

**Bay Area 2005 Ozone Strategy**  
**Draft Program Environmental Impact Report**

*October 7, 2005*

**Volume II**  
**(Appendices)**

*Prepared for:*

Bay Area Air Quality Management District  
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**APPENDIX A**

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**NOTICE OF PREPARATION**

APPENDIX A

CEQA

**NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT  
REPORT FOR THE BAY AREA 2004 OZONE STRATEGY**

**To:** Interested Agencies, Organizations and Individuals

**Subject:** Notice is hereby given that the Bay Area Air Quality Management District (BAAQMD) will be the lead agency and will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA), in connection with the project described in this notice. The Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) will be responsible agencies for this project under CEQA. This Notice of Preparation is being prepared pursuant to California Public Resources Code § 21080.4 and CEQA Guidelines Section 15082.

**Project Title:** Bay Area 2004 Ozone Strategy

**Project Location:** The Ozone Strategy will apply within the jurisdiction of the BAAQMD, which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties. A map of the BAAQMD is attached to this Notice of Preparation.

**Project Descriptions:** The proposed Ozone Strategy will address two separate and different sets of air quality planning requirements under State and Federal law. The proposed Ozone Strategy will include stationary source control measures, transportation control measures (TCMs), mobile source control measures and other measures to reduce emissions of the pollutants that form ground-level ozone. Measures may be implemented by the BAAQMD, MTC, ABAG and other parties.

The proposed Ozone Strategy will set forth strategies to make progress toward attainment of the California one-hour ozone standard.

The proposed Ozone Strategy will also provide for maintenance of the national one-hour ozone standard and will include (1) control measures that serve as contingency measures to go into effect if a violation of the national one-hour ozone standard occurs during the maintenance period, and (2) control measures that replace Transportation Control Measure (TCM) 2, a TCM included in the 1982 Bay Area Air Quality Plan, and provide more expeditious emission reductions than those expected from TCM 2.

The BAAQMD is charged under the California Clean Air Act with the responsibility for adopting the elements of the Ozone Strategy addressing state air quality planning requirements. The BAAQMD, along with MTC and ABAG, will collectively adopt the elements of the Ozone Strategy addressing the national one-hour ozone standard and control measures to replace TCM 2. Upon adoption, all elements of the Ozone Strategy will be transmitted to the California Air Resources Board for approval under the requirements of the applicable state and federal clean air acts. Only the elements

addressing the national one-hour ozone standard and the control measures to replace TCM 2 will be transmitted to the U. S. Environmental Protection Agency for inclusion in the state's federal air quality plan called the California State Implementation Plan. A more detailed Project Description begins on the page 3.

**Probable Environmental Effects:** The project is intended to and expected to benefit public health and the environment by reducing emissions of the air pollutants that form ozone. However, implementation of the control measures described in the project could result in secondary environmental effects if, for example, any means used to reduce these emissions causes impacts to water, air quality, energy, hazards and hazardous materials, noise, public services and transportation.

**Response:** This notice provides information on the above project and provides you an opportunity to submit comments on potential environmental effects that should be considered in the EIR. If the proposed project has no bearing on you or your agency, no action on your part is necessary. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but *not later than 30 days* after receipt of this notice. If you or your agency wishes to submit comments, they may be sent to BAAQMD Senior Planner, Joseph Steinberger, via the contact information below. Individuals or agencies concerned with the environmental effects of the proposed Ozone Strategy may also provide comments in person at a scoping meeting to be held at the following place and time.

**Scoping Meeting**

**MetroCenter**

**Auditorium**

**101 8<sup>th</sup> Street**

**Oakland, CA**

**Tuesday, April 20, 2004**

**9:00 – 11:00 am**

**Written Comments**

**JOSEPH STEINBERGER, SENIOR PLANNER**

**Bay Area Air Quality Management District**

**939 Ellis Street**

**San Francisco, CA 94109**

**Phone: (415) 749-5018 Fax: (415) 749-4741**

**Email: [jsteinberger@baaqmd.gov](mailto:jsteinberger@baaqmd.gov)**

**DATE: MAY 1, 2004**



**Jack P. Broadbent**

Executive Officer/Air Pollution Control Officer

## PROJECT DESCRIPTION

Ozone in the lower atmosphere is an air pollutant that is harmful to humans because it causes respiratory problems. Ozone also reduces crop yields and accelerates deterioration of paints, finishes, rubber products, plastics, and fabrics. In 1979, the United States Environmental Protection Agency (EPA) established a health-based ambient air standard for ozone. This national one-hour ozone standard is set at 0.12 parts per million (ppm) averaged over one hour. California has a separate standard for ozone set at 0.09 ppm, also averaged over one hour. The San Francisco Bay Area air basin is designated as a non-attainment area for the California one-hour ozone standard and is seeking redesignation to attainment for the national one-hour ozone standard.

The Bay Area Air Quality Management District (BAAQMD), in conjunction with the Metropolitan Transportation Commission and the Association of Bay Area Governments, is preparing the Bay Area 2004 Ozone Strategy. The proposed Ozone Strategy outlines a strategy for making progress toward attainment of the California one-hour ozone standard in the Bay Area. The proposed Ozone Strategy is also intended to separately demonstrate continued attainment of the national one-hour ozone standard in the Bay Area. This Notice of Preparation of an Environmental Impact Report addresses the proposed Ozone Strategy.

The San Francisco Bay Area air basin, in which the proposed Ozone Strategy would apply, encompasses all of seven counties—Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa, and portions of two others—southwestern Solano and southern Sonoma. The BAAQMD is governed by a 21-member Board of Directors, made up of elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution from non-vehicular sources within its jurisdiction.

Because ozone is formed through chemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight, efforts to reduce ozone seek to limit emissions of ROG and NO<sub>x</sub> into the atmosphere. In general, ROG comes from evaporation or incomplete combustion of fuels, from the use of solvents in cleaning operations and in paints and other coatings, and in various industrial and commercial operations. NO<sub>x</sub> is produced through combustion of fuels by mobile sources – cars, trucks, construction equipment, locomotives, aircraft, marine vessels – and stationary sources such as power plants and other industrial facilities.

Exceedances of the California and national ozone standards in the Bay Area have decreased significantly with the regulation and reduction of ozone precursor emissions (i.e. ROG and NO<sub>x</sub>). This improvement is due to State and national regulations requiring cleaner motor vehicles and fuels, BAAQMD regulations requiring reduced emissions from industrial and commercial sources, as well as programs to reduce the use of motor vehicles.

Proposed control measures in the Ozone Strategy will augment the extensive federal, state, regional and local regulations and programs that are already in place. They may include, but are not limited to, more stringent controls on stationary sources such as

refineries, transportation control measures to reduce vehicle use and emissions, and incentives to reduce emissions from mobile sources.

### **Attainment of California One-Hour Ozone Standard**

The Ozone Strategy will include an assessment of the region's progress toward attaining the California ozone standard and reducing exposure to ozone. The State has not set a deadline to attain the California one-hour ozone standard. The Ozone Strategy will identify "all feasible measures," as required by the California Clean Air Act, for control of ozone precursors that will assist the Bay Area in attaining the California ozone standard and address pollutant transport to downwind regions. The Ozone Strategy will be prepared in accordance with applicable provisions of the California Clean Air Act. It will update the Bay Area 2000 CAP adopted by the BAAQMD Board of Directors on December 20, 2000.

Measures included in the Ozone Strategy are expected to produce environmental benefits by reducing emissions of ozone precursors. The environmental review of the Ozone Strategy will evaluate whether any measures will have secondary adverse environmental impacts, which could occur, for example, through the use of an emission reduction technology that itself may cause some adverse impact. The BAAQMD has prepared a preliminary list of measures that may be included in the Ozone Strategy. The list is likely to undergo further revision as the Ozone Strategy is finalized. Based on the Bay Area's atmospheric photochemistry, control measures that reduce ROG are the most helpful in the expeditious attainment of national and state ozone standards. The preliminary measures would reduce ROG emissions from the emission sources listed below:

- Autobody refinishing
- Refinery wastewater systems
- Refinery flares
- Gasoline bulk terminals and plants
- Graphic arts operations
- High emitting spray booth operations at industrial surface coating facilities
- Loading of marine vessels with petroleum cargos
- Polyester resin operations
- Organic liquid storage tanks
- Refinery pressure relief devices
- Coating of wood products

The environmental review of the proposed Ozone Strategy will also examine the environmental effects of some stationary source measures that reduce NO<sub>x</sub> emissions. In general, atmospheric models and ambient measurement show that, due to the nature of Bay Area atmospheric photochemistry, reducing Bay Area NO<sub>x</sub> emissions may increase localized Bay Area ozone levels. However, under some circumstances, reducing Bay Area NO<sub>x</sub> emissions may reduce ozone levels downwind of the Bay Area. NO<sub>x</sub> reductions will also help reduce levels of fine particulate pollution in the Bay Area. The

BAAQMD has identified preliminary measures that would reduce NO<sub>x</sub> emissions from the following sources:

- Boilers, steam generators, and heaters
- Stationary gas turbines

The environmental analysis will also examine the environmental effects from enhancements to the 19 existing transportation control measures (TCMs) in the 2000 CAP listed below. The enhancements include measures to improve rail, bus and ferry service, ridesharing facilities and programs, bicycle and pedestrian facilities, parking programs, smart growth programs, and Spare the Air program enhancements.

- TCM 1: Support Voluntary Employer-Based Trip Reduction Programs
- TCM 3: Improve Local and Areawide Bus Service
- TCM 4: Improve Local and Regional Rail Service
- TCM 5: Improve Access to Rail and Ferries
- TCM 6: Improve Interregional Rail Service
- TCM 7: Improve Ferry Service
- TCM 8: Construct Carpool / Express Bus Lanes on Freeways
- TCM 9: Improve Bicycle Access and Facilities
- TCM 10: Youth Transportation
- TCM 11: Install Freeway / Arterial Metro Traffic Operations System
- TCM 12: Arterial Management Measures
- TCM 13: Transit Use Incentives
- TCM 14: Improve Rideshare / Vanpool Services and Incentives
- TCM 15: Local Land Use Planning and Development Strategies
- TCM 16: Intermittent Control Measure / Public Education
- TCM 17: Construct Demonstration Projects
- TCM 18: Transportation Pricing Reform
- TCM 19: Pedestrian Access and Facilities
- TCM 20: Traffic Calming

The environmental analysis of the proposed Ozone Strategy will also evaluate mobile source measures that encourage vehicle maintenance and the use of low-emission vehicles, engines, fuels and lubricants (e.g. synthetic motor oil) and reduced idling by trucks and other diesel equipment. It will also examine additional measures that are being considered for inclusion in the proposed Ozone Strategy but do not fit into the previous source categories. These measures include clean air labeling, energy conservation, and public education programs.

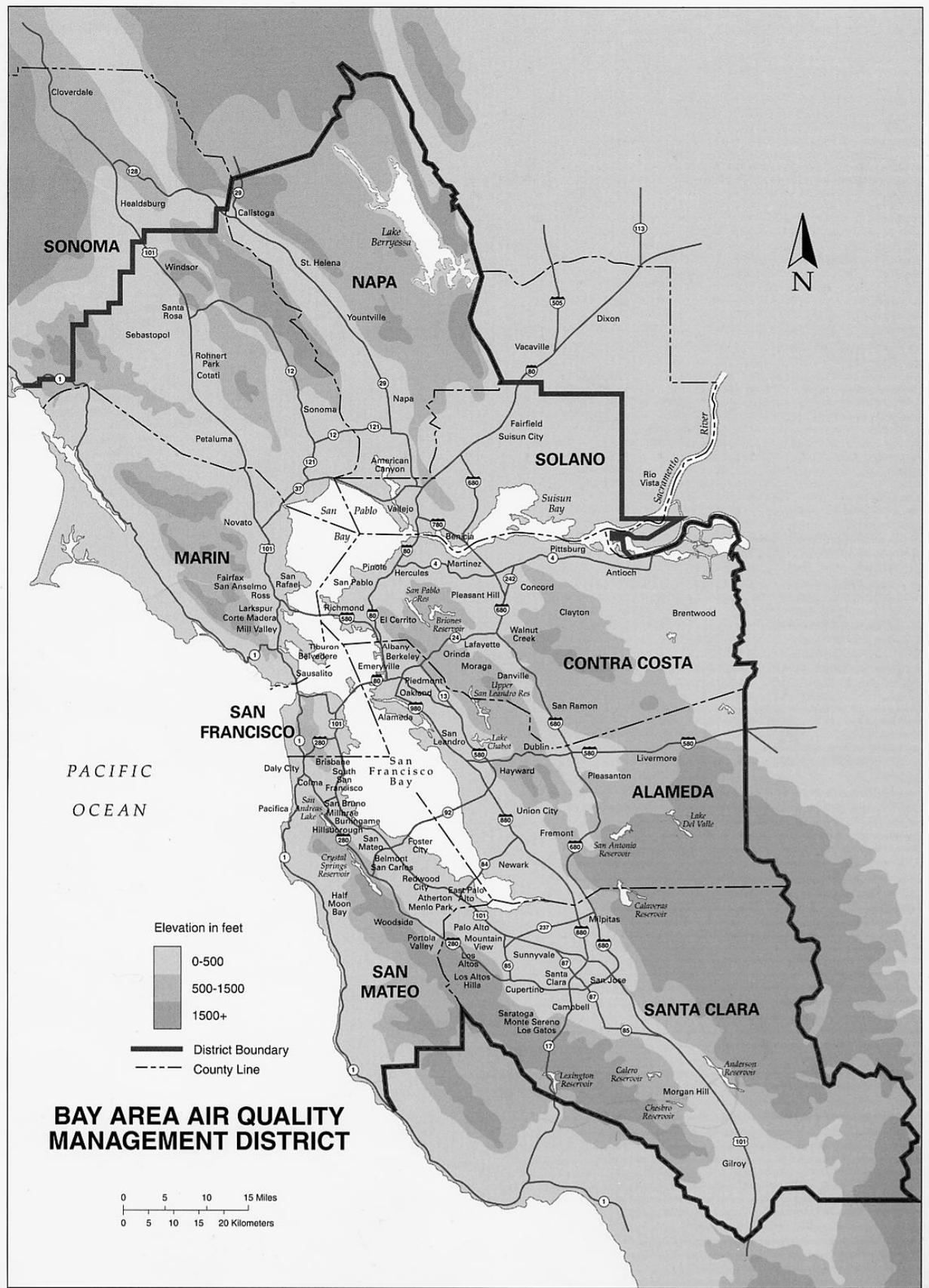
### **Maintenance of National One-Hour Ozone Standard**

The Ozone Strategy will also contain a demonstration that the national one-hour ozone standard has been attained, provide for maintenance of the standard, and include

contingency measures to be implemented if a violation of the standard occurs in the future. This portion of the Ozone Strategy will be prepared in accordance with applicable provisions of the federal Clean Air Act.

This portion of the Ozone Strategy will also propose a transportation control measure (TCM) replacement. Federal air quality planning regulations allow for the replacement of existing control measures with other control measures provided the measures achieve emission reductions equal to or greater than the measures being replaced. The environmental review of the Ozone Strategy will examine the proposed measures that would replace TCM 2 (titled “Support post-1983 improvements identified in transit operator’s 5-year plans...”) in the 1982 Bay Area Air Quality Plan. The proposed replacement of TCM 2 would be accomplished through substitution of measures which meet the emission reduction requirements of TCM 2.

**APPENDIX A: NOTICE OF PREPARATION/INITIAL STUDY**



## **APPENDIX B**

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### **COMMENTS RECEIVED ON THE NOP**



## **COMMENT LETTER 1**

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**Contra Costa County Community Development Department  
April 26, 2004**

Community  
Development  
Department

County Administration Building  
651 Pine Street  
4th Floor, North Wing  
Martinez, California 94553-0095

Phone: (925) 335-1278

April 26, 2004

Joseph Steinberger, Senior Planner  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Dear Mr. Steinberger:

This letter is intended to provide our response to the Notice of Preparation for the Bay Area 2004 Ozone Strategy (Ozone Strategy). It includes our comments and input regarding the information that should be included in the scope of the environmental analysis for this project. Staff would also like to express their continued interest to study efforts that have the potential to alleviate both traffic congestion and improve air quality and the public health of Bay Area residents.

It is our understanding that the environmental analysis will study the effectiveness of the Ozone strategy to evaluate both the enhancements to existing TCM and the evaluation of new TCM's, as part of the attainment to the California ozone standard. Additionally the Ozone Strategy will review new TCM's that would replace, and still meet the requirements of, TCM 2 as part of the effort to meet the National 1 hour standard. The County is particularly concerned about the secondary impacts from the proposed revisions to the TCMs. For instance, TCM 3 through 8 provide additional transportation capacity (more rail, bus and HOV facilities) which will support the continued conversion of land to higher intensity uses and impact our natural resources. The Draft EIR should examine the mitigation measures or alternatives to the TCMs proposed the Ozone Strategy that can reduce these secondary effects.

- The Draft EIR should examine the ability of Developer-based trip reduction ordinances to mitigate the secondary environmental effects of land use and development by enhancing the ability of TCM 15 (Local and Land Use Planning and Development Strategies) to further improve air quality. Currently the proposed TCM has the ability to affect land use and planning strategies by addressing the need for local governments to respond to air quality impacts in their jurisdiction by incorporating air quality elements within their General Plans. However, within the proposed TCM there currently is no discussion of encouraging localities to draft Developer-based trip reduction ordinances as part of their planning and development strategies and General Plan policies. Trip Reduction Ordinances have the ability to mitigate several air quality impacts by providing the jurisdictions ability to impose requirements on a developer or property owner to integrate practical facilities (that facilitate walking, bicycling and transit use) and services to the development of their site.

The implementation of such requirements outlined in the ordinance is a feasible method with which local governments can implement air quality improvements within their General Plan policies. The addition of trip reduction ordinances within the measures addressing land use and development strategies further illustrates the connection between land use, transportation and air quality. The ability of such measures to significantly improve air quality provides the Air District with reasonable authority to implement such measures and/or support other agencies in implementing and monitoring them as part of the Ozone Strategy should those agencies be deemed responsible for such measures.

Office Hours Monday - Friday: 8:00 a.m. - 5:00 p.m.  
Office is closed the 1st, 3rd & 5th Fridays of each month

Contra  
Costa  
County

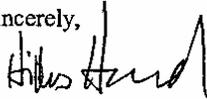


Dennis M. Barry, AICP  
Community Development Director

- The Draft EIR should evaluate the ability of TCM 8 (Construct Carpool / Express Bus Lanes of Freeways) to further mitigate the environmental effects of this measure to improve air quality. The proposed TCM should evaluate the ability of existing and proposed High Occupancy Vehicle (HOV) facilities to have standard occupancy requirements, specifically on Bay Area Bridges and the roadways. Currently TCM 8 discusses the air quality impacts of new HOV lane construction on regional freeways and expressways. However, the measure does not identify the potential air impacts that could be feasibly mitigated by coordinating the operation of existing HOV bypass lanes at the toll plazas of Bay Area bridges with the occupancy and time restrictions of the existing or funded HOV lanes feeding into these toll plazas. The existing HOV occupancy requirements on Bay Area bridges vary with their adjacent HOV lanes at several locations. This variation in occupancy requirement and time restrictions between the road and connecting bridge facilities could potentially adversely impact the ability to reduce mobile source emissions by making it difficult to encourage car/vanpooling in the Bay Area. Therefore the Air District should give serious consideration to revising the occupancy requirements and time restrictions governing the HOV bypass lanes at the toll plazas of Bay Area bridges to match the requirements of the HOV lanes feeding into these toll plazas. This would serve the dual purpose of creating a seamless connection of regional HOV facilities and mitigate the production of nitrogen oxides (NOx), one of the main ozone precursor emissions.

The Air District should carefully study the all feasible mitigation measures and alternatives to the TCM's proposed in the Ozone Strategy. The Air District should take actions within its power to implement such mitigation measures and alternatives and encourage other responsible agencies to take actions that could and should be done in support of the Ozone Strategy and in support of the public's health. This response is provided to support preparation of a complete and adequate EIR for the Ozone Strategy.

Sincerely,



Hillary P. Heard, Transportation Planning Division

c: S. Goetz, CDD

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## **COMMENT LETTER 2**

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**Law Office of Mark Chytilo  
August 30, 2004**

# LAW OFFICE OF MARC CHYTILO

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ENVIRONMENTAL LAW

April 30, 2004

**Revised**

Mr. Joseph Steinberger, Senior Planner  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109

By Mail and Email: [jsteinberger@baaqmd.gov](mailto:jsteinberger@baaqmd.gov)

RE: Comments to CEQA NOP and Preliminary Comments on Scope of BAAQMD 2004 Clean Air Plan

Dear Mr. Steinberger and the BAAQMD:

This office represents Transportation Solutions Defense and Education Fund, an organization that advocates for smart growth and sound planning in the areas of air quality, transportation and land use. This letter is also submitted on behalf of Communities for a Better Environment, a statewide environmental health and justice organization, and Our Children's Earth Foundation. **Please accept this revised letter of this date and discard the previously submitted version.**

Commenters have reviewed the NOP and related issues surrounding the development of the 2004 Clean Air Plan ("CAP") and state implementation plan for maintenance of the one hour ozone standard ("SIP"). In the interest of ensuring that various legal and technical issues are timely addressed in this effort, we are taking this opportunity to address a range of issues that we believe should be addressed and included in the 2004 CAP. Please feel free to contact this office or any of the principals directly should you have any questions.

Generally, commenters believe that a number of requirements of the California Clean Air Act and the federal Clean Air Act have not been addressed in prior CAPs and SIPs, and by this letter, we seek to identify those issues which we request the District and its co-lead agencies devote attention to develop and resolve these issues.

## I. CLEAN AIR ACT AND CALIFORNIA CLEAN AIR ACT ISSUES

### 1. Attainment demonstration

The District has historically declined to prepare an attainment demonstration for its CAPs. It is apparent, from a careful reading of the California Clean Air Act, that there is an implicit

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obligation to prepare an attainment demonstration, and in the absence thereof, the CAP cannot be found legally adequate.

The California Clean Air Act directs that all Bay Area CAPs and SIPs must meet the standards of Health and Safety Code §§ 40717 and 40233, which are accomplished through, *inter alia*, preparation of: 1) an estimate of the emissions reductions from transportation sources **necessary to attain state and federal ambient air quality standards**, Health and Safety Code §§ 40233(a)(1); 40717(b)(1)(emphasis added); and 2) development and adoption of a Transportation Sources Plan on a schedule adopted by each District and including a formal process for review, comment, revision, and potential District oversight of the Transportation Sources Plan implementation. Health and Safety Code §§ 40233(a)(3) and 40717(b)(2-3).

Commenters and the District have previously disputed the meaning of § 40233. Although the case was resolved, we note that a California State court has upheld this interpretation of identical authority applying to the Bay Area Air Quality Management District in *CBE & TRANSDEF v. Bay Area Air Quality Management District & Metropolitan Transportation Commission*, San Francisco County Superior Court, Statement of Decision filed July 24, 2003, page 4 (“The Court finds there has been a violation of Health and Safety Code § 40233 [analogous to § 40717]. . . . [There] is a shortfall of [emissions reductions necessary to meet the attainment emissions inventory] of 26 tons of VOC emissions per day. [Respondents] are ordered within 60 days from notice of entry of order to develop a plan for public review that reduces VOC by an additional 26 tons per day.”).

Thus this authority establishes that Districts must undertake an attainment demonstration process sufficient to estimate emissions reductions from transportation sources necessary for attainment, which implicitly mandates an attainment demonstration of some type modeling all sources.

## 2. TCM Plan

Commenters believe that the specific elements and requirements of Health and Safety Code § 40233 apply to the adoption of this CAP and maintenance plan and we thus implore the District and its co-lead agencies to fully and faithfully observe all such requirements.

## 3. Reasonably Available Transportation Control Measures

The California Clean Air Act directs Districts to “**focus particular attention on reducing emissions from transportation and areawide emissions sources.**” Health and Safety Code § 40910, emphasis added. While we applaud recent strides by the District and its co-lead agency MTC to promote Smart Growth principles and enhance public transit opportunities, commenters believe that more can be done to more forcefully leverage the public transportation funding process to provide more definite incentives for Smart Growth and use of public transit and to disincentivize single occupancy vehicle use and sprawl.

We believe that a potentially useful objective may be modeled after a portion of the federal Clean Air Act applying to severe and above areas. 42 U.S.C. § 7511a(d)(1) directs that areas develop SIP revisions containing separate TCMs sufficient to independently offset any growth in emissions from increases in VMT and numbers of vehicle trips.

In addition, there are numerous pollution control measures that are required by other air districts that were not put in the 2001 Ozone Attainment Plan. These measures are obviously "reasonable available." CBE made extensive comments related to this during the public comment periods for the 2001 Ozone Attainment Plan. (This letter incorporates CBE's July 16, 2001 comments on the BAAQMD/MTC/ABAG Proposed Final Ozone Attainment Plan (June 2001 version)).

#### 4. Air Pollution Transport

The District has an obligation under state and federal law to quantify and resolve transport issues such that all areas in the State attain the state standard "by the earliest practicable date," Health and Safety Code § 40913(a), and the federal standards "as expeditiously as practicable" 42 U.S.C. § 7502(a)(2)(A), "within the entire geographic area comprising such State." 42 U.S.C. § 7407(a). Merely complying with ARB's transport mitigation regulations does not meet these standards.

Not only has the Legislature expressly mandated that CAPs "focus particular attention on reducing emissions from transportation and areawide emissions sources," Health and Safety Code § 40910, but TCMs are particularly important for transport mitigation due to their disproportionate NO<sub>x</sub> emissions reductions. The District argues that it is VOC limited, so its control strategies generally do not focus on NO<sub>x</sub> emissions reductions. However, NO<sub>x</sub> emissions reductions to address transport may affect ozone attainment, so the complex issue must be expressly and qualitatively addressed, not avoided, in the 2004 CAP and SIP. In fact, EPA rescinded the District's NO<sub>x</sub> waiver in 1997, stating, "It is clear, upon final redesignation of the Bay Area to nonattainment based on subsequent violations of the Ozone NAAQs, that the basis for granting the original NO<sub>x</sub> waiver no longer exists." 62 Fed.Reg. 66578 (Dec. 19, 1997) Thus, all reasonable available NO<sub>x</sub> controls should be included.

#### 5. Long Term TCM Benefits

We note that many agencies discount TCMs in their attainment strategies on the basis of perceived limited immediate emissions reductions. It is our opinion that TCMs can be substantially more effective at gaining emissions reductions than current methodologies credit, and further that the long term air quality benefits of transit and Smart Growth TCMs offer substantial cumulative air pollution control benefits, such as through slowed rates of VMT growth. Regardless of the actual immediate benefits, the California Clean Air Act mandates RATCMs "sufficient to substantially reduce the rate of increase of passenger vehicle trips and

miles traveled per trip” for moderate areas and above, and thus must be a component of most CAPs anyway. Health and Safety Code § 40918(a)(3).

6. Justification of HOV Network as TCM

We note that the District has previously denoted high occupancy vehicle lane networks as a potential TCM. We question, however, whether HOV networks are appropriate as TCMs, since numerous studies show them to be air quality neutral at best and they typically increase highway capacity and induce further VMT while discouraging more systematic solutions, such as regional- and commute-focused public transit.

7. Contingency measures

The CAP and SIP must contain, respectively, contingency measures sufficient to implement in the event of a finding by ARB pursuant to Health and Safety Code § 41503.3 or in the event of a one-hour ozone violation, 42 U.S.C. § 7502(c)(9).

The past practice of simply including ARB state tailpipe standards or other impending controls as contingency measures is not appropriate. By statute, federal contingency measures are to be automatically applied if the area fails to meet a milestone, implicitly to allow the area to “catch up” from unanticipated violations. Reciting the eventual adoption of tighter tailpipe and other statewide standards cannot serve this purpose, and thus the CAP and SIP must identify and adopt a new generation of genuine contingency measures for the Bay Area.

8. TCM Substitution

The NOP is not clear how the District and MTC intend to accomplish the so-called “TCM substitution.” Since this is identified in this SIP revision process, presumably the TCM substitution will be addressed as a potential SIP revision. If the agencies are intending to proceed with a TCM substitution under other authority or a different process, this should be clearly stated in the relevant documentation, including the NOP.

9. VMT Growth Rate Reduction

The Act requires all areas moderate and above to include all reasonably available transportation control measures (“RATCMs”) in state CAPs to “substantially reduce the rate of increase in passenger vehicle trips and miles traveled per trip.” Health and Safety Code § 40918(a)(3). Most California Air Pollution Control Districts and CAPs, including the Bay Area, fail to achieve the VMT growth rate performance standard. The 2004 CAP must specifically address the RATCM standard and achieve the applicable VMT growth standards imposed by statute. Any action on the CAP and SIP should acknowledge and observe the District’s CEQA Guidelines which address regional VMT growth expressly.

10. Redesignation Issues – Zero Threshold for Permitting

The District should consider requesting redesignation to the “extreme” classification under the California Clean Air Act (CCR 70306(b)), or otherwise adopting the “no net increase” permitting program with a zero threshold. Health and Safety Code § 40918.5. The CAP is required to reduce the threshold currently, thus an alternative that must be examined is reducing the no net increase permitting threshold to zero.

11. Timing Issues

The Clean Air Plan was supposed to be adopted in 2003, but has been delayed, presumably for the Central California Ozone Study data necessary to model attainment and quantify transport contributions and thereby select the most effective control strategies. Nevertheless, the Bay Area has been denied the benefit of this revised CAP’s control strategies and emissions reductions from the delay that has occurred. Commenters request that the CAP examine potential means to rectify the lost progress from this year’s delay.

II. CEQA ISSUES

The NOP contends, and the District’s position in litigation has been, simply, that only the potential impacts of control measures must be considered in the EIR. Commenters contend that this simplistic analysis fails to comport with CEQA’s legal standards of adequacy, and more importantly, fails to apprise decisionmakers and the public of the true consequences and alternatives to the proposed project. We encourage the District to broaden the scope of the EIR to ensure that cumulative effects and the public health effects of the chosen control strategy are disclosed, along with alternatives that might avoid some of the impacts to public health if attainment is achieved more quickly, and/or with a greater margin of safety. (*See, e.g., Communities for Better v. California Resources Agency*, 103 Cal.App.4<sup>th</sup> (2002) 98, 116-123).

There can be other environmental consequences from the CAP’s adoption and implementation, for example, sprawl resulting from excessive future Motor Vehicle Emissions Budgets with attendant conversion of lands and increased traffic congestion, “Smart Growth” from certain transportation control measures with attendant increases in transit system productivity, reduced development pressure and thus preservation of rural and open space lands, and the effects of non-criteria pollutants upon particular communities, such as toxics from cumulatively increased diesel emissions traffic and entrainment/re-entrainment of road-based hazardous particulate matter

1. Scope of Impact Issues

Commenters believe that the CEQA document must address the full range of impacts associated with the District's exercise of discretion in this matter. The analysis must consider not only what control strategies are in the preferred project, but also what control strategies are not (which should be the list of control strategies included in an alternative project) and which, if included, could accelerate attainment and provide more expeditious attainment and protected public health. Since one purpose of the CAP is to achieve and maintain the California ambient air quality standard for ozone, the project is essentially focused on remediating a currently unhealthful environmental condition. "Exposure of sensitive receptors [there are millions of Bay Area asthma sufferers, and millions of children and elderly individuals, each of whom is considered a sensitive receptor for ozone exposure] to substantial pollutant concentrations" is a significant impact. CEQA Guidelines, App. G, III. Every day that the area exceeds an ambient air quality standard, the ozone concentration is "substantial." This represents a significant impact as it exceeds the level that the Air Resources Board established as causing adverse health effects and the Legislature has determined should be attained "by the earliest practicable date."

Given the narrow margin of attainment (see below), the EIR must identify the potential environmental consequences of exceedences during the 2004 ozone season. These consequences include highway sanctions and conformity lapse, either of which could affect the region's receipt of federal transportation funds. These funds, and the projects they support, may have been identified and relied upon as mitigation measures for other projects (such as large development projects). The direct and indirect effects of having the CAP/SIP "aim too low" and cause continuing human exposure and other consequences must be examined.

## 2. Baseline Issues

Ordinarily, the CEQA baseline is the present or reasonably foreseeable conditions that would occur without the project. Commenters believe that the normal baseline for purposes of preparation of a CAP and/or SIP is timely (and for nonattainment areas that have missed attainment dates including the Bay Area, timely refers to the statutory date for attainment) compliance with the ambient air quality standards, and by assuming this baseline, the environmental review document must articulate and address the effects of the delayed compliance with the standard, and the significant impacts to human health and economic productivity from unhealthful ambient air quality in the interim.

The baseline issue should also provide an empirical evaluation of the economic and emissions activity during the period of attainment. Commenters have provided independent evidence to EPA and the District that the Bay Area experienced a dramatic economic recession during the period of attainment that does not reflect the region's ordinary economic, and thus emissions activity. The previous determination of attainment and redesignation to maintenance was predicated on a prior period of economic downturn, and the past experience creates an obligation on the District to examine the basis for the baseline assumptions of one hour federal ozone standard attainment in the environmental review document.

3. Alternatives Analysis

The EIR's alternatives analysis must identify and compare a range of CAPs with various attainment dates and different levels of margin of safety in demonstrating attaining and/or maintaining the respective standard. This is particularly important for the maintenance plan/SIP, as the margin of attainment is extremely small, both in ozone concentration and number of exceedence days. This narrow margin increases the probability that the region will exceed the federal one hour ozone standard during the 2004 ozone season, preventing redesignation. The EIR should examine more aggressive control strategies as an alternative that would provide a greater margin of safety to protect public health and increase the likelihood that the region will maintain its federal maintenance status.

4. TCM Substitution

The NOP is incomplete due to the failure to describe the process and authority by which the District and MTC intend to accomplish the so-called "TCM substitution." Further, the NOP fails to identify the proposed substitute TCMs, and thus public comment is incomplete. Depending on the substitute TCM proposed, there is the possibility of collateral impacts, such as increased VMT, disproportionate emissions effects on particular communities, higher particulate matter emissions, induced traffic, etc. Transit ridership increases have a particular set of community benefits, including Environmental Justice consequences, that must be considered and expressly addressed through the substitution process, including evaluation in the environmental review document. The NOP is not complete and thus should consider the TCM substitution process to involve a potentially significant impact.

5. Secondary Impacts

The District's overall control strategy may itself cause potentially significant impacts, such as by pursuing a VOC only control strategy and not controlling NO<sub>x</sub> emissions that are more prone to be transported as an ozone precursor and contribute to downwind nonattainment. The proposed control strategies will affect toxic emissions ratios, diesel emissions and particulate matter attainment strategies. The environmental review document must examine the effect of the CAP/SIP on these other pollutants, and identify alternatives that can avoid any significant impacts, and mitigate those that cannot be avoided. Environmental Justice issues must be specifically addressed, as many control strategies affect the spatial and temporal distribution of air pollutants to the detriment of individual neighborhoods and communities.

Commenters acknowledge and appreciate the District's ongoing efforts to control air pollution and improve air quality, but believe that important requirements of the Federal and California Clean Air Acts were not properly addressed. Importantly, the CEQA environmental review process may either serve as a useful adjunct to assist the air quality planning process through

Mr. Joseph Steinberger, BAAQMD  
April 30, 2004 Revised  
Page 8

expansive alternatives analysis and mitigation measures, or it may continue as a perfunctory process with little benefit to decisionmakers or the public. Much more remains to be done in the efforts to provide for healthful air quality for all Bay Area residents and visitors, and we encourage the District to use the CEQA process as a means to improve the quality of the CAP and SIP and answer lingering questions in the community over the District's commitment to aggressive air pollution control.

Thank you for your consideration of our views in this important issue.

Sincerely,

LAW OFFICE OF MARC CHYTILO

A handwritten signature in black ink, appearing to read 'Marc Chytilo', written over a horizontal line.

By: Marc Chytilo

CC: Mr. Jack Broadbent, BAAQMD  
Ms. Kathleen Walsh, BAAQMD  
Ms. Debbie Jordan, EPA  
Mr. Will Rostov, CBE  
Ms. Tiffany Schauer, OCE  
Mr. David Schonbrunn, TRANSDEF

## **COMMENT LETTER 3**

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**Communities for a Better Environment**

BAY AREA 2004 OZONE STRATEGY  
ENVIRONMENTAL IMPACT REPORT  
SCOPING MEETING

**COMMENT FORM**

If you or your agency wishes to submit comments, they may be sent to BAAQMD Senior Planner, Joseph Steinberger, via the contact information below. Comments must be received by May 7, 2004.

**COMMENTS:**

(1) Include analysis of transport's effects in downwind areas (Central Valley) in the EIR.

(2) Include analysis of factors that contributed to the mistaken conclusion that the ozone standard was met (in the 1990s), such as economic conditions, weaker variability, etc., & whether these factors cause uncertainty in present projections of compliance, in the EIR.

**CONTACT INFORMATION:**

Name: Greg Kavvas, Communities for a Better Environment  
Address: 1611 Telegraph Ave., Suite 450 City: Oakland Zip: 94612  
Phone: (510) 302-0430 Fax: (510) 302-0437  
Email: GKARRAS@CBECAI.ORG Affiliation: CBE

Please leave this in the comment box or send to:

Joe Steinberger, BAAQMD, 939 Ellis Street, San Francisco, CA 94109  
Email: [jsteinberger@baaqmd.gov](mailto:jsteinberger@baaqmd.gov) Fax: 415-749-4741



## **COMMENT LETTER 4**

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**California Department of Transportation  
May 4, 2004**

**DEPARTMENT OF TRANSPORTATION**

111 GRAND AVENUE  
P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 286-5505  
FAX (510) 286-5513  
TTY (800) 735-2929



*Flex your power!  
Be energy efficient!*

May 4, 2004

ALAGEN201

Mr. Joseph Steinberger  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Dear Mr. Steinberger:

**BAY AREA 2004 OZONE STRATEGY – NOTICE OF PREPARATION**

Thank you for including the California Department of Transportation in the early stages of the environmental review process for the Bay Area 2004 Ozone Strategy project. Please send two copies of the Draft Environmental Impact Report to the following address as soon as it is available:

Patricia Maurice, Associate Transportation Planner  
Office of Transit and Community Planning, Mail Station 10D  
California DOT, District 4  
111 Grand Avenue  
Oakland, CA 94612-3717

Please feel free to call or email Patricia Maurice of my staff at (510) 622-1644 or [patricia\\_maurice@dot.ca.gov](mailto:patricia_maurice@dot.ca.gov) for more information, or with any questions regarding this letter.

Sincerely,

A handwritten signature in black ink that reads "Timothy C. Sable".

TIMOTHY C. SABLE  
District Branch Chief  
IGR/CEQA

## **COMMENT LETTER 5**

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**MTC; Robert Huang**  
**May 6, 2004**

**Joseph Steinberger**

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**From:** Robert Huang [rhuang@mtc.ca.gov]  
**Sent:** Thursday, May 06, 2004 4:56 PM  
**To:** Joseph Steinberger  
**Cc:** Harold Brazil  
**Subject:** Comment on TCM 13

Joe,

Here are my comments:

Bullet 3 of **Description** for TCM 13 (p. E-20):

Under this bullet should be a description of both pre-tax and employer-subsidized transit voucher options. In fact, since 1998, an increasing number of employees are taking advantage of the pre-tax incentive as they become aware of this tax break and as employers pull back from providing full transit subsidies. Commuter Check is one of several vendors that cater to this market. If you want to mention Ecopass, you should also mention the joint program between AC Transit and UC Berkeley that allows all UC students to ride AC bus free since they paid for it from their registration fees.

Under **Cost** on page E-21:

There was no description of RTC in Description. The cost of \$400,000 is no longer valid; MTC is no longer directly involved with Commuter Check and RTC. Muni manages and operates the RTC; Commuter Check manages its own operation.

If you have any questions, call me at 510/464-7825.

Robert Huang

## **COMMENT LETTER 6**

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**Monterey Bay Unified Air Pollution Control District  
May 3, 2004**



**MONTEREY BAY**  
 Unified Air Pollution Control District  
 serving Monterey, San Benito, and Santa Cruz counties

AIR POLLUTION CONTROL OFFICER  
 Douglas Quetin

24580 Silver Cloud Court • Monterey, California 93940 • 831/647-9411 • FAX 831/647-8501

**DISTRICT BOARD MEMBERS**

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 Santa Cruz County

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Butch Lindley  
 Monterey County

Arturo Medina  
 San Juan Bautista

John Myers  
 King City

May 3, 2004

Jack Broadbent  
 Executive Officer  
 Bay Area AQMD  
 939 Ellis St.  
 San Francisco, CA 94109

**SUBJECT: NOP FOR DEIR FOR BAY AREA 2004 OZONE STRATEGY**

Dear Mr. Broadbent:

Staff has reviewed the referenced document and has the following recommendation for the air quality impact analysis as it relates to the North Central Coast Air Basin:

- The impact of the strategy on downwind ozone levels in the North Central Coast Air Basin should be assessed.

Please do not hesitate to call if you have any questions.

Sincerely,

Janet Brennan  
 Supervising Planner  
 Planning and Air Monitoring Division

## **COMMENT LETTER 7**

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**AC Transit  
May 6, 2004**



1600 Franklin Street, Oakland, CA 94612 - Ph. 510/891-4716 - Fax. 510/891-7157

Joseph Steinberger  
Senior Planner  
Bay Area Air Quality Management District  
939 Ellis St.  
San Francisco, Ca. 94109

May 6, 2004

Subject: Notice of Preparation of Draft Environmental Impact Report for the Bay Area 2004 Ozone Strategy

Dear Mr. Steinberger:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) on the Bay Area 2004 Ozone Strategy. The Ozone Strategy will set forth how the region plans to meet state and federal requirements concerning ozone. The Strategy will describe the actions needed from Bay Area regional agencies--the Air Quality district, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The Strategy will regulate both stationary and mobile transportation sources.

The Notice of Preparation for the Ozone Strategy states that the EIR will evaluate enhancements to 19 of the 20 Transportation Control Measures (TCMs) set forth in the 2000 Clean Air Plan. This effort will be critical to the success of any air quality improvement plan. As the Air Quality district has often stated, motor vehicles are the largest source of air pollution in the Bay Area.

We note that Transportation Control Measure 2 has been deleted. This measure called upon MTC as a responsible agency under the California Environmental Quality Act to "Support post-1983 improvements identified in transit operators' 5 year plans." Our response to this change is discussed later in the letter.

AC Transit believes that the Bay Area must have an effective, adequately funded program to shift travel from single occupant vehicles to transit and other travel modes that minimize air pollution. This requires a strong and stable transit network to realize **TCM 3--Improve Local and Regional Bus Service**. It will require leveling the transportation "playing field" that currently favors automobile drivers through measures such as **TCM 13--Transit Use Incentives** and **TCM 18--Transportation Pricing Reform**. This effort will require restructuring Bay Area land use so that it is transit-friendly rather than transit-hostile, as recognized in **TCM 15--Local Land Use Planning and Development Strategies**. It will require continued development of a transit system that serves all user groups, as indicated by **TCM 10--Youth Transportation**. Development of the transit-related TCMs, such as those we have listed above, must be done in close consultation with AC Transit and other transit operators. In this way, the Air District can formulate a program that is grounded in the realities of Bay Area transit.

May 6, 2004  
Ozone Strategy NOP comments  
Page 2

Before the current recession, transit ridership was growing in the Bay Area, for the first time in decades. However this growth did not reach the full potential for transit ridership here. In our view, there are elements of Bay Area transportation and air quality policy that must change in order to realize more ridership growth. Key items that the TCMs should address include the following:

- Although the balance has shifted somewhat, regional transportation investment has historically focused heavily on long distance trips. However, the bulk of trips in the region are under five miles, with consequent pollution.
- Major investments have been made in long distance services without requiring smart growth and compact development.
- TCM 5 calls for improved access to rail and ferry service, yet many transit passengers must pay an additional fare to transfer, while most auto drivers receive free parking at transit stations. This clearly creates a disincentive to use transit.
- The on-street environment for bus passengers is often poor. Yet there is no general funding source for passenger amenities, and often such improvements must be funded by advertising. In addition, some communities resist the addition of passenger amenities. Poor conditions discourage passengers from riding.
- Perhaps the most critical issue is identifying a stable source of funds for transit--especially operating funds--so that transit agencies are not forced to contract or expand services with the economy. These issues should be addressed in formulating the TCMs.

A realistic, comprehensive program for making transit improvements and increasing transit ridership would capture the spirit and thrust of the deleted TCM2. On the other hand, if the remaining TCMs are not adequately conceptualized, funded, and implemented, then the absence of TCM 2 will be sorely felt. AC Transit is concerned more with the effectiveness of the Transportation Control Measures in shifting travelers' modes and increasing transit ridership than with the particular language that is used.

Thank you for your interest on our comments. If you have any questions about them please contact Nathan Landau, Long Range Planning Division, 510/891-4792.

Yours Truly,



Nancy Skowbo  
Acting Deputy General Manager for Service Development

cc. Rick Fernandez  
Nathan Landau

Ken Scheidig  
Tina Spencer

AC Board of Directors

## **COMMENT LETTER 8**

---

**Santa Clara Valley Transportation Authority  
May 18, 2004**



May 18, 2004

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Attention: Joseph Steinberger

Subject: Bay Area 2004 Ozone Strategy

Dear Mr. Steinberger:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the NOP for the Bay Areas 2004 Ozone Strategy. We have the following comments.

VTA supports Transportation Control Measures that encourage, promote, and increase the use of alternative travel modes of transportation.

We appreciate the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy Molsced', written over a white background.

Roy Molsced  
Senior Environmental Planner

RMM:h



May 18, 2004

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Attention: Joseph Steinberger

Subject: Bay Area 2004 Ozone Strategy

Dear Mr. Steinberger:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the NOP for the Bay Areas 2004 Ozone Strategy. We have the following comments.

VTA supports Transportation Control Measures that encourage, promote, and increase the use of alternative travel modes of transportation.

We appreciate the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy Molsced', written over a white background.

Roy Molsced  
Senior Environmental Planner

RM/ckh

## **COMMENT LETTER 9**

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**Sacramento Metropolitan Air Quality Management District  
May 6, 2004**

May 6, 2004

Joseph Steinberger, Senior Planner  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Dear Sir:

Thank you for sending a copy of your Notice of Preparation of the Draft Environmental Impact Report (DEIR) for the Bay Area 2004 Ozone Strategy, and for your agency's ongoing participation in meetings to resolve ozone transport issues. We look forward to continuing this dialogue. We hope that it will lead to agreement on the ozone transport control measures that should be included in your Ozone Strategy. Below we provide our specific recommendations for your DEIR.

#### A) Summary

The DEIR summary must list the, "Areas of controversy known to the lead agency." (CEQA Guidelines, sec. 15123.)

The BAAQMD and the SMAQMD have made great strides over the last year in resolving differences over the ozone transport issue. (See Attachments 2 - 5.) The planning process for the Ozone Strategy provides us with yet another forum for continuing this progress. We appreciate that the NOP both acknowledges the transport issue, and identifies some measures to reduce ozone transport. Every measure you adopt will be another important step forward. However, if at the time the DEIR is published, there remain differences of opinion between the BAAQMD and SMAQMD regarding the nature or extent of ozone transport, or the list of "all feasible measures" that should be included in the Ozone Strategy to reduce transport, these differences should be noted in the DEIR summary.

#### B) Project Description

The project description section of an EIR includes, "A statement of objectives sought by the proposed project." (CEQA Guidelines, sec. 15124.) Please include as objectives of the Ozone Strategy, "The approval of all feasible control measures to mitigate ozone transport, and the approval of a schedule for their prompt adoption."

The project description in the DEIR should include a list of your proposed air pollution control measures. The project description should indicate which control measures will be

Response to BAAQMD NOP for 2004 Ozone Strategy EIR  
5/6/04

implemented to make progress toward meeting the California 1-hour standard, which measures will provide for maintenance of the national 1-hour ozone standard, and which measures will serve as contingency measures. We have reviewed the preliminary draft control measures posted on your website, and provide specific comments below.

#### 1) Preliminary TCMs

Your proposed control measures include enhancements of your TCM program. In general, it is an impressive list of TCMs that reflects a strong collaboration among BAAQMD, MTC, ABAG and transit providers throughout your region. Nevertheless, the list of TCMs does raise a couple of concerns on our part.

At this early stage of measure development, it is understandable that you have not calculated the emission reduction potential of the measures. As your analysis of the measures continues, we hope that it reveals significant emission reductions.

TCM 15 deals with local land use planning and development strategies. Your background discussion of TCM 15 states that, "TCM 15 responds to the indirect source requirements of the CCAA." (Draft Bay Area 2004 Ozone Strategy, March 16, 2004, p. E-22.) The California Air Resources Board issued a guidance document for the development of indirect source control programs in 1990. That document recommends that air districts adopt criteria to ensure that indirect source mitigation measures must:

- o "be actually implemented;
- o result in a new or enhanced program;
- o have continued effectiveness;
- o be legally binding; and
- o be reasonably quantifiable." (CARB, California Clean Air Act Guidance for the Development of Indirect Source Control Programs, p. 4.)

TCM 15 includes a few grant programs that have a high likelihood of achieving emission reduction. Unfortunately, TCM 15 places a great deal of emphasis on actions that MTC, ABAG, BAAQMD, and local governments "could take," "could develop," "should prepare," "should assure," or "encourage". In other provisions, TCM 15 merely commits ABAG, MTC, and BAAQMD to "consider," "monitor," "examine," and to "explore." (Draft Bay Area 2004 Ozone Strategy, March 16, 2004; Page E-22 – E-24.) This language does not ensure that the measures will be actually implemented. Furthermore, many of the policies lack quantified objectives at which the implementing agencies can aim to achieve, and agree to be held accountable.

Other air districts are taking a more direct approach to reducing emissions from indirect sources. For example, our Land Use Mitigation program tracks CEQA projects from planning through implementation to secure quantified emission reductions. We are working on a Construction Mitigation Indirect Source Rule to reduce construction equipment emissions even more effectively. We will also be developing a Land Use Mitigation Indirect Source Rule. In its 2002 and 2005 ROP, the San Joaquin Valley

Response to BAAQMD NOP for 2004 Ozone Strategy EIR  
5/6/04

Unified Air Pollution Control District committed to adopting an Indirect Source Rule to reduce the impact of emissions from new development. (SJVUAPCD, Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone, December 31, 2002, Table 4-3, p. 4-7; See Attachment 6.) We hope that your final version of TCM 15 will take a more direct approach to indirect source control.

## 2) Preliminary Stationary Source Measures

We realize that you did not have the time to fully consider and incorporate our February 18, 2004 proposed control measures into your March 16, 2004 report, Preliminary Draft Control Measures Descriptions. Thus, we are encouraged by the fact that, in some form, 8 of our proposed stationary source control measures are present on your list. This is a good start, and reflects that we are both thinking along the same lines. We hope that the rest of our proposed measures will ultimately become part of your Ozone Strategy.

With regard to those measures you have analyzed in your report, we have a few suggestions. Please consider a measure to control petroleum refinery flare emissions that sets prescriptive standards, such as measure B-1 from our February 18 materials. With regard to your control measure for gas turbines, please consider a provision to control emissions from gas turbines 2.9 – 10 MW in size. Finally, with regard to organic liquid storage tanks, please give further consideration to requiring that fixed roof tanks storing organic liquids with vapor pressures greater than 0.1 psia be vented to control devices with efficiencies of 95% or greater.

## C) Environmental Setting

The environmental setting section must describe the physical environmental conditions in the vicinity of the project, to the degree necessary for an understanding of the significant effects of the proposed project and its alternatives. (CEQA Guidelines, sec. 15125, subd. (a).) In this section of the Ozone Strategy DEIR, please describe the current non-attainment status of the Sacramento air basin, the current contribution of ozone transport from the Bay Area, and the climate and topography that influence this transport. (BAAQMD CEQA GUIDELINES, p. 27.)

Should any inconsistencies arise between the proposed Ozone Strategy and the State Implementation Plan, they should also be disclosed in this section. (CEQA Guidelines, sec. 15125, subd. (c).)

## D) Discussion of Significant Environmental Effects

A lead agency faces a number of thresholds of significance when assessing impacts to air quality. One threshold question is whether the project will conflict with or obstruct the implementation of an air quality plan. Another threshold question is whether a project will contribute substantially to an existing or projected air quality violation. In considering these questions, the lead agency must also evaluate effects that are indirect,

Response to BAAQMD NOP for 2004 Ozone Strategy EIR  
5/6/04

long-term, or cumulative. Impacts during all phases of the project must be considered. (CEQA Guidelines, secs. 15126.2, subd. (a); 15130; 15126.)

It remains our hope that your Ozone Strategy will include the approval of all feasible measures to reduce ozone transport, and a prompt schedule for their adoption. However, if the Ozone Strategy does not include the approval of all feasible measures, and a prompt schedule for their adoption, it will obstruct the successful implementation of plans to attain State and Federal air quality standards in the Sacramento region, it will contribute to projected air quality violations in the Sacramento region, and it may extend the number of years that these adverse conditions persist. These would constitute significant impacts warranting analysis in the DEIR.

#### E) Mitigation Measures

ARB's report on Ozone Transport Mitigation lists 28 source categories for which feasible control measures have been identified. The report goes on to list the 11 specific source categories that district and ARB staffs have been discussing through the Northern California Air Quality Coordinating Group. (Attachment 7, pp. 6 & 9.) Your proposed control measures address only 6 of these 11 source categories. We hope that you will also consider control measures to lower VOC limits for adhesives, degreasing, and solvent cleaning; and to regulate stationary internal combustion engines (including diesel) between 50 and 250 horse-power.

The materials we provided to the BAAQMD in February included 38 measures to mitigate the impacts of ozone transport. (See Attachment 2 & enclosed CD.) It appears that your staff has included, in some form, at least 11 of these control measures (8 stationary measures & 3 TCMs) in its analysis of preliminary draft control measures for your Ozone Strategy. (Bay Area 2004 Ozone Attainment Strategy, Preliminary Draft Control Measure Descriptions, March 16, 2004, pp. 1-2.) This is a very promising start, and we greatly appreciate your cooperation in this matter. We hope that the rest of our proposed measures will ultimately become part of your Ozone Strategy. The BAAQMD should discuss each of these measures in the DEIR, and should identify the basis for selecting particular measures. (CEQA Guidelines, sec. 15126.4, subd. (a)(1)(B).)

Should you deem any of the 38 measures to be infeasible, such a finding must ultimately be supported by substantial evidence in the record. (CEQA Guidelines, sec. 15091.) Should you come to your infeasibility conclusion early in the CEQA process, please consult with us as soon as possible. This is consistent with the CEQA direction emphasizing early consultation. (CEQA Guidelines, sec. 15006, subd. (k).)

#### F) Alternatives

CEQA requires that the DEIR consider a reasonable range of alternatives that would attain most of the project objectives, but would lessen the significant impacts of the project. The range of alternatives must be sufficient to foster informed decisionmaking and public participation. Alternatives may be more costly than the project, and they may

Response to BAAQMD NOP for 2004 Ozone Strategy EIR  
5/6/04

impede, to some degree, the attainment of project objectives. (CEQA Guidelines, sec. 15126.6.) Please consider an Ozone Strategy or alternative that includes as many of our 38 proposed control measures as are feasible. When you evaluate the impacts, please provide a quantitative comparative analysis of the project description and its alternatives.

Thank you again for the opportunity to provide scoping comments. We look forward to continuing the dialogue regarding ozone transport mitigation. If you have any questions, please feel free to contact me by phone at (916) 874-4834, or by e-mail at [etholen@airquality.org](mailto:etholen@airquality.org).

Sincerely,



Greg Tholen  
Environmental Coordinator

cc.

Norm Covell, APCO, SMAQMD  
Brigitte Tollstrup, Division Manager, SMAQMD

Response to BAAQMD NOP for 2004 Ozone Strategy EIR  
5/6/04

LIST OF ATTACHMENTS

- 1) 5/22/03 SMAQMD letter to ARB regarding Ozone Transport Mitigation Regulations
- 2) 2/18/04 Summary Chart of BAAQMD Measures provided by SMAQMD
- 3) 2/18/04 Schubert, et al., Summary of Control Strategies for San Francisco Bay Area Federal Nonattainment Area.
- 4) 3/3/04 Letter from BAAQMD to SMAQMD
- 5) 3/5/04 Letter from SMAQMD to BAAQMD
- 6) 12/31/02 Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone, p. 4-7.
- 7) 4/8/04 ARB, Ozone Transport Mitigation in California

ENCLOSURE

CD with zipped files of BAAQMD Measures provided by SMAQMD

May 22, 2003

Clerk of the Board  
California Air Resources Board  
P.O. Box 2815 Sacramento, CA 95812

RE: Ozone Transport Mitigation Regulations

Dear Chairman Lloyd and Members of the Board;

The Sacramento region urgently needs every available emission reduction to meet the national ambient air quality standard for ozone by 2005 and to make expeditious progress towards attaining the state ambient air quality standards for ozone. This includes reductions from our upwind neighbors.

Our District both generates and receives transported emissions. We expected these regulations to provide reductions needed to meet Sacramento's clean air goals, and to help neighbors downwind of Sacramento.

We support ARB requiring mitigation of reactive organics and nitrogen oxides as ozone precursor pollutants. We also appreciate ARB's steps to improve the 'all feasible measures' process. However, the proposed regulation provide almost no new emission reductions and does little to forward attainment of either the state or federal ambient air quality standards in the Sacramento or other areas.

Mitigation of transport impacts

The Staff Report for this regulation estimates an emission benefit from the New Source Review requirements in the San Francisco Bay Area of 0.09 tons per day (tpd) reactive organics and 0.05 tpd of nitrogen oxides. This is approximately 0.01% of the ozone precursor emissions inventory (over 1150 tons per day) in the San Francisco Bay Area.

The Staff Report states, "*amendments for all feasible measures are expected to result in new emission reductions.*" The report identifies no new feasible measures to be adopted, however, and therefore provides no basis for this statement. As the report acknowledges, areas are already subject to the "all feasible measures" requirement. The regulation does not impose new requirements, so no additional reductions can be expected.

We have and continue to support the cooperative, interdistrict approach to evaluating feasible measures. Districts have shared information regarding our assessments and

are meeting to discuss a process for reaching consensus on feasible reduction strategies. I am hopeful that these discussions will result in substantive emission reduction commitments. Nevertheless, we believe the statute requires ARB to take a proactive approach to requiring mitigation of upwind emissions. ARB is required to establish mitigation requirements because the state is responsible for balancing the competing interests of upwind and downwind districts.

We have provided our assessment of opportunities for additional reductions mitigating transport impacts from the Bay Area to the BAAQMD and your staff<sup>1</sup>. These requested rule changes were not included in this proposed regulation and the Staff Report does not discuss the feasibility of those requests. Yet the development of the triennial report and mitigation regulations is precisely the point at which the legislature has instructed ARB to intervene and identify feasible measures for adoption by upwind districts.

#### Federal ozone planning efforts

ARB acknowledges that emissions in upwind areas impact the ability of downwind areas to meet federal standards and states that California addresses the establishment of upwind mitigation measures through this triennial transport process. ARB also asserts that by doing so, the emission reductions achieved through the state transport analysis will be reflected in the emissions baseline to be used in future federal plans in the downwind areas.

Unfortunately, the ARB has not identified new mitigation measures, and so there is no basis for asserting that the state process has substantively addressed transport under either state or federal law. As a result, when downwind areas prepare their federal plans, they will have to impose additional measures in their regions to offset the emissions from sources in the upwind districts -- sources that in some cases, are already subject to less stringent controls than their downwind counterparts.

#### State responsibility for mitigating transport

We reiterate our request made at the workshop that the following measures be required by this transport mitigation regulation.

- 1) ARB should work with the Governor's office to secure an Executive Order requiring
  - a) all state agencies include preferences for using vendors who have low emission vehicles and equipment when contracting for goods and services and
  - b) construction work performed using state equipment or under state contracts meet a fleet average emission rate that is 20% below the inventory fleet average for NOx and 45% below the inventory fleet average for PM. At a minimum, ARB has the authority to implement these policies within the ARB contracting process.

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<sup>1</sup> Norm Covell correspondence to Catherine Witherspoon, Workshop on Ozone Transport Regulations, March 13, 2003

Clerk of the Board  
Comments - Hearing on Transport Mitigation Regulations  
05/21/03  
Page 3

- 2) ARB should develop land use guidelines for both state agencies and local governments. We provided lists of land use mitigation measures that could be included in that guidance. The report states that ARB supports and participates in state level efforts to improve local land use, yet defers commitments in this area to new federal planning "implemented into the next decade." We request action now to support attainment of the federal standard in Sacramento by 2005.
- 3) We reiterate our request that ARB include requirements for the BAAQMD control measures. These include the following requirements, which are already in place in the Sacramento area.
  - a) Reduce the exemptions levels for boilers, steam generators, process heaters, space heaters, internal combustion engines and gas turbines. Require such equipment to meet both local permit requirements and emissions standards at least as stringent as those required in the Sacramento area.
  - b) Establish cleanup solvent requirements for architectural coatings users; including low VOC materials and work practice standards.
  - c) Reduce the VOC limit for contact adhesives.

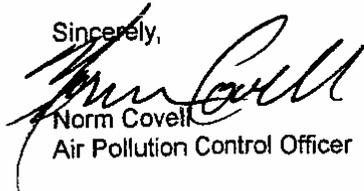
#### Transport assessment

The Staff Report states that ARB will reassess some transport couples next year. California Health and Safety Code Section 39610 required this assessment every three years, beginning in 1989. An assessment of the San Francisco Bay Area to Broader Sacramento Area transport couple was last done in 1996. In April 2001, ARB performed an assessment (due in 1999), but did not evaluate the San Francisco Bay to Broader Sacramento Area transport couple as required. A new triennial assessment by ARB was due in 2002. Both ARB and District staff are working on Central California Ozone Study results and, currently, that data is not available. In the meantime, I request that the following information, which already exists, be used for transport assessments.

- a) SARMAP Modeling results performed by ARB staff for assessments of the BAAQMD Refinery Rule.
- b) Meteorological data from profilers installed following the 1996 assessment at Bruceville Road in Elk Grove, Travis AFB, and most recently in San Francisco Bay delta region
- c) Walnut Grove Tower ozone and meteorological data

Thank you for the opportunity to provide input to this regulatory process. If you have any questions regarding these comments, you may contact me at (916) 874-4803 or Brigette Tollstrup (916) 874-4832.

Sincerely,



Norm Covell  
Air Pollution Control Officer

Clerk of the Board  
Comments - Hearing on Transport Mitigation Regulations  
05/21/03  
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- c.   Brigette Tollstrup  
      Robert Fletcher, ARB  
      Bob Effa, ARB  
      Gayle Sweigart, ARB  
      Bill Norton, BAAQMD  
      Tom Christofk, PCAPCD  
      Larry Greene, YSAQMD  
      Marcella McTaggart, EDAPCD  
      Steve Speckert, FRAQMD

Attachments  
Correspondence to Catherine Witherspoon, March 13, 2003

COPY

March 13, 2003

Catherine Witherspoon  
Executive Officer  
California Air Resources Board  
P.O. Box 2815 Sacramento, CA 95812

RE: Workshop on Ozone Transport Regulations

Dear Ms. Witherspoon;

This letter provides comments on proposed amendments to transport regulations in response to your February 25, 2003 workshop notice. The Sacramento region urgently needs every available emission reduction to meet the national ambient air quality standard for ozone by 2005 and to make expeditious progress towards attaining the state ambient air quality standards for ozone. This includes reductions from our upwind neighbors.

Our District both generates and receives transported emissions. We are concerned about these regulations not only as providing us with critical assistance in meeting Sacramento's clean air goals, but guiding the actions we must take to help neighbors downwind of Sacramento.

I support ARB defining precursors to be mitigated to include both reactive organics and nitrogen oxides. I also appreciate ARB's steps towards improving the 'all feasible measures' process. I have concerns that have not been addressed. These concerns are detailed below. I also request that the proposed regulations be expanded in the following areas:

**State responsibility for mitigating transport**

The draft regulations have not addressed our request that the state take responsibility for mitigating transported emissions.

- 1) ARB must look beyond stationary source controls and local district actions and mitigate transported emissions from mobile sources. Mobile source emissions dominate our ozone air quality problems, and ARB must identify new opportunities under their regulatory authority to mitigate transported emissions.
- 2) ARB should work with the Governor's office to secure an Executive Order requiring all state agencies include preference for using vendors who have low emission vehicles and equipment when contracting for goods and services.

- 3) ARB should work with the Governor's office to secure an Executive Order requiring construction work performed using state equipment or under state contracts meet a fleet average emission rate that is 20% below the inventory fleet average for NOx and 45% below the inventory fleet average for PM.
- 4) ARB should be a leader by developing land use guidelines for both state agencies and local governments. Attached are lists of land use mitigation measures that could be included in that guidance.

#### **Improve the 'All Feasible Measures' process**

The existing 'all feasible measures' process is flawed for several reasons.

- 1) Federal deadlines not addressed - ARB must require that upwind areas fully mitigate emissions for 'significantly' impacted areas like Sacramento to attain both state and federal ambient air quality standards. Attaining the federal standards are an important first step to attaining the state standards. It is clear that ARB must assess mitigation requirements in the context of the federal standards to ensure the sufficiency of the Bay Area's mitigation measures -- as well as those of other upwind districts -- in meeting federal attainment deadlines. ARB has asserted that federal SIP's are not the appropriate venue for assessing intrastate transport, and that addressing intrastate transport is ultimately the state's responsibility, not the federal EPA's. Although we disagree with that position, if ARB is correct, then the transport study and mitigation regulations are the only clear vehicle left for ARB to fulfill its responsibility to both assess and mitigate transport pollutant impacts. Moreover, without a genuine and thorough assessment of mitigation measures, the analysis of impacts is meaningless.
- 2) No additional mitigation - The requirement to impose "all feasible measures" provides no additional mitigation requirements beyond those already required by state law. California Health & Safety Code Section 40914(b) states;  
*"A district may use...and the state board concurs in, either of the following:  
...the inclusion of every feasible measure in the plan..."*  
ARB staff reported that upwind districts have selected the 'all feasible' measures option and complied with the 'all feasible' measures requirement (Status Report on Transport Mitigation, July 2001.)
- 3) Disagreement regarding 'feasible' - You may recall that we provided comments during plan development activities in the BAAQMD requesting that additional measures be included, yet our requests for added measures were not included in the final plan. In short, we disagree that the upwind area plan met the 'all-feasible' or the related federal requirement for reasonably available control measures. We request that ARB set standards districts must meet to satisfy this requirement. For example, ARB could establish a process to identify where emissions standards and exemption levels in upwind areas must be at least equivalent to the significantly or overwhelmingly impacted downwind neighbors. If the district justifies that the less

stringent standards are not cost-effective or technologically feasible then they could seek relief.

- 4) Consistent planning requirements doesn't equate to consistent rules - Planning commitments are preliminary assessments of control strategies. Plans can reflect similar control strategies, yet differences in rulemaking exist. Recently, at the request of BAAQMD, our staff provided an assessment (attached) of the differences between the BAAQMD rules and the SMAQMD rules. I request that ARB evaluate this information and require rule amendments to ensure all feasible measures are in place. Additionally, I request that ARB incorporate evaluation of rule consistency from a transport perspective when exercising its oversight responsibilities during district rulemaking process.
- 5) Annual district reporting requirements are infeasible - Proposed addition of annual district reporting requirements (Section 70600(c)(1)) including public process for reporting on plan commitments are time consuming and do not address the fundamental issues noted above. I support ARB review of district's progress and encourage the ARB to engage a public process in that review.

The workshop notice does not discuss when ARB will reassess the transport couples. California Health and Safety Code Section 39610 required this assessment every three years, beginning in 1989. An assessment of the San Francisco Bay Area to Broader Sacramento Area transport couple was last done in 1996. In April 2001, ARB performed an assessment (that was due in 1999) but did not evaluate the San Francisco Bay to Broader Sacramento Area transport couple as required. A triennial assessment by ARB was due in 2002. Both ARB and District staff are working on Central California Ozone Study results and, currently, that data is not available. In the meantime, I request that the following information, which already exists, be used for transport assessments.

- a) SARMAP Modeling results performed by ARB staff for assessments of the BAAQMD Refinery Rule.
- b) Meteorological data from profilers installed following the 1996 assessment at Bruceville Road in Elk Grove, Travis AFB, and most recently in San Francisco Bay delta region
- c) Walnut Grove Tower ozone and meteorological data

The above data, along with new data analysis techniques, is essential to evaluate the impact from pollutants transported on aloft winds and from transport of ozone precursors. Finally, I suggest formation of a statewide Transport working group to share ideas about transport assessment methods and to peer review the final assessments. That working group should include local air districts and members of the scientific community.

Catherine Witherspoon  
Comments - Workshop on Transport Regulations  
03/13/03  
Page 4

Thank you for the opportunity to provide input to this regulatory process. If you have any questions regarding these comments, you may contact me at (916) 874-4803 or Brigette Tollstrup (916) 874-4832.

Sincerely,



North Covell  
Air Pollution Control Officer

- c. Brigette Tollstrup  
Robert Fletcher, ARB  
Bob Effa, ARB  
Gayle Sweigart, ARB

Attachments

Correspondence to William Norton, September 10, 2002  
Land use mitigation measures

Blind Copies provided to the following people at the workshop (3/13/03):

Peter Hess, BAAQMD  
Larry Greene, YSAQMD  
Tom Christofk, PCAPCD

September 10, 2002

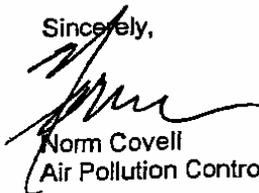
Bill Norton  
Interim Executive Officer  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109

Dear Mr. Norton:

This is in response to your recent request for information on the Sacramento Metropolitan Air Quality Management District's suggestions for requiring lower emitting activities in the Bay Area. Attached is a list of suggested changes to the Bay Area's Rules and Regulations. This list incorporates exemption levels and emission limitations that are already in effect in the Sacramento area and for many of the suggestions are already in effect in most of the nonattainment areas in the state.

If you have any questions about the suggested rule improvements, you can contact my staff, Aleta Kennard, at (916) 874-4833. I look forward to working with you to improve the air quality in both the Sacramento and Bay Area.

Sincerely,



Norm Covell  
Air Pollution Control Officer

Attachment

L/PCG/baaqmdreq

## SUGGESTED CHANGES TO BAAQMD RULES

### Suggested changes to Permit Exemptions:

Lower the permitting threshold for boilers fired on natural gas from 10 mmBTU/hr to 1 mmBTU/hr

Lower the permitting threshold for bakery ovens from 10,000 lbs product per day and 10 mmBTU/hr to 1 mmBTU/hr

Lower the permitting threshold for space heating from 20 mmBTU/hr to 1 mmBTU/hr

Lower the permitting threshold for petroleum drycleaning from 700 gal/year to 1 gal/day

### Suggested changes to New Source Review regulations:

Lower offset trigger levels for NOx and VOC from 50 TPY to 15 TPY and require the offsets to be obtained at a minimum offset ratio of 1.3:1 if the offsets are not at the same site

### Suggested changes to Rule 8-6 Terminals/Bulk Plants

Require the loading racks at terminals to meet an emission limit of 0.08 lbs/1000 gallons

### Suggested changes to Rule 8-16 Solvent Cleaning

Were there currently is not a VOC emission limit requirement, establish an emission limit at least as stringent as:

Material Type	VOC limit, g/l
General Wipe Cleaning	50
Medical Devices/Pharm	800
Automotive Coating Remover	200
Adhesive Sealant Remover	350
General cleaning of Graphic Arts	72
Water Based Architectural Coatings	50
Solvent Based Architectural Coatings	300 or enclosed gun cleaner

Lower the VOC emission limits for the following products:

Material Type	From g/l	To g/l
Electrical/Electronic Component	250 lbs/day	500
Flexographic Printing	800	100

Remove the one unit solvent cleaning exemption and require 50 g/l material for all cold solvent degreasing.

**Suggested changes to Rule 8-19 Metal Parts Coating**

Lower the VOC emission limits for the following products:

Material Type	From G/l	To G/l
High Performance Architectural	750	420
Pretreatment Wash Primer	780	420
Silicone Release	700	420
Extreme Performance	550	420

**Suggested changes to Rule 8-20 Graphic Arts**

Lower the rule exemption level from 175 lbs/month of actual VOC emissions to 60 lbs/month actual VOC emissions. Apply this same exemption level to screen printers.

Change the fountain solution VOC limit from 8% to 80 g/l of VOC.

**Suggested changes to Rule 8-24 SOCM**

Require reactors, distillation columns, crystallizers and centrifuges to meet 85% control system efficiency and 90% control efficiency

**Suggested changes to Rule 8-29 Aerospace Coatings**

Lower the VOC emission limits for the following products:

Material Type	From g/l	To g/l
Adhesive Bonding	750	600
Electric Discharge	800	612
Radiation Effect	800	600
Fuel Tank	720	650
High Temperature	720	420
Stripper	400	300

**Suggested changes to Rule 8-51 Adhesives**

Lower the VOC emission limits for the following products:

Material Type	From g/l	To g/l
Other Plastic Welding	500	450
Contact Bond Specialty	400	250

**Suggested changes to Rule 9-7 Boilers**

Lower exemption level from 10 mmBTU/hr when fired on natural gas to 5 mmBTU/hr

#### **Suggested changes to Rule 9-8 IC Engines**

Lower exemption level from 250 Hp to 50 Hp

Establish emission limitations for diesel fired IC engines

#### **Suggested changes to Rule 9-9 Gas Turbines**

Remove the exemption for less than 4 MW and lower the hourly exemption from 877 hours to 200 hours

#### **Suggested strategies for the Port of Oakland**

The Port Oakland has implemented a number of pilot and demonstration programs to reduce emissions from ground support equipment operating at the Port and from trucks carrying cargo to and from the Port. We suggest that the Port move well past pilot and demonstration programs and implement sweeping operational policies.

- The Port should be encouraged through any and all means to reduce idling to an absolute minimum on all heavy equipment and trucks.
- All means should be employed to reduce operating emission of both NOx and PM from ground support equipment at the Port. Strategies to reduce emissions include repowering older equipment with newer engines, encouraging turn-over to modernize the fleet, purchasing low-emission or zero-emission equipment whenever new equipment is purchased and retrofitting existing equipment to operate at lower emission levels using emulsified fuel or exhaust retrofit technology. (Note: the first diesel retrofit technology that will reduce both NOx and PM is in the CARB Verification process now and should be available by the end of the year.)
- All means should be employed to reduce operating emissions of both NOx and PM from the trucks that carry cargo to and from the Port. Strategies to reduce emissions included repowering older vehicles with newer engines, encouraging turn-over to modernize the fleet, purchasing low-emission or zero-emission vehicles whenever new vehicles are purchased and retrofitting existing vehicles to operate at lower emission levels using emulsified fuel or exhaust retrofit technology.
- All ships in port should be encouraged to use shore power from the grid rather than on-board generators while docked.

#### **Suggested strategies for the Marine Vessels**

US EPA is currently working with international agencies to develop more stringent regulations for marine vessels. However, several associations representing local and state air pollution officers in California and the United States have petitioned EPA to make the proposed regulations much tougher. These associations include the California Air Pollution Control Officers Association (CAPCOA), the State and Territorial Air Pollution Prevention Association (STAPPA) and the Association of Local Air Pollution Control Officers (ALAPCO). The BAAQMD should go on record in support of these tougher standards which include:

- Establish and implement Tier 2 NOx standards that achieve emission reductions comparable to those being required of other mobile source categories.
- Require that all emission standards apply to both domestic and foreign flagged vessels.
- Establish maximum fuel sulfur content levels of no more than 15,000ppm, preferably much lower in the 500 to 5,000ppm range.

- **Include measures to address hydrocarbon, carbon monoxide and particulate matter emissions.**
- **Evaluate retrofit strategies for potential reductions in emissions from existing vessels.**

Recommended SMAQMD Guidelines for Land Use Emission Reductions

#	Description	Development Type R=Res C=Comm M=Mixed	Point Value	Comments
	<b>Bicycle/Pedestrian Transit</b>			
1	Non-residential projects provide bicycle lockers and/or racks	C	0.5	
2	Provide an additional 20 percent of required Class I and Class II bicycle parking facilities	C	0.5	
3	Non-residential projects provide personal showers and lockers	C	0.5	
4	Bicycle storage (Class I) at apartment complexes or condos without garages	R	0.5	
5	Entire project is located within 1/2 mile of an existing Class I or Class II bike lane and provides a comparable bikeway connection to that existing facility	R, C, M	1.0	All facilities must be in place before 20% of the occupancy permits are granted or before 2005, whichever occurs first.
6	The project provides for pedestrian facilities and improvements such as overpasses and wider sidewalks	R, C, M	1.0	All facilities must be in place before 20% of the occupancy permits are granted or before 2005, whichever occurs first.
7	Bus service provides headways of 15 minutes or less for stops within 1/4 mile; project provides essential bus stop improvements (i.e., shelters, route information, benches, and lighting).	C	1.0	Maximum combined credit for measure #7 and #64 is 2.0
8	Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents	R, C, M	0.5	
9	High density residential, mixed, or retail/commercial uses within 1/4 mile of existing transit, linking with activity centers and other planned infrastructure	R, C, M	2.0 for light rail, 1.0 for bus only	Planned infrastructure must be in General Plan or Community Plan. Office uses considered under "Commercial Building Design" category. Maximum credit is 2.0 (light rail and bus points cannot be combined). Planned transit must be in MTP or RT Masterplan; planned infrastructure must be in General Plan or Community Plan. Office uses considered under "Commercial Building Design" category. Maximum credit is 1.0 (light rail and bus points cannot be combined). Cannot get points for both this measure and measure #9.
10	High density residential, mixed, or retail/commercial uses within 1/4 mile of planned transit, linking with activity centers and other planned infrastructure	R, C, M	1.0 for light rail, 0.5 for bus only	

**Recommended SMAQMD Guidance for Land Use Emission Reductions**

#	Description	Development Type R=Res C=Comm M=Mixed	Point Value	Comments
<b>Parking</b>				
11	Employee and/or customer paid parking system (no validations)	C	3.0	Must be coordinated with TMA.
12	Provide minimum amount of parking required	C, M	0.5	
13	Provide parking reduction: Office 25%, Medical office 8%, Commercial 5%, Industrial 10%. Additional 10-20% if located along transit station (special review of parking is required)	C, M	2.5	
14	Provide-grass paving or reflective surface for unshaded parking lot areas, driveways, or fire lanes that reduce standard paving by 10% or more	R, C, M	0.5	
15	Increase parking lot shading by 20% over code	R, C, M	1.0	Details of facilities' provision must be coordinated with City or County of Sacramento and SMAQMD.
16	Provide electric vehicle charging facilities	R, C, M	1.0	
17	Provide preferential parking for carpool/vanpools	C	0.5	
18	Covered carpool/vanpool spaces near the entrance to the building(s)	C	0.5	
19	Loading and unloading facilities for transit and carpool/vanpool users	C	0.5	
20	Project is located within one mile of a park and ride lot operated by a transportation agency	R	0.5	
21	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances	C	0.5	

Recommended SMAQMD Guidance for Land Use Emission Reductions

#	Description	Development Type	R=Res C=Comm M=Mixed	Point Value	Comments
<b>Commercial Building Design</b>					
22	Office FAR is 0.75 or greater within 1/4 mile of a planned transit stop	C, M		1.5 for light rail, 0.8 for bus only	Planned transit must be in MTP or RT Masterplan. Cannot get points for both this measure and the below measure.
23	Office FAR is 0.75 or greater within 1/4 mile of an existing transit stop	C, M		2.5 for light rail, 1.5 for bus only	
24	Setback distance is minimized between development and existing transit, bicycle, or pedestrian corridor	C, M		1.0	
25	Setback distance is minimized between development and planned transit, bicycle, or pedestrian corridor	C, M		0.5	Planned transit, bicycle or pedestrian corridor must be in MTP, RT Masterplan, General Plan, or Community Plan. Cannot get points for both this measure and the above measure.
<b>Residential Development</b>					
26	Average residential density 7 d.u. per acre or greater	R		1.5, 3.0, 4.5 du/acre	1.5 points for 7-14 du/acre, 3.0 points for 15-29 du/acre, 4.5 points for 30+ du/acre
27	Multiple and direct street routing (grid style)	R, C, M		2.5	Full credit for internal connectivity factor (CF) >= 0.70, and average 1/4 mile or less between external connections. [CF= # of intersections / (# of cul-de-sacs + intersections)]
28	Granny Flats - Have ancillary "granny units" (requires Special Development Permit but no Accessory Structure Use Permit)	R		1.0	

Recommended SMAQMD Guidance for Land Use Emission Reductions

#	Description	Development Type R=Res C=Comm M=Mixed	Point Value	Comments
<b>Mixed Use</b>				
Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site. A "single site" may include contiguous properties.				
29	Mixed use - Have at least 3 of the following on site and/or within 1/4 mile: Residential Development, Retail Development, Personal Services, Open Space, Office	M	3.0	Cannot get points for both this measure and any "Convenience Services" measures. Also mutually exclusive with #30.
30	Residential Development, Retail Development, Personal Services, Open Space, Office	R, C, M	1.0	Cannot get points for both this measure and any "Convenience Services" measures. Also mutually exclusive with #29.
31	Neighborhood serving as focal point with parks, school and civic uses within 1/4 mile	R, M	0.5	
32	Separate, safe, and convenient bicycle and pedestrian paths connecting residential, commercial, and office uses	R, C, M	2.0	
33	The project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede-bicycle or pedestrian circulation	C, M	1.0	
<b>Convenience Services</b>				
34	Day care facilities are provided on site	R, C, M	1.0	
35	Restaurant or cafeteria on site or within 1/4 mile of site	R, C, M	0.2	
36	Bank or ATM on site or within 1/4 mile of site	R, C, M	0.2	
37	Dry cleaners on site or within 1/4 mile of site	R, C, M	0.2	
38	Post office on site or within 1/4 mile of site	R, C, M	0.2	
39	Entertainment (movie/video) on site or within 1/4 mile of site	R, C, M	0.2	
40	Recreation facility/fitness center on site or within 1/4 mile of site	R, C, M	0.2	

Recommended SMAQMD Guidance for Land Use Emission Reductions

#	Description	Development Type R=Res C=Comm M=Mixed	Point Value	Comments
<b>Building Component Measures</b>				
41	Install lowest emitting commercially available fireplace	R	1.0	
42	Install lowest emitting commercially available furnace	R, C, M	0.5	
43	Install ozone destruction catalyst on air conditioning systems, in consultation with SMAQMD	R, C, M	2.5	
44	Install Energy Star labeled roof materials	C	0.5	
45	Provide fiber optic wiring and connections	R, C, M	0.5	
46	Provide T-1 wiring and connections	R, C, M	0.5	
47	Install roof photovoltaic energy systems	R	0.5	2.5 if offered as a standard feature on all homes
48	Comply with SMUD Advantage (Tier II) energy standards	R	0.5	
49	Comply with SMUD Advantage Plus (Tier III) or EPA/DOE Energy Star Home energy standards	R	1.0	Cannot get points for both this measure and the above measure. Moved from Commercial Building Design and Residential Development sections.
50	Orient 75 or more percent of homes and/or buildings to face either north or south (within 30 degrees of N/S), and include shading masterplan	R	0.5	

Recommended SMAQMD Guidance for Land Use Emission Reductions

#	Description	Development Type	R=Res C=Comm M=Mixed	Point Value	Comments
<b>TDM and Misc. Measures</b>					
	Include permanent TMA membership and funding requirement. Funding to be provided by Community Facilities District or County Service Area or other non-revocable funding mechanism.				
51	Carpool Matching Assistance	R, C, M		2.5	
52		C		0.2	Must be coordinated with TMA.
53	Provide financial incentives to carpools for vehicle tune-up or maintenance	R, C, M		0.2	Must be coordinated with TMA.
54	Provide Flextime for non-SCV commuters	C		0.2	Must be coordinated with TMA.
55	Provide Guaranteed Ride Home	C		0.2	Must be coordinated with TMA.
56	Implement compressed work week schedules	C		0.2	Must be coordinated with TMA.
57	Provide on-site Transportation Coordinator	R, C, M		0.2	Must be coordinated with TMA.
58	Contract only with commercial landscapers who operate with equipment that complies with the most recent California Air Resources Board certification standards, or standards adopted no more than three years prior to date of use.	C		2.0	
59	Make physical development consistent with requirements for neighborhood electric vehicles				
60	Install videoconferencing system	R		1.5	
61	Promote-teleworking and implement an employee-telework policy	C, M		0.5	
62	Provide free-access telework terminals in multi-family projects	C, M		1.0	
63	Implement Clean Air Business Practices such as using low-emission delivery vehicles, contract with alternative-fuel waste hauling companies, etc., in consultation with SMAQMD	H		1.0	At least one terminal per 100 apartments
64	Provide electric shuttle to transit stops	C		tbid	
65	Provide a complimentary cordless electric lawnmower to each residential buyer	R, C, M		2.0	Maximum combined credit for measure #7 and #64 is 2.0
66	Provide an opportunity to receive either a complimentary bicycle or electric bicycle retrofit kit to each residential buyer	R		2.0	
67	Transit pass subsidy and/or commute alternative allowance	F		0.5	
		C		1.5	Point value based on 100% subsidy.

Recommended SMACMD Guidance for Land Use Emission Reductions

#	Description	Development Type R=Res C=Comm M=Mixed	Point Value	Comments
99	Innovative Strategies Other proposed strategies, in consultation with City or County of Sacramento and SMACMD	R, C, M	tbd	

**STAFF'S PROPOSED CHANGES TO PROPOSED REGULATION ORDER  
OZONE TRANSPORT MITIGATION REGULATIONS**

**MAY 22, 2003**

---

The ARB staff is proposing the following changes to the proposed amendments to the transport mitigation regulations that were included in the Staff Report (ISOR). The ~~strikeout~~ indicates deletions, and the underline indicates additions.

**70600. Emission Control Requirements**

**(a) Definitions**

Section (a)(1) is amended to read:

- (1) "All Feasible Measures" means air pollution control measures, including but not limited to emissions standards and limitations, applicable to all air pollution sources categories under a district's authority that are based on achieve the maximum possible degree of reductions of achievable for emissions of ozone precursors, taking into account technological, social, environmental, energy and economic, ~~and energy~~ factors, including cost-effectiveness.

*The substitution of sources for source categories is intended to clarify the intent of ARB staff. In the Staff Report, the ARB staff stated its intent that the terminology "all air pollution sources under a district's authority" be interpreted as placing emphasis on a district's evaluation of source categories, not every source within a particular category.*

*Also, minor changes have been made to the definition to clarify that cost-effectiveness is part of the economic factors that upwind districts would consider when implementing the "all feasible measures" requirement. Cost-effectiveness of potential measures is considered by air districts, as part of their ongoing implementation of the California Clean Air Act, and is required by section 40926 of the California Health and Safety Code.*

Section (a)(2) is amended to reflect non-substantive edits and reads:

- (2) "Ozone precursors" means oxides of nitrogen and reactive organic gases.

**(b) Specific Requirements**

Section (b) is amended to read:

**(b) Specific Requirements**

Districts within the areas of origin of transported air pollutants, as identified in section 70500(c), shall include sufficient emission control measures in their attainment plans for ozone adopted pursuant to part 3, Chapter 10 (commencing with section 40910) of division 26 of the Health and Safety Code, ~~Part 3, Division 26, beginning with section 40910,~~ to mitigate the impact of pollution sources within their jurisdictions on ozone concentrations in downwind areas commensurate with the level of contribution. An upwind district shall comply with the transport mitigation planning and implementation requirements set forth in this section regardless of their attainment status, unless the upwind district complies with the requirements of section 70601. At a minimum, the attainment/transport mitigation plans for districts within the air basins or areas specified below shall conform to the following requirements:

*The term "commensurate with level of contribution" was added for consistency with State law. Section 39610 of the Health and Safety Code directs the ARB to establish mitigation requirements commensurate with the degree of contribution from the upwind district.*

*Language was added to clarify the intent of the original proposal that upwind districts are subject to the mitigation requirements regardless of their attainment status. State law specifically requires upwind districts to plan for attainment in both their own district and that of the downwind districts, and to also at a minimum, include in their attainment plan all of the mitigation measures required by ARB. The new language "attainment/mitigation plans" clarifies that upwind districts, regardless of attainment status, are responsible for compliance with transport mitigation requirements in their triennial update to attainment plans. That is attainment plans must include a transport mitigation element.*

No changes were made to (b)(1), (b)(2), (b)(3), (b)(4), and (b)(5).

**(c) Implementation**

The following implementation process has been deleted, as this process is no longer used in the modified regulation:

- ~~(1) By November 1 of each year, each district subject to the requirements set forth in section 70600(b), shall, in consultation with the downwind districts, review the list of control measures identified in its most recently approved attainment plan and make an initial finding as to whether the list of control measures meets the requirements of section 70600(b). Once the district has made the initial finding, the district shall:
  - ~~(A) issue a public notice describing the basis of the initial finding and provide for public comment on the initial finding for a period of at least 30 days;~~
  - ~~(B) review the public comments and make a final finding;~~
  - ~~(C) by December 31 of each year, submit, concurrent with the submittal of a progress report to the state board required under Health and Safety Code section 40924(a), a final finding as to whether the list of control measures continues to include the measures required by section 70600(b) and, if not, a listing of measures that will be added;~~~~
- ~~(2) Within 60 days of submittal, the state board shall review the final finding and public comments and notify the district if additional measures must be added to the list of control measures.~~
- ~~(3) Within 180 days of receiving notification by the state board, the district shall, as appropriate, update the rulemaking calendar required pursuant to Health and Safety Code section 40923.~~

The following implementation process has been added to reflect new language in the modified regulation:

- (1) Prior to revising its attainment/transport mitigation plan pursuant to section 40925 of the Health and Safety Code, each district subject to the requirements set forth in section 70600(b) shall, in consultation with the downwind districts, review the list of control measures in its most recently approved attainment plan and make a finding as to whether the list of control measures meets the requirements of section 70600(b). The district shall include the finding in its proposed triennial plan revision.

(2) If the ARB determines that a district's plan does not satisfy the requirements of section 40912 of the Health and Safety Code and this regulation, the Board and the district shall follow the procedures specified in section 41503.2 of the Health and Safety Code for addressing plan deficiencies.

*This language replaces requirements for annual review of all feasible measures, and adds new language that aligns implementation with the triennial plan review process. This change was made in response to comments that an annual review would require excessive district resources and that formalizing review from a transport perspective every three years would achieve comparable results.*

Note: Authority cited: Sections 39600, 39601 and 39610(b), Health and Safety Code. References: Sections 39610, 40912, 40913, 40921, 40924, 40925, and 41503, Health and Safety Code.

**70601. Procedure for Limiting the Application of All Feasible Measures and Best Available Retrofit Control Technology.**

No changes to (a), (b), and (d)

Section (c) is amended to read:

- (c) the district is implementing an alternative emissions reduction strategy pursuant to section 40914 of the Health and Safety Code and demonstrates, based on the best available scientific evidence, including but not limited to air quality modeling analyses, that the strategy will be at least as effective and as expeditious as the transport mitigation requirements specified in section 70600; or

*Previous language implied that the use of the best available scientific evidence including air quality modeling analyses was allowed. This language clarifies this intent.*

Note: Authority cited: Sections 39600, 39601, 39610(b), Health and Safety Code. References cited: Sections 39610, 40912, 40913, 40921, 40924, 40925, and 41503, Health and Safety Code.

All Measures: State-Fed & Bay Area - List for F

Control Measure	Strategy Title	Description	VOC Potential Emission Reductions	NOx Potential Emission Reductions	Implementation Date	Implementing Agency
B-1	Petroleum Refineries	Require controls on wastewater treatment equivalent to the South Coast AQMD on process drains, manhole covers, sewer lines, and recovered of storage vessels.			2007	BAAQMD
B-1	Petroleum Refineries	Require controls on flare emissions equivalent to the San Joaquin and Santa Barbara air districts	n/a		2007	BAAQMD
B-1	Petroleum Refineries	Require controls on fugitive emissions that incorporate the more stringent requirements currently being implemented in the South Coast and Santa Barbara air districts.			2007	BAAQMD
B-1	Petroleum Refineries	Require controls on storage tanks including "No visible gap" criteria for external floating roof, external floating roof tanks with domed roofs, and fixed roof tanks must be vented to 95% efficient control device and all fittings vapor tight.			2007	BAAQMD
B-1	Petroleum Refineries	Reduce the Nox emission limit for boilers and process heaters used at refineries and lower the applicability limit for gaseous fuels to 5 mmbtu/hr.		1.27	2007	BAAQMD
D1	Semiconductor Manufacturing	Require the use of advanced low VOC solvents and photoresist solutions and/or the use of an emission control device that will capture and abate 95% of the uncontrolled emissions.			2007	BAAQMD
D12	Graphic Arts	Lower VOC limits for adhesives, fountain solutions and cleaning operations.			2005	BAAQMD
D14	Other Gas Turbines	Require a lower Nox emission limit for gas turbines which is comparable to SCAQMD and SJUAPCD.		0.69	2010	BAAQMD
D16	Boilers, Steam Generators, Process/Space Heaters	Require boilers 5-20 mmbtu/hr to meet 15 ppm of NOx and boilers greater than 20 mmbtu/hr to meet 9 ppm of NOx.		0.68	2007	BAAQMD
D19	Electric Utilities	Require lower Nox limit for boilers, turbines, and engines used at electric utilities.		2.27	2010	BAAQMD
D27	Fuel Handling	Option 1 - Implement an incentive program to accelerate replacement of gasoline cans.			2005	BAAQMD
D27	Fuel Handling	Option 2 - Require participants in the lawnmower exchange program to surrender old gas cans.			2005	BAAQMD
D27	Fuel Handling	Option 3 - Provide free replacement gas cans to commercial businesses.			2005	BAAQMD
D3	Adhesives and Sealants	Lower VOC limits for solvent based adhesives and sealants.			2007	BAAQMD
D7	Degreasing/Solvent Cleaning	Reduce VOC limit for cleaning materials to 25 g/l to match South Coast limit.			2007	BAAQMD
D8	Thinning, Surface Prep and Cleanup	Amend surface prep and cleanup rules in Placer and Yolo-Solano to capture all unregulated cleaning operations. Adopt solvent cleaning rules in Feather River and El Dorado similar to Sacramento Rule 466.			2005	BAAQMD
D9	Unspecified	Lower VOC limits for coatings not otherwise captured by a specific coating rule.	n/a		2005	BAAQMD
LU-2A	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the construction impacts of new projects where emissions exceed established District Thresholds of Significance.		0.65	2005	BAAQMD
LU-2B	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the operational impacts of new projects where emissions exceed established District Thresholds of Significance.		0.45	2005	BAAQMD
OFMS-14/ OFMS7	Agricultural Engines	Incentive to replace diesel agricultural engines with electric at normal rebuild times.		0.02	2005	BAAQMD
OFMS-14/ SN-48	Agricultural Engines	Incentive to implement a mandatory program for early replacement of diesel ag engines.		0.32	2005	BAAQMD

### All Measures: State-Fed & Bay Area - List for February 18, 2004

OFMS37	Replace standard gasoline powered mowers with electric ones	Implement an incentive program to replace gasoline-powered mowers with electric mowers.		0.001	2005	BAAQMD
OFMS73	Establish clean air labeling, energy conservation and public education programs	Public education/outreach measure consisting of clean air vehicle labeling and energy conservation.		0.1632	2005	BAAQMD
OFMS-77	Ground Support Equipment	Reduce GSE and ground access vehicles with fleet turnover and replacement with ZEVs, repower, retrofit, and replacement with equipment that meet lower emission standards.		0.311	2005	BAAQMD
ONMS-375/ ONMS-86	Fleet Rule	Require light-duty, medium-duty, and heavy-duty public fleets and those private entities contracted by a public agency to meet a combination of fleet average emissions reduction and purchasing requirements that would lead to lower emissions.		4.6	2007	BAAQMD
ONMS-62 (a. & b)	Heavy-duty Diesel Vehicle Retrofits	Sacramento Emergency Clean Air Transportation (SECAT) and Carl Moyer programs in that it provides incentives aimed at reducing oxides of nitrogen (NOx) emissions.		1.798	2007	BAAQMD
ONMS-52/ ONMS-374; ONMS-52/ ONMS-65; ONMS-52/ ONMS-255; ONMS-52/ MISC-31	Heavy-Duty Diesel Engine Repowers; Commercial vehicle fleet modernization; Dual Fuel Retrofit Technology; Emulsified Diesel/GTL	Sacramento Emergency Clean Air Transportation (SECAT) and Carl Moyer programs in that it provides incentives aimed at reducing oxides of nitrogen (NOx) emissions.		2.311	2005	BAAQMD
ONMS-61/ONMS-62	Clean Private Fleet Requirements	Require light-duty, medium-duty, and heavy-duty private fleets to meet a combination of fleet average emissions reduction and purchasing requirements leading to lower NOx and other pollutant emissions.		6.3	2007	BAAQMD
ONMS-69	Free Gas Caps	Provide free gas caps to light duty passenger and truck owners during smog check.			2005	BAAQMD
SN-111A	Large Water Heaters and Small Boilers	Establish low NOx limits for all new boilers and water heaters between 75,000 and 1,000,000 Btu/yr.		0.171	2007	BAAQMD
SN-58/SN-57	Oil and Gas Fugitive Emissions	Reduce the leak threshold, increase the inspection frequency, and reduce the repair time for leaking fugitive components.			2005	BAAQMD
SN-59	Asphaltic Concrete Production	Establish NOx limits for combustion units consistent with low NOx burners and FGR. Require capture and control of fugitive ROG emissions.		0.017	2007	BAAQMD
TCM-159	Expand "Spare The Air" Program	Limit activity on Spare the Air days or days when an ozone exceedance has been forecast.		2.68	2005	BAAQMD
TCM-159/ OFMS13	Voluntary Program to reduce pleasure craft use	Limit activity on Spare the Air days or days when an ozone exceedance has been forecast.		0.111	2005	BAAQMD
LU-4	BAY AREA Community Design Program	Address a wide range of concerns regarding current development patterns that are dominated by "urban sprawl". Level 2. Local Land Use Change plus Regional Accessibility		0.12	2007	BAAQMD/ County, City, Municipal bodies/ Transit agencies/ Regional Transportation Planning Agency / MPO
OFMS-52	Construction equipment idling	Limit idling on construction equipment.		0.42	2005	BAAQMD/ City/ County/ CARB
ONMS 64	Catalytic converter replacement program	Voluntary (incentivized) replacement of catalyts and oxygen sensors on older passenger cars and light trucks.		2.338	2007	BAAQMD/Dept of Consumer Affairs
TCM-174	Work-Related Trip Reduction Program	Enhance the existing Regional Ridesharing Program that is currently part of the RTP Track 1 program.		0.333	2005	BAAQMD/TMAs

### All Measures: State-Fed & Bay Area - List for February 18, 2004

CONS 1	Set new product limits for 2006	Limit VOC content of products and/or stipulate less reactive VOCs for graffiti removers, multipurpose solvents, electronic cleaners, adhesive removers, toilet/urinal care products, nail polish hairstyling aids, other cleaning products, special purpose adhesives, and footwear care products.		2007	CARB
FVR 1	Increase recovery of fuel vapors from aboveground storage tanks	Adopt enhanced vapor recovery requirements for aboveground storage tanks.		2007	CARB
FVR 2	Recover fuel vapors from gasoline dispensing at marinas	Adopt Phase II Vapor Recovery requirements for marinas.		2007	CARB
FVR 3	Reduce fuel permeation through gasoline dispenser hoses	Require gasoline dispenser hoses to meet the gasoline permeation rate requirements of SAE Standard J1527.		2007	CARB
LT/MED-DUTY 1	Replace or upgrade emission control systems on existing passenger vehicles- Pilot Program	Require mandatory replacement of catalysts, oxygen sensors and evaporative emission canisters on older passenger cars and light trucks.	23.375	2007	CARB
LT/MED-DUTY 2	Improve Smog Check to reduce emission from existing passenger & cargo vehicles	Increase the repair cost ceiling and annual, or at least biennial, adjustments from now on.	1.86	2005	CARB
MARINE 1	Pursue approaches to clean-up the existing harbor craft fleet- cleaner fuels and engines	Reduce emissions of NOx and HC from existing vessels through options including retrofit controls, repowering, and the use of cleaner fuels.	0.8476	2007	CARB
MARINE 2	Pursue approaches to reduce land-based port emissions- alternative fuels, cleaner engines, retrofit controls, electrification, education programs, operational controls	Reduce emissions of ROG, NOx and PM10 from land based port related combustion sources through using cleaner engines, alternative fuels, retrofit controls, electrification, education programs and operational controls.	0.034	2005	CARB
OFF-RD CI 1/OFF-RD CI 2	Clean up the existing heavy-duty off-road equipment fleet (compression ignition engines)-Retrofit Controls	Require emission reduction retrofit and aftertreatment devices to be installed on off-road heavy-duty (> 50 Hp) Diesel (HDD) equipment through an incentive program or in-use emission control rule. Require HDD off-road vehicles and equipment to be registered and inspected to detect improper maintenance/tampering.	3.081	2007	CARB
OFF-RD LSI 1/ OFMS56	Set lower emission standards for new off-road gas engines (Spark ignited engines 25 hp and greater)	Align California standards with the more stringent Tier 2 emission standards promulgated by EPA for these engines.	0.063	2007	CARB
OFF-RD LSI 2	Pursue approaches to clean up the existing off-road gas equipment fleet (spark-ignition engines 25 hp and greater)-Retrofit Controls	Require retrofit controls/more stringent emission standards from large spark-ignition (LSI) engines over 25 horsepower used in off-road equipment.	0.627	2007	CARB
OFMS 75	Tighter emission standards for pleasure craft / State/Federal	Set new standards for marine craft similar in stringency to EPA's standards for HC+NOx but roll in more quickly.		2005	CARB
ONMS 345	Halt Rolling Exemption in Smog Check Program	Halt the 30-year rolling exemption and include pre-1974 vehicles in the Smog Check Program	0.433	2005	CARB

### All Measures: State-Fed & Bay Area - List for February 18, 2004

ON-RD HVY DUTY 1	Augment truck and Bus inspections with Community-based Inspections	Augment existing Heavy-Duty Inspection Program at weigh stations with inspections of heavy-duty vehicles for evidence of improper maintenance/tampering using a "snap idle" test in "mixed-use communities" (residential/commercial/industrial areas).			2005	CARB
ON-RD HVY DUTY 2	Capture and control vapors from gasoline cargo tankers	Require the vapor connections on fuel cargo tankers to be fitted with closure devices such as popped adapters/manually operated valves, and product/vapor recovery hoses to have popped caps/adapters.			2007	CARB
ON-RD HVY DUTY 3/ ONMS-45/ ONMS 42	Heavy-duty Diesel Vehicle Idling Restriction; Reflash & CARB Commitments	Restrict idling; implement idling reduction devices (GVWR > 14,000 lbs); Heavy-duty Engine Recalibration (reflash); ARB SIP Committed reductions		9.738	2005	CARB
SMALL OFF-RD 1	Set lower emissions standards for new handheld lawn and garden equipment (SI engines under 25 hp)	Establish new exhaust emission standards and evaporative emission standards for 2-stroke handheld engines.		0.06	2010	CARB
TCM-159/ OFMS13	Ban 2 -Strokes Pleasure craft	Limit activity on Spare the Air days or days when an ozone exceedance has been forecast.		1.252	2005	CARB
ONMS-60	Increase to 100% Testing Only	Additional option is to include inspection of evaporative emissions as well and require repairs for emission above a certain threshold.			2005	Department of Consumer Affairs, Bureau of Automotive Repair with cooperation of the Department of Motor Vehicles.

Total      47.3142      73.3948

## State-Fed Measures (Bay Area) - List for February 18, 2004

Control Measure	Strategy Title	Description	VOC Potential Emission Reductions (tons/day)	NOx Potential Emission Reductions (tons/day)	Implementation Date	Implementing Agency
FVR 1	Increase recovery of fuel vapors from aboveground storage tanks	Adopt enhanced vapor recovery requirements for aboveground storage tanks.			2007	CARB
FVR 2	Recover fuel vapors from gasoline dispensing at marinas	Adopt Phase II Vapor Recovery requirements for marinas.			2007	CARB
FVR 3	Reduce fuel permeation through gasoline dispenser hoses	Require gasoline dispenser hoses to meet the gasoline permeation rate requirements of SAE Standard J1527.			2007	CARB
LT/MED-DUTY 1	Replace or upgrade emission control systems on existing passenger vehicles-Pilot Program	Require mandatory replacement of catalysts, oxygen sensors and evaporative emission canisters on older passenger cars and light trucks.		23.375	2007	CARB
LT/MED-DUTY 2	Improve Smog Check to reduce emission from existing passenger & cargo vehicles	Increase the repair cost ceiling and annual, or at least biennial, adjustments from now on.		1.86	2005	CARB
MARINE 1	Pursue approaches to clean-up the existing harbor craft fleet- cleaner fuels and engines	Reduce emissions of NOx and HC from existing vessels through options including retrofit controls, repowering, and the use of cleaner fuels.		0.8476	2007	CARB
MARINE 2	Pursue approaches to reduce land-based port emissions-alternative fuels, cleaner engines, retrofit controls, electrification, education programs, operational controls	Reduce emissions of ROG, NOx and PM10 from land based port related combustion sources through using cleaner engines, alternative fuels, retrofit controls, electrification, education programs and operational controls.		0.034	2005	CARB
OFF-RD CI 1/OFF-RD CI 2	Clean up the existing heavy-duty off-road equipment fleet (compression ignition engines)-Retrofit Controls	Require emission reduction retrofit and aftertreatment devices to be installed on off-road heavy-duty (> 50 Hp) Diesel (HDD) equipment through an incentive program or in-use emission control rule. Requires HDD off-road vehicles and equipment to be registered and inspected to detect improper maintenance/tampering.		3.081	2007	CARB
OFF-RD LSI 1/ OFMS56	Set lower emission standards for new off-road gas engines (Spark ignited engines 25 hp and greater)	Align California standards with the more stringent Tier 2 emission standards promulgated by EPA for these engines.		0.063	2007	CARB
OFF-RD LSI 2	Pursue approaches to clean up the existing off-road gas equipment fleet (spark-ignition engines 25 hp and greater)-Retrofit Controls	Require retrofit controls/more stringent emission standards from large spark-ignition (LSI) engines over 25 horsepower used in off-road equipment.		0.627	2007	CARB
OFMS 75	Tighter emission standards for pleasure craft / State/Federal	Set new standards for marine craft similar in stringency to EPA's standards for HC+NOx but roll in more quickly.			2005	CARB
ONMS 345	Halt Rolling Exemption in Smog Check Program	Halt the 30-year rolling exemption and include pre-1974 vehicles in the Smog Check Program		0.433	2005	CARB
ON-RD HVY DUTY 1	Augment truck and Bus inspections with Community-based Inspections	Augment existing Heavy-Duty Inspection Program at weigh stations with inspections of heavy-duty vehicles for evidence of improper maintenance/tampering using a "snap idle" test in "mixed-use communities" (residential/commercial/industrial areas).			2005	CARB

ON-RD HVY DUTY 2	Capture and control vapors from gasoline cargo tankers	Require the vapor connections on fuel cargo tankers to be fitted with closure devices such as popped adapters/manually operated valves, and product/vapor recovery hoses to have popped caps/adapters.		2007	CARB
ON-RD HVY DUTY 3/ ONMS-45/ ONMS-42	Heavy-duty Diesel Vehicle Idling Restriction; Reflash & CARB Commitments	Restrict idling; implement idling reduction devices (GVWR > 14,000 lbs); Heavy-duty Engine Recalibration (reflash); ARB SIP Committed reductions	9.738	2005	CARB
SMALL OFF-RD 1	Set lower emissions standards for new handheld lawn and garden equipment (SI engines under 25 hp)	Establish new exhaust emission standards and evaporative emission standards for 2-stroke handheld engines.	0.06	2010	CARB
TCM-159/ OFMS13	Ban 2-Stroke Pleasure craft	Limit activity on Spare the Air days or days when an ozone exceedance has been forecast.	1.252	2005	CARB
ONMS-60	Increase to 100% Testing Only	Additional option is to include inspection of evaporative emissions as well and require repairs for emission above a certain threshold.		2005	Department of Consumer Affairs, Bureau of Automotive Repair with cooperation of the Department of Motor Vehicles.

Total 29.7934 41.3706

## BAAQMD Measures - List for February 18, 2004

Control Measure	Strategy Title	Description	VOC Potential Emissions Reductions (tons/day)	NOx Potential Emissions Reductions (tons/day)	Implementation Date	Implementing Agency
B-1	Petroleum Refineries	Require controls on wastewater treatment equivalent to the South Coast AQMD on process drains, manhole covers, sewer lines, and recovered oil storage vessels.			2007	BAAQMD
B-1	Petroleum Refineries	Require controls on flare emissions equivalent to the San Joaquin and Santa Barbara air districts	n/a		2007	BAAQMD
B-1	Petroleum Refineries	Require controls on fugitive emissions that incorporate the more stringent requirements currently being implemented in the South Coast and Santa Barbara air districts.			2007	BAAQMD
B-1	Petroleum Refineries	Require controls on storage tanks including "No visible gap" criteria for external floating roof, external floating roof tanks with domed roofs, and fixed roof tanks must be vented to 95% efficient control device and all fittings vapor tight.			2007	BAAQMD
B-1	Petroleum Refineries	Reduce the Nox emission limit for boilers and process heaters used at refineries and lower the applicability limit for gaseous fuels to 5 mmbtu/hr.		1.27	2007	BAAQMD
D1	Semiconductor Manufacturing	Require the use of advanced low VOC solvents and photoresist solutions and/or the use of an emission control device that will capture and abate 95% of the uncontrolled emissions.			2007	BAAQMD
D12	Graphic Arts	Lower VOC limits for adhesives, fountain solutions and cleaning operations.			2005	BAAQMD
D14	Other Gas Turbines	Require a lower Nox emission limit for gas turbines which is comparable to SCAQMD and SJUAPCD.		0.69	2010	BAAQMD
D16	Boilers, Steam Generators, Process/Space Heaters	Require boilers 5-20 mmbtu/hr to meet 15 ppm of NOx and boilers greater than 20 mmbtu/hr to meet 9 ppm of NOx.		0.68	2007	BAAQMD
D19	Electric Utilities	Require lower Nox limit for boilers, turbines, and engines used at electric utilities.		2.27	2010	BAAQMD
D27	Fuel Handling	Option 1 - Implement an incentive program to accelerate replacement of gasoline cans.			2005	BAAQMD
D27	Fuel Handling	Option 2 - Require participants in the lawnmower exchange program to surrender old gas cans.			2005	BAAQMD
D27	Fuel Handling	Option 3 - Provide free replacement gas cans to commercial businesses.			2005	BAAQMD
D3	Adhesives and Sealants	Lower VOC limits for solvent based adhesives and sealants.			2007	BAAQMD
D7	Degreasing/Solvent Cleaning	Reduce VOC limit for cleaning materials to 25 g/l to match South Coast limit.			2007	BAAQMD
D8	Thinning, Surface Prep and Cleanup	Amend surface prep and cleanup rules in Placer and Yolo-Solano to capture all unregulated cleaning operations. Adopt solvent cleaning rules in Feather River and El Dorado similar to Sacramento Rule 466			2005	BAAQMD
D9	Unspecified	Lower VOC limits for coatings not otherwise captured by a specific coating rule.	n/a		2005	BAAQMD
LU-2A	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the construction impacts of new projects where emissions exceed established District Thresholds of Significance.		4.65	2005	BAAQMD
LU-2B	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the operational impacts of new projects where emissions exceed established District Thresholds of Significance.		0.45	2005	BAAQMD
OFMS-14/ OFMS7	Agricultural Engines	Incentive to replace diesel agricultural engines with electric at normal rebuild times.		0.02	2005	BAAQMD
OFMS-14/ SN-48	Agricultural Engines	Incentive to implement a mandatory program for early replacement of diesel ag engines.		0.32	2005	BAAQMD
OFMS37	Replace standard gasoline powered mowers with electric ones	Implement an incentive program to replace gasoline-powered mowers with electric mowers.		0.001	2005	BAAQMD

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## BAAQMD Measures - List for February 18, 2004

Control Measure	Strategy Title	Description	VOC Potential Emission Reductions (tons/day)	NOx Potential Emission Reductions (tons/day)	Implementation Date	Implementing Agency
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B-1	Petroleum Refineries	Require controls on flare emissions equivalent to the San Joaquin and Santa Barbara air districts	n/a		2007	BAAQMD
B-1	Petroleum Refineries	Require controls on fugitive emissions that incorporate the more stringent requirements currently being implemented in the South Coast and Santa Barbara air districts.			2007	BAAQMD
B-1	Petroleum Refineries	Require controls on storage tanks including "No visible gas" criteria for external floating roof, external floating roof tanks with domed roofs, and fixed roof tanks must be vented to 95% efficient control device and all fittings vapor tight.			2007	BAAQMD
B-1	Petroleum Refineries	Reduce the Nox emission limit for boilers and process heaters used at refineries and lower the applicability limit for gaseous fuels to 5 mmbtu/hr.		1.27	2007	BAAQMD
D1	Semiconductor Manufacturing	Require the use of advanced low VOC solvents and photoresist solutions and/or the use of an emission control device that will capture and abate 95% of the uncontrolled emissions.			2007	BAAQMD
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D14	Other Gas Turbines	Require a lower Nox emission limit for gas turbines which is comparable to SCAQMD and SJUAPCD.		0.69	2010	BAAQMD
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D27	Fuel Handling	Option 2 - Require participants in the lawnmower exchange program to surrender old gas cans.			2005	BAAQMD
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D7	Degreasing/Solvent Cleaning	Reduce VOC limit for cleaning materials to 25 g/l to match South Coast limit.			2007	BAAQMD
D8	Thinning, Surface Prep and Cleanup	Amend surface prep and cleanup rules in Placer and Yolo-Solano to capture all unregulated cleaning operations. Adopt solvent cleaning rules in Feather River and El Dorado similar to Sacramento Rule 496			2005	BAAQMD
D9	Unspecified	Lower VOC limits for coatings not otherwise captured by a specific coating rule.	n/a		2005	BAAQMD
LU-2A	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the construction impacts of new projects where emissions exceed established District Thresholds of Significance.		4.65	2005	BAAQMD
LU-2B	Indirect Source Rule for New Land Use/Transportation Development	Implement an Indirect Source Rule to mitigate the operational impacts of new projects where emissions exceed established District Thresholds of Significance.		0.45	2005	BAAQMD
OFMS-14/ OFMS7	Agricultural Engines	Incentive to replace diesel agricultural engines with electric at normal rebuild times.		0.02	2005	BAAQMD
OFMS-14/ SN-48	Agricultural Engines	Incentive to implement a mandatory program for early replacement of diesel ag engines.		0.32	2005	BAAQMD
OFMS37	Replace standard gasoline powered mowers with electric ones	Implement an incentive program to replace gasoline-powered mowers with electric mowers.		0.001	2005	BAAQMD

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02/13/2004



**Summary of Control Strategies for San Francisco Bay Area  
Federal Nonattainment Area**

**Presented to BAAQMD & SMAQMD  
Meeting, February 18, 2004**

**Raymond K. Schubert  
Michael D. Jackson  
TIAX LLC**

ATTACHMENT 3

TIAX LLC  
Acurex Environmental  
Cupertino, California 95014  
Reference: D0200

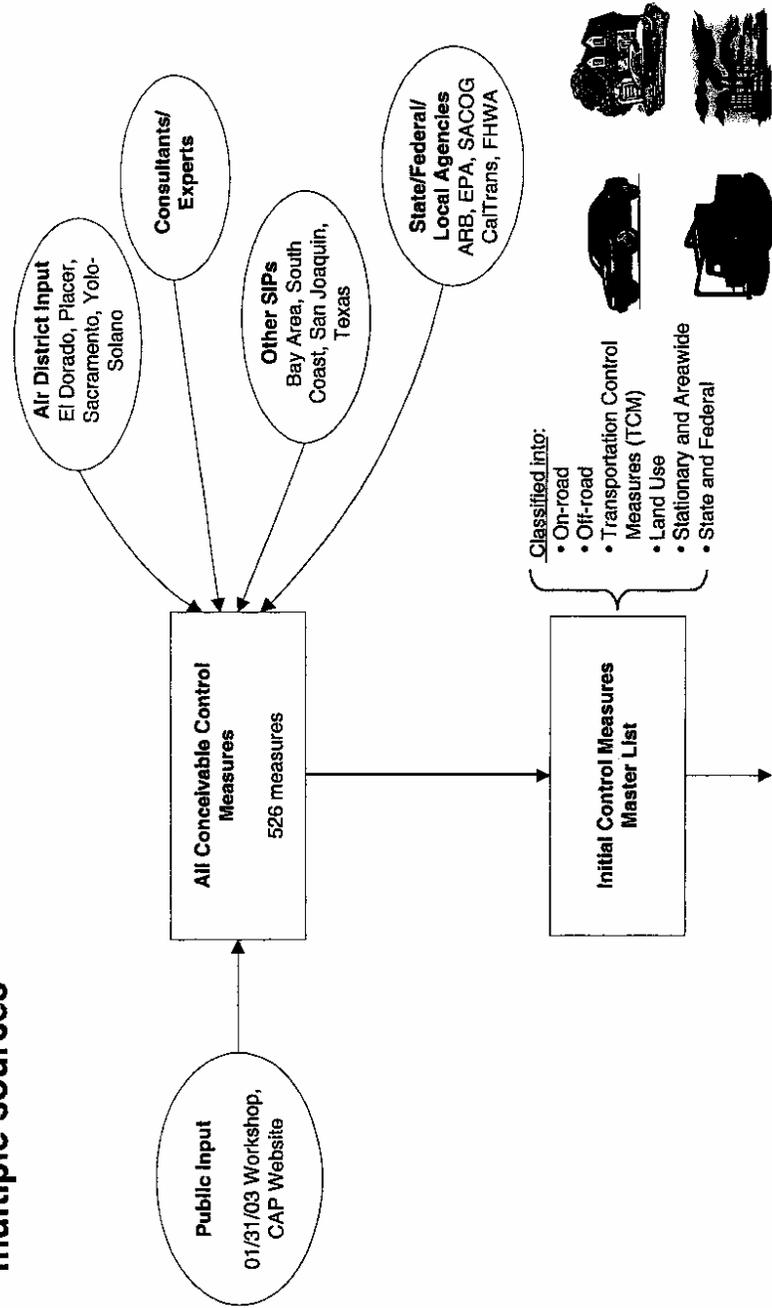
- 1 Bay Area Methodology
- 2 Overview of Analysis
- 3 Effectiveness of Control Measures
- 4 Summary



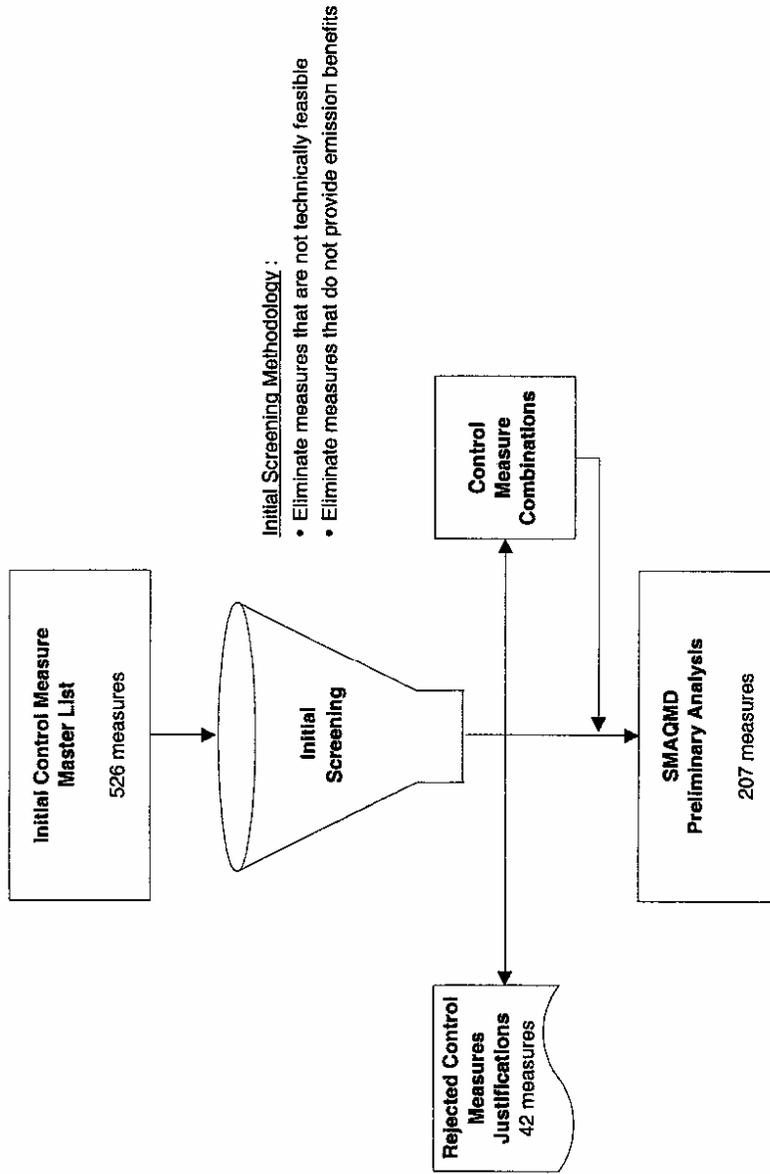
- 1** Bay Area Methodology
- 2** Overview of Analysis
- 3** Effectiveness of Control Measures
- 4** Summary



### The initial control measure master list is a compilation of measures from multiple sources



### The initial control measure list was reduced by performing a screening and combining similar and complementary measures



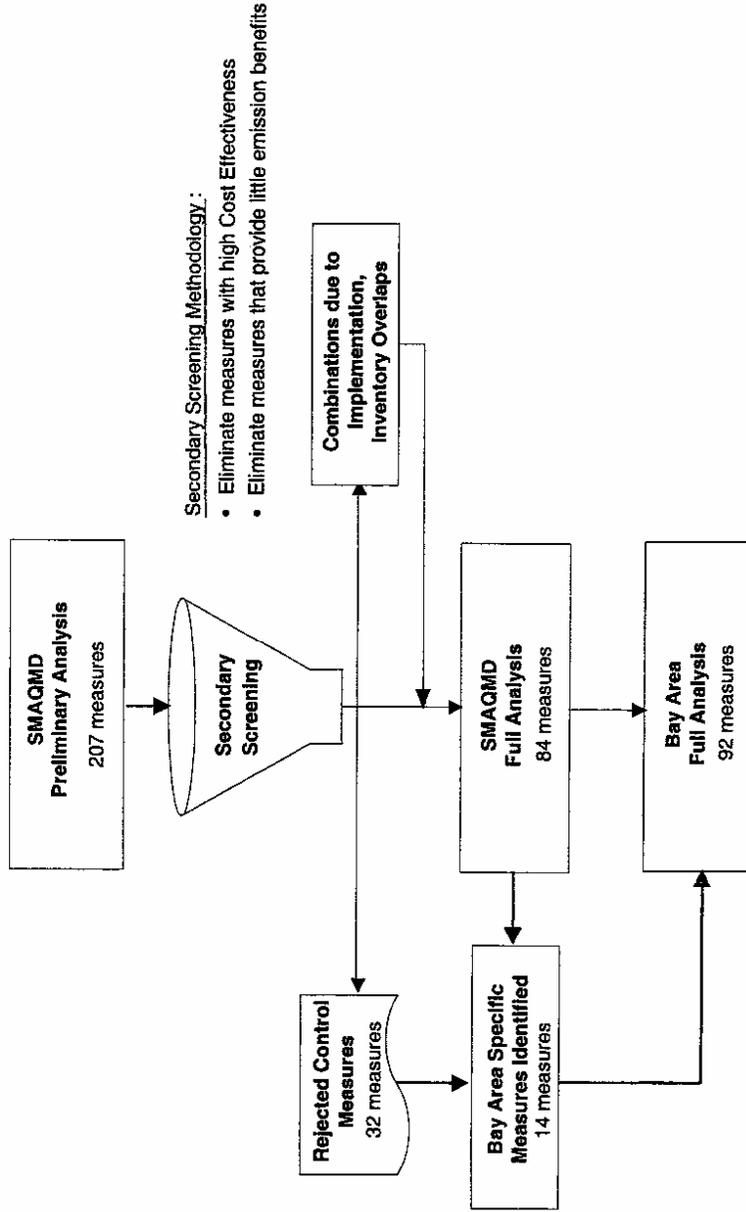
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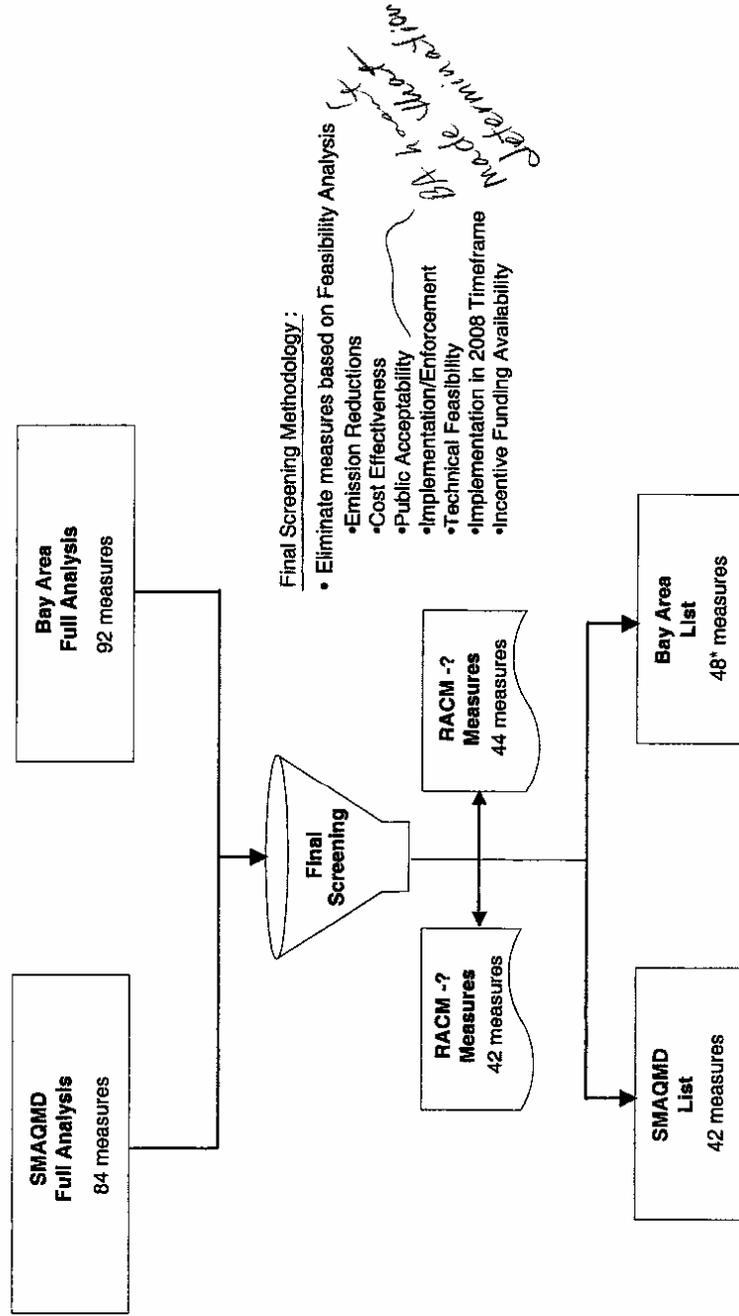
February 2004

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**The Sacramento preliminary analyses were evaluated to identify measures for full analysis, for both Sacramento and the Bay Area.**



Finally, the full analysis measures were screened based on a Feasibility Analysis to identify potentially viable measures.



Final Screening Methodology :

- Eliminate measures based on Feasibility Analysis
- Emission Reductions
- Cost Effectiveness
- Public Acceptability
- Implementation/Enforcement
- Technical Feasibility
- Implementation in 2008 Timeframe
- Incentive Funding Availability

*BA meeting  
Made that  
determination*



\* - Some incentive measures are not funded

2/18/04

7660 Cupt D0200

February 2004

6

**Sacramento control measure master list used to identify measures for Bay Area analysis**

- 207 Sacramento preliminary control measure analysis were performed
  - these measures were available to the BAAQMD on the web
- Secondary screening identified measures for full analysis
  - 84 measures in Sacramento
  - 92 measures in the Bay Area
- The analysis effort was divided into three levels of analyses:
  - Bay area specific -- different analysis because of implementation/inventory
  - “translation” of control measure from SFNA inventory to Bay Area inventory
  - State/Federal measures were completed to identify emission reductions based on proposed ARB measures



**Sacramento control measure master list used to identify measures for Bay Area analysis**

- TIAX, Sierra Research, and Jones & Stokes teamed on this effort and divided the work:

Analysis Type	Onroad / TCM / Land Use	Offroad	Stationary / Area Wide	Total Measures
Translation	21	11	28	60
Bay Area Specific	4	2	8	14
State/Fed.	5	10	3	18
<b>Total</b>	<b>30</b>	<b>23</b>	<b>39</b>	<b>92</b>

*Sierra Research*

- Some measures were identified as having state jurisdiction during the analysis and are classified as such, e.g. Tighter emission standards for pleasure craft (OFMS75).
- Final control measure list was developed based on RACM feasibility in the 2008 timeframe.



- 1 Bay Area Methodology
- 2 Overview of Analysis
- 3 Effectiveness of Control Measures
- 4 Summary



**All analysis have the same elements**

- Described control measure
- Identified inventory EIC categories
  - Used Planning Inventory
  - Selected 2005 or 2007, based on implementation date, and 2010
  - Used full Emission Inventory Codes
- Estimated emission reductions for control measure
  - Tons per day and percent effectiveness by each individual emission inventory code
  - Calculated cumulative effects for 2010
- Determined implementation timeframe and estimated cost effectiveness
  - 2005 or 2007 and 2010
- Evaluated control measures on U.S. EPA Criteria
  - Real, quantifiable, permanent, enforceable, surplus



**All analysis have the same elements (continued)**

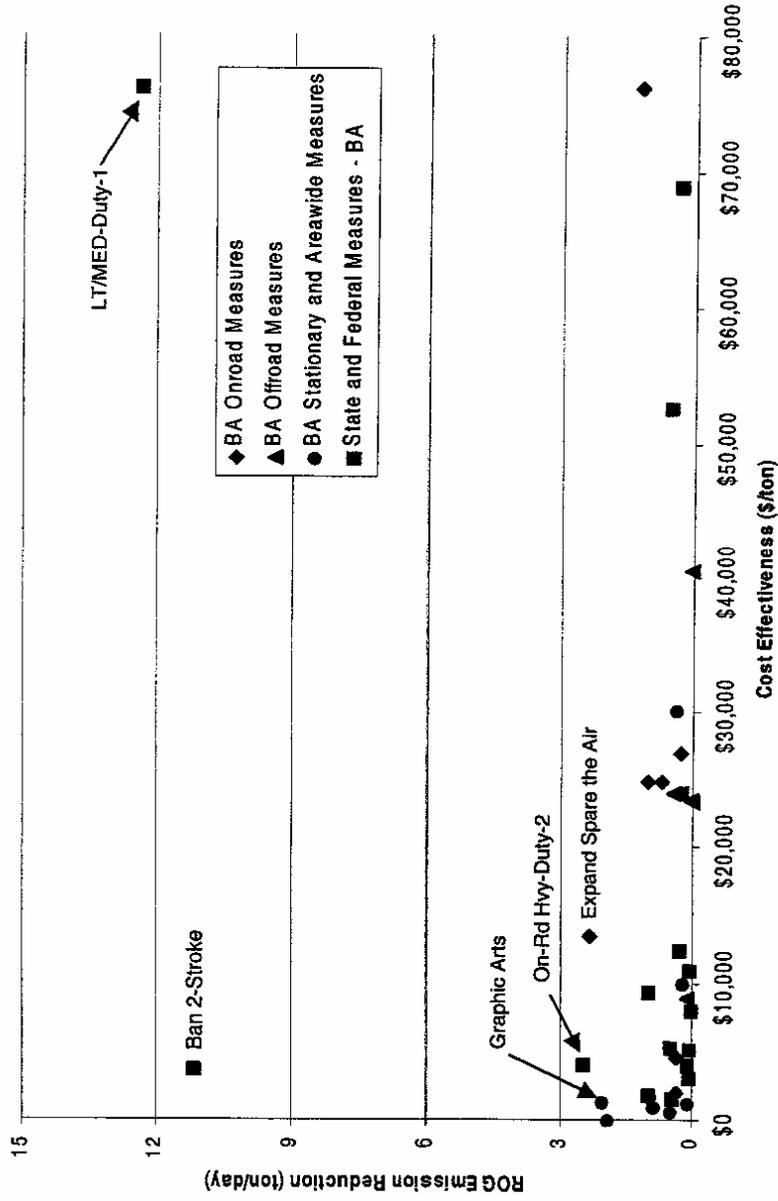
- Identified implementation agency and needed resources and authority
- Discussed overall feasibility
  - Emission reduction cost effectiveness, public acceptability, implementation/enforcement, technical feasibility
- Cited resources and references
- Evaluators made preliminary RACM conclusions
- Jones & Stokes performed preliminary environmental impact in CEQA format
- Calculations are provided in back-up spreadsheets (Excel)



- 1 Bay Area Methodology**
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- 3 Effectiveness of Control Measures**
- 4 Summary**



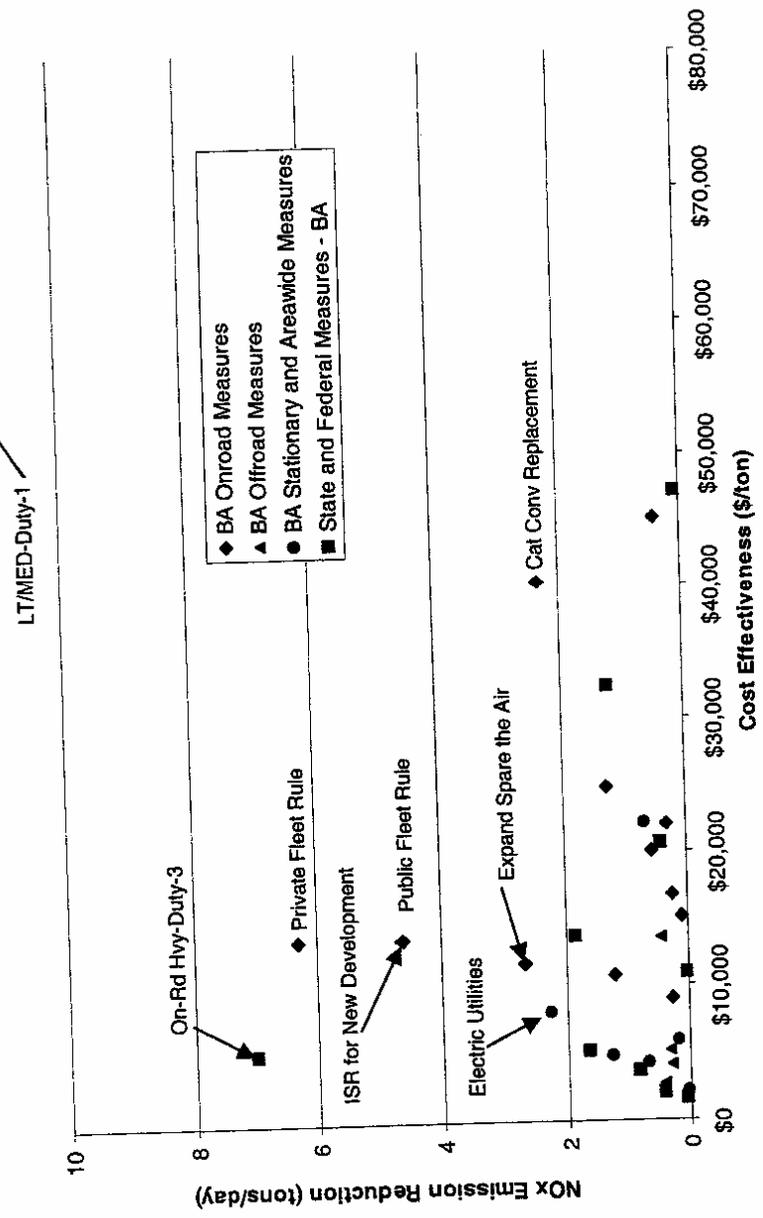
Control measures providing ROG reductions



Effectiveness of Control Measures

Bay Area Control Measures

Control measures providing NOx reductions



**Bay Area Control Measures Effectiveness of Control Measures**

**INCENTIVE FUNDING**

**Funding Programs (Revenue Sources)**

DMV \$20,000,000

**Programs to Fund (Based on Funding Revisions and Cost Effectiveness)**

Enhanced Spare the Air \$ 490,567 - \$527,088  
 Fleet Modernization (2005) \$ 12,493,415  
 EGRT Retrofit (2007) \$ 12,145,740  
 Heavy-Duty Repowers \$ 6,952,371 - \$ 7,281,303

**New Programs to Fund (Based Cost Effectiveness)**

Ag pump electrification incentives \$ 101,196 - \$ 112,124  
 Voluntary Pleasure Craft Ban (STA) \$ 46,849 - \$ 49,137  
 Lawn Mower Buyback \$ 320,487 - \$ 325,162  
 Fleet Modernization (2007) \$ 2,941,632  
 Cleaire Longview (2007) \$ 10,963,397  
 Dual Fuel Retrofit \$ 51,034,773 - \$ 57,852,710  
 Emulsified Fuel \$ 6,926,173 - \$ 7,487,120  
 Cat. Converter Replacement (2007) \$ 172,000,000  
 Community Design (2007) \$ 21,700,000

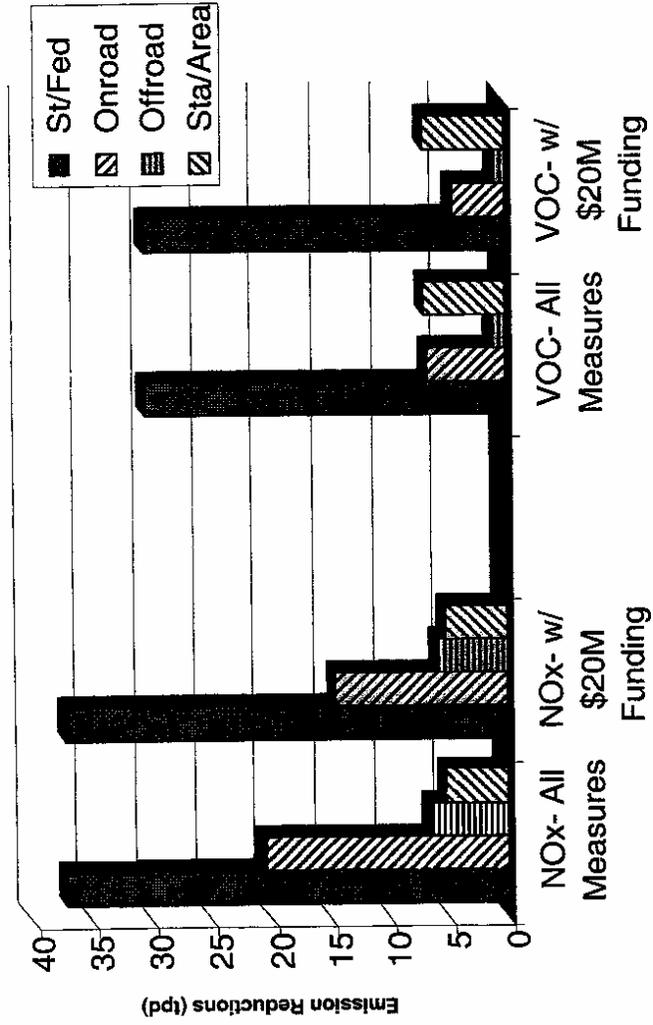
	Funding = \$20,000,000		Additional Funding		
	NOx (tpd)	VOC (tpd)	Funding Level	NOx (tpd)	VOC (tpd)
2005	3.21	2.38	\$78,988,314	5.40	2.86
2007	4.27	2.16	\$313,864,377	14.57	4.26



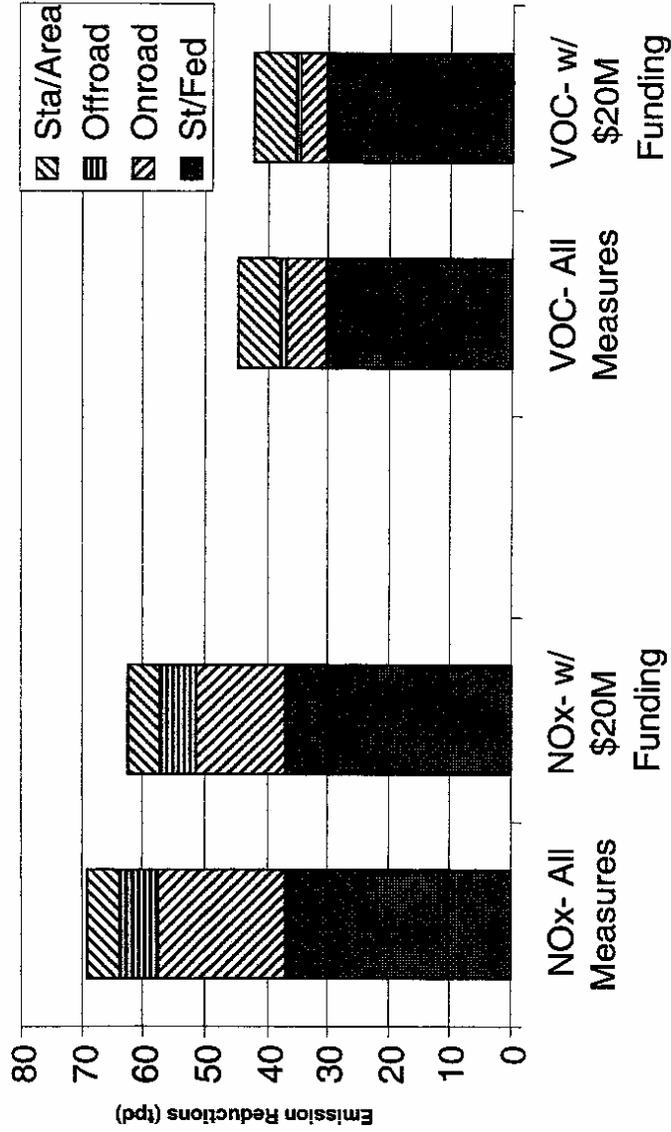
Incentive Funding

Measures No.	Description	2005 Reduction		2006 Costs		2007 Reduction		2007 Costs		Notes
		NOx	ROG	CE-NOx	Cost	NOx	ROG	CE-NOx	Cost	
ONMS-52/ONMS-74	High Sulphur Repealer	0.243	0.16		\$ 16,248	0.578	0.053	10,983,337	\$ 17,857	Adjusted to 2.00% year inflation table
ONMS-52/ONMS-52a	Cleaire Lohview System					1.135	0.076	22,841,832	\$ 8,638	Adjusted to 2.00% year inflation table
ONMS-52/ONMS-52b	Johnson Matthew EGRT					4.211	0.212	57,852,710	\$ 24,437	Adjusted to 2.00% year inflation table
ONMS-52/ONMS-265	Dual Fuel Retrofit	1.307	0.069	\$51,034,773		1.236	0	7,487,120	\$ 90,897	
ONMS-52/MSG-31	Emulsion Fuel	0.424	0	\$ 6,664,133		0.003	0.022	320,487		\$ 24,073
OFMS7	Low Sulfur Fuel	0.651	0.005	\$ 25,182		0.113	0.508	49,137	15,444	
OFMS7	Low Sulfur Fuel	0.111	0.365	\$ 46,849		0.089	0.003	25,000	\$ 73,217	
OFMS7	Oil Pressure Craft Bin	0.01	0.004	\$ 25,000		0.12	0.11	21,700,000	\$ 119,786	
OFMS7	Clean Air Laundry	0.020	0	\$ 101,198		0.11	0.01	112,124	\$ 6,822	
OFMS7	Community Design	0.320	0.04	\$ 592,896		0.45	0.08	458,839	\$ 9,826	
OFMS7	Ag Engines - Normal Life					2.338	1.235	172,000,000	\$ 40,285	
OFMS7	Ag Engines - Early Retire									Levs revenue from increased fees (28.1 days/year)
OFMS7	Cal Converter Replacement									
OFMS7	Free Gas Cope									
ONMS-89		0.33		\$ 248,077		0.35		\$ 246,077		\$ 1,848
		5.40	2.86	\$ 78,888,314		14.57	4.26	\$ 313,864,377		
	Low									
	High									

### Comparison of Emission Reduction by Authority



**Total Emission Reductions**



**Comparison of Bay Area and Sacramento Nonattainment Regions**

Bay Area Nonattainment Region	Sacramento Nonattainment Region
-------------------------------------	---------------------------------------

Population	1.8M (2001)
------------	-------------

Exceedance Days (2003)

•Federal 1-hr std	6
•State 1-hr std	51

Inventory

•NOx (tpd)	157 (2005)
•ROG (tpd)	121 (2005)



- 1 Bay Area Methodology
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- See similar trends between Bay Area and Sacramento. Higher reductions possible in Bay Area due to larger inventory
- State and Federal measures have the most leverage
- Off-road and stationary / area source control measures are significant but small relative to State and Federal Measures
- Proposed Fleet Rules have large impact
- Incentive funding is needed to get additional reductions from local on-road and off-road measures

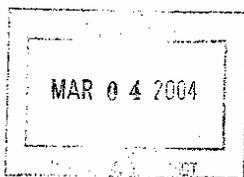


- Changes in measure implementation and scope have occurred since the preliminary Sacramento analysis -- particularly with the Bay Area specific measures.
- A comparing the current measures to the BAAQMD measure list presented on January 20, 2004, gives the following observations:
  - several measures were classified as “Already Implemented”, but may not have the same level of control measures analyzed
  - level of emission reductions that BAAQMD characterizes as negligible seems high in some cases
  - jurisdiction of on-road and off-road sources may need to be discussed to understand the reasons for rejecting these measures; e.g. fleet rules appear to be measures available to districts with a state nonattainment area classification of serious





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT



ATTACHMENT 4

March 3, 2004

Karen Wilson  
Manager, Strategic Planning Division  
Sacramento Metropolitan Air Quality Management District  
777 12th Street, 3<sup>rd</sup> Floor  
Sacramento, CA 95814

Dear Karen:

At our meeting on February 18, 2004, Sacramento Metropolitan Air Quality Management District (SMAQMD) staff and your consultant (Tiax) provided tables, presentations, and disks of information regarding potential ozone control measures for the Bay Area Air District to consider as we prepare our draft Ozone Strategy. We thank you for your suggestions and will give them a thorough review.

At the meeting, we agreed to give you a timeframe for our review of the information you provided. We expect to complete our review by May 2004, in time to incorporate the results of our review into our draft Ozone Strategy. I will contact you when we have completed our review to schedule a staff meeting to discuss our analysis.

Our next Ozone Working Group (OWG) meeting is March 23, 2004, at the offices of the Metropolitan Transportation Commission beginning at 9:30 a.m. We hope SMAQMD staff will be able to attend. The OWG provides an excellent opportunity for all stakeholders, including SMAQMD, to participate in our planning process. I would like to let you know that the materials we present at the March OWG meeting regarding control measure evaluations and control measure descriptions will not be updated based on your most recent input, given the timeframe I indicated above. Of course, the materials will reflect our evaluation of earlier input, by SMAQMD and others.

Please feel free to give me a call at 415-749-4646 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Jean Roggenkamp".

Jean Roggenkamp  
Director of Planning and Research

cc: B. Tollstrup, SMAQMD

939 ELLIS STREET • SAN FRANCISCO CALIFORNIA 94109 • 415.771.6000 • [www.baaqmd.gov](http://www.baaqmd.gov)



Norm Covell  
AIR POLLUTION CONTROL OFFICER

March 5, 2004

Jack Broadbent  
Air Pollution Control Officer  
Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109-7714

Dear Mr. Broadbent,

I would like to thank you and your staff for your participation in a productive exchange of information regarding air quality planning issues at our meeting on February 18, 2004. At that meeting, we provided you with information on Bay Area measures we have analyzed for their emission reduction potential. Your staff indicated that they had seen most of the measures as we were developing the analysis, but requested further time to review and comment before we submit the information to the Air Resources Board.

It is my understanding that the information your staff requested has been sent to Jean Roggenkamp. As we discussed at the meeting, it is appropriate that our analysis be forwarded to ARB for consideration as it identifies all feasible measures for implementation in accordance with its Transport Mitigation Regulation.

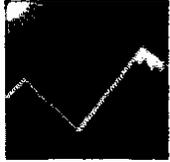
We will transmit the analysis to ARB in early April. Accordingly, we request that you provide us with any comments you may have by Friday, March 26 so that we may incorporate them into our transmittal.

Thank you again for the attention you and your staff have given this matter.

Sincerely,

Norm Covell  
Air Pollution Control Officer

cc: Larry Greene, APCO, Yolo-Solano AQMD  
Tom Christofk, APCO, Placer County APCD  
Marcella McTaggart, APCO, El Dorado County AQMD  
Steve Speckert, APCO, Feather River AQMD



San Joaquin Valley  
Air Pollution Control District

# Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone

December 31, 2002

AMENDED 2002 AND 2005 OZONE RATE OF PROGRESS PLAN

Table 4-3 (continued)

Category	Current Rule #	Pollutant	2005 Baseline Emissions (tons/day)	Reference <sup>1</sup>	Comments
Cutback Asphalt Application	4641	VOC	1.6	APS	District will investigate feasible controls for further reductions.
Dryers & Dehydrators		NOx	Unknown	Houston	Emission Inventory development needed.
Fluid Catalytic Cracking Units		NOx	Unknown	Houston	Emission Inventory development needed.
Furnaces		NOx	Unknown	Houston	Emission Inventory development needed.
Glass Melting Furnaces	4354	NOx	11.9	APS; Houston	District will investigate feasible controls for further reductions.
Indirect Source Mitigation Fee		VOC/NOx	Unknown	Staff; public comment	Fees would be collected from new land development and used to fund air quality incentive programs. Longer lead-time is needed to assess public support and feasibility.
Water Heaters & Boilers, 75,000 Btu/hr – 2 MMBtu/hr	4305	NOx	Unknown	APS	Emission Inventory development needed.
Livestock Waste		VOC	82.9	SCAQMD; Public	Emission Inventory refinement needed. Longer lead-time needed for emission control technology assessment.

SJVUAPCD

Chapter 4 - SJVUAPCD Control Measures

**State of California  
AIR RESOURCES BOARD**

**STATUS REPORT**

**OZONE TRANSPORT MITIGATION  
IN CALIFORNIA**

**Release Date: April 8, 2004**  
**Meeting Date: April 22-23, 2004**

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.



State of California  
California Environmental Protection Agency  
AIR RESOURCES BOARD

Staff Report

**OZONE TRANSPORT MITIGATION IN CALIFORNIA**

Air Resources Board Meeting  
Begins April 22, 2004 at 9:00 a.m.  
and may continue April 23, 2004 at 8:30 a.m.  
Air Resources Board  
Central Valley Auditorium  
1001 I Street  
Sacramento, California 95814

Meeting notice available at  
<http://www.arb.ca.gov/aqd/transport/mitigation/mitigation.htm>.

This report has been reviewed by the staff of the Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

This report and related materials are available for downloading from the Air Resources Board's Internet site at <http://www.arb.ca.gov/aqd/transport/mitigation/mitigation.htm>. In addition, written copies may be obtained from the Board's Public Information Office, 1001 I Street, 1<sup>st</sup> Floor, Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the Americans with Disabilities Act Coordinator at (916) 323-4916, or TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area.

**QUESTIONS**

If you have questions concerning this report, please contact:

Ms. Kim Heroy-Rogalski, P.E.  
Staff Air Pollution Specialist  
Phone: (916) 327-2200  
Email: [kheroyro@arb.ca.gov](mailto:kheroyro@arb.ca.gov)

## **INTRODUCTION**

Unhealthy ozone levels in an area often result from a combination of emissions generated by local sources and pollution blown in or transported from other regions of the State. Consequently, mitigating the transport of ozone and ozone-forming pollutants within California is an important part of the State's efforts to achieve health-based ambient air quality standards.

Over the last decade, California has continued to strengthen both the science of pollution transport and the regulatory framework to reduce transport. In the last year, the Air Resources Board (ARB or Board) and the local air pollution control and air quality management districts (districts) have focused on improving coordination between regions and identifying feasible emission controls to further cut ozone levels.

This status report on ozone transport mitigation does the following:

- Reviews how transport of ozone pollution is addressed in California law,
- Identifies the transport relationships among California regions,
- Summarizes changes made in 2003 to the transport mitigation regulation,
- Provides an update on the status of transport mitigation,
- Describes the regional coordination activities underway, and
- Discusses the direction staff expects to take in the next few years to further understand, characterize, and mitigate ozone pollution transport.

### **Transport in California State Law**

An "upwind" area is a generator of transported emissions, while a "downwind" area is a receptor of transported emissions. The California Clean Air Act (the Act) directs the ARB to periodically assess transport in terms of the contribution of ozone and ozone precursors in upwind regions to ozone concentrations in downwind regions. In addition, the Act directs ARB to establish mitigation requirements for upwind districts commensurate with their contributions to downwind air quality problems. The laws on transport are found in section 39610 of the California Health and Safety Code (H&SC). The regulations relating to transport are in title 17 of the California Code of Regulations (CCR) sections 70500, 70600, and 70601.

The Act requires districts to develop plans to attain the State ambient ozone standard and update the plans every three years (H&SC sections 40911 and 40925). The Act also requires that the combination of plans for upwind and downwind districts provide for attainment and maintenance of the ozone standard in both regions (H&SC section 40912). While there are no deadlines for attainment, the Act requires steady progress by either reducing emissions of each ozone precursor (i.e., reactive organic gases and oxides of nitrogen) by five percent per year or by adopting all feasible measures (H&SC section 40914). Districts subject to this requirement are pursuing the all feasible

measures path. Finally, each upwind district's plan must satisfy the mitigation requirements established by ARB pursuant to H&SC section 39610.

**Transport Assessments**

Over the last decade, ARB has done a series of technical assessments of transport relationships between air basins in California. The assessments identify transport couples consisting of an upwind and a downwind area. ARB also characterizes the contribution of transported pollutants as overwhelming, significant, or inconsequential. The influence of transport on a downwind area can vary widely day by day, depending mostly on the weather. As a result, a transport couple can have multiple characterizations. ARB approved the initial assessment in 1990, and updated the assessment in 1993, 1996, and 2001. Table 1 lists the identified transport couples within California.

**TABLE 1  
CALIFORNIA TRANSPORT COUPLES**

<b>Air Basin Impacted by Transport (Downwind Area)</b>	<b>Origin of Transport (Upwind Area)</b>
Broader Sacramento Area	San Francisco Bay Area San Joaquin Valley
Great Basin Valleys	San Joaquin Valley
Mojave Desert	South Coast San Joaquin Valley Mexico
Mountain Counties	Broader Sacramento Area San Joaquin Valley San Francisco Bay Area
North Central Coast	San Francisco Bay Area San Joaquin Valley
North Coast	San Francisco Bay Area
Salton Sea	South Coast Mexico
San Diego	South Coast Mexico
San Francisco Bay Area	Broader Sacramento Area
San Joaquin Valley	San Francisco Bay Area Broader Sacramento Area
South Central Coast	South Coast California Coastal Waters San Joaquin Valley San Francisco Bay Area
South Coast	South Central Coast
Upper Sacramento Valley	Broader Sacramento Area

From title 17 California Code of Regulations, section 70500(c) Transport Identification Table

The body of knowledge developed through the assessments has yielded a practical understanding of the fundamental transport relationships among California regions. We know that urbanized areas largely cause their own air pollution. We know under what weather conditions these urban areas can receive pollution from their upwind neighbors and under what conditions they can transport pollution to their downwind neighbors. And finally, we know that depending on the weather patterns, the magnitude of the impact on the same downwind area can change substantially depending on the day.

ARB staff's analytical transport work continues. In addition to the established practice of examining weather patterns, air flow, and pollution levels to identify transport couples, staff is developing additional modeling tools as part of the Central California Ozone Study and the Southern California Ozone Study to apply to future transport analyses. This work is the next step in the evolution of transport assessment—integrated evaluation of control strategies and pollution transport across air basins within the same modeling domain. The work is beginning to enhance our understanding of the fundamental transport relationships already identified. Based on the ongoing transport analyses, ARB staff is not proposing any new transport couples at this time.

#### **TRANSPORT MITIGATION REQUIREMENTS AND IMPLEMENTATION STATUS**

ARB first adopted transport mitigation regulations in 1990. The 1990 regulations established mitigation requirements for upwind areas found to have either overwhelming or significant impacts on downwind areas. The primary mitigation requirement was to accelerate application of best available retrofit control technology (BARCT) to major stationary sources in upwind districts.

The Board amended its transport regulations in 1993 and further strengthened the regulations in May 2003. The 2003 amendments requires upwind districts to: (1) adopt all feasible measures for ozone precursors until the downwind region attains the State ozone standard, unless the measure is not needed in the downwind region, and (2) adjust no net increase thresholds for requiring offsets to be at least as stringent as those of the downwind district. No net increase thresholds are part of a district's stationary source permitting program; new or modified stationary sources with emissions or the potential to emit above the threshold must offset their emissions increase with additional emission reductions from elsewhere at the source or from other sources. The end result is no net increase in emissions within the district.

ARB staff is monitoring district compliance with the new requirements for all feasible measures and adjusted no net increase thresholds through review of district triennial California Clean Air Act plans (required by H&SC section 40925) and rulemaking activities.

The two new transport mitigation requirements are described in further detail below, along with a summary of recent district actions to comply.

### **All Feasible Measures**

Districts that violate the State ozone standard are already required to adopt and implement all feasible measures unless they can demonstrate a five percent annual reduction in emissions. The 2003 amendments establish a continuing obligation for upwind districts to pursue these measures, regardless of their attainment status, until their downwind neighbors attain the State ozone standard. The amendments also require each upwind district to review its list of control measures in consultation with its downwind neighbor district and make a finding as to whether the list of control measures meets the all feasible measures requirement.

Districts can opt out of the all feasible measures requirement under certain conditions. For example, a district need not require all feasible measures if it demonstrates that emissions from a source do not contribute to ozone violations in any downwind area, or if the most recent transport assessment demonstrates that the district's transport impact is inconsequential. Such demonstrations must be included in the district's air quality plan and approved by ARB.

ARB has defined all feasible measures in title 17, CCR, section 70600(a)(1) as:

*...air pollution control measures, including but not limited to emissions standards and limitations, applicable to all air pollution source categories under a district's authority that are based on the maximum degree of reduction achievable for emissions of ozone precursors, taking into account technological, social, environmental, energy and economic factors, including cost-effectiveness.*

The all feasible measures benchmark evolves over time as new technology is developed to reduce emissions and districts adopt more effective rules in response. While each district is responsible for doing its own analysis of all feasible measures, it is useful to compile references to the most stringent district rule within the State for common source categories with significant emissions. These reference documents can aid each district's assessment of its own rules and comparison to the California benchmark. ARB and district staffs have typically worked together to evaluate rules and develop these references. In 1999, ARB staff released a comprehensive list of all feasible measures entitled Identification of Performance Standards for Existing Stationary Sources: A Resource Document.

In the past year, the districts, under the auspices of the California Air Pollution Control Officers Association (CAPCOA), and ARB have made noteworthy progress in updating this document and other resources to identify what the all feasible measures are for the current round of California Clean Air Act plans. Together, we have also conducted a direct rule comparison among the transport-coupled air basins for the San Francisco Bay Area, the Broader Sacramento Area, and San Joaquin Valley.

**CAPCOA Potential All Feasible Measures List for Stationary Sources** CAPCOA has responded vigorously to the all feasible measures and consultation requirements for

upwind areas. The Rules Subcommittee of CAPCOA's Engineering Managers Committee developed a list of potential all feasible measures meant to supplement the 1999 ARB document. The Rules Subcommittee solicited stationary source rules from each district that they believed would qualify as an all feasible measure. With participation from ARB staff, the Rules Subcommittee then evaluated the stringency of the rules submitted and culled them into a list of potential all feasible measures. Table 2 describes the source categories included in the CAPCOA potential all feasible measures list. At its December 2003 meeting, the CAPCOA Board approved the Potential All Feasible Measures List for Stationary Sources for distribution to districts and ARB.

The Rules Subcommittee also prepared a list of measures that districts had submitted but which did not meet the all feasible measures criteria and an explanation of why they did not qualify. This list will also help support the all feasible measures analyses. Finally, the Rules Subcommittee prepared a summary of the various factors that a district should evaluate when determining whether a certain rule is a feasible measure for that particular district. The factors included cost-effectiveness, socioeconomic impacts, public acceptability, the number and age of affected sources in the district, and the existing level of control.

We appreciate the level of district commitment and resources invested in developing CAPCOA's Potential All Feasible Measures List. The document is an important tool for district staffs to use in preparation of California Clean Air Act plans. We look forward to working with CAPCOA to revisit and update the list periodically to reflect control technology advances as new rules are implemented around the State.

Some districts have already submitted their 2003 California Clean Air Act ozone plans to ARB. Other districts are still working on their plans. As ARB staff reviews the plans, staff will look at the district rulemaking commitments with respect to the all feasible measures requirement to determine if the districts have identified all opportunities for emission reductions. Staff expects to provide feedback to districts when there appear to be opportunities for additional rulemaking commitments.

**TABLE 2  
SOURCE CATEGORIES IN  
2003 CAPCOA POTENTIAL ALL FEASIBLE MEASURES LIST**

Adhesives and sealants  
Aerospace assembly and component manufacturing  
Architectural coatings  
Boilers, steam generators, and process heaters  
Commercial charbroiling  
Degreasing operations  
Equipment leaks (valves and flanges)  
Food product manufacturing and processing  
Gasoline transfer and dispensing  
Glass coatings  
Graphic arts  
High volume spray booths  
Hydrogen plant vents  
Large water heaters and small boilers  
Lime kilns  
Metal parts and products coatings  
Organic liquids  
Polyester resin operations  
Polystyrene, polyethylene, and propylene foam products  
Residential water heaters  
Soil decontamination  
Solid waste disposal  
Solvent cleaning operations  
Solvent use  
Storage tanks  
Vehicle refinishing  
Wood coatings  
Wood flat stock coatings

**No Net Increase Thresholds**

The 2003 amendments to the transport mitigation regulation also require upwind districts to update their no net increase thresholds by December 31, 2004, to be as stringent as the threshold for their downwind district(s). The purpose is to ensure that upwind and downwind couples are taking comparable actions in their permitting programs. As shown in Table 3, the Bay Area Air Quality Management District and the five districts located in the Broader Sacramento Area must amend their new source

review (NSR) rules to lower their no net increase emission thresholds to the level used by the San Joaquin Valley Unified Air Pollution Control District. All have indicated their intention to make the needed changes by the end of this year.

**TABLE 3  
DISTRICTS THAT NEED TO LOWER  
THEIR NEW SOURCE REVIEW NO NET INCREASE THRESHOLDS**

District	No net increase threshold [tons per year]	
	Current	Required
Bay Area Air Quality Management District	15	10
El Dorado County Air Quality Management District	15	10
Feather River Air Quality Management District*	25	10
Placer County Air Pollution Control District	15	10
Sacramento Metropolitan Air Quality Management District	15	10
Yolo-Solano Air Quality Management District	15	10

\* The Feather River District may choose to limit the 10 tons per year threshold to just the portion of Southern Sutter County within the Broader Sacramento Area.

**REGIONAL COORDINATION**

There has also been tremendous progress over the last year in improving coordination between districts affected by transport as they seek to meet both federal and State ambient air quality standards. CAPCOA successfully crafted a procedural framework that districts may use to address planning and rulemaking issues related to transport. Specific to Northern California, Air Resources Board Members are leading an air agency group focused on exploring and resolving long-standing transport issues.

**CAPCOA Transport Protocol**

In December 2002, with ARB's transport mitigation regulation update underway, the CAPCOA Board set a goal to achieve consensus on a protocol for districts to use in dealing with transport issues. Over the course of 2003, participating districts developed the CAPCOA Pollution Transport Protocol (see Appendix A). The focus of this protocol is two-fold. First, the protocol outlines a process for districts to coordinate with each other and ARB staff on transport-related technical work for plans to meet federal and State air quality standards. Second, it acknowledges that disputes over pollutant transport can occur, and sets up a process to resolve disputes between districts at the local level. The protocol is designed to provide more detail on how districts can manage transport issues, consistent with the requirements of ARB's transport mitigation

regulation. Individual districts may choose to use the protocol as developed or adapt it for their specific situations.

Although the protocol is voluntary and not legally binding, ARB staff believes that it sets up a useful and workable framework for addressing transport. We are optimistic that the protocol will facilitate districts working together to resolve pollution transport issues.

The contents of the CAPCOA protocol are summarized below:

- **Upwind districts should adopt all feasible measures for stationary sources.** If any district in California has a rule limiting emissions of ozone precursors for a source category, the protocol states that all upwind districts should adopt a rule for that source category designed to achieve at least the same percentage control of emissions within the same time frame. Exceptions include if (a) the rule would cost more than \$15,000 per ton to implement, (b) the rule would provide de minimis benefits, (c) there is implementation uncertainty for the previously adopted rule, or (d) the district board determines that the rule is infeasible based on technological, social, environmental, economic, or energy factors.
- **Upwind districts should consider transportation control measures (TCMs) adopted by other air districts.** TCMs are strategies designed to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion. The protocol calls on districts to make a good faith effort to implement TCMs designed to achieve the same percentage control of the same activity as TCMs adopted by other California districts. CAPCOA has undertaken a complementary new effort to develop a reference document for districts on transportation-related strategies (such as TCMs and clean fleet incentives) being implemented around California. Such local strategies can complement the State's actions to reduce transportation emissions.
- **Upwind and downwind districts should engage in a cooperative process to allocate emission control responsibilities.** The protocol encourages district executive, modeling, and planning staffs to meet periodically. Upwind and downwind district staff and ARB staff should participate in modeling coordination working groups. Upwind districts should show that their air quality plans contain sufficient measures to eliminate transport that by itself can cause an exceedance of the federal ambient air quality standards in a downwind district.
- **Disputes among districts related to pollution transport should be resolved at the lowest level possible.** CAPCOA supports a hierarchy of meetings, first among district management and then among district board members, using a mediator if necessary.

### **Northern California Air Quality Coordinating Group**

Over the past year, Air Resources Board Members have been leading meetings with elected officials and district executive staff from the Bay Area, Sacramento, Yolo-Solano, and San Joaquin Valley air districts to discuss transport-related issues. These meetings represent a constructive model for the kind of cooperation that is essential to evaluate the facts relative to transport concerns and to build consensus on how to resolve them.

In response to these discussions, the staffs of the Sacramento, San Joaquin, Bay Area, and Yolo-Solano air districts have been working cooperatively with the ARB staff to evaluate and compare rules for a number of source categories. For each category examined, staff prepared a detailed comparison of each rule element – emission limits, applicability, exemptions, inspection requirements, etc. In addition to comparing the rules among the participating districts, the technical group identified the most effective rule in California for each source category. District and ARB staff reached consensus on analyses for the following source categories:

- Adhesives
- Boilers
- Can and coil coating
- Degreasing
- Graphic arts
- Internal combustion engines
- Solvent cleaning
- Storage of organic liquids
- Turbines
- Valves and flanges
- Vehicle refinishing

Where differences among rules were identified, the Northern California district staff reached consensus on which districts had the potential to achieve additional emission reductions through a rule revision. District staffs made commitments to undertake rule development and/or further evaluations to see if rule revisions were justified. The districts are folding the results of the rule comparison effort into their upcoming California Clean Air Act plans.

### **THE FUTURE OF TRANSPORT ASSESSMENT AND MITIGATION**

Over a decade of technical work has provided a good understanding of the fundamentals of pollutant transport statewide, including the basic transport relationships among air basins. With much more extensive air quality and meteorological data becoming available from field studies, ARB staff has begun to take the next step in transport analyses. Future transport analyses will take advantage of two regional field studies that together cover nearly all of the State—the 1997 Southern California Ozone Study (SCOS) and the 2000 Central California Air Quality Study, which is comprised of

the California Regional Particulate-Matter Air Quality Study and the Central California Ozone Study (CCOS).

The vast size of the domains studied under both CCOS and SCOS will significantly improve our ability to investigate transport phenomena. These studies will allow for better three-dimensional characterization of transport. In addition, the regional air quality models developed as part of the studies will provide tools to examine transport from a broader regional, rather than transport couple, perspective.

The regional models are already being used to develop clean air plans to meet the federal one-hour ozone standard. These tools are helping us assess the benefits of existing and new control strategies in both upwind and downwind regions throughout the modeled domains. ARB and districts are developing ozone episodes for modeling that involve meteorological conditions conducive to transport. This modeling should help us fine tune our understanding of how changes in upwind and downwind emissions affect ozone levels downwind for use in future State Implementation Plans and California Clean Air Act plans. The next steps are to project the level of control needed to attain the federal eight-hour ozone standard and ultimately the State ozone standard.

As this status report has described, the last year has seen considerable progress in mitigating the transport of ozone pollution throughout California. The districts and ARB together have focused renewed attention on defining all feasible measures, comparing rules among districts, and handling transport disputes among districts. The key to the future is maintaining this momentum.

ARB staff expects that the rule comparison work of the Northern California Air Quality Coordinating Group will translate into rulemaking commitments in the Northern California districts' plans. We are optimistic that other districts will embrace the all feasible measures process described in the new CAPCOA Pollution Transport Protocol to find additional emission reduction ideas from an innovative or more effective rule in another district. Both upwind and downwind districts will reap air quality benefits from such efforts.

As districts are working to find and implement every feasible measure, ARB continues to identify and develop new strategies to achieve cost-effective emission reductions from sources under our jurisdiction. In addition to the Board's existing programs, ARB has an ambitious rulemaking calendar set forward as part of the 2003 State and Federal Strategy of the California State Implementation Plan. As these measures take effect, emissions all across the State will be reduced, and thus transport of pollution among all regions will be further decreased.

**Appendix A**  
**CAPCOA Transport Protocol**

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## CAPCOA

### POLLUTION TRANSPORT PROTOCOL

*(Approved by the CAPCOA Board on 1/22/04 and 2/26/04  
for use as an instrument to develop  
Memoranda of Understanding among Air Districts)*

- § 1. All Feasible Measures
- § 2. Emission Reductions Based on Modeling
- § 3. Dispute Resolution
- § 4. Coordination of Planning and Modeling

#### SECTION 1. ALL FEASIBLE MEASURES

(a) **Supplemental AFMs Provisions for Ozone.** Every district that is subject to a requirement in the California Air Resources Board ozone transport mitigation regulations (title 17, Cal. Code Regs. §70600, 70601) to adopt "All Feasible Measures" (AFMs) shall comply with the following Supplemental AFMs Provisions:

- (1) **Consideration and Adoption of Rules From Other Districts.** The district shall adopt a rule based upon each rule limiting emissions of ozone precursors that has been adopted by another California air district, except as provided in paragraph (3) below (Exceptions Due to Infeasibility). In complying with this requirement, the district need not adopt the specific language of a rule adopted in another district, but shall adopt a rule that is designed to achieve, at a minimum, substantially the same percentage control of emissions from substantially the same source category, within the amount time from rule adoption allowed by such other district, and with comparable enforceability.
- (2) **Time of Rule Adoption.** Rules required by paragraph (1) above shall be adopted no later than two years after initial adoption of a rule by another air district, or two years after approval of this protocol, whichever is later. A district may delay adoption of a rule beyond such times to the extent necessary to avoid delaying adoption of another rule or rules that will achieve greater emission reductions within the same time.
- (3) **Exceptions Due to Infeasibility.** A district is not required to adopt a rule pursuant to this section if any of the following exceptions apply—
  - (A) **Not Cost-Effective.** The governing board of the district subject to the AFMs requirement finds that implementation of the rule would not be cost-effective in that district. Cost-effectiveness of the rule in the

district subject to the AFMs requirement shall be calculated based on the circumstances and types of sources in that district. A rule shall be considered cost-effective if it is no more expensive to implement than the most expensive cost-effectiveness determined for such a rule by another district, except that a district may determine a rule to be not cost-effective if it will cost more than \$15,000 per ton to implement. This cost level will adjust based on the CPI change from 2003.

- (B) **De Minimis Benefits.** The governing board of the district subject to the AFMs requirement finds that implementation of the rule would not produce emission reductions in that district exceeding a level that the board determines to be de minimis. A district may not use this exception to reject adoption of a rule unless the district adopts an alternative rule or other enforceable strategy. The alternative rule shall be adopted within 18 months and shall achieve surplus emission reductions that are equivalent to, and in the same time as, mass emission reductions that the rejected rule would have achieved.
- (C) **Implementation Uncertainty.** The previously-adopted rule—
- (i) was determined by the district that adopted it to be technology-forcing, and has not yet been implemented, or
  - (ii) is subject to a condition precedent to implementation such as a feasibility assessment, and such condition has not yet been satisfied, or
  - (iii) was not submitted for inclusion in the SIP because the air district desired to avoid the need to obtain EPA approval to modify the rule, or
  - (iv) has not been implemented by 25% or more of the sources affected by such rule, because such sources are under variance.
- (D) **Infeasibility Due To Other Factors.** The governing board of the district subject to the AFMs requirement finds that the rule is infeasible in that district based on technological, social, environmental, economic or energy factors specified by the board. This exception is subject to the following limitations:
- (i) A rule that would be cost-effective as defined in subparagraph (A) above may not be determined to be infeasible under this subparagraph based on inadequate cost-effectiveness.
  - (ii) A district may not use this exception to reject adoption of a rule that was adopted by a transport-coupled district with an “overwhelming” designation, unless the district adopts an alternative rule or other enforceable strategy. The alternative rule

shall be adopted within 18 months and shall achieve surplus emission reductions that are equivalent to, and in the same time as, mass emission reductions that the rejected rule would have achieved. This requirement to adopt an alternative rule does not apply to a district that is downwind of, and has a lower attainment classification (e.g. "serious," "severe") than, the transport-coupled district.

**(4) Transportation Control Measures.**

- (A) Compliance With Applicable Laws.** The district shall include TCMs in its state and federal ozone air quality plans that are sufficient to comply with applicable requirements of state and federal law.
- (B) Consideration and Implementation of TCMs From Other Districts.** The district shall make a good faith effort to achieve implementation within its jurisdiction of TCMs that are based on each TCM that is included in a plan adopted by another California air district, except as provided in subparagraph (C) below (Exceptions Due to Infeasibility). In complying with this subparagraph, the district need not attempt to achieve implementation of the specific language of a TCM from another district, but shall attempt to achieve implementation of a TCM that is designed to achieve, at a minimum, substantially the same percentage control of emissions from the same activity, within the amount time from plan adoption allowed by such other district plan, and with comparable enforceability.
- (C) Exceptions Due to Infeasibility.** A district shall not be required to make a good faith effort to achieve implementation of a TCM if any of the Exceptions Due to Infeasibility described in paragraph (3) above apply. For purposes of this provision, any reference to "rule" in paragraph (3) shall also mean "TCM," and the \$15,000 per ton maximum cost-effectiveness value specified in subparagraph (3)(A) shall not apply.
- (D) Definition.** As used in this paragraph, the terms "transportation control measures" and "TCMs" means strategies other than air district rules that are designed to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions.
- (5) Rule Implementation.** The triennial plan update pursuant to Health & Safety Code Section 40925 shall include: (1) a comparison of how each adopted rule compares to the to the commitments in the plan in terms of emission reductions and implementation timing; (2) for rules with compliance deadlines that have passed, a description of how compliance has

been achieved (i.e., periodic inspections, complaints, industry outreach); and  
(3) a description of any violations and penalties associated with the rule.

- (b) **AFMs for Particulate Matter.** Every District that has been determined by CARB to be the source of emissions that have the potential to cause an “overwhelming” impact on attainment of air quality standards for particulates in a downwind district shall adopt AFMs to reduce such emissions. For such an upwind district, the requirements of subsection (a) shall apply to rules to reduce the types of particulate and/or particulate precursor emissions that contribute to exceedances of air quality standards in the downwind district.
- (c) **Burden of Proof.** A district seeking to invoke any exception specified in this section to a requirement to adopt a rule shall substantiate that the exception is applicable.
- (d) **Dispute Resolution.** The Dispute Resolution Procedure set forth in section 3 below shall be invoked in the event of a disagreement between districts regarding compliance with this section.

## SECTION 2. EMISSION REDUCTIONS BASED ON MODELING

- (a) **Transport—NAAQS.** Each air district that has been identified by CARB as part of an upwind portion of a transport couple shall include in every air quality plan revision an analysis, based upon the best available modeling or other data, showing that the plan contains sufficient measures to eliminate transport that, by itself, can cause an exceedance of the federal ambient air quality standards for ozone or particulate matter in a downwind district. This analysis shall show that such exceedances will not occur on and after the date that the downwind district must attain the federal ambient air quality standards. The analysis shall be conducted with input from downwind districts, as described in section 4 below (Coordination of Planning and Modeling).
- (b) **Significant Transport.** Each district that is part of a transport-couple designated by CARB as “significant” or “overwhelming” shall engage in a cooperative process to allocate emission control responsibilities between the upwind and downwind districts to achieve the federal and state ambient air quality standards for ozone and particulate matter. As part of this process, downwind and upwind districts shall attempt to quantify—
  - (1) the amount of additional reductions in transported emissions that will be needed in the downwind district after the downwind district applies all feasible controls to sources within its jurisdiction,
  - (2) the amount of additional reductions that the upwind district can feasibly contribute to satisfy such need, and

- (3) the amount of any remaining shortfall, and the emission reductions needed from sources within the regulatory jurisdiction of the state and federal governments to eliminate that shortfall.

At a minimum, such process shall include periodic meetings and exchange of information between APCOs and modeling and planning staffs according to schedules consistent with federal plan submission deadlines.

- (c) **Downwind Plan Allocation for Transport Reductions.** Upwind districts shall assist downwind districts to include, in their attainment plans for state and federal ozone and particulate matter standards, allocations for pollutant reductions that will occur through implementation of the adopted upwind district plan. As part of such assistance, upwind districts shall attempt to quantify the pollutant reductions that will be achieved in the downwind district by implementation of the adopted upwind district plans. Upwind districts shall, if requested, assist downwind districts in obtaining CARB and EPA approval for such plan allocations.
- (d) **Dispute Resolution.** If, after a good faith effort, it appears to any party that the process described in subsection (b) above will not achieve consensus in time to comply with deadlines for submission of plans, or if there is any other disagreement between districts regarding implementation of this section, the dispute resolution procedure specified in section 3 below shall be invoked.

### SECTION 3. DISPUTE RESOLUTION

It is intended that disputes among districts related to issues within air pollution transport should be solved at the lowest levels. Of course, this depends on the nature of the difference and where it may occur in the process. Generally, CAPCOA supports a hierarchy of meetings, first between APCOs, then between APCOs with representatives of their boards. The procedure could provide that meetings will take place with a mediator.

This protocol is intended to serve as an essential structure for MOUs between districts to address air pollution transport issues. In this sense, those districts should be encouraged to expand procedures as needed so as to address issues related to the specific districts signing the MOU.

### SECTION 4. COORDINATION OF PLANNING AND MODELING

- (a) **General.** Because planning and modeling efforts are currently underway or nearing completion in both the SCOS and CCOS domains for the purpose of current 1-hr ozone plans, and CRPAQS for the purpose of current PM10 and future PM<sub>2.5</sub> plans, structures for coordination are currently in place. The

proposed approaches for a more integrated and participatory process are set forth below in two parts: (1) a long-term approach for subsequent modeling and coordination needs in support of 8-hr ozone and particulate matter planning efforts; and (2) a short-term approach under the existing structures.

**(b) Long-Term Approach**

**(1) Transport-Coupled Modeling Coordination Working Groups.** There shall be established appropriate Modeling Coordination Working Groups (MCWGs) which shall be comprised of one member representing each district which is part of a “significant” or “overwhelming” transport couple as determined by CARB; and one representative from CARB. There shall be one MCWG for the central/northern California transport couples as delineated by the CCOS domain; and one MCWG for the southern California transport couples, as delineated by the SCOS domain. Each MCWG shall elect a chairperson who must be from a district. The purpose of the MCWG is to make recommendations for:

- (A) coordinating the timing and scheduling of planning/modeling efforts needed to support federal and/or state planning requirements for ozone and particulate matter,
- (B) optimizing coordinated efforts for all districts affected by such modeling,
- (C) establishing protocols prior to undertaking modeling efforts which would include, but not be limited to, the:
  - (i) establishment of modeling domain,
  - (ii) selection of appropriate models and submodels,
  - (iii) determination of validation criteria,
  - (iv) identification of needed inputs and timelines for inputs,
  - (v) criteria for selection of episodes days to be modeled; selection of appropriate year, if annual conditions are to be modeled,
  - (vi) determination of future year scenarios to be modeled, e.g., “what if” conditions,
  - (vii) process for making model/model input adjustments.
- (D) determining, to the degree possible, the criteria for quantitative assessments for emissions reductions necessary to attain federal and state ozone and particulate matter standards in all transport-coupled upwind and downwind districts.

(E) new studies designed to quantify transport.

**(2) Combined Coordination Meeting**

At least once per year, there shall be a combined meeting of MCWGs. The purpose of this meeting is to promote reasonable consistency among the districts in modeling efforts through exchanges of technical information.

**(3) Responsibilities.** Each participating agency agrees to:

- (A) regularly participate in scheduled meetings and/or conference calls,
- (B) provide key dates and timelines with respect to its federal or state plan development,
- (C) work constructively toward an acceptable model protocol by providing input to and/or commenting on model protocol development,
- (D) provide model inputs with respect to local parameters, such as base and future year emissions inventories, within the time frames established in the protocol,

**(4) Differences in District Capabilities.** It is recognized that smaller districts have less technical capabilities with respect to modeling than the larger districts. If any eligible district so requests, and if adequate funding is available, each applicable MCWG may select an independent modeling expert to provide advice to the MCWG and/or local districts regarding protocol development and evaluation of results. If the applicable MCWG cannot agree on a specific expert, the MCWG shall recommend two or more candidates to the CAPCOA Board, which shall make a final decision. If the costs for such expert participation cannot be agreed upon among the agencies participating in the applicable MCWG, this situation shall be referred to the CAPCOA Board.

**(5) Meetings.** Each MCWG shall meet as frequently as necessary to meet its objectives, but not less frequently than once every six months. Meeting locations shall be determined by each MCWG. Pursuant to Section 4(b)(2), the annual combined meeting shall reasonably attempt to accommodate both northern and southern venues.

**(6) Reporting.** Each MCWG shall provide a summary report of activities to the CAPCOA President once every six months, or more frequently if deemed appropriate by the CAPCOA Board.

**(c) Short-Term Approach; Involvement in Existing Process.** Because of the extent of modeling processes underway for the current round of SIP development, districts shall recognize that the CAPCOA Board may request that its Technical Consultant participate in ongoing model working group meetings

and conference calls to maintain currency in modeling efforts, including timelines, model validation processes, input data, episodic scenarios, model adjustments, model output, and other factors as appropriate.



**APPENDIX C**

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**LANDFILL INFORMATION**

**TABLE C-1  
Alameda County Landfill Status**

Alameda County Class III Landfills	SWIS No.	2002 Year End Total (tons)	Closure Date	Closure Type	Permitted Throughput (tons/day)	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity Date
Tri-Cities Recycling & Disposal Facility	01-AA-0008	281,491	8/1/05*	Estimated	2,346	19,271,000	1,081,500	6/1/2001
Altamont Landfill	01-AA-0009	1,346,360	1/1/2005	Estimated	11,150	58,900,000	15,843,000	6/19/2001
Vasco Road Sanitary Landfill	01-AA-0010	407,721	1/1/2015	Estimated	2,518	31,942,205	12,279,865	6/11/2001
TOTALS		2,035,572			16,014	110,113,205	29,204,365	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

\*Source: County of Alameda, Environmental Health Dept., August 2004.

**TABLE C-2  
Contra Costa County Landfill Status**

Contra Costa County Class III Landfills	SWIS No.	2002 Year End Total (tons)	Closure Date	Closure Type	Permitted Throughput (tons/day)	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity Date
W. Contra Costa Landfill	07-AA-0001	306,092	1/1/05*	Estimated	2,500	17,875,000	1,300,000	12/14/2001
Acme Landfill	07-AA-0002	25,389	10/31/06*	Estimated	1,500	268,700	175,000	12/12/2001
Keller Canyon Landfill Class II	07-AA-0032	715,730	12/31/2030	Estimated	3,500	75,018,280	68,279,670	6/6/2001
TOTALS		1,047,211			7,500	93,161,980	69,754,670	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

\*Source: County of Contra Costa, Environmental Health Dept., August 2004.

**TABLE C-3  
Marin County Landfill Status**

Marin County Class III Landfills	SWIS No.	2002 Year End Total (tons)	Closure Date	Closure Type	Permitted Throughput (tons/day)	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity Date
Redwood Sanitary Landfill	21-AA-0001	370,640	1/1/2039	Estimated	2,300	19,100,000	12,900,000	6/11/2001
W. Marin Sanitary Landfill	21-AA-0002	NA	1/1/2036	Estimated	75	0	0	NA
TOTALS		370,640			2,375	19,100,000	12,900,000	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

**TABLE C-4  
Napa County Landfill Status**

<b>Napa County Class III Landfills</b>	<b>SWIS No.</b>	<b>2002 Year End Total (tons)</b>	<b>Closure Date</b>	<b>Closure Type</b>	<b>Permitted Throughput (tons/day)</b>	<b>Permitted Capacity (cubic yards)</b>	<b>Remaining Capacity (cubic yards)</b>	<b>Remaining Capacity Date</b>
Clover Flat Landfill	28-AA-0002	46,238	1/1/2021	Estimated	300	5,100,000	3,081,946	7/21/2000

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

**TABLE C-5  
San Mateo County Landfill Status**

<b>San Mateo County Class III Landfills</b>	<b>SWIS No.</b>	<b>2002 Year End Total (tons)</b>	<b>Closure Date</b>	<b>Closure Type</b>	<b>Permitted Throughput (tons/day)</b>	<b>Permitted Capacity (cubic yards)</b>	<b>Remaining Capacity (cubic yards)</b>	<b>Remaining Capacity Date</b>
Ox Mountain Sanitary Landfill	41-AA-0002	807,890	1/1/2018	Estimated	3,598	37,900,000	44,646,148	1/1/2000
Hillside Class III Disposal Site	41-AA-0008	49,167	12/31/2010	Estimated	400	2,310,000	355,937	12/31/2001
TOTALS		857,057			3,998	40,210,000	45,002,085	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

**TABLE C-6  
Santa Clara County Landfill Status**

Santa Clara County Class III Landfills	SWIS No.	2002 Year End Total (tons)	Closure Date	Closure Type	Permitted Throughput (tons/day)	Permitted Capacity	Remaining Capacity (cubic yards)	Remaining Capacity Date
Norcal West Systems Pacheco Pass	43-AA-0004	100,858	1/1/2104	Estimated	1,000	6,200,000	568,589	6/13/2001
City of Palo Alto Refuse Disposal	43-AM-0001	27,244	12/30/2011	Estimated	200	7,758,854	7,758,854	7/23/1999
Zanker Material Processing Facility	43-AN-0001	18,210	12/31/2018	Estimated	350	540,100	540,100	9/9/1998
Newby Island Sanitary Landfill	43-AN-0003	646,188	12/31/2020	Estimated	4,000	50,800,000	14,978,546	12/31/2001
Zanker Road Class III Landfill	43-AN-0007	14,608	12/12/2003	Estimated	1,300	1,300,000	477,000	8/26/1998
Kirby Canyon Recy. & Disp.	43-AN-0008	281,463	12/31/2022	Estimated	2,600	36,400,000	57,271,507	6/11/2001
Guadalupe Sanitary Landfill	43-AN-0015	180,238	1/1/2010	Estimated	3,650	12,222,222	9,379,843	6/11/2001
TOTALS		1,268,809			13,100	115,221,176	90,974,439	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

**TABLE C-7  
Solano County Landfill Status**

Solano County Class III Landfills	SWIS No.	2002 Year End Total (tons)	Closure Date	Closure Type	Permitted Throughput (tons/day)	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity Date
Hay Road Landfill, Inc.	48-AA-0002	69,229	1/1/2070	Estimated	2,400	28,240,000	23,198,067	6/13/2001
Potrero Hills Landfill	48-AA-0075	649,461	1/1/2035	Estimated	4,330	21,500,000	13,800,000	12/14/2001
TOTALS		718,690			6,730	49,740,000	36,998,067	

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

**TABLE C-8  
Sonoma County Landfill Status**

<b>Sonoma County Class III Landfills</b>	<b>SWIS No.</b>	<b>2002 Year End Total (tons)</b>	<b>Closure Date</b>	<b>Closure Type</b>	<b>Permitted Throughput (tons/day)</b>	<b>Permitted Capacity (cubic yards)</b>	<b>Remaining Capacity (cubic yards)</b>	<b>Remaining Capacity Date</b>
Central Disposal Site	49-AA-0001	490,830	1/1/2014	Estimated	2,500	19,779,250	11,243,928	2/27/2003

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>

## Composting Table

**TABLE C-9**  
**BAY AREA**  
**Green Waste Composting Facilities Status**

FACILITIES	SWIS No.	Throughput	Throughput Units	Permitted Capacity	Capacity Units	Facility Acreage
<b>ALAMEDA-None</b>						
<b>CONTRA COSTA</b>						
W. Contra Costa Sanitary Landfill	07-AA-0044	81	tons/day	11,600	cubic yards	17
<b>MARIN</b>						
Redwood Sanitary Landfill (Unit 2)	21-AA-0001	NA		NA		NA
<b>NAPA</b>						
Napa Garbage Service (Unit 1)	28-AA-0023	200	tons/day	52,000	tons/year	5
Upper Valley Disposal Service	28-AA-0026	17,500	tons/day	34,000	tons/year	20
<b>Napa County Total</b>		17,700	tons/day	86,000	tons/year	
<b>SAN FRANCISCO-None</b>						
<b>SAN MATEO</b>						
Tillo Products Co.	41-AA-0176	5,000	cubic yards/month	30,000	cubic yards	4
<b>SANTA CLARA</b>						
Palo Alto Lanfill Composting	43-AA-0014	17,000	cubic yards/year	17,000	cubic yards	7
Z-Best Composting	43-AA-0015	1,500	tons/day	500,000	cubic yards	77
South Valley Organic Composting	43-AA-0017	750	tons/day	450	tons/week	18.3
Zanker Road Landfill Unit 3	43-AN-0007	200	tons/day	0		6
Newby Island Compost Facility	43-AN-0017	470	tons/day	980	tons/day	18
<b>Santa Clara County Total</b>						
<b>SOLANO</b>						
Jepson Prairie Organics	48-AA-0083	300	tons/day	35,000	cubic yards	15
Potrero Hill Composting	48-AA-0084	850	cubic yards/day	60,000	cubic yards	18
Travis AFB Composting	48-AA-0085	24	cubic yards/day	10,000	cubic yards	3
Goodyear Road Composting	48-AA-0088	30,000	cubic yards	40,000	cubic yards	17
<b>Solano County Total</b>				145,000	cubic yards	
<b>SONOMA</b>						
Central Composting Site	49-AA-0260	300	tons/day	300	tons/day	35
Grab N' Grow	49-AA-0369	300	cubic yards/day	5,000	cubic yards	4
<b>Sonoma County Total</b>						
<b>Total Bay Area</b>						

Source: California Integrated Waste Management Board, Solid Waste Information System (SWIS), July 2004. <http://www.ciwmb.ca.gov/SWIS>