CHAPTER 7

IMPLEMENTATION

INTRODUCTION

Achieving clean air objectives requires the effective and timely implementation of the measures defined in Chapter 4. In general, these measures rely on the application and advancement of technologies and management practices. These strategies also require actions by numerous agencies.

RESPONSIBLE AGENCIES

Implementation of the Plan's strategies requires a cooperative partnership of governmental agencies at the federal, state, regional and local level. As described in Table 7-1, these agencies form the four cornerstones from which implementation programs will evolve.

At the federal level is the U.S. EPA and other agencies charged with reducing emissions from federally controlled sources such as commercial aircraft and marine vessels. As discussed in Chapter 4, the 1997 AQMP incorporates several measures based largely on the 1994 California Ozone SIP. Seven of the mobile source measures are directed at federally regulated sources.

At the state level is the ARB which is responsible for motor vehicle emissions and fuels. The Plan's on-road and off-road mobile source control program is principally based on the 1994 California Ozone SIP. Additional mobile source emission reduction credit programs are provided in this Plan to provide greater regulatory flexibility and accelerate fleet turnover.

At the regional level, the District is responsible for the overall development and implementation of the AQMP. The District is specifically authorized to reduce the emissions from stationary and some area sources such as coatings and solvents. The District implements its responsibilities with participation from the regulated community through an extensive rule development and implementation program. This approach maximizes the input of those parties affected by the proposed rule through consultation meetings, public workshops, and ongoing working groups.

At the local level are local governments and the Southern California Association of Governments (SCAG) and other committees of government. Local governments serve an important role in developing and implementing the Plan's transportation control measures. SCAG is responsible for providing the socioeconomic forecast (e.g., population forecasts) upon which the Plan is based. SCAG also provides assessments for conformity of regionally significant projects with the overall Plan and is responsible for the adoption of the annual Regional Transportation Improvement Program.

TABLE 7-1

Agencies Responsible for Implementation
of the 1997 AQMP Revision for the South Coast Air Basin

Agency	Principal responsibilities
EPA	• Forty-nine state mobile vehicle emission standards; • Airplanes, trains, and ships; • Mobile-operating construction & farm equipment below 175 hp; and, • Off-shore oil development
ARB	• On-road/Off-road vehicles • Motor vehicle fuels; and, • Consumer products
SCAQMD	• Stationary (industry/commerce) & area sources; • Some mobile sources
SCAG	• AQMP conformity assessment • Regional Transportation Improvement Program
Local Government/ CTCs	• Transportation and local government actions; and, • Transportation facilities

SHORT- AND INTERMEDIATE-TERM MEASURES

The Plan proposes measures that can be implemented using currently available technologies and management practices. Measures in this category are to be implemented by all levels of government including federal agencies, the state ARB, the District and local governments and SCAG.

Control Measure Ranking

The California Clean Air Act requires air pollution control districts to assess the effectiveness of control measures in reducing ambient ozone concentrations as part of their plan submittals. The CCAA requires districts to determine that their AQMPs are cost-effective strategies that attain air quality standards by the earliest practicable date [H&SC 40913(b)]. In addition, plans must include an assessment of the cost-effectiveness of available and proposed control measures and a list of the measures ranked from the least

cost-effective to the most cost-effective [H&SC 40922(a)]. Table 6-5 in Chapter 6 shows the ranking of the control measures by cost-effectiveness. In developing their control strategy implementation schedule, districts must consider the other effectiveness criteria [H&SC 40922(b)]. The criteria used for this Plan are listed in Table 7-2.

TABLE 7-2

Criteria for Evaluating 1997 AQMP Control Measures

Criteria	Description
Cost-Effectiveness	The cost of a control measure to reduce air pollution by one ton [cost covers obtaining, installing, and operating the control measure].
Efficiency	The positive effects of a control measure compared to its negative effects.
Emission Reduction Potential	The total amount of pollution that a control measure can actually reduce.
Enforceability	The ability to force polluters to comply with a control measure.
Equity	The fairness of the distribution of all the positive and negative effects among various socioeconomic groups
Legal Authority	Ability of the District or other adopting agency to implement the measure or the likelihood that local governments and agencies will cooperate to approve a control measures
Public Acceptability	The support the public gives to a control measure.
Rate of Emission Reduction	The time it will take for a control measure to reduce a certain amount of air pollution.
Technological	The likelihood that the technology for a control measure will be available as anticipated.

Table 7-3 lists the short- and intermediate-term control measures, the responsible agencies, and the proposed adoption and implementation dates. This preliminary schedule is largely based on the schedule set forth in the 1994 AQMP as modified through subsequent District Board action. New items proposed for the first time in this Plan have been placed in the appropriate position on the existing schedule based on a review of the AQMP control measure prioritization factors described above.

Other measures from the 1994 AQMP that are not included in Table 7-3 have been moved to the Level II Contingency (or Further Evaluation) Category. These measures will undergo

further evaluation after the 1997 AQMP is adopted to determine if these measures can serve as contingency or provide additional emission reductions to achieve state air pollution standards or potential future federal air quality standards.

TABLE 7-3

1997 AQMP Control Measures, Implementing Agency, Adoption Date and Implementation Period

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
SHORT- AND INTERMEDIATE-TERM MEASURES				
Surface Coating and Solvent Use				
CTS-02E	Emission Reductions from Adhesives (Rule 1168) (VOC)	SCAQMD/ ARB	2000	2007-2010
CTS-02H	Emission Reductions from Metal Parts and Products (Rule 1107) (VOC)	SCAQMD	1997	1998-2000
CTS-02M	Emission Reductions from Plastic, Rubber, Glass Coatings (Rule 1145) (VOC)	SCAQMD	1997	1998-2000
CTS-02N	Emission Reductions from Solvent Degreasers (Rule 1122) (VOC)	SCAQMD/ ARB	1997	2000-2005
CTS-02O	Emission Reductions from Solvent Usage (Rule 442) (VOC)	SCAQMD	2000	2000-2005
CTS-03	Consumer Product Education Labeling Program (VOC)	SCAQMD	1998	2000-2005
CTS-04	Public Awareness/Education Programs - Area Sources (VOC)	SCAQMD	1998	2000-2005
CTS-07	Further Emission Reductions from Architectural Coatings (Rule 1113) (VOC)	SCAQMD	1996	1998
CP-02	Emission Reductions from Consumer Products (VOC)	ARB	1997	2005-2008
DPR-01	Emission Reductions from Pesticide Applications (VOC)	DPR	1997	2005

TABLE 7-3

(continued)

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
Petroleum Operations and Fugitive Emissions				
FUG-03	Further Emission Reductions from Floating Roof Tanks (Rule 463) (VOC)	SCAQMD	1999	2000
FUG-04	Further Emission Reduction from Fugitive Sources (Rule 1173) (VOC)	SCAQMD	1997	1997
Combustion Sources				
CMB-02B	Emission Reduction from Small Boilers and Process Heaters (NO_x)	SCAQMD	1997	1999
CMB-03	Area Source Credit Programs (All)	SCAQMD	1997	1997-2000
CMB-04	Area Source Credits for Energy Conservation/ Efficiency (NO_x)	SCAQMD	1997	1997-2000
CMB-06	Emission Standards for New Commercial and Residential Water Heaters	SCAQMD	1999	2003-2013
CMB-07	Emission Reductions from Petroleum Refinery Flares (All)	SCAQMD	1999	2000
CMB-09	Emission Reductions from Petroleum Refinery FCCUs (PM_{10})	SCAQMD	1997	1998-1999
Fugitive Dust				
BCM-01	Emission Reductions from Paved Roads (Rule 403) (PM_{10})	SCAQMD, Local Government, CalTrans	1997	1997
BCM-03	Further Emission Reductions from Unpaved Roads, Unpaved Parking Lots and Staging Areas (Rule 403) (PM_{10})	SCAQMD, Local Government	1997	1997-2006

TABLE 7-3

(continued)

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
Fugitive Dust (Cont.)				
BCM-04	Emission Reductions from Agricultural Activities (Rule 403) (PM_{10})	SCAQMD, USDA Natural Resources Conservation Service	1997	1997-1999
BCM-06	Emission Reductions from Fugitive Dust Sources to meet Best Available Control Measures Requirements (Rule 403) (PM_{10})	SCAQMD,	1997	1997
Miscellaneous Sources				
MSC-01	Promotion of Lighter Color Roofing and Road Materials and Tree Planting Programs (All Pollutants)	SCAQMD, Local Government	1999	2000
MSC-02	In-Use Compliance Program for Air Pollution Control Equipment (All Pollutants)	SCAQMD	1997	1998
MSC-03	Promotion of Catalyst-Surface Coating Technology Programs (All Pollutants)	SCAQMD	1998	2000-2004
PRC-01	Emission Reductions from Woodworking Operations (PM_{10})	SCAQMD	1997	1998
PRC-03	Emission Reductions from Restaurant Operations (VOC, PM_{10})	SCAQMD	1997	2000-2004
WST-01	Emission Reductions from Livestock Waste (VOC, PM_{10}, Ammonia)	SCAQMD	1998	2004-2006
WST-02	Emission Reductions from Composting (VOC, PM_{10}, Ammonia)	SCAQMD	1998	2004-2006
WST-03	Waste Burning (Rule 444) (VOC)	SCAQMD	1997	1997-2010

TABLE 7-3

(continued)

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
Miscellaneous Sources (Cont.)				
WST-04	Disposal of Materials Containing Volatile Organic Compounds (VOC)	SCAQMD	1997	1998-2001
FSS -04	Emission Charges of $5,000 per Ton of VOC for Stationary Sources Emitting Over 10 Tons per Year (VOC)	SCAQMD	TBD	TBD
Compliance Flexibility Programs				
FLX-01	Intercredit Trading Program (All)	SCAQMD	1997	1997-1998
FLX-02	Air Quality Investment Program (All)	SCAQMD	1997	1997-1998
Transportation Control and Indirect Source Measures				
TCM-01	Transportation Improvements (All)	SCAG	1997	2000-2010
Advanced Transportation Technology Incentive Measures				
ATT-01	Telecommunications	The Partnership, SCAQMD, SCAG, Local Gov't	TBD	TBD
ATT-02	Advanced Shuttle Transit	The Partnership, SCAQMD, SCAG, Local Gov't	TBD	TBD
ATT-03	Zero-Emission Vehicles/Infrastructure	The Partnership, SCAQMD, SCAG, Local Gov't	TBD	1997-2010
ATT-04	Alternative Fuel Vehicles/Infrastructure	The Partnership, SCAQMD, SCAG, Local Gov't	TBD	1997-2010
ATT-05	Intelligent Vehicle Highway Systems (IVHS)	The Partnership, SCAQMD, SCAG, Local Gov't	TBD	TBD

TABLE 7-3

(continued)

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
Further Study Strategy				
FSS-02	Market-Based Transportation Pricing	State or Local Agencies	TBD	TBD
On-Road Mobile Sources				
M1	Accelerated Retirement of Light-Duty Vehicles	ARB/SCAQMD	1997	1997-2010
M4	Heavy-Duty Diesel Vehicles; Early Introduction of Low-NO_x Engines	ARB	TBD	1997-2002
M5	Heavy-Duty Diesel Vehicles; Additional NO_x Reductions in California	ARB	1997	2002
M6	Heavy-Duty Diesel Vehicles; 2.0 g/bhp-hr NO_x Standard - National	U.S. EPA	1997	2002
M7	Accelerated Retirement of Heavy-Duty Vehicles	ARB	1997	1997-2010
MON-09	In-Use Vehicle Emission Mitigation	SCAQMD	1997	1998-2010
MON-10	Emissions Reduction Credit for Truck Stop Electrification	SCAQMD	1997	1998-2010
Off-Road Mobile Sources				
M11	Industrial Equipment; Gas & LPG - California	ARB	1997	2000-2004
M12	Industrial Equipment - Gas & LPG - National	U.S. EPA	1997	2000-2004
M13	Marine Vessels; National and International Standards	U.S. EPA	1997	1998-2001
M14	Locomotives; Nationwide Standards, New and Rebuilt	U.S. EPA	1997	2000-2010
M16	Pleasure Craft; Nationwide Emission Standards	U.S. EPA	1996	1998

MOF-07	Credits for the Replacement of Existing Pleasure Craft Engines with New Lower Polluting Engines	SCAQMD	1997	1998-2010

Federal Agencies

The Plan proposes to incorporate several measures defined in the 1994 California Ozone SIP that are directed at federally regulated sources. Specifically, the Plan contains seven measures relative to sources such as planes, ships, trains, most construction and farm equipment, industrial equipment, and off-highway vehicles. These SIP-related measures are listed on Table 7-3.

ARB

Several measures are proposed to be implemented by the ARB. One of the most important of these measures is the implementation of the scrappage program (i.e., M1).

The ARB is also responsible for adopting some of the off-road mobile source emission standards, and will be implementing the control measures in the AQMP directed towards reducing emissions from consumer products. Table 7-3 identifies the control measures that ARB (and other state agencies) will be responsible for implementing in the 1997 AQMP.

There are several other state agencies that will need to implement control measures which fall within their authority. For example, the state Department of Pesticides Regulation (DPR) has direct authority over pesticide applications. ARB will have a key role in working with the DPR, along with the District, to ensure that the measure is implemented.

District

The District is responsible for implementing the stationary source control measures and some of the area and mobile source measures. As shown in Table 7-3, stationary source control measures will be implemented primarily through District rules and regulations as specified in federal and state law.

Stationary and Area Source Measures

As indicated in Chapter 4, several key new approaches are proposed for implementing the stationary source emission reduction measures. Specifically, the Plan proposes to use source-specific control approaches, market incentives, educational outreach efforts, permitting processes, and manufacturer certification processes to implement most of the stationary source measures. In addition, the Intercredit Trading Program and the Air

Quality Investment Program will provide greater flexibility to stationary sources to comply with District regulations. Chapter 4 and Appendix IV provide more detail relative to these implementation approaches.

Transportation Control Measures

Market Incentive Measures

A market incentives task force was established with SCAG, CalTrans, the Coalition for Local Environmental Solutions and a Competitive Economy (COALESCE), the District and over 50 business and industry leaders to develop a regional congestion and air quality mitigation program to replace the Indirect Source Rules contained in the 1994 AQMP and to improve mobility in the region. The Reduce Emissions And Congestion on Highways (REACH) Task Force was convened in response to actions called for in the 1994 AQMP and SCAG's Market Incentives Task Force. Under a $1.1 million grant from the Federal Highway Administration and a $220,000 contribution from COALESCE, the REACH Task Force is exploring the feasibility of establishing nominal charges for motorists based upon vehicle use to improve mobility and air quality. Money raised through these fees would likely be dedicated to improving air quality, and the transportation system.

Local Governments and SCAG

Local governments (cities and counties) are also responsible for helping to provide supportive actions through participation in voluntary programs. Local governments and transportation agencies are also responsible for implementing several measures in the Plan including, but not limited to, the transportation improvements called for in the Plan. SCAG is responsible for helping local governments coordinate their efforts and for ensuring that the region's transportation projects, programs and plans conform to the SIP.

Congestion Management Program (CMP) Linkage to the AQMP

The CMP is a comprehensive strategy to relieve traffic congestion and maintain levels of service on roadways. Assembly Bill (AB) 471 and AB 1791 required county transportation commissions (CTCs) or other designated agencies to adopt a CMP by December 1, 1991. County CMPs have subsequently been developed in consultation with the regional transportation planning agency (i.e., SCAG), regional transportation providers, local governments, Caltrans, and the District.

The CMP interlinks with the AQMP in several areas. Most AQMP transportation control measures included in the Regional Transportation Improvement Program are designed to help relieve congestion. Implementation of the AQMP will help local governments tackle congestion, reduce emissions from idling vehicles or vehicles traveling on congested roadways, and help maintain the CMP's level of service standards.

Many local governments already have ordinances under development or approved to comply with the CMP. Through the CMP, local governments have contributed to the clean air effort. Local governments may receive credits for emission reductions associated with

the implementation of CMPs to the extent they are real, quantifiable, and enforceable and have not been included in the AQMP baseline as part of the Regional Mobility Element (RME).

The CMP and the AQMP are further linked through the local capital improvement program. This required element of the CMP must be consistent with the county and Regional Transportation Improvement Program (RTIP), which in turn must be consistent with the RME. The latter in turn must conform with the AQMP.

In addition, local governments are encouraged to work cooperatively with their CTCs and subregional agencies to craft integrated trip reduction strategies to meet the CMP trip reduction requirements.

Southern California Economic Partnership (The Partnership)

The Partnership is a non-profit organization with a 26-member Board of Directors assigned the mission of accelerating the deployment of advanced transportation technologies (ATTs) throughout Southern California. It was established out of the needs of the SCAG Regional Mobility Element and the 1994 AQMP to have an effective implementation organization for advanced transportation technology strategies.

The Partnership, through its public/private participatory structure, is uniquely capable of providing networking and guidance to those parties interested in the deployment of advanced transportation technologies throughout Southern California. Stakeholder "cluster group" meetings on each technology are held on a regular basis, usually at the District or at SCAG offices, to discuss implementation barriers and assist in the development of deployment and marketing strategies. It has in effect become a clearinghouse of ATT information and progress.

To aid Southern California cities and counties in ATT deployment, The Partnership has developed "Model City Starter Kits" for each of the technologies. These books provide goals and objectives, implementation worksheets, model policies, model resolutions, building codes, product/service technology updates, infrastructure suggestions and requirements, training and safety requirements, case studies, funding opportunities and an activity recognition program. The Partnership provides these comprehensive guide books free to each Southern California community and conducts workshops and presentations to encourage participants to use ATTs. It also develops and distributes ATT newsletters and promotional materials to heighten awareness and garner unified understanding and support for the technologies from both the public and private sectors. Most of this information is also presented on The Partnership's Web Site which is continuously updated with deployment achievements throughout the region. Measures to be carried out by The Partnership are non-regulatory & thus do not have specific "adoption" dates but will be implemented through the AQMP planning period. Legislation

may assist in implementing these measures but it is too early to establish specific adoption dates.

The Partnership Market Deployment Plan

The Partnership applies the same market deployment strategic planning to each of the five AQMP advanced technologies. The approach is multi-disciplinary, totally integrated, constantly evolving and consists of: 1) deployment education and guidance, 2) workshops and outreach, 3) technology/industry communications and awareness programs, 4) information distribution and networking support, 5) partnership creation/brokering, and 6) legislative initiatives and actions.

Deployment Education and Guidance

"Model City Starter Kits, " presented in easy-to-update three-ring binders, have been created for each of the technologies and distributed free of charge to every city and county in the South Coast Air Basin and the SCAG region.

Workshops and Outreach

To generate additional interest and understanding of technology deployment, The Partnership occasionally hosts technology workshops at the District and other convenient locations for local elected officials, city planners and managers, with considerable private sector involvement and support. In addition to these workshops, The Partnership also: 1) makes presentations to cities, schools and organizations; 2) distributes monthly technology "News Flashes" to all stakeholders via facsimile; and 3) attends the meetings of related organizations and project developers.

Technology/Industry Communications and Awareness Programs

The Partnership has created individual technology/industry logos and slogans to help give a singular identity, purpose and synergy to advanced transportation deployment activities throughout the region. It is intended that these logos and slogans, and the customizable advertising and promotional materials on which they appear, can be accepted and used by both public and private sector technology participants to foster cooperation and accelerate awareness, understanding and support among the public at large. To the extent possible, the creation of these materials is financed by the private sector.

Information Distribution and Industry Networking Support

In its unique technology-neutral position, The Partnership has created a breakthrough, advertising-supported, consumer friendly Web Site which individually showcases each technology. The interactive site encourages feedback from stakeholders and, as a clearinghouse of information, provides networking opportunities between manufacturers/service providers and purchasers/implementors. It is organized into fifteen sub-home pages for quick access and maneuverability:

- Partnership
- Mission and Schedule of Meetings and Activities
- (5) Technology Showcases
- Helpful Technology Application Scenarios
- Technology Showroom
- Hyperlinks to Manufacturers
- Infrastructure Requirements
- Hyperlinks to Product/Service Providers
- Infrastructure Deployment
- Up-to-Date Locations of Infrastructure Deployment
- Industry Information Bank
- Hyperlinks to Associations, Organizations, Resources
- Model City Starter Kit Order Form
- Feedback Forum
- Partnership Creation/Brokering

Since The Partnership works closely with all the stakeholders in each of the five advanced transportation technologies, it has become a de facto clearinghouse of ATT information. In this capacity, it is uniquely suited to direct and introduce interested participants to other stakeholders with similar goals and into the formation of productive and mutually beneficial public/private partnerships.

Much of The Partnership's efforts will be documented on the Internet at the following address: "www.scag.ca.gov/depts/scep/."

LONG-TERM MEASURES

Implementation of the long-term measures in the 1997 AQMP depends on advances and breakthroughs that are expected over the next 13 years. This requires aggressive research and development efforts which have been ongoing at the District and other state and federal agencies.

As outlined in Chapter 4, achieving clean air standards in the South Coast area requires the application of advanced technologies. The District's Technology Advancement Office (TAO) sponsors public-private research and development partnerships in order to identify and promote low- and zero-emissions technologies for both stationary and mobile sources. The Mobile Source Air Pollution Reduction Review Committee (MSRC) which was

established in 1990 with the adoption of Assembly Bill 2766, funds projects to reduce air pollution from motor vehicles as needed for implementing the California Clean Air Act of 1988.

Table 7-4 lists some key recently-completed or currently-underway projects sponsored by the TAO to facilitate development and commercialization of low-polluting technologies. Table 7-5 lists recently completed or current projects sponsored by the MSRC to reduce mobile source emissions. Tables 7-4 and 7-5 are the specific long-term measures associated with the projects. Some of the stationary source projects do not have specific linkages to the long-term measures but serve as future technologies that may be available to meet current regulations with future compliance dates or short- and intermediate-term AQMP control measures.

The AQMP proposes an incentive program to encourage the use of fuel cell technology. The 1994 AQMP also created a fuel cell implementation task force whose role is to: (1) identify specific areas and goals for fuel cells application, (2) investigate infrastructure needs for the development of fuel cells, and (3) suggest mechanisms to accomplish the goal of expediting the commercial implementation of fuel cells in the Basin. The task force is led by the District and comprised of representatives of potential interested and affected parties in the Basin and fuel cell manufacturers. The overall goal of the task force is to provide incentives for people to utilize and perhaps manufacture fuel cells in the Basin.

Table 7-6 lists the targeted implementation schedule for the proposed long term measures. To ultimately achieve full implementation of the advanced technologies, control methods and market mechanisms proposed in this Plan, numerous agencies will need to develop and follow implementation schedules. These agencies, as well as the District, may need to seek additional legal authority and resources, including funding, to carry out some of the activities for which they are responsible.

TABLE 7-4

Current or Recently-Completed
TAO Projects

Project Description	Pollutant(s)	Goal(s)[1]	Associated Long-Term Measure
1. Conventional Fuel Vehicles			
Heavy-Duty Emissions Testing - Chassis Dynamometer Testing - Demonstrate Vehicle Test Facility	VOC, NO_x, CO, PM_{10}	A, B, E, F	M5, M6
On-Road Vehicle Emissions Testing - Remote Sensing to Detect High Emitters - Tunnel Study for Phase 2 Gas Emissions - Smoking Vehicle PM_{10} Emissions Testing	VOC, NO_x, CO	A, B, C, D, F	M2

Off-Road Vehicle Evaluations - In-Use Gas Lawnmower Emissions - 3-Way Catalyst for Off-Road Applications	VOC, NO_x, CO	A, B, C, D, F	M9, M10
Advanced Vehicle Technologies - Ultracapacitor for Catalyst Heating - On-Board Vehicle Emissions Measurement	VOC, NO_x, CO	A, D	New Measure Development

2. Alternative Fuel Vehicles

Develop and Demonstrate Heavy-Duty Alternative Fuel Engines and Vehicles	VOC, NO_x, CO, PM_{10}	A, B, E	New Measure Development
Develop and Demonstrate Medium-Duty Alternative Fuel Engines and Vehicles	VOC, NO_x, CO,	A, B, E	New Measure Development
Develop and Demonstrate Passenger Car and Light-Duty Truck Alternative Fuel Engines and Vehicles	VOC, NO_x, CO	A, B, E	M2
Develop and Demonstrate Off-Road Alternative Fuel Engines and Vehicles - LNG Locomotive - CNG-Fueled Airport Service Equipment - Methanol Yard Equipment	VOC, NO_x, CO, PM_{10}	A, B, D, E	M9, M10
Establish Alternative Fuel Vehicle Refueling Facilities	VOC, NO_x, CO, PM_{10}	B, E	M2, M9

[1] A. Demonstration of current or potential ARB standards and guidelines
B. Enhances databases (e.g., emission factors, infrastructure data, health data, etc.)
C. Demonstration of current or potential District rules and guidelines
D. Supports technical feasibility
E. Supports commercialization efforts
F. Supports emissions inventory

TABLE 7-4

Current or Recently-Completed
TAO Projects
(continued)

Project Description	Pollutant(s)	Goal(s)[1]	Associated Long-Term Measure
3. Zero- or Near-Zero Emission Vehicles			
Develop and Demonstrate On-Road Battery Electric Vehicles - Ford EV Ecostar - Electric Water Delivery Truck - U. S. Postal Service EV	VOC, NO_x, CO, PM_{10}	A, B, D, E	M2
Develop and Demonstrate On-Road Hybrid Electric Vehicles - Propane Hybrid Electric Refuse Truck - Heavy-Duty Hybrid EV	VOC, NO_x, CO, PM_{10}	A, B, D, E	M2
Develop and Demonstrate On-Road Fuel Cell Vehicles - Ballard PEM Fuel Cell Bus - PEM Fuel Cell Automobile - U. S. DOE PAFC Bus	VOC, NO_x, CO, PM_{10}	A, B, D, E	M2 New Measure Development
Develop and Demonstrate Off-Road Battery Electric and Fuel Cell Vehicles and Equipment - Electric Airport Ground Support Equipment - Fuel Cell Locomotive	VOC, NO_x, CO, PM_{10}	B, C, D, E	M9, New Measure Development
Develop and Demonstrate Advanced Battery and Range Extender Technologies - AC Propulsion EV Range Extender - Aluminum Air Battery - Sealed Bipolar Lead Acid Battery	VOC, NO_x, CO, PM_{10}	B, C, D, E	M2, New Measure Development
Support for Solar Car Projects	VOC, NO_x, CO, PM_{10}	B, D, E	M2, New Measure Development

[1] A. Demonstration of current or potential ARB standards and guidelines
B. Enhances databases (e.g., emission factors, infrastructures data, health data, etc.)
C. Demonstration of current or potential District rules and guidelines
D. Supports technical feasibility
E. Supports commercialization efforts
F. Supports emissions inventory

TABLE 7-4

(concluded)

Project Description	Pollutant(s)	Goal(s)[1]	Associated Long-Term Measure
4. Stationary Sources			
Develop and Demonstrate Advanced Low-NO_x Technologies - Ultra-Low NO_x Industrial Burner - Alzeta Radiant Burner - Low-NO_x Residential Water Heaters - Low-NO_x Glass Melting System - Cannon NO_x Digester	NO_x	A, B, C	New Measure Development
Demonstrate Low-VOC Surface Coatings - Vernonia Oil Coatings - Substitutes to Vernonia Oil	VOC	A, B, C	ADV-CTS
Demonstrate Low-VOC Industrial Processes - Plasma Waste Destruction to Hydrogen - Air Vest Technology - Wet Cleaning vs. Perc.-based Dry Cleaning	VOC, Toxics, CFCs	A, B, C	ADV-PRC
5. Renewable and Clean Energy Technologies			
Demonstrate Stationary Fuel Cell Technologies - 250 kW Molten Carbonate Fuel Cell - Prototype Residential Fuel Cell System	NO_x	A, B, E	New Measure Development
Demonstrate Solar Technologies - Southern California Edison Solar Two - 8 kW Solar Dish / Sterling Engine System - Roof-Integrated Solar Cells	NO_x	A, B, E	New Measure Development
Demonstrate Battery Recycling Technologies	Toxics	A, D, E	M2, New Measure Development
6. Health Effects Studies			
PM and PM_{10} Studies - Coachella Valley PM_{10} Study - Allergens / Particles in Paved Road Dust	PM_{10}	A, B	------
Health Impacts of Air Pollutants - Morbidity Data Analysis - Identification of Chronic Health Effects	VOC, NO_x, CO, PM_{10}, Toxics	A, B	------

[1] A. Demonstration of current or potential ARB standards and guidelines
B. Enhances databases (e.g., emission factors, infrastructure data, health data, etc.)
C. Demonstration of current or potential District rules and guidelines
D. Supports technical feasibility
E. Supports commercialization efforts

F. Supports emissions inventory

TABLE 7-5

Current or Recently-Completed
MSRC Projects

Project Description	Pollutant(s)	Goal(s)[1]	Associated Long-Term Measure
1. Vehicle Demonstrations			
Alternative Fuel Vehicles - Replacement of Municipal Fleet Vehicles - Buses and Trolleys in Revenue Service - Repower HD Fleet Vehicles	VOC, NO_X, CO, PM_{10}	A, B, C, E	M2, Additional Measures
Zero or Near-Zero Emission Vehicles - EVs in Municipal Transit Bus Fleets - EV Airport Shuttles - EV Station Cars	VOC, NO_X, CO, PM_{10}	A, B, C, D, E	M2, Additional Measures
2. Other Air Quality Project Funding			
Transportation Control Measures - Rideshare and Telecommuting Strategies - Trip Reduction Strategies - Commuter Assistance (e.g., Shuttles)	VOC, NO_x, CO, PM_{10}	B, C	ATT-01, ATT-05
Educational Outreach - Educational Materials for Schools - AQ and Alt. Fuel Training Program Support - Develop University AQ Training Curricula	VOC, NO_x, CO, PM_{10}	B, E	------
AQMP Implementation - Develop Regional and Subregional Plans - Facilitate Implement. of AQMP Measures	VOC, NO_x, CO, PM_{10}	B, C	------
Studies / Modeling - Transportation, Emissions, VMT Modeling - Remote Sensing Devices - Truck Traffic Simulation Modeling	VOC, NO_x, CO, PM_{10}	B, C, F	ATT-01, ATT-05
General Research and Development - State-of-the-Art "Showcase EV" - Advanced Electric-Assist Bicycle - Electric Motorcycle Technologies - EV Thermoelectric AC System	VOC, NO_x, CO, PM_{10}	B, C, E, F	M2, Additional Measures

[1] A. Demonstration of current or potential ARB standards and guidelines
B. Enhances databases (e.g., emission factors, infrastructure data, health data, etc.)
C. Demonstration of current or potential District rules and guidelines
D. Supports technical feasibility
E. Supports commercialization efforts
F. Supports emissions inventory

TABLE 7-6

1997 AQMP Long Term Control Measures, Implementing Agency, Adoption Date and Implementation Period

Control Measure Number	Control Measure Name	Implementing Agency	Adoption Date	Implementation Period
LONG -TERM MEASURES				
Stationary Sources				
ADV-CP04	Consumer Products (VOC)	ARB	2001-2005	2002-2010
ADV-ARCH	Architectural Coatings (VOC)	SCAQMD	2003-2005	2006-2010
ADV-CLNG	Solvent Cleaning and Degreasing Operations (VOC)	SCAQMD	2003-2005	2006-2010
ADV-CTS	Miscellaneous Industrial Coating and Solvent Operations (VOC)	SCAQMD	2001-2004	2005-2010
ADV-FUG	Fugitive Emissions (VOC)	SCAQMD	2001-2004	2006-2010
ADV-MSC	Miscellaneous Small Sources (VOC)	SCAQMD	2002-2004	2006-2010
ADV-PRC	Industrial Process Operations (VOC)	SCAQMD	2002-2004	2006-2010
Mobile Sources				
M-2	Improved On-Road Control Technology	ARB	2000	2004-2005
M-9	Off-Road Diesel Equipment, 2.5 G/BHP-HR NO_x - California	ARB	2001	2005
M-10	Off-Road Diesel Equipment, 2.5 G/BHP-HR NO_x - National	U.S. EPA	2001	2005
M-15	Aircraft; Nationwide Emission Standards	U.S. EPA	1999	2000
ADV-ON	New Measure Development to Achieve Overall Emission Reductions - On-Road	ARB	Post-2000	2010
ADV-OFF	New Measure Development to Achieve Overall Emission Reductions - Off-Road	ARB	Post-2000	2010

AQMP Commercialization Plan for Advanced Technologies and Fuels

The commercialization of advanced zero and near-zero emission technologies is essential in order to fully implement the AQMP. Section 182(e)(5) of the federal Clean Air Act contemplates that expedited actions will be undertaken to ensure that the cleanest technologies and fuels are brought to their fullest possible market potential to address the

particularly severe air quality in Southern California. An AQMP Commercialization Plan for Advanced Technologies and Fuels has been developed which focuses on the key steps which must be undertaken to establish sustainable and growing markets for the utilization of advanced technologies and clean fuels.

The District's Technology Advancement Office has, over the last eight years, established a strong and widely respected foundation for the continued development, demonstration, technology transfer and commercialization of innovative zero and near-zero emission technologies. Such technologies include fuel cells; alternative fuel vehicles such as electric vehicles and those fueled by CNG, methanol, LNG, etc.; advanced coatings; and fugitive emission mitigation technologies. In order to build on the success of these efforts, a Commercialization Plan has been developed which identifies the key steps to be undertaken in the context of the 1997 AQMP to help foster the widespread market penetration of these technologies and alternative clean fuels. Table 7-7 identifies the key elements of this Plan. A major focus of this Commercialization Plan is on the specific projects that can be funded and/or coordinated through a targeted Commercialization Program within the District's Technology Advancement Office.

This Commercialization Plan emphasizes a synergistic approach which combines the following program elements:

- Biennial technology assessments are needed which routinely update the identification of cutting edge technology. Such assessments will identify the lowest emission technologies currently being researched, developed, demonstrated and commercialized. Due to the fast pace and international scope of innovation, these assessments will provide continual updates on the leading technologies and sponsoring organizations. Specific information in these assessments will include the emission control efficiencies being achieved by specific technologies in laboratory-scale and commercial scale applications, as well as the known or projected costs, durability, operational performance, energy efficiency, environmental sustainability, principal technical and cost barriers and likely commercial viability and timeframe for such advanced technology.

TABLE 7-7

Current or Recently-Completed Projects

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
STATIONARY SOURCES		
1. ADV-ARCH, ADV-CLNG, ADV CTS		
♦ Coatings Research Center ♦ Wet cleaning as a substitute for PERC-based dry cleaning, ♦ Aerospace VOC reduction Technology identification ♦ High performance wood furniture coatings	♦ Biennial technology assessment of advanced solvent and coatings formulations and applications technologies ♦ Annual industry and user workshops to identify priorities for joint research and development, and commercialization. ♦ Formal solicitation of research, development and demonstration projects	♦ Numerous market niches include the following: ◊ electric components ◊ marine coatings ◊ architectural coatings ◊ adhesives ◊ paper, fabric and film ◊ motor vehicle equipment ◊ metal parts ◊ graphic arts ◊ wood product assembly ◊ aerospace assembly ◊ plastic, rubber ◊ etc.
	♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, no later than 1998, by market segment, fuel type or technology type ♦ Specific projects may include the following: 1) Phase III vernonia oil coatings 2) Phase III Coating Research Inst. development and demonstrations 3) Phase II wet cleaning technology demonstration to wider market segments 4) Phase III development and demonstration of Reactive Aqueous Defluxing Systems with aerospace companies; associated technology transfer workshops, etc. 5) Phase III Aerospace VOC technology development, demonstration and technology transfer 6) Architectural coatings technology assessment, demonstration of zero emission interior and exterior, high durability and quality coatings	

TABLE 7-7

(continued)

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
2. ADV-FUG		
♦ Plasma waste reduction ♦ Asphalt emissions study ♦ Landfill gas abatement with methanol production ♦ Hydrocarb biomass to methanol tech. assessment, ♦ Landfill biofilter ♦ Absorbent beds using microwave technology ♦ Biofiltration of HC-contaminated air	♦ Biennial- technology assessment of advanced fugitive emission control technologies and substitute processes, focused on specific market segments ♦ Annual industry and user workshops to identify priorities for joint research and development, and commercialization ♦ Formal solicitation of research, development and demonstration projects ♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, in 1997, by market segment, fuel type or technology type ♦ Specific projects may include the following: 1) Phase II asphalt emissions study and technology assessment 2) Fugitive emission control technology assessment 3) Solicitation of R & D proposals regarding control of fugitive emissions from specific types of facilities, such as refineries, chemical facilities, landfills, etc.	♦ Market niches differentiated as follows: ◊ Refineries ◊ Chemical facilities ◊ Oil and gas production ◊ Natural gas plants ◊ Pipeline transfer stations ◊ Landfills
3. ADVANCED MISCELLANEOUS VOC SOURCES		
♦ Plasma Waste destruction to H2 ♦ Air Vest wet cleaning biofilter technology demonstration ♦ Restaurant emissions assessment ♦ Roof-integrated solar cells ♦ Photocatalytic destruction of Hazardous Organic Wastes ♦ Prototype PEM residential fuel cell development and demonstration ♦ Photovoltaic electric vehicle recharging	♦ Biennial technology assessment of advanced emission control technologies and substitute processes for a variety of small sources, focused on specific market segments ♦ Annual industry and user workshops to identify priorities for joint research and development, and commercialization. ♦ Formal solicitation of research, development and demonstration projects. ♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, by 1998, by market segment, fuel type or technology type	♦ Market niches include: ◊ roofing ◊ road construction ◊ woodworking ◊ bakeries ◊ restaurants ◊ waste burning ◊ construction and demolition ◊ disposal of VOC-containing materials ◊ malt, wine and brandy production ◊ rubber production

carport

TABLE 7-7

(continued)

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
	♦ Specific development and/or demonstration projects may include the following: 1) Air Vest technology; 2) roof integrated solar cells 3) Phase II, fuel cell develop. for small power tools 4) Phase III UC Riverside restaurant emissions control technology assessment, development and demonstration 5) catalyst surface coating technology with catalyst manufacturers	
4. ADV-PRC		
♦ Solar-based H2 electrolysis ♦ engines ♦ Biofilter control technology applied to Casting operations ♦ Methanol backup generator ♦ ♦ Non-diesel / non-CFC cryogenic refrigeration unit for trucks	♦ Biennial technology assessment of advanced VOC emission control technologies and substitute processes for a variety of industrial processes, focused on specific market segments ♦ Annual industry and user workshops to identify priorities for joint research and development, and commercialization. ♦ Formal solicitation of research, development and demonstration projects ♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, by the year 2000, by market segment, fuel type or technology type ♦ Specific development and/or demonstration projects may include the following: 1) Phase II fuel cell demonstration with lower capital costs 2) Phase III Solar Dish - Sterling engine demonstration with OEM, with lower capital costs 3) Phase II residential fuel cell power development and demonstration	♦ Market niches include: ◊ chemical plants ◊ plastic manufacturing ◊ fiberglass manufacturing ◊ commercial diesel generator sets ◊ chemical plants ◊ fiberglass manufacturing ◊ plastics manufacturing ◊ fluid catalytic crackers

TABLE 7-7

(continued)

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
MOBILE SOURCES		
5. IMPROVED ON-ROAD VEHICLE CONTROL TECHNOLOGY		
♦ Alternative fuel vehicle research, development and demonstrations involving the following fuels and technologies: ◊ Battery electric vehicles ◊ Hybrid electric vehicles ◊ Fuel cell vehicles ◊ LNG trucks ◊ CNG cars, trucks and buses ◊ Methanol vehicles ◊ Ethanol vehicles ◊ LPG vehicles ◊ Hydrogen	♦ Biennial- technology assessment of advanced emission control technologies for on-road clean fuel ULEV's and ZEV's, focused on specific market segments ♦ Annual industry and user workshops to identify priorities for joint R & D, and commercialization. ♦ Formal solicitation of research, development and demonstration projects ♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, starting in 1997, by market segment, fuel type or technology type ♦ Specific development and demonstration projects may include the following 1) Demonstration of electric vehicles in Rental Car Fleets 2) Advanced EV battery and Charging systems 3) Demonstration of advanced EV's with advanced batteries 4) Development and demonstration of on-road fuel cell technologies 5) Optimized medium-duty CNG engine conversion kits 6) Demonstration and assessment of propane/butane blends 7) Advanced heavy duty truck development and	Vehicle market niches include: a) light duty b) medium duty c) heavy duty trucks d) transit and commercial . buses User market niches include: 1) rental fleets 2) public fleets 3) private fleets 4) individuals

	vehicles	demonstration
◊	Advanced batteries	8) LNG fueling facility design optimization 9) Advanced hybrid vehicle development and demonstration 10) Alternative fuels infrastructure expansion and utilization incentives 11) Expanded alternative fuel model availability by OEM's

TABLE 7-7

(continued)

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
◊ advanced ultra-capacitors ◊ Advanced catalyst ◊ Advanced remote sensing	12) Fuel tax parity authorization relative to gasoline and diesel 13) Vehicle purchase and other market incentives for alternative fuel vehicle purchases 14) Development and demonstration of off-road alternative fuel technologies 15) Demonstration and assessment of ultra-low sulfur and equivalent diesel and gasoline formulations	

6. OFF-ROAD INDUSTRIAL EQUIPMENT - 2.5 GRAM/BHP-HR NOx

	♦ Biennial Technology assessment of advanced emission control technologies and alternative fuels for off-road industrial equipment, focused on specific market segments ♦ Annual Industry and user workshops to identify priorities for joint research and development, and commercialization. ♦ Formal solicitation of research, development and demonstration projects ♦ Specific development and demonstration projects may include the following ♦ Formation of one or more joint industry/government **Commercialization Coordination Councils**, starting in 1997, by market segment, fuel type or technology type ♦ Specific development and demonstration projects may include the following	Market niches include the following: 1) Industrial engines of 175 hp and above, excluding farm and construction equipment 2) forklifts 3) utility equipment (e.g., lawnmowers) 4) leaf blowers 5) etc.

	1) Development and demonstration of zero emission utility equipment 2) Heavy duty emissions characterization for reduction of NOx and PM-10 3) Fuel-borne catalyst demonstration and assessment 4) Catalytic converter retrofit development, demonstration and optimization for off-road engines	

TABLE 7-7

(concluded)

Previous TAO Project	Planned TAO Projects to Foster Commercialization	Remarks
	5) Commercial fuel cell power supply development program 6) Development and demonstration of low emission alternative fuel technologies for off-road applications Development of incentives to increase utilization of clean fuel technologies Demonstration and assessment of ultra-low sulfur and equivalent diesel and gasoline formulations	

- Regular Industry and User Workshops are needed which will help build consensus on the appropriate priorities for joint research, development, demonstrations and commercialization strategies. Developers, manufacturers, energy providers, other regulatory agencies and commercial users of advanced low-emission technologies have all proven to be essential partners with the District in implementing cost-effective advanced technology demonstrations, as well as helping define the critical barriers which need to be removed to establish a sustainable commercial market for clean technologies. It is especially constructive to obtain routine feedback from the users of prototype technologies to identify and address barriers for more widespread market penetration of a technology. These workshops will specifically be focused on identifying the following:

    a) Advanced emission control concepts and technologies
    b) Research and development needs
    c) Potential demonstration sites

d) Existing and potential involvement in specific advanced technologies and clean fuels by original equipment manufacturers (OEM's)
e) Cost reduction opportunities to enhance the competitiveness of specific technologies
f) Identification of a critical mass of private sector and government partners to target the sustained development of a technology
g) Dissemination of technical and cost information on the leading zero-emission and near-zero technologies and alternative fuels

- Formal, competitive solicitations of proposals will be undertaken for relevant and pragmatic research, development and commercial-scale demonstrations The evaluation criteria for these solicitations will involve the following:

  a) Emission reduction potential
  b) Technological innovation
  c) Project cost-sharing
  d) Commercialization potential and business development expertise
  e) Cost-effectiveness
  f) Relevant contractor experience
  g) Overall environmental impacts and benefits

- The establishment of Commercialization Coordination Council help bring together industry decision leaders, as well as key policy makers, to continuously chart the path to commercialization for core technologies, such as fuel cells, ZEV's and advanced coatings.

  Highly visible market leadership, as well as timely coordination, among a diverse range of organizations, both public and private, is critical for the successful introduction of advanced technologies and clean fuels. The establishment of a prominent and expert Council to advise the District on key steps which are needed to ensure the sustainable commercialization of core AQMP technologies will directly address this need. The specific focus of such Councils will vary depending on the timeframe in which commercialization of a specific technology or clean fuel is anticipated. In the stationary source area, separate Commercialization Coordination Councils will be established for Consumer Products, Advanced Coatings and Solvents, Advanced Fugitive Emissions Controls, and Industrial VOC Controls. For mobile sources, similar Councils will be established for Advanced On-Road Vehicle Clean Fuels and Technologies (separate fuel-related or technology related Councils, such as one for Fuel Cells, may also be established) and for Advanced Off-Road Industrial Equipment. On-going coordination will also continue with the California Energy Commission's process of overseeing the restructuring of the utility industry pursuant to AB 1890.

Targeted research, development and demonstration projects are also needed to remove key barriers and prove the commercial robustness of advanced technologies and alternative clean fuels. These projects will be funded through the District's Technology Advancement Office, and will leverage funding provided by other public and private organizations. These projects will be updated on a routine basis. The latest Technology Advancement Plan, adopted by the Board at its October 1996 meeting, served as the foundation for this Commercialization Plan.

- The development of incentives, such as legislative tax incentives and policies, is needed to help create more competitive and diversified market conditions for advanced emission control technologies and clean fuels. Such incentives may include tax incentives for trucking firms and others to purchase alternative fuel vehicles and infrastructure, as well as the removal of disincentives in the federal excise tax code as it applies to vehicle fuel.

Given the diversity of measures identified in the 1997 AQMP, this Commercialization Plan focuses on specific market niches, some of which can serve as "market anchors" for wider scale commercialization and technology transfer over time. Specific stationary source related commercialization projects are identified for Consumer Products, Solvents and Coating Operations, Fugitive Emissions, Miscellaneous Small Sources and industrial process sources of VOC. Commercialization projects for mobile sources are also identified, focused on on-road vehicles and off-road industrial sources.

Since the District's Technology Advancement Office program primarily focuses on mobile source related clean fuel projects, the Commercialization Plan identifies a more extensive list of research, development and demonstration projects related to the use of advanced emission control technologies and alternative clean fuels used in passenger cars, light and medium duty trucks and buses.

The implementation of this Commercialization Plan will entail staff and funding resource commitments by the District. Comprehensive and coordinated efforts will be undertaken which identify all the critical barriers to commercializing a specific technology. The Plan also takes a pragmatic approach by focusing simultaneously on the most viable near term niches for a technology or clean fuel application, while at the same time addressing specific issues and potential barriers related to the following:

- Technology readiness for wide scale use
- Optimized emission benefits
- Minimized capital and operating costs
- Competitive commercial performance, durability, warranties and customer support
- Convenient and cost-competitive fueling and recharging infrastructure
- Nurturing of early adapters and market champions

- Establishment of appropriate fuel tax policies and other incentives
- Removal of anti-competitive fuel tax policies and other disincentives
- Maximized learning from in-use demonstration, especially from commercial users
- Dissemination of technical information
- Participation in industry and/or government workshops, conferences and working groups, etc.
- Assessment of external regulatory policies (e.g., ARB., PUC, CEC, EPA, etc.) and the formulation of strategic recommendations to foster commercialization of advanced technologies and clean fuels.

Based on the accumulation of successful demonstration experience with advanced technologies through the District's Technology Advancement Office, the stage is now set for a targeted Commercialization Plan which helps further focus District resources. This Plan is structured to take maximum advantage of the numerous synergies which exist with other agencies and private industry. The partnerships needed to implement this Commercialization Plan will be continuously recast to leverage the most recent trends in market conditions (e.g., the de-regulated utility sector) and the most advanced technologies. The success of this Commercialization Plan is also expected to provide significant economic stimulus to the region's economy, while helping ensure that air quality standards are achieved and maintained. When fully realized in the early part of the twenty-first century, this Plan will represent a model for regional problem solving and cooperation.

IMPLEMENTATION SUPPORT ACTIVITIES

Implementation of the 1997 AQMP will require support activities sponsored by the District and SCAG. These efforts are described in the following subsections.

District Assistance and Outreach Programs

Since the adoption of the 1991 AQMP the District has provided assistance to the agencies charged with implementing the Plan. A key accomplishment was the District's CEQA Air Quality Handbook to assist local governments in assessing and mitigating air quality impacts from projects within their jurisdiction.

An important ongoing outreach program is the Interagency AQMP Implementation Committee (IAIC). The IAIC provides ongoing coordination between key local government entities and the District Board as the AQMP is implemented. Some objectives of the IAIC include:

- Identifying how local governments throughout the region should interact with the District to ensure implementation of the AQMP.

- Identifying and resolving issues that could affect timely implementation of the AQMP.

- Assisting the District in developing and carrying out its local government outreach program to ensure that local government information, technical, and policy input needs are met.

- Determining how local governments should be involved in the AQMP implementation update process.

- Developing a structure for identifying, analyzing, and resolving potential conflicts between air quality and other regional goals.

The IAIC also established a Technical Advisory Committee (TAC) which provides technical input on AQMP programs and policies, and suggested issues relating to AQMP implementation for the IAIC to discuss.

Through the IAIC and TAC, the District is better able to facilitate and coordinate the implementation efforts of the local agencies in the Basin.

Business Assistance

The District has initiated several programs to assist businesses that must comply with the requirements promulgated in the Plan. For the 1997 AQMP, these efforts will be continued and strengthened. Several of the District's assistance programs are highlighted below.

Through the District's "New Directions" campaign, several programs have been developed and implemented to assist the regulated community. These programs include: permit streamlining practices, interaction with small and medium-sized businesses, source education programs, compliance assessment programs and the continued implementation of the Small Business Assistance and Economic Development and Business Retention offices.

The Public Advisor assures business input to the District's policy makers through community workshops, industry-specific meeting, and ethnic business working groups. Fee Review and other technical assistance helps companies resolve issues in a cooperative manner.

The District's Small Business Assistance office helps owners/operators participate in the District's policy and rule development process and helps them comply with applicable

requirements. It offers permit application and processing assistance as well as compliance and financial assistance.

The Air Quality Assistance Fund (AQAF) is one of the Small Business Assistance office's many functions. The District established this program to assist small businesses within its jurisdiction needing financial help to purchase air pollution control equipment. The loan guarantee may be approved for up to 90 percent of the loan amount, ranging from a minimum of $15,000 to a maximum of $250,000. The AQAF has enabled a number of businesses to obtain equipment financing which might not otherwise have been able to obtain credit and meet start-up costs.

The District created the Economic Development and Business Retention (EDBR) office in 1992 in response to the economic downturn experienced by the nation and particularly in Southern California. The primary objective of the Economic Development and Business Retention office is to facilitate the commercialization of new low-emitting technologies. This creates jobs and helps to retain existing businesses through introduction of and conversion to more efficient and less-polluting technologies. The EDBR office has already helped approximately 500 companies with their compliance goals and has thus far helped to create or retain an estimated 6000 or more jobs in Southern California.

SCAG Assistance

SCAG has provided significant assistance and outreach to local governments in understanding, assessing and implementing programs to address TCM and air quality issues. Beginning in early 1993, SCAG has provided funding to its thirteen subregions to help develop policies and strategies and prepare monitoring programs which address TCMs, air quality and mobility requirements--identifying locally sensitive implementation options and continuing to develop monitoring programs to report progress.

In cooperation with the District, SCAG helped create The Partnership and the REACH Task Force as discussed previously in this chapter. SCAG continues in an active role to implement new strategies to improve air quality and mobility.

MONITORING

The 1997 AQMP sets the course for attaining the federal and state air quality standards in the Basin. As the Plan is implemented, it is essential to periodically assess the effectiveness of the air pollution control programs in reducing emissions, and to determine whether or not the Basin is still proceeding along the course set forth in the AQMP. Monitoring the AQMP's effectiveness will also be an integral part of preparing the annual rule work plan. The monitoring report will provide the necessary information to monitor for maximum feasible measures and expeditious adoption schedule required by the CCAA.

It is equally important that the people who live and work in the Basin be kept informed of the efforts being undertaken to improve air quality, and of the extent to which air quality is improving as a result. The monitoring report can provide this kind of feedback to the Basin's residents.

Monitoring the effectiveness of the AQMP is required by the CCAA (Health and Safety Code Sections 40924) and federal Clean Air Act (Part D, Section 172). Specifically, the CCAA requires that the District prepare and submit a report each year to the ARB summarizing the Basin's progress in meeting the schedules for developing, adopting, or implementing the air pollution control measures contained in the Plan.

Every third year, the District is required to assess the overall effectiveness of its air quality program, including determining the quality of emission reductions achieved, and the rate of population and industrial- and vehicular-related emissions growth compared to the assumptions and goals contained in the Plan. The District is also required to assess the extent of air quality improvement, based upon ambient pollutant measurements and best available modeling techniques. These reports are required by law to be adopted by the District at a public hearing and to be transmitted to the ARB.

The federal Clean Air Act also requires nonattainment areas, such as the Basin, to document "reasonable further progress" in achieving incremental reductions of air pollution.

SCAG, with the assistance of county transportation commissions and subregions, prepares the portion of the monitoring reports that pertain to local government transportation and land use measures and submits those portions to the District for inclusion in the full monitoring reports.