

Summary Review of Costs and Emission Reductions for 24 CMAQ (Congestion Mitigation and Air Quality) Projects

(Full report (9/28/99) available on EPA's Transportation Air Quality Web Site, www.epa.gov/otaq/transp/traqmodl.htm)

Category	Project Name	State	NOx Emission Reduction (tons/yr)	Project Annual Cost (\$/year)	Annual Cost Per Ton NOx (\$/ton)	National Median Emission Reduction (tons/yr)	NOx Emission Reduction (tons/day)
Shared Ride	Commuter Assistance Program	CA	2.64	417,400	158,106	1.9	0.007
	Glendale Parking Management Program	CA	5.04	104,500	20,734		0.014
	University Rideshare Program	GA	4.00	106,800	26,700		0.011
	Park-n-Ride Facility	MD	1.00	16,100	16,100		0.003
	Regional Vanpool Program	TX	62.00	1,700,000	27,419		0.170
Bike/Ped	Philadelphia Bicycle Network	PA	6.41	298,000	46,490	0.27	0.018
	Suburban Bike Rack Incentives	IL		26,600			
Traffic Flow	Arterial Street Signal Interconnect	PA	2.09	214,000	102,392	0.55	0.006
	Signal Systemization Along MD2	MD		6,300			
	Incident Management Program	GA	158.00	841,300	5,325		0.433
	Signal Interconnection Project	IL		32,000			
	Extension of HOV Lanes	CT	1.10	1,436,000	1,305,455		0.003
Transit	Lake Cook Shuttle Bug	IL		390,000		1.92	
	Houston Transit Subsidy	TX	34.75	3,500,000	100,719		0.095
	Light Rail Vehicles	MD	20.84	6,964,000	334,165		0.057
	University City 30th St Circulator	PA	0.80	340,000	425,000		0.002
	Commuter Rail Coaches	MD	93.20	7,236,000	77,639		0.255
	MARTA Intelligent Transportation Sys	GA	2.25	31,500	14,000		0.006
	MARTA Transit Incentives	GA	16.75	375,000	22,388		0.046
TDM	Long Island TDM Program	NY	6.94	450,000	64,841	12.65	0.019
	IEPA Public Education & Outreach	IL		293,000			
	Atlanta Region TMA's	GA	26.50	299,000	11,283		0.073
Other	Fairfax Co. Alternative Fuel Vehicle Prog	VA	0.02	128,000	6,400,000	0.55	0.000
	Alternative Fuels Refueling Station	GA	2.00	23,600	11,800		0.005
Scrap Old Veh's	Programs to Scrap 1,000 Old Vehs/Yr	3-Yr Credit	10.00	7,500,000	750,000		0.027

NOx Emission Reductions Potentially Achievable by Various Control Measures (Georgia)

Control Measures Evaluated for the 13-County Atlanta Ozone Nonattainment Area

by Georgia State University - Copy obtained from Mark Corrigan of TDEC

Total NOx Emissions From the 13-County Area for 1999 were 216,000 tons/year or 592 tons/day.

(Note: Not all of these measures were included in the SIP)

Control Measure	NOx Reduction (tons/day)	Cost Effectiveness (\$/ton)	Percent NOx Reduction Area-Wide
Oxygen Firing at Glass Mfg Plants	2.73	3725	0.46
Low NOx Burners on Selected Industries	2.26	1200	0.38
Low Excess Air (Oil/Gas Commercial & Indus Boilers)	6.37	3500	1.08
LNB w LPG, FGR, RB, WI, on Res, Com, & Ind Furnaces (Considered to be cost prohibitive)	54.26	8000	9.17
CA Reformulated Diesel Fuel for Onroad Vehicle (Considered to be cost prohibitive)	8.96	6000	1.51
High Cetane Diesel Fuel for Onroad Vehicles (Considered to be cost prohibitive)	1.4	18000	0.24
Zero I/M Waivers and Exemptions	0.63	6000	0.11
Congession Pricing/Tolls: Choose One: \$0.50/gal fuel tax, Pay-as-you-drive insurance \$0.50/gal, VMT tax \$0.02/mile, et. al. (\$0.02/mi x 1 mile/g NOx)	2.19	18000	0.37
Liqified Natural Gas Dual Fuel for Railroad Switch Engines	3.05	1000	0.52
Incentives for Turnover of 2 and 4 Cycle Small Engines	1.27	NA	0.21
Total	83.12		14.04
LNB = Low NOx Burners	NA = Not Available		RB = Radian Burners
LPG = Liquified Petroleum Gas	FGR = Flue Gas Recirculation		WI = Water Injection

NOx Emission Reductions Potentially Achievable by Various Control Measures (California)

*Control Measures Included in the Draft 2003 Air Quality Management Plan
of the South Coast Air Quality Management District (Los Angeles)*

Total NOx Emissions For the South Coast AQMD Area 2006 Baseline = 927 tons/day.

Control Measure	NOx Reduction (tons/day)	Percent NOx Reduction Area-Wide
Truck Electrification	2.1	0.23
CMB-10 RECLAIM Program (Regional Clean Air Incentives) (covers both powerplant & non-powerplant emissions)	3	0.32
HOV, Bicycle, Pedestrian, Rideshare, ITS, & Telecommute Programs	0.2	0.02
New Off-Road Diesel Engine Controls by 2010	0	0.00
New Off-Road Diesel Engine Controls by 2015	10	1.08
New Standards for Off-Road Gasoline Engines > 25 HP	4.3	0.46
Require Electric Forklifts	4.7	0.51
Smog Check I/M Improvements (halt the 30-yr old vehicle exemption)	8	0.86
Clean-Up the Existing Truck & Bus Fleet	11	1.19
Lawn & Garden Equipment (New Standards)	0.9	0.10
Subtotal	44.2	4.77
Total Reductions in the Plan for 2010 (740 ton/day baseline)	210	28.4