

Bay Area 2009 Clean Air Plan
Draft Preliminary Control Measures

April 2009



**METROPOLITAN
TRANSPORTATION
COMMISSION**



**Association of
Bay Area Governments**

Bay Area 2009 Clean Air Plan

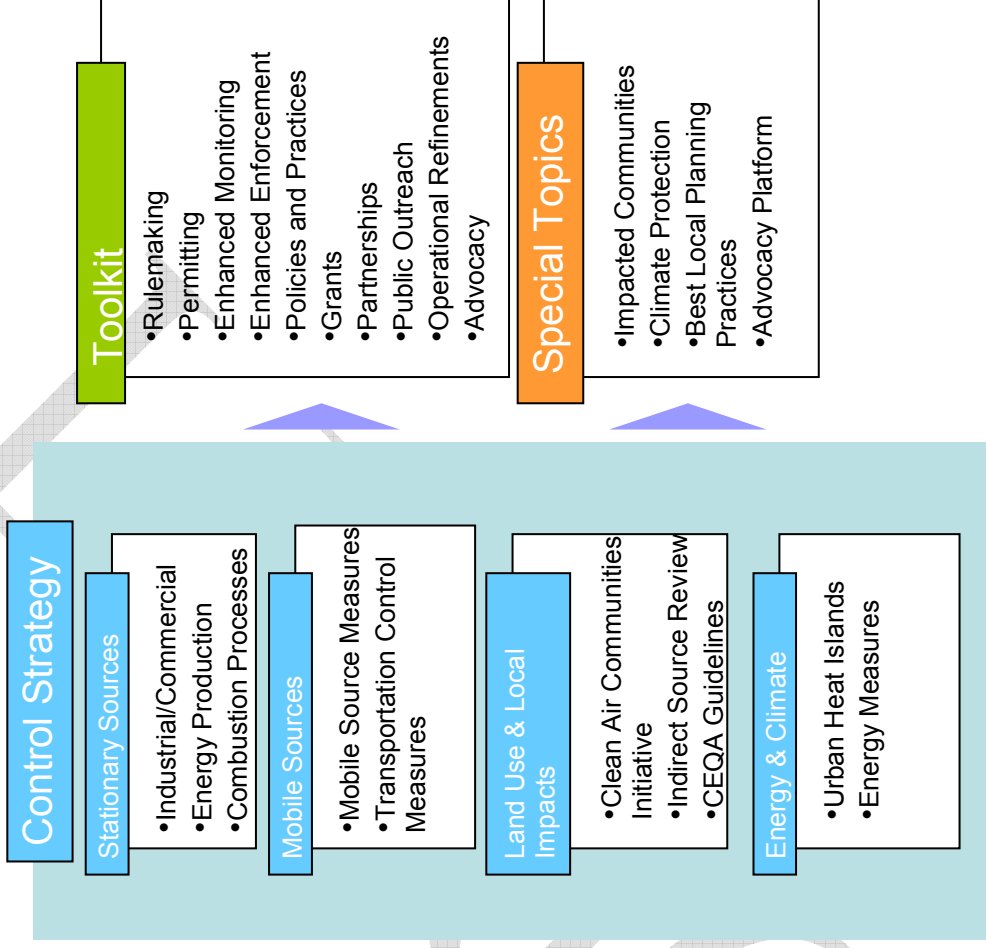
Draft Plan Framework

Vision:

1. Attain air quality standards
2. Protect public health in all communities
3. Protect climate and ecosystems

Performance Objectives:

1. Reduce PM2.5 exposure by 10% by 2015.
2. Reduce diesel PM exposure by 85% by 2020.
3. Reduce GHG emissions to 1990 level by 2020 and 40% below 1990 by 2035.



Bay Area 2009 Clean Air Plan
Summary of Proposed Preliminary Draft Control Measures
- April 2009 -

Stationary and Area Source Control Measures				
BAAQMD Reg - Rule	Source Category	Description	Target and Secondary Pollutants	Estimated Reduction (tons/day)
Industrial and Commercial Processes				
8-3	Architectural Coatings ^(f)	Reduce VOC limits based on CARB's Suggested Control Measure	ROG	5.9 tpd ROG
	Composting Operations ^(f)	Reduce VOC, ammonia and odors by establishing best composting practices	ROG, NH3, GHG	1 tpd ROG + GHG
8-45	Digital Printing	Establish VOC limits or control requirements for inkjet, electrophotographic and other digital printing technologies	ROG	TBD*
6-1	General Particulate Emission Limitation	Reduce particulate weight rate limitation as a function of flue gas and/or a function of process weight rate	PM	TBD
2	Greenhouse Gases in Permitting	Mitigate GHG increases during permitting by advocacy, CEQA and incorporation in ministerial projects, where appropriate	GHG TBD	TBD
	Livestock waste ^(f)	Establish management practices to minimize VOC emissions	ROG, NH3, PM, GHG	0.5 tpd ROG + GHG
Energy Production and Distribution				
8-37	Natural Gas Production and Processing	Reduce VOC, toxic and greenhouse gas emissions from natural gas production facilities	ROG, toxics, GHG (CH4)	TBD
	Vacuum Trucks and Pipeline Cleaning ^(f)	Reduce exposure, emissions from vacuum trucks and pipelines during cleaning	ROG, toxics	TBD
Combustion Processes				
	Coke Calcining	Reduce SO2 emissions from coke calcining operation	SO2	2.7 tpd
5	Open Burning	Further limit agricultural burning based on amount to be burned	PM	TBD
	Cement Plants	Further limit NOx and SOx from cement production	NOx, SOx, PM	1.2 tpd NOx, 0.6 tpd SOx
9-10	Refinery Boilers and Heaters ^(f)	Reduce NOx limits for refinery boilers, steam generators and process heaters	NOx, PM	5.6 tpd NOx
9-4	Residential Fan Type Furnaces	Reduce allowable NOx limits for residential furnaces	NOx, PM	4.2 tpd NOx
	Space Heating	Establish NOx limits for space heating applications not addressed by Reg. 9-4.	NOx, PM	1.2 tpd NOx
	Dryers, Ovens, Kilns	Establish NOx limits for industrial dryers, ovens, and kilns	NOx, PM	0.9 tpd NOx
9-12	Glass Furnaces	Further limit NOx emissions from glass furnaces	NOx, PM	0.32 – 0.68 tpd NOx

Preliminary Draft Further Study Measures				
8-51	Adhesives and Sealants ^(f)	Reduce emissions in some categories of adhesives and sealants	ROG	TBD*
	Coatings and Solvents ^(f)	Reduce ozone formation by implementing reactivity-based standards where appropriate	ROG	TBD
8-16	Solvent Cleaning and Degreasing ^(f)	Reduce emissions from solvent cleaning based on ARB's statewide study	ROG	TBD
	Cooling Towers ^(f)	Reduce emissions from cooling towers in refineries	ROG, PM	TBD
8-18	Equipment Leaks ^(f)	Reduce emissions through remote screening technology	ROG	TBD
	Wastewater from Coke-cutting ^(f)	Reduce emissions from coke-cutting operations	ROG	TBD
	SO ₂ from Refinery Processes	Review refinery processes to reduce SO ₂ emissions where feasible	SO _x	TBD
	LPG, Propane and Butane tanks / transfer	Prohibit venting during refilling, limit filling to 85% tank capacity, require vapor-tight tanks	ROG	5 - 10 tpd
	Natural Gas Fuel Specifications	Set natural gas fuel specifications to reduce ozone formation from leaks	ROG	TBD
6-3	Cooking	Reduce PM from wok cooking	PM	TBD

^(f) – 2005 Ozone Strategy Further Study Measure

*TBD – emissions reductions to be determined

Preliminary Stationary Source Measures for 2009 CAP

Industrial and Commercial Processes Measures

Architectural Coatings

Description: Reduce VOC limits for Architectural Coatings based on CARB's Suggested Control Measure.

Reason: Technology is readily available, consistent with all feasible measures analysis

Pollutants Reduced: ROG

Estimated Reduction: 5.9 tons/day

Emission Tradeoffs: None expected

Co-Benefits: Reduction in odors, hazardous solvents

Protecting Impacted Communities: N/A

Issues: None. Staff considered establishing alternative, reactivity-based limits but does not believe that consensus on such limits can be achieved in an adequate time frame.

Composting Operations

Description: Establish best composting practices to reduce ROG, ammonia and odors.

Reason: Composting operations emit significant amounts of ROG and GHG

Pollutants Reduced: ROG, NH₃, GHG

Estimated Reduction: 1 ton/day ROG + GHG

Emission Tradeoffs: None

Co-Benefits: Reduction in odors

Protecting Impacted Communities: Composting operations, if odorous, have localized impacts. This control measure could ensure that these impacts are minimized.

Issues: Control technologies exist, but, if too costly, may discourage composting operations, resulting in more waste. Studies in the Central Valley, currently ongoing, are designed to refine emissions factors.

Digital Printing

Description: Establish VOC limits or control requirements for inkjet, electrophotographic and other digital printing technologies.

Reason: Digital printing is a rapidly growing industry, encroaching on all areas of traditional printing due to the technology's inherent flexibility and minimal set-up time. Typically, high VOC inks are used. A large electrophotographic press has been estimated to emit one ton per year of organic emissions.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs: External controls could require extra energy usage.

Co-Benefits:

Protecting Impacted Communities: N/A

Issues: Emission factors and control requirements for these technologies have yet to be established.

General Particulate Matter Weight Rate Limitation

Description: Reduce particulate weight limitation as a function of exhaust gas volume and/or as a function of process weight rate.

Reason: Other districts have lower PM weight limitations than Reg. 6, Rule 1.

Pollutants Reduced: PM

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits: None

Protecting Impacted Communities: A review of Regulation 6, Rule 1 could result in opportunities to lower emissions from particular nuisance sources.

Issues: None

Greenhouse Gases in Permitting

Description: Consider greenhouse gas (GHG) emissions during permitting of new or modified stationary sources. This includes (1) advocating for flexibility in state and federal guidelines for BACT determinations to consider other than criteria pollutants, (2) considering subjecting some large projects to CEQA to mitigate GHG emissions, and (3) incorporating GHG measures into ministerial projects.

Reason: Existing permitting does not consider GHG emissions, suggesting that increases in greenhouse gas emissions could be moderated with requirements to implement energy efficiency or other measures during permitting of new or modified stationary sources.

Pollutants Reduced: Greenhouse Gases **Estimated Reduction:** TBD

Emission Tradeoffs: Any potential tradeoffs would be analyzed during rule development **Co-Benefits:**

Protecting Impacted Communities: N/A

Issues: Current BACT guidelines may preclude flexibility in determination of control equipment.

Livestock Waste

Description: Establish management practices to reduce ROG, ammonia, PM, GHG.

Reason: Established in other districts, multi-pollutant emissions source.

Pollutants Reduced: ROG, NH₃, PM, GHG **Estimated Reduction:** 0.5 ton/day ROG, + GHG

Emission Tradeoffs: None **Co-Benefits:** NH₃, secondary PM, odors

Protecting Impacted Communities: N/A

Issues: None

Energy Production and Distribution Measures

Natural Gas Processing and Distribution

Description: Reduce emissions from natural gas production facilities.

Reason: Other districts have lower leak standards for natural gas production operations. Leaks emit methane, a powerful GHG.

Pollutants Reduced: ROG, GHG **Estimated Reduction:** TBD

Emission Tradeoffs: None **Co-Benefits:** reduction in toxics exposure

Protecting Impacted Communities: N/A, typical sources are located away from urbanized areas

Issues: None

Vacuum Trucks and Pipeline Cleaning

Description: Require carbon or other control technology on vacuum trucks, require abatement of emissions from pipelines open for cleaning consistent with tank cleaning.

Reason: Technology exists, vacuum trucks may cause toxic exposure.

Pollutants Reduced: ROG, toxics **Estimated Reduction:** TBD

Emission Tradeoffs: Some increased energy use **Co-Benefits:** Reduction in odors

Protecting Impacted Communities: To the extent that industrial areas are co-located in impacted communities, this measure would reduce exposure to organic compounds and toxic compounds in those communities.

Issues: None.

Combustion Processes Measures

Cement Plants

Description: Further limit NOx and SOx from cement production.

Reason: Add-on technology exists to reduce NOx and SOx from the District's only cement kiln.

Pollutants Reduced: NOx, SOx

Estimated Reduction: TBD

Emission Tradeoffs: May increase GHG, although AB32 process has identified cement kilns as a major source to be controlled.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: None

Coke Calcining

Description: Reduce SOx emissions from coke calcining.

Reason: Significant SO2 source. Technologically feasible.

Pollutants Reduced: SO2

Estimated Reduction: 2.7 tons per day

Emission Tradeoffs: Could increase energy use.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: None.

Open Burning

Description: Further limit agricultural burning based on amount of some crops to be burned on a given day.

Reason: In some cases, agricultural burning has created excessive smoke and particulate due to excessive amounts of some crops being burned, even on burn days. On one occasion, such an incident conflicted with a forecast Spare the Air (No Burn) Night.

Pollutants Reduced: PM

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits: Reduction of nuisance

Protecting Impacted Communities: To the extent that impacted communities are near agricultural areas, could reduce impacts in those communities.

Issues: None

Refinery Boilers and Heaters

Description: Further reduce NOx emissions from refinery boilers, heaters and steam generators.

Reason: Regulation 9, Rule 10 was developed in 1994. The technology for NOx reductions has progressed since that time, and further control is feasible.

Pollutants Reduced: NOx

Estimated Reduction: 5.6 tons per day

Emission Tradeoffs: Some NOx controls decrease energy efficiency. This is to be considered during rule development.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: None

Residential Fan Type Furnaces

Description: Reduce allowable NOx limits for residential furnaces.

Reason: Lower emitting technology has been developed since Regulation 9, Rule 4 was last amended in 1983.

Pollutants Reduced: NOx

Estimated Reduction: 4.2 tons/day

Emission Tradeoffs: None

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: Emissions reductions accrue as existing residential furnaces are replaced, which can take years.

Space Heating

Description: Establish NOx limits for industrial and commercial space heating.

Reason: Technology exists for lower NOx emissions, no existing District rule.

Pollutants Reduced: NOx

Estimated Reduction: 1.2 ton per day

Emission Tradeoffs: Some NOx controls decrease energy efficiency. This is to be considered during rule development.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: None

Dryers, Ovens, Kilns

Description: Establish NOx limits for industrial dryers, ovens and kilns.

Reason: No NOx limits currently exist for most applications.

Pollutants Reduced: NOx,

Estimated Reduction: 0.9 ton per day

Emission Tradeoffs: Some NOx controls decrease energy efficiency. This is to be considered during rule development.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: Low-NOx applications may not exist for all equipment.

Glass Furnaces

Description: Reduce NOx limits in Regulation 9, Rule 12 for glass furnaces.

Reason: Lower limits established in SJVAPCD.

Pollutants Reduced: NOx

Estimated Reduction: 0.32 – 0.68 tons per day

Emission Tradeoffs: Some NOx controls decrease energy efficiency. This is to be considered during rule development.

Co-Benefits: Secondary PM

Protecting Impacted Communities: N/A

Issues: None

Preliminary Further Study Measures for 2009 CAP

Adhesives and Sealants

Description: Reduce VOC limits for some categories in Regulation 8, Rule 51.

Reason: 2005 Ozone Strategy further study measure. Some adhesives and sealants, particularly those used in construction, may have lower VOC content than they did at the last time these categories were considered, over 10 years ago.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits:

Protecting Impacted Communities: N/A

Issues: Technical feasibility not yet determined.

Coatings and Solvents

Description: Reduce ozone exposure by implementing reactivity-based standards where appropriate.

Reason: 2005 Ozone Strategy further study measure. Mass based VOC limits may be reaching technological limits, reactivity may be a way to further reduce ozone formation, if not mass emissions.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs: If not carefully implemented, could result in increases in low-reactive, but more toxic compounds

Co-Benefits: Could result in lower costs for manufacturers

Protecting Impacted Communities: N/A

Issues: None. Feasibility and benefit not yet determined.

Solvent Cleaning and Degreasing

Description: Reduce emissions from solvent cleaning based on ARB's statewide emissions research contract.

Reason: 2005 Ozone Strategy further study measure. ARB let a research contract to study the emissions from solvent degreasing and wipe cleaning statewide, including developing an accurate inventory. Findings may allow for further reductions in this source category. The results of the study should be available in spring, 2009.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs:

Co-Benefits: Reduction in exposure to solvents by workers.

Protecting Impacted Communities: N/A

Issues: VOC limits for solvents are, in many cases, already at a low level.

Cooling Towers

Description: Reduce ROG emissions from refinery cooling towers.

Reason: 2005 Ozone Strategy further study measure. Other areas of the country have found significant organic emissions from cooling towers, which could be easily controlled by monitoring and fixing leaks.

Pollutants Reduced: ROG, PM

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits: None

Protecting Impacted Communities: N/A

Issues: Emissions not yet quantified

Equipment Leaks

Description: Reduce emissions through remote screening technology.

Reason: 2005 Ozone Strategy further study measure. Remote sensing technology has been developed to streamline inspection procedures. This measure might find leaks sooner, streamline inspections or discover normally inaccessible leaks.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits: GHG

Protecting Impacted Communities: Organic emissions from refineries contain some toxic compounds

Issues: District Regulation 8, Rule 18 is already very stringent.

Wastewater from Coke-cutting

Description: Reduce emissions from coke-cutting operations.

Reason: 2005 Ozone Strategy further study measure.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs: None

Co-Benefits: PM, odors

Protecting Impacted Communities: N/A

Issues: Emissions not yet quantified.

SO2 from Refinery Processes

Description: Reduce SO2 emissions from other refinery processes.

Reason: SO2 standards have been met for decades. Technology exists to lower emissions.

Pollutants Reduced: SO2

Estimated Reduction: TBD

Emission Tradeoffs: Could increase energy use.

Co-Benefits: Secondary PM

Protecting Impacted Communities: Some impacted communities are near refineries.

Issues: Some SO2 control technologies require major capital investments and significant space.

LPG, Propane and Butane Tanks/Transfer

Description: Prohibit venting during filling tanks, limit filling to 85% capacity and require vapor-tight tanks.

Reason: LPG, propane and butane leaks are estimated at 10 to 20 tons per day District-wide.

Pollutants Reduced: ROG

Estimated Reduction: 5 – 10 tons/day

Emission Tradeoffs:

Co-Benefits:

Protecting Impacted Communities: N/A

Issues: Technology exists to forego venting during filling, but may not be cost effective or feasible for all tanks.

Natural Gas Fuel Specifications

Description: Set specifications for natural gas such that non-methane portion of natural gas is limited. Lower reactive content causes less ozone formation.

Reason: Proposed in South Coast AQMP.

Pollutants Reduced: ROG

Estimated Reduction: TBD

Emission Tradeoffs:

Co-Benefits:

Protecting Impacted Communities: N/A

Issues: If specifications could not easily be met, might limit supply of natural gas.

Cooking

Description: Reduce PM from wok cooking.

Reason: Significant source of PM and potentially toxic by-products of oil and fat decomposition.

Pollutants Reduced: PM

Estimated Reduction: TBD

Emission Tradeoffs: Could increase energy use.

Co-Benefits: toxics

Protecting Impacted Communities: Could directly benefit some impacted communities.

Issues: Cost effectiveness, technical feasibility.

DRAFT

Preliminary Mobile Source Measures for 2009 CAP

Control Measure Proposed	Key Elements	Tools: Implementing Mechanisms
	On-Road: Light-Duty Vehicles	
Promote clean, fuel efficient vehicles	<ul style="list-style-type: none"> • Continue to implement the District's programs to provide incentives for low-emission and fuel-efficient vehicles. • Initiate and support demonstration projects for GHG efficient vehicles and PM emission controls for vehicles. • Develop a strategic approach to providing incentives for low-emission light/medium duty vehicles. • Target high-mileage vehicles for fleet turnover, such as delivery and service vehicles. • Perform public outreach and education re: efficient driving habits and importance of vehicle maintenance for emission controls. • Promote development and expanded use of renewable fuels and low-carbon fuels. 	<p>Incentives</p> <p>Outreach and Education</p> <p>Partnerships, Incentives</p>
ZEV and Plug-in Hybrids	<ul style="list-style-type: none"> • Partner with private, local, state and federal programs to promote the purchase of battery-electric and plug-in hybrid electric vehicles. • Partner with private, local, state and federal programs to install and expand public charging infrastructure. • Support for research programs advancing technology for plug-in hybrid and hydrogen-fueled vehicles. • Coordination of advocacy positions and research programs with local businesses, non-profits and governments through the Bay Area Electric Vehicle Initiative. 	<p>Incentives</p> <p>Partnerships</p> <p>Incentives</p> <p>Partnerships</p> <p>Partnerships</p> <p>Advocacy</p> <p>Partnerships</p>
Green Fleets	<ul style="list-style-type: none"> • Provide support and incentives to help local businesses and governments to incorporate fuel-efficient, low-emission vehicles in their fleets. • Explore coordinating with ABAG's Green Business program to strengthen the green fleet standards in the program • Explore developing a Green Business certification designed specifically for fleet operators. • Promote fleet best practices through outreach to local governments, business groups and grant applicants. • Evaluate concept of regulation to require that public agencies purchase new vehicles meeting specified performance standards. (FSM) 	<p>Incentives</p> <p>Monitoring</p> <p>Partnership with ABAG & public agencies</p> <p>Outreach & education to fleet operators</p> <p>Potential Further Study Measure</p>
Enhancements to Vehicle Buy Back Program	<ul style="list-style-type: none"> • Consider targeted outreach to impacted communities, smog center locations, owners of pre-1975 vehicles and smog-exempt vehicles, and high emitters via the District's Smogging Vehicle program. • Consider including motorcycles in the District's vehicle buy back program. 	<p>Outreach</p> <p>Incentives</p>

	<ul style="list-style-type: none"> • Evaluate an incentive pricing scheme that would offer more money for older, dirtier vehicles • Evaluate South Coast's experience with a repair program – \$500 for vehicle repair – as an option for the Bay Area. (potential Further Study Measure) 	<p>Incentives</p> <p>Incentives Further Study Measure</p>
Enhancements to Smog Check	<ul style="list-style-type: none"> • Advocate and support state efforts and legislation to require PM testing in smog check; and vehicle buy back programs to remove older, dirtier, vehicles from roadways. • Support legislation to include motorcycles in the state's biennial smog check • Evaluate potential emission reductions and costs associated with identifying high-emitting vehicles – remote sensor technology, DMV smog check records, expand outreach to smog check shops, evaluate smoking vehicle program. 	<p>Advocacy</p> <p>Advocacy</p> <p>Potential Further Study Measure</p>

On-Road: Heavy-Duty Vehicles		
Green fleets	<ul style="list-style-type: none"> • Continue implementing Carl Moyer Program and other grant programs to reduce emissions from on-road heavy-duty vehicles. • Provide support and incentives to help fleets, including public agencies and transit agencies to incorporate fuel-efficient, low-emission vehicles in their heavy-duty fleets. • Promote development and use of renewable fuels and low-carbon fuels. • Support advanced technology demonstration projects. 	<p>Incentives</p> <p>Partnerships, Incentives</p>
Heavy-Duty Vehicles – Low NOx Software Upgrade and catalytic convertors	<ul style="list-style-type: none"> • Consider providing incentives to engine manufacturers (or their local distributors) to install low NOx software upgrades in 1993-1998 model year engines in advance of engine rebuilds. • Consider including policies in Transportation Fund for Clean Air and other Air District grant programs requiring low-NOx software upgrades as a condition of grants. • Consider providing incentives for addition or replacement of catalytic convertors on heavy-duty gasoline engines. 	<p>Outreach</p> <p>Incentives</p> <p>Policy</p> <p>Incentives</p>
Minimize exposure to local diesel emissions	<ul style="list-style-type: none"> • Targeted enforcement by Air District inspectors of ARB's diesel ATCMs in impacted communities or other areas where the CARE program has identified elevated diesel PM exposure. • Help install signage at distribution centers and other "hot spots" and in impacted communities indicating truck routes and highlighting the applicability of ARB's anti-idling ATCM. • Systematic outreach program to independent and fleet truck operators re: clean technologies and fuels, best practices, grant opportunities, etc. 	<p>Enforcement</p> <p>Education & enforcement</p> <p>Outreach</p>
Efficient Drive Trains	<ul style="list-style-type: none"> • Support for research programs advancing technology for plug-in hybrid medium and heavy-duty vehicles. 	<p>Partnerships</p>

	<ul style="list-style-type: none"> • Provide grants and other incentives to encourage the purchase of advanced-technology vehicles and equipment that reduce the use of internal combustion engines for moving goods. • Support development and deployment of advanced-technology freight locomotives, consistent with ARB's Railroad MOU. • Explore opportunities to reduce emissions from ground support equipment (GSE) and other sources at airports (potential FSM). 	<p>Incentives</p> <p>Potential Further Study Measure</p>
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Off-Road: Light-Duty Equipment		
Recreational Watercraft	<ul style="list-style-type: none"> • Evaluate options to provide incentives to retire/scrap high-emitting engines in pleasure craft. 	<p>Outreach & Education</p> <p>Incentives</p>
Lawn and Garden Equipment	<ul style="list-style-type: none"> • Consider implementation of buy- back /exchange program to replace gasoline-powered equipment with electric or manual (push) lawnmowers and leaf blowers. • Evaluate options for exchange/replacement incentive program for commercial lawn and garden equipment. 	<p>Incentives</p> <p>Outreach & Education</p>

Off-Road: Heavy-Duty Equipment		
Construction and Farming equipment	<ul style="list-style-type: none"> • Continue implementing Carl Moyer Program and other grant programs to reduce emissions from on-road heavy-duty vehicles. • Provide incentives for the use of electric construction equipment by targeting contractor and construction fleets. • Promote development and expanded use of renewable fuels. • Promote and support advanced-technology demonstration projects. 	<p>Incentives</p> <p>Partnerships, Incentives</p>

Preliminary Land Use and Local Impact Measures for 2009 CAP

Control Measure Proposed	Key Elements	Tools: Implementing mechanisms
Land Use and Local Impacts		
Clean Air Communities Initiative / Community Air Risk Evaluation	<ul style="list-style-type: none"> • CACI & CARE will provide the programmatic structure for the District's efforts to reduce emissions from land use decisions and population exposure in impacted communities. • Enhanced local air quality monitoring 	ISR rulemaking Monitoring Permitting Fees
Indirect Source Review	<ul style="list-style-type: none"> • Reduce vehicle trips and emissions from new land use development that generate or attract motor vehicle trips. • Require onsite and offsite mitigation for new land use development. • Encourage high density transit oriented development. • Support SB 375 land use planning requirements 	Rulemaking Delegation of authority to local agencies Permitting Fees
CEQA: Update CEQA guidelines and enhance CEQA review	<ul style="list-style-type: none"> • Issue updated CEQA guidelines that address greenhouse gas (GHG) emissions and establish thresholds of significance for ozone precursors, PM, , air toxics, and GHGs. • Increase the number of CEQA docs that the District reviews. • Quantify estimated reduction in emissions of criteria pollutants, air toxics and greenhouse gases from CEQA program. 	CEQA Outreach
Minimize exposure to local diesel emissions	<ul style="list-style-type: none"> • Targeted enforcement by Air District inspectors of ARB's diesel Air Toxic Control Measures in impacted communities or other areas where the CARE program has identified significant population exposure to diesel PM. • Increase signage in impacted communities indicating truck routes; install signs in key locations (e.g. distribution centers) to promote compliance with ARB's anti-idling ATCM. • Perform outreach and education to independent and fleet truck operators re: best practices. • Encourage installation of HEPA air quality filters to protect population in impacted communities. 	Targeted enforcement of ARB regulations Outreach Incentives
General Plan Guidance	<ul style="list-style-type: none"> • Develop and promote model Air Quality Element for local General Plans. • Develop local land use guidance to reduce population exposure and cumulative impacts. 	Outreach Partnerships
Goods Movement	<ul style="list-style-type: none"> • Support initiatives to preserve warehouse and manufacturing space within developed parts of the Bay Area while reducing harmful emissions. • Implement FOCUS strategies to increase development in priority areas to encourage more concentrated delivery areas for retail companies. • Work through FOCUS to ensure that priority development areas (PDAs) do not impact economic development potential of adjacent goods movement businesses. • Explore further best practices in off-site mitigation and better business practices (e.g. delivery hours) to make goods movement businesses a better "neighbor". • Participate in programs such as San Francisco Food Shed project to promote local food production to reduce energy use. 	ISR Incentives Advocacy Partnerships

Preliminary Energy and Climate Measures for 2009 CAP

Control Measure Proposed	Key Elements	Tools: Implementing mechanisms
Energy & Climate Measures		
Urban Heat Island - Cool Roofing And Paving	<ul style="list-style-type: none"> • Promote incorporation of cool roofing and cool paving standards into new development, redevelopment projects, and retrofits by working with local governments. • Explore opportunities to support and expand programs to promote tree-planting 	<p>Indirect source rule CEQA mitigation</p> <p>Outreach to jurisdictions Partnerships</p>
Energy Efficiency and Conservation	<ul style="list-style-type: none"> • Partner with Flex your Power to reduce peak electric load demand. • Partner with CEC to host a series of training workshops for building inspectors on how to effectively enforce Title 24 energy requirements. • Outreach to permitted sources to reduce energy use and increase energy efficiency. 	<p>Partnerships Public Outreach Outreach to permitted sources</p>
Alternative Energy	<ul style="list-style-type: none"> • Promote incorporation of alternative energy sources into new developments and redevelopment projects. • Consider providing grants for clean energy projects as funding opportunities arise • Foster innovative alternative energy projects. • Promote green job generation. 	<p>Indirect source rule CEQA mitigation Incentives Partnerships</p>

2009 Clean Air Plan – DRAFT New Framework for Transportation Control Measures

2005 Ozone Strategy TCM		Proposed 2009 CAP TCM
A. Improve Transit Services	<ul style="list-style-type: none"> ● TCM 3: Improve Local and Areawide Bus Service ● TCM 4: Upgrade and Expand Local and Regional Rail Service ● TCM 6: Improve Interregional Rail Service ● TCM 7: Improve Ferry Service 	<ul style="list-style-type: none"> ● TCM A-1: Improve Local and Areawide Bus Service (Old TCM 3) ● TCM A-2: Improve Local and Regional Rail Service (Old TCM 4, Old TCM 6) ● TCM A-3: Improve Ferry Service (Old TCM 7)
B. Improve System Efficiency	<ul style="list-style-type: none"> ● TCM 11: Install Freeway Traffic Management Systems ● TCM 12: Arterial Management Measures ● TCM 13: Transit Use Incentives ● TCM 8: Construct Carpool/Express Bus Lanes on Freeways 	<ul style="list-style-type: none"> ● TCM B-1: Implement Freeway Performance Initiative (Old TCM 11, Old TCM 12) ● TCM B-2: Improve Transit Efficiency and Use (Old TCM 13) ● TCM B-3: Implement Regional HOT Network (Old TCM 8) ● NEW TCM B-4: Improve Goods Movement
C. Encourage Sustainable Travel Behavior	<ul style="list-style-type: none"> ● TCM 1: Support Voluntary Employer-Based Trip Reduction Program ● TCM 2: Employer Based Trip Reduction (Suspended) ● TCM 10: Youth Transportation ● TCM 14: Carpool and Vanpool Services and Incentives ● TCM 16: Public Education/Intermittent Control Measures 	<ul style="list-style-type: none"> ● TCM C-1: Support Voluntary Employer-Based Trip Reduction Program (Old TCM 1) ● TCM C-2: Implement Safe Routes to Schools and Safe Routes to Transit (Old TCM 10) ● TCM C-3: Promote Rideshare Services and Incentives (Old TCM 14) ● TCM C-4: Conduct Public Outreach and Education (Old TCM 16) ● DELETE Old TCM 2
D. Support Focused Growth	<ul style="list-style-type: none"> ● TCM 5: Improve Access to Rail and Ferries ● TCM 9: Improve Bicycle Access and Facilities ● TCM 15: Local Land Use Planning and Development Strategies ● TCM 19: Improve Pedestrian Access and Facilities ● TCM 20: Promote Traffic Calming Measures 	<ul style="list-style-type: none"> ● TCM D-1: Improve Bicycle Access and Facilities (Old TCM 9 + Old TCMs 5 and 20) ● TCM D-2: Improve Pedestrian Access and Facilities (Old TCM 19 + Old TCMs 5 and 20) ● TCM D-3: Support Local Land Use Strategies (Old TCM 15)
E. Implement Pricing Strategies	<ul style="list-style-type: none"> ● TCM 17: Conduct Demonstration Projects ● TCM 18: Implement Transportation Pricing Reform 	<ul style="list-style-type: none"> ● TCM E-1: Pursue Congestion Pricing (Old TCM 18) ● NEW TCM E-2: Pursue Parking Pricing (Old TCM 18) ● New TCM E-3: Other Pricing Measures ● DELETE Old TCM 17 (or move elements to other TCMs)
TCM Count		17
		20

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	TCM	Purpose	Brief Description
A. Improve Transit Services	TCM A-1: Improve Local and Areawide Bus Service	<ul style="list-style-type: none"> • Maintain bus fleet • Reduce diesel emissions from buses • Provide new and improved bus services • Improve speed and on-time reliability of bus services 	<ol style="list-style-type: none"> 1. Fund the timely replacement of worn out buses in local transit operator fleets 2. Fund the retrofit or replacement of diesel buses with clean fuel buses or emission control technologies 3. Implement improved or new Express Bus or Bus Rapid Transit (BRT) on major travel corridors (includes bus elements of MTC's Resolution 3434 Transit Expansion Program and RM 2 Program) 4. Fund Transit Priority Measures component of the Transportation Climate Action Campaign (includes arterial bus lanes, transit signal priority, queue jumper lanes, and bus bulbs)
	TCM A-2: Improve Local and Regional Rail Service	<ul style="list-style-type: none"> • Upgrade, expand or provide new local and regional rail services 	<ol style="list-style-type: none"> 1. Implement rail element of MTC's Resolution 3434 Transit Expansion Program 2. Pursue interregional high-speed rail service between San Francisco and Los Angeles via Pacheco Pass and regional high-speed rail service via Altamont Pass
	TCM A-3: Improve Ferry Service	<ul style="list-style-type: none"> • Upgrade, expand or provide new Transbay ferry services 	<ol style="list-style-type: none"> 1. Implement ferry element of MTC's Resolution 3434 Transit Expansion Program 2. Implement Water Emergency Transit Authority's Ferry Plan
B. Improve System Efficiency	TCM B-1: Implement Freeway Performance Initiative	<ul style="list-style-type: none"> • Improve the performance and efficiency of freeway and arterial systems through operational strategies 	<ol style="list-style-type: none"> 1. Implement Freeway Performance Initiative (includes installing Traffic Operations System infrastructure, ramp metering, and routine TOS maintenance) 2. Implement Arterial Management Program (includes arterial signal timing program and technical traffic engineering assistance)
	TCM B-2: Improve Transit Efficiency and Use	<ul style="list-style-type: none"> • Improve transit efficiency and use through financial incentives, better real time transit service information, coordinated fare payment and collection, improved transit connectivity 	<ol style="list-style-type: none"> 1. Implement Commuter Check, Ecopass, and similar transit incentive programs 2. Improve 511 transit information services 3. Fully deploy TransLink® 4. Implement Transit Connectivity Implementation Plan 5. Implement Means-Based Transit Fares Program
	TCM B-3: Implement Regional HOT Network	<ul style="list-style-type: none"> • Price travel demand on highways 	<ol style="list-style-type: none"> 1. Implement Regional HOT Network (solo drivers pay to use HOT lanes, but carpools, vanpools, and express buses continue to use HOT lanes for free)

TCM	TCM	Purpose	Brief Description
			<ol style="list-style-type: none"> 2. Direct net HOT revenues to fund express bus services, rail extensions and rail service enhancements, local roadway and access improvements, and high-tech applications to improve freeway operations
	<p>NEW TCM B-4: Improve Goods Movement</p>	<ul style="list-style-type: none"> • Facilitate goods movement activities • Reduce pollutant emissions and health risks from goods movement activities at or near Bay Area ports and major trade corridors 	<ol style="list-style-type: none"> 1. Implement the Bay Area's Trade Corridors Improvement Funds (TCIF) projects 2. Implement BAAQMD's Goods Movement Emission Reductions Program using MTC funds to replace or retrofit up to 800 port and goods movement trucks) 3. Continue BAAQMD's Carl Moyer Program
<p>C. Encourage Sustainable Travel Behavior</p>	<p>TCM C-1: Support Voluntary Employer-Based Trip Reduction Program</p>	<ul style="list-style-type: none"> • Provide core support for voluntary employer trip-reduction programs 	<ol style="list-style-type: none"> 1. Implement employer elements of the BAAQMD's Spare the Air Program 2. Implement employer elements of the 511 Regional Rideshare Program 3. Implement local employer programs sponsored by congestion management agencies, county transportation authorities, cities and counties 4. Work with employers to implement shuttle programs including Bay Area Clean Air Partnership (BayCAP) comprehensive shuttles campaign 5. Encourage local cities to adopt transit benefit ordinances (based on City of San Francisco Commute Benefits Ordinance)
	<p>TCM C-2: Implement Safe Routes to Schools and Safe Routes to Transit</p>	<ul style="list-style-type: none"> • Encourage walking and bicycling to schools and transit stations/stops 	<ol style="list-style-type: none"> 1. Implement the Safe Routes to Schools Program component of the Transportation Climate Action Campaign 2. Implement the Safe Routes to Transit Program component of the Transportation Climate Action Campaign 3. Encourage and support efforts by partner agencies and local government to implement safe access for pedestrians and cyclists.
	<p>TCM C-3: Promote Rideshare Services and Incentives</p>	<ul style="list-style-type: none"> • Encourage ridesharing 	<ol style="list-style-type: none"> 1. Implement 511 Ridesharing Services (carpools and vanpools) 2. Fund rideshare incentives
	<p>TCM C-4: Conduct Public Outreach and Education</p>	<ul style="list-style-type: none"> • Educate the public about air quality impacts of travel choices and ways to curtail polluting activities 	<ol style="list-style-type: none"> 1. Implement the BAAQMD's Spare the Air Program 2. Implement the public outreach campaign component of the Transportation Climate Action Campaign

	TCM	Purpose	Brief Description
D. Support Focused Growth	TCM D-1: Improve Bicycle Access and Facilities	<ul style="list-style-type: none"> Encourage bicycling through improved or new facilities and better access to transit, employment and major activity centers 	<ol style="list-style-type: none"> Promote “smart driving” and reduce high speed driving Implement MTC’s Regional Bicycle Program (which provides capital funds to fully build out the Regional Bicycle Network as defined in MTC’s Regional Bicycle Plan) Implement MTC’s Routine Accommodations Policy Implement the Bicycle Facility Program component of the Transportation Fund for Clean Air (TFCA) Program Fund bicycle projects through Transportation Development Act (TDA) Article 3 funds Encourage actions by local agencies to provide bicycle access and facilities.
	TCM D-2: Improve Pedestrian Access and Facilities	<ul style="list-style-type: none"> Encourage walking through improved or new facilities and better access to transit, employment and major activity centers 	<ol style="list-style-type: none"> Fund pedestrian safety and facility improvements through the Transportation for Livable Communities (TLC) Program Fund pedestrian projects through TDA Article 3 funds Encourage actions by local agencies to provide pedestrian access and facilities.
	TCM D-3: Support Focused Land Use Strategies	<ul style="list-style-type: none"> Promote land use patterns that support higher densities near transit and facilitate walking, bicycling and transit use Promote policies and infrastructure to retain and promote jobs in core areas that are well served by transit. 	<ol style="list-style-type: none"> Implement FOCUS Implement TLC Program Leverage TLC funds to support FOCUS PDAs Implement MTC’s TOD Policy for Resolution 3434 Regional Transit Expansion Program Encourage local government actions to promote mixed-use development, housing and jobs in areas that are well served by transit.
E. Implement Pricing Strategies	TCM E-1: Pursue Congestion Pricing	<ul style="list-style-type: none"> Institute congestion pricing on Bay bridges to manage travel demand during congested conditions 	<ol style="list-style-type: none"> Pursue authorizing legislation to implement congestion pricing on Bay bridges Explore open road tolling
	<u>NEW</u> TCM E-2: Pursue Parking Pricing	<ul style="list-style-type: none"> Institute parking pricing strategies 	<ol style="list-style-type: none"> Implement parking pricing Promote best parking practices and policies. Provide training and technical support to local agencies.
	<u>NEW</u> TCM E-3: Pursue Other Pricing Strategies	<ul style="list-style-type: none"> Pursue measures to ensure that full social costs of motor vehicle use are reflected in ownership and operational costs. 	<ol style="list-style-type: none"> Evaluate and consider pursuing other pricing strategies such as gas tax increase, VMT fee, carbon tax, pay-at-pump insurance, etc.