



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
SACRAMENTO, CA

March 19, 1991

ADMINISTRATION
ROOM 300
95814-2987
916-449-5571

Budget & Finance /
Transportation and Community Development Committees
Sacramento, California

ECONOMIC DEVELOPMENT
ROOM 300
95814-2987
916-449-1223

Honorable Members In Session:

NUISANCE ABATEMENT
ROOM 301
95814-3982
916-449-5948

Subject: **AIR QUALITY ATTAINMENT PLAN (M91-010)
SACRAMENTO METRO AIR QUALITY MANAGEMENT
DISTRICT**

SUMMARY

The Sacramento Metropolitan Air Quality Management District (SMAQMD) will present a verbal summary of the Air Quality Attainment Plan, prepared pursuant to the requirements of the California Clean Air Act.

BACKGROUND

The Plan consists of seven volumes:

- o Plan Summary
- o Air Quality and Emissions Inventory
- o Public Education
- o Fleets and Fuel Controls
- o Transportation Control Measures
- o Indirect Source Controls
- o Stationary and Area-Wide Controls.

The Sacramento Environmental Commission (representing the City and County of Sacramento) has been holding public hearings on the Plan over the past 6 weeks. Written comments are being accepted until March 29th. A Draft Environmental Impact Report on the Plan is also being circulated, with comments accepted until early April.

The presentation to the Joint Committees of the Council is intended to provide an overview of the Plan: i.e., the extent of the air quality problem, the public education process, and various control measures on stationary and mobile sources of emissions.

FINANCIAL DATA

Implementation of control programs and specific control measures may have direct and indirect impact on City finances. Financial impact will be identified as specific programs are before the Council.

POLICY CONSIDERATIONS

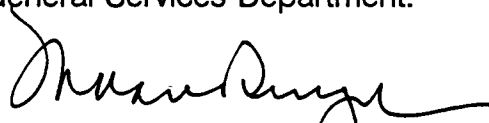
The California Clean Air Act requires a reduction in air pollutants at a 5% annual rate, until the air basin is in attainment with these standards. Adoption of the Air Quality Attainment Plan, and diligent implementation of air quality programs is necessary in order to comply with the Act.

MBE/WBE IMPACTS

There are no MBE/WBE impacts associated with this item.

RECOMMENDATION

Staff recommends that the Joint Committee provide for the opportunity for City staff from the Planning Division, Environmental Services Division, and Transportation Division to present staff comments to the Joint Committee on March 26th. Comments will also be sought from the City Attorney's Office, and the General Services Department.

for 
MICHAEL M. DAVIS
Director of Planning and Development


MELVIN H. JOHNSON
Director of Public Works

Recommendation Approved:

DAVID MARTINEZ
Deputy City Manager

March 19, 1991
All Council Districts

Contact Persons:
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MMD:SHM\
AQAP.JCC
Attachments

SMAQMD

SUMMARY OF CONTROL MEASURES

PLAN SYNERGY

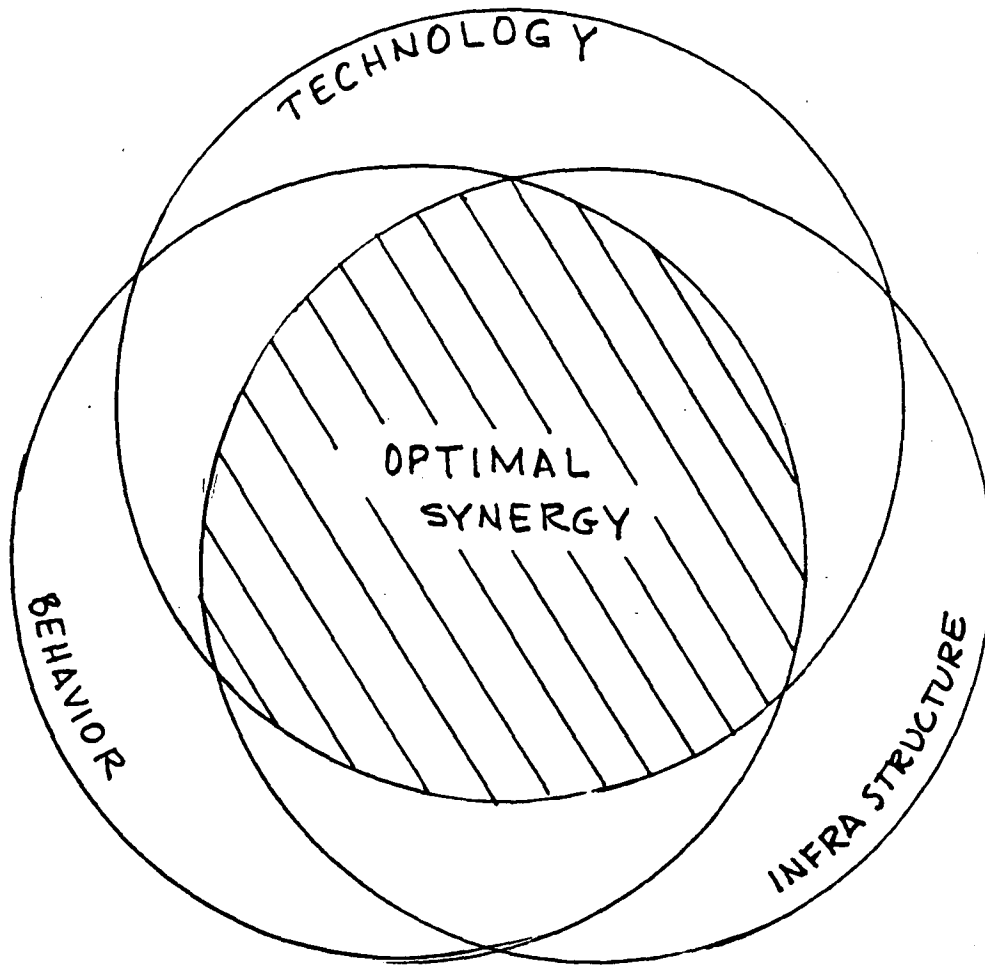


Exhibit I SELECTION OF CONTROL MEASURES

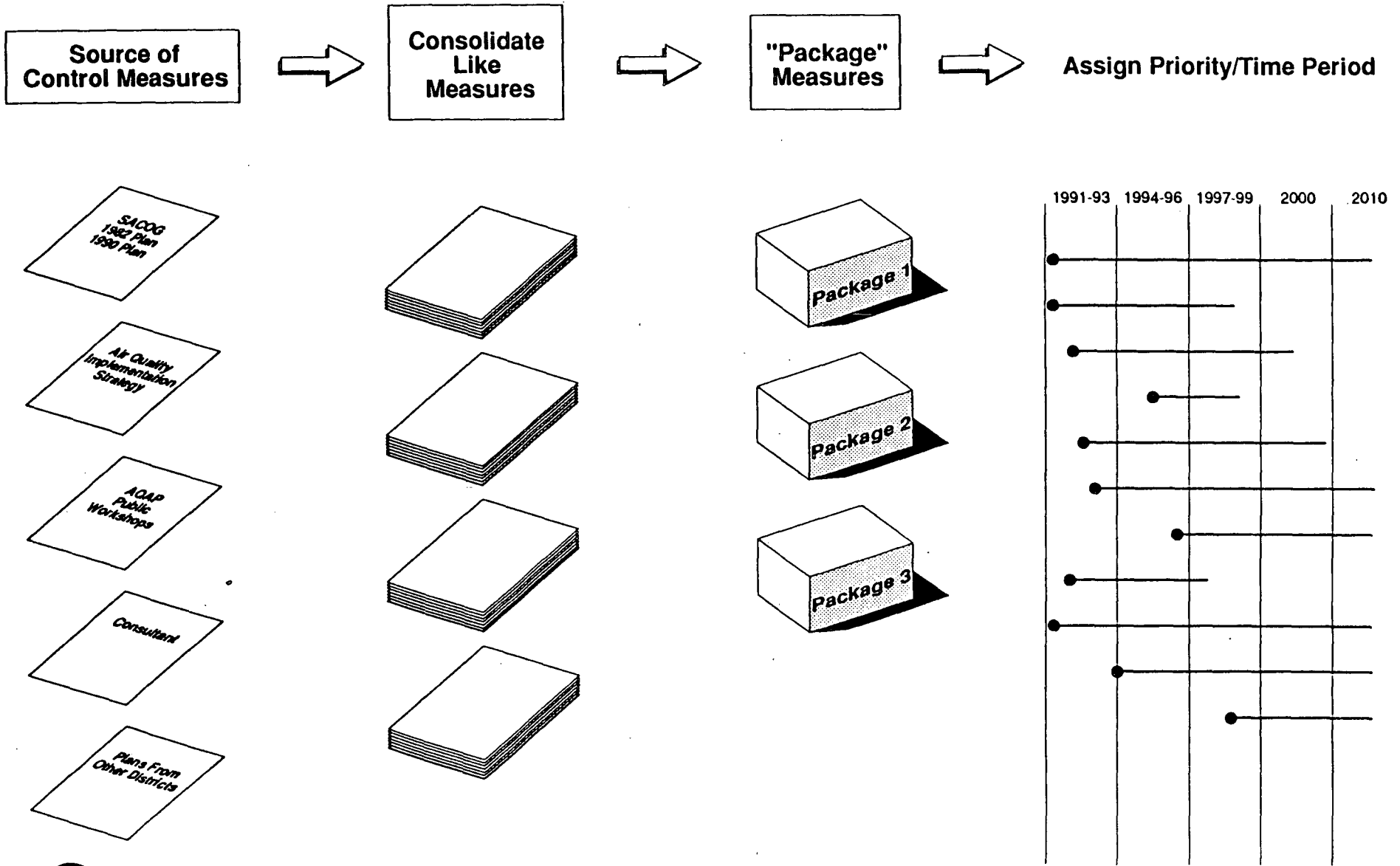


EXHIBIT I-5.22

1991 AIR QUALITY ATTAINMENT PLAN

COMBINED CONTROL PROGRAMS EMISSION REDUCTIONS FROM 1987 BASELINE*

*(from all controls contained in this Plan
plus existing controls adopted by ARB and the District)

(Tons per Day)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
1987 BASELINE	131	84	694

BY: YEAR 1994

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB):	22	11	93
1991 Plan Controls:	19 - 28	6 - 10	112
Total Reduction TPD:	41 - 50	17 - 21	205
Average Annual TPD Reduced Since 1987: (averaged over 7 years)	5.9 - 7.1	2.4 - 3.0	29.3
AVERAGE ANNUAL % REDUCTION	4.5 - 5.4%	2.9 - 3.6%	4.2%

BY: YEAR 1997

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	25	13	140
1991 Plan Controls	27 - 37	8 - 12	145
Total Reduction TPD	52 - 62	21 - 25	285
Average Annual TPD Reduced Since 1987 (averaged over 10 years)	5.2 - 6.2	2.1 - 2.5	28.5
AVERAGE ANNUAL % REDUCTION	4.0 - 4.7%	2.5 - 3.0%	4.1%

BY: YEAR 2000

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	26	13	178
1991 Plan Controls	33 - 43	16 - 19	150
Total Reduction TPD	59 - 69	29 - 32	328
Annual Average TPD Reduced Since 1987 (averaged over 13 years)	4.5 - 5.3	2.2 - 2.5	25
AVERAGE ANNUAL % REDUCTION	3.4 - 4.0%	2.6 - 3.0%	3.6%

BY: YEAR 2010

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	19	3	211
1991 Plan Controls	43 - 54	29 - 33	118
Total Reduction TPD	62 - 73	32 - 36	329
Average Annual TPD Reduced Since 1987 (averaged over 23 years)	2.7 - 3.2	1.4 - 1.6	14.3
AVERAGE ANNUAL % REDUCTION	2.1 - 2.4%	1.7 - 1.9%	2.1%

CAF/LEV AND RELATED MEASURES: EMISSIONS REDUCTIONS (tpd)

Program	Measures	Year ----->	RDG				CO				NOx					
			1994	1997	2000	2010	1994	1997	2000	2010	1994	1997	2000	2010		
CAF/LEV Program	ARB CAF/LEV program			0.07	0.53	6.52										
	Short term								5.9			0.91	5.6			
	A. Support fuel-flexible vehicles		0.04													A.
	B. Support OEM CNG vehicles		0.01					0.03								B.
	C. Coordinate research with other agencies															C.
	D. Technical support contractor															D.
	E. Support school bus replacement with clean fuels											0.015	0.075	0.225	0.75	E.
	F. Support new fueling facilities															F.
	G. Support early demos															G.
	H. Underground tank rule															H.
	I. Fueling stations rules															I.
	J. Identify fleet operators															J.
	K. Fleet inventory rule															K.
	L. Voluntary CAF/LEV implementation															L.
	M. Offsets for early adopters															M.
N. TCM tradeoffs															N.	
O. Indirect source rule															O.	
Long term																
A. Large scale demos			0.02					0.1				0.06			A.	
B. Transit bus demo											0.06	0.18	0.30	0.4	B.	
C. Other long-term measures			0.24	0.53	6.52		0.07	3.5	5.9		0.08	0.30	1.83	10.9	C.	
Opt-in to ARB 1994 station requirements																
Land use mitigation																
Fleet replacement rule																
Total reductions		0.05	0.33	1.06	13.04	0.03	0.17	3.5	11.8	0.155	0.615	3.265	17.65			
Winter Oxygenated Gasoline Requirement	A. ARB rule					86.5	79	73.4	36						A.	
Total reductions		0	0	0	0	86.5	79	73.4	36	0	0	0	0			
Gross Emitter Control Program	Short term (pilot programs)															
A. Identification of unregistered vehicles															A.	
B. Other long-term measures															B.	
Citizen's smog patrol																
Older vehicle buy-back																
Roadside monitoring																
Long term																
A. Identification of unregistered vehicles															A.	
B. Other long-term measures		1	3	5	0	6	18	30	0	-----	unknown	-----	0	B.		
Citizen's smog patrol																
Older vehicle buy-back																
Roadside monitoring																
Total reductions		1	3	5	0	6	18	30	0	-----	unknown	-----	0			
Truck/Bus Operations Rules	Short term (pilot programs)															
A. Truck/bus idling															A.	
B. Time-of-day															B.	
C. Freight consolidation centers															C.	
Long term																
A. Truck/bus idling															A.	
B. Time-of-day															B.	
C. Freight consolidation centers															C.	
Total reductions		0	0	0	0	0	0	0	0	0	0	0	0			
TOTAL PROGRAM REDUCTIONS		1	3	6	13	93	97	107	48	0.16	0.6	3.3	17.7			

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EXHIBIT V - 5.9
EMISSION REDUCTION
1994-2010
(WITH PROPOSED TCMS)

TCM NAME	ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 1994			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 1997			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 2000			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 2010		
	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO
Employee Commute Alt. Rule	0.22	0.14	1.28	0.43	0.29	2.54	0.66	0.44	3.83	0.66	0.44	3.83
Worksite Commute Alt. Rule	0.07	0.05	0.42	0.29	0.19	1.70	0.50	0.34	2.96	0.66	0.44	3.83
Instit. Commute Alt. Rule	0.02	0.02	0.12	0.05	0.03	0.26	0.07	0.05	0.42	0.08	0.06	0.47
Commute Data Upgrade	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79
Enhanced Rideshare Matching	0.18	0.12	1.05	0.72	0.48	4.22	1.09	0.73	6.35	1.09	0.73	6.35
Expand Public Awareness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expand TMA Program	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33
Guaranteed Ride Home Program	0.04	0.02	0.19	0.05	0.03	0.28	0.05	0.03	0.28	0.05	0.03	0.28
Alternative Work Schedules	0.02	0.02	0.12	0.06	0.04	0.33	0.08	0.06	0.51	0.10	0.06	0.58
Truck Idling Regulations	0.02	0.02	0.16	0.02	0.02	0.16	0.02	0.02	0.16	0.02	0.02	0.16
Improve Bus Srvc/Rts/Sched.	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82
Improve Fare Collection	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40
Ramp Metering	0.07	0.05	0.40	0.13	0.09	0.77	0.20	0.14	1.17	0.20	0.14	1.17
Freeway HOV Lanes	0.12	0.08	0.70	0.30	0.20	1.75	0.48	0.32	2.80	0.54	0.36	3.15
Arterial/Downtown HOV Lanes	0.00	0.00	0.00	0.06	0.04	0.35	0.12	0.08	0.70	0.18	0.12	1.05
Bicycling Safety & Enforce.	0.00	0.00	0.00	0.18	0.12	1.05	0.30	0.20	1.75	0.30	0.20	1.75
Shuttle Service	0.05	0.03	0.30	0.20	0.14	1.19	0.36	0.24	2.08	0.46	0.30	2.68
Tax and Monetary Incentives	0.00	0.00	0.00	0.61	0.41	3.57	1.22	0.82	7.14	1.22	0.82	7.14
Pref. On-Street Parking	0.00	0.00	0.00	0.32	0.22	1.91	0.32	0.22	1.91	0.32	0.22	1.91
Pref. Off-Street Parking	0.58	0.38	3.34	0.58	0.38	3.34	0.58	0.38	3.34	0.58	0.38	3.34
Telecomm., Teleconf., Comm.	0.06	0.04	0.35	0.23	0.15	1.35	0.41	0.27	2.38	0.47	0.31	2.73
TOTAL	2.19	1.47	12.76	4.97	3.33	29.12	7.20	4.84	42.12	7.67	5.13	44.75

Exhibit VI-5.1

Emission Reductions From Proposed Indirect Source Controls (tons per day)																
T E R M	Control Measures	1991-1993			1994-1996			1997-1999			2000-2009			2010 ¹		
		ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO
		N	California Environmental Quality Act ²	NA	NA	NA	NA	NA	NA	NA	NA	NA	UNK	UNK	UNK	UNK
E	Land Use Entitlement Permit ²	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
A	Indirect Source Policy Rule ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R	Development Guidance ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Air Quality Element ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pedestrian Access	NA ²	NA ²	NA ²	0.03	0.02	0.12	0.06	0.04	0.33	0.08	0.06	0.51	0.10	0.06	0.58
	Pedestrian Amenities	NA ²	NA ²	NA ²	0.03	0.02	0.16	0.03	0.02	0.16	0.03	0.02	0.06	0.03	0.02	0.06
	Pedestrian Malls	NA ²	NA ²	NA ²	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82
	Bicycle Facilities	NA ²	NA ²	NA ²	0.04	0.02	0.19	0.06	0.02	0.28	0.06	0.02	0.28	0.06	0.02	0.28
	Bikeway Master Plan	NA ²	NA ²	NA ²	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33
	Exclusive Busway Facilities	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	0.43	0.29	2.54	0.66	0.44	3.83	0.66	0.44	3.83
	Preferential Bus Access	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	0.50	0.34	1.70	0.50	0.34	2.96	0.66	0.44	3.83
	Bus Amenities	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	0.05	0.03	0.26	0.07	0.05	0.42	0.08	0.06	0.47
	Light Rail Facilities	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	0.74	0.50	4.32	0.74	0.50	4.32	0.74	0.50	4.32
	Parking Space Limitation	NA ²	NA ²	NA ²	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79
	Suburban & Fringe Area Park & Ride Lots	NA ²	NA ²	NA ²	0.18	0.12	1.05	0.72	0.48	4.22	1.09	0.73	6.35	1.09	0.73	6.35
	Freight Consolidation Centers ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
	On-Site Amenities	NA ²	NA ²	NA ²	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40
	Ancillary Services	NA ²	NA ²	NA ²	0.07	0.05	0.40	0.13	0.09	0.77	0.20	0.14	1.17	0.20	0.14	1.17
	Preferential Permit Process ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mitigation & Fees Regulation ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M	Parking Space Emission Fee	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
I	Parallel Arterials at Peak Hours	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
D	Offsite Passenger Baggage & Ticket Terminals	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
	Multi-Modal Centers	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
	Home Occupation Rule	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
L	Super Bikeway Arterials Along Railroads, Etc.	-	-	-	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴
O	Tax Subsidy for Those Who Build Near Transit	-	-	-	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴
N	Performance Zoning	-	-	-	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴
G	Taxes/Fees Prorated by Distance to Development	-	-	-	-	-	-	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴	UNK ⁴
	TOTAL EMISSION REDUCTIONS	-	-	-	1.09	.73	6.26	3.46	2.31	18.92	4.17	2.80	24.24	4.36	2.91	25.23

Source: Ekistic Emissions Model

¹Emission Reductions in the out years are subject to adjustments due to growth, rate of penetration of the measure, and technological changes effecting the measure.

²Emission reduction begins 1994 or beyond.

³This measure will not directly reduce emission.

⁴Specific controls have not been investigated.

**EMISSION REDUCTIONS FROM PROPOSED CONTROLS
FOR ROG
(TONS/DAY)**

CONTROL MEASURE	1991	1994	1997	2000	2010	COMMENTS
Can & Coil Coating	0.45 - 1.18	0.48 - 1.25	0.50 - 1.32	0.52 - 1.36	0.60 - 1.56	
Architectural Coating	1.28	1.38	1.45	1.53	1.79	
Graphic Arts	0.25 - 0.33	0.28 - 0.36	0.33 - 0.43	0.34 - 0.44	0.38 - 0.50	
Fiberglass-Plastic Fabrication	0.08	0.08	0.08	0.08	0.08	Emissions growth is unknown
Aerospace Coating	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	
Automobile & Truck Refinishing	1.23 - 1.71	1.39 - 1.94	1.55 - 2.16	1.61 - 2.24	1.74 - 2.42	
Miscellaneous Metal Parts Coating	0.31 - 0.43	0.34 - 0.47	0.37 - 0.51	0.39 - 0.54	0.43 - 0.60	
Manufacture Of Wood Furniture	0.12 - 0.16	0.12 - 0.16	0.13 - 0.18	0.13 - 0.18	0.14 - 0.19	
Plastic, Rubber, and Glass Coating	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Gasoline Vapor Recovery (Stage I)	0.04	0.04	0.04	0.04	0.04	
Gasoline Vapor Recovery (Stage II)	0.04	0.04	0.04	0.04	0.04	
Petroleum Products Storage	0.00	0.00	0.00	0.00	0.00	Administrative changes to rule only
Petroleum Products Loading	0.03	0.03	0.03	0.03	0.03	
Perchloroethylene Dry Cleaning	0.01	0.01	0.01	0.01	0.01	
Chemical Plant & Refinery Leaks	0.02	0.02	0.02	0.02	0.02	
Landfill Gas Recovery	0.28	0.28	0.28	0.28	0.28	
Ethylene Oxide Sterilizers	0.01	0.01	0.01	0.01	0.01	
Asphalt Paving	0.49	0.53	0.57	0.59	0.76	
Adhesives	0.45 - 0.63	0.49 - 0.69	0.54 - 0.75	0.56 - 0.78	0.64 - 0.89	
Paper Coating	0.16 - 0.24	0.18 - 0.26	0.19 - 0.28	0.20 - 0.29	0.23 - 0.33	
Utility Engines (Residential)	0.12 - 0.27	0.13 - 0.29	0.13 - 0.30	0.14 - 0.32	0.16 - 0.37	
Utility Engines (Commercial)	0.13 - 0.30	0.15 - 0.35	0.17 - 0.39	0.18 - 0.41	0.21 - 0.47	
Degreasing	0.69 - 1.19	0.77 - 1.32	0.85 - 1.45	0.88 - 1.51	1.01 - 1.73	
Commercial Baking	0.20	0.21	0.22	0.23	0.26	
Pesticides	0.00	2.64 - 3.56	2.66 - 3.59	2.69 - 3.62	2.78 - 3.74	
Consumer Products	0.00	1.89 - 3.79	1.99 - 3.99	2.09 - 4.19	2.38 - 4.78	
Groundwater Airstripping/Soil Remed.	UNK	UNK	UNK	UNK	UNK	
Surface Preparation & Cleanup	2.05 - 3.77	2.23 - 4.10	2.39 - 4.39	2.47 - 4.54	2.78 - 5.11	
Open Burning (Non-agricultural)	0.16	0.18	0.19	0.20	0.23	
Pleasure Boat Coating	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Marine Refueling	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Fire Starter Fluid	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Sewage Treatment Works	N/A	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Water-Base Solvents	N/A	1.07 - 1.34	1.13 - 1.42	1.19 - 1.49	1.40 - 1.75	
Natural Gas Compressors	N/A	0.00 - 0.04	0.00 - 0.04	0.00 - 0.04	0.00 - 0.04	
Oil & Gas Extraction	N/A	0.13 - 1.13	0.13 - 1.13	0.13 - 1.13	0.13 - 1.13	

January 14, 1991

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