

STRATEGIES ELIGIBLE FOR STATE IMPLEMENTATION PLAN CREDITS

SUMMARY OF RESULTS

*Legend located at end

Name	Description	Source	Org	Vehicles/ Equipment/ Industry Affected*	NOx				VOC				SIP Eligible*?
					Affected Emissions (tpd NOx)	Expected Emission Reduction (NOx)		Cost Effectiveness (\$/ton NOx)	Affected Emissions (tpd VOC)	Expected Emission Reduction (VOC)		Cost Effectiveness (\$/ton VOC)	
						Tpd				Tpd (VOC)			
						Low	High			Low	High		
On-Road Sources													
1974 and Older Model Year Vehicles I/M Exemption	Expand I/M Program to include additional vehicles	Onroad	NCTCOG	LDG	91.22	0.43	0.43	-\$2,199	92.76	1.71	1.71	Cost effectiveness is based upon NOx reductions.	L
AirCheck Texas Repair and Replacement Assistance Program	Financial assistance program to for out of compliance vehicles.	Onroad	NCTCOG	LDG	91.22	0.25	0.25	\$12,035	92.76	0.01	0.01	\$106,686	M
Bicycle and Pedestrian Programs	Implementation of bicycle and pedestrian projects with supporting programs.	Onroad	NCTCOG	LDG+MC	91.88	0.07	0.07	\$35,045	93.42	0.04	0.04	Cost effectiveness is based upon NOx reductions.	✓
California Low Emitting Vehicle (LEV) II Standards	Require vehicles sold in DFW region to be LEV II vehicles or cleaner.	Onroad	NCTCOG	LDG	91.22	0.19	0.29	\$124,856 -\$135,662 / ton w/o fuel savings -\$468,979 – -\$559,984 / ton with fuel savings	93.02	1.37	1.52	\$18,060 – \$23,821/ ton w/o fuel savings -\$74,549 – -\$89,476/ ton with fuel savings	L
CARB 2007 On-Highway Diesel Engine Standards	Adopt California's heavy-duty diesel vehicle standards for all vehicles sold in the Dallas Fort Worth nine-county nonattainment area.	Onroad	NCTCOG	HDDV	88.17	7.13	7.13	\$995	3.82	-0.51	-0.51	\$13,901	L
Clean Fleet Vehicle Procurement Policy/Clean Fleet Program	Create a fleet program that addresses the clean vehicle acquisitions of public and private fleets.	Onroad	NCTCOG	HDDV	88.17	1	9	\$5,000 - \$10,000					✓
Drive-Thru Service Restrictions	Prohibit drive-thrus during the ozone season/ encourage parking	Onroad	NCTCOG	LDV+MC	91.88	0.01	0.05	Unknown	93.42	0.04	0.19	Cost effectiveness is based upon NOx reductions.	E
Enhanced AirCheck Texas Repair and Replacement Assistance Program	Financial assistance program to for out of compliance vehicles	Onroad	NCTCOG	LDG	91.22	0.17	0.17	\$7,933	92.76	0.01	0.01	\$70,714	M

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Expanded I/M to Include Diesel Vehicles	Expand I/M Program to include additional vehicles.	Onroad	NCTCOG	LDV	data currently unavailable				data currently unavailable				L
Expanding I/M to Surrounding Counties	Expand I/M Program to include additional vehicles	Onroad	NCTCOG	LDG	91.22	0.78	0.78	\$4,044	92.76	0.88	0.88	\$3,586	L
Freeway and Arterial Bottleneck Program	Freeway interchange and arterial intersection improvements	Onroad	NCTCOG	Freeway + Arterial	170.96	0.25	0.25	\$8,407-\$41,589	81.66	1.01	1.01	\$2,009-\$11,996	✓
Heavy-Duty Vehicle Idling Restriction and Policy	Implement a regional ordinance restricting idling for public/private heavy-duty vehicles.	Onroad	NCTCOG	HDV	101.54	0.12	0.54	Unknown	6.25	0.027	0.123	Unknown	✓
Higher Vehicle Occupancies	Additional HOV implementation	Onroad	NCTCOG	Freeway	107.21	0.27	0.27	\$95,097	40.12	0.28	0.28	\$93,724	✓
Idle Reduction Infrastructure	Electrification projects	Onroad	NCTCOG	HDV	93.21	0.06	0.06	\$8,711	4.06	Unknown	Unknown	n/a	✓
Stricter I/M Policy Enforcement	Additional enforcement of I/M policies	Onroad	NCTCOG	LDG	91.22	0.4	0.4	\$4,521	92.76	0.35	0.35	\$5,166	M
Intelligent Transportation Systems	Further system implementation	Onroad	NCTCOG	Freeway	107.21	4.87	4.87	\$1,714	40.12	1.99	1.99	Cost effectiveness is based upon NOx reductions.	✓
Light-Duty Vehicle Idling Restriction and Policy	Develop city and/or regional ordinance to restrict idling for both public and private light-duty vehicles	Onroad	NCTCOG	LDV	91.88	0.05	0.05	Unknown	93.42	0.19	0.19	Cost effectiveness is based upon NOx reductions.	E
Military Ground Equipment Emissions Testing, Measure	Expand I/M Program to include additional vehicles	Onroad	NCTCOG		data currently unavailable				data currently unavailable				I
Lower Reid Vapor Pressure (RVP)	Lower the maximum RVP in Dallas Fort Worth nine-county nonattainment area	Onroad	NCTCOG	GV+MC	99.73	0	0	Cost effectiveness is based upon VOC reductions.	95.35	0.01	0.01	\$129,408	N
Additional Taxi Fleet Emissions Testing	More frequent testing	Onroad	NCTCOG	LDGV	92.11	0.001	0.001	(\$137.883)	92.76	n/a	n/a	n/a	✓

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Traffic Signal Improvements	Planning, programming, and implementation of traffic signal improvement programs and projects	Onroad	NCTCOG	Arterial	63.75	1.11	1.11	\$13,300	41.54	3.07	3.07	\$4,809 / ton	✓
Transit	Additional implementation	Onroad	NCTCOG	LDV+MC	91.88	0.07	0.07	\$170,761	93.42	0.07	0.07	Cost effectiveness is based upon NOx reductions.	✓
Fare-Free Transit, System-Wide on Ozone Action Days	Transit Incentive	Onroad	NCTCOG	LDV+MC	91.88	0.71	0.71	\$839,662	93.42	0.72	0.72	Cost effectiveness is based upon NOx reductions.	✓
Transit Off-Peak Pass	Transit Incentive	Onroad	NCTCOG	LDV+MC	91.88	0.07	0.07	\$0	93.42	0.07	0.07	Cost effectiveness is based upon NOx reductions.	✓
Carsharing	1,000 shared cars	Onroad	Earth Matters		193	0.045	0.045	not available	99	0.057	0.057	not available	✓
Congestion (value) pricing	0	Onroad	Earth Matters		data currently unavailable				data currently unavailable				✓
ETR-Vanpool Programs	Continue and increase Vanpool programs projects under ETR programs	Onroad	Earth Matters		193	0.023	0.023	\$257,407	99	0.026	0.026	Not applicable; all costs attributed to NOx	✓
ETR-Best Workplaces Program	Continue and increase BWC projects	Onroad	Earth Matters		193	0.104	0.104	\$2,320	99	0.107	0.107	Not applicable; all costs attributed to NOx	✓
ETR-Carpooling programs	Continue and increase carpooling projects under ETR programs	Onroad	Earth Matters		193	0.02	0.02	\$4,158	99	0.02	0.02	Not applicable; all costs attributed to NOx	✓

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ETR-Transit Subsidy Programs	Continue and increase transit subsidy projects under ETR programs	Onroad	Earth Matters		193	0.37	0.37	\$4,158	99	0.38	0.38	Not applicable; all costs attributed to NOx	✓
Parking Cash-Out	Cash-Out for 10% of area employees	Onroad	Earth Matters		193	0.443	0.443	not available	99	0.46	0.46	not available	✓
Pay-As-You-Drive	Mileage based auto insurance	Onroad	Earth Matters		193	0.917	0.917	not available	99	0.948	0.948	not available	✓
Speed Limit Decrease for Heavy Duty Diesel Trucks	Decrease and enforce and 55 mph speed limit for heavy duty diesel trucks	Onroad	Earth Matters		193	3.25	3.25	\$1,186	99	0.018	0.018	Not applicable; all costs attributed to NOx	L

Non-Road Sources

Freight Rail Infrastructure Improvements	Tower 55 bottleneck improvements to reduce locomotive idling	Nonroad	NCTCOG	Nonroad – locomotive		0.35	0.35	\$51,914					✓
Lawn Mower Replacement Program	Replacement or exchange of residential mowers	Nonroad	NCTCOG	Nonroad – lawn and garden					7.91	0.422	0.422	\$3,000-\$10,000	✓
Enhanced TERP program	Continue and increase TERP funded projects	Nonroad	ENVIRON	Offroad (except aircraft)	99	25	50	\$5,000 – \$10,000					M
Aircraft Emissions Standards	Encourage lower emitting aircraft	Nonroad	ENVIRON	Vehicles/ Equipment	21.01	3	6	unknown					✓
Emission Reduction Contract Incentives with Public Funding	Encourage lower emitting engines used on Publicly-funded projects	Nonroad	ENVIRON	Nonroad Construction – Public Funded Projects	6	1.1	1.1	<\$14,000					✓
Limitations on idling of heavy-duty construction equipment	Reduce Idling from construction and all nonroad engines	Nonroad	ENVIRON	Nonroad	40-72	0.5	1	\$4,000 - \$40,000					✓
Hybrid-electric locomotives	TERP funded Green Goat	Nonroad	ENVIRON	Nonroad – switching locomotive	8	1.2	1.4	\$5,000 - \$10,000					T

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Tier II	Tier II Locomotives	Nonroad	ENVIRON	Nonroad – locomotive	7.9 - 26.8	4	9.96	\$5,000 upward					T
Rail Efficiency	System efficiency improvement	Nonroad	ENVIRON	Line-haul locomotives	18.9	0.8	3	unknown					✓
Locomotive Idling Reductions	Install start/stop devices on locomotives	Nonroad	ENVIRON	Nonroad – switching locomotive	26.8	0.6	3	<\$1,000					✓
California Portable Engine Rule	Registration and accelerated engine turnover	Nonroad	ENVIRON	Nonroad engines	72	1	1	\$200 – 300					L

Area Sources

Architectural & Industrial Coatings	Require low VOC coatings	Area	ENVIRON	Over 40 categories of coatings in 9-county area					32.7	6.7	12.5	\$6,400-\$20,000	✓
Area Source Credit for Energy Conservation and Efficiency	Implementation of Senate Bill 5 and 7.	Area	NCTCOG	Area & Point		0.51	0.51						M
Cold Cleaning Regulations	Require low VOC solvent	Area	ENVIRON	Degreasing, cold cleaning (all industries; 9 county)					1.88	0.71	0.71	< 1,400	✓
Commercial and Consumer Products Requirements	Reformulate coatings and related products; adhesives and sealants; and misc.	Area	ENVIRON	Manufacturers of commercial and consumer products (all manufacturers; 9 county)					48.5	11.1	11.1	\$4,800	✓
Fuel Hose Permeation	Replace hoses with marine hoses	Area	ENVIRON	Gasoline refueling, Stage II; 9 county)					0.11	0.063	0.063	\$14,000 to \$16,000	✓

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Glycol Dehydrators	Control or recycle vented VOC	Area	ENVIRON	Natural gas production (all 9 counties)					0.47	unknown	unknown	\$280-\$570	✓
NOx EAT Software	Compliance assistance. Install software to increase energy efficiency.	Area	ENVIRON	Refineries & Chemical, Plants, 9-counties	n/a	n/a	n/a	n/a					✓
Oil & Gas Production	Better identify and repair leaking components	Area	ENVIRON	Oil & gas production and gas processing; 9 county)					unknown	unknown	unknown	\$600	✓
Small boilers & heaters	Replace boilers & heaters with better controlled units	Area	ENVIRON	Commercial and institutional buildings; 9 county	Deferred to TCEQ measure development				Deferred to TCEQ measure development				✓
Stationary IC Engines	Replace engines with lower emitting units	Area	ENVIRON	Manufacturing, schools, universities	7.6	6.29	6.29	\$187-\$5,100					✓

Point Sources

Aggregate Kilns	Control of NOx from Aggregate Kilns	Point	ENVIRON	Unknown	Unknown	Unknown	Unknown	\$850					✓
Alternate Energy Sources to Reduce Emissions from Electricity Generation	Use of renewable energy rather than fossil fuel energy for electricity generation.	Point	NCTCOG		Unknown	0.06	0.06						
Brick Kilns	Control of NOx from Brick Kilns	Point	ENVIRON	1 kiln located in Denton and 2 located in Parker County	0.3	0.13	0.13	\$790-1,920					✓
ICI Boilers #7	Reduce NOx Emissions by 80 Percent	Point	ENVIRON		1.5	0.38	0.38	960 to 6,880					✓
ICI Boilers #9	Control of NOx from Industrial, Commercial and Institutional (ICI) Boilers	Point	ENVIRON	Expand DFW to 5 or 9 County area	0.24-2	0.15	0.4	961 to 6,880					✓

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Lime Kilns	Control of NOx from Rotary Kilns	Point	ENVIRON	One Large Source in Johnson County	2.8	2.2	2.2	\$3,370				✓	
Refinery Boilers and Heaters	NOx reductions from refinery boilers, steam generators, and process heaters—NOx.	Point	ENVIRON	Process Heaters(all 9 counties)	0.52	0.41	0.41	2,430 to 16,400				✓	

Vehicle Definitions:

- LDV Light-Duty Vehicle
- LDD/LDDV Light-Duty Diesel Vehicle
- LDG/LDGV Light-Duty Gas Vehicle
- MC Motorcycle
- HDV Heavy-Duty Vehicle
- HDD/HDDV Heavy-Duty Diesel Vehicle
- HDG/HDGV Heavy-Duty Gas Vehicle

Reasons Strategy is Not SIP Eligible

- E Emissions not in mobile model inventory
- I Insufficient data to quantify
- L Legislation required
- M Emission reductions already accounted for in mobile model
- N No NOx benefit
- T Already quantified in TERP