program within ninety days after completion and approval by MAG.

- City of Peoria will review the results of the MAG Model Trip Reduction Ordinance which will address this measure and then consider implementation January, 1987 through January, 1989.

- City of Phoenix supports this measure.

- City of Scottsdale will continue to assess the feasibility of this measure and will implement the measure if it is appropriate and feasible to do so.

- City of Tempe agrees to consider the recommendation concerning Mandatory Parking Charges for Employees which will be included in the Maricopa Association of Governments Model Trip Reduction Ordinance and Coordinated Parking Management Study.

- City of Tolleson is waiting for the Model Trip Reduction Ordinance to be completed. Strategies for accomplishing this measure will be addressed in that ordinance.

- Regional Public Transportation Authority will have a representative on the MAG Working Group which will assist the consultant in developing a workable model for this region. Once the model ordinance is complete, Regional Rideshare staff will work with the local governments and MAG to see that the system is adopted in the various jurisdictions. The rideshare staff is currently working with these local governments and the private sector to define their parking problems and begin to outline what incentives could be used to promote ridesharing for their employees. When the model is developed, the rideshare representatives will be able to take their existing information and incorporate it into the parking management design. Efforts began in June, 1987 and will be ongoing.

14. <u>High Occupancy Vehicle Lanes on Freeways (Areawide Strategy)</u>

- City of Avondale will encourage the Arizona Department of Transportation to include HOV lanes in the design of new freeways. Ongoing efforts.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to include HOV lanes in the design of new freeways where feasible on an ongoing basis.

- City of El Mirage agrees to encourage ADOT to include HOV lanes in the design of new freeways on an ongoing basis.

- Town of Gilbert agrees to encourage ADOT to incorporate HOV lanes into the development/design of the San Tan Freeway as it passes through Gilbert, as well as encourage use of such designs in the urban freeway system.

- City of Glendale will support initiatives by MAG and the RPTA to get ADOT to include HOV lanes in the system. Ongoing efforts.

- City of Goodyear agrees to encourage ADOT to include HOV lanes in the design of new freeways. Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge and work with ADOT to carefully determine the locations and proposed funding sources for HOV lanes on freeways. Ongoing.

- City of Peoria agrees to encourage ADOT to include HOV lanes in the design of new freeways. Ongoing.

- City of Phoenix will aggressively work with the Arizona Department of Transportation and the Regional Public Transportation Authority toward the inclusion of additional HOV lanes on new freeways.

- City of Scottsdale agrees to ask the Arizona Department of Transportation to provide separate high occupancy vehicle lanes on all new freeways which are built to serve Scottsdale residents and businesses. Over fifteen miles of the Outer Loop Freeway will be built over the next fifteen years. Almost $3 billion has been earmarked by Maricopa County voters for the construction of a new set of freeways in Maricopa County. Efforts will begin in January, 1987. Ongoing.

- Town of Surprise will cooperate with regional transportation authorities and State Department of Transportation to designate lanes for high occupancy vehicle use.

- City of Tempe agrees, individually and through the Maricopa Association of Governments and the Regional Public Transportation Authority, to encourage the Arizona Department of Transportation to include high occupancy vehicle lanes in the design of new freeways where feasible, given right-of-way requirements and other design considerations. Ongoing.

- City of Tolleson supports this measure.

- Maricopa County Highway Department will coordinate with ADOT to ensure consideration of this measure as appropriate in county areas.

- The Arizona Department of Transportation has included in its Fiscal Year 1988-1992 (and prior) Five-Year Transportation Facilities Construction Programs the construction of sixty miles of high occupancy vehicle lanes in key central freeway corridors by 1995. The location of these projects and timing of completion are shown under the implementation schedule below. In addition, ADOT will evaluate the use of high occupancy vehicle lanes and/or bypass entrance ramps for all freeway/expressway corridors. High occupancy vehicle lanes have been evaluated for the Black Canyon and Maricopa Freeways in a study completed in December, 1986. The option for high occupancy vehicle lanes or bypass ramps is currently under investigation for each new freeway/expressway corridor being studied by ADOT for implementation in the MAG area. Fourteen miles of HOV lanes have been constructed as part of I-10 completion between 83rd Avenue and 17th Avenue - Completed. Twenty miles of HOV lanes are under or nearing construction as part of I-10 completion between 27th Avenue and 40th Street. This facility is expected to be open to traffic by 1990 - Open in 1990. Six miles of new HOV lanes are programmed for FY 1988 as part of an effort to improve I-10 between 40th Street and Southern Avenue. Design is now underway on this project - Open in 1990. Twenty miles of new HOV lanes are planned as part of the East Papago Freeway. Portions of this facility are now under construction, while other sections are under or nearing design. This facility is tentatively scheduled to be fully completed by 1994 - Open in 1994.

- Regional Public Transportation Authority is working with the City of Phoenix and ADOT on developing strategies for the operation of regional bus services on the freeway system. Included in the planning for these operations is the use of HOV lanes where they are provided. Ongoing.

15. High Occupancy Vehicle Lanes on Existing Arterials as Appropriate

- City of Chandler will consider providing high occupancy vehicle lanes on existing arterials where appropriate.

- Town of Gilbert will consider providing HOV treatments on existing arterials where use of such lanes is part of a comprehensive transportation plan from within the territory as well as adjacent cities.

- City of Glendale will review this measure for implementation where appropriate once the short and long range transit improvements are completed.

- City of Phoenix will maintain the existing bus only lanes on Central/First Avenues. Bus only lanes will be restored on Central Avenue upon completion of construction of the underground parking structure. Phoenix will continue to look for opportunities for additional applications of this measure. FY 1986-87 Operating Budget includes $400,450 to support ten full-time equivalent employees to evaluate additional traffic control measures, including this measure.

- City of Scottsdale Planning and Traffic Engineering Program will coordinate ongoing studies concerning the feasibility and appropriateness of providing high occupancy vehicle facilities on arterial streets in the city. Since the planning program also is responsible for implementing transit improvements, internal coordination and the proper sequencing of transportation improvements will be assured. Additional coordination will be required with the Regional Public Transportation Authority, Phoenix Transit, and neighboring municipalities. Efforts will be ongoing.

- Town of Surprise will cooperate with regional transportation authorities and State Department of Transportation to designate lanes for high occupancy vehicle use.

- Maricopa County Highway Department supports the installation and use of high occupancy vehicle lanes on heavily traveled freeways and some major arterials. In general, traffic on the county highway system is not nearly as congested as the more dense urban traffic in incorporated municipalities. Consideration of HOV lanes, as appropriate, will be part of Maricopa County Highway planning policies. At present there is no location in the existing Maricopa County Highway System for which HOV lanes might be feasible. When the need can be shown relative to a particular project, the feature will be included as appropriate.

16. High Occupancy Vehicle Ramps Which Bypass Freeway Ramp Metering Signals (Areawide Strategy)

- City of Avondale will recommend and support ramps in construction of transportation systems through Avondale.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage the Arizona Department of Transportation to provide HOV bypass ramps where appropriate and feasible on an ongoing basis.

- City of El Mirage will recommend and support ramps in construction of transportation systems through El Mirage.

- Town of Gilbert actively endorses the use of the urban interchange design for the San Tan Freeway through Gilbert. Gilbert agrees to work with ADOT to secure freeway access and exit technology which will minimize traffic delays. Ongoing through the year 2015.

- City of Glendale will recommend and support ramps in construction of the transportation system through Glendale. Ongoing efforts.

- City of Goodyear will recommend and support ramps in the construction of transportation systems through Goodyear.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge ADOT to study and implement, where feasible, bypass ramps for high occupancy vehicles. Ongoing.

- City of Peoria will recommend and support ramps in construction of transportation systems through Peoria.

- City of Phoenix will continue to cooperate with and assist ADOT in the formulation of a Freeway Management System, which addresses this measure. Staff from Streets and Traffic Department will assist ADOT in these efforts.

- City of Scottsdale agrees to ask the Arizona Department of Transportation to provide high occupancy vehicle ramps which bypass freeway ramp metering signals at all metered signals at all metered interchanges in the city. The planned Outer Loop in Scottsdale will have fifteen interchanges, all of which have the potential to provide separate bypass metering signals and ramps for high occupancy vehicles. Efforts began in June, 1987 and are ongoing.

- City of Tempe supports the use of high occupancy vehicle ramps which bypass freeway ramp metering signals and agrees, individually and through the Maricopa Association of Governments and the Regional Public Transportation Authority, to encourage the Arizona Department of Transportation to provide for such ramps where feasible and appropriate. Ongoing.

- City of Tolleson supports these ramps.

- Arizona Department of Transportation is giving consideration to constructing new freeway on-ramps of sufficient width to easily allow striping of HOV bypasses around ramp meters when warranted by traffic demands. These extra wide ramps are to be included in Outer Loop elements now under construction (seven miles), Outer Loop elements under design (twelve miles), and Hohokam/East Papago Extension facilities nearing design (thirteen miles). High occupancy vehicle lanes have also been evaluated for the existing Black Canyon and Maricopa Freeways in a study completed in December, 1986. In June, 1987 a bypass around the ramp meter on the southbound I-17 on-ramp at Dunlap Avenue was opened for buses. Complete design of Outer Loop elements now under design and elements of Hohokam/East Papago nearing design - July, 1991.

- Regional Public Transportation Authority is working with City of Phoenix staff to develop queue jumper plans for both transit vehicles and carpools, and is proposing to use these as a major marketing tool. Ongoing.

17. Mitigation of Freeway Construction Impacts (Areawide Strategy)

- City of Avondale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to take all feasible measures to reduce negative impacts of freeway construction on air quality on an ongoing basis.

- City of El Mirage will request that ADOT implement a construction mitigation program on freeways.

- Town of Gilbert supports active control and minimizing the interruption of traffic flow throughout the freeway construction process. Ongoing through the year 2015.

- City of Glendale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- City of Goodyear will request that ADOT implement a construction mitigation program on freeways.

- Town of Guadalupe supports this measure.

- City of Mesa will encourage ADOT to implement a construction mitigation program for new freeway construction according to ADOT's twenty year construction program.

- City of Peoria will request that ADOT implement a construction mitigation program on freeways.

- City of Phoenix, under contract with ADOT, will provide interim bus service paralleling I-17 during construction of the I-10/I-17 Interchange until January, 1988 at a cost of $163,000. Phoenix will respond to future requests by ADOT to contract for additional interim transit service.

- City of Scottsdale will urge the Arizona Department of Transportation, the development agency, to mitigate the negative impacts of construction on air quality. Concern has been expressed about the negative air quality impacts of this construction activity. ADOT uses an extensive fleet of water trucks to water down the exposed earth to prevent dust and reduce the concentration of other air pollutants. Other erosion and sedimentation control measures, such as project sequencing and scheduling to reduce air pollution also will be investigated. Efforts will begin in June, 1987 and are ongoing.

- City of Tempe agrees to encourage the Arizona Department of Transportation to take all reasonable measures to reduce the negative impact of freeway construction on air quality - i.e., dust reduction measures, detours constructed in a manner not to impede traffic unnecessarily, etc. - and to cooperate with ADOT in undertaking those measures where appropriate. Ongoing.

- City of Tolleson supports this measure and will coordinate with the Arizona Department of Transportation in these efforts if they become applicable to Tolleson.

- Arizona Department of Transportation will maintain a drive information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Starting in March, 1986, this type of program was effectively applied by the ADOT Community Relations Office to lessen the disruption resulting from the construction of the new freeway-to-freeway interchange between Interstate Routes 10 and 17. This program was recommended, together with traffic flow improvements and localized transit and ridesharing promotion, in a study of transportation system management options for mitigating traffic disruption in the I-10/I-17 construction area. Similar public information efforts will be pursued in the future as appropriate, to mitigate the traffic impacts of constructing other new freeways and expressways in the MAG area.

  Specific activities included in this effort involve production and airing of advertising campaigns for flex-time, carpooling, bus ridership, freeway driving tips, and driving only whenever absolutely necessary. Also, a major public information campaign for the State Fair to identify alternative routes and promote use of alternative modes will be pursued. Ongoing efforts will be directed at daily construction alerts, civic presentations, and monthly traffic system management meetings. New freeway driving tip brochure - July, 1987. Production of Fall advertising campaign and survival guide to freeway construction - August, 1987. Airing of campaign for flex-time, carpooling, and bus ridership - September, 1987. Plan mitigating measures for State Fair traffic - October, 1987. State Fair campaign for alternative routes, carpooling, flex-time, and bus ridership - November, 1987. Daily construction alerts - Ongoing. Presentations on freeway driving tips, flex-time, carpooling, bus ridership - Ongoing. Meetings of Traffic System Management Implementation Committee and TSM Marketing Committee - Ongoing.

18. & 19. <u>Freeway Surveillance, Ramp Metering, and Signage (Areawide Strategy)</u>

- City of Avondale will request that the Arizona Department of Transportation implement a construction mitigation program on freeways.

- Town of Buckeye supports this measure.

- City of Chandler agrees to encourage ADOT to install traffic surveillance and control systems and ramp metering where feasible on an ongoing basis.

- City of El Mirage will request that ADOT implement a traffic surveillance and control system including electronic surveillance and message signs.

- Town of Gilbert agrees to work with ADOT to secure freeway access and exit technology which will minimize traffic delays. Ongoing through the year 2015.

- City of Glendale will develop a computerized monitoring program to track the progress made by ADOT with the implementation of this measure.

- City of Goodyear will request that ADOT implement a construction mitigation program on freeways.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to urge and work with ADOT to implement a freeway surveillance and control system. Ongoing.

- City of Peoria will request that ADOT implement a construction mitigation program on freeways.

- City of Phoenix Streets and Traffic Department will continue to work with ADOT on the design of this system to insure proper interface with traffic flow on major streets.

- City of Scottsdale has contacted the Arizona Department of Transportation and has convinced the department to design and provide the necessary conduit and necessary pavement loops for ramp metering. While the standard design specifications do not include the fixtures themselves, a low cost opportunity is provided for the surveillance equipment when it is required in the future. The City of Scottsdale agrees to request the Arizona Department of Transportation to provide the complete set of freeway monitoring devices, meters, causes and electronic signs "up front" as the facility is under construction. Efforts will begin in June, 1987 and will be ongoing.

- City of Tempe agrees, individually and through the Maricopa Association of Governments, to encourage the Arizona Department of Transportation to install traffic surveillance and control systems and ramp metering on freeways where feasible and appropriate, to ensure a free flow of traffic. These measures should be used where the installation of such measures would not result in unacceptable traffic backup on ramps and/or increased congestion on arterials. Ongoing.

- City of Tolleson supports this measure and will coordinate with the appropriate agency in those efforts if it becomes applicable to Tolleson.

- Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the existing I-17/I-10 corridor, funds have been programmed over the next five years for installation of an extensive freeway management system which may include a control center, detector loops, call boxes, TV cameras, variable message signs, lane

control signs, intersection controllers, and ramp meters. Several variable message signs already have been installed to advise motorists of accidents, lane closures, and suggested alternative routes as a strategy to mitigate adverse traffic impacts resulting from road construction in the I-10/I-17 corridor. This system has been studied extensively in a report completed in December, 1986, and the system will be under design in 1988.

- Regional Public Transportation Authority and City of Phoenix staff will continue to work with ADOT on the design of this system to insure proper interface with traffic flow on major streets. Ongoing.

20. Computerized Synchronization of Traffic Signals

- City of Avondale proposes working with the City of Goodyear in studying the efficiency and feasibility of a synchronization traffic signal system.

- City of Chandler agrees to implement a computerized traffic signal system where feasible and appropriate.

- City of El Mirage will encourage ADOT to implement a synchronization of signals along the State highway within city limits.

- Town of Gilbert will actively work with surrounding communities in developing a comprehensive, integrated system of computer synchronized traffic controls.

- City of Glendale currently has a computerized, synchronized traffic signal system and will continue to expand the system as development occurs. Glendale is already in compliance with the 1987 Arizona air quality legislation. Glendale supports a regional study to determine the feasibility of an areawide, coordinated traffic system so that there will also be maximum synchronization at intersections along municipal boundaries. Ongoing.

- City of Goodyear Planning Department will study this measure along with the implementation of reversible lanes on arterials and one way streets. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Mesa agrees to continue to work on implementing the use of computerized synchronization of traffic signals for major arterial streets. Current plans call for computerized signalization of at least 75 arterial street miles with all 197 intersections having signals being computerized. The remaining 86 intersections are scheduled to be under system control by February, 1988. This will be followed by a fine tuning of timing plans which could take up to three months.

- Town of Paradise Valley will implement this measure.

- City of Peoria Public Works Department and Engineering Department will conduct a study to determine the feasibility of the coordination of groups of signals; the system timing of pre-timed signals; and the advanced master control of signal systems. Ongoing study.

- City of Phoenix will upgrade the communication system portion of the centralized computer managed signal control system during FY 1987-88. Thirty-five additional traffic signals will be placed under computer control during FY 1987-88. Included in the FY 1987-88 Capital Improvement Program budget is $158,100 for upgrading and expanding the communication system.

- City of Scottsdale is currently negotiating a contract with a consulting traffic engineer to accomplish a comprehensive revision of the current utilization of the system. After the current system is optimized, a trial period will be provided to evaluate the effectiveness of the current system. Pending the result of this evaluation, either the existing system will be expanded or a new system will be purchased. Complete contract negotiation - July, 1987. Efforts will continue through September, 1990.

- City of Tempe agrees to continue implementation of its computerized traffic signal system. The contract for the City's computerized traffic signal system which provides for synchronization was awarded in 1983. The City, as of June, 1987, had a total of 131 traffic signals in operation. Of these, 106 were under computer control as of December, 1986; eleven have been brought under control in the first six months of 1987 for a total of 117; and the remaining thirteen are scheduled to be placed under control by the end of fiscal year 1987-88. All new signals are placed under control at the time of installation. Ongoing.

- Maricopa County Highway Department supports the use of synchronized traffic signals on both city and county systems. In addition, ARS 49-474.01 requires synchronization of county traffic signals on county roadways having a traffic flow exceeding fifteen thousand motor vehicles per day. It is not believed, however, that synchronization is technically feasible where spacing between adjacent signals exceeds 1/2 mile. In addition, synchronization in both traffic directions is sometimes physically impossible when signal spacings are incompatible. Compliance with ARS 49-474.01 will require an analysis of the Maricopa County signalized intersections, the daily traffic of each intersection, and whether or not each signalized intersection exceeding 15,000 ADT can be synchronized. Synchronization equipment must then be installed as necessary. Complete analysis to identify signalized county intersections requiring synchronization - July, 1987. Complete installation of synchronization equipment at signalized intersections requiring synchronization and for which synchronization is physically possible - March, 1988.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will pursue synchronization of traffic signals on State Highways in the nonattainment area in cooperation with local municipalities. Typically, on urban portions of State Highways, local governments handle traffic control through an agreement with ADOT.

  ADOT will survey State Highway System mileage in the nonattainment area to determine the current synchronization status of municipal systems affecting State Routes. Based on appropriate criteria, those segments of the State System needing synchronization or upgraded

signal coordination will be identified and programmed for improvement. Effective date of S.B. 1360 - August, 1987.

- Arizona Legislature passed S.B. 1360 which requires that cities, counties and the state must synchronize traffic control signals on roads in a nonattainment area which exceed 15,000 vehicles per day. S.B. 1360 effective date - August, 1987.

21. Reversible Lanes on Arterials

- City of Avondale Public Works Department will study the efficiency and identify any appropriate situations where reversible lanes could be installed.

- Town of Gilbert agrees to review its transportation plans and development guidelines to use reversible lane arterials where such an approach results in improved traffic flow, reduced congestion, and represents compatibility with the transportation plan.

- City of Glendale General Plan will address the issue of reversible lanes and an engineering review will also be conducted. The reviews will then be presented to the City Council. The General Plan will be completed in the Summer of 1987, the engineering review will be completed in the Fall of 1987, and Council consideration will be in the Winter of 1988.

- City of Goodyear Planning Department will study the efficiency of this measure and identify any appropriate situations where reversible lanes could be used. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Mesa will identify any appropriate streets where reversible lanes would result in traffic flow improvements. Mesa will conduct a study by December 1, 1987 to determine streets where reversible lanes could be implemented. Implementation schedule will be developed after feasibility study is completed.

- City of Peoria Public Works and Engineering Department will study the efficiency of this measure and identify any appropriate uses of reversible lanes. Study completion - October, 1988. Decision on study - February, 1988.

- City of Phoenix will maintain the existing reverse lanes consistent with the maintenance of all traffic control on Phoenix streets. Striping is reaccomplished every four months or as needed, and signing is maintained as needed. Future reverse lanes will be installed wherever and whenever doing so would be beneficial. The FY 1987-88 Operating Budget includes $10,000 for the existing reverse lanes striping and two Equipment Operators, and $7,000 for the existing reverse lanes signing.

- City of Scottsdale's Downtown Plan adopted in 1983 includes a major couplet street system that surrounds the downtown by curving off of Scottsdale Road in the vicinities of Osborn Road and Camelback Road. The easterly leg of the couplet provides three northbound lanes and two southbound lanes, while the westerly leg provides three southbound lanes and two northbound lanes. The traffic signals will be timed to

provide progression in the direction with the most lanes. Partial completion of 70th Street Bridge - September, 1987. Couplet will be in operation - 1995.

- City of Tempe agrees to evaluate existing traffic splits and traffic control configurations and based on that evaluation, consider implementing reversible lanes on arterials where appropriate. The City will conduct an evaluation of existing traffic patterns and traffic control configurations during fiscal year 1987-88, with the intent of bringing any recommendations concerning reversible lanes before the Council by the fourth quarter of the year. The City cannot commit to implementing reversible lanes until the study is completed; there are conditions on major arterials which may operate against the use of reversible lanes - i.e., the extensive use of left turn signals, the actual traffic splits, etc. However, it is an option which will be explored.

- Maricopa County Highway Department concurs with the policy of providing reversible lanes as appropriate. Traffic safety is a major issue when installing reversible lanes unless physical barriers are present to eliminate the change of operator error in using the lane at the wrong time. The preference is to provide additional traffic lanes and/or lane width, if possible. Maricopa County has no portion of its existing system for which reversible lanes are considered appropriate. It is presently in place as a planning principle. The concept is being retained as a permanent traffic management alternative.

22. <u>One Way Streets</u>

- City of Avondale proposes to work with the City of Goodyear in studying appropriate one way streets.

- City of Chandler agrees to redesignate streets as one way where appropriate.

- Town of Gilbert agrees to review its transportation plans and development guidelines to use one way streets where such an approach results in improved traffic flow, reduced congestion, and represents compatibility with the transportation plan.

- City of Glendale will continue to study the feasibility of this measure for implementation and conduct on engineering review. Study completed - Winter, 1988. Engineering review completed - Spring, 1988.

- City of Goodyear Planning Department will study this measure. Initiate study - November, 1987. Council consideration of results - July, 1988.

- City of Peoria will conduct a study to coordinate the locations of one way streets with local and regional plans. Study completion - October, 1988. Decision on study - February, 1988.

- City of Phoenix will begin construction on a Fourth/Fifth Street crossover to implement a Third/Fifth Street one way pair around the Civic Plaza. Construction of the First Street crossover, to implement the First Avenue/First Street one way pair from Harrison to Roosevelt,

is programmed for FY 1990-91. Continuous surveillance of traffic operations to detect where and when one way streets would be beneficial. Presently, all streets which would be beneficial to be "one way" are already "one way".

- City of Scottsdale Downtown Plan adopted in 1983 includes a major couplet street system that surrounds the downtown by curving off of Scottsdale Road in the vicinities of Osborn Road and Camelback Road. The easterly leg of the couplet provides three northbound lanes and two southbound lanes, while the westerly leg provides three southbound lanes and two northbound lanes. The traffic signals will be timed to provide progression in the direction with the most lanes. Partial completion of 70th Street Bridge - September, 1987. Couplet will be in operation - 1995.

- City of Tempe agrees to re-examine the possibility of implementing one way couplets. Re-examination - FY 1987-88.

23. Truck Restrictions During Peak Periods

- City of Avondale agrees to consider the recommendations made in the MAG Model Trip Reduction Study and consider implementation.

- Town of Buckeye will adopt Truck Restrictions During Peak Periods within three months of final approval of the Model Trip Reduction Ordinance by MAG.

- City of Chandler agrees to consider this measure as part of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program..

- City of El Mirage will encourage truck traffic to make off peak hour deliveries through either informational newsletters, fliers, or by ordinance.

- Town of Gilbert supports the development of the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program. This measure will be addressed in accordance with the ordinance.

- City of Glendale will participate in the development of the MAG Model Trip Reduction Ordinance which will address this measure. Glendale will determine the feasibility of implementing this measure when the ordinance is completed May, 1987 - May, 1988.

- City of Goodyear agrees to review the Model Trip Reduction Study recommendations and consider implementation of this measure. Efforts began January, 1987 and continue through January, 1989.

- Town of Guadalupe will adopt truck restrictions as part of the Model Trip Reduction Ordinance developed by MAG three months after final approval by MAG.

- City of Mesa will review the recommendation of the consultant study for the MAG Model Trip Reduction Ordinance which will address this measure; Mesa will implement those recommendations for truck restrictions which are feasible. The Mesa Truck Safety Committee has recommended that the City adopt an ordinance to regulate truck traffic

on residential streets. Mesa will implement those measures for truck restrictions which are feasible within ninety days after completion and approved by MAG.

- Town of Paradise Valley will implement this measure.
- City of Peoria agrees to review the recommendations for the MAG Model Trip Reduction Study and consider implementation of this measure in January, 1987 - January, 1989.
- City of Phoenix will continue to enforce truck restrictions contained in the Traffic Code.
- City of Scottsdale will review the results of the MAG Model Trip Reduction Ordinance and will implement those recommendations which it deems appropriate and feasible. Currently, truck traffic specifically related to excavation is limited to off-peak hour travel by the City of Scottsdale.
- City of Tempe agrees to consider the implementation of either a voluntary or mandatory program restricting truck deliveries to certain hours, dependent upon the recommendations made in the MAG Model Trip Reduction Ordinance and Coordinated Parking Management Program Study which will address the issue of truck restrictions. Implementation of program if approved by Council - May through July, 1988.
- City of Tolleson is awaiting the results from the Model Trip Reduction Ordinance. If applicable, the city will incorporate the truck restrictions in the adoption of the ordinance.

24. <u>Intersection Improvements</u>

- City of Chandler agrees to continue its ongoing intersection/street improvements program and to work closely with the Arizona Department of Transportation on traffic interchanges.
- City of El Mirage will improve intersections to facilitate traffic flow by widening roadways and providing left and right hand turn lanes where practical. A curvelinear parkway is being designed to improve traffic flow through the City. Intersection improvements will begin in the Fall of 1987.
- Town of Gilbert is developing a five year capital improvements program which will propose a method of scheduling and funding these improvements. The 1987-88 budget reflects several major roadway and intersection improvements.
- City of Glendale will continue the Street Capital Improvement Program currently underway for the improvement of 62 intersections in 1987 through 1992.
- City of Goodyear will study and appropriate budget funds for intersection improvements. Ongoing.
- City of Mesa agrees to continue to study and appropriate funds for intersection improvements. This process is done on an annual basis as part of the budget process and Five Year Capital Improvement Program. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria Public Works and Engineering Departments will continue to coordinate with the developers for the improvement of City intersections. Ongoing.

- City of Phoenix determines projects on a yearly basis and has included them in the FY 1987-88 budget. Projects are usually constructed within eighteen months of selection.

- City of Scottsdale Traffic Engineering has an ongoing program of gathering traffic volumes, accident history, and intersection geometrics at locations throughout the City. This information is then utilized to determine deficiencies and appropriate improvements. Master Planning receives the recommendations and defines projects incorporating the improvements. Project Management receives the projects, completes the designs, and supervises the construction. The process is entitled "Bottleneck Projects" and is a continuous activity that is repeated annually. A newly established Citizens' Transportation Committee will provide additional recommendations for intersection improvements. Efforts will begin in June, 1987. Construction of projects - October, 1987-June, 1988. Prioritized list of projects (1988-89) submitted to City Council - May, 1988. The City of Scottsdale will conduct studies on two traffic signal operation investigations. The first study involves the development of a methodology for traffic signal removal. The second study will involve recommendations for "lag left turn" phases or "third car actuated lead left turn" phases. Efforts will begin in June, 1987. Study completion - October, 1987. Implementation will begin in November, 1987.

- Town of Surprise will cooperate with State and County officials regarding the flow of traffic through the Town of Surprise.

- City of Tempe agrees to continue its ongoing intersection/street improvements program, subject to annual review of needs, and further, to work closely with the Arizona Department of Transportation to attempt to ensure traffic interchanges affected by new freeway construction are designed to operate at maximum efficiency. Ongoing. Seventeen intersection/street improvement projects were budgeted and scheduled for start-up or continuation at an estimated cost of $11,197,096 - FY 1986-87. Nine intersection/street improvement projects are budgeted and scheduled for start-up or continuation at an estimated cost of $5,126,000 - FY 1987-88. $42,252,400 in intersection/street improvements are projected, subject to annual review, for start-up or continuation during this four year period - FY 1988-89 through 1991-92.

- City of Tolleson supports the improvements of intersections as appropriate to the situation. Right-of-way restrictions prohibit the city from making significant improvements to existing streets. However, with new development which includes street developments, the city will include these measures as appropriate when approving site plans.

- Maricopa County Highway Department has a current policy which includes the use of basic intersection improvement techniques such as adding or lengthening turn lanes, widening streets, left turn lanes, etc.

as indicated in this Traffic Control Measure. These practices will be continued for the future.

- Arizona Department of Transportation Five-Year Transportation Facilities Construction Program for Fiscal Years 1987-1991 and Fiscal Years 1988-1992 includes a number of projects directed at intersection improvements. These projects facilitate turning movements, helping to maximize intersection capacities. Specific projects and their timing are identified below under the implementation schedule.

Location	Project	Year Programmed
Peoria Avenue at I-17	Construct left turn lanes	FY 87
Cactus Road at I-17	Construct left turn lanes	FY 87
Thunderbird Road at I-17	Construct left turn lanes	FY 87
Van Buren Street at 17th Avenue	Intersection improvement	FY 87
7th Street at I-17	Intersection and median improvement	FY 88
7th Avenue at I-17	Intersection and median improvement	FY 88
Savage Street at U.S. 60	Intersection improvement	FY 88
Lake Pleasant Road at SR 74	Replace right angle turn with a gentle continuous turn	FY 88
Dobson-Gilbert Roads at SR 360	Construct left turn lanes at five overpasses	FY 88
Indian School Road at I-17	Widen structure	FY 89
75th-59th Avenues at SR 85	Mill, replace course and modify intersection	FY 90

25. On-Street Parking Restrictions

- City of Avondale will continue to enforce its current ordinance which prohibits parking on major streets. Ongoing effort.

- City of Chandler prohibits on-street parking along most major arterials and will remove on-street parking on State Route 98 (Arizona Avenue) and Chandler Boulevard when warranted.

- City of El Mirage will restrict on-street parking where appropriate.

- Town of Gilbert is actively removing on-street parking through Downtown Gilbert on Gilbert Road and creating a pedestrian oriented area. There should be no parking along arterials or collectors with the implementation of this project.

- City of Glendale will continue to implement this measure where appropriate along arterials. Ongoing.

- City of Goodyear will continue to enforce the current ordinance which does not allow on-street parking on major city streets. Ongoing.

- City of Mesa will continue to prohibit on-street parking along major arterials. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria will continue to enforce the ordinance which prohibits on-street parking on major streets in Peoria. Ongoing.

- City of Phoenix will eliminate on-street parking consistent with the Six-Year Major Street Improvement Program. Parking is scheduled to be eliminated on McDowell from Central Avenue to 16th Street during FY 1987-88, and on Dunlap from Central to 7th Street during FY 1989-90, in conjunction with major street improvements. Phoenix is also analyzing removal of parking on selected collector streets to facilitate peak hour travel. Total cost of $5,368,000 at these two locations, as reflected in the Six Year Major Street Program.

- City of Scottsdale has recently removed on-street parking on two streets. The consequences of the street modification are being carefully monitored on the more major of the two streets. It is currently being contemplated for other locations throughout the City pending the results of the evaluation. Efforts began in August, 1986 and will continue through February, 1988.

- City of Tempe will have eliminated all on-street parking on major arterials by mid-September, 1987 with the following exceptions: 1) Mill Avenue: All on-street parking will be eliminated as part of the Mill Avenue improvement project, which is currently (June, 1987) underway and scheduled for completion by mid-September, 1987; and 2) Apache Drive from Price Road east to the City boundary (one-half mile): Although no exact date has been set for the elimination of on-street parking along this half-mile segment, it is anticipated that the removal of the parking will take place at the same time as or prior to the opening of the Tempe portion of the Pima Freeway.

- Maricopa County Highway Department currently has a policy which includes the restriction of on-street parking where needed to reduce traffic congestion and help traffic flow, where other alternatives may not be available. Otherwise on-street parking is normally permitted. These practices will be continued for the future. At present there is no need for any additional locations on the county system where on-street parking should be restricted for this purpose. This proposed measure has been fully implemented by Maricopa County.

26. <u>Bus Pullouts in Curbs for Passenger Loading (Areawide Strategy)</u>

- City of Chandler will continue to evaluate locations for pullouts where they facilitate, not impede, transit operations.

- City of El Mirage will work with the Regional Public Transportation Authority on this measure should transit service become available.

- Town of Gilbert agrees to evaluate locations for pullouts and construct pullouts where right-of-way is available and where they facilitate, not impede, transit operations. Ongoing.

- City of Glendale Transit Plan and RPTA plans have and will provide for bus pullouts. Construction of planned bus pullouts will be a combination of the City (in existing developed areas) and by developers as part of the development process. Ongoing.

- City of Goodyear agrees to identify and establish appropriate bus pullouts in curbs through the Transportation Master Planning Process and the Development Review Process. Develop standards requiring appropriate bus pullouts - September, 1987. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria Engineering Department will use the standardized bus pullouts specification to accommodate transition of bus routes from city to city in the MAG area. Ongoing.

- City of Phoenix will construct approximately fifty bus pullouts annually in conjunction with major street construction consistent with the Six-Year Major Street Improvement Program. Phoenix will be encouraging private construction of bus pullouts in conjunction with new developments. The City Council has approved a program for a private contractor to install up to 1,000 passenger shelters with advertising. The private capital investment will approximate $6,000,000 in making passenger waiting at bus stops more comfortable and convenient.

- City of Scottsdale is incorporating bus pullouts into all current and future major street widening projects. The City currently has seven bus pullouts and six more are planned in the near future. An additional section of the City's Design Procedures and Guidelines entitled "Transit Improvements" has been prepared to require private developers to include bus pullout construction when roadway construction is required due to the development of private property. Revisions to City ordinances are required to stipulate the defined improvements. The ordinance revisions are recommended in the draft version of the Short Range Transportation Plan that is currently being reviewed by the City Manager's Office prior to review by the City Council. After the ordinance revisions have been accomplished, Project Review and Project Coordination will ensure that all public and private street construction projects will incorporate these transit improvements. Hayden - Virginia to Osborn - roadway widening project that includes bus pullouts - June, 1987 through December, 1987. McDowell - 64th to 70th - roadway widening project that includes bus pullouts - July, 1987 to February, 1988. Scottsdale - Hummingbird to Eastwood - roadway widening project that includes bus pullouts - August, 1987 to January, 1988. Scottsdale - McDowell to Osborn - roadway widening project that includes bus pullouts - 1989. Ordinance revision, if deemed appropriate - January, 1988. Ordinance provisions incorporated into stipulations for zoning hearings presented to the City Council - March, 1988. Ongoing efforts.

- City of Tempe agrees to continue its ongoing program of evaluating locations for bus pullouts and constructing pullouts where need dictates and right-of-way is available and where they facilitate, not impede transit operations. Two bus pullouts have been constructed on River Parkway in the Arizona State University Research Park; one is in place on College Avenue, north of University Drive; and four are under construction as part of the joint City of Tempe/City of Phoenix/Maricopa County 48th Street project. The four previously planned as part of the Mill Avenue improvement project were eliminated after consultation with the RPTA. Given traffic volumes on Mill Avenue, it was concluded that these would act as significant impediments to transit operations. Other pullouts will be considered as part of street improvements projects along designated transit routes where adequate right-of-way is available and where they will facilitate traffic flow without substantially hindering transit operations.

- City of Tolleson supports installing bus bays to improve public transit. The city has begun to require new developers to set aside space for future bus bays when public transit becomes available in Tolleson. The city will continue this policy as appropriate.

- Maricopa County Highway Department concurs that bus pullouts should be provided on heavily traveled arterials to facilitate traffic flow in the curb lane for bus stopping. Maricopa County is not aware of any location on its system where traffic density requires construction of bus pullouts at present, although the lack of bus pullouts in the urban centers is believed to represent a significant traffic impediment. Maricopa County will join in encouraging urban jurisdictions to pursue the construction of bus pullouts to ease traffic congestion.

- Regional Public Transportation Authority and City of Phoenix staff work with cities to construct, where appropriate, bus pullouts in conjunction with major street construction and encourage private construction of bus pullouts in conjunction with new developments. Ongoing.

27. Increased Bicycle Use

- Town of Buckeye Planning and Zoning Department will develop a bicycle route plan, install bikeways along arterials as appropriate and include bike systems in subdivision developments (nine months to develop plan and nine months to develop amendment to Subdivision Ordinance).

- City of Chandler will implement the Parks and Recreation Master Plan, require developers to install bike paths in accordance with the Bike Path Plan, provided for connections of various bike path sections, and publish literature encouraging bicycle travel on an ongoing basis.

- City of El Mirage will encourage increased bicycle use for both its employees and its residents on an ongoing basis.

- Town of Gila Bend could promote increased bicycle use in conjunction with its campaign for Clean Air Public Awareness.

- Town of Gilbert will continue implementation of the General Plan which calls for the installation of a townwide system of paths for pedestrians and bicycles. Developers will be required to install bike paths in accordance with the Plan as part of the plan review process. Gilbert will publish literature encouraging bicycle travel and outlining the plan and path location/interconnection.

- City of Glendale is currently developing a Master Bikeways Plan. Bicycle travel is also being addressed in the General Plan. Master Bikeway Plan completed - June, 1988. General Plan Draft completed - Summer, 1987. Compliance with 1987 Arizona air quality legislation - December, 1987.

- City of Goodyear Transportation Coordinator along with the Planning Director will review current regulations and study the implementation of a Bikeways Plan as part of the Transportation Master Plan. Goodyear will also encourage this measure through the local air quality media program. Efforts began in November, 1987 and are ongoing.

- Town of Guadalupe will develop a bicycle route plan, install bikeways along arterials as appropriate, and include bikepath systems in subdivision developments. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance Amendment - Nine months. Construction - Ongoing as appropriate.

- City of Mesa agrees to make as a high priority in the planning of future district parks, the importance of providing bicycle, pedestrian, and riding trails. Mesa is in the early planning stage of the 962 acre Spook Hill District Park. The park is schedule to be designed over a six year period. Development of the park will occur over the next ten to fifteen years. The bikeway path study began in January, 1987 and is scheduled for completion in the Spring of 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to develop a citywide network of bicycle routes and bikeways. Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes. Ongoing efforts. Development of five year capital improvements plan for bicycling - August, 1987.

- City of Phoenix will continue to promote bike rallies in FY 87-88. Brochures describing bike routes will be updated and distributed from Parks, Recreation, and Library Departments. A bike suitability map produced by the City Manager's Bicycle Task Force will be completed and distributed by FY 87-88. The City Manager's Bicycle Task Force will continue during FY 1987-88 to coordinate City efforts toward improving bicycle use. The Rideshare Coordinator will work closely with the Parks Department to promote and encourage bicycle travel among City employees who can feasibly use that mode of transportation.

- City of Scottsdale has an ongoing program to encourage bicycle travel. The City has developed an extensive set of bicycle paths, especially along the nine mile Indian Bend Wash/Camelback Walk open space corridor. The Short Range Transportation Plan calls for four new bikeway segments: a 1.25 mile long Hayden Road bikeway which is already budgeted for next year, and three other priority one bikeways (Vista del Camino - 1.0 miles, 108th & Cholla - .5 miles, and Mescal parkat - .25 miles). Five other bikeway segments are called for under priority two on the Short Range Transportation Plan. The City's General Plan Circulation Element contains the blueprint for an extensive citywide bikeway system. The City has an extensive bicycle public relations program which includes the free distribution of over 3,000 bikepath maps each year. In addition, the City has created a Bikeways Task Force for the purpose of promoting bicycle use and safety. Efforts began in June, 1987 and will be ongoing.

- Town of Surprise will require bicycle or pedestrian walkways or travelways in the newly developing area of Surprise as plans for development are presented, where feasible.

- City of Tempe agree to continue its ongoing program of encouraging and supporting bicycle use through involvement of the bicycling community in the appropriate decision making processes and the construction of bicycle support facilities. The City of Tempe has a long history of encouraging bicycle use. A recent strategic planning survey conducted by Professor L. A. Wilson of ASU for the City showed that fourteen percent of the City's population relies on bicycling as its primary mode of travel. To ensure participation by the public, and members of the bicycling community in bicycle-related decision making, a Mayor's Advisory Bicycle Committee was created in 1985. In further recognition of the importance of the bicycling community, the bicycle committee was formally created by City Ordinance No. 86-65, adopted by the City Council on September 25, 1986. Appointments to that Committee were made on December 18, 1986. Staff support to the Committee is provided through the Community Services Department, and the Committee is active, meeting monthly, with minutes of all meetings referred to the City Council for review and approval. Currently the Committee is: reviewing existing bicycle ordinances; developing a bicycle routing system which will identify specific routes which can best and most safely be used by selected populations - i.e., school children, bicycle commuters, recreational riders, etc.; working with ASU to identify safe ingress and egress points to and from the campus; and preparing radio spots and other educational materials promoting safe bicycle use. As a long-term goal, the Committee is studying the possibility of converting canal banks and railroad right-of-ways into bicycle facilities.

  In addition, the City has in place an extensive bikepath system and is continuing to upgrade and expand that system. The Community Development Department, as part of its advance planning and General Plan Update, has prepared a bicycle facilities route map identifying and locating all elements of the Tempe bicycle system (bikepaths, bikeways, bike lanes, extended sidewalks, etc.) and is examining the role of bicycling within the overall transportation element in the General Plan. The revised General Plan, now in the final phases of consideration, heavily stresses both bicycle and pedestrian components.

The City also conducts an ongoing bicycle public information and enforcement program to ensure the safety of both the bicycling and driving public. The Police Department, through the City's Speakers Bureau, provides speakers on request for schools and community organizations to address the issue of bicycle safety. Bicycle safety information is periodically included in the City's newsletter (monthly circulation - 33,950 households) and a flier on the subject is produced by and provided through the Community Services Department. During 1986-87, the City at its expense bought advertisements promoting bicycle safety in each of the high school newspapers and in the ASU "State Press". Additionally, the Police Department carefully enforces laws governing bicycling. Ongoing efforts.

- City of Tolleson supports the encouragement of bicycle use. To make the public aware of the commitment, the City will adopt an annual resolution supporting bicycle travel and also annually encourage bicycle travel by placing an information brochure in all customer's water bill.

- Town of Youngtown in January, 1987 began to make announcement at all town meetings and asked local newspapers to write articles on Youngtown's efforts to support the reduction of carbon monoxide and ozone in the air by riding bicycles and tricycles whenever possible instead of driving automobiles. In July, 1987, water/sewer bills included a brochure to all Youngtown residents encouraging them to use bikes and trikes in lieu of cars whenever possible in an effort to participate in cleaning up the air.

- Maricopa County Department of Planning and Development is developing a Comprehensive Land Use Plan for the unincorporated portions of the County. Land Development goals and policies as well as a future land use map will be the product of the process. Adoption of certain transportation and land use policies will enable the Planning and Zoning Commission to encourage increased bicycle use. Amenities such as lockers and sheltered bicycle racks should be encouraged for use. Once the Comprehensive Plan is adopted, policies will be in place to allow the Planning and Zoning Commission and Board of Supervisors to continually address the issue of increased bicycle travel within the private development proposals that are approved. Efforts began in April, 1987. Plan adoption - September, 1988.

- Arizona Department of Transportation Transportation Planning Division will participate in bicycle safety and education efforts involving the Governor's Arizona Bicycle Task Force and the Arizona State Parks Department. These efforts will focus on identifying and developing strategies to address bicycle safety and education issues.

  In addition, ADOT is willing to assist jurisdictions which plan to develop bicycle paths adjacent to new MAG freeway/expressway facilities in the near future. For example, ADOT will replace existing facilities which get displaced by controlled access development, provide required features to accommodate connections for future path facilities, and increase shoulder widths on frontage roads to accommodate planned path facilities. Develop Arizona bicycle design standards - July, 1987. Conduct educational workshop for public officials - October, 1987. Develop and conduct bicycle safety and education program - Ongoing.

Identify and develop strategies to address bicycle safety and education issues - Ongoing.

- Arizona Legislature passed S.B. 1360 in 1987 which requires that cities over 50,000 population must include bicycle routes in the circulation and recreational elements of the general plan. Regulations governing subdivisions of counties must include bicycle facilities when providing for arrangement of streets and highways. Cities under 50,000 population and counties may include bicycle facilities in their plans. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist employers and local jurisdictions in promoting "cyclocommuting." In conjunction with efforts to increase awareness of the benefits of sharing a ride and utilizing transit and park and ride lots, there will also be a concerted attempt to peak interest in the bicycle as a commute alternative. Efforts began in June, 1987 and are ongoing.

28. <u>Bicycle Travel and Support Facilities</u>

- Town of Buckeye Planning and Zoning Department will begin encouraging this measure during subdivision and development review.

- City of Chandler will implement the Parks and Recreation Master Plan, require developers to install bike paths in accordance with the Bike Path Plan, provide for connections of various bike path sections, and publish literature encouraging bicycle travel on an ongoing basis.

- City of El Mirage Planning and Zoning Department will encourage the use of bicycle and pedestrian pathways in subdivision design. Requirements are being drafted for the city's new Zoning and Subdivision Ordinances which are excepted to be adopted in October, 1987.

- Town of Gila Bend supports this measure in concept.

- Town of Gilbert development guidelines will be revised to require bicycle parking facilities at all office, commercial, industrial and residential multi-family complexes, shared recreation facilities and community recreation sites. Developers will be encouraged to provide additional support facilities within their sites, as feasible. Gilbert will incorporate support facilities into the overall recreation facilities plan.

- City of Glendale is currently developing a Master Bikeways Plan which will address support facilities. Compliance with the 1987 Arizona air quality legislation - December, 1987.

- City of Goodyear agrees to review existing regulations and develop appropriate standards through the Transportation Master Planning Process and the Development Review Process. Efforts begin in November, 1987 and are ongoing.

- Town of Guadalupe Planning and Zoning Department can begin encouraging this measure during subdivision and development review. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance - Nine months. Construction - Ongoing as appropriate.

- City of Mesa agrees to make as a high priority in the planning of future district parks, the importance of providing bicycle, pedestrian, and riding trails. Mesa is in the early planning stage of the 962 acre Spook Hill District Park. The park is scheduled to be designed over a six year period. Development of the park will occur over the next ten to fifteen years. The bikeway path study began in January, 1987 and is scheduled for completion in the Spring of 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to develop a citywide network of bicycle routes and bikeways. Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes. Ongoing efforts. Development of five year capital improvements plan for bicycling - August, 1987.

- City of Phoenix will implement the planning, design, and construction of selected bike routes. A new proposed bicycle route plan which delineates 400 miles of bike routes and facilities is proposed for incorporation into the City of Phoenix General Plan during FY 1987-88. During the current fiscal year 87-88, $230,000 from 1984 Parks, Recreation, and Library Revenue Bonds are programmed for development of additional bicycle trails. In addition, $463,000 of 1984 Parks and Recreation Bonds revenues have been designated for construction along the Arizona Canal Diversion of five bicycle/pedestrian underpasses at the intersections of selected streets to be cost shared with the Corp of Engineers and County Parks Department in 1988-89 for a total expenditure of $1.3 million. An underpass will also be provided at I-17 with funding from 1984 Park and Recreation Bonds and cost shared with the Corps of Engineers for $350,000. The total for the next five years is $2,343,000.

- City of Scottsdale has an ongoing program to develop bicycle travel and support facilities. The two most recently completed city buildings - the One Civic Center office building and the new corporation yard - both contain shower facilities. All city buildings have bike racks. The City expands the bikeway system primarily by conditional development approval. When developers zone and improve land, the required bikepaths are also provided. The Scottsdale Park and Recreation Program also builds and maintains bikeways in the parks and along the many open space corridors. Furthermore, several Scottsdale streets have been designated, marked and signed for bikeways. The Bikeways Task Force will explore other cycling improvements including private employer bicycle support facilities, cycle actuated traffic signals, improved signage and extra wide arterial lanes. Efforts began in June, 1987 and will be ongoing.

- City of Tempe agrees to continue its ongoing program of improving and expanding its existing bikepath system, subject to annual review of needs, and to continue study of providing additional bicycle-related facilities. It further agrees to work with the Arizona Department of Transportation in attempting to ensure that bicycle facilities are included in new freeway and freeway improvement designs.

The City of Tempe has in place an extensive bikepath system and is continuing to improve and expand that system based upon a comprehensive study of bicycle needs and desires. More than thirty miles of bikepaths are already in place. Eight-foot sidewalk/bikepaths are included in all major street improvement projects. Budgeted for 1987-88 are other bikepath improvements totaling $340,000, and projected for 1988-89 through 1991-92 are enhancements adding to an additional $1,731,000. Also, the General Plan Update, now under consideration, includes a strong bicycle component.

Furthermore, the City has a policy of actively promoting the inclusion of pedestrian/bicycle facilities in the design of any new freeways or freeway improvements planned in Tempe. The City secured agreement from ADOT to construct dual sidewalk/bicycle paths on the recently completed Warner Road/I-10 interchange and to provide eight-foot sidewalks/bicycle paths along both frontage roads on the Pima Freeway through Tempe. As a condition of its approval of the Papago Freeway, the City has insisted that provision by made for like facilities along the alignment as well as for pedestrian/bicycle access under/over the roadway.

The City currently provides bicycle racks at its public buildings for both employee and public use. Since the major park and ride lot in Tempe is being relocated due to freeway construction and a number of key bus routes are new and may require some routing adjustments, no action has been taken on the installation of bicycle racks or lockers in park and rides and at strategic locations on bus/trolley routes. The City will, however, during fiscal year 1987-88 explore the possibility of installing such facilities at those locations as a means of encouraging the use of bicycles to key transfer points. Ongoing efforts.

- City of Tolleson will encourage the development of bicycle travel and support facilities as appropriate to the circumstance. The City will do this through the installation of bike paths where sufficient right-of-way allows and coordinate with contiguous jurisdictions. Further, the City will encourage the private sector to install applicable support facilities at all new developments.

- Regional Public Transportation Authority and the MAG Regional Rideshare consultant will work with employers and local jurisdictions in developing easier accessibility for bicyclists, since the climate and topography are highly conducive to cycling. Safe, connecting bikeways and safe storage will greatly encourage usage. Efforts began in June, 1987 and are ongoing.

29. <u>Pedestrian Travel</u>

- Town of Buckeye Planning and Zoning Department will make adequate provisions during the construction of arterials and platting of subdivisions for pedestrian traffic.

- Town of Carefree will encourage pedestrian travel within its commercial core by integrating this measure with the preparation of the general plan. Development of common parking lots for the commercial core will be encouraged.

- Town of Cave Creek will encourage pedestrian travel within its commercial area by integrating this measure with the preparation of the general plan. Development of common parking lots for the commercial area will be encouraged.

- City of Chandler agrees to evaluate bicycle and pedestrian needs and to implement bicycle and pedestrian-related improvements as need dictates on an ongoing basis.

- City of El Mirage Planning and Zoning Department will encourage the use of bicycle and pedestrian pathways in subdivision design. Requirements are being drafted for the City's new Zoning and Subdivision Ordinances which are expected to be adopted in October, 1987.

- Town of Gila Bend could promote pedestrian travel in conjunction with its campaign for Clean Air Public Awareness.

- Town of Gilbert General Plan development guidelines require the installation of adequate sidewalks throughout all types of development. The Plan also encourages the development of scaled commercial developments which would encourage pedestrian or bicycle traffic circulation to residential and commercial areas for convenient usage.

- City of Glendale is currently revising its General Plan which will address pedestrian travel. Awnings, benches, and trees are being added to encourage pedestrian travel. The design of new neighborhood shopping areas has also been modified to encourage pedestrian travel. General Plan draft completed - Summer, 1987. Downtown improvements completed - 1988.

- City of Goodyear Transportation Coordinator along with the Planning Director will review current regulations and study the implementation of pedestrian amenities in new developments along with bikeways. Goodyear will also encourage this measure through the local air quality media program. Efforts began in November, 1987 and are ongoing.

- Town of Guadalupe, in conjunction with the bicycle route plan, will make adequate provisions for pedestrian traffic during construction of arterials and platting of subdivisions. Bicycle Route Plan - Nine months. Development of Subdivision Ordinance Amendment - Nine months. Construction - Ongoing as appropriate.

- City of Mesa along with the local downtown business community has made a number of sidewalk and other improvements in its Town Center area to encourage pedestrian travel. Additional plans to encourage pedestrian travel are an integral part of the next major development in the downtown. A recent study by the Urban Design Team recommended the development of pedestrian links across all irrigation canals and the establishment of a "desert walk" along overhead electrical easements. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria agrees to encourage pedestrian travel by incorporating sidewalks and walkways in the Comprehensive Master Plan. Ongoing.

- City of Phoenix will continue sidewalk improvements and installation of pedestrian signals at all signalized intersections in conjunction with major street construction. In addition to the costs included in major street construction, FY 1987-88 Operating Budget includes approximately $100,000 to support three full time employees to install and maintain pedestrian crossings. In the 1987-88 Operating Budget, an additional $102,000 has been provided for crosswalk maintenance, including two new full time employees.

- City of Scottsdale will continue to provide sidewalks and/or pathways as a condition of new development. The City's Park and Recreation division participates in the "Life: Be in It" exercise campaign which encourages walking. As a part of the review of new development proposals, staff, the Development Review Board, and the Planning Commission will continue to require pedestrian linkages between shopping, community service, and residential areas as a condition of development approval. In the Downtown area, specific design guidelines have been adopted which encourage physical links between buildings; the use of canal banks for pedestrian travel; the provision of covered walkways on arcades in front of new buildings; and landscaping to reduce temperatures, provide shade, and make walking more pleasant. Furthermore, the Civic Center Mall and strategically placed parking garages downtown encourage pedestrian travel. Efforts began in 1985 and will be ongoing. Scottsdale City Council endorsed measures to encourage pedestrian travel in June, 1987.

- Town of Surprise will require bicycle or pedestrian walkways or travelways in the newly developing area of Surprise as plans for development are presented, where feasible.

- City of Tempe agrees to continue its ongoing evaluation of pedestrian needs and to implement pedestrian-related improvements as need dictates. It further agrees to work with the Arizona Department of Transportation in attempting to ensure that pedestrian facilities are included in new freeway and freeway improvement designs.

  The City of Tempe has an ongoing program of sidewalk widenings, installation of pedestrian signals and crosswalks and construction of other pedestrian-related improvements. In addition to its continuing program of maintenance and repair - ie., replacement of broken curbs, gutters and sidewalks - the City schedules and budgets for the construction of improvements projects. A major sidewalk-widening project on Mill Avenue is currently underway and scheduled for completion in September, 1987, and two additional pedestrian/bicycle overpasses - across the Western Canal at Lakeshore Drive and at County Club Drive - are currently under design. The revised General Plan, now in the final phases of consideration, heavily stresses the pedestrian and bicycle components. Furthermore, the City has a policy of actively promoting the inclusion of pedestrian/bicycle facilities in the design of any new freeways or freeway improvements planned in Tempe. The City secured agreement from ADOT to construct dual sidewalks/bicycle paths on the recently completed Warner Road/I-10 interchange and to provide eight foot sidewalks/bicycle paths along both frontage roads on the Pima Freeway through Tempe. As a condition of its approval of the Papago Freeway, the City has insisted that provision be made for like facilities along the alignment as well as for pedestrian/bicycle access under/over the roadway. Ongoing efforts.

- City of Tolleson will adopt an annual resolution supporting pedestrian travel and also annually encourage pedestrian travel by placing an information brochure in all customer water bills.

- Town of Youngtown in January, 1987, began to make announcements at all town meetings and asked local newspapers to write articles on Youngtown's efforts to support the reduction of carbon monoxide and ozone in the air by walking to destinations in Youngtown rather than driving their cars. In July, 1987, water/sewer bills included a brochure to all Youngtown residents encouraging them to walk rather than use their cars whenever possible in an effort to participate in cleaning up the air.

- Maricopa County Department of Planning and Development is developing a Comprehensive Land Use Plan for the unincorporated portions of the County. Land development goals and policies as well as a future land use map will be the product of the process. Adoption of certain transportation and land use policies will enable the Planning and Zoning Commission to encourage pedestrian travel. Once the Comprehensive Plan is adopted, policies will be in place to allow the Planning and Zoning Commission and Board of Supervisors to continually address the issue of increased pedestrian travel within the private development proposals that are approved. Efforts began - April, 1987. Adoption of plan - September, 1988.

30. <u>Pedestrian and Bicycle Overpasses Where Safety Dictates</u>

- Town of Buckeye supports this measure.

- City of Chandler agrees to consider the installation of pedestrian/bicycle overpasses where safety dictates on an ongoing basis.

- Town of Gila Bend supports this measure in concept.

- Town of Gilbert agrees to consider requiring grade separations for pedestrian and bicycle traffic where safety dictates. Applicants seeking approval for new development will be encouraged to provide pedestrian and bicycle grade separations. Gilbert will request the Arizona Department of Transportation to address this issue in the planning of the San Tan Freeway.

- City of Glendale will request that ADOT address this issue in planning the design of the Paradise Corridor.

- Town of Guadalupe supports MAG in conducting the study.

- City of Mesa agrees to study opportunities to provide pedestrian and bicycle overpasses where safety dictates. Potential sites include school locations, major arterials, major employer locations, public recreation areas, Town Center area, etc. Mesa will explore the feasibility of providing overpasses along irrigation canals and/or overhead electrical easements. The report from the Urban Design Assistance Team will be studied during FY 1987-88 for opportunities to incorporate recommendations in the City of Mesa General Plan Update. Ongoing.

- City of Phoenix Streets and Traffic Department will continue to examine traffic and safety conditions to determine locations where such overpasses are needed. This is an ongoing activity reflected in the FY 1987-88 Operating Budget.

- City of Scottsdale has in the past, and will continue to provide overpasses and/or underpasses which will enhance pedestrian or bicycle safety. These facilities often are provided by the private sector as a condition of development such as at the Adobe Ranch underpass on East Shea Boulevard. Others, such as the underpasses and overpasses along the Indian Bend Wash Greenbelt, were provided by the City or the Army Corps of Engineers as part of the total recreation and flood management project. Efforts will begin in June, 1987 and will be ongoing.

- City of Tempe agrees to continue its ongoing evaluation of pedestrian needs and to consider installation of overpasses as need and safety dictate. The City has an ongoing program of sidewalk widenings, installation of pedestrian signals and crosswalks and construction of other pedestrian-related facilities, including overpasses where safety dictates. Overpasses are in place over the Superstition Freeway and over University Drive. Currently under design are overpasses across the Western Canal at both Lakeshore Drive and County Club Drive. The City also has a policy of actively promoting the inclusion of pedestrian/bicycle over or undercrossings, as appropriate, as well as pedestrian/bicycle paths on bridges and along frontage roads in new freeway or freeway improvement designs. As a condition of its approval of the Papago Freeway, the City has insisted that provision be made for pedestrian/bicycle over or undercrossings at strategic points along the alignment. Ongoing efforts.

31. <u>Use of Alternative Fuels on a Statewide Basis (Areawide Strategy)</u>

- City of Avondale will consider providing a financial contribution to the MAG Alternative Fuels Feasibility Study if needed.

- Town of Buckeye will support the MAG Alternative Fuels Feasibility Study.

- City of Chandler has appointed a local representative to serve on the Working Group for the MAG Alternative Fuels Feasibility Study.

- City of El Mirage supports MAG in conducting the study.

- Town of Gila Bend would encourage the MAG Alternative Fuels Feasibility Study.

- Town of Gilbert supports MAG in conducting the study.

- City of Glendale will participate in the MAG Alternative Fuels Feasibility Study and comply with the 1987 air quality legislation by September 30, 1989.

- City of Goodyear supports MAG in conducting the study and is willing to contribute funding if necessary.

- Town of Guadalupe supports this measure.

- City of Mesa supports the study being conducted by MAG.

- City of Peoria supports the study being conducted by MAG.

- City of Phoenix supports this measure.

- City of Scottsdale agrees to support the MAG Alternative Fuels Study and to take appropriate action on the study recommendations, including encouraging the Arizona Legislature to adopt applicable legislation.

- Town of Surprise supports statewide efforts with this measure.

- City of Tempe agrees to cooperate in the MAG Alternative Fuels Feasibility Study; to consider expeditiously the recommendations contained in the final report; and to implement those recommendations adopted. Additionally, the City has committed a staff person to serve on the MAG Alternative Fuels Working Group which is monitoring the progress of the Feasibility Study and meeting at least monthly with the consultant.

- City of Tolleson supports considering the use of alternative fuels. However, the City will wait to see the results of the study to be conducted by the Maricopa Association of Governments before making a commitment to the use of alternative fuels.

- Town of Wickenburg will support efforts to conduct the MAG Alternative Fuels Feasibility Study.

- Town of Youngtown supports MAG in these efforts.

- The Maricopa County Equipment Services Department will coordinate a test program. The Maricopa County Air Pollution Advisory Council has arranged and performed emission testing of vehicles using alternative fuels. The test will include 43 vehicles for a total of 172 tests at $14.00 per test. Twenty-seven light trucks from private fleets and sixteen passenger vehicles from public fleets will be converted for use of alternate fuels i.e., CNG and Gasohol for a study period of at least three months. Efforts will begin in September, 1987 and continue through May, 1988.

- The Maricopa Association of Governments is currently coordinating an alternative vehicle fuels study. The purpose of this study is to determine the feasibility of using alternative vehicle fuels on a statewide basis as an air pollution control strategy. The alternative fuels examined will include propane, compressed natural gas, ethanol, methanol, and methyl tert-butyl ether (MTBE), etc. Specific recommendations will be provided in the study report. The consultant hired by MAG to conduct the study is Energy and Environmental Analysis, Inc.

  The primary approach used for this study will be a literature search. Essentially, this approach will involve a literature search and compilation of existing information, analysis of existing data, application of this data to the air pollution problems, and

recommendations. If possible, limited vehicle testing will be included. The time frame for the study is not to exceed six months and a late September, 1987 completion date has been targeted.

- Arizona Legislature passed S.B. 1360 in 1987 which expanded the joint legislative study committee on alternative fuels to investigate the feasibility of converting public and private vehicles to propane or CNG. S.B. 1360 effective date - August, 1987.

32. Conversion of State, Local, and Corporate Fleets to Alternative Fuels (Areawide Strategy)

- City of Avondale will support and review the MAG Alternative Fuels Feasibility Study as a basis for converting the governmental fleet to a alternative fuels.
- Town of Buckeye will support this measure.
- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study and then determine how best to encourage the conversion of buses to alternative fuels.
- City of El Mirage will support and review the study by MAG as a basis for converting governmental and corporate fleets to alternative fuels.
- Town of Gila Bend would support this measure depending upon the results of the MAG Alternative Fuels Feasibility Study.
- Town of Gilbert Public Works and Police Departments will review the recommendations in the MAG Alternative Fuels Feasibility Study and determine how best to convert the fleet. Gilbert will volunteer to be a demonstration/test site for alternative fuel vehicles provided the test will not jeopardize the town economically or cause undue delays in public safety response.
- City of Glendale has received an Exxon Restitution Grant to study the use of compressed natural gas in fleet vehicles. CNG Pilot Program - Two years. Compliance with Arizona 1987 air quality legislation - September 30, 1989. Review of MAG and legislative alternative fuels studies - January, 1989.
- City of Goodyear will support and review the study by MAG as a basis for converting the governmental fleet to alternative fuels.
- Town of Guadalupe supports this measure.
- City of Mesa will determine during the next year whether to convert all remaining vehicles of 1980 or older to clean burning fuels by October 1, 1989 or to accelerate the replacement of these vehicles over the next two years. Mesa currently has 229 City vehicles of model year 1980 or older. Conduct study - September 1, 1987. Final decision - April 1, 1988.
- Town of Paradise Valley will implement this measure.
- City of Peoria will support and review the study by MAG as a basis for converting governmental fleets to alternative fuels.

- City of Phoenix will implement an alternative fuel fleet program which exceeds the requirement for fleet testing mandated under Senate Bill 1360. In order to provide an efficient and effective conversion of appropriate Municipal vehicles to the use of a clean burning fuel, the City will, during the current quarter, secure the services of an outside consultant to examine the existing fleet and distribution systems for compatibility with the new fuel, assist in selection of a representative portion of the fleet for inclusion in the test required under S.B. 1360, and suggest preventative maintenance procedures. Once the clean burning fuel can be secured and preventative maintenance is performed, the clean burning fuels will be introduced into appropriate fleet vehicles not later than October 1, 1987. Funds are available in the FY 1987-88 Operating Budget for consulting services and an additional $200,000 is also available for the purchase of clean burning fuels to offset any cost increase.

- City of Scottsdale Fleet Management Program agrees to continue to investigate and encourage the use of alternative fuels. At the present time the City of Scottsdale is operating 82 vehicles on compressed natural gas and will continue to encourage this use until a more efficient alternative fuel is available. The Fleet Management Program is also evaluating and experimenting with a ten percent blend of ethanol. Proposals have been requested from several vendors, and the use of this fuel will be evaluated prior to conversion of the City's gasoline fleet. Use of CNG - Ongoing. Evaluation of ethanol completed and Council decision - July, 1987. Decision packet for fifty additional CNG vehicles for consideration in FY 88-89 budget - January, 1988.

- City of Tempe agrees to consider, dependent upon the results of the Maricopa Association of Governments Alternative Fuels Feasibility Study, conversion of at least portions of its fleet to alternative fuels. Before committing to conversion, the City must have the best available data concerning costs, fuel availability and storage, impact on maintenance and driveability, effect on carbon monoxide emissions and ozone formation, etc. It is expected that the MAG Feasibility Study will provide the data necessary to make an informed decision. The City will, of course, comply with the new State statutory provisions requiring use of clean burning fuels during the carbon monoxide season in 1980 or older nondiesel vehicles by September 30, 1989. However, this requirement is expected to have little impact on Tempe since fleet turnover is now approximately every six years. In the interim, the City agrees to continue its current, rigorously-enforced preventive maintenance program to ensure that all fleet vehicles are properly tuned. The targeted completion date for the MAG Feasibility Study is late September, 1987. Evaluation of the recommendations contained in the study will follow.

- Town of Youngtown will monitor and review progress made in the area of alternative fuels and implement their use as funds permit.

- Maricopa County Equipment Services Department endorsed and will assist in the implementation of Senate Bill 1360 in all areas applicable to the County Fleet.

- Arizona Legislature passed S.B. 1360 in 1987 which requires the state and political subdivisions in a nonattainment area and private fleets (25 or more vehicles) to report quarterly to ADOT on the use of clean burning fuels. Beginning October 1, 1989, state and political subdivisions must use clean burning fuels in all nondiesel vehicles 1980 and older during the carbon monoxide season (October-March). Clean burning fuels will be available for sale after October, 1988. The state and the cities of Phoenix and Tucson will conduct a study of 10 percent of their fleet in nonattainment areas on the drivability of those vehicles using clean burning fuels. The Legislature also passed H.B. 2115 which requires ADOT to conduct an alternative fuels pilot program. Report on pilot project - October, 1988. Report on driveability tests - November, 1988.

33. <u>Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service (Areawide Strategy)</u>

- Town of Buckeye supports this measure.

- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study and then determine how best to encourage the conversion of buses to alternative fuels.

- City of El Mirage will consider this measure should the City contract for bus service.

- Town of Gila Bend would support this measure in concept.

- Town of Gilbert will review the recommendations included in the MAG Alternative Fuels Feasibility Study to determine how best to encourage the conversion of buses to alternative fuels.

- City of Glendale as part of the CNG Pilot Program will convert a minimum of two buses pending receipt of Exxon grant monies. CNG Pilot Program - Two years. Compliance with the Arizona 1987 air quality legislation - January 1, 1990.

- City of Goodyear Transportation Coordinator will review the MAG Alternative Fuels Feasibility Study as a basis for conversion to alternative fuels in the future.

- Town of Guadalupe supports this measure.

- City of Mesa would have to assume the costs of converting the fleet to compressed natural gas since Mesa's public transit bus fleet is owned and operated by a private company. Implementation is contingent upon finding a fuel source, agreement by contractor to convert the vehicles, and availability of State Air Quality Funds. Earliest implementation - April, 1988.

- City of Peoria supports the study being conducted by MAG.

- City of Phoenix Public Transit Department has included the purchase of two methanol fueled buses in its program for 1987-88 and Phoenix Transit has converted one bus to compressed natural gas fumigation.

Phoenix Transit has also included an upgrade to diesel fuel number one in its 1987-88 contract which will reduce particulates in the emissions of the entire fleet.

- City of Scottsdale will continue to review and assess the feasibility of this measure. Scottsdale will adopt it if and when it is found to be appropriate and feasible.

- City of Tempe, as a member of the RPTA, agrees to support the efforts of the RPTA and City of Phoenix Transit Department to assess the feasibility of converting buses to alternative fuels. The City of Tempe does not own any buses. Ongoing efforts.

- City of Tolleson supports the concept of the conversion of buses to alternative fuels and electricity. However, the city will await the results of the alternative fuels study performed by the Maricopa Association of Governments prior to making any commitment to the conversion.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will conduct a study of ten percent of its non-diesel and non-public safety motor vehicle fleets operating in the nonattainment area to determine how they perform with respect to drivability using clean burning fuels. Vehicles will be representative of the fleet. Also, as mandated by H.B. 2115 (Clean burning fuels, blends, pilot project - Chapter 139), ADOT will conduct a pilot project to determine the cost and effect of using clean burning fuel in motor vehicles. ADOT will designate certain ADOT motor vehicles which will be operated with clean burning fuel and monitor the motor vehicles to determine: the cost of maintaining a motor vehicle operated with clean burning fuel; the effect on miles-per-gallon of a motor vehicle operated with clean burning fuel; the availability of clean burning fuel; and the impact of clean burning fuel on vehicle emissions. Report findings on clean burning fuels pilot project (H.B. 2115) - October, 1988. Report findings on driveability test (S.B. 1360) - November, 1988.

- Arizona Legislature passed S.B. 1360 in 1987 which requires all buses purchased after January 1, 1990, to use clean burning fuels. Cities will report their efforts to convert buses to clean burning fuels. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority will work with its contractor, Valley Coach, and the City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit, to continue to study the feasibility of converting buses to alternative fuels. The City of Phoenix Pubic Transit Department has included the purchase of two methanol-fueled buses in its capital program for fiscal year 1987-88, and Phoenix Transit has converted one bus to compressed natural gas operation. Phoenix Transit will also upgrade from diesel fuel number two to diesel fuel number one in fiscal year 1987-98. This will reduce particulate emissions for the entire fleet.

34. Use of Emissions Control Devices on Public Diesel Powered Vehicles (Areawide Strategy)

- City of Avondale will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Buckeye supports this measure.
- City of Chandler will review the recommendations in the MAG Alternative Fuels Feasibility Study to determine how best to encourage the conversion of buses to alternative fuels.
- City of El Mirage will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Gila Bend would support this measure in concept.
- Town of Gilbert will review the recommendations included in the MAG Alternative Fuels Feasibility Study. Gilbert Public Works Department would be responsible for conversion/installation of economical and effective control devices.
- City of Glendale will monitor technological changes in this area to determine appropriate availability of high quality devices.
- City of Goodyear Transportation Coordinator will monitor technological changes in the use of emission control devices to determine availability of these devices.
- Town of Guadalupe supports this measure.
- City of Mesa will monitor technological changes in this area. Mesa will contractually require installation of diesel emissions control devices on Mesa Dial-a-Ride vehicles when devices become economically and technologically feasible.
- Town of Paradise Valley will implement this measure.
- City of Peoria Public Works Director will monitor technological changes in the use of emission control devices to determine availability of these devices.
- City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit, will continue to monitor the state of development of emission control devices and will experiment with them when appropriate.
- City of Scottsdale Fleet Management Program agrees to investigate the use of diesel emission control devices when these devices become economically and technologically feasible.
- City of Tempe, as a member of the Regional Public Transportation Authority, agrees to support the efforts of the RPTA and the City of Phoenix Public Transit Department in working with their contractors to monitor developments in the use of emissions control devices on public diesel powered vehicles and in experimenting with such devices, when and if they become economically and technologically feasible.

- City of Tolleson will install emission control devices as expeditiously as practicable on public diesel powered vehicles when these devices become economically and technologically feasible.

- Maricopa County Equipment Services Department has acquired emission testing equipment and is testing the County's fleet of 330 diesel powered vehicles in accordance with State law. This figure represents 35 percent of the County's On-Road Fleet of 950 vehicles. By 1990 this figure will be 428 diesel vehicles or 45 percent of the On-Road Fleet. All of the vehicles must pass an emission test with no exemptions allowed. Those that do not pass are taken out of service. The cost of the emission testing is $14 per fleet vehicle including all wages and benefits for 1/3 hour. The yearly cost for this program applied to 950 On-Road Fleet Vehicles is $13,300. 950 @ $14 = $13,300. The County fleet is a new fleet comprised of 808 vehicles or 85 percent of all On-Road vehicles of 1982 or later model years. These are the cleanest burning vehicles for carbon monoxide emissions. By 1990 the entire 950 On-Road Fleet will be 1982 model year or newer. The County will also evaluate the effectiveness of emission control devices when they become available for diesel powered vehicles. All fleet vehicles passed emission testing or were taken out of service - June, 1987. All fleet vehicles will be of 1982 model year or newer - June, 1990.

- Regional Public Transportation Authority will work with its contractor, Valley Coach, and the City of Phoenix Public Transit Department and its principal contractor, Phoenix Transit System, to continue to monitor the state of development of emission control devices. Experimentation with these devices will be undertaken when appropriate.

35. <u>Alternative Work Hours (Areawide Strategy)</u>

- City of Avondale Transportation Coordinator will study the implementation of flex time and encourage private employers to institute alternative work hours/days beginning in October, 1987 with program initiation in June, 1988.

- Town of Buckeye will study the feasibility of alternate office hours and work weeks for municipal employees. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Chandler agrees to support the use of alternative work hours for its employees and comply with the state requirement of having at least 85 percent of employees on adjusted work hours beginning January 1, 1989.

- City of El Mirage will study the effect on local government services that would result in the establishment of alternate work schedules and implement where feasible. Study will begin in October, 1987 and will be presented to the City Council in February, 1988.

- Town of Gila Bend would encourage this measure in those areas where it would alleviate traffic congestion.

- Town of Gilbert agrees to continue its program of supporting the use of alternative work hours for its employees. Gilbert will work with other employers to encourage this measure. Adjustments to employee work hours (85 percent of employees) will be made pursuant to the state mandate by the Arizona Legislature beginning January 1, 1989.

- City of Glendale has already instituted a flexible time program for employees. Ongoing. Compliance with the Arizona 1987 air quality legislation - December 31, 1988.

- City of Goodyear Transportation Coordinator will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to institute alternative work hours/days. Initiate study - October, 1987. Initiate program - July, 1988. Ongoing.

- Town of Guadalupe will study the feasibility of alternate office hours and work weeks. Implementation would be delayed until Guadalupe has 100 authorized positions. Private employers with over 100 employees would be encouraged to implement a similar program. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Mesa agrees to conduct a feasibility study to determine the areas of City operations where alternative work hours or flex-time could be extended. Mesa also supports the promotion of these policies to private employers through the MAG Regional Ridesharing Program. In-house study completed by December 31, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will study the implementation of a flexible time program and encourage private employers to institute alternative work hours/days. Ongoing.

- City of Phoenix Departments will continue to offer alternative work schedules to employees, based on their individual policies, if coverage during core hours is maintained and service to the public is not negatively affected. An evaluation of current alternative work hour practices will be completed in July, 1987 to find ways to expand the use of alternative work hours. The Rideshare Coordinator is working closely with Management and Budget staff in determining which Departments can perhaps make use of alternative work hours.

- City of Scottsdale Human Resources will assist General Managers in developing creative alternate schedules, so that by the legislatively mandated deadline, 85 percent of City employees work an alternate schedule during the months of October to March and still provide the same or better level of service to the public. Efforts began in June, 1987 and will be fully implemented in January, 1989.

- Town of Surprise will publicize and encourage employer cooperation regarding alternative work schedules and work weeks in town publications and newsletters.

- City of Tempe agrees to continue its ongoing program of supporting the use of alternative work hours for its employees. It further agrees, as required by state statute, to adjust the working hours of at least 85 percent of its employees during the October through March period and

to implement the adjusted schedule no later than January 1, 1989 and earlier if practicable. The City will also encourage major employers within the City to consider an alternative work hours program.

Currently, many City employees work during off-peak hours to provide critical, 24-hour services such as police and fire protection and automated data processing support. Other employees such as custodians and library staff work on alternative schedules - for example, 4:00 a.m. to noon and noon to 8:00 p.m. Most field workers also begin work during off-peak hours. Additionally, office personnel in most departments are allowed to stagger their work hours to take advantage of off-peak travel time.

To ensure compliance with the 85 percent statutory requirement, the City will initiate, during the first half of fiscal year 1987-88, a study to identify precisely current alternative work hour schedules and to develop a citywide alternative work hours plan which in addition to meeting the 85 percent criterion, will also attempt to correlate work hours with ridesharing and transit schedules and air quality considerations. The plan will be submitted to the Council Personnel Committee and then to the full City Council for consideration during the final quarter of fiscal year 1987-88, with implementation targeted for October 1, 1988. If, for any reason, implementation cannot be accomplished by the October date, the plan will be implemented, as mandated by State law, no later than January 1, 1989.

Letters will be mailed to major employers during the first half of fiscal year 1987-88, encouraging them to explore the possibility of implementing an alternative work hours schedule.

- Maricopa County Personnel Department has already implemented policies which permit departments to utilize alternative work hour programs. Approximately 7,400 Maricopa County employees have been identified as to variations in work week or work hours. Approximately 2,700 remaining employees need to be surveyed to determine the extent of work variances in fifteen departmental settings where employee work sites are not contiguous to the Downtown County Complex. Initiate program - June, 1987. Evaluation of program - June, 1988.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will follow rules developed by the Director of the Arizona Department of Administration to establish adjusted work hours for at least 85 percent of employees in the nonattainment area for the period October 1 to April. In addition, ADOT will continue to provide options, year-round, to employees of alternative work hours or four-day work weeks where service to the public will not be affected. Effective date of S.B. 1360 - August, 1987.

- Arizona Legislature passed S.B. 1360 in 1987 which requires adjusted work hours for 85 percent of county, city and state employees in a nonattainment area. Major employers will submit their adjusted hour schedules to the Air Quality Compliance Committee which will develop an adjusted work hour plan for private employers. Businesses with 100 or more employees are encouraged to implement their own adjusted work schedules. The bill also establishes a committee on air quality compliance to monitor the compliance of state, city and counties on air

pollution control, and to develop an adjusted work hour plan for private employers. The committee is established for five years and must submit a report by November 1 each year. S.B. 1360 effective date - August, 1987.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist private employers and local jurisdictions in establishing flexible work hour schedules. A video tape is being produced on the subject, and the rideshare marketing representatives will work with individual companies to tailor a program that will meet their needs. Efforts began in June, 1987 and will be ongoing.

36. Alternative Work Weeks (Areawide Strategy)

- Town of Buckeye will study the feasibility of alternate office hours and work weeks for municipal employees. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Chandler agrees to consider this measure as part of the Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of El Mirage will study the effect on local government services that would result in the establishment of alternate work schedules and implement where feasible. Study will begin in October, 1987 and will be presented to the City Council in February, 1988.

- Town of Gila Bend would encourage this measure in those areas where it would alleviate traffic congestion.

- Town of Gilbert agrees to consider provisions encouraging alternative work days as part of the Model Trip Reduction Ordinance and Coordinated Parking Management Program.

- City of Glendale has already instituted a flexible time program for its employees. Compliance with the Arizona 1987 air quality legislation - December 31, 1988.

- City of Goodyear Transportation Coordinator will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to initiate alternative work hours/days. Initiate study - October, 1987.

- Town of Guadalupe will study the feasibility of alternate office hours and work weeks. Implementation would be delayed until Guadalupe has 100 authorized positions. Private employers with over 100 employees would be encouraged to implement a similar program. Town Manager's Office will survey other public and private employers during a six month period to determine the most feasible approach.

- City of Mesa agrees to conduct a feasibility study to determine any additional work areas that could switch to a four day work week. Several areas of the City currently operate on a four day work week. In-house study completed by December 1, 1987.

- Town of Paradise Valley will implement this measure.

- City of Peoria will study the implementation of a flexible time program and encourage private employers to institute alternative work hours/days. Ongoing.

- City of Phoenix Departments will continue to offer alternative work weeks to employees, based on their individual policies, if coverage during core hours is maintained and service to the public is not negatively affected. An evaluation of how current alternative work usage can be increased is underway, and will be completed by July, 1987.

- City of Scottsdale Human Resources will assist General Managers in developing creative alternate work schedules so that by the legislatively mandated deadline, 85 percent of City employees work on alternate schedules during the months October through March and still provide the same or better level of service to the public. Efforts began in June, 1987 and will be fully implemented in January, 1989.

- Town of Surprise will publicize and encourage employer cooperation regarding alternative work schedules and work weeks in town publications and newsletters.

- City of Tempe agrees to continue to study the feasibility of increasing the number of work units and individuals who are on a ten-hour day, four day work week. The City will also encourage major employers within Tempe to consider utilizing alternative workweek schedules where feasible.

  The City has a limited alternative work week program already in place. Three divisions within the Public Works Department - Field Services, Water and Wastewater and Traffic Engineering - have crews that work four day weeks. Certain employees in the Community Services Department also adhere to an alternative work week schedule, working on the weekends.

  While its review of these programs is ongoing, the City will, as part of its alternative work hours study, evaluate the feasibility of expanding alternative work week schedules to other work units or individuals. The time frame for the study, Council consideration and implementation is the same as that delineated under the "Alternative Work Hours' implementation program.

  Letters will be sent to major employers within the City during the first half of fiscal year 1987-88 encouraging them to consider implementing alternative work week schedules where appropriate and feasible.

- Maricopa County Personnel Policies now permit use of alternative work weeks for departments although public services must be provided in all areas at least five days a week with the exception of those seven day a week 24-hour departments. Alternative work weeks are now in place in approximately one-half of the County departments. Approximately fifteen remaining County departments need to be surveyed to determine the extent of work week variations involving approximately 2,700 employees. These fifteen departments are primarily found in work site locations not contiguous to the Downtown County Complex. Initiate program - June, 1987. Evaluation of program - June, 1988.

- Regional Public Transportation Authority and the MAG Regional Rideshare staff at RPTA will assist private employers and local jurisdictions in establishing programs to promote alternative work weeks. A video tape is being produced on the subject, and the rideshare marketing representatives will work with each company to develop a tailored program. Efforts began in June, 1987 and will be ongoing.

37. Telecommunications - Telecommuting (Areawide Strategy)

- Town of Buckeye supports this measure.
- City of Chandler agrees to coordinate with the Chandler Chamber of Commerce to encourage telecommuting by private employers beginning October 1, 1987.
- City of El Mirage will study the effect on local government services and implement where feasible. Study will begin in October, 1987 and will be presented to City Council in February, 1988.
- Town of Gila Bend would encourage this measure for work and shopping purposes.
- Town of Gilbert Manager's Office will encourage telecommunications as an alternative to commuting or requiring travel. Town Information System Division is responsible for implementing the town electronic mail and messaging programs. The Town Personnel Office will review current operating environments to determine feasibility of "work at home" job opportunities. The Town will also work with the Gilbert Chamber of Commerce to educate and encourage use of technology in the private sector.
- City of Glendale will monitor the applicability of this technology. Ongoing.
- City of Goodyear Transportation Coordinator will monitor new research discussing the applicability of this measure over time. The Coordinator will also study possible implementation of this measure with a new computer and telecommunications system. Computer system on line - July, 1987. Telecommunications study - August, 1987. Ongoing.
- Town of Guadalupe supports this measure.
- City of Mesa will explore this measure with employees that have home computers. Mesa will also work with the Mesa Chamber of Commerce to encourage greater use of telecommuting in the private sector.
- Town of Paradise Valley will implement this measure.
- City of Peoria will monitor new research discussing the applicability of this measure over time and study the feasibility of implementing a new computer and telecommunications system. Computer system on line - June, 1987. Research - Ongoing.
- City of Phoenix supports this measure.
- City of Scottsdale currently places computers in City officials' homes in order to encourage work at home. The goal of the program thus far has been to facilitate communication between top staff, City

Councilmembers and selected positions with an identified need. The program currently includes about six percent of the total number of terminals and may be expanded further if appropriate to include more City staff at home during actual work hours.

- City of Tempe agrees to explore the possibility of providing telecommunications link-ups for selected employees. The Mayor and City Manager currently have terminals installed in their homes and tied into the City automated data processing system. Terminals for home use have also been programmed for the remaining six councilmembers. In addition, selected programmers and systems analysts in the Information Systems Division of the City's Management Services Department have at-home access to the data processing system and are encouraged to carry-out certain job activities via telecommuting. As a part of its annual review of employee positions and data processing requirements, the City will attempt to identify those employees who could perform all or part of their job responsibilities via a telecommunications link and to ascertain whether it is feasible, within the overall data processing program, to provide the necessary equipment. This analysis will coincide with the annual budget process, January through May. It is not possible to commit to implementation of an expanded telecommuting program, however, until the analysis is completed and the feasibility of such a program determined.

38. <u>Telecommunications - Teleconferencing (Areawide Strategy)</u>

- Town of Buckeye supports this measure.
- City of Chandler will televise City Council and Planning and Zoning Commission meetings, expand its use of video taped training tapes for municipal employees, expand its use of electronic mail applications on municipal data processing equipment on an ongoing basis.
- City of El Mirage will use teleconferencing to avoid long drives to meetings wherever possible. Ongoing efforts.
- Town of Gila Bend would encourage this measure as a substitute for traveling to the meeting place.
- Town of Gilbert will explore the televising of Town Council, Planning and Zoning and other meetings of community interest, expand its use of video taped training, expand its use of electronic mail applications, consolidate offices and services, and develop alternate transportation networks (bike and pedestrian) within public facilities to minimize commuting trips by the public to multiple sites. The planning and construction of a comprehensive municipal complex is approximately three years away.
- City of Glendale Police and Fire Departments use teleconferencing for training program presentations and briefing sessions. Glendale residents are also able to view City Council meetings on cable television. Ongoing.
- City of Goodyear Transportation Coordinator will monitor new research discussing the applicability of this measure over time. The Coordinator will also study possible implementation of this measure with a new computer and telecommunications system. Computer system on line - July, 1987. Telecommunications study - August, 1987. Ongoing.

- Town of Guadalupe supports this measure.

- City of Mesa currently broadcasts its City Council meetings on cable television and also uses teleconferencing on a limited basis for employee training. Ongoing.

- Town of Paradise Valley will implement this measure.

- City of Peoria will monitor new research discussing the applicability of this measure over time and study possible implementation of a new computer and telecommunications system. Computer system on line - June, 1987. Research - Ongoing.

- City of Phoenix Clerk Department, etc. responsibility under the telecommunications category is fulfilled by the telecommunication capabilities of OASIS, the Office Automation Support Information System. The OASIS telecommunications network went on-line in July, 1985 linking together six computers supporting 78 terminals in nine geographic locations throughout the City. The electronic mail and message features of OASIS allow municipal employees to share information such as reports, calendars, messages and memos without having to travel to centralized meeting locations.

  Since initial implementation, OASIS has been expanded with over 125 terminals having access to OASIS. The main computer has been upgraded to accommodate 32 additional terminals and system capacity was expanded by 33 percent. Over 800 hours of training on OASIS was provided during the 1986-87 fiscal year to conduct over 200 classes on the uses of OASIS for all levels of City employees.

  OASIS currently provides telecommunications service, not only to employees in the Municipal Building at 251 West Washington Street, but also provides service to employees at all the following locations:

  Barrister Place, 202 South Central
  Sky Harbor International Airport, 3400 Sky Harbor Blvd.
  Real Estate Division, 324 West Adams
  Economic Development Offices, One North 1st Street
  Engineering Office, 920 East Madison
  Police Department, 620 West Washington
  Civic Plaza, 335 East Adams
  Municipal Annex, 302 West Washington
  Fire Administration, 520 West Van Buren
  Phoenix Union Municipal Building, 455 North 5th Street
  Plaza Municipal Building, 235 East Washington
  Traffic Court, 12 North 4th Avenue
  UDH Building, 830 East Jefferson

  Three-way teleconferencing capability currently exists as a function of the City's telephone system. A six-way teleconferencing trunk has been ordered, at a cost of $108 per month, to be installed on or about July 1, 1987. Additionally, AT&T's ALLIANCE teleconferencing service is available for up to 58 simultaneous users. Costs are approximately $0.44 per minute for the service plus $0.25 per station per minute and long distance charges for each station to the equipment location (Los Angeles).

- City of Scottsdale agrees to encourage teleconferencing as a substitute for traveling to the meeting place. Specifically, Scottsdale's Office of Management Systems will promote the use of available teleconferencing capabilities and will train City staff in the use of those features. The existing City phone network will support teleconferencing between six parties within the City and two parties from outside the City phone network. In addition, the City's voice mail system offers features that may eliminate the need for certain meetings. Training in the use of these teleconferencing and other phone system features will be primarily aimed at City staff in satellite facilities and the central City complex who meet on a regular basis. Certain voice mail features which eliminate the need for field personnel to travel to and from the office for check-in and assignments will be promoted with the City staff in field positions. Efforts will begin in August, 1987 and will be ongoing.

- City of Tempe agrees to examine, in conjunction with its annual budgetary process, the possibility of enhancing its existing teleconferencing capacity. The City currently uses telephone speaker attachments and its telephone conference calling capacity to conduct multi-part discussions which would otherwise require meetings. It also provides information and programming to the viewing public via its cable access channel and over the past two years has invested substantially in the development of an in-house video capacity. Further, the City has in place an office automation system which permits electronic exchange of information among and between its elected officials and managerial and administrative staff, thus reducing the need to travel to and from different city office sites for meetings. Access to the system is expanded as budget and data processing capacity allow. The possibility of electronically linking selected systems in state or other local government agencies has been discussed and is a subject for future exploration. However, there are significant costs, compatibility and security issues which must be resolved. No commitment for implementation can be made at this time, given present costs and benefits. Sophisticated modes of teleconferencing will likely be examined in conjunction with future evaluations and upgradings of the City's telecommunications and data processing systems.

- City of Tolleson will direct its employees to follow a plan of teleconferencing as feasible to the situation.

39. <u>Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts (Areawide Strategy)</u>

- Town of Buckeye will purchase the URBEMIS program from the California Air Resources Board and utilize it for air quality impact studies. Subdivision ordinance amendment will require six months.

- City of Chandler agrees to evaluate the impacts of new development on air quality and reduce any negative impacts on an ongoing basis.

- City of El Mirage will implement as part of the Development Review Process an evaluation program designed to identify potential adverse impacts. Ongoing efforts.

- Town of Gila Bend will evaluate the impacts of new development on air quality as part of its plan review process. The current development guidelines require a review and approval of traffic circulation, parking plans, bike and pedestrian ways to assure a planned, integrated transportation circulation system. These will be reviewed and modified to determine their adequacy in measuring air pollution impacts. Ongoing.

- City of Glendale will implement as part of the current development review process, an evaluation of projects for potential air quality impacts. If significant impacts are identified, a formal impact study will be done. Glendale will incorporate air quality for all general categories of land use in the General Plan. Evaluation incorporated into review process - August, 1987. General Plan Draft completed - Summer, 1987.

- City of Goodyear Planning Department will implement as part of the Planning and Development Review Process a program designed to evaluate new development projects, identify potentially adverse air quality problems and reduce negative impacts. Efforts will begin in November, 1987 and the program will be implemented in January, 1988. Ongoing.

- City of Mesa as part of its plan review process agrees to evaluate the impacts of new development on air quality. Mesa also agrees to study the feasibility of purchasing the URBEMIS program or similar software to help evaluate the impact of various land uses on air quality by October, 1987. Mesa agrees to add a new category called Air Quality Impact to the Development Impact Summary by January, 1988. Possible software program purchase date - January, 1988.

- City of Peoria's Comprehensive Master Plan states that it is the policy of the city to reduce only negative impacts caused by new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality impacts. This is part of the general review process. Ongoing.

- City of Phoenix requires the preparation of traffic and parking analyses to accompany all Formal Rezoning Applications. These data have been used to require, as stipulations in rezoning and parking waiver decisions, developer commitments to traffic flow improvements and trip reduction programs. This process will be enhanced over the next calendar year to utilize more air quality-specific data.

  Consistent with provisions of Senate Bill 1360 requiring consideration of the air quality in the land use element of the General Plan, the City will review the General Plan and if necessary, develop any needed amendments to this effect in the next amendment cycle.

- City of Scottsdale already requires traffic impacts studies as part of an application for a major rezoning. Traffic impact studies could be expanded to include an evaluation of the air quality impacts of major new, proposed development. This work would need to be coordinated with the Maricopa County Health Department because the County maintains the region's air quality monitoring system. Because of the

regional nature of this issue, Scottsdale will work with MAG and the County Health Department to develop a mitigation policy. Efforts began in June, 1987. City signs contract with Maricopa County to implement the program if such action is deemed appropriate by the City - Summer, 1988.

- Town of Surprise will encourage and require development plans and land uses resulting in the shortest number of automobile trips.

- City of Tempe agrees to evaluate the air quality impact of new development by examining traffic circulation on-site as well as in areas affected off-site, and to suggest changes in site plans which will facilitate the flow of traffic. Further, the City of Tempe agrees to encourage employers in new developments to conduct annual transportation surveys that will monitor any changes in commuting behavior and provide data on which to base commuting program options, such as ridesharing, bus/trolley subsidies, transit stops and bicycle facilities. The evaluation of traffic circulation on and off-site is currently practiced, and the City of Tempe will continue its efforts to achieve the optimal flow for each project in order to reduce negative air quality impacts. The City of Tempe agrees to encourage employers to conduct transportation surveys once the City has an in-house program in place. It is estimated that the first quarter of 1988 would be appropriate for implementation.

- Town of Youngtown will include in its Planned Area Development Ordinance for limitation of air pollutants by eliminating areas of traffic congestion from plans. There is at this time no plan for industry in Youngtown.

- Maricopa County Department of Planning and Development will review applications for land development and continue to refer these applications to the Bureau of Air Pollution Control the County Public Health Division for analysis of impacts and possible mitigation measures for air quality. Process initiated - 1976. Issue memorandum specifying policy as described above - July, 1987.

- Arizona Department of Transportation, as mandated by S.B. 1360 (Omnibus air quality - Chapter 365), will prepare and submit to the Department of Environmental Quality an air quality impact report on any State-funded, transportation-related project which ADOT determines may have carbon monoxide or ozone impacts. This new provision does not apply to existing facilities nor to Federal Interstate highways. Previously, comparable reports have been prepared in the form of environmental impact assessments of Federally-funded projects. Effective date of S.B. 1360 - August, 1987.

40. <u>Land Use Patterns Which Support Public and Rapid Transit</u>

- City of Chandler agrees to encourage the clustering of high intensity uses at major intersection nodes. Chandler will address land use patterns and their relationship to public transportation when it updates its General Plan in fiscal year 1987-88.

- City of El Mirage will work with developers during the Development Review Process to encourage this measure. Ongoing efforts.

- Town of Gila Bend will encourage land use patterns which support public and rapid transit.

- Town of Gilbert General Plan includes several land use techniques to incorporate public and rapid transit technology into the development of the community. This includes designation of core areas of commercial or a hierarchy basis which should diminish daily trips to the core of Gilbert, incorporation of several intense areas of development throughout the community to dispose employment throughout the area as well as the inclusion of multi-family development within high intensity use areas. The designated civic core will be designed and developed to access all transportation technology. The Town General Plan and development guidelines will be reviewed to address land use patterns and their relationship to public transportation.

- City of Glendale is currently revising its General Plan which will address activity centers, densities, and their relationship to public transportation. General Plan Draft completed - Summer, 1987.

- City of Goodyear Planning Department will work with developers during the Specific Area Plan Program Process and the Development Review Process to encourage land use patterns which support public and rapid transit and increase land use density along transit routes. Initiate program - April, 1987. Ongoing.

- City of Mesa is currently revising its General Plan which will include a separate section on transportation and a discussion on various land use policies designed to promote public and rapid transit. The General Plan is scheduled to be completed by the Spring of 1988.

- City of Peoria's Comprehensive Master Plan states that it is the policy of the city to reduce any negative impacts caused by new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality impacts. This is part of the general review process. Ongoing.

- City of Phoenix will pursue implementation of this measure as reflected in the General Plan. This is a continuous activity which is already reflected in the 1987-88 Operating Budget.

- City of Scottsdale Advance Planning, Master Planning, and Traffic Engineering land use programs will continue to plan for land uses which support public and rapid transit. One of the guiding planning principles for the City is that of relatively urban mixed-use activity centers flanked by lower density residential uses. This approach creates a string of activity centers linked by major arterial roads which connect the centers. Of special importance is Downtown, which is the most intense mixed-use center in the City. Not only does the Downtown provide a transportation focus for the City, it also contains many of the jobs and more intense residential areas. In addition, Downtown will serve as home to the proposed transit center. The City of Scottsdale will continue to work with other valley cities, MAG, and the Regional

Transit Authority to create land use patterns which support public and rapid transit. Efforts began in June, 1987 and will be ongoing.

- City of Tempe is bordered on all sides by incorporated municipalities, and less than twenty percent of the land within its boundaries is available for new development. Increasing land use densities along corridors and major clusters are already the rule and not the exception. Single family development within the City is virtually completed, and new residential development is already planned and zoned as multi-family. In addition, the update of Tempe's General Plan targets growth nodes and corridors for dense mixed-use development which provide all the amenities needed to work, live, shop and recreate within walking distance. Furthermore, Tempe's future planning effort includes long-range plans to expand the connection of vital segments of the City through greenbelt linkages incorporating bikepaths. The Planning and Zoning Commission public hearing on the General Plan Update is scheduled for September of 1987, followed by the City Council public hearing in late October, 1987. Final City Council adoption of the revised General Plan is targeted for mid-November, 1987. Ongoing efforts.

- City of Tolleson will support land use policies that support public and rapid transit when they do not conflict with current zoning regulations. Current zoning policies will take precedence.

- Maricopa County Department of Planning and Development in cooperation with MAG agencies will guide the preparation of private development master plans and the countywide comprehensive plans to accommodate a public transportation network. Board of Supervisors to adopt plans - January, 1988. Private development master plans reviewed by staff - June, 1988.

- Regional Public Transportation Authority will continue working with state and local planning departments, public officials, citizens, and developers to encourage the development of land use patterns and plans which support public and rapid transit. Ongoing.

41. Reduced Idling at Drive-Up Facilities

- City of Avondale will review the recommendations made in the MAG Model Trip Reduction Study and determine feasibility for implementation beginning in January, 1989.

- Town of Buckeye will purchase appropriate signs and provide them to businesses which will be required to install them by ordinance. Ordinance development and signage procurement will require six months.

- City of Chandler agrees to discourage extensive idling by vehicles not equipped with catalytic converters as part of its air pollution public awareness activities beginning on October 1, 1987.

- City of El Mirage will initially address this measure on a voluntary basis. Appropriate signage will be developed and required as part of the permit process on an ongoing basis.

- Town of Gilbert agrees to discourage extensive idling by vehicles not equipped with catalytic converters as part of its air pollution public awareness activities. Gilbert will use public service announcements on the cable channel, work with the Chamber of Commerce, and review design of drive-up requests to determine their propriety in future developments. Efforts will begin on October 1, 1987.

- City of Glendale will initially address this measure be seeking voluntary compliance. The City will work with businesses to develop a plan to reduce idling time at these facilities. The location and number of drive-up facilities will be addressed in the General Plan. Public Awareness Program implemented - January, 1988. General Plan Draft completed - Summer, 1987.

- City of Goodyear will review the Model Trip Reduction Study recommendations and identify those incentives feasible to implement. Results of the study will be shared with private employers. January, 1987 - January, 1989.

- Town of Guadalupe will purchase appropriate signs and provide them to businesses which will be required to install them by ordinance. Ordinance development and procurement of signage - Six months.

- City of Mesa will initially address this measure through voluntary compliance. Mesa will develop appropriate signage to discourage idling by vehicles not equipped with catalytic converters. Implementation - July, 1988.

- Town of Paradise Valley will implement this measure.

- City of Peoria will review the recommendations from the Model Trip Reduction Study and identify those incentives feasible for implementation. Results of the study will be shared with private employers. January, 1987 - January, 1989.

- City of Phoenix Council has directed City staff to develop an enforceable program to reduce emissions associated with drive-up facilities at the Council meeting on June 30, 1987. Phoenix will keep MAG apprised of progress made on program development.

- City of Scottsdale will encourage businesses with drive-up facilities to post signs discouraging those automobiles not equipped with catalytic converters (usually cars of model year 1980 or older) from idling while waiting in drive-up line. After approval of Scottsdale Air Quality Plan by City Council, letters will be sent by Traffic Engineering Department to all businesses utilizing drive-up facilities in Scottsdale, explaining the desire to reduce idling at such facilities by automobiles without catalytic converters and asking and encouraging these businesses to post signage discouraging such automobiles from doing so. Installation of the sign shall be the responsibility of the business.

- City of Tempe agrees to encourage drive-up facilities voluntarily to post signage warning of the negative air quality impacts created by extensive idling. Further, the City of Tempe agrees to place educational articles in the TEMPE TODAY newsletter to increase awareness of the problem. The City of Tempe will begin to encourage the voluntary posting of signage during the late Summer and Fall of 1987. A newsletter article will be published in the Fall of 1987.

- City of Tolleson will encourage local businesses to provide signage at their drive-up facilities that discourage excessive idling.

42. Auto Free Zones and Pedestrian Malls Where Appropriate

- City of Avondale will address this measure during the Development Planning Process. Ongoing effort.

- City of Chandler will implement Auto Free Zones and Pedestrian Malls within the Downtown Area through initiation of municipal complex and development standards for private sector projects. Public facilities will be phased in over the next fifteen years.

- City of El Mirage will consider this measure during the drafting of its General Plan. General Plan is scheduled for completion in October, 1987.

- Town of Gilbert reviews the designs for the Urban Civic Core, the Town Civic Complex, and high intensity development areas to determine the feasibility of integrating auto free zones and pedestrian malls into the overall transportation network. The current design for downtown Gilbert reconstruction is pedestrian-oriented to encourage "one-stop" commercial enterprises. The downtown reconstruction should be substantially completed by Spring, 1988. The future designs for the Civic Center, the new core area and high intensity development areas will come as development occurs in these areas. The civic center is approximately three to five years from construction, the urban core five to ten years and the high intensity areas throughout the next three to twenty-five years.

- City of Glendale is currently revising its General Plan which will address these issues. General Plan Draft completed - Summer, 1987.

- City of Goodyear will address this measure during the Specific Area Plan Program Process and the Development Review Process. Ongoing.

- City of Mesa's master plan for the ten acre Town Center Redevelopment Site calls for the inner core to be an auto free zone. A series of parking garages will be built in the outer area creating an auto free zone in the core area. Future downtown redevelopment sites will be planned in a similar manner. Total site development - Five years. Construction will begin in late Fall, 1987.

- City of Peoria will address this measure during the specific area plan program for downtown redevelopment. Ongoing.

- City of Phoenix will consider these and related treatments in the context of the Central Avenue Image Study, Downtown Circulation Plan, the Village Plans, and the Peripheral Area A, B, C, and D Plans. The RPTA and the Public Transit Department are also considering these measures in the RPTA Central Corridor Study. This is a continuous activity.

- City of Scottsdale has already taken a nationally recognized leadership position in providing high amenity pedestrian mall space. Any

expansion of auto free malls and pedestrian only areas will be carefully integrated into the circulation plan in order to avoid off-site traffic congestion. The City has explored the use of incentives to encourage downtown plazas as part of the Downtown Plan. Free parking and shuttle service is provided to encourage pedestrian travel. With the completion of the couplet, downtown Scottsdale will not be required to accommodate major arterial traffic on streets used for downtown shopping. The couplet will provide for the separation of these types, thereby allowing auto free zones in the downtown. Additionally, the Galleria, the Portales, and other large indoor malls will allow shoppers to leave their autos while shopping in an environment which provides amenities that will encourage pedestrian traffic. Construction of the couplet - 1987 to 2000. Ongoing.

- City of Tempe is committed to a pedestrian orientation in the downtown. This commitment is evident in the elimination of on-street parking downtown in conjunction with the widening of the sidewalks by an additional six feet. In addition, parking is located in off-street facilities to encourage people to walk to destinations and not utilize their vehicles. Furthermore, the General Plan Update, now in the final phases of consideration, stresses pedestrian areas and facilities, targeting growth nodes and dense mixed-use developments which permit persons to live, work and play all within walking distance. Construction of wider sidewalks and elimination of on-street parking on Mill Avenue began in June of 1987 and will be completed by September of 1987. Final adoption of the revised General Plan is targeted for mid-November, 1987.

- City of Tolleson supports the establishment of the auto free zones and pedestrian malls, but at the current time, the City does not have any areas that warrant these measures. However, during future development the City will consider establishing them as appropriate.

43. <u>Enforcement of Traffic, Parking, and Air Pollution Regulations (Areawide Strategy)</u>

- City of Avondale Police Department will review and if appropriate revise policies dealing with traffic and parking and strictly enforce the policies. Ongoing efforts.

- Town of Buckeye will ticket visibly smoking vehicles, enforce parking and traffic regulations, and truck restrictions during peak periods immediately for applicable regulations.

- Town of Carefree will request the Maricopa County Sheriff's Office (under contract) to enforce state motor vehicle air pollution laws and local parking and traffic regulations beginning in January, 1987.

- Town of Cave Creek will request the Maricopa County Sheriff's Office (under contract) to enforce state motor vehicle air pollution laws and to enforce local parking and traffic regulations beginning in July, 1987.

- City of Chandler Police Department will continue to issue citations to drivers of vehicles in violation of related ordinances and laws.

- City of El Mirage Police Department will review and revise traffic and parking policies and strictly enforce those regulations. Review and revisions will be completed by February, 1988.

- Town of Gilbert will continue its ongoing, aggressive traffic and parking regulation and enforcement program. Citations will be issued to drivers in violation of ordinances and laws including enforcement of requirements for inspection identification stickers, parking regulations, etc.

- City of Glendale recently revised its Parking Enforcement and Ciation Follow-up Policy. Glendale Police will issue citations instead of repair orders/warnings to motor vehicles emitting visible emissions. Ongoing. Visible emissions enforcement increased - September, 1987.

- City of Goodyear Police Department will review and if appropriate, revise policies dealing with traffic and parking and will strictly enforce these policies. Efforts will begin in September, 1987 and the revised program will be implemented in January, 1988.

- Town of Guadalupe will implement this measure for applicable regulations, when appropriate. This includes the ticketing of visibly smoking vehicles, enforcement of parking and traffic regulations, and enforcement of special enacted anti-pollution measures, such as truck restrictions during peak periods.

- City of Mesa has entered into a contractual agreement with Mesa Town Center Corporation to enforce all parking regulations within the one square mile Town Center area. Twenty-three patrol officers will be added to the Police Department during FY 1987-88.

- Town of Paradise Valley will implement this measure.

- City of Peoria Police Department will review and if appropriate, revise policies dealing with traffic and parking. The policies will be strictly enforced. Efforts will begin in September, 1988. Implementation of revised program - January, 1988.

- City of Phoenix Police Department will continue to issue citations to drivers of vehicles in violation of related ordinances and laws.

- City of Scottsdale Police Department and City Court will emphasize this program to existing personnel at training sessions and by training bulletins to be issued by the Administrative Bureau by August 1, 1987. New officers will be instructed as to the importance of enforcing the excessive smoke statutes and other "clean air" statutes. This is an ongoing program as the officers are employed. The City Court will be contacted by the Special Operations Supervisor and the importance of these citations will be expressed. This will be accomplished by July 1, 1987. An advertising campaign will be requested by Communications and Public Affairs. This will be to educate the public in the prioritization of these citations. This should be in place by September 15, 1987.

- Town of Surprise will continue local police enforcement of restrictions regarding vehicles which burn oil and unnecessarily generate carbon monoxide pollution.

- City of Tempe agrees to continue its ongoing, aggressive traffic and parking regulation enforcement program. Any new traffic, parking or air pollution regulations which may be adopted by the City Council or imposed by state law will also be strictly enforced. Tempe strictly enforces its traffic and parking regulations. Its parking enforcement program includes "booting" of vehicles of repeat offenders, and overtime parking fines were raised from $2 to $10 per violation three years ago. Ongoing efforts.

- City of Tolleson supports the stricter enforcement of these regulations and as applicable to the city's jurisdiction, will make a concerted effort to enforce such regulations. The City supports other jurisdictions' efforts to implement this measure.

- Maricopa County Division of Public Health Bureau of Air Pollution Control (Stationary Source Control) hired an additional Public Health Engineer to work in the Enforcement Section and two new Air Quality Planners to revise existing regulations and develop new regulations. Applicable new Source Performance Standards will be adopted following promulgation by the Environmental Protection Agency. Efforts began in January, 1987. Present proposed revisions and new regulations presented to Board of Supervisors for approval and adoption - October, 1987 to December, 1987. Ongoing review and development of regulations - January, 1988.

44. <u>Expansion of the Areawide Monitoring Network (Areawide Strategy)</u>

- City of Avondale will support the Maricopa County Health Department in its efforts to increase the areawide air quality monitoring network.

- Town of Buckeye will support this measure.

- City of Chandler agrees to support and cooperate with the Maricopa County Health Department in the expansion of the areawide air quality monitoring system.

- City of El Mirage will support the Maricopa County Health Department in this measure.

- Town of Gila Bend would support the expansion of the monitoring system and assist Maricopa County if the decision was made to place a monitor in Gila Bend.

- City of Glendale will request that the air quality monitoring network be expanded. Ongoing.

- City of Goodyear will support the Maricopa County Health Department in its effort to increase the areawide air quality monitoring network.

- Town of Guadalupe supports this measure.

- City of Mesa agrees to support this measure.

- Town of Paradise Valley will implement this measure.

- City of Peoria will support Maricopa County Health Department in expanding the network.

- City of Phoenix supports this measure.

- City of Scottsdale Traffic Engineering Department shall, when requested to do so by the Maricopa County Health Department, make recommendations for Scottsdale locations for new air quality monitoring stations.

- Town of Surprise supports this measure.

- City of Tempe agrees to support and cooperate with the Maricopa County Health Department in expansion of the areawide air quality monitoring network.

- City of Tolleson supports this measure.

- Maricopa County Bureau of Air Pollution Control will study sub-regions of the nonattainment area to determine the air quality benefits of establishing additional monitoring stations. The Bureau's mobile monitoring laboratory will be available for those studies. Efforts will begin in May, 1987 and continue through February, 1988.

45. Use of Stage II Vapor Recovery

- Town of Buckeye will support the use of Stage II Vapor Recovery.

- City of Chandler agrees to encourage Maricopa County to require Stage II Vapor Recovery.

- City of El Mirage supports the use of Stage II Vapor Recovery and will encourage implementation of this measure by Maricopa County.

- City of Glendale requests the Maricopa County Board of Supervisors to implement Stage II Vapor Recovery.

- City of Goodyear supports the use of Stage II Vapor Recovery and will encourage implementation by Maricopa County.

- Town of Guadalupe supports this measure.

- City of Mesa will urge either Maricopa County or the State Legislature or both of these entities to implement Stage II Vapor Recovery.

- City of Peoria supports the use of Stage II Vapor Recovery and will encourage implementation by Maricopa County. The new City refueling station is designed with a Stage II Vapor Recovery System. Installation of nozzles - September, 1987.

- City of Phoenix supports this measure.

- City of Scottsdale Intergovernmental Relations Program shall request that Maricopa County and/or the Arizona Legislature implement or mandate Stage II Vapor Recovery Systems.

- City of Tempe agrees to encourage Maricopa County to exercise its authority to require implementation of Stage II Vapor Recovery. Further, it agrees in concert with MAG, to examine the possibility of requesting the State Legislature to enact legislation requiring the use of Stage II Vapor Recovery, should the County refuse to act.

The Regional Council adopted Stage II Vapor Recovery as one of the mitigation measures on June 24, 1987. The County already has the authority to act and can do so at any time. If the County should fail or refuse to take action requiring Stage II, the next regular session of the State Legislature which convenes in January, 1988 could, if the MAG Regional Council directs, be asked to pass appropriate legislation. Once the County or the State Legislature acts to require Stage II, a three to four year time period will be required for full implementation.

- City of Tolleson supports this measure.

- Maricopa County Division of Public Health Bureau of Air Pollution Control will evaluate the impact and potential emission reductions relative to all EPA strategies to limit air pollution due to motor vehicle refueling. The evaluation will include consideration of reasonably available control technology as defined by EPA and required of nonattainment areas under the 1977 Clean Air Act. Conduct an evaluation of all EPA strategies to limit motor vehicle refueling emissions including but not limited to Phase II vapor recovery, onboard canisters, and fuel volatility - January, 1987 to July, 1987. Maricopa County Air Pollution Advisory Council will review and discuss the evaluation and make a recommendation to the Maricopa County Board of Supervisors - August, 1987 to December, 1987. Decision by the Maricopa County Board of Supervisors - March, 1988.

46. Stationary/Industrial Source Controls

- Town of Buckeye will support this measure.

- City of Chandler agrees to encourage Maricopa County to examine the Stationary/Industrial Source Controls for effectiveness in reducing ozone pollution.

- City of El Mirage acknowledges that Maricopa County has the authority for stationary source controls.

- Town of Gila Bend supports the recommendation that the County review the effectiveness of Stationary/Industrial Source Controls.

- Town of Gilbert agrees to work with Maricopa County to review Stationary/Industrial Source Controls and aid in enforcing standards throughout the Town.

- City of Glendale supports review by Maricopa County of the effectiveness of the current Stationary/Industrial Source Controls. Ongoing.

- City of Goodyear supports the examination of this measure by Maricopa County.

- Town of Guadalupe supports this measure.

- City of Mesa will urge the County to examine the effectiveness of these controls.

- City of Peoria supports this measure.

- City of Phoenix supports this measure.

- City of Scottsdale supports this measure.

- City of Tempe agrees to encourage Maricopa County to examine the effectiveness of its Stationary/Industrial Source Controls and to do so as expeditiously as possible.

- City of Tolleson supports this measure.

- Maricopa County Division of Public Health Bureau of Air Pollution Control (Stationary Source Control) hired an additional Public Health Engineer to work in the Enforcement Section and two new Air Quality Planners to revise existing regulations and develop new regulations. Applicable new Source Performance Standards will be adopted following promulgation by the Environmental Protection Agency. Efforts began in January, 1987. Present proposed revisions and new regulations presented to Board of Supervisors for approval and adoption - October, 1987 to December, 1987. Ongoing review and development of regulations - January, 1987.

47. <u>Contingency Plan</u>

- City of Avondale will continue to participate with the MAG Air Quality Policy Committee on this measure.

- Town of Buckeye will support this measure.

- City of Chandler agrees to review annual progress reports prepared by the MAG Air Quality Policy Committee regarding annual efforts to reduce carbon monoxide and ozone beginning in 1988.

- City of El Mirage will continue to participate with the MAG Air Quality Policy Committee on this measure.

- Town of Gila Bend will support the Contingency Plan.

- Town of Gilbert agrees to review annual progress reports prepared by the MAG Air Quality Policy Committee regarding annual efforts to reduce pollution and participate as necessary.

- City of Glendale will develop a computerized monitoring program to track the progress made with the implementation of this measure. Ongoing.

- City of Goodyear will continue to participate with the MAG Air Quality Policy Committee.

- Town of Guadalupe supports this measure.

- City of Mesa will review the need to strengthen existing measures and use additional measures.

- City of Peoria will continue to participate on the MAG Air Quality Policy Committee.

- City of Phoenix supports this measure.

- City of Scottsdale will support the efforts of the MAG Air Quality Policy Committee in this measure through active involvement on the committee by a city elected official and a Scottsdale citizen. Ongoing.

- Town of Surprise will cooperate with the Maricopa Association of Governments to implement any modifications or contingencies required.

- City of Tempe, as a member of the Maricopa Association of Governments and with a representative on the MAG Air Quality Policy Committee, agrees to support and participate in the annual review of progress made to reduce carbon monoxide and ozone pollution and the consideration of additional measures, if necessary. It further agrees to monitor at the local level progress made toward meeting its individual commitments. The MAG Air Quality Policy Committee review will be conducted annually. Local reviews of progress made will be conducted quarterly. If additional measures are determined necessary as a result of the annual MAG review, implementation schedules will be developed at that time.

- City of Tolleson supports the MAG Air Quality Policy Committee in their efforts with this measure.

- Town of Youngtown supports this measure and will provide financial support if feasible and appropriate.

ADDITIONAL MEASURES

48. Land Use Patterns That Discourage Automobile Use

- Town of Carefree will provide for land use patterns that will discourage automobile use within the Town's commercial downtown core beginning in the Summer of 1987.

- Town of Cave Creek will provide for land use patterns that will discourage automobile use within the Town's commercial downtown area beginning in the Fall of 1987.

49. Reduced Parking Requirements for Firms with Ridesharing

- Town of Gilbert will review development guidelines to allow reduced parking lot coverage for developments employing high occupancy or transportation pooling techniques within their development proposals.

TRACKING PLAN IMPLEMENTATION

As discussed in Chapter Six, the Maricopa County Bureau of Air Pollution Control determines reasonable further progress and reviews the implementation status of the various measures contained in the air quality plans on an annual basis. In order to accurately monitor or track plan implementation, the Maricopa County Bureau of Air Pollution Control will be requesting that the implementing agencies and

jurisdictions complete the annual progress report contained in Table 7-1. The Bureau of Air Pollution Control will then review and summarize this information, prepare an implementation status report, and then present the report to the MAG Air Quality Policy Committee. The Maricopa County Bureau of Air Pollution Control will also continue to have the responsibility for conducting ambient air quality monitoring.

Supplemental to the tracking efforts of the Maricopa County Bureau of Air Pollution Control, the Maricopa Association of Governments publishes regional traffic flow maps every two years and calculates regional vehicle miles of travel from these flow maps. MAG also conducts a vehicle occupancy study each year, publishes a monthly traffic count stations report each year, and performs special traffic volume and speed studies as needed. Phoenix Public Transit continuously monitors transit ridership and summarizes daily ridership for each month. The Regional Public Transportation Authority will also be collecting transit and carpooling ridership information. The Arizona Department of Health Services continuously monitors the number of vehicles inspected in the Vehicle Inspection Maintenance Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.

As indicated in the Contingency Plan, the MAG Air Quality Policy Committee will review progress made to improve air quality on an annual basis. If necessary, the Committee will consider strengthening existing measures and adding other measures.

TABLE 7-1

MAG 1987 CARBON MONOXIDE PLAN AND OZONE PLAN
ANNUAL PROGRESS REPORT FOR CALENDAR YEAR 1987

Control Measure _____

City/Agency _____

Contact Person _____ Title: _____ Phone No. _____

1) Describe **legal** commitment (include: adoption by city council/governing body, date of adoption, form of adoption, i.e. ordinance, resolution, budgetary commitment, etc).

2) Describe **funding** commitment (include total dollar amount allocated for this strategy, total dollar amount spent during this calendar year; identify funding source).

3) Describe the **progress** achieved on this control measure:

A. Prior to 1987 (see attachment "A")

B. During calendar year 1987 (see attachment "A").

SAMPLE

INSTRUCTIONS FOR DESCRIBING "PROGRESS" IN QUESTION #3

Information from the annual progress report will be summarized to measure the progress achieved on each control measure. To accomplish this, it is important the response in question #3 include uniform reporting units (e.g. miles of reversible lanes, number of spaces in park and ride lots). The specific reporting units for each strategy are listed below.

Part A of question #3 asks for a description of the progress achieved before January 1, 1987. For instance, the existing number of bus pullouts in curbs for passenger loading, or the existing miles of bike paths in place before 1987. Part B emphasizes progress achieved in calendar year 1987. The response in both A & B shall be quantified using the reporting units for that strategy.

LIST OF REPORTING UNITS FOR DESCRIBING PROGRESS ON MAG STRATEGIES

Control Measure	Reporting Unit
Computerization and synchronization of traffic signals	Number of intersections
Reversible lanes on arterials	Number of miles
Park and ride lots	Number of lots and Number of parking spaces
Preferential parking for carpools and vanpools	Number of parking spaces

etc.....

APPENDIX I, Exhibit 2

MAG 1987 Ozone Plan for the Maricopa County Area, Chapter Eight: Demonstration of Attainment Status.

CHAPTER EIGHT

DEMONSTRATION OF ATTAINMENT STATUS

Based upon the air quality modeling analysis presented in Chapter Three, a 30.8 percent reduction in hydrocarbon emissions is needed to attain the ozone standard by December 31, 1987. For 1990 and 1995 respectively, a 26.3 percent and an 24.4 percent reduction in hydrocarbon emissions are needed to attain the standard. The control measures included in the MAG 1987 Ozone Plan have the potential to reduce hydrocarbon emissions by 2.0 percent in 1987, 8.0 percent in 1990, and 10.1 percent in 1995.

The figures cited above represent potential emissions reductions obtainable from the plan. In Chapter Eight, the plan is evaluated in terms of emissions reductions that will result from actual commitments to implement control measures in the plan. These commitments were obtained from MAG member jurisdictions and other appropriate implementing agencies. Additional details concerning these commitments are provided in Chapter Ten.

Based on the evaluation of the commitments, it is estimated that the control measures will result in a 0.8 percent reduction in emissions by the end of 1987, a 0.9 percent reduction by 1990, and a 1.2 percent reduction by 1995. On this basis, it is estimated that the Maricopa County Area will not achieve the ozone standard by the December 31, 1987 deadline. The standard also would not be met by 1990 or 1995, given that only those commitments that have been received would be in place.

It is important to note that a broad range of commitments were received, addressing implementation of measures in the plan. The extensive commitments from MAG member jurisdictions demonstrate the level of effort that is being made to improve air quality in the region.

In the determination of attainment status, specific emissions reduction credits were not taken for commitments where the basis for estimating air quality benefits was limited. However, in many cases these commitments will produce emissions reductions above and beyond what has been quantified in the evaluation of attainment status. These measures represent additional efforts by MAG member jurisdictions to reduce emissions and improve air quality. It is anticipated that as additional experience is gained in the implementation of these measures, a more detailed assessment of their air quality benefits can be developed and reported.

ESTIMATED IMPACTS OF CONTROL MEASURES BASED UPON PLAN COMMITMENTS

In order to take credit for the full potential of the plan to reduce hydrocarbon emissions, the level of commitments to implement the plan must be comparable to the versions of the measures modeled. Accordingly, the commitments for implementation received by MAG in July, 1987 were reviewed and compared with the modeled versions of the control measures.

Table 8-1 summarizes the percent reduction in emissions estimated for the control measures as described above. Only those measures for which emissions reduction credit was taken are listed. The values reflect the change in total emissions with the measure in place divided by total emissions for the base year (1987, 1990, 1995) without any new measures in place. It should be noted that the estimated emissions reductions represent the incremental effect of the measure and not the total effect of the program area. For example, the reduction estimated for Short-Range Transit Improvements refers only to the effects of new services and not the total contribution of the entire transit system.

For each measure in the adopted plan. a brief discussion of the impact estimation is presented below. Following the review of individual control measures, the combined impact of the committed measures is estimated and attainment status is discussed.

Table 8-1

HYDROCARBON EMISSIONS REDUCTIONS ESTIMATED FOR CONTROL MEASURE COMMITMENTS

Measure	1987 Percent Reduction in HC Emissions From Base	1990 Percent Reduction in HC Emissions From Base	1995 Percent Reduction in HC Emissions From Base
I/M Program - 1987 Legislation	0.6	0.6	0.6
Short-Range Transit Improvements	0-0.1	0-0.1	0-0.1
Expanded MAG Regional Ridesharing Program	0-0.1	0.1	0.2
High Occupancy Vehicle Lanes on Freeways	*	*	0.1
Freeway Surveillance, Ramp Metering, and Signage	*	*	0-0.1
Increased Bicycle Use	0-0.1	0-0.1	0-0.1
Pedestrian Travel	0-0.1	0-0.1	0-0.1
Conversion of State, Local and Corporate Fleets to Alternative Fuels	*	0-0.1	0-0.1
Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service	*	0-0.1	0.1

NOTE: In addition to the measures listed above, numerous commitments were made involving other control measures which would yield additional benefits. However, in many cases the impacts of these commitments were not readily quantifiable, and no credit was taken for emissions reductions.

* Indicates a scenario not applicable for certain year(s).

1. Vehicle Inspection Maintenance Program - 1986 Legislation Statewide (Areawide Strategy)

During the spring of 1987, the Arizona Legislature gave consideration to a variety of air pollution control measures including options for strengthening the State Vehicle Inspection Maintenance Program. MAG, Maricopa County, and the MAG cities and towns urged the Legislature to amend the State Vehicle Inspection Maintenance Program to require application on a statewide basis. In May, 1987 the Legislature passed a major air quality bill, Senate Bill 1360, which the Governor signed into law. This legislation did not expand the geographic coverage of the State Vehicle Inspection Maintenance Program, but did strengthen it in several ways as highlighted below.

- The new law applies inspection and maintenance requirements to "those vehicles registered outside of a nonattainment area but used to commute to the driver's principal place of employment located within a nonattainment area."

- The new law applies inspection and maintenance requirements to the vehicles of students attending State universities and State-supported community colleges within nonattainment areas, even if these vehicles are not registered in Maricopa or Pima County.

- The new law establishes a system whereby an air quality compliance sticker or comparable device will be used to identify vehicles which have complied with the requirements of the State Vehicle Inspection Maintenance Program. Vehicles which have been exempted from the program will also receive a sticker. Beginning in 1989, by which time each vehicle in compliance will have such a sticker, any vehicle without a sticker will be prohibited from parking on State campuses or in lots reserved for employees of the State or local governments. The Arizona Department of Administration is given the authority to institute further nonattainment area parking prohibitions affecting vehicles not in compliance.

- The new law increases to two hundred dollars the cost of repairs which may be required for a vehicle manufactured in model years 1975 through 1979 to be issued a certificate of waiver under the State Vehicle Inspection Maintenance Program. The previous waiver limit for these vehicles was one hundred dollars.

The hydrocarbon emissions reductions originally modeled for statewide application of the program were 0.8 percent for 1987, 1.0 percent of 1990, and 0.8 percent for 1995. By including the vehicles of college students and commuters from outside the nonattainment area, the new law will bring more vehicles under the requirements of the State Vehicle Inspection Maintenance Program. However, it will not reduce the emissions of vehicles of Arizona residents who enter the Maricopa County Area only on an occasional basis. Therefore, the emissions reduction attributable to the above provisions will be less than the reduction modeled for statewide application of the State Vehicle Inspection Maintenance Program. On this basis. it is estimated that the hydrocarbon impact of the newly legislated program modifications will be a 0.6 percent reduction for 1987, 1990 and 1995.

2. <u>Vehicle Inspection Maintenance Program - 1986 Legislation Countywide (Areawide Strategy)</u>

As discussed above, the Arizona Legislature in May, 1987 enacted new legislation strengthening the State Vehicle Inspection Maintenance Program. The new provisions do not include countywide application of the program. but they do expand inspection and maintenance requirements to include vehicles used to commute into nonattainment areas. The potential hydrocarbon emissions reductions modeled for countywide application of the State Vehicle Inspection Maintenance Program were 0.2 percent in 1987 and 1990, and 0.1 percent for 1995. These estimates are not an assessment of the newly legislated program modifications. Emissions reduction credit for these modifications is addressed in the context of the preceding measure.

3. Short-Range Transit Improvements (Areawide Strategy)

In recent months the Regional Public Transportation Authority (RPTA) has initiated regional transit service to complement existing municipal fixed route and demand responsive services. Six new express routes began in December, 1986. Seven local routes began service in January, 1987 and nine local routes were added or modified in April, 1987. These improvements, funded from the $5 million annually available for RPTA service provision, were the basis of the short-range transit scenario modeled for this measure. Continued provision of the regional service will be funded with sales tax revenues as approved by Maricopa County voters in 1985 through the passage of Proposition 300.

In addition to the RPTA effort, local transit improvements are being made by the cities of Mesa, Phoenix, Scottsdale and Tempe. Other cities and towns are studying the potential for initiating local service. Transit improvements may be implemented during 1987-88 using part of the $250,000 appropriated by the Arizona State Legislature for transit and ridesharing projects in nonattainment areas. In addition, the Phoenix City Council has approved a program for a private contractor to install up to 1,000 passenger shelters with advertising. The private capital investment will approximate $6,000,000 in making passenger waiting at bus stops more comfortable and convenient.

The scenario originally modeled for short-range transit reflected only the service improvements initiated by the RPTA. To estimate the combined impact of the RPTA efforts and the additional transit improvements described above, the originally modeled reduction was factored upward in proportion to the increased funding commitments. After adjustment for the extra efforts described above, a 0.0 to 0.1 percent reduction was estimated for 1987. Comparable credit was taken for 1990 and 1995 because the RPTA effort has a continuing funding commitment.

4. Long-Range Transit Improvements (Areawide Strategy)

The Regional Public Transportation Authority, established in January, 1986, has as its primary mission the planning of a future rapid transit system. When completed, the RPTA plan will be considered for voter approval in a sales tax referendum to be held after September, 1988. The RPTA planning effort is currently underway with extensive cooperation from local governments.

As of April 1987, more than a half dozen consultant studies were underway, identifying regional travel demand, transit technology characteristics, facility design standards, and corridor-level service concepts. These studies are coordinated elements of the plan development process through which the RPTA will prepare a Regional Public Transportation System Plan. The plan will address regional rapid transit and regional bus service needs through the year 2015.

The major technical studies initiated during the spring of 1987 are described below:

- The Transit Systems Planning Study will quantify travel demand, identify corridors, develop regional service concepts, define corridor service characteristics, and assemble the long-range plan.

- The Rapid Transit Technology Inventory and Evaluation involves the examination of the full range of available transit technologies to determine which options are suitable for use in Maricopa County.

- The study of Transit Facility Design Standards addresses general policy and code issues related to the design of various transit facilities such as guideway, stations, transfer centers, and park and ride. A second phase will address the issues of functionality, maintainability, aesthetics, and design consistency.

- The Central Avenue Rapid Transit Corridor Analysis will define an alignment envelope for rapid transit service in the corridor along Central Avenue from Camelback Road to downtown Phoenix.

- The Sky Harbor International Airport Rapid Transit Analysis will identify an alignment envelope and station options for providing service to, within, and through the airport, including the existing three terminals and a fourth terminal presently under design.

- The Camelback Rapid Transit Corridor Analysis will define alignment envelopes along the Camelback Corridor in Scottsdale and in Glendale. A second phase will identify alignment envelopes in Phoenix.

At the state level, the 1987 air quality legislation established a Light Rail Study Commission charged with the responsibility of preparing a report for the Governor by the end of 1987.

Modeling results for a long-range transit scenario based on an earlier MAG study indicated a 0.1 percent reduction in hydrocarbon emissions in 1990, and a 0.7 reduction in 1995. In the event that the voters approve the RPTA plan, air quality impacts will be assessed and credit will then be taken for this measure.

5. <u>Exclusive Bus Lanes on Arterials and Freeways as Appropriate (Areawide Strategy)</u>

The Regional Public Transportation Authority will pursue the introduction of exclusive bus lanes in cooperation with affected local jurisdictions. In addition, several cities are studying potential applications of this measure. Existing bus lanes on Central and First Avenues in Phoenix will be maintained. As additional applications are programmed for implementation, air quality benefits can be investigated. This measure was not evaluated through computer modeling, and no additional emissions reduction credit was taken.

6. Expanded MAG Regional Ridesharing Program (Areawide Strategy)

The Maricopa Association of Governments will expand the Regional Ridesharing Program through the Regional Public Transportation Authority. With a combination of Federal Highway Administration funds and monies from the Exxon Restitution Fund, the program has been expanded significantly. The staff has been increased from two to five people, with additional contract support for clerical activities. Three employer marketing representatives have been hired to work directly with Valley employers to design internal rideshare programs for each business.

The main objective for the program is to develop transportation management plans that will promote a number of different modes of travel such as transit, carpooling, vanpooling, bicycling. This will reduce the use of single occupant vehicles. Other measures such as alternative work hours will be promoted to help reduce localized congestion problems. The goal for the 1897 program year is to develop programs in all local governments. the top 20 Valley employers and a wide variety of small and medium sized businesses. A total of 125 firms will be contacted in 1987 and 700 firms will be contacted by 1995. These goals correspond to the scenarios used for modeling this measure.

Related efforts to encourage ridesharing will be implemented through the Capitol Complex Rideshare Program, administered through the Energy Office of the Arizona Department of Commerce. The Arizona Department of Transportation (ADOT) will contribute funding for this program. In addition, a number of cities will administer in-house ridesharing promotion for their employees. Other cities and towns will publicize and promote ridesharing through various public information efforts.

The hydrocarbon emissions reductions for the modeled versions of this measure were 0.0 to 0.1 percent in 1987, 0.1 percent in 1990, and 0.2 percent in 1995. These same levels of reduction were credited for the commitments to this measure. This is based upon the continuity of the expanded MAG Regional Ridesharing Program, as well as commitments to associated

measures for which no additional credit was taken. Such measures include Park and Ride Lots, Preferential Parking for Carpools and Vanpools, and Auto Free Zones and Pedestrian Malls Where Appropriate.

7. Model Trip Reduction Ordinance - Employer Based Transportation Management (Areawide Strategy)

The Maricopa Association of Governments initiated the development of a model trip reduction ordinance in July, 1987. The resulting model ordinance will be considered for adoption by Maricopa County and the MAG cities and towns. Additionally, the 1987 Arizona air quality legislation specifically grants to counties, cities, and towns the power to make and enforce trip reduction ordinances, beginning in 1989. As such ordinances are adopted and implemented, credit can be taken for the emissions reduction benefits resulting from this measure. At this time, no credit was taken. Based upon the scenario modeled for trip reduction ordinances, this measure has the potential to reduce hydrocarbon emissions by 0.5 percent in 1987, 0.4 percent in 1990, and 0.4 percent in 1995.

8. Voluntary No Drive Days Program (Areawide Strategy)

The Phoenix Metropolitan Chamber of Commerce has made a commitment to establish a voluntary no drive days program anticipated to be in effect from October 15, 1987 through January 15, 1988. Numerous MAG member jurisdictions have indicated that they will support and promote this effort. The program will promote regular driving restraint during the carbon monoxide season. By encouraging the public to observe one no drive weekday every week, the program is expected to bring about a three percent reduction in average weekday vehicle miles of travel (VMT). In addition to this basic objection, further voluntary restraint may be promoted on occasions when meteorological forecasts indicate that severe or prolonged thermal inversion conditions may be anticipated.

Due to reliability problems in weather forecasting, the intermittent element of the program is not included in the estimation of emissions reductions for

the measure. The underlying VMT reduction is the only benefit that was modeled. The three percent VMT reduction projected for this measure in 1987 is based upon the success of the Denver Better Air Campaign in its first year of operation. For 1995, the goal of the program is a 10 percent VMT reduction. These VMT reductions correspond to the modeled scenario for this measure, which yielded an estimated hydrocarbon emissions reduction of 1.9 percent for 1987, 3.9 percent for 1990, and 4.2 percent for 1995.

Commitments for this measure are focused upon a winter program tailored to achieve carbon monoxide reductions. Since no similar level of effort is envisioned for the summer months to reduce hydrocarbon emissions, no credit was taken for the Voluntary No Drive Days Program as an ozone control measure.

9. Areawide Public Awareness Program (Areawide Strategy)

The Phoenix Metropolitan Chamber of Commerce conducted an areawide public awareness program called the "Clean Air Force" campaign during the six month period which began on November 17, 1986. Through this program a public awareness base was established which will contribute to the success of the Voluntary No Drive Days Program in 1987. Because the impact of continued public awareness efforts is fully included within the emissions reduction estimated for the Voluntary No Drive Days Program, no individual credit was taken for this measure.

10. Park and Ride Lots (Areawide Strategy)

The Regional Public Transportation Authority was instrumental in the establishment of thirteen new park and ride lots in November, 1986 and is continuing to work with local governments to identify potential sites for additional lots. Commitments for providing additional lots have been made by Phoenix, Chandler, and the Arizona Department of Transportation. The City of Phoenix will take necessary actions to implement a new transit center in the Sunnyslope area at a cost of $650,000. During 1988, final design and lease arrangements will be initiated for new transit facilities at

Westridge Mall at a cost of $100,000. In addition, engineering and design will begin on a new $7.6 million express bus terminal to be located at Central Avenue and the Papago Freeway. A Paradise Valley Mall transit center is budgeted at $230,000. Also budgeted are two park and ride lots at $2,795,000.

Utilization of park and ride lots tends to be correlated to the level of transit service provided and ridesharing activity. Therefore, park and ride lots were not separately evaluated through computer modeling, and no separate credit was taken for this measure.

11. Financial Incentives Including Zero Bus Fares (Areawide Strategy)

Several commitments were made during 1987 which may increase the use of financial incentives in the near future. The 1987 Arizona air quality legislation provides that businesses may take Arizona State tax deductions for the costs of providing transit subsidies to their employees. The new legislation also requires the Director of the Arizona Department of Administration to adopt rules which will permit reimbursement of transit costs to State employees. In addition Maricopa County committed to subsidize transit for its employees beginning December 1, 1987. Mesa will initiate a similar program on January 1, 1988. Numerous cities and towns also indicated that they would review the MAG Model Trip Reduction Ordinance when it is completed, as a basis for considering implementation of financial incentives.

Originally, this measure was modeled on the basis of free bus fares, twenty-four hours each day for all trip purposes. This produced a 0.1 percent emissions reduction in 1987 and 1990, and a 0.0 to 0.1 percent reduction in 1995. As data becomes available on the number of companies taking advantage of the State tax incentive, as well as participation levels in government programs, air quality benefits can be fully assessed. No emissions reduction credit was taken for these commitments at this time

12. Preferential Parking for Carpools and Vanpools (Areawide Strategy)

The 1987 Arizona air quality legislation requires the Director of the Arizona Department of Administration to designate preferential spaces for carpools and vanpools in State employee parking lots. Additional commitments to provide such spaces were made by Maricopa County and the City of Scottsdale. Numerous other cities and towns will consider the results of the MAG Model Trip Reduction Ordinance as a basis for implementing this strategy. In addition, the Regional Public Transportation Authority will encourage both public and private employers to implement the preferential parking measure.

This measure will promote regional ridesharing and thus contribute to the success of the Voluntary No Drive Days Program. It would also be useful in support of a trip reduction ordinance. This measure was not individually evaluated through computer modeling and no emissions reduction credit was taken.

13. Mandatory Parking Charges for Employees (Areawide Strategy)

The Maricopa Association of Governments has initiated a study of coordinated parking management in conjunction with the development of a model trip reduction ordinance. MAG member jurisdictions will review the results of the MAG study as a basis for considering an areawide strategy of mandatory parking charges. The scenario modeled for this measure assumed a parking charge of one dollar per day. On this basis, the potential hydrocarbon emissions reductions were estimated to be 0.2 percent in 1987, 0.3 percent in 1990, and 0.2 percent in 1995. At present, no jurisdiction has committed to implement mandatory parking charges. Therefore no emission reduction credit was taken for this measure.

14. High Occupancy Vehicle Lanes on Freeways (Areawide Strategy)

The Arizona Department of Transportation, in cooperation with local jurisdictions, is responsible for constructing the planned MAG

Freeway/Expressway System. ADOT has committed to open high occupancy vehicle (HOV) lanes on Interstate 10 and the East Papago Freeway, which will encourage ridesharing and transit use. In FY 1988 and FY 1989, $81 million in Federal highway funds, including approximately a seven percent State match are programmed for completion of the Interstate 10 inner loop including HOV lanes. Also integrated into the design of Interstate 10 is a major regional transit transfer station, and a freeway traffic surveillance and control system. In FY 1988, an additional $7.4 million in Federal and State funds are programmed specifically for adding HOV lanes on Interstate 10 between 40th Street and Superstition Freeway. HOV lanes also will be considered for possible implementation in other freeway corridors.

The scenario originally modeled for this measure was based on hypothetical implementation of HOV lanes on all freeways existing in 1995, yielding an estimated 1.0 percent reduction in potential hydrocarbon emissions. This result was reduced in proportion to the mileage actually committed resulting in an estimated emissions reduction of 0.1 percent for 1995.

15. <u>High Occupancy Vehicle Lanes on Existing Arterials as Appropriate</u>

A number of cities and towns indicated they would be considering this measure, but no specific commitments to implement high occupancy vehicle lanes on arterials were made at the present time. This measure was not evaluated through computer modeling and no emissions reduction credit was taken.

16. <u>High Occupancy Vehicle Ramps Which Bypass Freeway Ramp Metering Signals (Areawide Strategy)</u>

The Arizona Department of Transportation, in cooperation with local jurisdictions, is responsible for constructing the planned MAG Freeway/Expressway System. This includes the construction of freeway entry ramps where bypasses could be built to enable high occupancy vehicles (HOV) to access the freeway without being delayed by ramp metering

controls. To facilitate such HOV bypasses when warranted by traffic demands, ADOT is considering the construction of extra wide ramps in several freeway corridors. In addition, an HOV bypass was opened in June, 1987 to facilitate southbound bus access to the Black Canyon Freeway at Dunlap Avenue.

The construction of freeway ramps designed to accommodate HOV bypasses is an important step toward implementing this measure. As a definite schedule for bypass implementation is developed, a basis for estimating emissions reduction benefits will be more readily available. At this time no specific emissions reduction credit was included for this measure.

17. Mitigation of Freeway Construction Impacts (Areawide Strategy)

The Arizona Department of Transportation will maintain a driver information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Public information efforts will be pursued in cooperation with other MAG member jurisdictions to mitigate the traffic impacts of constructing new freeways and expressways in the MAG area. Similar efforts are presently underway with respect to construction of a major interchange connecting Interstate 17 and Interstate 10, in Phoenix. The City of Phoenix has been actively involved in this effort.

Modeled air quality estimates for 1987 and future years did not explicitly take into account the detours, lane closures, or traffic delays which occur on existing roadways as the result of freeway construction. In general, these are short-term, localized impacts not relevant in the prediction of average traffic projections for most planning purposes. Measures taken to mitigate these traffic impacts typically do not improve traffic flow to a level better than the assumed base conditions. Therefore emissions reduction credit was not included for this measure.

18. and 19. Freeway Surveillance, Ramp Metering, and Signage (Areawide Strategy)

The Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the existing Interstate 17/Interstate 10 corridor $24.8 million in Federal Highway funds including approximately a seven percent State match, have been programmed over the next five years for installation of an extensive freeway management system. This system may include a control center, detector loops, call boxes, television cameras, variable message signs, lane control signs and ramp meters.

The committed traffic control system corresponds to the level of implementation which was evaluated as the modeling scenario for 1990. The hydrocarbon emissions reduction impact of this scenario was estimated to be in the range of 0.0 to 0.1 percent. Based on the ADOT commitment, this modeled reduction would be applicable in 1992 and beyond, rather than in 1990. Therefore a reduction of 0.0 to 0.1 percent was applied for this measure for 1995.

20. Computerized Synchronization of Traffic Signals

Significant portions of the street system in the region currently benefit from signal synchronization. In addition, the 1987 Arizona air quality legislation requires synchronization of traffic signals on streets with average daily traffic volumes over 15,000. This requirement will lead to continued expansion of the network of coordinated signals to keep pace with the growth in traffic in the region.

A number of jurisdictions are already in the process of improving and expanding their synchronization systems. Over five million dollars in signal improvements were included in the commitments submitted by Glendale, Mesa, Phoenix, Scottsdale, and Tempe. The presence of a synchronized system was incorporated in the traffic and air quality model calibration process and is reflected in base system forecasts. Therefore no additional credit was taken for individual signal synchronization commitments.

21. Reversible Lanes on Arterials

Street mileage readily conducive to the application of reversible lanes has been converted in congested central areas. These streets will continue to be maintained as reversible lane facilities and have been reflected accordingly in base condition forecasts. The potential for the application of reversible lanes on additional facilities will receive ongoing evaluation by MAG member jurisdictions. Modeling data for this measure, based upon the assumption of adding 45 miles of reversible lanes, indicated a potential hydrocarbon emissions reduction of 0.3 percent for 1987 and 1990, declining to 0.0 to 0.1 percent for 1995. However, specific additional miles are not planned at this time and no reductions in emissions were credited for this measure.

22. One Way Streets

One way street applications have been implemented in a number of areas where they yield major traffic flow benefits. These streets will continue to be maintained as one way facilities and have been reflected accordingly in base condition traffic forecasts. In addition, the City of Phoenix has included over $2.7 million for two one way street projects in its Six Year Major Street Improvement Program. Other MAG member jurisdictions are studying potential new applications on an ongoing basis. This measure was not evaluated through computer modeling, and no additional emissions reduction credit was taken.

23. Truck Restrictions During Peak Periods

The potential benefits of peak period truck restrictions are being investigated as part of the MAG study concerning the model trip reduction ordinance and coordinated parking management program. The results will be used by the MAG member jurisdictions as a basis for considering possible implementation of this measure. The scenario modeled for this measure indicated the potential for hydrocarbon emissions reductions of 0.0 to 0.1 percent in 1987,

1990, and 1995. No emissions reduction credit was taken for this measure at this time.

24. Intersection Improvements

Numerous MAG member jurisdictions have ongoing commitments to a wide range of street and intersection improvement projects. Such projects will increase intersection capacities, smooth traffic flow and increase speeds, thereby reducing emissions. These projects are generally reflected in the MAG Regional Transportation Improvement Program (TIP) which is a five-year guide for street, transit and airport projects in the region. For modeling purposes, base year street network characteristics were developed on the basis of improvements outlined in the TIP. These projects are implicit in the base condition forecasts and no additional credit was taken for specific individual project commitments.

25. On-Street Parking Restrictions

A number of MAG member jurisdictions already have on-street parking restrictions or programs underway leading to restrictions. These efforts will help to smooth traffic flow, increase speeds, and thereby reduce emissions. In general, parking on major arterials is extremely limited. This has been incorporated into the modeling process for estimating future traffic conditions. Therefore this measure was not separately modeled, and no emissions reduction credit for was taken.

26. Bus Pullouts in Curbs for Passenger Loading (Areawide Strategy)

Several MAG member jurisdictions have identified project commitments involving the installation of bus pullouts. For example, the City of Phoenix will construct approximately 50 bus pullouts annually in conjunction with major street construction. Phoenix has received a $1,064,800 Federal grant for bus pullout construction, and has programmed $200,000 of Local Transportation Assistance funds annually for this effort. In addition, Phoenix

will encourage private construction of bus pullouts in conjunction with new developments. This measure was not evaluated through computer modeling and no specific emissions reduction credit was taken.

27. Increased Bicycle Use

Encouragement of bicycle use can consist of bicycle promotion, system planning, and educational activities, complementary to the provision of actual facilities. Numerous cities and towns have committed to participate in such activities. Additional support is provided by the State of Arizona,Maricopa County, and the Regional Public Transportation Authority. The 1987 Arizona air quality legislation requires that bicycle use be considered in county and municipal land use plans. All of these efforts will make bicycling a more viable transportation alternative.

For modeling purposes, it was assumed that an achievable goal for increased bicycle use would be a one percent reduction in auto trips of six miles or shorter. This scenario yielded a 0.0 to 0.1 percent reduction in modeled hydrocarbon emissions for 1987, 1990, and 1995. Because of the significant support for this measure and a closely related measure, Bicycle Travel and Support Facilities, the full modeled emissions reduction was credited.

28. Bicycle Travel and Support Facilities

Significant levels of bicycle facility planning and provision are reflected in the commitments of Maricopa County and numerous MAG cities and towns. Five cities have programmed funds for facility provision, while other cities and towns are developing bicycle plans or using zoning processes to encourage or require private sector participation. For example, the City of Phoenix reports that a bicycle plan element delineating 400 miles of bike routes and facilities is proposed for incorporation into the City of Phoenix General Plan during 1987-88.

As another example, the City of Tempe has in place an extensive bikepath system and is continuing to improve and expand that system based upon a comprehensive study of bicycle needs and desires. More than 30 miles of bikepaths are already in place. Budgeted for 1987-88 are other bikepath improvements totaling $340,000, and projected for 1988-89 through 1991-92 are enhancements totaling an additional $1,731,000.

The air quality benefits from bicycle travel and support facilities are reflected in the emissions reductions credited to the preceding measure, Increased Bicycle Use.

29. Pedestrian Travel

Pedestrian travel in lieu of automobile use may be a feasible alternative for a variety of trip purposes in downtown areas and for certain short trips in suburban areas. Sidewalks, crosswalks, and other pedestrian amenities are typically included with most street construction in areas of at least moderate development density, often provided as a requirement in land development. Thus, most cities and towns in the Maricopa County Area have ongoing commitments for the provision, or requirement, and maintenance of these facilities.

The scenario developed to model this measure assumed that pedestrian travel could be used in place of 5 percent of all vehicle trips of less than one-half mile in length. This yielded an emissions reduction estimate of 0.0 to 0.1 percent for 1987, 1990, and 1995. Given that no credit was taken for associated measures such as Auto Free Zones and Pedestrian Malls Where Appropriate and Pedestrian and Bicycle Overpasses Where Safety Dictates, the full modeled reduction was credited for this measure.

30. Pedestrian and Bicycle Overpasses Where Safety Dictates

Grade separated pedestrian and bicycle crossings of heavily traveled, high speed arterials can improve safety and reduce delay for both motorists, bicyclists, and pedestrians alike. A number of pedestrian and bicycle

overpasses already exist in the region, and additional facilities will be considered where appropriate. For example, the City of Phoenix reports that $2,343,000 is budgeted for the construction of a number of underpasses during the next five years. Tempe has budgeted $300,000 for two pedestrian overpasses in 1987.

The benefits from this measure would be reflected in increased pedestrian travel, as addressed in the preceding measure. Therefore no specific emissions reduction credit was taken for pedestrian and bicycle overpasses.

31. Use of Alternative Fuels on a Statewide Basis (Areawide Strategy)

At all levels of government, there is considerable interest in the possibility of utilizing alternative vehicular fuels to reduce pollutant emissions in the Maricopa County Area. In particular, carbon monoxide emissions during winter months may be reduced using oxygenated fuels such as ethanol, methanol, propane, compressed natural gas, or methyl tert-butyl ether. Previous studies from other areas have not clearly indicated what the emission reduction effects, availability, costs, and driveability effects of these fuels would be in Arizona. These and other considerations are being addressed in a $60,000 MAG study targeted for completion by the end of September, 1987. In addition, a joint legislative study committee will investigate the applicability of alternative fuel use in Arizona. The 1987 Arizona air quality legislation requires that this effort is required to be completed on or before December 31, 1987.

Several fleet tests will be conducted in order to determine the impacts of such fuels under local conditions. Under provisions of Senate Bill 1360, the State and the cities of Phoenix and Tucson are required to conduct a study of ten percent of their nondiesel fleet vehicles to determine how these vehicles perform with respect to driveability using clean burning fuels. Each study is to be conducted for a one-year period beginning October 1, 1987. The City of Phoenix has indicated that it will conduct tests more extensively than minimally required.

In addition to the driveability tests two studies will be conducted to determine the cost and emission effects of using clean burning fuels. The Arizona Department of Transportation will conduct the $400,000 pilot project mandated by House Bill 2115. Maricopa County will convert 43 vehicles for alternative fuel use for three months of testing to begin in January, 1988.

These studies and tests will produce the independent local data necessary to determine the feasibility of using alternative fuels as an air pollution control measure. The tests themselves are not presented as a control measure due to their temporary nature.

The use of alternative fuels on a statewide basis was not modeled as a measure for reducing hydrocarbon emissions. Since there are no commitments to implement this measure at this time, no credit was taken in the demonstration of attainment.

32. Conversion of State, Local, and Corporate Fleets to Alternative Fuels (Areawide Strategy)

The 1987 Arizona air quality legislation requires all nondiesel vehicles of model year 1980 or older to use clean burning fuels during the months of October through March of each year, beginning in October, 1989. This requirement applies to each vehicle in a fleet of 25 or more vehicles, if the vehicles are operated in a nonattainment area at least fifty percent of the time. The results of the MAG feasibility study on alternative fuels will be available in time to be used as a resource in selecting the type of fuel best suited for each particular vehicle fleet. Presumably, these fuels would be available in sufficient quantities to meet individual fleet needs, even if available supplies could not meet the demands of the entire population.

In preparing to meet this new requirement, the City of Scottsdale will be able to draw upon more than four years of experience in operating vehicles with compressed natural gas (CNG). The City of Glendale is preparing to convert vehicles to CNG use, with financial assistance granted from the Exxon

Restitution Fund, part of the Arizona share of the national Petroleum Violators Escrow Account. The City of Phoenix has conducted internal studies and will be involved with alternative fuels through the driveability testing discussed under the preceding measure, Use of Alternative Fuels on a Statewide Basis.

The legislated requirements for the use of clean burning fuels by vehicle fleets applies only from October to March each year. However, for evaluation purposes, it was assumed that these fuels would be used throughout the entire year. No emissions reduction would apply for 1987 because of the lead time necessary for fleet conversion efforts to be implemented. For 1990 and 1995, the resulting hydrocarbon emissions reduction was estimated to be in the range of 0.0 to 0.1 percent.

33. Conversion of Buses to Alternative Fuels and Use of Electric Buses for Shuttle Service (Areawide Strategy)

The 1987 Arizona air quality legislation requires that beginning in 1990, all buses purchased by a city, town, or county for operation in a nonattainment area must use clean burning fuels. This requirement does not require the retrofitting of buses purchased prior to January 1, 1990. The requirement will yield increasing emission reductions over time, as newly purchased buses gradually replace older buses, until the entire stock of buses has been replaced.

It is estimated that this requirement will yield a hydrocarbon emission reduction in the range of 0.0 to 0.1 percent for 1990. For 1995, the emissions reduction will depend upon the outcome of the regional transit sales tax referendum (see the related measure, Long-Range Transit Improvements). If the referendum passes, the effect of the requirement on a greatly expanded bus fleet would be an estimated 0.3 percent emission reduction. Otherwise, annual bus purchases for replacement purposes would yield a 0.1 percent reduction in hydrocarbon emissions. This latter estimate was the amount of credit taken for 1995 in the present demonstration of attainment status.

34. Use of Emissions Control Devices on Public Diesel Powered Vehicles (Areawide Strategy)

As described in the measure adopted by MAG and its member jurisdictions, public transit providers would be responsible for using emission control devices on publicly owned diesel powered vehicles when these devices become economically and technologically feasible. The City of Scottsdale has been involved in the development of an experimental diesel filter and will continue to pursue this technology. The Regional Public Transportation Authority, Scottsdale, and the other MAG member jurisdictions operating diesel powered buses in the Maricopa County Area will continue to monitor national developments in the search for suitable emission control devices. This measure has not been evaluated through modeling and no emissions reduction credit was taken.

In a related commitment, the City of Phoenix has budgeted the necessary funds to upgrade the fuel used for Phoenix Transit operations for 1987-88. Switching from diesel fuel number two to diesel fuel number one will primarily reduce particulate emissions, but may also have a secondary benefit of reducing hydrocarbon emissions.

35. Alternative Work Hours (Areawide Strategy)

The purpose of alternative work hours is to promote off-peak driving and to facilitate ridesharing and transit use. A related measure, Alternative Work Weeks, reduces the total number of work trips by condensing a given number of work hours into a smaller number of work days. The MAG Regional Rideshare staff will actively promote alternative work hours in presentations to private employers and local jurisdictions. Video presentation materials are scheduled for production by August, 1987 to facilitate this effort. This will occur as part of the employer outreach efforts described under a related measure, Expanded MAG Regional Ridesharing Program. Alternative work hours also will be promoted by several of the MAG member jurisdictions. Many of these jurisdictions already have alternative work hour programs for

their own employees, or have committed to study this measure for possible implementation.

In addition to the efforts described above, newly legislated requirements for the use of adjusted work schedules will apply during the carbon monoxide season. Under the 1987 Arizona air quality legislation, the Director of the Arizona Department of Administration must require the use of adjusted work hours for at least 85 percent of State employees with offices located in a nonattainment area. The requirements will apply each year, beginning October 1 and ending April 1, effective as of 1987. Beginning in 1989, the requirement will also be applied to County employees and to the employees of cities and towns which have a population of 50,000 or more.

With respect to the private sector, the 1987 legislation requires businesses to prepare an adjusted work hour proposal for submittal to the Department of Environmental Quality by October 1 each year. This requirement applies to firms with 500 or more employees at one site in a nonattainment area.

The focus of the modified work schedule requirement is to shift afternoon commuter traffic one hour earlier to permit carbon monoxide emissions to disperse prior to the onset of thermal inversion conditions during winter months. This requirement does not apply for hydrocarbon emissions during summer months, when different meteorological conditions affect ozone formation. This measure was not modeled with respect to hydrocarbon reduction impacts.

36. Alternative Work Weeks (Areawide Strategy)

The use of alternative work weeks reduces the total number of work trips needed to facilitate a given number of work hours on a weekly basis. A related measure, Alternative Work Hours, does not change the total number of work trips, but provides flexibility regarding the times at which work trips are made. For jobs where full-time availability of services is required, the use of alternative work hours may be clearly preferable to the use of

alternative work weeks. Implementation of alternative work weeks will be pursued by the MAG Regional Rideshare staff and MAG member jurisdictions by the means described for Alternative Work Hours.

The alternative work schedule scenario evaluated with computer modeling indicated a 0.0 to 0.1 percent reduction in hydrocarbon emissions would be achievable in 1987. This was based on the assumed use of alternative work weeks by 5 percent of all employees in the Maricopa County Area. For 1990 and 1995, a 0.2 percent reduction was estimated, based upon increasing levels of employee participation. There remains the potential that such reductions may be achieved, but at this time no credit was taken for this measure.

37. Telecommunications - Telecommuting (Areawide Strategy)

With the availability of computerized telecommunications, increased potential exists to reduce commuting and travel for other purposes through the substitution of electronic communications. Several cities have pursued this option as major employers, while many others anticipate future study and promotion of the concept. As the use of telecommunications increases in the future, regional emissions reductions will be felt. For example, it was modeled that if telecommunications could reduce the use of motor vehicles by three percent in 1990, hydrocarbon emissions would be reduced by an estimated 1.5 percent. If this traffic impact were achieved by 1995, the emissions reduction would be 1.2 percent. However, based upon the level of commitments existing at this time, no credit was taken for emissions reductions for this measure.

38. Telecommunications - Teleconferencing (Areawide Strategy)

The circumstances for this measure are similar to those described for the preceding measure. Thus, no emissions reduction credit was taken.

39. Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts (Areawide Strategy)

The 1987 Arizona air quality legislation requires every State agency, board, and commission to submit an air quality impact report to the Department of Environmental Quality on any State-funded transportation related project that it determines may impact air quality.

In addition, most MAG member jurisdictions have indicated that existing or planned development review procedures will include evaluation of the impacts of new development on air quality, with the goal of reducing negative impacts.

This measure can reduce vehicle miles of travel, as well as traffic congestion, thus improving air quality. It was not evaluated through computer modeling, and no emissions reduction credit was taken. A related measure, Model Trip Reduction Ordinance, addresses mitigation of similar development impacts.

40. Land Use Patterns Which Support Public and Rapid Transit

The encouragement of land use patterns which support public and rapid transit can play an important long term role in reducing vehicle miles of travel and increasing transit usage. Based on the scenario originally modeled for this measure, a 0.0 to 0.1 percent reduction in emissions was estimated for 1995, in addition to the benefits of transit without altered land use.

Areawide interest in this measure was demonstrated by the commitments of numerous MAG member jurisdictions to pursue the issue in their land use planning processes. Since this is a long term measure, its primary benefits would be felt well after the end of 1987. Over the longer term, the emissions reduction effects will be closely tied to the success of the long-range transit plans being developed by the Regional Public Transportation Authority. Therefore no emissions reduction credit was taken for this measure at this time.

41. Reduced Idling at Drive-Up Facilities

Vehicular emissions may be reduced by discouraging extensive idling for drive-up service by vehicles not equipped with catalytic converters. This could be accomplished, for example, by posting signs to discourages idling by older vehicles at drive-up facilities. A number of cities and towns indicated they would promote a voluntary approach to this measure through public information channels and contacts with merchants. Because of the generally voluntary nature of this measure with no past indicators of the possible level of participation, no specific emissions reduction credit was taken.

42. Auto Free Zones and Pedestrian Malls Where Appropriate

Auto free zones can help alleviate hot spot area problems and discourage use of automobiles in favor of public transportation. Virtually all MAG member jurisdictions indicated that auto use was discouraged in current land use planning or will be addressed in future planning. For example, Scottsdale and Mesa have auto free zones in place or under development. With the success of the Civic Center Mall, Scottsdale has taken a nationally recognized leadership position in providing high amenity pedestrian mall space. The City has explored the use of incentives to encourage downtown plazas as part of the Downtown Plan. Free parking and shuttle service is provided to encourage pedestrian travel. The Downtown Plan also provides incentives for pedestrian plazas and the Canal Bank Committee just completed a full planning study on an auto free zone along the Arizona Canal in downtown Scottsdale. Many of the proposed improvements will be provided as a condition of development.

The City of Mesa has been pursuing this measure in the revitalization of its downtown area. The master plan of this ten-acre site calls for the inner core of the development to be an auto free zone. A series of parking garages will be built in the outer area, thus essentially creating an auto free zone in the core area. Future downtown redevelopment sites will be planned in a similar manner.

This measure was not evaluated through computer modeling, and no emissions reduction credit was taken.

43. Enforcement of Traffic, Parking, and Air Pollution Regulations (Areawide Strategy)

Recognition of the need for more effective enforcement is evident in the 1987 Arizona air quality legislation. The establishment of the air quality compliance sticker program will give law enforcement officials a means of visual verification to determine whether or not a vehicle is in compliance with the requirements of the State Vehicle Inspection Maintenance Program. The sticker program will be fully in place for this purpose as of January 1, 1989.

Commitments were received from several MAG member jurisdictions to review their existing law enforcement practices and determine whether or not additional emphasis can be given to enforcing air quality statutes. Specific improvements in enforcement were committed to by Glendale, Mesa, Carefree, and Cave Creek. In addition, Maricopa County has recently expanded the staff of the Enforcement Section of its Bureau of Air Pollution Control. In terms of reducing hydrocarbon emissions, these efforts do not have readily quantifiable impacts and therefore no quantitative credit was taken.

44. Expansion of the Areawide Monitoring Network (Areawide Strategy)

This measure would involve the expansion of the existing air quality monitoring network to include additional areas. Although no reduction in hydrocarbon emissions would result from this action, its implementation could prove beneficial. Expansion of the monitoring network would promote a better understanding of regional air pollution problems, thus facilitating better application of air pollution control measures. Maricopa County will conduct a study to determine where an additional site or sites could be most beneficial and appropriate. The conclusions of the study will be used as the

basis for pursuing the additional funds which would be necessary to support any new sites.

45. Use of Stage II Vapor Recovery

Stage II Vapor Recovery systems control hydrocarbon emissions through the use of a special nozzle at the gasoline station with a dual hose to the underground storage tank. The implementation period for Stage II Vapor Recovery in the Maricopa County Area would be approximately three to four years, and the cost is estimated to be in the range of 10 to 25 million dollars. Maricopa County presently has the authority to require implementation of this measure. In January, 1987, Maricopa County initiated a six-month evaluation of all available strategies for limiting emissions from motor vehicle refueling activity. Between August and December, 1987, the results of this evaluation will be reviewed by the Maricopa County Air Pollution Advisory Council. A recommendation from this advisory body will be made to the Maricopa County Board of Supervisors. In March, 1988, the Board of Supervisors is scheduled to make the decision as to whether or not it will require the use of Stage II Vapor Recovery.

Numerous cities have passed resolutions stating that they will encourage Maricopa County to proceed in implementing this measure. The support of other cities and towns is indicated by their adoption of the MAG 1987 Ozone Plan, of which this measure is a part. Peoria has incorporated a Stage II Vapor Recovery System in the design of its new city refueling station. The nozzles for this facility will be installed in September, 1987. The Town of Gila Bend, however, indicated that it would experience severe economic hardship if implementation of Stage II Vapor Recovery were required there.

Modeling results indicate that Stage II Vapor Recovery could reduce hydrocarbon emissions by 4.2 to 5.0 percent in 1990, and by 5.4 to 6.4 percent in 1995, depending upon the efficiency of the equipment involved. Due to the implementation period estimated for this measure, it may not be possible to achieve the reduction estimated for 1990. Because it has not received

approval from the Maricopa County Board of Supervisors, no credit was taken for this measure in the determination of attainment status.

46. Stationary/Industrial Source Controls

To complement the adopted control measures which address mobile sources of emissions, Maricopa County has initiated an effort to examine the effectiveness of existing regulations applicable to stationary/industrial emission sources. The Maricopa County Air Pollution Control Advisory Council will establish a schedule to conduct open meetings to discuss proposed regulatory changes with the representatives of affected industrial facilities. The Maricopa County Board of Supervisors is scheduled to consider any proposed changes for possible adoption by December, 1987. Ongoing review and development of regulations will continue in 1988. Support for this effort has been indicated by cities and towns throughout the Maricopa County Area. In the event that new stationary/industrial source emission regulations were adopted in 1987, their impact on hydrocarbon emissions would be estimated for use in demonstrating achievement status.

47. Contingency Plan

The MAG Air Quality Policy Committee will review the annual progress made to reduce ozone pollution in the Maricopa County Area. If necessary, the Committee will consider strengthening existing measures and recommending additional measures for inclusion in the ozone plan. MAG member jurisdictions have indicated their support for this approach, and their willingness to strive for additional air quality improvement.

COMBINED IMPACT OF COMMITTED MEASURES

Based on the estimated impacts of the individual control measure commitments, an evaluation of their combined impact was conducted. As in prior evaluation of packages of measures, care was taken to avoid double counting benefits from measures with overlapping areas of effectiveness. In addition, individual impacts

were not simply added together but combined in a multiplicative fashion to account for reductions in base levels due to the effects of other measures. No credit was taken for any of the measures for which commitments were received but no reduction estimate was prepared. Full credit was given to all the remaining measures listed in Table 8-1.

On this basis, the combined impact of the commitments was estimated to be a 0.8 percent reduction in hydrocarbon emissions by the end of 1987 compared to base conditions. For 1990, the reduction from base conditions was estimated to be 0.9 percent. For 1995, a 1.2 percent reduction was estimated.

ATTAINMENT STATUS

In Chapter Three it was estimated that emissions reductions of 30.8 percent in 1987, 26.3 percent in 1990, and 24.4 percent in 1995 would be needed to attain the national ozone standard. These goals are compared, with the estimated impacts of the committed control measures by year below.

Year	Emissions Reduction Goal	Emissions Reduction From Commitments
1987	30.8%	0.8%
1990	26.3%	0.9%
1995	24.4%	1.2%

As may be observed, the emissions reduction estimated to result from the commitments is less in each year than the target reduction required to meet the ozone standard. Based on this evaluation, it is estimated that the Maricopa County Area will not achieve the ozone standard by the end of 1987. Similarly, the

standard would not be met by 1990 or 1995, given that only the committed measures would be in place.

It should be recognized that MAG member jurisdictions and other implementing agencies submitted a broad range of commitments beyond those taken directly into account in the determination of attainment status. These commitments address a variety of strategies and will result in lower emissions. However, in many cases the impacts of these measures were not readily quantifiable, and no credit was taken for emissions reductions. Nevertheless, they clearly represent additional efforts by MAG members to reduce emissions and improve air quality.

In addition, no credit was taken for several adopted measures which have significant potential benefits but are currently under study prior to implementation action. Among these measures is the study by MAG of a Model Trip Reduction Ordinance, including parking management and truck restriction strategies, which is to be completed in early 1988. Additionally, the extensive planning work of the Regional Public Transportation Authority, which is targeted for completion within approximately one year, may eventually lead to the implementation of a regional rapid transit system.

Finally, there was one adopted measure which received significant commitments but has not been evaluated pending an assessment of participation levels. No credit was taken for this measure, Financial Incentives Including Zero Bus Fares, which was included as part of new State legislation enacted in the Spring 1987 Session.

APPENDIX J

MAG 1993 OZONE PLAN
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

List of Exhibits:

1. MAG 1993 Ozone Plan for the Maricopa County Area, Chapter Eight: Implementation of the MAG 1993 Ozone Plan.

2. MAG 1993 Ozone Plan for the Maricopa County Area, Chapter Nine: Demonstration of Rate of Progress Plan.

APPENDIX J, Exhibit 1:

MAG 1993 Ozone Plan for the Maricopa County Area, Chapter Eight: Implementation of the MAG 1993 Ozone Plan.

CHAPTER EIGHT

IMPLEMENTATION OF THE MAG 1993 OZONE PLAN

In order to improve air quality, it is important to effectively implement the measures contained in the adopted MAG 1993 Ozone Plan as expeditiously as practicable as required in the 1990 Clean Air Act Amendments. The implementing entities have submitted specific commitments to implement various measures in the plan. These commitments have been reviewed and an implementation schedule has been prepared to reflect the timeframes specified in the commitments for implementation.

IMPLEMENTATION SCHEDULE

The following implementation schedule provides a brief description of the commitments received by MAG to implement the measures in the adopted plan and corresponding time tables. The schedule also includes the contingency measures. Please note that the measure numbers correspond to the measure numbers from the Suggested List (see Chapter Six).

1. Programs for Improved Public Transit

   a. Mass Transit Alternatives

   ■ Regional Public Transportation Authority indicates that enabling legislation was passed by the State Legislature in June 1990 to allow for a measure to go before Maricopa County voters for a joint half cent sales tax increase for highways and transit. The Regional Transit Plan for Maricopa County, Arizona was adopted by the Regional Public Transportation Authority Board of Directors on July 9, 1992. On July 29, 1992, the MAG Regional Council and the RPTA Board of Directors voted to postpone a county-wide sales tax election for transit and freeway improvements until a later date. The current economic conditions probably make a successful referendum unlikely. Since that time, the RPTA Board has been studying alternate methods to finance the plan.

   This plan expands the days and times when bus service is available and more than doubles the annual miles of bus service. Service improvements would include adding new bus routes and increasing the frequencies on existing routes. By the fifth year, the plan calls for:

   - 29 million miles of annual bus service
   - 625 buses in service
   - All routes operating 7 days a week
   - Service 5 a.m. to midnight, Monday - Saturday
   - Service 6 a.m. to 8 p.m., Sundays and Holidays
   - Dial-a-Ride service would triple

The plan also calls for conducting a feasibility study to determine the need for rail transit. This plan is not funded. Implementation will require securing some new funding source dedicated to public transportation. The RPTA and the City of Phoenix Public Transit Department are responsible for transit planning and program implementation. The Transit Department's financial resources for the 1992-93 operating budget include federal ($4.2 million), state lottery ($7.6 million), RPTA ($4.6 million), general purpose funds ($16.4 million) and farebox revenues ($15.0 million). The City of Phoenix has committed $16.5 million of its capital improvement program for 1992-93.

b. Expansion of Public Transportation Systems

- City of Chandler will implement a program to improve bus stop facilities for passengers to include bus shelters, benches, and trash receptacles. The City of Chandler currently has 34 bus shelters and 11 bus benches on its system. Installation of an additional 54 shelters and four benches is scheduled for FY 1994. The trip reduction program city employee will administer the program. A private advertising firm is installing 44 of the shelters and an Federal Transit Administration grant is approved for 10 shelters, 4 benches and 15 trash receptacles. City funding is budgeted at $59,000.

  The City of Chandler will also implement 105,862 annual miles of new bus service connecting with the regional transit system. Additional service implementation was in accordance with the following schedule:

  July 1, 1992 - began service on Route 156 = 73,502 miles.
  September 8, 1992 - began service on Route 72 = 10,328 miles.
  September 8, 1992 - began service on Route 81 = 22,032 miles.
  October 1, 1992 - expanded service frequency on portions of Route 156 with the assistance of an Arizona Department of Transportation (ADOT) air quality grant.

  This $200,000 program of local fixed route bus service is provided under contract to the Regional Public Transportation Authority (RPTA) and funded by the City of Chandler LTAF revenues ($136,944), ADOT air quality demonstration grant ($15,000), Federal Transit Administration operating subsidy ($19,313), private employer contributions ($3,250) and farebox revenues ($24,344).

- City of Glendale will continue to work in conjunction with the Regional Public Transportation Authority to improve the public transit system. The RPTA Citizens' Advisory Committee prepared a long-term transit improvement plan for the Maricopa County area in 1991. The City will work with the RPTA to expand and/or improve its bus service on an as needed basis. The City expects to complete its bus shelter plan in 1993. The City's Transit Department is responsible for transit planning and program implementation. The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund.

- City of Mesa currently operates five local bus routes with 21-passenger buses (1,568 miles per day, averaging 1,570 boardings per day), weekdays only, 6:30 a.m. to 7 p.m. and the Regional Public Transportation Authority (RPTA) operates five regional/local and three regional/express routes, primarily on weekdays, various hours.

  During FY 93-94, the City will order (for delivery in FY 94-95) 13 compressed natural gas-fueled, 35-passenger buses to run on the existing routes and add Saturday service on three routes, 8 a.m. to 7 p.m. (920 additional miles per day, 250 additional estimated boardings per day). A grant has been applied for that will, it received, expand the Saturday service to 1,449 miles per day, with boardings expected to be about 400 per day.

  In FY 94-95, an additional 10 CNG-fueled 35-passenger buses will be ordered. Annual service miles will be increased from 452,000 miles to nearly 1.1 million miles (139 percent more) through the addition of three new routes. Weekday service will be extended to 6 a.m. to 9 p.m. and Saturday service will be expanded to 8 a.m. to 9 p.m. on all routes. The City will work with the RPTA to seek expansion of regional service into Chandler, Tempe, and Phoenix, subject to the funding commitments of these cities.

  The Office of Special Programs is responsible for transit planning and program implementation. Transit operations are funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit fund, Federal Transit Administration and ISTEA funds. Funding for the transit improvements described above is projected to be approximately $2.6 million for FY 93-94 and $3.2 million in FY 94-95. Construction of a CNG fueling facility in FY 93-94 is expected to cost $700,000. Further expansion of the transit system would require a dedicated funding source not now available.

- City of Phoenix will continue to seek ways to improve public transportation through short range transit improvements as funding becomes available. Potential service changes could include: increasing the level of service, expanding service to areas currently without service, and attracting additional ridership through marketing and promotion.

  The City of Phoenix implemented a significant route restructuring on March 1, 1993. Several new routes were introduced using existing resources. These new EZ Lines were designed to follow the predominate travel patterns of the region and to reduce the number of transfers required to travel these routes. The goal of the new routing is to increase ridership system-wide.

  The City has also begun the process to purchase 43 new 40-foot buses to replace the oldest buses in the fleet. These new buses will have clean burning diesel engines through the use of electronic ignitions and the addition of particulate traps. The 43 new buses are expected to replace existing buses in 1994, based upon final approval of a funding grant request in July 1993.

The City has awarded a contract to retrofit 75 older buses with new clean burning diesel engines, transmissions, and particulate traps. The 75 retrofitted buses are expected to be completed in 1994.

The City designed and installed bike racks on all City buses in 1991-1993. This program will continue to be implemented as the fleet is expanded. Bike racks and lockers are provided in the Phoenix Park and Ride facilities and most City buildings and parks.

Transit funding is allocated through the annual budget process. Transit Department's operating budget for 1992-93 is $47.3 million, which includes federal ($4.2 million), state lottery ($7.6 million), RPTA ($4.6 million), general purpose funds ($15.5 million) and fare-box revenues ($15.0 million). Transit Department Capital Improvement Budget for 1992-93 is approximately $16.5 million, including: $13,265,000 (federal funds), $160,000 (Lottery), $435,000 (Other Agency), $1,740,000 (RPTA) and $875,000 (Capital Lease). An ADOT air quality grant of $30,000 was obtained to help market and promote new routes and other service changes involved in the 1993 route restructuring. The Bikes on Buses Program was created and implemented by the City of Phoenix. The project was supported by approximately $110,000 including: $88,000 FTA grant, $20,000 ADOT grant, and $2,000 City of Phoenix funds. Funding supported installation of racks on all RPTA buses.

- City of Scottsdale in the 1993-94 fiscal year will increase the annual miles of transit service offered in the City from approximately 470,000 to 670,000, which will increase total hours of service from about 57,000 to 67,000.

  The City's Transit Plan was adopted by the City Council in July of 1990. The plan called for a dedicated one quarter cent sales tax to fund the plan as recommended. It also recommended that if a dedicated funding source was not found, the City should double its existing $1 million budget over a five-year period with $200,000 annual increases. The City Council increased the Transit budget by $200,000 in FY 92-93, and again added another $200,000 to the base for FY 93-94. This funding will allow for the increasing of frequency on the Scottsdale Connection service. This service expansion will require that three vehicles be added to the three currently in use. Route 72 and 82 will be expanded. Route 72 will be expanded from the Scottsdale Airpark to serve the Princess Resort on 30-minute frequency. Route 82 will be expanded north of Shea Boulevard to serve the eastern side of the Scottsdale Airpark.

  Standard service delivery will be on going. Service expansion will take place in September of 1993. The City of Scottsdale will continue to work with the Phoenix Transit System and the Regional Public Transportation Authority to expand or improve bus service as funds become available.

- City of Tempe adopted a comprehensive Transit Plan in September 1990 in preparation for proposed local and regional elections which would have provided a dedicated transit revenue source. To date, there has not been a successful

election. However, the City has proceeded to implement several short-range aspects of its transit plan, including expansion of Dial-a-Ride to the Tempe city boundaries, bus route restructuring to add additional miles of bus route coverage in Tempe along three bus routes, a new grant-funded Route 56, and a planned local circulator route in conjunction with Arizona State University.

The City of Tempe contracts for all bus and Dial-a-Ride services within its boundaries through intergovernmental agreements in FY 1993-94 with the City of Phoenix for 187,390 annual miles of bus service, and with the Regional Public Transportation Authority (RPTA) for approximately 150,000 annual miles of service and weekday Dial-a-Ride service throughout the City limits. An additional 37,000 miles of bus service are anticipated to be provided in Tempe during FY 1993-94 with the January 1994 startup of an ASU/Downtown Tempe circulator route. Other miles of bus route service are provided by the RPTA on the City of Tempe's behalf with Prop. 300 monies and are reported separately in the RPTA's commitments. All of these service miles are subject to continued budgetary appropriation by the agencies involved, as well as continued federal funding. Ongoing. The City of Tempe will work with the RPTA and with neighboring cities to expand and/or improve its bus service as funds become available.

- City of Tolleson indicates that approximately three miles of bus service will be added providing, however, that the City of Tolleson and the City of Phoenix enter into an Intergovernmental Agreement for the purpose of extending proposed Bus Route 561 - from 75th Avenue and Van Buren to 91st Avenue and Van Buren.

  The City of Tolleson will commit General Fund and Lottery Funds if proposed Bus Route 561 is extended. Tolleson's estimated yearly share is approximately $20,000. September, FY 1994-95.

- Regional Public Transportation Authority indicates that a significant route restructuring was implemented on March 1, 1993. Several new routes were introduced using existing resources. These new EZ Lines were designed to follow the predominate travel patterns of the region and to take people where they wish to go directly, without having to transfer to another bus. An ADOT air quality grant of about $30,000 was obtained to help market and promote these new routes and other service changes involved in the restructuring. It is hoped that a 10 percent increase in ridership will be realized system-wide within a year of implementation.

  The City of Phoenix has also begun the process to purchase 49 new 40' buses to replace the oldest buses in the fleet. These new buses will have clean burning diesel engines through the use of electronic ignition and the addition of particulate traps. Seventy-five older buses will be rehabilitated with new clean burning diesel engines, transmission, and particulate traps. Ongoing. The RPTA will work with its member jurisdictions to expand and/or improve its bus service on an as needed basis.

c. Transit Service Improvements in Combination with Park-and-Ride Lots and Parking Management

- City of Glendale will continue to support and work in conjunction with the Regional Public Transportation Authority (RPTA) in improving the public transit system. The City will work with the RPTA to add new Park-and-Ride facilities and spaces on an as needed basis. The City's Transit Department is responsible for transit planning and program implementation (the Planning Department assists in the planning for transit infrastructure). The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund.

- City of Mesa indicates that park-and-ride facilities in Mesa are primarily identified and managed by the RPTA, which is the operator of regional express bus (commuter) service. Currently, there are nine lots with 205 spaces. The City of Mesa will cooperate with the RPTA in locating any needed new sites, and will install appropriate signs once the site is established. Regulations concerning parking fees are addressed by the Maricopa County Travel Reduction Program. Because of the regional nature of employment and public transit, utilizing parking fees as an incentive to increase use of public transit is best managed at a regional level. Ongoing implementation. The City of Mesa will work independently and with the RPTA to expand and/or improve bus service as funds become available locally and regionally and will assist the RPTA in locating and signing park and ride lots as passenger demand dictates.

- City of Phoenix - Refer to Measure 1a. and Measure 6.

- City of Scottsdale will add a 25-car park-and-ride lot in the vicinity of the Scottsdale Airpark, provided that the City can secure permission from a private owner to use a portion of a parking area. The expansion of the City's bus service in the Airpark area will allow the Transit Division to work with the Airpark business community in securing a park-and-ride facility. The City currently has the following park-and-ride locations:

NE corner Thomas & 68th Street	15 spaces
SE corner Thomas & 87th Street	25 spaces
SE corner Shea & 92nd Street	20 spaces
NE corner Frank Lloyd Wright & Shea	25 spaces
SE corner McDowell & Scottsdale	25 spaces
NW corner McDowell & Granite Reef	20 spaces
SE corner Jackrabbit & Hayden	10 spaces
SE corner Hayden & McCormick	20 spaces
SW corner Camelback & Miller	15 spaces

- City of Tempe - Refer to Measure 1b.

2. Restriction of Certain Roads or Lanes To, or Construction of Such Roads or Lanes For Use By, Passenger Buses or High Occupancy Vehicles

a. Fixed Lanes for Buses and Carpools

- City of Phoenix has implemented Transit/HOV lanes on portions of Central Avenue and will periodically analyze traffic projections and bus frequency to determine feasibility of additional lanes. Funding for maintenance of existing lanes and any new lanes is allocated through the Annual Operating Budget.

- City of Tempe Long Range Transit Plan provides for buses to have high priority treatment on Tempe streets and recommended further study of the specific implementation measures to provide the priority treatment as a higher level of transit service becomes available.

b. Fixed Lanes For Buses and Carpools on Freeways

- City of Peoria agrees to encourage the Arizona Department of Transportation to include High Occupancy Vehicle lanes in the design of new freeways.

- Arizona Department of Transportation will evaluate the use of HOV lanes and/or bypass entrance ramps for all freeway/expressway corridors completed or planned. In 1989, 14 HOV lane miles were open on I-10 from 83rd Avenue to 27th Avenue. Now, 46 HOV lane miles are operational on I-10 and the Red Mountain Freeway (S.R. 202L).

- Regional Public Transportation Authority indicates that as new fixed lanes for buses and carpools open, RPTA will coordinate the promotion of rideshare activities. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign (CAFC). RPTA will hold regular transportation fairs (information meetings) for employees of major employers. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employers' request; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Associations hold periodic meetings.

c. High Occupancy Vehicle Ramps Which By-Pass Freeway Ramp Meter Signals

- City of Peoria will recommend and support ramps in the construction of transportation systems through Peoria.

- Arizona Department of Transportation indicates that a bypass ramp meter signal on the southbound I-17 on-ramp at Dunlap Avenue is operational for buses. HOV ramps are in use on I-10 at 79th Avenue, 3rd Street, 3rd Avenue, 5th Avenue, and at I-10/Red Mountain TI. Current Freeway Management System (FMS) construction projects on I-10 and I-17 will incorporate 9 HOV bypass ramps at 67th, 59th, 43rd, 35th, 27th Avenues, Jefferson Street, Sky Harbor Boulevard, and at Buckeye and Broadway Roads.

In 1989, $745 million was programmed for the design and construction of the Outer Loop in FY 1988-1992. This included funding for ramps of sufficient width to permit HOV bypass lanes. In 1989, $358 million was programmed for the design and construction of the Hohokam/Red Mountain Freeway Extension facilities in FY 1988-1992. This included funding for ramps of sufficient width to permit HOV bypass lanes.

Projects In Which HOV Lanes & Bypass Ramps Are Mentioned:

Route	Location	Type of Project	Length miles	Program million	FY
I-10	79th Ave	construct HOV ramps		5.0	89
SR 202L	Red Mtn: I-10 - 40th St Phase III	construct roadway, HOV lanes	2.5	36.0	89
I-10	40th St - Southern Ave	construct HOV lanes	2.5	11.0	90
SR 202L	Red Mtn: 40th St - Priest	construct roadway, HOV lanes	2.5	38.5	91
I-10	Superstition TI- Baseline Rd TI, unit I	recst TI, widen mainline, I-10 HOV lanes	1.0	33.3	93
I-10	Superstition TI - Baseline Rd TI, unit II	recst TI, widen mainline, I-10 HOV lanes	1.0	34.4	94
SR 202L	Red Mtn: Priest - McClintock	construct roadway, HOV lanes	3.0	11.5	94
I-10	Baseline - Chandler	reconstruct roadway, widen Chandler TI (HOV lanes)	5.0	27.5	96
TOTAL				$197.2	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

- Regional Public Transportation Authority indicates that as new HOV ramps open, RPTA will coordinate the promotion of rideshare activities. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign and the Regional Ridesharing Program. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Association hold periodic meetings.

3. Employer-Based Transportation Management Plans, Including Incentives

a. Employer Rideshare Program Incentives

- City of Chandler will implement a variety of rideshare incentives to increase employee participation in carpooling. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included implementation of a monthly lottery with cash drawings for alternate mode participants. The trip reduction program employee will administer the program. An annual budget of $12,000 is extended in support of financial incentives and training/promotional activities.

- Town of Gilbert indicates that new development will be required to submit specific programs addressing ridesharing, parking fees and other trip reduction measures. The Town of Gilbert will implement the program per Zoning Ordinance requirements for new development, as recommended in the General Plan (see A.R.S. 9-461 and 462). Implement revised General Plan by January, 1994. Modify Zoning Code by April, 1994. 0.25 employee required (within current budget). Funding allocated is approximately $5,000. No certificate of occupancy would be issued until proof of a trip reduction program is submitted.

- City of Glendale is a participant in the Maricopa County Travel Reduction Program. The City established an Employee Rideshare Program in 1988. The City is required to submit a new plan to the County on an annual basis. The City's program consists of: (1) preferential parking spaces for carpool participants; (2) subsidized bus passes; and (3) the use of a bicycle (at no cost, including repairs) for those promising to use the bike for commuting purposes. Ongoing implementation. The City will review the effectiveness of its Employee Rideshare Program on an annual basis (in accordance with the schedule established by the County) and modify the program on an as needed basis. The participants in the City's carpool program are issued a preferred parking permit annually. Bus passes are purchased monthly by employees riding the bus to work. Bicycle program participants agree to ride their free bike to work an average of three days a week. Maricopa County is responsible for enforcing the Maricopa County Travel Reduction Program.

- City of Mesa has implemented a number of programs over the past few years to encourage alternative modes of travel to work. Some of these programs are part of the City Comprehensive Travel Reduction Plan developed in compliance with the Maricopa County Travel Reduction Program.

  The City will review the effectiveness of its efforts to encourage employee ridesharing on an annual basis (in accordance with the schedule established by the County) and modify the program on an as needed basis. The City of Mesa spent $750 to subsidize approximately 54 bus passes (50 percent subsidy) during FY 92-93. This program will continue into the future and funding will increase as the demand from employees warrants. The Special Programs Office has purchased a modem and dedicated a personal computer for the use of employees to access the Regional Rideshare computer to do instant carpool matching. The City will review the effectiveness of its Employee Rideshare Program on an as needed basis. Approximately $2,000 will be allocated to the holiday shopping trip reduction plan for FY 1994-95.

- Town of Paradise Valley indicates that the preparation of a home address location plot will be drafted, together with a reference list based upon the plot, suggesting ride share accomplices. This measure will be implemented by the Town of Paradise Valley Engineering Department. This measure does not require a statutory authorization, but will be initiated by staff. The schedule for activation of this program is as follows: October 1993 - Preparation of resident source chart and December 1994 - Full implementation of incentive plan. Administration of plan development for this measure will require staff time equivalent to 1/100th of a full-time employee at an approximate cost of $25.00. This will be done by department personnel under the adopted Town budget for FY 1994.

- City of Phoenix has implemented a number of programs over the past decade to encourage alternative modes of travel. In February 1989, those programs were incorporated into a comprehensive trip reduction plan in compliance with the Maricopa County Travel Reduction Program (TRP).

  Currently, employees are provided with 50 percent or 100 percent bus subsidies, carpool and vanpool computerized matching service, bicycle storage facilities and showers, alternative work schedule options, guaranteed emergency ride home service, new employee orientation, employee parking fees in the central business district, free and preferential parking for carpools, vanpools, telecommuting options, and flexible work hours where feasible. Components of the Trip Reduction Plan will be modified on an as needed basis.

  The City is a major employer under the Maricopa County Travel Reduction Program. The City will review the effectiveness of its employee Rideshare Program on an annual basis in accordance with the schedule established by the County.

  The City of Phoenix implements a program to encourage alternative work schedules during the high pollution season as defined in the measure, Flexible Work Schedules.

- City of Scottsdale will continue its carpool and rideshare incentive program, which is available to all full-time and part-time City employees (approximately 1,500) and currently has 95 employees registered for carpool parking privileges in 20 reserved spaces. The City will review the effectiveness of the Employee Rideshare Program annually and modify the program on an as needed basis.

- City of Tempe, since the 1988 implementation of a countywide Travel Reduction Program, has expanded its earlier programs to encourage alternative modes of travel. Each year, the City participates in the annual Clean Air Force Campaign and in the Maricopa County Travel Reduction Program survey and plan review process. The City is also a member of a local Transportation Management Association, is involved in a regional project to prepare a travel reduction geographic information system database, and provides support to Tempe employers via information dissemination regarding travel reduction options.

Travel Reduction Program options offered by the City to its employees as of FY 1993-94 include:

a) A 50 percent bus subsidy for all employees, using Bus Card Plus, an ATM-type card issued to employees at no charge. The maximum cost to an employee is $14 per month.

b) Showers and bike racks at all facilities to facilitate bicycling and walking.

c) A weekly cash drawing for all alternate mode users.

d) Rideshare matching through the RPTA and the local TMA

e) A guaranteed ride home program

f) A bike loan program

g) Bike to Work day activities

h) A new hire brochure detailing travel reduction options

i) Carpool spaces at two work sites

j) 1992 bus route improvements through restructuring of regional routes to serve more work sites, and the addition of new bus Route 56

k) Bicycle facility improvements accomplished through the City's pavement management plan

l) Compressed work weeks and alternate work schedules

Ongoing. The City will review the effectiveness of its Travel Reduction Program measures on an annual basis (in accordance with the schedule established by the County) and modify the program as needed.

- City of Tolleson commits to adopt an ordinance which will incorporate the measures such as rideshare programs; related parking requirements; modified business hours; incentives for employees; and possible free bus passes from nearby Westridge Mall merchants located at 75th Avenue and Thomas. October 1993.

- Maricopa County's Trip Reduction Ordinance encourages the use of employer rideshare program incentives, employer parking fees, preferential parking for carpools and vanpools, vanpools for employees, and modified business hours to meet the goals of the Trip Reduction Program. Maricopa County participates in the program as an employer. The Maricopa County Board of Supervisors adopted an ordinance authorizing the County to participate in the program as an employer.

- Arizona Department of Transportation indicates that their Air Quality Demonstration Programs begin each October and most projects are complete in one year. The programs are very successful with 85 percent of the projects reaching their objectives and 75 percent continuing on beyond the demonstration period. ADOT implements the Air Quality Demonstration Program which presently includes: new transit services, vanpooling, ridesharing, fixed route extensions, and park-and-ride lots. Annual funding for the Air Quality Demonstration Programs is approximately $440,000, which includes $400,000 for projects, and $40,000 for planning, evaluation, and administration. ADOT participates in the Capitol Rideshare Program which includes the State Travel Reduction Plan and Surveys.

  Highlights of Air Quality Demonstration projects include: over 85 percent of the projects reach project objectives; 75 percent of all projects continue after the demonstration period; 100% of the projects are completed; and over 75 percent of all projects are brand new.

  ADOT has provided annual funding for the Capitol Rideshare Program since 1983. The program is currently administered by the Arizona Department of Commerce Energy Office but will be transferred to the Arizona Department of Administration (ADOA) during fiscal year 1993-94. The purpose of Capitol Rideshare is to encourage the 20,000 state employees in Maricopa County to use alternate modes of transportation through education and incentives. The State of Arizona is the largest employer in Maricopa County and consequently offers the greatest potential savings in vehicle miles travelled from a single employer-based rideshare program. This program is coordinated with the Maricopa Association of Governments Regional Ridesharing Program operated by the Regional Public Transportation Authority (RPTA). State employees make up 32 percent of the entries in RPTA's rideshare matching network.

  Capitol Rideshare provides services such as: carpool matchlists, created in-house; benefits for alternate mode users, like preferential parking, a free ride home in case of an emergency, a coupon book, and preferential use of state vehicles; a bi-monthly publication distributed to every state employee in Maricopa County and quarterly press release distributed to other state publications; packets about the benefits of alternate mode usage for all new hires; semi-annual payroll enclosures; fifteen display racks of information, in state buildings, about the benefits of using alternate modes; a network of over fifty rideshare coordinators encouraging alternate mode usage throughout state agencies located in Maricopa County; the State's yearly Clean Air Campaign effort including a network of 80 Clean Air Representatives, interagency participation competitions and internal prize drawings; and the mandated annual Trip Reduction Survey and Plan for the State of Arizona.

  The Capitol Rideshare Program begins every July 1 for one year. Preferential parking permits and Commuter Club memberships are renewed each year at this time. Any state employee in Maricopa County who uses an alternate commuting mode at least twice a week qualifies for membership to the Capitol Rideshare Commuter Club which is free, and they are entitled to: a coupon book with discounts from Valley merchants; extra lead time when reserving ADOA Motor

Pool vehicles; a free ride home in case of an emergency; and, if they car pool at least three times a week, preferential parking (which includes close-in and some covered spaces).

- Regional Public Transportation Authority facilitates approximately up to 45 formal trainings annually targeted at employers with sites affected by the Maricopa County Trip Reduction Program and on an as needed basis does special in-house trainings for individual employers. As a voluntary participant with the MCTRP, RPTA continues to practice TDM strategies. RPTA formal trainings include a core curriculum with program essentials and nine electives specializing in effective plan development and implementation. Special workshops are also made available to the general public through the Clean Air Force Campaign (CAFC). "How to" manuals with detail implementation information for TDM strategies is available to employers and general public. RPTA staff contacts all employers affected by TRP to offer assistance several times annually. The schedule for planned activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Association hold periodic meetings.

b. Employee Parking Fees

- Town of Gilbert - Refer to Measure 3a.

- Town of Paradise Valley has approximately 12 employers, with more than 35 employees. Each employer will be encouraged to charge employees for parking. This measure will be implemented by the Town of Paradise Valley Town Manager and Mayor. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity; November 1993 - Circulation of mailers; and January 1994 - Personal visits to encourage participation. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Regional Public Transportation Authority indicates that special MCTRP training sessions will focus on parking management and demonstrate to employers methods by which they can develop a paid parking system. This will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program. Approximately 450 employers are planning or implementing strategies to reduce vehicle trips for the fourth year of the program. Because of the difficulty in achieving the annual five percent target reduction, many are looking to more enhanced methods of reducing vehicle trips. Mandatory fees for parking is one of the strongest incentives to rideshare (disincentives to driving). Additionally, a new

ordinance passed by the Maricopa County Board of Supervisors beginning January 1993 will strengthen the trip reduction effort by requiring employers with 75 or more employees to comply. This increases training requirements by more than 300 employers (more than 40 percent). Employees of RPTA pay current market rates for parking as a voluntary TRP organization.

c. Preferential Parking For Carpools and Vanpools

- City of Chandler increased the number of preferential parking spaces for carpools, including free/covered spaces adjacent to work locations. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included an increase in the number of reserved carpool spaces for city employees. The trip reduction program employee will administer the program. Costs for this strategy were minimal and included the production/installation of signage.

- Town of Gilbert indicates that 4 to 6 stalls for preferential parking in public parking lots located in the first row of parking will be provided. Implemented by the Town of Gilbert Administration. Legal authority is A.R.S. 9-461.05. To be monitored by one on-site coordinator (current staff member). Cost to start was $300.

- City of Glendale has established preferential parking spaces for carpoolers. Preferential parking spaces are available at City Hall, Operations Center, and the Public Safety and Courts Complex. Ongoing implementation. The City will continue to provide preferential parking spaces on an as needed basis. Preferential parking permits are issued annually to certified participants. Persons parking in a preferential parking space without a permit are given a parking ticket by the Police Department. All preferential parking spaces are signed.

- City of Mesa, during FY 93-94, will be designating 20 parking spaces for carpool/vanpool only. There will be at least two such spaces at each of the parking areas serving 75 or more employees.

- Town of Paradise Valley indicates that two preferential parking spaces for carpools and vanpools are estimated for each of the twelve employer sites. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Information program sent to each employer concerning the benefits of preferential parking, and January 1994 - Complete marking and other features of preferential parking at each employer. Administration of the plan development for this project will require staff time equivalent to 0.025 full-time employee, at an approximate cost of $500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 3a.

- City of Scottsdale Transit Division will continue to designate preferred parking spaces in various City employee parking lots for carpool and vanpool vehicles, as needed. Currently, the City has 20 labeled and identified carpool and vanpool parking spaces. There are no plans to add to that inventory based on current demand.

- City of Tempe - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Arizona Department of Transportation provides preferential, close-in parking for employee carpools and vanpools. Administrative Procedure MGT-1.03 is the ADOT Statewide Parking Policy. Parking is governed by the Manager of the General Operations Group and the Executive Quality Council provides input. Location and signing of reserved spaces remains with the Manager, General Operations Group. Parking lots will be managed and will reflect the appropriate number of rideshare, handicap, and customer parking spaces according to the changing needs of the Department.

  Carpool vehicles are certified by the Capitol Rideshare Administration. Carpool parking is preferential location parking (some covered, some not) and is open to carpool certified employees on a first-come-first served basis. Currently, in the ADOT Capitol Parking lots there are 1,736 total spaces. In 1993 ADOT changes it parking policy. The available spaces for Rideshare vehicles were increased from 63 to 67 for covered parking and 71 to 191 for uncovered parking. Reserved spaces for Rideshare participants are 24 hours a day. Additionally, 232 carpool decals have been issued to employees working in the Capitol area; 470 individuals are participating in the Rideshare program.

d. Encouragement of Vanpools for County and State Employees

- Regional Public Transportation Authority will assist employers in the formation of new vanpools. Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. Currently 33 vanpools are operating with about 400 riders. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs and employer/employee vanpool presentations upon request and based on employer schedule; provide vanpool information to all interested parties (brochure and driver kit); provide vanpool matching on a daily basis; and hold periodic vanpool group formation meetings with potential groups (about 2-5 per month) at the request of an employer.

e. Vanpool Purchase Incentives

- City of Phoenix - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

- Regional Public Transportation Authority will continue to encourage the Legislature to provide incentives to increase ridesharing, such as tax credits, interest-free or low-interest financing for vanpool vehicles, or exemption of vanpool vehicles from annual vehicle registration fees and/or from the state fuel tax. Upon passage of such bills, RPTA would promote and educate the public on the benefits of the bill(s). Efforts will be targeted at employers with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. The schedule for planned activities are as follows: encourage Legislature during and at appropriate sessions to sponsor and pass legislation; MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs and employer vanpool presentations upon request and based on employers' schedule; and upon passage of legislative bills, RPTA will inform commuting public of additional commuting benefits through monthly newsletters and other publications.

f. Merchant Transportation Incentives

- Town of Gilbert indicates that the recommended 1993 General Plan update will suggest that zoning cases involving employers who meet trip reduction thresholds set by the County prepare an overall trip reduction plan. Implementation to be by the Town of Gilbert Community Development Department. Legal authority is A.R.S. 9-461.05. General Plan update to be completed by January 1994. Existing staff time, equivalent to 0.10 full-time employee at a cost of $3500. Funding is approved for the FY 1993-94. Ordinances prepared for future employers shall include stipulations for trip reduction. There may also need to be a Zoning Code amendment. The Community Development Department will monitor cases presented to the Town Council.

- City of Mesa indicates that during the 1993-94 carbon monoxide season, the City will embark on a joint marketing campaign with shopping areas served by the City Sunrunner and RPTA bus systems. The City and the merchants will develop a plan to encourage shoppers during the holiday season to take the bus to do their shopping.

- City of Scottsdale will continue to provide a variety of incentives for developers to provide facilities for alternative modes of transportation. In addition, the City's Nonmotorized Transportation Plan Task Force will develop a comprehensive plan for facilities for bicycle, pedestrian and other forms of nonmotorized travel. The City of Scottsdale Planning Department is responsible for administering City ordinances that provide development incentives for nonmotorized travel. Authority for such incentives is found in the following Sections of the Scottsdale Revised Code:

  9.104.C: Developers may obtain credit toward parking requirements by participating in a joint parking improvement project. Consolidated parking allows more flexibility in site plans to provide for better pedestrian access.

5.3074: In the downtown area, bicycle parking spaces may be substituted for automobile parking spaces at a ratio of eight to one for up to 2 percent of the required automobile spaces.

5.3081: A special Pedestrian Overlay District is permitted in the Downtown District, requiring covered pedestrian walkways and emphasizing pedestrian linkages.

5.3082: Planned Block Development (PBD) standards in the Downtown District permit reductions in the number of parking spaces for shared parking. Again, consolidated parking provides more flexibility to design developments which are more pedestrian-oriented.

5.3090: General bonus and incentive provisions for the downtown area include increased density allowances in return for contributions of special public improvements, which may include transportation facilities.

In addition, as part of its normal zoning review process, the City may stipulate that a development on an existing or planned transit route include a bus stop or transit shelter.

The City of Scottsdale Comprehensive Nonmotorized Transportation Plan Task Force is responsible for developing the Comprehensive Nonmotorized Transportation Plan under Resolution No. 3779. The Transportation Department is responsible for providing staff support for the Task Force.

g. Modified Business Hours For Private and Public Sector During the High Pollution Season to Reduce Cold Start Emissions

- City of Scottsdale will work with the Scottsdale Chamber of Commerce on a promotional campaign that will focus on the following:

  1) Promote and encourage early Holiday shopping during the Christmas season.

  2) Promote and encourage the consolidation of Holiday shopping trips.

  In addition, the City's Capital Projects Management Division has in place an internal policy that no major road construction takes place between Thanksgiving and mid-April. This policy helps alleviate traffic congestion during the peak periods for Holiday shopping and the peak tourism season.

- City of Tempe - Refer to Measure 3a.

- Maricopa County - Refer to Measure 3a.

4. Trip Reduction Ordinances

- City of El Mirage will adopt a trip reduction ordinance that will require employers with 75 or more employees at a work site to establish a trip reduction program for the employees. This measure will be implemented by the City of El Mirage Council. The schedule for completing this work is as follows:
  - October 1993 - Introduce legislation to City Council
  - November 1993 - Adoption of ordinance
  - December 1993 - Ordinance takes effect

  Administration of this measure will require staff time equivalent to .10 full-time employee, at an approximate cost of $4,500. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced at time of site plan and zoning application, whichever is applicable. Staff will present, as a condition of approval, a plan to be submitted, for implementation by the employer, that meets the requirements of the ordinance.

- Maricopa County adopted a Trip Reduction Ordinance on October 5, 1992, which requires employers and schools with 75 or more employees or students at a single work site or school to develop, implement and maintain a Trip Reduction Program to reduce single occupant motor vehicle use. The ordinance lowered the application threshold from 100 FTE to 75 FTE and established third, fourth and fifth year goals for employers participating in the program. Currently, 490 employers and schools with 410,800 employees and students participate in the program. The new provisions are estimated to bring at least 100,000 additional employees and students into the program consisting of 45,000 to 60,000 at smaller work sites and the balance from increased compliance at sites with 100 or more (future year goals). The Maricopa County Board of Supervisors adopted the ordinance in 1992 pursuant to A.R.S. § 49-588.E. The Maricopa County Department of Environmental Management, Trip Reduction Program, implements the Trip Reduction Program pursuant to A.R.S. § 49-584. Ongoing program.

October 1992	Board of Supervisors adopted Maricopa County Trip Reduction ordinance.
January 1993	Began phasing in new employers with 75-99 employees or students at a work site.
December 1993	Complete phasing in of new employers and additional work sites from employers already in the program.

Funding for the program consists of $948,575 from the Air Quality Fund and $400,000 from ISTEA funds for FY 93. The County has 18 staff members and will add 6 additional staff by August 1993. The County also subcontracts $527,000 to the Regional Public Transportation Authority to assist the employers with training and plan preparation and to coordinate a public awareness campaign for the program.

- Regional Public Transportation Authority conducts formal trainings and one-on-one assistance is targeted at the almost 800 employers with approximately 450,000 employees and students with sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; and up to 12 Transportation Management Association hold periodic meetings.

5. Traffic Flow Improvement Programs That Achieve Emission Reductions

a. Removal of On-Street Parking

- City of El Mirage will require all commercial/industrial development to design and implement off-street parking as required by the El Mirage Zoning Code. This measure will be implemented by the City of El Mirage Manager. No schedule is needed since the requirements for off-street parking for commercial/industrial development are in place. As site plan and zoning application are submitted and approved, implementation of off-street parking will commence. Administration of this measure will require staff time equivalent to .10 full time employee, at an approximate cost of $4,500. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced at time of site plan and zoning application, whichever is applicable. Present zoning requirements dictate that off-street parking must be included in any commercial/industrial development. Certificate of occupancy will not be issued until off-street parking is constructed.

- Town of Gilbert indicates that on-street parking is not allowed as part of any required parking for businesses. The Town of Gilbert Planning Department monitors site plan review which shows required parking. Current staffing levels approved for FY 1993-94. This program is contained within the Zoning Code of the Town of Gilbert.

- City of Glendale Council adopted a revised General Plan in 1989. The City does not allow on-street parking on arterials and major arterials, except along portions of Glendale Avenue in the downtown area. The Police Department will enforce traffic and parking violations.

- City of Mesa has a standing policy of prohibiting on-street parking along major arterials. Currently, Main Street is the only major arterial street where on-street parking is permitted (in limited areas). The City will continue to prohibit on-street parking along major arterial streets, and will periodically review elimination of on-street parking on Main Street.

- Town of Paradise Valley indicates that of the 160 miles of roadway within the Town, no more than ten miles are appropriate for the removal of on-street parking. Such areas will be identified and appropriate steps taken by the posting of signs prohibiting parking. This measure will be implemented by the Town of Paradise

Valley Street Department. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule for implementing this measure is as follows: October 1993 through December 1993 - Survey of street system to determine the appropriate areas, and January 1994 through June 1994 - Placing of no parking signs. Administration of plan development for this project will require staff time equivalent to 0.25 full-time employee, at an approximate cost of $8,000. This will be accomplished by current Street Department personnel under the adopted Town budget for FY 1994.

- City of Phoenix program to eliminate on-street parking on all major arterials was completed by 1990. All major streets have had on-street parking removed, with the exception of the downtown area. Parking fees are imposed in the downtown area. Additional collector streets have had parking restrictions added due to implementation of the bikeway program. This will continue with future additions of bike lanes.

- City of Tempe currently has removed all on-street parking from arterial streets. Some on-street parking is currently available on collector streets in the downtown area but is currently metered, time-limited, or being considered for metering as part of a downtown parking management study planned for FY 1993-94. Ongoing implementation.

b. Optimize Freeway Ramp Meters

- Arizona Department of Transportation - Refer to Measure 2c.

c. Coordinate Traffic Signal Systems

- City of Chandler will include a traffic signal intertie system on Ray Road from Dobson Road to 56th Street and on Alma School Road from Pecos Road to Chandler Heights Road. The design process for this measure has been initiated. Construction will begin in FY 1994 or 1995 on the Ray Road improvement and Alma School will begin in FY 1995 or 1996. Design of this measure is being performed by a consulting engineering firm. Installation will also be performed by contracting with a construction firm. The project will be eligible for funding provided by the Intermodal Surface Transportation Efficiency Act (ISTEA) and/or federal economic stimulus program. In the event that federal funds are not available, the City will consider performing the work using funds allocated in the FY 1993-1998 Capital Improvement Program. The five year CIP includes $1,385,000 for traffic control systems. The cost of the improvements on Alma School Road and Dobson Road is estimated to be $500,000.

- City of Glendale has in-place a time based traffic signal system that synchronizes traffic signals to improve traffic flow. The City will continue to expand and refine the system as development occurs and as new signals are installed. The City will also continue to work with other local government agencies to improve the coordination of traffic signals where appropriate. Ongoing implementation. The City will install and coordinate traffic signals on an as needed basis. The City will

continue to work with the Arizona Department of Transportation and Maricopa County to further implement coordinated traffic signals. The City's Traffic Engineering Department is responsible for traffic planning and signalization. New traffic signals are budgeted through the Capital Improvement Program. Developers of large projects also may provide funding for new and/or improved traffic signals. Traffic signalization and traffic operation standards are contained in the City's "Design Guidelines for Site Development and Infrastructure Construction". The City Code authorizes the City Traffic Engineer to develop and enforce traffic standards for the City.

- City of Mesa indicates that as new traffic signals are installed, they are added to the City's signal system which provide coordination between signals. The City is participating in a countywide study (MAGIC) to determine improved methods of coordinating traffic signals across jurisdictional boundaries. Approximately $400,000 is budgeted annually to operate the City's signal system.

- Town of Paradise Valley indicates that ten miles of existing arterial streets may be included in the computerized traffic signal system implemented by the City of Phoenix. This measure will be implemented by joint action of the City of Phoenix and the Town of Paradise Valley under an existing intergovernmental agreement. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule for implementation is as yet undetermined. It depends upon the progress made by the City of Phoenix.

- City of Phoenix maintains a computerized traffic signal system that synchronizes traffic signals to improve traffic flow. The system has been expanded in recent years to include 98 percent of the City's 780 signalized intersections. The City will continue to add signals to the computerized system as development occurs and new signals are installed. The City of Phoenix will continue to work with other cities to coordinate regional traffic signal synchronization.

- City of Scottsdale will incorporate 15 additional traffic signals into a system coordinated by a central computer. A new central computer for signal coordination will be operational by October 1993.

  Currently, there are 166 signalized intersections in Scottsdale, 149 of which are coordinated by the central computer. Fifteen of the remaining signals will be incorporated into the system in 1994. The remaining two signals are isolated intersections located approximately three miles from the closest adjacent signal. Newly constructed traffic signals will be coordinated except for those signals that are at isolated locations.

  The new central computer of the signal coordination system will enable greater refinement of the signal coordination to correspond to traffic patterns.,

  October 1993 - New central computer operational.

  March 1994 - Fifteen existing signals included in the system.

  Continuous - Newly installed signals included in the system.

  Continuous - Monitoring and refinement of signal timing plans.

Approximately $500,000 has been encumbered for the new central computer. An additional $900,000 has been allocated for future Intelligent Vehicle Highway Systems (IVHS) applications involving the traffic signal system. A letter of interest was submitted to the FHWA for IVHS Early Deployment Program funding to supplement the planned program.

- City of Tempe computerized traffic signal system is scheduled for modernization during FY 1993-94 using ISTEA Surface Transportation Program funds allocated through the MAG region. This modernization, at a total cost of approximately $700,000, will be coordinated with signal synchronization activities of Maricopa County, ADOT, and other cities. Ongoing. The FY 1993-94 CIP budget for traffic signals and street lighting which will perform the signal modernization is $730,000. One FTE is responsible for this project. The City's FY 1993-94 budget for transportation and right-of-way improvements is $5.2 million.

- City of Tolleson, in coordination with the Department of Transportation and Maricopa County, commits to synchronize the five traffic signal systems currently within the City of Tolleson's jurisdiction. Since Maricopa County is currently maintaining the traffic signals within the Tolleson city limits, it is assumed that the synchronization can occur by the end of September 1993.

- Maricopa County, through authority granted by A.R.S. § 11-251 (General Powers of Board of Supervisors) and A.R.S. § 18-207, will continue to program traffic improvements to minimize congestion. Several programs to alleviate congestion are in various stages of implementation, such as the MAGIC (Maricopa Association of Governments Integrated Control) program for traffic signal optimization across jurisdictional boundaries. Other programs are the sole responsibility of the Arizona Department of Transportation, such as the Freeway Management System and improved ramp metering, currently undergoing installation. One-way streets, on-street parking restrictions, etc., are only appropriate in the urbanized areas under the jurisdiction of individual cities. MCDOT is actively pursuing IVHS strategies and funding. Compliance with A.R.S. § 49-474.01 will require an analysis of the Maricopa County signalized intersection, the daily traffic of each, and whether or not each signalized intersection exceeding 15,000 ADT can be synchronized. Synchronization equipment must then be installed as necessary.

Traffic signalization improvements have been ongoing since the 1987 plan. Approximately 15 to 20 intersection improvements have been completed yearly.

July 1987	Complete analysis to identify signalized county intersections requiring synchronization.
March 1988	Complete installation of synchronization equipment at signalized intersections requiring synchronization and for which synchronization is physically possible.
July 1991	Commence Maricopa Association of Governments Integrated Control study to implement synchronization of traffic signals across jurisdictional boundaries.
December 1994	Complete MAGIC study and implement all feasible integration.

Activities are provided through existing staff and funding. The MAGIC study is funded for $600,000 worth of work.

- Arizona Department of Transportation as mandated by A.R.S. § 9-500.04, will pursue synchronization of traffic signals on State Highways in the nonattainment area in cooperation with local municipalities. Typically, on urban portions of State Highways, local governments handle traffic control through agreements with ADOT. Many signals have been tied into local systems and efforts are continuing to increase the number of tie-ins, cooperating with local governments.

  A.R.S. § 28-642 "On a State highway which has a traffic flow exceeding 15,000 motor vehicles per day in a nonattainment area, in cooperation with local authorities, shall synchronize traffic control signals." All traffic control devices on highways conform to the state manual and specifications. The ADOT Highway Policy as stated in the Five-Year Transportation Facilities Construction Program includes funding of Transportation System Management (TSM) improvements of up to $2.0 million per year. Typical TSM projects might address signing and signalization, turn lanes, and traffic channelization, vehicle turn-outs, one-way streets, and access and parking controls.

  An ongoing process of ADOT's is to synchronize, where warranted, traffic signals on the Controlled Access Freeways. Traffic signals on all state routes that pass through the City of Phoenix, including Grand Avenue, and the City of Tempe are synchronized. The table below lists specific projects programmed in the Five-Year Transportation Facilities Construction Programs. A project is proposed to study an Integrated Traffic Management System (ITMS) for the I-17 corridor. A time frame of 24 months would be required. The study would include (1) adaptive control of ramp metering, (2) integrated control of interchange signals, (3) lane control, and (4) speed and route advisories on the radio.

TSM Projects

Route	Location	Type of Project	Length miles	Program million	FY
SR 87	Beginning Mile Post 165 (Chandler)	traffic signal coordination	.1	.6	91
US 60	Beardsley - Van Buren	Roadway & TSM Phase I	8.0	1.8	93
US 60	Beardsley - Van Buren	TSM Phase II	8.0	2.5	94
TOTAL				$4.9	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

d. Reduce Traffic Congestion at Major Intersections

- City of Chandler will provide for additional arterial street capacity by requiring right turn lanes at all arterial to arterial intersections and right turn lanes at all driveways on arterial streets where the driveway traffic exceeds 40 vehicles per hour. The measure is reflected in the City of Chandler Long Range Transportation Plan and in the Technical Design Manual Number 4 - Policies and Guidelines for

Street Design and Access Control. The measure became effective on May 27, 1993 when adopted by the Chandler City Council. All new construction or reconstruction along arterial streets must provide the required right turn lanes. This measure will be implemented through the City's plan review process and will not require any additional staff. Most arterial improvements will be constructed by developers. Arterial improvements that cannot be assigned to a developer will be done by the City of Chandler and funded under the street construction program in the City's Capital Improvement Program. The program provides for $1,000,000 per year for street construction projects. The number of right turn lanes constructed each year will vary according to the pace of development activity.

- Town of Gilbert will continue the requirement for arterial street improvements at major intersections that reduce congestion. This requirement is being implemented by the Engineering Department of the Town of Gilbert. The authority for these improvements are from A.R.S. 9-240. Current staff levels, approved by the Council for FY 1993-94. This program is enforced through the Zoning process for development. Stipulations are included requiring improvements.

- City of Glendale will continue to implement its existing programs that provide for intersection improvements to reduce traffic congestion at major intersections. Street development and engineering standards are contained in the City's "Design Guidelines for Site Development and Infrastructure Construction". The City Code authorizes the City Engineer to publish and amend standards for infrastructure construction within the City. Ongoing implementation. The City will construct and/or reconstruct major intersections as development occurs and on an as needed basis. The City's Traffic Engineering Department is responsible for traffic planning. Improvements of major intersections is budgeted through the Capital Improvements Program. Developers (landowners) participating in an improvement district also provide funding to improve major intersections.

- City of Mesa will implement intersection improvements such as adding turn lanes, lengthening turn lanes, adding through lanes, and otherwise eliminating bottlenecks. Approximately $15.1 million is budgeted for FY 93-94 and $6.9 million in FY 1994-95 for street improvement projects.

- Town of Paradise Valley has only one major arterial intersection. In addition, it has one minor arterial intersection. This measure will be implemented by the Town of Paradise Valley Engineering and Street Department. Legal authority for future action is provided under Section 9-240 B. of the Arizona Revised Statutes.

- City of Peoria is presently planning left and right turn lanes at all major intersections. The City is also working on street widening. The City of Peoria will continue to accomplish these projects through development improvements as well as City Capital Improvement funds on City street projects.

- City of Phoenix will continue to implement intersection improvements to reduce traffic congestion at major intersections. Most intersections are improved through the 5-Year Capital Improvement Program/Major Street Program which supports widening of arterial streets. Intersection improvements are included in these projects (typically 2-3 per mile).

  The City will construct and/or reconstruct major intersections as funding is allocated and as development occurs. Projects are supported by the Arizona Highway User Revenue funds through the Capitol Improvement Program. Funding is allocated through the annual budget process.

- City of Scottsdale will construct approximately 20 projects under the Bottleneck Removal Program and three larger projects under the Spot Street Program to help alleviate traffic congestion.

  Isolated intersection improvements occur in Scottsdale through two mechanisms in the Capital Improvement Program. Projects with an estimated cost of less than $300,000 are aggregated into a single program identified as Traffic Bottleneck Removal Projects. When two to five such projects are designed and ready for construction, the projects are solicited for bids as a group. The other mechanism is Spot Street Projects which have estimated costs greater than $300,000. Both project categories include the installation of turn lanes or through lanes, or the completion of partially constructed streets.

  Approximately $3,500,000 has been allocated for the Traffic Bottleneck Removal Program. This involves approximately 20 projects to be constructed in the 1993-1994 and 1994-1995 fiscal years. Approximately $1,700,000 has been allocated for the Spot Street Program to design and construct three projects in 1993-1994 and 1994-1995.

  Two individuals in the Traffic Engineering Division analyze and prioritize the projects identified for this program. This effort requires approximately three person-months each year. Approximately ten individuals in the Capital Project Management Division work on these projects. An estimated fifteen person-months was expended on this effort by this division in fiscal year 1992-1993. A similar time commitment is expected for the next two fiscal years.

- City of Tempe intersection improvements are completed on an annual basis through the City's CIP budget and in conjunction with ADOT freeway construction on I-10 and the Red Mountain freeways. Due to the City's landlocked nature, all arterial streets have been built and are only subject to improvements in the succeeding years.

- City of Tolleson has recently widened 83rd Avenue (Buckeye Road to Van Buren) to a four-lane arterial, including a left turn lane. The existing two-lane road had created bottlenecks during peak hours. Via an Intergovernmental Agreement with Maricopa County, the City of Tolleson has scheduled the widening of 91st Avenue (from Buckeye Road to I-10) during Fiscal Year 1994-1995. The widening of 91st

Avenue is scheduled to commence after July 1, 1995 and completed 12 months after the start of construction. A target date for commencement of construction has not been set.

- Arizona Department of Transportation Five-Year Transportation Facilities Construction Program has included projects directed at intersection improvements. These projects facilitate turning movements, thereby helping to maximize intersection capacities. ADOT rarely removes traffic signals.

In 1989, no interchange (freeway with arterial) improvements were made; on an average of one every two years, intersection (state highway with arterial) improvements were made. By 1994, an average of one every two years interchange (freeway with arterial) improvements may be programmed. An average of one per year intersection (state highway with arterial) improvements may be programmed.

Intersection Improvement Projects

Route	Location	Type of Project	Program million	FY
I-10	48th St & Broadway	modify TI	4.2	89
SR 87	Frye	traffic signal	0.1	89
I-17	Dunlap TI	widen overpass	0.3	90
I-17	Thunderbird TI	modify TI ramp	0.5	90
I-10	Elliot TI	reconstruct TI	10.0	91
I-10	Queen Creek TI	construct TI	5.5	91
I-17	NB ramp @ Peoria	lengthen left turn lane	0.2	91
I-17	Thunderbird TI	Modify NW frontage road	0.9	91
I-17	Indian School TI	widen	6.4	92
SR 87	McDowell - Shea	intersection improvements	0.6	92
SR 101L	Pima: 101L - US 60	construct 1/4 TI E&N ramps	2.0	92
I-10	107th Ave	construct TI	4.0	93
I-10	US 60 - Priest	construct 1/2 TI	2.0	94
I-10	Riggs Road TI	widen ramps	0.1	92
SR 101L	Pima: Red Mtn TI Phase I	construct 1/4 TI E-S & N-W & Dobson	13.6	93
I-17	Bell TI	reconstruct TI	6.3	94
SR 101L	Pima: Red Mtn TI Phase III	construct 1/4 TI E-N & S-W ramps	11.6	95
I-10	Baseline - Chandler	reconstruct roadway, add median lanes, improve Chandler TI	27.5	96
TOTAL			$101.5	

Source: ADOT Five-Year Transportation Facilities Construction Program. Projects may be subject to change due to unforeseen funding changes.

e. Site-Specific Transportation Control Measures

- City of Glendale has already installed leading left-turn signals to improve traffic flow and for safety purposes. In 1990, the Arizona Department of Transportation conducted a study that indicated that lagging left-turn signals did not improve traffic flow or increase safety. The City has decided not to implement lagging left-turn signals because traffic flows/capacity would be reduced. The City's Traffic Engineering Department is responsible for traffic planning and signalization. New traffic signals are budgeted through the Capital Improvement Program. Developers of large projects also may provide funding for new and/or improved traffic signals.

- City of Mesa indicates that signalized intersections are evaluated periodically to determine if various control strategies can be implemented to reduce overall delay and improve traffic progression. The Traffic Signal Control System software is currently being modified to reduce side street delay in off-peak hours. A combination of leading and lagging left turn signal operations are used to improve progression. Approximately $1,000 is expended to convert each intersection.

- Town of Paradise Valley indicates that all 12 signalized intersections will be considered for lagging left turn signals. This measure will be implemented by the Town of Paradise Valley Engineering and Street Departments. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statutes. The schedule allows for completion by June 1994. Administration of this measure will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by a current contract with specialists, under the adopted Town budget for FY 1994.

- City of Phoenix Street Transportation Department works with the Police to implement Special Event Traffic Control Plans for events involving large volumes of traffic (e.g., events at the America West Arena and the Coliseum).

  The Aviation Department has implemented transportation control measures at Sky Harbor International Airport. Traffic flow patterns have been designed to reduce congestion and vehicle idling; shuttle buses reduce single traffic occupancy vehicles traffic; and participation in City traffic reduction programs encourage employee carpools and transit use.

- City of Scottsdale will continue construction of the Downtown Couplet, which is designed specifically to alleviate traffic congestion in the Downtown area while maintaining access to shopping districts.

  The couplet roadway system in the Downtown has been planned and partially constructed. This roadway pair will provide three northbound lanes and two southbound lanes on the East Couplet, one-quarter mile east of Scottsdale Road, and three southbound lanes with two northbound lanes on the West Couplet west of Scottsdale Road. The traffic signals will be coordinated for the dominant direction, while the contraflow traffic signal timing will be ignored.

The City will continue to coordinate timing of traffic signals throughout the city to allow for variations in peak flows in different directions during the course of the day. Traffic signals on major streets are coordinated for southbound and westbound in the morning peak periods and eastbound and northbound in the evening peak periods. During the off peak periods, adjacent streets have signal coordination in opposite directions. However, the non-progressed flow is still considered, but at a lower priority.

The City will continue to analyze traffic movements at major intersections on a regular basis and evaluate site specific control measures. Traffic counts are obtained and analyzed for every major intersection in every odd-numbered year. Intersections where residents have specifically requested changes - such as new signalization or left turn arrow addition - are counted and analyzed as soon as possible. In either situation, the lane configuration and signal timing is analyzed and optimized. If the condition suggests it, a Traffic Bottleneck or Spot Street Project is considered.

1993	Traffic Counts obtained through the year.
1993	Intersections are analyzed throughout the year.
March 1994	Level of Service Map completed.
May 1994	Improvements completed.

A total of $7.8 million is included in the City's 1993-94 Capital Improvement Plan for construction of the final leg of the West Couplet from Indian School to Osborn Road. A total of $8.6 million is included for completion of the final leg of the East Couplet from 2nd Street to Earll Drive.

- City of Tempe conducts Traffic Impact Analysis for major developments as determined by the City's Traffic Engineer. Ongoing.

- Arizona Department of Transportation - Refer to Measure 5d.

f. Reversible Lanes

- City of Phoenix has installed 12 miles of reversible lanes (7th Avenue and 7th Street). Future reversible lanes will be considered as needed. Ongoing maintenance program. The City will periodically analyze traffic projections to determine whether there is a need to improve traffic flow and determine specific measures to implement on a case-by-case basis.

g. Freeway Incident Detection and Response Management Along With Motorist Information Systems.

- Arizona Department of Transportation will install loops and conduits in new freeways to facilitate the installation of ramp meters as traffic volumes warrant. In the I-17/I-10 corridor, funds have been programmed for the installation of an extensive Freeway Management System (FMS) which includes a control center, detector loops, call boxes, TV cameras, variable message signs, video wall, pump

monitoring equipment, tunnel management system, lane control signs, intersection controllers, and ramp meters. Several variable message signs already have been installed to advise motorists of accidents, lane closures, and suggested alternative routes as a strategy to mitigate adverse traffic impacts resulting from road construction in the I-17/I-10 corridor. This system design and installation implementation is scheduled in ADOT's Five-Year Transportation Facilities Construction Program.

This system has been studied extensively in a report completed in December 1986, and the system went under design in 1988. In 1989, ADOT had completed 7 miles of FMS. By 1994, the following will be completed: 29 miles of FMS will be completed on I-10 between 83rd Avenue and Southern Avenue and on I-17 between Thomas Road and Maricopa TI; 25 miles of completed ramp metering, which total 39 ramp meters for controlling freeway access to keep mainline traffic moving; 19 variable message signs to give advance warning of traffic conditions; 29 closed-circuit television cameras to verify incidents detected by pavement sensor; 403,000 linear feet of fiber optic cable to connect the highway to the control center; and 1,036 pavement sensors to monitor traffic flow to detect incidents.

h. Mitigation of Freeway Construction Impacts

■ Arizona Department of Transportation will maintain a driver information program which mitigates the degree of traffic congestion resulting from freeway and expressway construction. Specific activities included in this effort involve production and airing of advertising campaigns for flex-time, carpooling, bus ridership, freeway driving tips, and driving only whenever absolutely necessary. Also, a major public information campaign for the State Fair to identify alternative routes and promote use of alternative modes will be pursued. Ongoing efforts will be directed at daily construction alerts, civic presentation, and monthly traffic system management meetings.

Continuing efforts of ADOT to mitigate negative impacts on air quality during freeway construction include the following public awareness efforts: distribute door-to-door construction alert notices in neighborhoods affected by the construction project; daily FAX to all valley media outlets of road construction alerts, which are announced on the radio, included in newspapers, and reported during television news reports; produce "Valley Freeways" quarterly newspaper which includes information on the MAG freeway program including costs, locations, scheduling of projects and other information; proactive TSM committees made up of all jurisdictions affected by a project; purchase newspaper and radio advertising to announce and explain construction; produce 1/2 hour TV program in conjunction with Phoenix Channel called "Streetwise" which runs several times a week and addresses public transit freeway construction and other transportation concerns; and ADOT's Urban Freeway Information Line (255-8000) in English and Spanish which has current and upcoming information regarding: ADOT office hours, under construction or recently opened freeways, urban freeway planning, and weekend road conditions.

Additional efforts to mitigate negative impacts on air quality during construction include: detours, temporary signs, alternative construction hours, suggested alternative routes, dust control measures, and FMS.

ADOT as mandated by A.R.S. § 49-453 will prepare and submit to the Arizona Department of Environmental Quality (ADEQ) an air quality impact report on any State funded, transportation-related project which ADOT determines may have carbon monoxide or ozone impacts. This new provision does not apply to existing facilities nor to Federal Interstate Highways. Previously comparable reports have been prepared in the form of environmental impact assessments of federally funded projects.

Under the direction of ADOT's Environmental Planning Services (EPS), an appropriate environmental analysis is conducted for all proposed federal aid, state highway projects. ADOT's EPS section prepares written recommendations for each federal-aid highway project. All projects fall into three categories: an Environmental Assessment (EA), an Environmental Impact Statement (EIS), or a Categorical Exclusion (CE).

Air quality impacts in nonattainment areas is a criteria considered in evaluating interstate reconstruction projects, MAG Regional Route projects, and non-interstate major construction projects. Additionally, one priority used for the distribution of Federal-aid Interstate funds on controlled access projects is enhanced environment impacts. ADOT's Urban Controlled Access Development policies include three environmental elements as follows:

- Urban Controlled Access facilities will be planned and designed in such a manner that specific air quality and environmental mitigation measures will be incorporated.
- Urban Controlled Access facilities will reduce regional traffic congestion thereby reducing energy consumption and improving regional air quality.
- Alternative alignments within Urban Controlled Access corridors will be studied on a route-by-route basis to analyze environmental impacts.

i. One-Way Streets

- City of Peoria Council approved implementing a one-way street for Beardsley Road from 99th Avenue to 91st Avenue in 1991.

- City of Phoenix has designated portions of Washington Street, Jefferson Street, and several other downtown streets as one-way. The City will periodically analyze traffic projections to determine whether there is a need to improve traffic flow and determine appropriate traffic measures to implement on a case by case basis. Ongoing maintenance of one-way streets.

- City of Tempe completion of the second Mill Avenue Bridge during FY 1993-94 will provide one-way streets along the two bridges which provide the north gateway to Tempe.

j. On-Street Parking Restrictions

- City of Glendale Council adopted a revised General Plan in January 1989. The City does not allow on-street parking on arterials and major arterials, except along portions of Glendale Avenue in the downtown area. The Police Department is responsible for enforcing traffic and parking violations. The General Plan restricts on-street parking on arterial streets, except in the downtown area.

- City of Mesa has a standing policy of prohibiting on-street parking along major arterial streets. Currently, Main Street is the only major arterial street where on-street parking is permitted (in limited areas). The City will continue to prohibit on-street parking along major arterial streets, and will periodically review elimination of on-street parking on Main Street.

- Town of Paradise Valley - Refer to Measure 5a.

- City of Peoria indicates that currently, there is no on-street parking on major streets within the City. The City will continue to enforce the current ordinance.

k. Bus Pullouts in Curbs For Passenger Loading

- City of Chandler revised Section 3.7 of the Technical Design Manual Number 4 - Policies and Guidelines for Street Design and Access Control, adopted May 27, 1993, to add the following statement: "Bus bays will be generally required for far side bus stops on departures from major intersections (arterial street intersections with other arterial streets), on newly constructed or reconstructed arterial streets along which transit service is planned. Bus bays may be added to existing arterial streets when warranted by existing transit service." It is estimated that two bus pullouts will be constructed per year.

  Several bus pullouts have already been constructed in the City of Chandler. The resolution requiring bus pullouts was presented to the City Council for consideration in August 1993 and became effective upon passage by the Council. This measure will become a plan review check-off item which will not require any additional staff. Most bus pullouts will be constructed by developers at a cost of $5,000 to $6,000 per pullout. In the event that a pullout is needed in a location where the costs cannot be assigned to a developer, pullouts may be constructed using Federal Transit Administration grant funds. This measure is a street design policy that will be applied in plan reviews and construction plan reviews conducted by the plan review staff of the Development and Community Services Department and by the transportation staff in the Public Works Department.

- City of Glendale Council adopted new arterial linkage and intersection standards on March 30, 1990 (Ordinance 1635) as part of the "Design Guidelines for Site Development and Infrastructure Construction". The linkage standards require bus stops minimum of one-half mile intervals or otherwise as required by the City Traffic Engineer. The new intersection standards require bus pullouts on all corners of arterial-arterial intersections. Ongoing implementation. The City will

continue to install bus pullouts as development occurs or on an as needed basis. Development and City street plans will be reviewed through the normal plan approval/review process.

- City of Mesa indicates that bus pullouts will be installed as adjacent property on an existing bus route is developed.

- City of Peoria Engineering Department will use the standardized bus pullouts specification to accommodate transition of bus routes from city to city in the MAG area. These specifications have been applied at the intersection of 67th Avenue and Peoria to accommodate one of the new bus routes that started on January 26, 1987. Overall, these specifications should assist in reductions of traffic congestion at major intersections. Ongoing efforts.

- City of Phoenix Street Transportation Department will construct bus pullouts as needed in conjunction with major street construction. The City will encourage private construction of bus pullouts in conjunction with new developments.

  The Community and Economic Development Department (CEDD) works with the Street Transportation and Development Services Departments to ensure that CEDD sponsored projects address the need for bus pullouts and queue jumper lanes. Wherever possible, bus pullouts and queue jumper lanes are incorporated into projects that CEDD sponsors.

  Funding for the Street Department Program is included in the Five Year Capital Improvement Program and allocated through the annual budget process. Funding for CEDD projects is included in the Department's Annual Operating Budget.

- City of Scottsdale will continue to provide bus pullouts where feasible. Bus pullouts at the following locations have been constructed since the beginning of 1993 or will be constructed by the end of the 1993-94 fiscal year:
  - NW corner Pima & Shea
  - NW corner McDowell & 68th Street
  - Midblock Thomas & Hayden (westbound)
  - Midblock Thomas & Hayden (eastbound)
  - Granite Reef and Indian School
  - Cactus Road and Scottsdale Road
  - Cactus Road and 64th Street
  - 94th Street and Cactus Road

- City of Tempe provides a major transit stop adjacent to the university campus.

- City of Tolleson, via an ordinance, will incorporate bus pullouts in all future major street widening projects as well as future major land developments.

6. Fringe and Transportation Corridor Parking Facilities Serving Multiple Occupancy Vehicle Programs or Transit Service (e.g. Park-and-Ride Lots)

- City of Glendale adopted a revised General Plan in January 1989. The General Plan recommended that a more detailed plan identifying locations of Park-and-Ride lots and transit stops be prepared. This plan would be prepared with the help of the Regional Public Transportation Authority and the Arizona Department of Transportation. Seven Park-and-Ride lots have been tentatively identified in the General Plan. Ongoing implementation. In the past, local businesses have agreed to allow Park-and-Ride uses on their property at no cost to the City. The City will continue work with the RPTA, Arizona Department of Transportation and local businesses to develop or establish new par-and-ride facilities in locations where they are needed. The City expects to complete its bus shelter plan in 1993.

- City of Mesa - Refer to Measure 1c.

- City of Phoenix works with the Regional Public Transportation Authority to promote and expand Park-and-Ride lots as a means to encourage transit travel. As of May 1993, sixty-eight Park-and-Ride lots and four transit centers with Park-and-Ride opportunities, exist in the City of Phoenix. The Park-and-Ride lots and transit centers include approximately 1,500 parking spaces. The opportunity for maintaining and expanding the number of lots and spaces fluctuates as transit routes and lot availabilities change.

- City of Scottsdale - Refer to Measure 1c.

- City of Tempe provides Park-and-Ride lots in conjunction with Phoenix Transit and the RPTA through agreements with private owners of major facilities such as shopping centers and institutions. As of FY 1993-94, there are 9 Park-and-Ride lots in Tempe. Ongoing. The City will continue work with the RPTA and ADOT to develop new Park-and-Ride facilities in locations where they are needed, especially adjacent to new freeways.

- Maricopa County Transportation Department will, through its permit authority A.R.S. § 11-251 General Powers of Board of Supervisors and A.R.S. § 18-209, seek joint funding of Park-and-Ride facilities where appropriate. MCDOT also provides a shuttle service between its Durango Complex facilities and RPTA transit service.

January 1992 to December 1992	Shuttle service implemented.
January 1993	Included Bell Rd. at I-17 Park-and-Ride facilities as part of the County's Capital Improvement Program, and other facilities will be requested where appropriate.

Durango Shuttle - $35,000 per year split between MCDOT and Flood Control District. $500,000 for a Park-and-Ride facility has been requested, but is not yet approved.

- Arizona Department of Transportation considers potential Park-and-Ride facilities on the State Highway System on a case by case basis when construction or reconstruction of an interchange or intersection is planned. It is not anticipated that land specifically for the purpose of Park-and-Ride lots will be purchased by ADOT. However, ADOT will offer appropriate excess parcels for purchase by agencies wishing to implement such facilities.

  At I-10 and 79th Avenue, a structure with HOV ramps accessing the interstate median has been constructed by ADOT with a 625 vehicle capacity Park-and-Ride lot. Operation of this lot is handled by the City of Phoenix. Approximately 75 cars utilize this Park-and-Ride lot. In addition, ADOT is studying potential sites for Park-and-Ride lots along the State Highway System and will provide the option to appropriate agencies of purchasing excess ADOT right-of-way for such use where appropriate. Three potential sites are at Bell Road and I-17, Shea Boulevard and S.R. 51, and Gilbert Road and S.R. 202L.

- Regional Public Transportation Authority works with member cities to promote and expand Park-and-Ride lots as a means to encourage ridesharing and the use of transit. As of May 1993, sixty-four Park-and-Ride lots and four transit centers provide more than 2,500 parking spaces throughout the region. The RPTA will continue to work with member jurisdictions to develop new Park-and-Ride facilities in locations where they are needed.

7. <u>Programs to Limit or Restrict Vehicle Use in Downtown Areas or Other Areas of Emission Concentration, Particularly During Periods of Peak Use</u>

   a. Off-Peak Goods Movement

- City of Phoenix indicates that the City Code Article 8-Section 36-87, defines restrictions for deliveries into the downtown area during peak hours (7:00 - 9:00 a.m. and 4:00 - 6:00 p.m.).

   b. Truck Restrictions During Peak Periods

- Town of Gilbert indicates that truck travel is limited to place rather than time. Truck routes are identified by Ordinance of the Town Council.

8. <u>Programs For the Provision of All Forms of High Occupancy, Shared Ride Services</u>

   a. Park-and-Ride Programs

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan calls for the preparation of a more detailed plan identifying locations of Park-and-Ride lots and transit stops. This plan would be prepared with the assistance of the Regional Public Transportation Authority and the Arizona Department of Transportation. Seven Park-and-Ride lots have been tentatively identified in the General Plan. Ongoing implementation. The City will continue

to develop or establish new Park-and-Ride facilities in locations where they are needed. The City's Transit Department is primarily responsible for transit service planning. The Planning Department is responsible for changes to the General Plan and its implementation. There are no costs associated with existing Park-and-Ride lots. Local businesses are allowing Park-and-Ride users on their premises at no cost to the City.

- City of Mesa - Refer to Measure 1c.

- City of Peoria agrees to work with the Regional Public Transportation Authority to locate additional park-and-ride lots and to provide assistance in securing land in conjunction with private entities. The City of Peoria Community Center was designated as a Park-and-Ride location in 1987.

- City of Phoenix - Refer to Measure 6.

- City of Scottsdale - Refer to Measure 1.

- Maricopa County Department of Planning and Development requires 15 percent of the employee parking spaces to be designated for carpools/vanpools. Maricopa County's Trip Reduction Ordinance encourages the use of Park-and-Ride programs and financial incentives to meet the goals of the Trip Reduction Program. 170 out of 434 employers (39 percent) in the Trip Reduction Program offer bus subsidies.

  Regulatory authority for the Maricopa County Department of Planning and Development program is provided by Maricopa County Zoning Ordinance, Section 23109i, added April 3, 1991. This ordinance is in place and each industrial site plan that is reviewed must conform if requiring 100 or more employee parking spaces.

b. Rideshare Programs

- Regional Public Transportation Authority will expand the MAG Regional Ridesharing Program to increase program marketing and number of employer contacts. Efforts will be targeted at about 800 employers with approximately 450,000 employees or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public to reduce home-based work trips through the Clean Air Force Campaign and the Regional Ridesharing Program. Beginning in January 1993, employers with 75 or more employees at a single site are being phased into the trip reduction program. Special matching services will expand to better facilitate the formation of carpools, vanpools and bicycling through our computerized matching service. The schedule for planned activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; up to 12 Transportation Management Association hold periodic meetings; carpool, vanpool and bicycle matching services offered daily; turn-key vanpool program available on an ongoing basis; and an area-wide awareness and promotion campaign is conducted year-round.

c. Financial Incentives, Including Zero Bus Fares

- City of Chandler subsidizes bus fares. Bus system charge cards are issued to employees who wish to commute to/from work via bus. The City subsidizes 100 percent of the fare. All employees who bus, bike, carpool or walk to/from work are also included in monthly lottery drawings and are eligible for $6,000 in annual lottery payout. The trip reduction program employee administers the program. A $12,000 budget is approved for trip reduction subsidies, awards, and administration of the trip reduction program.

- City of Glendale subsidizes bus passes for its employees up to 50 percent of the cost of regular priced tickets. Drawings for prizes are held quarterly for participants in the bus pass, carpool and bike to work programs. The City has not implemented zero bus fares (for the general public) because fare box revenues are needed to off-set the costs of providing transit service. These programs are administered by the City's Transit Department. The Transit Department is funded through fares, the Local Transportation Assistance Fund, RPTA's Community Funded Transit Fund, Federal Transit Administration Fund, and the General Fund. Employees using subsidized bus passes pay for the passes through payroll deduction. Employees in the bike program agree to ride their bicycles to work an average of three days a week. If they do not, they notify the Transit Department and surrender the bike back to the City.

- City of Mesa subsidizes bus passes for its employees up to 50 percent of the cost of regularly priced monthly pass. The City has not implemented zero bus fares because it is not economically feasible and ridership would not be expected to dramatically increase. Additionally, bus fares for elderly (65+) and disabled passengers are already subsidized throughout the regional bus system (these passengers may ride for half the regular fare).

  The City would lose more than $160,000 in revenues which it cannot afford to give up if bus fares were reduced to zero. Furthermore, experience with zero bus fares in other ares of the country (Austin, TX for example) has shown that ridership rises to a peak due to a curiosity factor when zero bus fares are instituted, but then returns to levels only slightly higher than those when fares were being charged. The benefits of substantial new ridership are not sustained over time, as they would need to have an ongoing positive effect on air quality.

- City of Peoria distributed approximately 300 free passes to citizens who ride the City Transit system. A transportation fair was conducted in March, 1992. The City prepared a grant for free interchanges between Sun City, Peoria, and Glendale Dial-A-Rides. Monthly information is distributed through newsletters to all employees.

- City of Phoenix - Refer to Measure 3a.

- City of Scottsdale will continue to offer subsidized bus transportation to qualified employees under the "Bus Card Plus" program. A total of 73 employees are currently enrolled in the program; most of the City's workforce of about 1,500 full and part-time employees are eligible. Ongoing. The Bus Card Plus program--a pass card providing employer subsidized bus transportation to employees--began in July 1992. This program is carried out by the Transit Coordinator. Estimated annual cost of the program is $2,700.

- City of Tempe subsidizes bus fares for its employees up to 50 percent of the cost of a monthly local bus pass. The City has not implemented zero bus fares (for the general public) because it is committed to a regional fare structure to be determined jointly by all cities funding transit service; it is not economically feasible; and ridership would not be expected to dramatically increase because of the limited nature of transit service. However, the planned ASU/Downtown shuttle to begin January 1994 will be a free shuttle service. This service is free because of its short circulation and high frequency which is geared to easy access by riders and because it is augmented by metering and other paid parking programs. No ridership projections for this service have been made to date. Ongoing. The City will periodically evaluate and modify its bus subsidy to employees as part of its annual review of travel reduction program measures.

  The City's budget for the bus subsidy program is not to exceed $4,500 in FY 1993-94. The budget for the free local shuttle service includes a proposed commitment for operations not to exceed $200,000 annually and capital vehicle acquisition of $700,000 during FY 1993-94. These costs are subject to the receipt of federal funds, a completed intergovernmental agreement with ASU, and a successful bid award for the bus operations within the budgeted figures.

- Maricopa County - Refer to Measure 8a.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. Training classes will continue to offer information on commuting incentives and subsidies. As an example, RPTA is committed to an in-house effort to encourage employees not to drive. Some available encouragements to RPTA employees are the following: free bus passes for all employees; company cars available for business; alternate mode user (AMU) subsidy up to $15 per month for employees; monthly AMU drawing for half day-off with pay and other prizes; subsidize cost of bicycle helmet or other safety equipment; and guaranteed ride home for alternate mode users.

  The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; Employers' Transportation Fairs based on employer schedule; up to 10 Clean Air Campaign Workshops in mid-fall; and up to 12 Transportation Management Associations hold periodic meetings. RPTA strategies are ongoing with monthly prize drawings.

9. Programs to Limit Portions of Road Surfaces or Certain Sections of the Metropolitan Area to the Use of Nonmotorized Vehicles or Pedestrian Use, Both as to Time and Place

- Town of Gilbert will implement standard street profiles with bicycle lanes, mark an additional 24 miles with stripes and signs. Implement the Open Space Plan and Canal Design Guidelines. This measure is being implemented by the Departments of Planning and Engineering in the Town of Gilbert. The authority is by A.R.S. 9-240 and 9-461.05. Street profile specifications are currently adopted, Open Space Plan currently adopted and will be referred to in the General Plan, and Canal Design Guidelines to be implemented by January, 1994.

- City of Glendale indicates that although the City's General Plan does not contain policies regarding auto free zones or pedestrian malls, it does contain policies to encourage nonmotorized transportation or circulation.

- City of Mesa indicates that the recently formed Downtown Vision Committee is currently evaluating a wide variety of transportation, land use, and zoning issues in the downtown area. This Committee may recommend development of pedestrian mall areas in the downtown.

- City of Phoenix - Refer to Measures 10a, 10b, 15a, and 15b.

- City of Scottsdale will continue to encourage pedestrian travel as an alternative to automobile use. Among the programs designed to promote more pedestrian travel are:

  1) Establishment of a Task Force to write a comprehensive nonmotorized transportation plan, which will consider short-term and long-term needs for improved pedestrian circulation.

  2) Continued reviews by the Project Review Division staff to evaluate development projects for efficiency of the pedestrian circulation.

  3) Continued Planning and Implementation of the 1991 Arizona Canal Master Development Plan and the Waterfront Redevelopment Plan. These plans are aimed at providing an attractive pedestrian environment and the City is providing seed money for canal redevelopment.

  The Nonmotorized Transportation Plan is scheduled for completion in mid-1994. Review of projects for pedestrian linkages is ongoing. Implementation of the Canal Bank Master Plan will take place over several years. The timeframe for improvements will depend in large part on private development activity along the canal bank. Initial steps begun in 1993 include the undergrounding of utility lines along the canal bank.

- City of Tempe is committed to a pedestrian environment in its downtown area, and restricts its sidewalks there for use by pedestrians, with exclusive use bicycle lanes also available adjacent. The city is currently conducting a downtown transit center

feasibility study. If a downtown transit center is feasible, it will provide an auto-free zone in the block developed as the transit center. Ongoing. The City will continue to implement its General, Transit and Bicycle Plans.

10. Programs For Secure Bicycle Storage Facilities and Other Facilities Including Bicycle Lanes, For the Convenience and Protection of Bicyclists, in Both Public and Private Areas

a. Encouragement of Bicycle Travel

- Town of Carefree will continue to encourage bicycle travel through public announcements in the newspaper and Town newsletter. As improvements are made to bike facilities, the Town will continue to publicize these improvements and encourage their use. Newspaper publicity will be through normal coverage of Town activities. The 1993-94 newsletter budget is $2,000. Town Council announcements will be documented by the minutes of the meetings. Newspaper articles and copies of newsletters will document publicity.

- City of Chandler increased the promotion of all alternative modes of travel including bicycle use and public transportation. On July 1, 1992, the annual trip reduction plan was submitted to Maricopa County which included the following trip reduction strategies:

  - July 1, 1992 - increased promotion of all alternative modes to include bikes on buses, bike to work day/week, free bus day, trolley to work day, alternate mode participant recognition day, distribution/promotion of city bicycle plan, and new employee orientation program.
  - November 1992 - held transportation fair to promote bicycling, air quality improvement, vanpooling, electric vehicles, solar energy, walking, and carpooling/ridesharing.
  - February 1993 - established bicycle acquisition program for employees to receive confiscated/lost bicycles to enter into contractual agreement to commute to/from work by bicycle and ultimately acquire the bicycle. The trip reduction program requires .25 FTE (city employee) to administer the program. Budgeted expense for promotion was $3,000; transportation fair $1,000; and bicycle acquisition program was only in-kind administrative cost.

- City of Glendale Council adopted a Bicycle Plan in July 1990. The Bicycle Plan identifies the type and location of future bicycle facilities. A Transportation Coordinator was hired in December 1990 to implement the Bicycle Plan. The City's Transportation Coordinator is a member of the Maricopa Association of Government's Bicycle Committee and works with other MAG member cities to coordinate bicycle facility, events planning, and promotions.

  The City's Employee Ridesharing Program contains incentives to encourage bicycle use, e.g., the free use of a bicycle for those promising to use the bicycle to commute to work. The City also installed several bicycle racks at various City facilities in order to provide convenient and safe storage for bicycle users. The

City's Traffic Engineering Department is responsible for the implementation of the Bicycle Plan. The City has budgeted $50,000 in FY 1993-94 for continued implementation of the Bicycle Plan.

- City of Mesa indicates that 21 additional miles of bicycle routes will be installed during FY 93-94 to complement the existing 87 miles of bicycle routes and 17 miles of bicycle lanes. In June 1993, the Mayor established the Ad Hoc Bicycle and Pedestrian Amenities Committee. This Committee is directed to: create a Mesa bike route map and bike route narratives for recommended alternative routes; consider and recommend ways to use canal banks for bike and pedestrian use; study and make recommendations on cross-jurisdictional links of bike and pedestrian routes; identify possible sources of funds to implement recommendations; and study recommendations for future road widening projects to include bike lanes. The Committee is to have a report ready by September 30, 1993. The City's Employee Trip Reduction Program contains incentives to encourage bicycle use. The City will install and maintain bicycle racks and lockers at various City facilities in order to provide convenient and safe storage for bicycle users. Planning for purchase and installation of the racks and lockers is underway. Traffic and Streets staff represent the City at the Maricopa Association of Government's Bicycle Committee and work with other MAG member cities to coordinate bicycle facilities, events planning, and promotions. The City has budgeted $10,000 in FY 93-94 for installation of new signs for the new bicycle routes. A grant of $45,000 is expected during FY 93-94 from MAG CMAQ funding for the construction of an eight foot sidewalk for use by bicyclists on Eighth Street adjacent to Riverview Park. The City has received a grant for $9,000 to purchase bike lockers.

- Town of Paradise Valley will promote public awareness in the use of bicycling as an alternative to cars through the use of mailings and personal contracts. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The program will be implemented through the year on a regular basis. Implementation of the publicity program will be carried on through regular staffing under the adopted Town budget for FY 1994. Separate mailings and articles and regular mailings will be utilized.

- City of Peoria agrees on half-mile streets, as they become fully developed, to develop a city-wide network of bicycle routes and bike-ways. The City of Peoria agrees to coordinate with and encourage developers and the Maricopa County Parks and Recreation Department to continue development of their system of bicycle routes extending into and through the City of Peoria on the Arizona Canal, Skunk Creek and New River. Ongoing. Include bicycle routes and bike-ways in the transportation section of the City of Peoria Comprehensive Master Plan to include routes, facilities, traffic signals, route striping and signing.

- City of Phoenix encourages bicycle travel through a number of programs. The City has expanded the bikeway system from 75 miles to 340 miles since 1988 and plans to add 30 additional miles in 1993-94. The City publishes safety, educational, and promotional literature such as flyers, posters, brochures, and bike

maps and conducts bike events to encourage safe use of bicycles and bicycle commuting. The City has installed and maintained bicycle facilities at City buildings, parks, and bus terminals. New development is encouraged to promote bicycling through the inclusion of bike racks, lockers, and showers at work sites. Bicycle travel is promoted through the City's Bikes on Buses Program defined in Measure 1 - Expansion of Public Transportation Systems.

- City of Scottsdale has and will take the following actions through 1995 to encourage bicycle travel and develop bicycle travel facilities:

  1) The City Council has adopted a resolution establishing a Task Force to write a comprehensive nonmotorized transportation plan. This plan will identify needs, short and long-term goals, and a process whereby bicycles will become a formal part of the transportation mix.

  2) Two new miles of bicycle paths will be constructed in the Indian Bend Wash (IBW) low-flow channel.

  3) The City has and will make the following major improvements to the IBW path:
     - In 1993, all 12 miles received edge and centerline stripes, and the Thomas Road and Via de Ventura Road underpass areas were rebuilt.
     - A new path will be constructed and improvements made to the original between McKellips and McDowell Roads.
     - About 130 advisory signs will be added to the IBW path system.

  4) Approximately 20 miles of on-road bike lanes and routes will be added at various locations.

  5) Bike racks will be added to two bus shelters, a downtown parking lot, and to One Civic Center, a City building.

  6) About 7.6 miles of bike lanes will be designed and constructed on north Pima Road between Pinnacle Peak Road and the City boundary.

  7) About 8 miles of a combination of connected bike routes and paths is designed and will be constructed along south Pima Road from Fillmore to Via Linda.

The Council adopted Resolution No. 3779 in 1993, establishing a Nonmotorized Task Force to write a comprehensive plan. Meetings of the Nonmotorized Task Force will begin in June 1993. Completion of the document is expected in mid-1994. The new bicycle path in the IBW low-flow channel is scheduled to be completed by the end of 1995. The IBW path projects at Thomas Road and Via de Ventura, and the path striping projects were completed in June of 1993. The improvements from McKellips to McDowell will be completed in 1994. The path advisory signs will be installed in 1993. The on-road bike lanes and routes in various locations will be completed in 1994. The two bus shelters and downtown parking lot racks were

installed in 1993. The rack at One Civic Center will be in place by fall of 1993. The bike lanes on North Pima Road are scheduled to be completed by 1995. The south Pima Road route and path is set to be completed in 1994, funding permitting.

- City of Tempe adopted its first Bicycle Plan in 1974, with the most recent update in June 1991. The plan made a commitment to provide a bicycle-friendly community. This includes providing bicycle lanes or wide outside curb lanes on all arterial and collector streets where reasonable and practicable. The city's pavement management program is being used to provide bicycle facilities through resurfacing and restriping of existing streets. Other bicycle improvements are provided through private development stipulations and federal grants. All bus routes in the region include bicycle racks.

  The City has a Mayor's Bicycle Advisory Committee which meets monthly to address bicycle issues and recommend improvements to the system. A Transportation Planner was hired in May 1990 to coordinate the Bicycle, Transit and Pedestrian and Air Quality Plans. The City is represented on the Maricopa Association of Government's Bicycle Committee and works with other MAG member cities to coordinate bicycle facilities, events planning, and educational activities. City staff and the Committee have generated a local bicycle map, bicycle guide brochure, bicycle safety bookmarks, and a program of safety advertisements in local newspapers. The City's Travel Reduction Program contains incentives to encourage bicycle use, including bicycle racks, shower facilities, a bike to work day event, and a bike loan program.

  Ongoing efforts. The City will continue to implement and update its Bicycle Plan and participate in the Regional Bicycle Plan. The City's Transportation Division is responsible for the implementation of the Bicycle Plan. The City's CIP budget in FY 1993-94 includes $100,000 for bicycle facilities outside of those provided through the pavement management plan. The City also has federal grants for that period totaling $67,000 for bicycle facilities. The Bicycle Advisory Committee has access to a $25,000 annual budget for studies and educational publications such as the bicycle map.

- Maricopa County - Refer to Measure 10b.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. A "How To Implement a Bicycle Program" Manual will be published and will be marketed to all employers. A bicycle safety education video will be promoted to employers to show to their employees. Bicycle safety education information will be printed on the back of the MAG Regional Bicycle Map and distributed to employees and general public. The Regional Ridesharing Program will promote its computerized matching service to those who wish to bicycle with a companion to work. The schedule for planned activities are as follows: "How To Implement a Bicycle Program" Manual will be printed by November 1993; bicycle safety video will be available by November 1993; bicycle

safety education information/bike map will be available by mid-1994; and bicycle matching program will be promoted through MCTRP trainings, workshops and employer sponsored transportation fairs.

b. Development of Bicycle Travel Facilities

- Town of Carefree will construct bicycle lanes on both sides of 1/3 of a mile of Pima Road from Stagecoach Pass to Cave Creek Road for a total of 2/3 of a mile of bike lanes. Trim shrubbery and trees from the edges of the streets in Carefree to allow full utilization of the street surface for safe bicycle travel. Install four to six bike racks in the business district.

  The construction of the bike lanes on Pima Road will be completed by the Fall of 1993. The initial trimming of the shrubbery and trees from the street edges will be completed by the Fall of 1993. Trimming will be an ongoing maintenance program. The bike racks are scheduled to be installed in the Fall of 1993. The construction of the bike lanes on Pima Road is by contract for an estimated cost of $5,300. The funds are adopted in the Town budget for 1993-94. The trimming of shrubs and trees is estimated at $20,000 annually. The funds are adopted in the Town budget as part of the street maintenance budget. The installation of bike racks in the business district is estimated at $2,000. The funds are adopted in the Town budget as part of the street capital improvement budget.

- City of Chandler will implement an on-street bicycle striping program to include striping 143 miles of bike lanes on arterial and collector streets. The City Council approved the installation of 4-foot bicycle lanes on all new four-lane or wider street construction or reconstruction. Schedule is as follows:

  - July 1992 - begin construction on 96 miles of bike lanes on collector and residential streets.
  - May 1993 - completion of 14 miles of arterial bike lanes.
  - July 1993 - begin construction of 14 miles of arterial bike lanes.
  - January 1, 1994 - begin construction of 19 miles of arterial bike lanes.

  Striping costs for the entire 124 miles of bike lanes are estimated at $550,000.

  The City of Chandler will also improve bicycle facilities to include acquisition of employee showers and lockers, bicycle racks and bicycle storage lockers. The identification of and approval to use shower and locker facilities at seven city locations was completed in June 1993. The City of Chandler is currently working with the RPTA to purchase bicycle storage lockers for city employee use through the use of CMAQ funding. Implementation is anticipated by the end of FY 1994. The trip reduction program requires .25 FTE (city employee) to administer the program. No additional funds were required to allow use of existing showers and/or lockers at existing work sites. A total of $6,000 was requested and approved by MAG to be allocated to the RPTA for procurement of bicycle storage lockers of the City of Chandler.

- Town of Gilbert will install 28 bicycle racks and 15 lockers at public facilities. The Town of Gilbert Planning Department will initiate the process. Authority is by A.R.S. 9-240. Bike racks will be installed by August 1993. Bike lockers will be installed by September 1993. Existing personnel, approved in the FY 1993-94 budget will monitor the program. Initial cost is $1,500.

- City of Glendale will continue to implement its Bicycle Plan. Ongoing implementation. The City's Traffic Engineering Department is responsible for the implementation of the Bicycle Plan. The City has budgeted $50,000 in FY 1993-94 for continued implementation of the Bicycle Plan.

- City of Mesa - Refer to Measure 10a.

- Town of Paradise Valley indicates that ten miles of existing arterial streets will be signed and striped to provide new bike lanes. This measure will be implemented by the Town of Paradise Valley's Engineering and Street Departments. Legal authority for this action is provided under Section 9-240 B. of the Arizona Revised Statues. This measure will be implemented on an as available means during the interim of other street improvement measures. Implementation of this project has been budgeted at $30,000. This will be accomplished by current department personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 10a.

- City of Scottsdale - Refer to Measure 10a.

- City of Tempe - Refer to Measure 10a.

- Maricopa County Transportation Department, through its permit authority pursuant to A.R.S. § 11-251 General Powers of Board of Supervisors and A.R.S. § 18-209, will continue to develop bicycle facilities and encourage bicycle travel. The Maricopa County Department of Planning and Development implements parking standards for industrial property through an ordinance as provided in A.R.S. § 11-821.

January 1990	Hired bicycle coordinator.
April 3, 1991	Adopted addition to Maricopa County Zoning Ordinance requiring conformance for each industrial site plan reviewed which requires 100 or more employee parking spaces.
June 1992	Constructed bike lanes on Alma School Rd. (2 miles).
October 1992	Constructed bike lanes on Riggs Road (3 miles).
July 1992	Constructed bike lanes on Cave Creek Park Road (2 miles).
January 1993	Current capital improvement program request for the next five years includes adding 55 miles of bike lanes to county roads. Signed and striped bike lane on Sun Valley Parkway (30 miles).
July 1993	Adoption of a countywide bicycle plan. Constructed bike lanes on 32nd Street (2 miles).

1 FTE. $550,000 Local Match + $2,200,000 Federal Match. Ongoing program funded through existing County budget.

- Arizona Department of Transportation has a representative on the Arizona Bicycle Task Force. In addition, ADOT is willing to assist jurisdictions which plan to develop bikeway paths adjacent to new MAG freeway/expressway facilities in the near future. For example, ADOT will consider replacing existing facilities which are displaced by controlled access development, providing required features to accommodate connections for future bikeway facilities, and increasing shoulder widths on frontage roads to accommodate planned bikeway facilities.

  The ADOT Transportation Planning Division has fiscal oversight of the Bicycle Safety Fund (A.R.S. § 28-821) which is the operational fund for the Governor's Arizona Bicycle Task Force (GABTF). The Task Force, among other duties, develops and implements bicycle safety education programs. ADOT will provide for bicycle route crossings of state roadways when such crossings are funded and implemented according to an officially adopted local bike plan. ADOT also provides technical input for the GABTF and guidelines for planning and design of bicycle facilities. If any existing bicycle facility is adversely affected by state construction, ADOT will replace or restore the facility. The Transportation Safety Office of the Motor Vehicle Division of ADOT, in conjunction with the GABTF, publishes and distributes bicycle safety materials for public consumption.

- Regional Public Transportation Authority will assist in the development and distribution of a bicycle facilities planning guide in conjunction with the Governor's Arizona Bicycle Task Force to all MAG jurisdictions. Efforts for distribution will also be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Clean Air Force Campaign. Subject to the availability of federal funds, the RPTA will provide the local match for and administer a bike rack distribution program. The schedule for planned activities are as follows: the bike rack program should have all racks in place by October 1994; distribution of the bicycle facilities planning guide will begin June 1995; and promotion to employers to provide bicycle facilities is ongoing. Approximately .3 of one full-time equivalent professional person's time will be assigned to bicycle promotions. The funding allocated from ISTEA for the bike rack program is $21,611.

11. <u>Programs to Control Extended Idling of Vehicles</u>

- Town of Carefree, annually in the Fall of the year, will request drive-up facilities to post signs or provide notice to customers not to idle their vehicles while waiting at drive-up facilities. The annual approximate cost to notify the two drive-up facilities in Carefree is less than $100. The funds are adopted in the Town budget as part of the administrative budget. Periodic reports will be made by the Town Administrator to the Town Council.

- City of Peoria Transit Division has issued a directive not to park and idle the engine while on breaks and lunches.

13. Employer-Sponsored Programs to Permit Flexible Work Schedules

a. Modification of Work Schedules

- City of Chandler implements alternate work schedules that flex the scheduled shift times for employees. The City of Chandler encourages the use of flexible or staggered work hours to promote off-peak driving and accommodate use of transit and carpooling. The goal is to shift 10 percent of the employees out of the peak period travel. The trip reduction program employee administers the program. No additional funding is required for this measure.

- Town of Gilbert implements flexible work schedules for public employees. The authority for the Town to regulate work hours is found in Gilbert Personnel Rules, Section 5.9.1. Implemented in May 1993. The program is monitored by existing personnel approved in the FY 93-94 budget. No cost is associated with the start of the program.

- City of Glendale has already implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 8/10 or 9/80 schedules) and/or to commute to work during off-peak hours. Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs. State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing implementation. The City will periodically review (annually) and modify its policy on flexible and/or modified work schedules based on usage and impact on service delivery.

- City of Mesa already has implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 4/10 or 9/80 schedules) and/or to commute to work during off-peak hours (e.g. working 7 a.m. to 4 p.m., rather than 8 a.m. to 5 p.m.). Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs.

  State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel.

As of the 1992 Maricopa County Travel Reduction Survey, 29 percent of City employees at the major work sites are working modified work schedules other than 8 a.m. to 5 p.m. This survey did not include the majority of firefighters who work at small, scattered work sites and who work alternative work schedules. 85 percent of City employees responded to the survey (1,940 out of 2,283). Of the respondents, 517 were working a modified schedule, eliminating 311 trips per week.

- City of Peoria will study the implementation of a flexible time program and will encourage, through the air quality media program, private employers to institute alternative work hours/days. At present, the City has the Police Department and Sanitation Department on 4-day work weeks. The City has sent out a questionnaire to Department Heads requesting they submit a plan for their employees to reduce their work week days by using the 9/80 or 4/10's or by Telecommuting.

- City of Phoenix offers alternative work schedules to employees as a means to promote off-peak driving and accommodate the use of transit and ridesharing. Because the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs.

  State law requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing. The City will periodically review its policy on flexible and/or modified work schedules based on usage and impact on service delivery and expand or modify as appropriate.

- City of Scottsdale Human Resources will continue to assist General Managers in developing creative alternate schedules, so that at least 85 percent of City employees work an alternate schedule during the months of October to March and still provide the same or better level of service to the public. As of this year, 1,068 of approximately 1,200 full-time employees were on alternate schedules.

- City of Tempe has implemented a program that allows its employees to adopt work schedules that lessen the number of commuting trips (e.g., 4/10 or 9/80 schedules) and/or to commute to work during off-peak hours. Since the City provides a wide range of services, the number and type of employees allowed to participate in this program are determined by each City department, based on their particular needs. The City is currently reviewing the possibility of a City-wide policy to facilitate its travel reduction program.

  State law passed in 1987 (A.R.S. § 9-500.04) requires cities or towns with a population exceeding 50,000 persons (according to the 1985 Special Census) to adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce carbon monoxide concentrations caused by vehicular travel. Ongoing. The City plans to review and modify its policy on flexible and/or modified work schedules during FY 1993-94 based on usage and impact on service delivery.

- Maricopa County - Refer to Measure 4.

- Arizona Department of Transportation will follow rules developed by the Director of the ADOA to establish adjusted work hours for at least 85 percent of employees in the nonattainment area for the period October 1 to April 1. In addition, ADOT will continue to provide options, year-round, to employees of alternative work hours or four-day work weeks where service to the public will not be affected. Currently available to ADOT employees are flexible hours and the four-ten work week. It is estimated that 8 percent of ADOT's 4,500 employees are on four-ten work weeks. ADOT is also conducting its own pilot program evaluating an alternative work schedule not currently available to all ADOT employees. The study involves 100 employees working nine hour days with a day off every other week. The study will be completed in September and then ADOT expects to evaluate the concept and consider expanding the nine day/80 hour plan Department wide.

b. Telecommunications-Telecommuting

- City of Glendale will periodically examine the feasibility of telecommuting based on applicability to the City, air quality benefits, available technology, and cost. Each department in the City will be responsible for periodically examining the feasibility of telecommunications on their operations based on available technology and cost.

- City of Mesa will proceed with establishment of a Telecommuting/Alternative Work Hours Coordinating Committee during FY 93-94. If the Committee's research shows that it is feasible to do so, it will initiate a pilot telecommuting program in one or more City departments by June 30, 1994. Recommendations will be implemented by June 30, 1994. Ongoing.

- City of Phoenix approved a policy in 1992 which allows departments to authorize telecommuting for appropriate staff where feasible. The City continues to evaluate the feasibility of telecommuting based on applicability to specific jobs, available technology, and fiscal impact. Employee discounts for home based computers have been negotiated and the City will continue to explore options for expansion of the use of telecommuting.

  A pilot study is being conducted at a Water Services satellite work center using employees who live within a five mile commuting distance.

- City of Scottsdale will continue to encourage the use of telecommunications and teleconferencing in place of motor vehicle use where appropriate. The City will take the following actions:

  1) Continue work on a telecommuting plan. A draft plan was submitted in June 1993 for review by top management. The draft plan emphasizes that some kinds of telecommuting may be available which would not require a significant up-front capital investment by the City.

2) Increasing from 10 to 12 the number of dial-in lines for officials and employees with computers at home or in other locations outside city offices to access the City's mainframe computer for electronic mail and a variety of other applications, including budgeting and programming.

3) Increasing the number of facsimile machines as demand dictates to facilitate teleconferencing and avoid the need for couriers to deliver documents when time does not permit standard delivery through interoffice mail. The number of facsimile machines in the City is expected to increase from 35 to 38 in FY 1993-94.

4) Continue programs that provide home computer terminals for about 35 city officials and provide portable computers on loan to City employees who may need them for temporary assignments.

The draft report on telecommuting is complete. No specific schedule has been established for further action pending review of the draft report. Two additional lines for dialing in to the mainframe computer are scheduled to be installed by the end of 1993. Additional facsimile machines will be purchased during FY 1993-94. Programs for in-home computers and portables are ongoing.

- City of Tempe Council meetings are televised to area residents on cable television to allow citizens to monitor Council actions and avoid the need to travel to attend meetings. The City staff is evaluating the possibility of a pilot telecommuting program for its employees during FY 1993-94 as part of its travel reduction efforts. Ongoing.

- Maricopa County - Refer to Measure 4.

- Arizona Department of Transportation estimates 100 employees will be participating in the telecommuting pilot program. This six month pilot program is overseen by the Arizona Department of Commerce and will begin in August 1993.

- Regional Public Transportation Authority encourages the use of telecommuting in place of motor vehicle use for applications such as working at home or remote work centers close to home. Networking together with other employers and jurisdictions, RPTA will develop support materials to encourage telecommuting. RPTA efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program (MCTRP) and the general public through the Regional Ridesharing Program. As a part of RPTA's formal training curriculum, a one-hour elective on telecommuting is available at MCTRP trainings. Also available to employers is onsite assistance for individualized program development and assistance. RPTA participates in an in-house formal telecommuting program offered to all qualified employees. In 1994 it is estimated that 10 RPTA employees will participate in the telecommuting program on an average of one time weekly. According to Maricopa County Trip Reduction data, during 1992 approximately 31,800 or 3.8 percent of work trips are not taken weekly by employees telecommuting (affected by TRP with 100+ organizations).

RPTA staff also participates in the Arizona Telecommuting Advisory Council (Chapter member of the non-profit national Telecommuting Advisory Council), which encourages and assists Arizona employers in developing and implementing telecommuting programs.

The schedule for planned activities are as follows: MCTRP employer trainings at least once monthly; on an as needed basis, assist employers with all stages of implementation for telecommuting programs; and participate in monthly meeting with AzTAC for interagency cooperation and networking. RPTA's telecommuting program is ongoing. Approximately .3 of a full-time professional staff person's time will be used for development and implementation of telecommuting programs. Additionally, up to nine professional staff will spend portions of their time on this project. This measure is funded by portions of the total budget for the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

c. Telecommunications-Teleconferencing

- City of Glendale has installed teleconferencing equipment in the new Public Safety and Courts Complex (opened in September 1991). All police substations are furnished with teleconferencing equipment. The Police Department uses teleconferencing for officer briefings and training sessions. The police also conduct special teleconferencing sessions with outside agencies as needed. Glendale City Council meetings and workshop sessions are televised to Glendale area residents on cable television. Ongoing implementation. The City will consider the installation of telecommunication equipment in existing and new facilities on an as needed basis. Each City department will be responsible for identifying telecommunications and teleconferencing opportunities.

- City of Mesa Fire Department uses the cable television system to conduct training and briefing sessions at the various Fire Stations to reduce travel and maintain availability (if a call comes in, the firefighters set the VCR to record what they missed). The Police and Fire Departments also conduct special teleconferencing sessions with outside agencies as needed. Mesa City Council meetings and special public affairs events (such as candidate forums) are televised to residents on the City's cable television channel to allow citizens to monitor Council actions and avoid the need to travel to attend meetings. Ongoing.

- Town of Paradise Valley will encourage the use of telecommunications/ teleconferencing/telecommunting in place of the vehicular traveling to the meeting place or place of employment. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity, and November 1993 - Distribution of promotional materials, both individually and in mass. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix maintains an extensive telecommunications system: the Office Automation Support Information System (OASIS). The OASIS network went on line in 1985, originally linking six computers and supporting 78 terminals. By 1993, the system has been expanded to 500 terminals and personal computers in 30 different locations.

  The system has been upgraded to accommodate additional capacity. In 1992, the "Soft-Switch" project was completed to expand the communication network to include IBM and Hewlett-Packard computer users within the City. All users can exchange word processing documents and data files. This allows City employees to share information, and reduces the number of meetings and related travel.

  The City promotes the use of the system through staff training. During 1991-1992, over 970 hours of training and over 200 computer classes were provided to City employees.

  City Council policy meetings are televised on The Phoenix Channel, Channel 11. The City provides computer access to City Council Agendas, meeting notices, and Council Agenda Packets through a Public Agenda Access bulletin board. Citizens with a personal computer and modem can access this bulletin board 24 hours per day, seven days a week.

  In 1990, the City Clerk Department implemented an optical disk-based imaging system for the filing and retrieval of all official records. Citizens can request copies of records by phone and have them faxed to their homes or businesses.

  The City's communication network includes the ability for three-way teleconferencing, as a function of the City's telephone system, to all system users. Five-way teleconferencing is also available through the City operator. AT&T teleconferencing service is available for up to 58 users.

- City of Scottsdale - Refer to Measure 13b.

- City of Tempe - Refer to Measure 13b.

- Maricopa County - Refer to Measure 4.

- Regional Public Transportation Authority - Refer to Measure 13b.

d. Alternative Work Schedules

- City of Chandler implements compressed work week schedules that allow for less days/week of commuting. The City of Chandler encourages the use of compressed work weeks to promote less commute trips to the work place. The goal is to have 33 percent of employees working compressed work week schedules. The trip reduction program employee administers the program. No additional funding is required for this measure.

- City of Glendale will periodically (annually) review and modify its policy on flexible and/or modified work schedules based on usage and impact on service delivery.

- City of Mesa - Refer to Measure 13a.

- Town of Paradise Valley will encourage the use of alternative work schedules, such as a four day week or 9 day - 80 hour plans. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Drafting of initial publicity, and November 1993 - Distribution of promotional materials, both individually and in mass. Development of publicity for this project will require staff time equivalent to 0.10 full-time employee, at an approximate cost of $2,500. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- City of Phoenix - Refer to Measure 13a.

- City of Scottsdale - Refer to Measure 13a

- City of Tempe - Refer to Measure 13a.

- Maricopa County - Refer to Measure 4.

- Regional Public Transportation Authority facilitates at least one formal training per month with the subject of compressed/alternative work schedules. Invited to these trainings are the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program. On an as needed basis, RPTA does special in-house assistance for individual employers. Special workshops are also made available to the general public through the Regional Ridesharing Program. "How to" manuals with important implementation information for alternative work schedule strategies are available to employers and general public. RPTA staff contacts all employers affected by TRP to offer assistance several times annually. Formal MCTRP trainings will take place no less than an average of three times monthly. On site assistance for individual employers will be provided on an as-needed basis. Portions of nine professional staff and two support staff are allocated for the task of implementing trainings and special assistance for employers affected by the Maricopa County Trip Reduction Ordinance. This measure is funded by portions of the total budget for the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

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

a. Land Use/Development Alternatives

- Town of Gilbert will implement a revised General Plan that will encourage alternative modes of transportation and more efficient development design. The Town of Gilbert Planning Department is responsible for monitoring compliance with the policies of the General Plan. The legal authority is by A.R.S. 9-461.06. The updated General Plan may lead to other measures to be implemented by ordinance. Current design guidelines encourage access to uses by means other than the automobile. The General Plan will be updated by January 1994.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that allow land use patterns which support public and rapid transit. The development policies require fewer but larger shopping centers (12-15 acres in size located at major intersections), in residential areas; identify eight locations in the City for concentrations of commercial and industrial uses and employment; and locate large park-and-ride lots along freeways, expressways, and other major transportation corridors. The implementation of this policy is in large part dependent upon the type of public transportation and/or rapid transit system to be developed in the Phoenix metropolitan area in the future. Ongoing implementation. New developments are regulated by the General Plan. The City's Planning Department and the Development Services Center are responsible for developing and administering development policies. Both departments are funded through the General Fund.

- City of Mesa General Plan contains the following goals, objectives, and policies: Goal A: Promote a balanced transportation system that serves the diverse economic, social, physical, and geographical needs of Mesa's present and future residents. Objectives to meet this Goal: Develop a transportation system that meets the needs of all potential users by providing interrelated multi-modal services and facilities serving major activity centers; encourage the location of higher density, transportation-intensive uses in designated activity centers; fully integrate the various transit modes with the various surface transportation networks to ensure maximum transferability from one transportation mode to the other throughout Mesa.

  The General Plan establishes a variety of long-term use density designations for residential development. These are: Low Density (1-2 du/ac), Medium Density (3-5 du/ac), Medium-High Density (6-10 du/ac), and High Density (10+ du/ac). There are no specified densities for non-residential categories. Mesa does not have significant areas of what would be considered high density development, especially in residential categories. While there are various large apartment or condominium properties in the 15-25 du/ac range, these are fairly widely scattered. Higher density, non-residential areas include the Desert Samaritan Hospital/Mesa Community College area (Dobson and Southern), Fiesta Mall (Southern and Alma School), Superstition Springs Center (Power and Southern), and the Town Center Area (Main and Center).

- City of Phoenix implements general land use planning and development administration to improve the quality of life, promote land use compatibility, reduce infrastructure costs, promote accessibility, and reduce traffic congestion. Promotion of air quality is an integral part of this effort and a natural byproduct.

  The General Plan encourages alternatives to single-occupancy vehicle trips and encourages shorter trips and fewer vehicle trips through land use policies; zoning and subdivision ordinances; zoning stipulations; and design review policies. The City's planning and zoning programs will continue to support:

  - Adoption and implementation of street classification policies requiring safe space for bicycles and pedestrians and encouragement of transit in residential or mixed-use areas.
  - Designation of concentrated activity centers (village cores) with emphasis on pedestrian and alternative forms of travel.
  - Linkage of activity centers by transit and bikeways.
  - Pedestrian access from transit stops into nonresidential uses and pedestrian access from neighborhoods into retail centers.
  - Inclusion of traffic-demand management strategies in projects generating large amounts of traffic.
  - Designation of locations for Park-and-Ride lots and other transit facilities.
  - Development of trail systems Citywide through public and private dedications and financing.

  The Community and Economic Development Department (CEDD) will continue to support projects which encourage pedestrian travel as an alternative to the motor vehicle. CEDD has participated in the implementation of many projects which have enhanced the pedestrian environment.

  In 1992-93, CEDD is participating in implementing new street-scape improvements surrounding Block 21 in Downtown Phoenix. These improvements will include new landscaping, sidewalks, pedestrian lighting, bus pads and shelters, and directional signage. CEDD is in the process of developing plans to improve the pedestrian environment along Adams and Monroe Streets in Downtown Phoenix.

- City of Scottsdale will continue to utilize several innovative planning and zoning techniques to encourage alternative modes of transportation. These include: density bonuses available to downtown developers who provide funds or other contributions for special public improvements such as transit facilities; incentives for "Mixed Use" developments that encourage more pedestrian trips with master-planned areas; trails for Bicycle Plans in the Circulation Element of the City's General Plan, identifying the locations for such facilities - the City normally stipulates that developments dedicate easements and construct trails and bicycle paths and trails when it grants zoning approvals; and the Transit Plan in the General Plan includes existing and planned Park-and-Ride lots and proposed transit centers. Developments are reviewed for consistency with this plan and the Transit Plan Guidelines.

- City of Tempe General Plan and Transit Plan, both adopted by the City Council, incorporate policies to promote land use patterns which support alternate modes. Developers along transit corridors have been encouraged or required to provide transit amenities or easements for transit facilities as part of their developments.

  The City is currently conducting a Street Classification Study with participation by various City departments and the public to identify land use relationships to transportation improvements and to define street cross sections and development standards accordingly.

  The City's Community Development Department and the Public Works Department are responsible for preparing and administering development and transportation policies. The Street Classification Study was funded through the City's Transportation budget at a cost of $35,000. Ongoing. New developments are regulated by the General Plan and Zoning Ordinance. The Street Classification Study is scheduled for completion in the fall of 1993.

- Maricopa County indicates that the County-Wide Goals, Policies and Standards are used to evaluate new master plan and rezoning applications. One section of the document encourages new residential developments of one dwelling unit per acre or greater to be situated near existing urbanized areas. Another section encourages multi-modal transportation.

  Maricopa County is a co-sponsor and implements an areawide public awareness program called the Clean Air Campaign which includes a Voluntary No Drive Days Program during the carbon monoxide season. These programs use various media, public events and newsletters to provide information on air pollution and encourage changes in driving behavior. Maricopa County Division of Air Pollution Control forecasts high pollution days and releases notices over the wire services which also request that the use of vehicles be minimized during the high pollution period. In 1993, 87 percent of the marketing study respondents indicated awareness of the campaign and 27 percent indicated that an alternate mode of transportation was used. Approximately 92,674 employees participated in challenge activities.

  Goals, Policies and Standards were adopted by the Maricopa County Board of Supervisors and are in place and operational, used by the Maricopa County Planning and Zoning Commissions, Board of Supervisors and Planning and Development staff to evaluate zoning and master plan applications (A.R.S. § 11-821). Maricopa County, as provided in A.R.S. § 49-506, implements and is a co-sponsor of the voluntary no drive days program and the Clean Air Campaign.

Ongoing since 1987	Clean Air Campaign and Voluntary No Drive Days Program.
May 17, 1993	Goals, Policies and Standards were adopted.

  Maricopa County receives a grant from the Air Quality Fund for this program. Maricopa County subcontracts $527,000 to the Regional Public Transportation Authority to coordinate these programs and provide employer assistance to employers in the Trip Reduction Program. Approximately 1.0 FTE of existing staff time is involved in contract oversight, program development and the forecasting program.

b. Voluntary No Drive Days Program

- City of Glendale will continue to support the Regional Public Transportation Authority and Maricopa County Voluntary No Drive Days Program. The City will continue to use newsletters and/or public service announcements to inform its employees and residents of air quality issues and air pollution programs. Ongoing implementation. The City's Marketing Department is responsible for citizen and employee newsletters. The Marketing Department is funded through the General Fund.

- Maricopa County - Refer to Measure 14a.

- Town of Paradise Valley will conduct a voluntary no drive days program during the carbon monoxide season through employer based public awareness activities. This measure will be implemented by the Town of Paradise Valley. Statutory authority for this action is not necessary. The schedule for implementing this measure is as follows: October 1993 - Planning of the program, and November 1993 - March 1994 - Operate no drive days program through direct contact with employers in the Town. Development of publicity for this project will require staff time equivalent to 0.25 full-time employee, at an approximate cost of $5,000. This will be accomplished by current personnel under the adopted Town budget for FY 1994.

- Arizona Department of Transportation is one of six sponsors of the Clean Air Force which includes the Voluntary Don't Drive One in Five Campaign. The Regional Public Transportation Authority conducts the Clean Air Force Program. ADOT funds $30,000 per year to the Clean Air Force.

- Regional Public Transportation Authority efforts will be targeted at the almost 800 employers with about 450,000 employees and students or all sites affected by the Maricopa County Trip Reduction Program and employers not affected by TRP and the general public through the Clean Air Force Campaign and the Regional Ridesharing Program. Special workshops will be held to work closely with the new and existing employers of the MCTRP program. A public and media relations program, an area-wide awareness/advertising campaign and up to four media events will be implemented throughout the year to encourage participation in alternate modes of transportation and alternate work schedules. Employer promotional kits will be developed and provided to the almost 800 employers involved in the TRP up to four times per year. Other promotional materials are also developed and provided to the general public and employers.

  The schedule for planned activities are as follows: a public and media relations program will be ongoing; advertising campaign elements will be placed with the media at various times during the year; up to 10 Clean Air Campaign Workshops will be held in mid-fall; up to four media events will be conducted during the year to increase awareness of alternate modes; and up to four employer promotional kits will be provided to the almost 800 employers involved in the TRP. Two full-time professional staff persons and one support staff are allocated for the task of implementing the Voluntary No Drive Days or Clean Air Force Campaign and the area-wide awareness and marketing programs. The level of annual funding for CAFC and the area-wide awareness programs is approximately $270,000.

c. Areawide Public Awareness Programs

- City of Glendale will continue to support the Regional Public Transportation Authority and Maricopa County public education and awareness programs. The City will continue to use newsletters and public service announcements to inform residents of air quality issues and air pollution programs.

- City of Tolleson will strengthen and increase the public awareness level via a Quarterly Newsletter. City of Tolleson General Fund, approximately $4,000.

- Maricopa County - Refer to Measure 14a.

- Arizona Department of Transportation - Refer to Measure 14a.

- Regional Public Transportation Authority - Refer to Measure 14b.

d. Evaluation of the Air Quality Impacts of New Development and Mitigation of Adverse Impacts

- Town of Gilbert will implement a revised General Plan amendment process. The Town of Gilbert Planning Department will monitor applications as they are made. Authority for the program is A.R.S. 9-461.06. The evaluation of General Plan amendments, including air quality impacts, will begin July, 1993. Existing personnel, approved for FY 93-94 will be used and there are no other costs associated with the ordinance.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that address adverse air quality impacts. The development policies require a traffic impact analysis in cases concerning proposed changes to the existing planned land use; require fewer but larger shopping centers (12-15 acres in size located at major intersections), in residential areas; identify eight locations in the City for concentrations of commercial and industrial uses and employment; locate large Park-and-Ride lots along freeways, expressways, other major transportation corridor (the implementation of this policy is in large part dependent upon the type of public transportation and/or rapid transit system to be developed in the Phoenix metropolitan area in the future); develop intersections to obtain Level of Service C or better during peak hour traffic periods; require synchronized traffic signalization; and require an integrated multi-use trail and pedestrian access system in master planned residential developments. Ongoing implementation. New developments are regulated under the General Plan. During FY 1992-93, the City adopted the North Valley Specific Area Plan and the Arrowhead Ranch Specific Area Plan. Both plans provide more specific development policies regarding Park-and-Ride lots and pedestrian access for those development projects.

- City of Mesa General Plan outlines the following goals and objectives related to air quality improvements: To assist in achieving significant reductions in the levels of air pollution throughout the region through working with the Maricopa Association

of Governments to reduce the levels of air pollution attributable to the transportation system. Implement, where feasible, the recommendations of the MAG 1987 Carbon Monoxide and Ozone Plan in an effort to reduce the pollutants in the air.

- City of Peoria has a review statement within the Comprehensive Master Plan which states that it is the City of Peoria's policy to reduce any negative impacts caused by the new development. Areas of high density, industrial, and commercial are reviewed for long-range air quality level. This is part of the general review process. The City of Peoria Planning and Zoning Department implements this policy. In accordance with the Peoria Comprehensive Master Plan, under "Goals":

  Objective A-1: Strive to maintain high standards of air quality in Peoria.

  Policy A-1a: The City of Peoria shall utilize transportation system management (TSM) techniques, such as improved public transit, synchronized traffic lighting, and efficient traffic flow and turning movements to minimize automobile-generated air pollution.

  Policy A-1b: The City of Peoria shall encourage land use developments that minimize vehicle trips and trip lengths.

  Policy A-1c: Encourage paving of dirt and gravel roads.

Peoria Comprehensive Master Plan, adopted June, 1987. Plan is ongoing.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale will continue to require traffic studies for all large developments and any major traffic generator. Mitigation is required through zoning and development stipulations. Street widening or new street construction must be consistent with the Street Plan of the General Plan and with the traffic study.

  The City also will continue to require master planned developments to submit a Circulation Master Plan concurrently with the rezoning or prior to Development Review Board review. Circulation master plans identify the street classifications, sidewalks, trails, driveways, median breaks signal, and the timing of improvements. Street improvements must be phased in a timely manner to eliminate any congestion resulting from the development project.

- City of Tempe General Plan and Transit Plan propose long range planning policies which encourage alternate mode use, high density development along transit corridors, and support measures to address congestion mitigation and adverse air quality impacts from development. Traffic impact analysis of local developments is performed at the discretion of the Traffic Engineer. The City's Parking Ordinance allows for a parking demand analysis and credits for alternate mode availability/travel reduction measures.

15. Programs For New Construction and Major Reconstruction of Paths, Tracks, or Areas Solely For the Use by Pedestrian or Other Nonmotorized Means of Transportation When Economically Feasible and in the Public Interest

a. Encouragement of Pedestrian Travel

- Town of Carefree will continue to encourage pedestrian travel through public announcements in the newspaper and Town newsletter. As the trimming of shrubbery and trees progress, the Town will publicize the progress of the maintenance and encourage pedestrian travel. Newspaper publicity will be through normal coverage of Town activities. The 1993-94 newsletter budget is $2,000. Town Council announcements will be documented by the minutes of the meeting. Newspaper articles and copies of newsletters will document publicity.

- City of Glendale Council adopted a revised General Plan in January 1989. The General Plan contains development policies that encourages pedestrian travel. The development policies require pedestrian walkways between sidewalks, along public streets and developments adjacent to those streets; provide special attention to pedestrian access in downtown Glendale; provide wide sidewalks in the downtown district with shade trees or shade structures, street benches that are designed to accommodate frequent and easy access to store fronts; and require an integrated multi-use trail and pedestrian access system in master planned residential community. Ongoing implementation. New developments are regulated by the General Plan. During FY 1992-93, extensive pedestrian path systems were constructed as part of the Arrowhead Town Center (regional mall); the master plan communities of Hillcrest Ranch and Arrowhead Ranch; and numerous single family subdivision.

- City of Mesa General Plan outlines the following goals and objectives related to pedestrian travel: The City shall provide for the needs of all reasonable modes of travel. The City has an active program to repair existing sidewalks, to implement bicycle lanes, and to install handicap ramps and other pedestrian facilities throughout Mesa. In June 1993, the Mayor established the Ad Hoc Bicycle and Pedestrian Amenities Committee. This Committee is directed to: create a Mesa bike route map and bike route narratives for recommended alternative routes; consider and recommend ways to use canal banks for bike and pedestrian use; study and make recommendations on cross-jurisdictional links of bike and pedestrian routes; identify possible sources of funds to implement recommendations; and study recommendations for future road widening projects to include bike lanes. The Committee is to have a report ready by September 30, 1993.

- City of Peoria agrees to encourage pedestrian travel by incorporating sidewalks and walkways in the Comprehensive Master Plan. Ongoing. Included in Comprehensive Master Plan: 80th Drive, 81st Drive, 82nd Avenue, 82nd Drive, 91st Avenue, Monroe Avenue, 90th Avenue, and Berry Lane for sidewalk construction. Added crosswalks and pedestrian buttons for 75th Avenue and Thunderbird Road. Participated in Clean Air Campaign, Trip Reduction Program and Clean Air Fair.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale - Refer to Measure 9.

- City of Tempe General Plan and Transit Plan contain long range planning and development policies to encourage pedestrian travel. The City's standard details include wide sidewalks, shade trees, shelter canopies and other street furniture such as benches, trash containers, water fountains, and street lights. During FY 1992-93 and 93-94, the City is conducting a street classification study which will identify other pedestrian improvements throughout the city. Ongoing.

- Maricopa County Department of Planning and Development requires the construction of sidewalks in subdivisions where lots contain less than 18,000 square feet. The Maricopa County Department of Planning and Development implements this measure. Legal authority for implementing subdivision regulations is provided in A.R.S. § 11-821. The Regulations were adopted December 10, 1990 and each subdivision reviewed must conform. Ongoing program funded through existing department budget.

- Regional Public Transportation Authority will encourage pedestrian travel. Educational efforts will be targeted at approximately 800 employers with sites affected by the Maricopa County Trip Reduction Program. RPTA will assist in the update of the Regional Pedestrian Plan and co-host more than 450,000 employees and/or students and the general public through the Clean Air Force Campaign. The schedule for planned promotional activities are as follows: MCTRP employer trainings up to four times monthly; information will be distributed through transportation (information) fairs; support of MAG in the development and update of a regional pedestrian plan in 1994; and co-host with MAG, the second Pedestrian Conference in 1994. Portions of nine full-time professional staff persons' time will be allocated for the task of training and special assistance for employers who are encouraging pedestrian travel. This measure is funded by portions of the total budget of the Regional Ridesharing Program, TRP(RPTA) and CAFC programs which is $1,175,500.

b. Pedestrian and Bicycle Overpasses Where Safety Dictates

- City of Glendale has the North Valley Specific Area Plan (adopted in 1989) which designates a pedestrian underpass for Bell Road between 77th and 79th Avenues to encourage pedestrian and bicycle traffic. Ongoing implementation as development occurs. The City's Planning Department and Development Services Center are responsible for developing and administering development policies. Both departments are funded through the General Fund.

- City of Mesa has requested that the Ad Hoc Bicycle and Pedestrian Amenities Committee study the possibility of installing underpasses where canals meet arterial streets to allow for uninterrupted bicycle and pedestrian travel.

- City of Phoenix - Refer to Measure 14a.

- City of Scottsdale has improved two bike/pedestrian underpasses and will construct an additional four underpasses on the Indian Bend Wash (IBW) multi-use path system through the low-flow channel from Camelback Road to McCormick Parkway, if funding permits. The Transit Division is responsible for planning improvements on the City's multi-use path system. The Capital Projects Management Division is responsible for construction.

  The City's authority to provide transportation facilities is generally spelled out in Sec. 1-3 of the City Charter. In addition, citizens in 1989 approved a bond issue which included $2.4 million to improve and add to the IBW multi-use path system.

  Two underpasses have been improved, and the other four will be built prior to 1995, depending on the availability of funding after improvements to other portions of the path system.

  A total of $2.4 million was included in the 1989 bond issue for improvements to the IBW path system. It is estimated that improvements to two existing underpasses and construction of four additional underpasses will cost about $1 million.

18. Use of Alternative Fuels

a. Alternative Fuels For Fleets

- City of Glendale already has a number of fleet vehicles and 6 Dial-a-Ride buses that have been converted to operate on compressed natural gas (CNG). The City owns and operates a CNG fueling station. The City does not own or operate passenger buses, except for vehicles used for the City's Dial-a-Ride services. Passenger bus service is provided by Phoenix Transit through a contract with the City of Glendale. Ongoing implementation.

  The City will periodically evaluate the need for and benefits of more fleet conversions. The City will also examine whether its CNG fueling facility should be available for use by other governmental agencies.

  The City's Equipment Maintenance Division is responsible for decisions regarding fleet vehicles. The City has budgeted (FY 1993-94) $48,000 to upgrade its CNG fueling station and $320,000 to purchase 4 CNG powered Dial-a-Ride buses. Federal and local funds are used to acquire CNG vehicles and improve CNG facilities.

- City of Mesa, during FY 93-94, will be converting 40 vehicles in the City fleet to operate on CNG. In addition, two CNG fueling facilities will be constructed (one for the general City fleet and one for buses). The CNG fueling facility for the general City fleet should be operating by early 1994. The conversion of the 40 vehicles in the City fleet should be completed by the time the fueling facility begins operation. The new CNG-fueled buses should be operating by late 1994/early 1995 and the fueling facility for the buses will be ready in time for delivery of the buses. The City will periodically evaluate the need for and benefits of more fleet conversions. The City will also examine whether its CNG fueling facilities should

be available for use by other governmental agencies or the public. The FY 93-94 budget contains $127,300 for converting 40 vehicles in the City fleet to CNG and approximately $927,000 has been allocated for the construction of the two CNG fueling facilities.

- City of Phoenix continues to investigate the technical and economic feasibility of the use of various alternative fuels and fuel technologies for fleet vehicles.

  Alternative Fuels: In 1993, the Public Works Department operates two electric vehicles, two propane vehicles, and two Compressed Natural Gas (CNG) vehicles. Three additional CNG vehicles and two CNG/diesel solid waste collection trucks have been ordered and are expected to be in service in 1993.

  The City continues to investigate cost effective CNG distribution options. In 1993, the CNG fleet vehicles are fueled through agreements with Arizona State University and Southwest Gas Corporation. These agreements are temporary measures until such time as a public fueling site is opened in the area.

  The Aviation Department is actively pursuing contract agreements for the conversion of fleet vehicles to CNG. Based on the results of that effort, the Department will work with fuel suppliers to promote the use of CNG by other fleets associated with Sky Harbor Airport.

  Particulate Traps: The Public Works Department is conducting a study on the use of particulate traps on heavy duty engines. The Department will retrofit five fleet diesel vehicles with particulate traps in 1993.

  Clean Burning Diesel: The Public Works Department converted to Jet A fuel for Public Works diesel vehicles in 1992. Jet A will be replaced in 1993 with new diesel fuel which meets new federal standards for diesel.

  Alternative fuels program funding is allocated through the annual budget process. Public Works Department program includes:

1991/92	Electric Van	$32,000
	CNG Conversions - Refuse Trucks	112,000
1992/92	Propane Conversion	2,500
	CNG Pick-Up Trucks (on-order)	15,000
1992/93	Particulate Trap Grant - ADEQ	130,000
	City matching funds	140,00
1992/93	Jet A fuel - added cost/year	47,000

- City of Scottsdale will continue to use compressed natural gas as an alternative fuel for 100 to 120 vehicles, approximately 20 to 25 percent of the licensed City fleet. The City is now in the process of replacing its first generation of CNG conversion

vehicles with new vehicles, and CNG conversion kits must be installed. The City expects to install about 10 CNG conversion kits on new vehicles annually, to keep the proportion of CNG-powered vehicles at the same level.

In addition, the City is now testing an electric-powered van. The van is used for mail and warehouse deliveries on a daily basis.

The City has installed two CNG refueling stations. No further major expenditures on refueling stations are expected in the coming year.

No staff is specifically assigned to this program. The Fleet Maintenance Division handles installation of the CNG kits and maintenance of CNG vehicles as part of its routine maintenance schedule. Annually -- Installation of approximately 10 CNG conversion kits to replace phased-out CNG vehicles.

The cost of conversion kits will be covered as part of the Division's annual operating budget. Kits are approximately $2,200 each and the division expects to spend about $22,000 for 10 of them during the 1993-94 fiscal year. Costs to the City to lease the electric van for the test program are $834 per month.

- Arizona Department of Transportation as mandated by A.R.S. § 49-455, conducted a study of 90 motor vehicles in the ADOT fleet operating in the nonattainment area. This pilot program was to determine how they performed with respect to driveability using clean burning fuels. Three maintenance fueling facilities were converted to dispense ethanol blends, methanol blends and MTBE blends. In addition, other selected vehicles were converted to compressed natural gas and propane. Contracts were made with appropriate vendors for a supply of fuel.

  Beginning in 1987, each vehicle was first tested for three months with unleaded fuel to establish a baseline and then for 3 more months with one of the alternative fuels. Based on this test several findings were determined as follows: no reported cases of vehicle failure, plugged fuel filters, nor fuel hose deterioration occurred; there were no reported increased maintenance costs; there was no indicating in the mileage comparisons that any particular fuel had a significant advantage over the entire range of vehicles; there was no significant difference found in tailpipe emissions for the various fuels, except for Compressed Natural Gas (CNG). However, there were many variables such as vehicle type, use, conditions, and operator characteristics that were not controlled.

c. Conversion of Buses to Alternative Fuels

- City of Glendale will periodically examine the performance, cost and air quality benefits of converting buses to low or non-polluting engine designs and other options as they become available. The City's Transit Department is responsible for decisions regarding the Dial-a-Ride bus fleet. The City has budgeted (FY 1993-94) $48,000 to upgrade its CNG fueling station and $320,000 to purchase 4 CNG powered Dial-a-Ride buses. Federal and local funds are used to acquire CNG vehicles and improve CNG facilities.

- City of Mesa is buying 13 CNG-fueled buses which will be in service in FY 94-95. These new buses will replace 13 older buses which are gasoline-powered. The current bus fleet is not owned by the City, and thus no engine conversions of the existing bus fleet will be made.

- City of Phoenix continues to evaluate the technical and economic feasibility of alternative fuels and clean diesel technologies for buses.. In 1993, the Transit Alternative Fuels Program includes the following:

  Electric Bus: The City Council has approved the purchase of one 21-passenger electric bus. The bus is being designed as an all electric bus which includes an all electric air conditioning and heating system.

  Regular 40' Buses: The City has submitted an invitation for bid for up to 43 low floor transit buses. The buses will be powered with diesel engines with particulate traps and will be in compliance with the 1994 EPA emissions requirements.

  CNG Buses: The City bid for 43 new low floor transit buses includes an option for two buses to be powered with dedicated compressed natural gas engines.

  Rebuilt Diesel Engines: Public Transit Department has awarded a contact for the retrofit of 75 regular 40-foot buses with clean burning diesel engines and particulate traps. The rebuilt engines will meet 1994 EPA Urban Bus Heavy-Duty Engine Emission Standards.

  Clean Burning Diesel Fuel: The Public Transit Department has been using Jet A diesel fuel in buses since 1989 because of its cleaner burning characteristic. Jet A will be replaced with fuel which meets 1993 federal diesel standards.

  Opacity Standards: The City also has implemented a stringent maintenance program to ensure emissions below state standards. The average opacity of all buses is less than 10 percent, instead of the state required 20 percent.

  Particulate Traps: Particulate Traps will be included on 43 new buses and 75 engine rebuilds as defined in Measure 1(b) - Short Range Transit Improvements. The Public Transit Department is testing thirteen particulate traps on older type 4-cycle diesel engines and on engines utilizing the newest electronically controlled engine technology.

  The particulate traps have completely eliminated visible smoke for both types of engines. Emission results for the two types of engines are listed below. All engines were operated on Jet A fuel.

Engine	CO	NO_x	HC	PM	PM Reduced
MAN (1)	11.79	43.88	3.17	1.83	
MAN-PT*	12.92	34.05	2.12	0.15	89.98%
DET (2)	17.97	44.61	2.52	2.26	
DET-PT*	17.73	38.86	2.84	0.28	87.62%

(1) MAN model 1985 D2566 MLUM diesel
(2) Detroit Diesel model 6V-92TA diesel.
* Particulate Trap

Electric Bus: The total cost per electric bus is $190,000. Local match provided by Arizona Public Service.

New Buses: The estimated cost for the 43 new buses is $9.9 million with a local match commitment of $2.0 million. It is estimated that the two CNG powered buses will cost an additional $120,000 if CNG is available for the low floor.

Rebuilt Diesel Engines: $5,380,000 total cost for 75 rebuilt engines and particulate traps. Includes a local match of $307,000 to be provided by RPTA.

Clean Diesel Fuel: Jet A will be replaced with diesel fuel which meets new federal standards in 1993.

Opacity Standards: The Public Transit Department program to keep the opacity below the 10 percent level costs approximately $40,000 annually in operating funds.

Particulate Traps: Transit program cost to install and test the thirteen particulate traps is funded with $126,000 from ADEQ and $137,000 City of Phoenix operating funds.

- City of Scottsdale will continue to require its fixed route service provider to burn only CNG while the buses are on City routes. Three buses, on two City routes, now are dual-fueled: CNG and unleaded gasoline. The City will be adding two more buses to expanded/new routes in September 1993. These two additional buses will also be dual-fueled. The addition of two more dual-fueled buses is scheduled for September 1993.

- City of Tempe has required alternative fuel vehicles in several of its operating contracts, including:
  1) buses used to operate bus Route 56 provided by the RPTA
  2) Dial-a-Ride vehicles used to operate the Tempe/Scottsdale Dial-a-Ride
  3) new vehicles under order by the City of Tempe for the planned ASU/Downtown shuttle service.

  These requirements total 6 buses and 16 Dial-a-Ride vehicles which operate using dual-fuel compressed natural gas. Four of these vehicles will be owned by the City of Tempe; all other vehicles are private contractor or RPTA-owned.

  The City is currently working with the RPTA and Salt River Project to explore the use and availability of an electric bus for use on the ASU/Downtown shuttle in the event of any route expansion.

  The City will periodically examine the performance, cost and air quality benefits of electric powered buses. The City has budgeted $700,000 (including 80 percent federal dollars) to purchase the CNG buses for the downtown shuttle.

- Regional Public Transportation Authority's contractor is operating three 1993 Collins CNG (compressed natural gas) 22-passenger buses to provide service in Mesa and Tempe. The City of Scottsdale's contractor is operating three 1992 Collins buses to provide service in Scottsdale. The City of Phoenix has two methanol-fueled buses in service since July 1990. The two buses have accumulated approximately 350,000 miles during that time. Emissions tests reveal that the methanol powered bus engine has the lowest overall emissions when compared to CNG and diesel powered bus engines.

  Future commitments include the RPTA order for nine CNG powered Wide One vans, two Elf CNG minibuses and six low floor minivans. These vehicles should be delivered in September 1993. The City of Tempe is expecting delivery of four Orion II CNG buses in November 1993.

  The Phoenix City Council has approved the purchase of a twenty passenger electric bus. Phoenix has also issued an invitation for bid on behalf of the RPTA, for up to forty-nine low floor transit buses. The buses would be powered with diesel engines with particulate traps which will be in compliance with the 1994 EPA emissions requirements. The bid includes an option for two buses to be powered with a dedicated CNG engine.

  A retrofit program is underway to replace the engines of 75 middle aged buses with clean burning diesel engines and particulate traps that will meet 1994 EPA Urban Bus Heavy-Duty Engine Standards. Sixty-seven of these buses belong to the City of Phoenix and eight are owned by the RPTA. The estimated cost of the electric bus is $190,000 with a local match provided by Arizona Public Service. The 49 regular buses are anticipated to cost $11,270,000 with a local match commitment of $2,250,000. The retrofit of 75 middle aged buses should cost about $5,380,000 with a local match commitment of $307,000.

19. Use of Emission Control Devices on Diesel Powered Vehicles

- City of Peoria Public Works Director will monitor technological changes in the use emission control devices to determine availability of these devices.

- City of Tolleson commits to install particulate traps, or other emission control technologies at the time of major over-hauls providing that the emission control devices are conducive to the model and make of the engine. City of Tolleson Public Works Department. City of Tolleson General Fund.

20. Other Air Quality Control Measures

j. Enforcement of Traffic, Parking, and Air Pollution Regulations

- City of El Mirage will continue to enforce new and existing traffic, parking and air pollution regulations more strictly. This measure is presently in effect and its implementation will be continued by El Mirage Police Department through a policy issued by the City of El Mirage City Council. Legal authority for this action is

provided under Section 9-240 of the Arizona Revised Statutes. The schedule for implementing this enforcement is as follows: August 1, 1993 - Adoption of policy; September 1, 1993 - Police Department given City Council policy on enforcement. Administration of this measure will require staff time equivalent .10 full-time employee, at an approximate cost of $3,600. This will be accomplished by current personnel under the adopted city budget for FY 1994. This measure will be enforced daily by the El Mirage Police Department as part of their daily routine schedule.

- Town of Gilbert indicates that current standards for traffic movement, parking, etc. are strictly enforced by the Engineering and Planning Departments.

- City of Glendale Police Department will continue to enforce traffic and parking regulations. The Police Department is responsible for enforcing traffic and parking violations. The Police Department is funded by the General Fund.

- City of Mesa will continue its parking management/enforcement contract for the Town Center area and will continue to enforce all traffic and parking ordinances. Ongoing.

- Town of Paradise Valley will enforce new and existing traffic and parking regulations more strictly. This measure will be implemented by the Town of Paradise Valley Police Department. Statutory authority for this action is found in Title 28, Chapter 6, and Chapter 11 of the Town Code. The schedule for this measure is immediate and continuing implementation by the Police Department. This action will involve 22 police patrol offices currently employed. This will be accomplished by the adopted Town budget for FY 1994.

- City of Peoria Police Department will review and, if appropriate, revise policies dealing with traffic and parking and will strictly enforce the regulations.

- City of Phoenix will continue to enforce new and existing traffic, parking and air pollution regulations.

- City of Scottsdale will continue to enforce traffic, parking and air pollution regulations as a regular component of the City's overall traffic enforcement program. In Fiscal Year 1993-94, the City will expand by four the number of officers assigned to patrol duty for Fiscal Year 1993-94 in order to improve enforcement of traffic regulations.

- City of Tolleson commits to enforce the traffic, parking, and air pollution regulations via ordinances and policy as established by the City Council.

t. Fireplace Restrictions

- Maricopa County developed a voluntary curtailment program for fireplace burning in December 1992. Maricopa County Division of Air Pollution Control staff forecast high pollution days and issue a news release to the wire service advising residents

- City of Peoria installed Stage II vapor recovery on City of Peoria Fuel Island.

t. Fireplace Restrictions

- Maricopa County developed a voluntary curtailment program for fireplace burning in December 1992. Maricopa County Division of Air Pollution Control staff forecast high pollution days and issue a news release to the wire service advising residents not to use fireplaces and to reduce vehicular travel. In 1993, additional public information materials and public service announcements are being prepared.

December 1992	High pollution advisory which advised not to burn in fireplaces.
June 1993 to November 1993	Prepare additional public awareness information and public service announcements.
November 1993 to February 1994	High carbon monoxide pollution season advisory program.

An estimated annual commitment of 0.2 FTE from existing staff for the ongoing forecasting program. Maricopa County will spend up to $10,000 from the FY 93-94 budget on the fireplace informational materials.

TRACKING PLAN IMPLEMENTATION

The Maricopa County Bureau of Air Pollution Control determines reasonable further progress and reviews the implementation status of the various measures contained in the air quality plans on an annual basis. In order to accurately monitor or track plan implementation, the Maricopa County Bureau of Air Pollution Control will be requesting that the implementing agencies and jurisdictions complete the annual progress report contained in Table 8-1. The Bureau of Air Pollution Control will then review and summarize this information, prepare an implementation status report, and then present the report to the MAG Air Quality Policy Committee. The Maricopa County Bureau of Air Pollution Control will also continue to have the responsibility for conducting ambient air quality monitoring.

Supplemental to the tracking efforts of the Maricopa County Bureau of Air Pollution Control, the Maricopa Association of Governments publishes regional traffic flow maps every two years and calculates regional vehicle miles of travel from these flow maps. MAG also conducts a vehicle occupancy study each year, publishes a monthly traffic count stations report each year, and performs special traffic volume and speed studies as needed. Phoenix Public Transit continuously monitors transit ridership and summarizes daily ridership for each month. The Regional Public Transportation Authority will also be collecting transit and carpooling ridership information. The Arizona Department of Environmental Quality continuously monitors the number of vehicles inspected in the Vehicle Inspection Maintenance Program, the number of vehicles failing the test, and the improvement in tail pipe emissions after failed vehicles are repaired.

As indicated in the Contingency Plan, the MAG Air Quality Policy Committee will review progress made to improve air quality on an annual basis. If necessary, the Committee will consider strengthening existing measures and adding other measures.

TABLE 8-1

MAG 1993 CARBON MONOXIDE [OZONE] PLAN
ANNUAL PROGRESS REPORT FOR CALENDAR YEAR 1993

Control Measure _____

City/Agency _____

Contact Person _____ Title: _____ Phone No. _____

1) Describe **legal** commitment (include: adoption by city council/governing body, date of adoption, form of adoption, i.e. ordinance, resolution, budgetary commitment, etc).

2) Describe **funding** commitment (include total dollar amount allocated for this strategy, total dollar amount spent during this calendar year; identify funding source).

3) Describe the **progress** achieved on this control measure:

   A. Prior to 1993 (see attachment "A")

   B. During calendar year 1993 (see attachment "A").

SAMPLE

INSTRUCTIONS FOR DESCRIBING "PROGRESS" IN QUESTION #3

Information from the annual progress report will be summarized to measure the progress achieved on each control measure. To accomplish this, it is important the response in question #3 include uniform reporting units (e.g. miles or reversible lanes, number of spaces in park and ride lots). The specific reporting units for each strategy are listed below.

Part A of question #3 asks for a description of the progress achieved before January 1, 1993. For instance, the existing number of bus pullouts in curbs for passenger loading, or the existing miles of bike paths in place before 1991. Part B emphasizes progress achieved in calendar year 1993. The response in both A & B shall be quantified using the reporting units for that strategy.

LIST OF REPORTING UNITS FOR DESCRIBING PROGRESS ON MAG STRATEGIES

Control Measure	Reporting Unit
Computerization and synchronization of traffic signals	Number of intersections
Reversible lanes on arterials	Number of miles
Park and ride lots Number of lots and	Number of parking spaces
Preferential parking for carpools and vanpools	Number of parking spaces

etc.....

ASSURANCES THAT THE STATE HAS THE AUTHORITY TO IMPLEMENT THE MEASURES IN THE PLAN

In order to comply with Section 110(a)(2)(E) of the Clean Air Act, a State law was passed in 1992 which provides an approach for assurances that State and local committed measures will be adequately implemented (A.R.S. § 49-406 I. and J.). If any person (includes State, County, local governments, regional agencies, and other entities) fails to implement a committed measure, the County would file an action in Superior Court to have the court order that the measure be implemented. Likewise, the Director of the Arizona Department of Environmental Quality will backstop the County if it fails to implement a committed measure or if the County fails to backstop the local governments and regional agencies (see Appendix C, Exhibit 10).

Regarding committed measures, A.R.S. § 49-406 G. (passed by the Legislature in 1992) requires that each agency that commits to implement any control measure contained in the State Implementation Plan must describe the commitment in a resolution. The resolution must be adopted by the appropriate governing body of the agency. State law also requires the entity to specify the following information in the resolution: (1) its authority for implementing the limitation or measure as provided in statute, ordinance or rule; (2) A program for the enforcement of the limitation or measure; and (3) the level of personnel and funding allocated to the implementation of the measure.

As noted in the MAG regional air quality plans, the action taken by the MAG Regional Council to approve the Suggested Measures and Adopted Plan Measures does not commit each jurisdiction to implement those measures. As indicated in the resolutions and commitments, each jurisdiction determines which measures are reasonably available for implementation by that jurisdiction.

APPENDIX J, Exhibit 2:

MAG 1993 Ozone Plan for the Maricopa County Area, Chapter Nine: Demonstration of Rate of Progress Plan.

CHAPTER NINE

DEMONSTRATION OF RATE OF PROGRESS PLAN

The Clean Air Act requires all ozone nonattainment areas classified as moderate and above to submit a State Implementation Plan revision by November 15, 1993 which describes how the area will achieve an actual volatile organic compound (VOCs) emissions reduction of at least 15 percent. In addition, the Plan revision must describe how any growth in emissions from 1990 through 1996 will be fully offset. As indicated in Chapter Three, an estimated 22 percent reduction in 1996 VOC emissions will be required to achieve this goal. Chapter Three also discusses a preliminary target emission reduction in VOCs for attainment of the national abient air quality standard for ozone in 1996. According to the EPA General Preamble, the ozone modeling attainment demonstration is not due until November 15, 1994 if the Urban Airshed Model is used. In addition, the modeling indicates that reduction in oxides of nitrogen alone or coupled with VOC reductions, tend to increase ozone concentrations. These figures represent the base case conditions, assuming no new measures are implemented to improve air quality.

While the target emission reduction estimates do not include new measures, they are reflective of existing measures to improve air quality. Specifically, the following measures were included at their current program or legislated levels:

- Federal Motor Vehicle Control Program.
- Federal Fuel Volatility Requirements.
- Arizona Vehicle Inspection Maintenance Program.
- Countywide Travel Reduction Ordinance.
- Stage I and Stage II Vapor Recovery Systems.
- Highway transportation network improvements identified in the draft FY 1994-98 MAG Transportation Improvement Program plus facilities proposed to be built by 2005 given current projections of existing sources of revenue.

In addition, there are other ongoing programs that help reduce hydrocarbon emissions such as ridesharing, alternative work hours and short range transit improvements. Such ongoing programs are discussed in Chapter Sevens and Eight and their effect is reflected in base year data. This means that emission reduction credit can be taken only for activities over and above ongoing measures.

ESTIMATED IMPACTS OF CONTROL MEASURE COMMITMENTS

A broad range of commitments to implement air quality control measures were received. These commitments are contained in Chapter Eleven and discussed in detail in Chapters Seven and Eight. Appendix C, Exhibits 3 and 4, describe in further detail implementation of control measures. It is important to note that a major part of the effort by local governments in the MAG area is related to maintaining ongoing programs. Such programs fall primarily in the group of measures know as transportation control measures (TCMs). TCMs include strategies such as traffic operations and signalization, public transit, ridesharing, parking management and trip reduction ordinances.

Ongoing Transportation Control Measures

The Trip Reduction Ordinance and various other TCMs have been previously submitted as part of the State Implementation Plan for Arizona. In the 1993 Ozone Plan, the impacts of previously adopted TCMs are reflected in the modeling of base case conditions, rather than being separately modeled for emission reduction credit. Maintaining this level of reduction on an ongoing basis requires a continuing commitment of resources which is discussed in Chapter Seven.

According to a nationwide survey of metropolitan planning organizations in ozone and carbon monoxide nonattainment areas conducted by the U.S. General Accounting Office (GAO), transportation planners generally expect TCMs to reduce emission by less than 3 percent (See Appendix C, Exhibit 2). Eighty-three percent of the ozone nonattainment metropolitan planning organizations expressing an opinion said that TCMs could reduce emission by 0 to 3 percent. Eighty percent of carbon monoxide nonattainment metropolitan planning organizations expressing an opinion expected reductions in emissions of 0 to 3 percent. The GAO study also indicates that a 1992 Federal Highway Administration report concluded that TCMs in most cases would not yield more that a 2 percent reduction.

Emissions Impacts of Commitments

Commitments are creditable to the target reduction in emissions only to the extent that activities are above ongoing program levels. On this basis, commitments were reviewed to identify increases in program activity that would warrant quantifiable credit for emission reductions. The results of this review are described below. It should be recognized that MAG member jurisdictions and other implementing agencies submitted a broad range of commitments beyond those taken directly into account in the determination of attainment status. These commitments address a variety of strategies and will result in lower emissions. However, in many cases the impacts of these measures are not readily quantifiable, and no credit was taken for the associated emissions reductions. Nevertheless, they clearly represent additional efforts by MAG members to reduce emissions and improve air quality.

1(b). Expansion of Public Transportation Systems

A review of the commitments indicated that the following service additions were over and above ongoing service levels and would warrant consideration for emissions reduction credit.

- The City of Tempe anticipates an additional 37,000 bus miles of service in FY 1993-94 with an AMU/Downtown Tempe circulator route.

- City of Chandler implemented 105,862 annual miles of new bus service connecting with the regional, transit system by October 1, 1992.

- City of Mesa will increase annual bus miles of service form 452,000 to nearly 1.1 million bus-miles in FY 1994-95.

- The City of Phoenix implemented a significant route restructuring on March 1, 1993.

- City of Scottsdale will increase annual bus-miles of service from approximately 470,000 to 670,000 in FY 1993-94.

These increases in service represent approximately a seven percent addition to base service levels. The scenario modeled for 1996 assumed about a 30 percent increase and resulted in a .07 percent decrease in hydrocarbon emissions. On this basis commitments for this measure would yield approximately a .02 percent hydrocarbon reduction in 1996.

2(c). High Occupancy Vehicle Ramps Which By-Pass Freeway Ramp Meter Signals

The Arizona Department of Transportation has indicated that current construction projects will incorporate nine additional high occupancy vehicle ramps. This same scenario was modeled for 1996 and resulted in a .01 percent reduction in hydrocarbon.

5(c). Coordinate Traffic Signal Systems

Under this measure the following additional signal coordination efforts were identified:

- The City of Chandler will implement a traffic signal intertie system on Ray Road from Dobson Road to 56th Street and on Alma School Road from Pecos Road to Chandler Heights Road. (Assumed to primarily affect major cross-streets, including 11 signals)

- The City of Scottsdale will incorporate 15 additional traffic signals into a system coordinated by a central computer in 1994.

- The City of Tolleson will synchronize the five traffic signal systems currently within jurisdiction.

A scenario modeled for this measure calling for signal coordination at 55 locations resulted in a .02 percent reduction in hydrocarbon emissions. On this basis the commitments for this measure would result in an estimated .01 percent reduction in hydrocarbons.

5(g). Freeway Incident Detection and Response Management with Motorist Information Systems

In the existing Interstate 17/Interstate 10 corridor, the Arizona Department of Transportation has programmed funds over the next five years for the installation of an extensive freeway management system (FMS) which includes a control center, detector loops, call boxes, TV cameras, variable message signs, intersection controllers, and ramp meters. By 1994, 29 miles of the FMS will be complete.

An analysis of the effect of freeway incident detection and response management on 75 miles of system estimated there would be a .04 percent reduction in hydrocarbon emissions in 1996 (Source: Feasibility and Cost Effectiveness Study of New Air Pollution Control Measures Pertaining to Mobile Sources, Sierra Research, Inc, June 1993). On this basis the commitment for this measure would result in an estimated .02 percent reduction in hydrocarbons.

COMBINED IMPACT OF COMMITTED MEASURES

The combined impact of air quality control measures is ultimately assessed through application of the full modeling chain to the package of committed measures. This process provides a projection of pollutant concentration levels in the target year to determine if the committed package is sufficient to achieve the required air quality standard.

Since the additional commitments reviewed above have been estimated to produce a small effect, a full scale modeling of a package of committed measures was not conducted. By simply adding the estimated emission reductions, a reasonable expectation of the combined impact of the measures can be developed. Using this procedure a total reduction in hydrocarbon emissions of approximately 0.1 percent is anticipated to be achieved in 1996 from the implementation of the quantifiable commitments.

ATTAINMENT STATUS

The National Ambient Air Quality Standard for ozone is based upon a three-year average of exceedance days at each monitoring station. At each monitoring station, the standard allows a maximum average of one exceedance per year over any three-year period. In effect, if four exceedances occur at any one station in any three-year period, the region is considered in violation of the standard for ozone. Data from the regional monitoring network indicate that the annual number of ozone exceedance days is relatively low but has not decreased significantly since monitoring began in the late 1960s and early 1970s. Exceedances at most of the older monitoring stations have decreased with time, but a large number of exceedances have been recorded in recent years at the Maricopa County Civil Defense and Vehicle Emissions Lab sites which began operating in 1990. For this reason, the MAG region is currently in violation of the standard for ozone.

Air Quality Trends

As discussed in Chapter Three, any day on which an exceedance is recorded at one or more monitoring stations is considered an exceedance day. Multiple exceedances recorded at more than one station on the same day count as a single exceedance day. Annual exceedance day totals recorded over successive years can then be used to gauge regional air quality trends and to monitor progress toward attainment of the standard.

The data for the region show seven exceedance days in 1992. This represents over a threefold increase in exceedance days versus 1988, in which only two exceedance days were recorded. During the years 1975 through 1985, the annual number of ozone exceedance days regionwide ranged form 1 (in 1975 and 1976) to 10 (in 1980). These data indicate that annual number of ozone exceedance days has not improved significantly over the long term.

The concentration data collected at individual monitors also provide an indication of air quality trends. The largest body of historical ozone data exists for the Central Phoenix monitoring station, and this site has recorded the largest number of exceedances since the early 1970s. During the period 1975-85, the annual maximum ozone concentrations at this station ranged from 0.138 ppm to 0.160 ppm. The last violation of the standard for ozone prior to 1990 occurred at

the Central Phoenix monitor in 1987 (the Glendale monitoring site also met the violation criteria during the same year). In 1988, the maximum recorded one-hour average concentration at the Central Phoenix site was 0.125 ppm. The Central Phoenix monitor did not report another ozone exceedance until 1992, when a reading of 0.128 ppm was recorded on August 10. The Central Phoenix site has averaged less than one exceedance day per year since 1988 (i.e., has not violated the standard for ozone), but two other monitoring sites have violated the standard during this period.

Ozone exceedances have been observed at many different monitoring sites over time, and this is likely due to the fact that ozone is formed by a photochemical reaction in the atmosphere. This allows high concentrations of ozone to form far away from the original sources of its chemical precursors and makes ozone formation quite sensitive to prevailing meteorological conditions. For this reason, the most effective methods of reducing the number of ozone exceedances are likely to be those which reduce precursors regionwide.

Rate of Progress Plan

As indicated previously, Section 182(b)(1) of the Clean Air Act requires all ozone nonattainment areas classified as moderate and above to submit a State Implementation Plan (SIP) revision by November 15, 1993 which describes how the area will achieve an actual volatile organic compound emissions reduction of at least 15 percent by November 1996. Chapter Three describes the approach to evaluating the 15 percent Rate-of-Progress Plan. This methodology utilizes the Urban Airshed Model (UAM) Emissions Preprocessor System (EPS). MAG has used the UAM EPS in all items that have been completed for the ozone plan to date and is using the same process for the 15 percent Rate-of-Progress Plan demonstration. Using the UAM EPS approach it was determined that a 22 percent reduction in VOCs, or a target level of 294 metric tons per day, would be needed in 1996 to meet the required reduction in VOCs from 1990 base year emissions. The UAM EPS approach would also be used to evaluate the effectiveness of control measures in demonstrating the 15 percent Rate-of-Progress Plan. It should be noted that implementation of Stage I and Stage II vapor recovery systems have been taken into account in determining the 22 percent reduction target.

The combined impact of the commitments to implement control measures was previously estimated to represent approximately a 0.1 percent reduction in hydrocarbon emissions in 1996. In view of the estimated emission reduction requirements discussed above, and the small reductions anticipated from the commitments, extensive modeling with UAM was not performed. It is anticipated that the commitments will not be sufficient to demonstrate 15 percent rate-of-progress goals.

As indicated in Chapter 7, the State of Arizona has been suggested as the implementing entity for a number of control measures on the MAG suggested List of Measures. The Arizona Legislature ended its most recent regular session in April 1993, and will reconvene in January 1994. In order to obtain any new air quality legislation prior to January 1994, a special session would need to be called by the Governor. A Joint Legislative Oversight Committee on Air Quality on September 15, 1993 forwarded specific recommendations to the full Legislature for consideration in a potential special session (see Appendix C, Exhibit 6)

Status of Photochemical Grid Modeling

As described in the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, those areas electing to conduct photochemical grid modeling (Urban Airshed Model) may meet the demonstration of attainment requirement through an interim SIP submittal by November 1993 and a completed attainment demonstration by November 1994. The interim submittal should include, at a minimum, evidence that grid modeling is well under way and a commitment, with schedule, to complete the modeling and submit it as a SIP revision by November 1994. This approach is also identified in EPA Guidance on Preparing Enforceable Regulations and Compliance Programs for the 15 Percent Rate-of-Progress Plans, June 1993. The discussion below is provided in response to this requirement.

The Maricopa Association of Governments (MAG) contracted with Systems Applications International (SAI) to complete the air quality analysis presented in this plan. A detailed description of the modeling completed (including models and inputs utilized) is presented in a Draft Technical Support Document contained in Appendix B, Exhibit 4. As described in the Technical Support Document, a number of significant milestones have been reached in the modeling process and are listed below.

- Design Day Selected: Upon review of measured O_3 concentrations and meteorological data for the 1992 summer season, the period of August 9-10, 1992 was selected as the design day for modeling. Widespread high O_3 concentrations were monitored during that period due to heavy motor vehicle traffic, high temperatures,and light and variable winds.

- Future Years for Modeling Identified: The future years selected to be modeled were 1996 and 2005. Modeling for 1996 was considered obligatory, due to the requirement that national ambient air quality standards be attained no later than December 31, 1996. To determine whether attainment is maintained under current growth projections, the year 2005 was selected for modeling as well.

- Emission Inventory Developed: Area wide emission inventories needed for O_3 modeling were developed using the motor vehicle traffic emissions model DTIM and the UAM Emissions Preprocessor System (EPS2.0). The 1992, 1996 and 2005 base case background inventories were projected from the 1990 Base Year Ozone Emissions Inventory, March 1993, prepared by the Maricopa County Division of Air Pollution Control.

  The Draft Report Technical Support Document dated September 30, 1993 contained 1996 and 2005 projection emission inventories. During the comment period for the November 4, 1993 public hearing, comments were received from the Arizona Department of Environmental Quality and Maricopa County Division of Air Pollution Control which indicated that there were certain programs in current law, other regulations, and corrections to the 1996 projection emission inventory which may not have been accounted for in calculating the 1990-1996 growth in VOC emissions. These comments are contained in Appendix D, Exhibit 3.

  The 1996 projection emission inventory has now been revised based upon these comments and the revised 1996 projections emission inventory is now reflected in the Technical Support Document dated November 1993. Since the 1996 projection emission inventory has now changed, the 2005 projection emission inventory may also need to be revised. The revised 2005 emission inventory will be included in the attainment demonstration

based upon the revised 1996 projections emission inventory and submitted to the Environmental Protection Agency by November 15, 1994, as specified in the EPA General Preamble.

- Emissions Impacts of Control Measures Estimated: An extensive list of control measures were evaluated by modeling the emissions impact of various measure scenarios for 1996 and 2005.

- Urban Airshed Model Validated: The Urban Airshed Model (UAM) was validated for the MAG urban area. The UAM performance was assessed on the basis of neighborhood-scale monitors, with emphasis placed on monitors located in the central urbanized area. All qualitative and quantitative measures of model performance were found to be within the accepted performance criteria.

- Preliminary Future Air Quality Estimates Performed: The Draft MAG 1993 Ozone Plan for the Maricopa County Area dated October 4, 1993 contained a preliminary first cut emission reduction target in volatile organic compounds (VOCs) for attainment of the national ambient air quality standard for ozone in 1996. During the comment period for the November 4, 1993 public hearing, comments were received from the Arizona Department of Environmental Quality and Maricopa Division of Air Pollution Control which indicated that there were certain programs in current law, other regulations, and corrections to the 1996 projections emission inventory which may not have been accounted for in calculating the 1990-1996 growth in VOC emissions. These comments are contained in Appendix D, Exhibit 3.

  The 1996 projection emission inventory has now been revised based upon these comments and the revised 1996 projection emission inventory is now reflected in the MAG 1993 Ozone Plan for the Maricopa County Area dated November 1993. Since the 1996 projection emission inventory has now changed, the resulting emission reduction target in VOCs for attainment of the ozone standard by 1996 may be different. It is important to note that additional improvements or refinements may occur during the process of model revalidation and related quality assurance evaluation. The future ozone modeling attainment demonstration will be based upon the revised 1996 projection emission inventory and submitted to the Environmental Protection Agency by November 15, 1994, as specified in the EPA General Preamble.

- Documentation of Modeling Completed: Full documentation of modeling work completed to date is contained in the Draft Ozone Technical Support Document in Appendix B, Exhibit 4.

As described above, considerable progress has been made in establishing a UAM modeling basis for development of the Ozone Plan. Additional modeling work in support of the attainment demonstration is anticipated over the next several months. This will include consideration of modeling a second ozone episode, further activity in assessing future air quality conditions and additional work on evaluating control strategies. A tentative schedule of potential additional modeling work is listed below.

• November 93 - December 93	Consider additional modeling episode.
• December 93 - April 94	Complete base year modeling and model control measure commitments as required.

• August 94	Complete Ozone Plan modeling analysis.
• September 94	Draft Plan available for public review.
• October 94	Conduct public hearing, adopt plan, submit plan to ADEQ.
• November 94	ADEQ submits plan to EPA.

On November 10, 1993, the Maricopa Association of Governments Regional Council committed to complete the Urban Airshed Modeling Demonstration for ozone and submit it to the Environmental Protection Agency by November 15, 1994. This modeling will be coordinated with the Arizona Department of Environmental Quality, Arizona Department of Transportation, Maricopa County, and MAG. This commitment is included in the Certification of Adoption of the MAG 1993 Carbon Monoxide Plan and MAG 1993 Ozone Plan which is included in the Commitments for Implementation document.

APPENDIX K

MAG 1993 OZONE PLAN ADDENDUM
EXCERPTS REGARDING CONTROL MEASURE
COMMITMENTS AND SCHEDULES

CHAPTER TWO

DESCRIPTION OF MEASURES IN H.B. 2001

A description of the air quality measures in H.B. 2001 is provided below. The first group of measures includes those measures which will be used for numeric credit. The modeling approach for the measures is also provided. The second group of measures includes additional measures in the legislation which are also designed to improve air quality but are not used for numeric credit. It was not possible to quantify these measures due to lack of available information regarding the measure or lack of methodology for quantification. House Bill 2001 and the Legislative Summary are included in Exhibits 1 and 2 in the Appendix.

I. Measures in H.B. 2001 Used for Numeric Credit

1. Transit Improvements

For transit improvements, H.B. 2001 establishes two new funding sources. The first funding source is a new multistate lottery game. A maximum of $18 million per year will be deposited into the statewide Local Transportation Assistance Fund (LTAF). The proceeds from the multistate game are allocated according to the proportion of ticket sales in each county. The monies are further distributed within each county to the county and cities based upon population. For the Maricopa County area, the bill requires that the share for the county be given to the Regional Public Transportation Authority for public transportation operating and related capital purposes. If the Lottery Director determines that lottery monies available to the general fund may not equal $45 million in a fiscal year, deposits to the LTAF from the multistate lottery game will be suspended until the general fund receives $45 million. The effective date of these provisions is July 1, 1994 (Bill Sections 2, 9, and 10).

The second new funding source for transit improvements is a one time appropriation of $6 million from the State Underground Storage Tank (UST) Revolving Fund. The bill requires that the $6 million UST appropriation be repaid in installments of no more than $2 million annually from the lottery funds, when the lottery revenues provided to the Maricopa County area exceed $2 million annually (Bill Sections 43 and 44).

Modeling Approach:

It was assumed that the Maricopa region would stand to receive 60 percent of the maximum $18 million allowed statewide per year, or approximately $10.8 million per year, from and after June 30, 1994. Out of this amount, $2 million would be repaid to the Underground Storage Tank Fund, leaving net funding of $8.8 million available annually for transit service. For modeling purposes, service levels were considered to be proportional to the amount of transit funding available. Compared to the existing outlay of approximately $60 million annually, an increase of $8.8 million would equal approximately a 15 percent increase in funding. Also,

commitments for expansion of public transit services were received by MAG from a number of cities in July 1993. A review of the commitments indicated that the service additions would represent approximately a seven percent addition to base service levels.

The combined impact of H.B. 2001 plus the local commitments for 1995/96 were estimated to result in a 0.1 percent reduction in daily regional Vehicle Miles of Travel (VMT). For 2005, a reduction of 0.075 was estimated. A 0.1 percent reduction in daily VMT through transit would not occur throughout the 24-hour day, but only during hours of transit operation. Therefore, hourly VMT reduction during these hours was estimated based on the MAG 1988/1989 Household Travel Survey. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.08	0.07

2. Traffic Signal Coordination

In consultation with the metropolitan planning organization, H.B. 2001 requires that Maricopa County and the cities and towns in the vehicle emissions control area (Maricopa nonattainment area) synchronize traffic control signals on all roadways, within and across jurisdictional boundaries, which have a traffic flow exceeding 15,000 motor vehicles per day. The synchronization is required to be completed by September 30, 1994 (Bill Sections 3 and 24).

Modeling Approach:

In order to assess the effect of this measure, the emission reduction at a typical intersection due to improved signal coordination was determined for carbon monoxide and hydrocarbons. Intersections along jurisdictional boundaries on roadways exceeding 15,000 vehicles per day were reviewed including freeway interfaces with arterials. Generalized locations for intersections and freeway interchanges where signals could be better coordinated resulting in improved traffic flow were identified. In addition, based on commitments received from local governments, generalized intersection locations where additional signal synchronization would likely be applied were identified. These locations were correlated to air quality analysis cells for the carbon monoxide and ozone modeling areas and the estimated emission reductions were deducted. Cell locations remained the same for 1995/96 and 2005. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.03	0.02

3. Strengthened Trip Reduction Program (Ordinance)

House Bill 2001 requires Maricopa County to adopt and enforce a strengthened Travel Reduction Program Ordinance by May 31, 1994. The strengthened ordinance will apply to all employers with 50 or more employees at a worksite throughout the Maricopa County area. The annual goals are increased from a five percent to a ten percent reduction in employee single occupant vehicle trips or commuter vehicle miles of travel. The ordinance will contain annual goals for five years. The Travel Reduction Plan submitted by employers is required to include a telecommuting program for at least five percent of the employees at least one day each week (Bill Sections 24, 36 and 37).

While the new Maricopa County Travel Reduction Program Ordinance will apply throughout Maricopa County, H.B. 2001 requires that the cities and towns in Area A (Maricopa nonattainment area) also adopt and enforce travel reduction ordinances consistent with the County ordinance. The ordinances must be adopted by May 31, 1994 (Bill Section 3).

Modeling Approach:

With regard to the Maricopa County Trip Reduction Ordinance, main impacts of H.B. 2001 will be the increased trip reduction goals and the lowered site size applicability criterion. The mandatory telecommuting element will serve to enhance achievement of the higher goals. It is assumed that adoption of municipal trip reduction ordinances consistent with the Maricopa County ordinance will have no quantifiable impact because the county ordinance already affects municipal employees. The Maricopa County Travel Reduction Ordinance also applies within the county and within incorporated cities and towns in the county. Achievement of annual trip reduction goals will also be aided through a previous legislative provision allowing trip reduction credit for alternative vehicle use. The trip reduction impacts for each given size class of employer work sites were estimated. The Maricopa County Trip Reduction Ordinance, as strengthened by provisions of H.B. 2001, is expected to reduce regional Vehicle Miles of Travel by 2.9 percent in December 1995, by 3.0 percent by the 1996 summer ozone season and 3.4 percent by 2005. These daily reductions were converted to equivalent hourly trip reduction factors for modeling purposes. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.63	0.74

4. Alternative Fuels for Local Government Fleets and Buses

For this measure, H.B. 2001 requires Maricopa County and the cities, towns and school districts with an average daily membership greater than 3,000 within the county to develop and implement a vehicle fleet plan designed to encourage and

progressively increase the use of alternative fuels in vehicles owned by the jurisdiction. The alternative fuels include liquified petroleum gas, natural gas, hydrogen, alcohol fuels that contain not less than 85 percent alcohol by volume, electricity, and solar energy. The plan must contain a timetable for increasing the use of alternative fuels in fleet vehicles through purchase or conversion. The timetable is required to reflect the following schedule and percentage of vehicles which operate on alternative fuels:

a. Not less than 10 percent of the total fleet by December 31, 1994.

b. Not less than 25 percent of the total fleet by December 31, 1996.

c. Not less than 50 percent of the total fleet by December 31, 1998.

d. Not less than 75 percent of the total fleet by December 31, 2000 and each year thereafter.

These requirements may be waived if the cost differential when compared to traditional gasoline or diesel fuel use is greater than 10 percent. The costs include the equipment or refueling facilities necessary to operate the vehicles on alternative fuels over the expected useful life of the equipment or facilities supplied (Bill Sections 3, 5, and 12).

To assist the school districts with compliance, the bill requires the Arizona Department of Administration (DOA) to distribute a $2.9 million appropriation from the Oil Overcharge Fund in FY 1993-1994 for the conversion of school vehicles to alternative fuels. Interested school districts in Area A (Maricopa nonattainment area) are required to submit a plan to the DOA for converting nondiesel power vehicles to alternative fuels. The school districts are required to complete the conversions by September 1, 1994 and submit a report on implementation to the DOA by September 15, 1994 (Bill Sections 41 and 42).

To further enhance the implementation of this measure, H.B. 2001 requires a state agency or political subdivision that operates a clean burning alternative fuel refueling station to permit other state agencies and political subdivisions to refuel their alternative fuel vehicles at these refueling stations. This requirement is contained in Section 35 of the bill.

For buses, the vehicle fleet plan of the city, town, or Regional Public Transportation Planning Agency is required to include provisions for the use of alternative fuels in buses, except that all newly purchased buses must be alternative fuel vehicles. The bus fleet timetable is the same as for local government fleet vehicles. The requirements for buses may be waived if the cost differential when compared to traditional fuel use is greater than 20 percent (Bill Section 3).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were used because there is already some CNG use in the region. It was estimated that for 1995/96 the county, cities, towns and school districts would operate approximately 11,900 cars and trucks, and 1,330 school buses. Based on a review of the size distribution of local fleets, it was assumed that the ten percent of total fleet vehicles accounted for by the smallest fleets would be excused from the requirement based on cost exemptions. Also, it was indicated by transit officials that the cost exemption is likely to preclude conversion of transit buses. This would leave approximately 10,700 cars and trucks and 1,200 school buses of the fleet affected by the law. Ten percent of the affected public fleet vehicles would need to use alternative fuels by the end of 1994. By the end of 1996, 25 percent alternative fuel vehicles would be required. By straight-line interpolation, it was assumed that 17.5 percent vehicles would be converted by December 1995 and summer 1996. By 2005, the higher fleet composition of 75 percent would be in effect. It was assumed that the number of fleet vehicles will increase proportionally to regional population growth. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.03	0.19

5. Alternative Fuels for State and Federal Fleets

House Bill 2001 requires the Arizona Department of Administration and the Energy Office of the Arizona Department of Commerce to develop and implement a vehicle fleet plan to reduce fuel consumption and to encourage and progressively increase the use of alternative fuels in state owned vehicles. The alternative fuels include liquified petroleum gas, natural gas, hydrogen, alcohol fuels that contain not less than 85 percent alcohol by volume, electricity, and solar energy. The timetable for the plan is required to reflect the following schedule and percentage of vehicles which operate on alternative fuels:

a. Not less than 10 percent of the total fleet by December 31, 1994.

b. Not less than 40 percent of the total fleet by December 31, 1995.

c. Not less than 90 percent of the total fleet operating in Maricopa County by December 31, 1997 (Bill Section 12).

In order to assist the State with compliance, H.B. 2001 contains an appropriation of $2 million to be used for the conversion of the Arizona Department of Administration's vehicles to alternative fuels. Priority must be given to convert state vehicles in the Maricopa nonattainment area. The Arizona Department of Administration is also required to submit a status report to the President of the Senate and the Speaker of the House by March 1, 1994 (Bill Sections 42 and 48).

H.B. 2001 also requires a state agency or political subdivision that operates a clean burning alternative fuel refueling station to permit other state agencies and political subdivisions to refuel at these stations, to the extent feasible. This is contained in Bill Section 35.

For federal vehicles, the bill requires the operator of a federal government owned vehicle fleet in the state to develop and implement a vehicle fleet plan to encourage and progressively increase the use of alternative fuels in federal government vehicles. The timetable for purchase or conversion is the same as for the state vehicle fleet (Bill Section 35).

For both state and federal vehicle fleets, these requirements may be waived if the cost differential when compared to traditional gasoline or diesel fuel use is greater than 30 percent. The costs include the equipment or refueling facilities necessary to operate the vehicles on alternative fuels over the useful life of the equipment or facilities supplied (Bill Sections 12 and 35).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were used because there is already some CNG use in the region. It was estimated that existing State and federal fleets total approximately 2,700 vehicles in 1995/96 and 40 percent would be CNG vehicles by 12/31/95 as required in H.B. 2001. By 2005, the higher fleet composition of 75 percent was assumed to be in effect. It was assumed that the number of fleet vehicles will increase proportionally to regional population growth. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.01	0.16

6. Tax Deductions for Alternative Fueled Vehicles

Individual and corporate state income tax deductions are provided in H.B. 2001 to further promote the purchase or conversion of vehicles to alternative fuels. The tax incentives apply beginning with taxable years from and after December 31, 1993. The alternative fuels include liquified petroleum gas, compressed or liquified gas, hydrogen, electricity, solar energy, and alcohol fuels that contain at least 85 percent alcohol by volume.

The maximum individual income tax deduction of 25 percent of the price for purchasing a new alternative fuel vehicle in this state is increased from $5,000 to $10,000 over a three year period and from $3,000 to $5,000 over a three year period for each vehicle conversion to alternative fuel. Limited partnership and sole proprietorship business operations are now included in this program.

The bill allows corporations an income tax deduction of 25 percent of the price of purchasing a new alternative fuel vehicle in this state with a maximum of $5,000 over a three year period. An income tax deduction of $3,000 is also allowed for each vehicle conversion to alternative fuel over a three year period. The refueling equipment deduction is $5,000 over a three year period (Bill Section 18).

Modeling Approach:

For this measure, the emission characteristics of compressed natural gas (CNG) were used because there is already some CNG use in the region. Also, due to refueling logistics and economies of scale, alternative fuel use would be technically and economically feasible primarily for corporations, rather than for private individuals. It was estimated that for 1995/96 there would be approximately 135,000 non-governmental fleet vehicles in the MAG region and that there would be a changeover to alternative fuels by 10 percent, which is consistent with targets set for local government fleets. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.15	0.28

7. Reduced Gasoline Volatility

House Bill 2001 reduces the maximum summer vapor pressure of gasoline fuel sold in Maricopa County from 7.8 to 7 pounds per square inch beginning June 1, 1995 through September 30, 1995. This requirement will be in effect from June 1 through September 30 of each year thereafter (Bill Section 13).

Modeling Approach:

This measure was modeled through a reduction of winter gasoline volatility or Reid Vapor Pressure (RVP) from 10.0 psi to 9.0 psi. In addition, since the effect of eliminating the RVP waiver for ethanol blends is not included in the future year base cases, it is included in this measure. Therefore, the measure was modeled by changing the RVP in the MOBILE5a input file from 10.0 to 9.0, and by changing the RVP waiver flag. For the summer ozone period, RVP was reduced to 7.0 psi. The base case market shares for MTBE and ethanol blends were assumed to be unaffected by this measure.

The change in RVP was determined to have no effect on the CO non-road inventory. For the non-road hydrocarbon inventory, the lowering of the RVP during the summer ozone season resulted in a reduction which was incorporated into the emissions inventory. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	6.92	6.02

8. Enhanced Vehicle Emissions Inspection Maintenance Program (I/M)

The Vehicle Emissions Inspection Maintenance Program was significantly enhanced and strengthened by H.B. 2001. The bill establishes a biennial, transient loaded (I/M 240) emissions test for gasoline powered vehicles model year 1981 or newer with a gross vehicle weight of up to 8,500 pounds, beginning January 1, 1995. A purge and pressure check will also be performed on these vehicles and the current tampering check will be eliminated for these vehicles. The I/M 240 test will also have a fast pass component. The fee for the I/M 240 test will be paid annually at the time of registration. The current $10 emissions inspection fee limit is an annual fee.

Gasoline powered vehicles model years 1967-1974 are required to pass a loaded test in addition to the current I/M test requirements. A motorcycle or constant four-wheel drive vehicle is required to take and pass an idle emissions test.

A snap idle test for diesel powered vehicles cannot be required until January 1, 1995. The rules for snap idle testing cannot be more stringent than the EPA rules for snap idle tests.

Vehicle fleet operators are required to comply with the new emission inspection requirements except that new and used vehicles sold by a licensed motor vehicle dealer must comply only with the curb idle test. Fleet operators are allowed to contract for emissions testing.

The bill provides an exemption from the vehicle emissions testing requirement for new vehicles that are sold by a motor vehicle dealer which are due for registration during the year the vehicle was manufactured. The exemption also applies to vehicles which are due for registration within one year after the year the vehicle was manufactured.

To enhance compliance, H.B. 2001 increases the civil penalty from $50 to $100 for commuters who reside outside the nonattainment area or college students attending school in the nonattainment area who fail to comply with the I/M test requirements. This penalty increase applies only to first-time violations.

The Arizona Department of Environmental Quality is required to establish a Vehicle Repair Loan Program for qualified applicants (food stamp recipients) who fail an emissions test. The qualified owner must pay up to 50 percent of the threshold repair limit and the State will pay the rest. To further assist those who fail the test, each emissions station must employ at least one mechanic to provide technical advice and assistance to the motorists. A special performance audit by a Committee of Reference is required for the Vehicle Repair Loan Program after the program has been in effect for two years (Bill Sections 26, 31, 46, and 47).

As specified in the bill, the Emissions Inspection Fund is established in the State Treasury to finance the costs to the State for administering the Vehicle Emissions Inspection Maintenance Program services performed by the independent contractor, including inspection station auditing, contractor training and certification, and motorist assistance; enforcement of fleet emissions inspections, exemptions, and certificates of waiver; payment of contractual services to independent contractors; funding of the state's portion of the Catalytic Converter Program costs; funding of the Vehicle Repair Grant Program costs; funding costs in excess of $10 per year for the transient loaded emissions test; and other costs of administering and enforcing the program (Bill Section 29).

Monies collected from the State Underground Storage Tank (UST) Fund are added as a funding source for the Emissions Inspection Fund. The Underground Storage Tank Revolving Fund accounts are required to be separated into two portions, one for monies generated and collected in Maricopa County and the remainder in the other portion. The bill requires the transfer of $2 million for fiscal year (FY) 1994 and $8 million for FY 1995 and FY 1996 from the Underground Storage Tank Fund to the Emissions Inspection Fund. The bill further specifies, that beginning in FY 1996/1997, 50 percent of the monies received from the UST Tax and 50 percent of the interest income earned by the UST Fund (Maricopa County's share of the UST Fund) must be deposited by the State Treasurer into the Emissions Inspection Fund (Bill Sections 29, 38, and 43).

The next 4 measures also describe further improvements to the Vehicle Emissions Inspection Maintenance Program. These measures are modeled separately for numeric credit.

Modeling Approach:

This measure calls for a biennial I/M 240 program with purge and pressure test for 1981 and newer light-duty gasoline cars and trucks (LDGV, LDGT1, and LDGT2). It also calls for an annual loaded idle test (the current I/M test) for 1967 through 1980 light duty vehicles and 1967 and newer heavy duty gasoline vehicles. Other provisions are an annual snap-idle test for diesel vehicles and an annual idle test for motorcycles. The beginning date is January 1, 1995. Appropriate inputs were prepared for application of the MOBILE5a model. EPA has allowed the assumption of one full cycle for summer 1996 ozone modeling. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	7.17	11.49

9. Anti-Tampering Program Modifications for the Vehicle Inspection Maintenance Program (I/M)

The anti-tampering program for the Vehicle Emissions Inspection Maintenance Program was strengthened by H.B. 2001. The bill requires gasoline powered vehicles after model year 1974 through and including model year 1980 to pass a loaded mode test and a visual tampering inspection of the vehicle's positive crankcase ventilation (PCV) and evaporative systems. A gas cap check will also be conducted to determine if the cap is holding pressure within prescribed limits. These requirements are in addition to the current Vehicle Emissions Inspection Maintenance test requirements (Bill Section 26).

Modeling Approach:

This measure calls for additions to the anti-tampering program. It calls for a biennial ATP check for 1974 and newer vehicles, excluding those subject to enhanced I/M, covering the catalyst, air pump, fuel inlet restriction, evaporative control system and PCV check for 1975-1980 vehicles, and gas cap check. The start date is January 1, 1995. This measure did not result in an emission reduction for carbon monoxide due to the switch from an annual program in the base case to a biennial program. However, the additional checks in the program did produce reductions in hydrocarbon emissions. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	1.87	1.83

10. Increased Waiver Limits for the Vehicle Inspection Maintenance Program (I/M)

House Bill 2001 increases the repair threshold limits for gasoline powered vehicles in order to be eligible for a waiver through the Vehicle Emissions Inspection Maintenance Program. The repair limits are increased in the following manner: 1967-74 from $50 to $100; 1975-80 from $200 to $300; and 1981 and newer from $300 to $450. The bill also increases the repair threshold limits from $300 to $500 for diesel powered vehicles with tandem axles or a gross vehicle weight in excess of 26,000 pounds (Bill Section 26).

Modeling Approach:

It was assumed that raising the waiver limit to $300 for model year 1975-1979 vehicles will decrease the waiver rate for those vehicles from ten percent to four percent. Also, it was assumed that pre-1975 vehicles constitute a negligible portion of 1995, 1996 and 2005 emissions, such that the 1975-1979 waiver rate represents the pre-1980 waiver rate. Finally, it was assumed that raising the waiver limit from $300 to $450 results in a decrease of the waiver percentage from four percent to three percent for 1980 and newer vehicles. Since the MOBILE5a model does not include the I/M Program for diesel vehicles, it was assumed that the impact of this change is minimal. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	1.17	0.93

11. Vehicle Inspection Maintenance Program (I/M) Enforcement Through the Travel Reduction Program

In order to enhance the enforcement of the Vehicle Emissions Inspection Maintenance Program, H.B. 2001 requires employers with 100 or more employees in the Maricopa County Travel Reduction Program to notify their employees of their duty to comply with the Vehicle Emissions Inspection Program. All employees of these major employers are required to certify annually that they have complied with the emission testing requirements by filing a certification form with their employers. The Regional Task Force for the Maricopa County Travel Reduction Program is required to prepare and make available a standard certification form for use by all employees of those employers (Bill Section 37).

Modeling Approach:

In order to evaluate this measure, the number of additional vehicles that would be subject to the Inspection/Maintenance Program was estimated. It was assumed that the current estimated non-compliance rate for employee vehicles would be reduced by 80 percent. As a result, the overall inspection/maintenance participation rate was increased by 1.5 percent in 1995/96 and 1.6 percent in 2005. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	1.14	0.98

12. Remote Sensing

A Random On-Road Testing Program (Remote Sensing) is established in the Maricopa County nonattainment area as a supplement to the periodic inspection requirement through the Vehicle Emissions Inspection Program. Remote sensing devices will be used. A minimum of six on-road testing units will be used throughout the nonattainment area. For first time identification, a letter containing the date, time, location, test results, brief description of the emissions control program, and benefits derived by the testing and repair procedures will be sent to the registered vehicle owner.

For a second notification within a 12 month period, a letter containing the test results and notification that an emissions test is required within 30 days of the date of the letter will be sent to the vehicle owner. The registration of the vehicle will be suspended if the registered owner fails to comply with this requirement. If the owner does not comply, the Arizona Department of Environmental Quality will notify the Arizona Department of Transportation by electronic means and the registered owner will be notified by letter of the registration suspension. The registered vehicle owner may apply for reinstatement of the vehicle registration after compliance with the testing requirements and payment of the applicable fees.

Commercial diesel powered vehicles are exempted from these provisions. Section 27 of the bill describes the remote sensing measure.

Modeling Approach:

This measure provides an incremental benefit over the existing I/M and Anti-Tampering Program by increasing compliance with the I/M Program and reducing the incidence of vehicle tampering or mal-maintenance. To model this program the compliance rate, currently specified as 97 percent, was increased to 98 percent to account for increased identification of non-complying vehicles. It was also assumed that 25 percent of the observed difference in fleet average rates when tampering is zeroed would correspond to the additional emissions benefit to be assumed from a remote sensing program. This percent emission change was applied to the overall mobile source inventory. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction is Emissions
Hydrocarbons	1.68	1.57

13. Improved Rule Effectiveness, Area Sources

House Bill 2001 strengthens the rule effectiveness for various area sources. Maricopa County is required to develop, implement, and enforce rules which regulate the emissions from the graphic arts industry sector; architectural and

industrial coatings industry sector; highway markings industry sector; bulk plants; and terminal and tank truck unloading operations. The bill requires the enhancement of enforcement through programs that include increased frequency or targeting of inspections, increased sampling frequency, use of portable analyzers or any other technique (Bill Section 4).

Modeling Approach:

In order to assess the effects of this measure, revised projection growth factors for the sources affected were calculated taking into account improved rule effectiveness. Architectural coatings projection growth factors were calculated by changing rule effectiveness to 90 percent. The tank truck unloading growth factor was calculated based on the new 85 percent rule effectiveness. The graphic arts rule effectiveness was increased to 85 percent. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.69	1.17

14. Emission Rules for Woodcoatings, Bakeries, and Certain Point Sources

Maricopa County is required by H.B. 2001 to develop, implement, and enforce rules regulating the emissions from the wood coatings industry sector, through the use of technically feasible controls to reduce emissions of volatile organic compounds. The rules must require the reduction of a minimum of 25 percent from the 1990 baseline emissions by November 15, 1995.

The County is also required to develop, implement, and enforce rules regulating the emissions from the commercial bakery sector, through the use of technically feasible controls to reduce the emissions of volatile organic compounds. The rules must require the reduction of a minimum of 30 percent from the 1990 baseline emissions by November 15, 1995 (Bill Section 4).

Modeling Approach:

Projection growth factors reflecting new controls for bakeries and woodcoatings were calculated by applying the control efficiencies stated in the bill and an EPA default rule effectiveness factor of 80 percent to the appropriate 1996 and 2005 projected emissions. For bakeries, a 30 percent control efficiency is specified in the legislation and the rule effectiveness factor was assumed to be 80 percent. For wood coatings a 25 percent control efficiency is specified in the legislation and the rule effectiveness factor was assumed to be 80 percent. For bulk plants and terminals, a part of the controls may be classified as new rules and part as improved rule effectiveness. The effects of both are covered in this section for ease of presentation. The bulk plant and terminal loading rule effectiveness was

changed from 80 percent to 85 percent. Also, it was assumed that the draft NESHAP for bulk plant and terminal loading operations will require an emission limit of .08 pounds of VOC per 1000 gallons loaded and that Maricopa County will require implementation of this limit as a VOC measure by May 1996. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	1.06	1.18

15. Windshield Washer Fluid

House Bill 2001 requires Maricopa County to develop, implement and enforce rules regulating the emissions from the consumer and commercial products industry sector, through changes in the formulation of any product used in the cleaning of automobile windshields that contains a concentration of not more than 30 percent by weight of volatile organic compounds as an ingredient, a solvent, or any other component by November 15, 1995.

The rules will require those reductions to be achieved before the development of Control Techniques Guidance Standards developed by the U.S. Environmental Protection Agency for that industry sector. If the EPA Administrator finds that the Maricopa nonattainment area has failed to demonstrate reasonable further progress or failed to attain the ozone standard by the attainment date, Maricopa County is required to adopt the Control Technique Guidelines issued by EPA for the industry sector (Bill Section 4).

Modeling Approach:

Projection growth factors reflecting new controls for windshield washer fluid were calculated by applying the control efficiencies stated in the bill. A reduction factor of .937 was applied based on the Sierra Research report (Feasibility and Cost Effectiveness of New Air Pollution Control Measures, Sierra Research, July 13, 1993, Table 14, p. 72). Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.30	0.39

16. Improved Stage II Effectiveness

The Arizona Department of Weights and Measures is required to adopt rules to enhance the enforcement of the Stage II Vapor Recovery Program. H.B. 2001 requires that the enforcement will be enhanced through programs that may include increased frequency of or targeting of inspections, increased sampling frequency, use of portable analyzers or any other technique (Bill Section 16).

Modeling Approach:

In order to assess the effects of this measure, a revised projection growth factor for the source was calculated taking into account improved rule effectiveness. Rule effectiveness was changed from 77 percent to 83 percent. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emission
Hydrocarbons	0.51	0.62

17. Enhanced Remote Sensing Program - Contingency Measure

House Bill 2001 provides a strengthened version of the Remote Sensing Program as a contingency measure. For the first identification of a vehicle registered in Maricopa County as exceeding the emissions standards, a notification letter will be sent to the owner of the registered vehicle informing the owner of the test results. The letter will also indicate that an emissions test is required within 30 days of the letter.

If the owner does not comply with the test requirement, the Arizona Department of Environmental Quality will notify the Arizona Department of Transportation by electronic means. The Department of Transportation will send a letter to the registered owner indicating that the vehicle's registration is suspended. After complying with the test requirement, the registered owner may apply for reinstatement of the registration on payment of the applicable fees.

As a contingency measure, this measure is triggered if the U.S. EPA Administrator finds that the Maricopa County nonattainment area has failed to demonstrate reasonable further progress or has failed to attain the National Ambient Air Quality Standards for ozone or carbon monoxide by the attainment date (Bill Section 27).

Modeling Approach:

The modeling approach described under the basic remote sensing program was also assumed to apply under an enhanced program used as a contingency measure. The enhanced remote sensing program was modeled assuming it doubled the emission benefits of the basic remote sensing measure, yielding an additional emission benefit. The additional emission reduction benefit is shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	1.68	1.57

18. Control Techniques Guidelines (CTG) - Contingency Measure

If the Maricopa County nonattainment area fails to make reasonable further progress or to attain the National Ambient Air Quality Standards for ozone by the applicable attainment date, H.B. 2001 requires Maricopa County to adopt by rule the necessary emission limitations or other standards reflecting Control Techniques Guidelines issued by the U.S. Environmental Protection Agency to achieve emissions reductions sufficient to respond to the finding. The County is required to begin developing the rules which incorporate the provisions of the Control Techniques Guidelines being developed by EPA; make every effort to assure consistency with the federal guidelines; and parallel the rulemaking process with the federal rulemaking process.

The County is required to determine which industry sectors will be subject to the emissions reductions necessary to satisfy the contingency measure based upon what CTG's have been issued by EPA. Within 60 days of formal adoption of the EPA Control Techniques Guidelines for an industry sector, the County will adopt rules, emission limitations or other standards reflecting the guidelines. If the guidelines are triggered as a contingency measure prior to formal adoption by EPA, the County rules will become effective within 60 days of the EPA finding.

The bill also authorizes the Director of the Arizona Department of Environmental Quality to make a finding and trigger the contingency measure. All emissions reductions required under this CTG measure will be achieved no later than June 1, 1996 (Bill Section 4).

Modeling Approach:

The projection growth factors for the contingency measures were obtained using the following assumptions. The contingency measure for woodcoatings requires a 30 percent emission reduction from 1990 and assumes an 80 percent rule effectiveness. The contingency measure for consumer and commercial solvents assumes that emission reductions equivalent to the California Phase I requirements as calculated by Sierra Research (Feasibility and Cost Effectiveness of New Air

Pollution Control Measures, Sierra Research, July 13, 1993), will be implemented. This reduction is in addition to that obtained from the windshield wiper fluid. The contingency measure for automotive refinishing requires a 40 percent emission reduction and assumes an 80 percent rule effectiveness. The contingency measure for graphic arts assumes various emission reductions depending on the type of process involved. The contingency measure for aerospace coatings assumes that 67 percent of the sources' emissions result from hand wiping and cleaning which will be reduced by 80 percent with a rule effectiveness of 80 percent. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	2.18	2.56

19. Freeway Incident Detection

This measure is from the November 1993 Plan and was included with the H.B. 2001 measures in a package modeled for numeric credit.

Recent technological advances in communications, computers, and video surveillance enable freeway management systems to be implemented, allowing for freeways to be monitored and controlled for optimal traffic flow. During normal operations, ramp metering signals are controlled from a central computer complex to optimize vehicle flow and increase average travel speeds. When a vehicle collision or other major incident occurs, the event is detected by computer and verified by video surveillance. Upstream traffic is warned with electronic variable message signs and entrance ramps may be closed to avoid major traffic jams. The installation of Freeway Management System equipment has been ongoing and a 29 mile component is scheduled for completion in 1995. The central Freeway Operation Control Center is now on-line.

Modeling Approach:

Using the analysis developed by Sierra Research (Feasibility and Cost Effectiveness of New Air Pollution Control Measures Pertaining to Mobile Sources), an average emission reduction in kilograms per freeway mile instrumented was developed. For the measure under analysis, 29 miles of system are under instrumentation by 1995/96 and 2005. The location of the affected portions of the freeway system were identified in terms of the cells in the carbon monoxide and ozone modeling areas. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.01	0.02

20. High Occupancy Vehicle Ramps

This measure is from the November 1993 Plan and was included with the H.B. 2001 measures in a package modeled for numeric credit.

Freeway ramp metering signals are stoplights on freeway on-ramps which control the flow of traffic onto the freeway. These devices are designed to facilitate the smooth flow of freeway mainline traffic and reduce air pollution. During peak congestion, the line of traffic waiting to enter the freeway can lengthen. The implementation of bypass ramps reserved for use by high occupancy vehicles can afford a significant savings of travel time under these conditions. The exact configuration of these bypass ramps at a specific location will vary depending upon traffic volumes and roadway geometry.

The Arizona Department of Transportation indicates that current Freeway Management System (FMS) construction projects on I-10 and I-17 will incorporate nine HOV bypass ramps at 67th, 59th, 43rd, 35th, 27th Avenues, as well as Jefferson Street, Sky Harbor and Lower Buckeye and Broadway Roads. These locations were assumed for both 1995/96 and 2005.

Modeling Approach:

In order to evaluate this measure, emission reductions were determined for high-occupancy vehicle by-pass locations that the Arizona Department of Transportation has indicated will be constructed. These emission reductions were determined on the basis of accelerations and queues avoided by vehicles by-passing meters. The estimated emission reductions were deducted from the study area cells where the ramps are located. Hydrocarbon emission reductions modeled are shown below.

	1996 Percent Reduction in Emissions	2005 Percent Reduction in Emissions
Hydrocarbons	0.003	0.003

II. Measures Which Improve Air Quality But Were Not Used For Numeric Credit

1. Catalyst Replacement Program - Contingency Measure

If the Administrator of the U.S. Environmental Protection Agency finds that the Maricopa County nonattainment area has failed to demonstrate reasonable further progress or has failed to attain the National Ambient Air Quality Standards for ozone and carbon monoxide by the applicable attainment date, the Arizona Department of Environmental Quality is required to administer a program to replace catalytic converters on certain motor vehicles. H.B. 2001 requires the adoption of rules for the program to include the following: replacement of catalytic converters on all high emitting vehicles which fail inspection due to the catalytic converter system; no waiver will be issued for any vehicle which has failed inspection due

to the catalytic converter system; and establishment of a method for determining vehicle owners who qualify for financial assistance for the repair and replacement program. The Catalyst Replacement Program will be funded through the Emissions Inspection Fund (Bill Sections 26 and 29).

2. Vehicle Repair Grant Program

House Bill 2001 requires the Arizona Department of Environmental Quality to establish a Vehicle Repair Grant Program. Rules must be adopted to implement the program which will include: eligibility for receiving a grant, provided that eligibility will be limited to persons who own a high emitting vehicle that fails inspection and who are assistance recipients in the Food Stamp Program; an efficient and accurate system for proper verification of eligibility status; establishment of categories of repair and maximum grant amounts available for each category of repair; establishment of procedures which promote administrative efficiency and protect against fraud and abuse; and a system for expedited payment of grant amounts to mechanics who perform necessary repairs through the program.

A key feature of this program is that qualified vehicle owners will be responsible for the costs of qualified repairs up to 50 percent of the applicable threshold waiver amounts. The State will be responsible for any remaining costs of qualified repairs up to the threshold waiver amounts. The Vehicle Repair Grant Program will be funded through the Emissions Inspection Fund (Bill Sections 26 and 29).

3. Inclusion of Government Fleets in the Vehicle Inspection Maintenance Program (I/M)

Federal, state, and local government fleet vehicles are required to comply with the new Enhanced Vehicle Emissions Inspection Program requirements. This provision in H.B. 2001 applies without regard to whether those vehicles are required to be registered in the State of Arizona (Bill Section 26).

4. Vehicle Inspection Maintenance Program (I/M) Evasion Penalty

House Bill 2001 specifies that a person who falsely registers a vehicle in another county is subject to a minimum civil sanction of $100. This provision is contained in Section 6 of the bill.

5. Noisy Muffler, Smoking Vehicle Law Penalty

A person who violates Arizona's noisy muffler, smoking vehicle law is subject to a minimum civil sanction of $100. This provision is contained in Section 7 of the bill.

6. Auto Mechanic Education Program

The Arizona Department of Environmental Quality is required to establish an education program for auto mechanics who repair vehicles that have failed an emissions test in the Maricopa nonattainment area. This provision is contained in Section 27 of the bill.

7. Grants for Intermodal Transportation, Pedestrian, and Bicycle Projects

House Bill 2001 authorizes the Arizona Department of Transportation to make grants from its portion of the State Air Quality Fund for intermodal transportation, pedestrian, and bicycle projects and activities. This provision is contained in Section 11 of the bill.

8. Alternative Fuel Vehicles/High Occupancy Vehicle Lanes

The Arizona Department of Transportation, in cooperation with the Arizona Department of Environmental Quality, is required to petition the U.S. Department of Transportation to allow single occupancy, alternative fuel vehicles to use High Occupancy Vehicle Lanes on Interstate or State Highways located in the Maricopa nonattainment area. This provision is contained in Section 49 of the bill.

9. Public Transportation Subsidy Program for State Employees

House Bill 2001 appropriates $24,200 in Fiscal Year 1993-1994 from the State Underground Storage Tank Fund to the Arizona Department of Administration to pay for the administrative cost associated with the public transportation subsidy program for State employees. This provision is contained in Section 51 of the bill.

These nine measures in H.B. 2001 are in addition to the several local government measures submitted previously in the November 1993 Carbon Monoxide and Ozone Plans which improve air quality but were not used for numeric credit towards attainment. It was not possible to quantify the air quality impacts of these measures due to lack of available information regarding the measure or lack of methodology for quantification. In the future, it may be possible to quantify the air quality impacts as the measure is implemented and additional information and new methodologies become available.