EPA Guidance Documents for Developing and Quantifying Control Measures

(Revised November 3, 2005)

Title of the Document	Description of Document	Type of Document	Potential Use
1. Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs). http://www.epa.gov/oms/transp/trancont/vmep-gud.pdf	This document provides guidance on Voluntary Mobile Source Emission Reduction Programs	Other	Voluntary Programs
2. Guidance on Incorporating Voluntary Stationary Source Emission Reduction Programs Into State Implementation Plans http://www.epa.gov/ttn/ecas/innostra.html	EPA's final policy on the granting of State Implementation Plan credits for voluntary stationary source emission reduction programs.	Other	Voluntary Programs
3. Voluntary Mobile Source Programs: Crediting Innovation and Experimentation Brochure. (EPA420-K-97-004) http://www.epa.gov/otaq/transp/vmweb/brochure.pdf	Examples of Potential Voluntary Mobile Source Emission Reduction Programs	Other	Voluntary Programs
4. EPA Economic Incentive Program Guidance (EPA-452/R-0 1-001, January 2001) http://www.epa.gov/ttn/oarpg/t1/memoranda/eipfin.pdf	This guidance provides the information you need to know to develop a discretionary EIP, submit it to the EPA, and receive approval from the EPA. This guidance pertains to discretionary EIPs that are or will be measures in SIPs.	Other	Incentive measures
5. Improving Air Quality Through Land Use Activities, EPA Guidance (EPA420-R-0 1-001, January 2001) http://www.epa.gov/otaq/transp/trancont/r01001.pdf	The goal of this guidance is to assist air quality and transportation planners in accounting for the air quality impacts of land use policies and projects which state and local governments *voluntarily* adopt.	Other	7.1, 7.2, 8.4, 9.1
6. BACKGROUND INFORMATION FOR LAND USE SIP POLICY (EPA420-R-98-012) http://www.epa.gov/otaq/transp/trancont/siprptv3.pdf	This report summarizes work efforts by states to take SIP credit for land-use strategies and what EPA efforts are needed to support land-use SIP policies.	Other	7.1, 7.2, 8.4, 9.1
7. Granting Air Quality Credit Land Use Measures: Policy Options, September, 1999 (EPA 420-P-99-028) http://www.epa.gov/otaq/transp/trancont/lupol.pdf	This document supports EPA efforts to reduce mobile source air pollution by providing tools to recognize and, where appropriate, credit these types of sustainable land use and transportation practices.	Other	7.1,7.2, 8.4, 9.1
8. The Effects of Urban Form on Travel and Emissions: A Review and Synthesis of the Literature , August 1997, (EPA 420-R-97-007) * copies are available from regional offices	This is a summary of research on the effect of land use on travel behavior. It includes empirical studies that compare land use scenarios and simulation studies that have used computer models to examine the impact of land use patterns on travel activity and resulting emissions.	Other	7.1, 7.2, 8.4, 9.1

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9. Evaluation of Modeling Tools for Assessing Land Use Policies and Strategies, Oct 1997 (EPA420-R-97-007) http://www.epa.gov/otaq/transp/trancont/lum-rpt.pdf	This EPA-sponsored report includes: a brief discussion of land use strategies and their relationship to vehicle miles traveled (VMT) reduction; and an assessment of current travel demand and land use modeling tools.	Quantification	7.1, 7.2, 8.4, 9.1
10. Guidance for Quantifying and Using Emission Reductions from Best Workplaces for Commuters^{SM} Programs in State Implementation Plans and Transportation Conformity Determinations (EPA420-B-05-016) October 2005 http://www.epa.gov/otaq/transp/conform/policy.htm	This guidance describes how state and local agencies can gain emission credit for commuter benefit programs like Best Workplaces for Commuters^{SM}. Best Workplaces for Commuters is a voluntary partnership program with employers throughout the country. The goal of the program is to reduce drive-alone commuting, thereby reducing pollution and fuel consumption	Quantification & other	9.1, 9.2, 9.3
11. COMMUTER Model http://www.epa.gov/otaq/transp/traqmodl.htm http://www.epa.gov/otaq/transp/comchoic/r00016.pdf	The revised COMMUTER model is one of the tools available for estimating the emissions benefits of Best Workplaces for Commuters-type programs, which may be suitable for gaining credit in SIPs and transportation conformity determinations.	Quantification	9.1, 9.2, 9.3
12. SIP Development Guidance: Using Emission Reduction from Commuter Choice Programs to meet CAA Requirement (EPA420-R-98-007) Dec. 1998 http://www.epa.gov/otaq/transp/comchoic/sipguide.pdf	This guidance is to help states or agencies to calculate the emission benefits of Commuter Choice programs (Best Work Place for Commuters) and take credit for them in SIPs	Quantification & other	9.1, 9.2, 9.3
13. Comparing Methodologies to Assess Transportation and Air Quality Impacts of Brownfields and Infill Development, October 2001. (EPA-23 1 -R-0 1-001, August 2001) http://www.epa.gov/otaq/transp/conform/compari.pdf	This document describes four methods for characterizing the air quality benefits resulting from infill development, compares these methodologies, and examines their advantages and disadvantages. This report is a companion piece to EPA's policy guidance entitled, "Improving Air Quality Through Land Use Activities" (EPA 420-R-01-001; January 2001).	Quantification & Other	7.1, 7.2, 8.4, 9.1

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14. Assessing the Emissions and Fuel Consumption Impacts of Intelligent Transportation Systems (ITS) (EPA 23 1-R-98-007, December 1998). http://www.epa.gov/otaq/transp/fuelimpt.pdf	This study describes the types of modeling approaches needed to capture the short- and long-term transportation, emissions, and fuel consumption impacts of ITS deployment. It describes needed progressions in modeling approaches, including developments in travel demand, traffic simulation, and modal emissions modeling.	Quantification	8.4
15. Methodologies for Estimating Emission and Travel Activity Effects of TCMs (EPA 420-R-97-004, July 1997) http://www.epa.gov/oms/transp/trancont/emtcm.pdf	This report provides a quantitative approach toestimate the travel and emissions changes from implementing a number of transportation control measures. The report includes equations for calculating changes in the number of trips, vehicle miles traveled, and speed, as well as methods for estimating emission effects of these travel activity changes.	Quantification	3.2, 3.3, 8.4, 9,1, 9.2, 9.3,
16. Transportation Control Measures Database http://www.epa.gov/otaq/transp/traqtcms.htm	Transportation Measures Program Information Directory--an on-line searchable database with records on operating TCM programs and overview documents about different types of TCMs.	Other	3.2, 3.3, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 10.1, 10.3
17. Index of Transportation Control Measure Quantification Efforts http://www.epa.gov/otaq/transp/vmweb/matrix.pdf	Index of reports and other documents which have attempted to quantify TCM emission reductions.	Quantification	3.2, 3.3, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 10.1, 10.3
18. Benefit Estimates for Selected TCM Programs (EPA420-R-98-002) March 1999 http://www.epa.gov/oms/transp/r98002.pdf	TCMs that have been implemented are quantified with equations and formulas contained in "Methodologies for Estimating Emission and Travel Activity Effects of TCMs"	Quantification	3.2, 3.3, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 10.1, 10.3
19. Transportation Control Measure Information Documents (EPA420-R-92-006, March 1992) *NOTE THIS DOC IS POSTED TO OUR WEBSITE, PLEASE INSERT LINK	This report contains information documents on the 16 broad categories of TCMs as required and described under Section 108(f) of the Clean Air Act. Each TCM categories is described in terms of its objectives, variations in implementation, examples, expected transportation and emission impacts, and other important considerations.	Other	3.2, 3.3, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 10.1, 10.3
20. Transportation Control Measure: State Implementation Guidance. 1990 (EPA 45 0/2-89-020) *THIS DOCUMENT IS ON ITS WAY TO YOU	This document lists SIP-approval criteria specific to TCMs. It also directs States to follow general SIP approvability criteria and any additional guidance written on TCMs	Other	3.2, 3.3, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 10.1, 10.3
21. Technical Methods for Analyzing Pricing Measures to Reduce Transportation Emissions. (EPA 23 1-R-98-006) http://www.epa.gov/otaq/transp/anpricng.pdf	This report, jointly funded by the EPA and the DOT, provides technical assistance on best practice approaches for analyzing various transportation pricing policies.	Quantification	3.2, 8.4, 9.2, 9.3

Title of the Document	Description of Document	Type of Document	Potential Use
22. Opportunities to Improve Air Quality through Transportation Pricing Programs. September 1997 (EPA 420-R-97-004) http://www.epa.gov/otaq/market/pricing.pdf	This document is intended to give state and local air quality and transportation planners, and other interested parties background information needed to consider using pricing programs. Specifically, this document explains why pricing can make sense, the institutional relationships necessary for pricing measures to work, and some pitfalls to avoid in implementing a program.	Other	3.2, 8.4, 9.2, 9.3
23. Guidance for the Implementation of Accelerated Retirement of Vehicles Programs (EPA420-R-93-0 18, February 1993) http://www.epa.gov/otaq/transp/trancont/scrapcrd.pdf	This guidance is to illustrate a methodology for calculating benefits and an administrative framework targeting on vehicles which have already been identified as high emitters.	Quantification and other	8.1, 8.2
24. EPA Vehicle Inspection and Maintenance Website http://www.epa.gov/otaq/im.htm	This website includes EPA IM program regulation, policy guidance, and program evaluation.	Quantification and other	8.1, 8.2, 8.3
25. EPA Draft Technical Report, Impacts of Lubrizol's PuriNOx Water/Diesel Emulsion on Exhaust Emissions from Heavy-Duty Engines (EPA420-P-02-007, December 2002) http://www.epa.gov/otaq/models/p02007.pdf	A technical analysis of the effect of Lubrizol's PuriNOx diesel/water emulsion on exhaust emissions from diesel-powered vehicles. This Technical Report represent the current understanding of this specific technical issue, and are subject to re-evaluation at any time.	Quantification	4.4
26. Guidance on Use of Opt-in to RFG and Low RVP Requirements in Ozone SIPs, April 1, 1999. http://www.epa.gov/otaq/regs/fuels/rvpguide.pdf	The purpose of this guidance is to help the regional offices respond to state SIP submissions containing fuel control measures. This guidance should also help states to understand the different statutory requirements concerning state actions on fuel controls and to decide whether and how to use fuel measures for ozone control.	Quantification & Other	4.2
27. EPA Guide to Federal and State RVP Standards for Conventional Gasoline. (EPA420-B-03-002, March 2003) http://www.epa.gov/otaq/regs/fuels/b03002.pdf	This guide is intended for quick reference purposes only. Federal volatility regulations (40 CFR 80.27) apply to designated volatility nonattainment areas and to designated volatility attainment area as defined in 40 CFR 80.2(cc) and 80.2(dd), respectively. In this document, we have listed RVP limits by county, which may not coincide precisely with the borders of a nonattainment or attainment area.	Other	4.2
28. EPA Reformulated Gasoline (RFG) program http://www.epa.gov/otaq/rfg.htm	This website includes EPA published document on approved methodology, guidance, and question & answer to RFG program.	Quantification & other	4.1
29. Low-Sulfur Fuels http://www.epa.gov/otaq/tr2home.htm#guidance	This website includes EPA published document on guidance and question & answer to EPA Low- Sulfur Fuel program	Quantification & Other	4.3

Title of the Document	Description of Document	Type of Document	Potential Use
30. Technical Support for Development of Airport Ground Support Equipment Emissions Reductions and the Airport Ground Support Emissions (GSE) Model (EPA420-R-99-007) http://www.epa.gov/otaq/transp/vmweb/vmairgnd.htm	This study discusses program design and the potential for achieving emission reductions from airport ground support equipment. The Ground Support Emissions(GSE) model also was developed as a prototype user- friendly emission reduction estimation tool.	Quantification & Other	14, 15
31. 2002 Base Year Emission Inventory SIP Planning: 8- hr Ozone, $PM_{2.5}$ and Regional Haze Programs, 11/18/02 http://www.epa.gov/ttnchie1/eidocs/2002baseinven_102502new.pdf	Directs states to use 2002 as the base year inventory for SIP planning purposes under the new standards. Of note in this memorandum is the point made that EPA cannot provide ‚double credit£ for an emission reduction for purposes of RFP or ROP. Post-2002 emission reductions that benefit ozone, $PM_{2.5}$ and regional haze can be credited toward RFP requirements.	Quantification & Other	All
32. Near-Term Discretionary Emission Reductions for Ozone NAAQS, 10/12/00	Provides guidance on how EPA will allow credit for implementation of near-term, discretionary reductions that reduce 1-hour ozone as well as 8-hour ozone levels−well in advance of a nonattainment designation.	Quantification	11.2
33. Near-Term Discretionary Emission Reductions for Ozone NAAQS-Clarification, 1/29/01	Clarifies OAQPS' policy of allowing States to take credit for emission reductions that occur after the 2002 base year inventory, including reductions that occur before the deadlines for submission of SIPs under the new ozone and PM2.5 standards.	Quantification & Other	11.2
34. Beyond VOC RACT CTG Requirements£ EPA-453/R-95-010, April 1995, http://www.epa.gov/ttncatc1/dir1/byndract.pdf	Identifies and compares, by CTG source category, examples of State and local agency rules that exceed or may exceed the RACT requirements that are specified in the Federal CTGs.	Other	11.2, 11.4
35. Guidance for Mobile Emission Credit Generation by Urban Buses. January, 1993. http://ntl.bts.gov/DOCS/BUS.html http://www.epa.gov/otaq/hd-hwy.htm#rtrb	This is a program guidance which ensures particulate matter emissions are reduced for 1993 and earlier model year urban buses. It authorized the development of requirements reflecting the best retrofit technology and maintenance practices reasonably achievable.	Quantification & Other	8.5, 8.6
36. Frequently Asked Questions on 8-Hour Ozone Early Action Compacts, Vol. 1 May 15, 2003 http://www.epa.gov/ttn/naaqs/ozone/eac/20030515_eac_fAq_vol-1 .pdf	EPA's response to questions received from State and local agencies requesting clarification on previously issued EPA guidance and its application to EACs.	Other	EAC measures
37. Frequently Asked Questions on Implementing the DRAFT 8-Hour Ozone Modeling Guidance to Support Attainment Demonstrations for Early Action Compact (EAC) No date	EPA's clarification on how the modeling guidance is applied in EAC SIPs due in 2004.	Other	EAC measures

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38. Guidance for Quantifying and Using Long-Duration Truck Idling Emission Reductions in State Implementation Plans and Transportation Conformity (EPA420-B-04-001 January 2004) http://www.epa.gov/otaq/smartway/documents/420b04001 .pdf	This guidance provides information on how to quantify and use emission reductions from long duration truck idling reductions programs in State Implementation Plans and Transportation Conformity.	Quantification and other	5.1, 8.5
39. . Guidance for Quantifying and Using Long-Duration Switch Yard Locomotive Idling Emission Reductions in State Implementation Plans (EPA420-B-04-002 January 2004) http://www.epa.gov/otaq/smartway/documents/420b04002.pdf	This guidance provides information on how to quantify and use emission reductions from switch yard locomotive idling reductions programs in State Implementation Plans	Quantification and other	5.1, 8.5
40. EPA idling website http://www.epa.gov/otaq/retrofit/idling.htm	This website includes EPA published document on verified idling technology, approved methodology to quantify emission benefit, and SIP credits.	Quantification and other	5.1, 8.5
41. EPA Energy Efficiency guidance	This guidance is for crediting emission reductions from electric sector energy efficiency and renewable energy projects	Quantification and other	2.2, 6.1, 6.2, 6.3
42. EPA Draft Technical Report: "The Effect of Cetane Number Increase Due to Additives on NOx Emissions from Heavy-Duty Highway Engines" (EPA420-S-02-012 June 2002) http://www.epa.gov/otaq/models/analysis/s02012.pdf	Quantification report to estimate the NOx emission factors for the Texas diesel fuel program based on EPA's method. This Technical Report represent the current understanding of this specific technical issue, and are subject to re-evaluation at any time.	Quantification	4.4
43. Guidance on Quantifying NOx Benefits for Cetane Improvement Programs for Use in SIPs and Transportation Conformity (EPA420-B-04-005 June 2004) http://epa.gov/otaq/fuels.htm	This guidance identifiies the terms and conditions for establishing and implementing a cetane improvement programs and the requirements for crediting the emission reductions in State Implementation Plans and transportation conformity	Quantification	4.4
44. EPA Voluntary Diesel Retrofit Program website http://www.epa.gov/otaq/retrofit/index.htm	This website include EPA published document on verified retrofit technology, approved methodology to quantify emission benefit, and SIP credits.	Quantification & Other	8.5, 8.6

Title of the Document	Description of Document	Type of Document	Potential Use in EAC Measures
45. Policy Guidance on Use of MOBILE6 for SIP Development and Transportation Conformity http://www.epa.gov/otaq/transp/conform/policy.htm	This memorandum describes how and when to use MOBILE6 in state implementation plan development and transportation conformity determinations. The time period requirements set forth in this policy document became effective upon publication of the January 29, 2002 Federal Register notice of availability that announced EPA's approval of the new model for official purposes.	Other	All
46. Use of EMFAC2002 Model in California http://www.epa.gov/otaq/transp/conform/policy.htm	April 1, 2003 Frederal Register Notice of Availability: Official Release of EMFAC2002 Motot Vehicle Emission Factor Model for use in the State of California	Other	California programs only
47. Guidance for Creating Annual On-Road Mobile Source Emission Inventories for PM2.5 Nonattainment Areas for Use in SIPs and Conformity (EPA420-B-05-008, August, 2005) http://www.epa.gov/otaq/transp/conform/policy.htm	This guidance document describes how state and local agencies should prepare annual inventories for PM2.5 SIPs or regional conformity analyses. It provides a range of methods for producing those inventories and guidance on how to decide which method is most appropriate. For state and local agencies currently preparing a regional conformity analysis before SIP is developed, this guidance provides the option of using a simpler inventory approach than what they might eventually use in the SIP. This document also addresses the possible use of the National Inventory Model (NMIM) in SIPs and conformity analyses.	Other	All
	Additional Guidance Under Development		
48. EPA Diesel Retrofit guidance anticipated completion date: December 2005	Guidance for quantifying and using heavy-duty truck retrofit emission reductions in State Implementation Plans and Transportation Conformity.	Quantification & Other	8.5, 8.6

1. NOTE: The numbers listed refer to the control measure category ID shown in the first column of the attached table See the spreadsheet for details on each measure
2. The "other" category includes documents that address general requirements for SIP credits.

1	**Reduce Emissions from the Storage, Distribution and Dispensing of Fuels and Solvents**
1.1	~~~ Implement Stage I Vapor Recovery Program
1.2	~~~ Implement Stage II Vapor Recovery Program
1.3	~~~ Use New Low-Emission Fuel Containers
1.4	~~~ Implement Gas Cap Replacement Program
2	**Modifications in Equipment Design, Operating Procedures and Practices**
2.1	~~~ Implement Leak Detection and Repair Programs
2.2	~~~ Institute Service Contracts That Emphasize / Require Environmentally Friendly Equipment and Methods
3	**Seasonal, Ozone Action Day and Time-of-Day Scheduling Strategies**
3.1	~~~ Ban or Restrict Open Burning and Other High-Emission Activities on Ozone Action Days
3.2	~~~ Reduce or Time-Shift Vehicle Travel and Use of Off-Road Vechiles on Ozone Action Days
3.3	~~~ Reduce and/or Strictly Enforce Speed Limits on Ozone Action Days
3.4	~~~ Shift Construction Work and Lawn Mowing to Afternoon Periods
4	**Increase the Use of Modified Fossil Fuels**
4.1	~~~ Use Reformulated Gasoline and/or Bio-Fuels
4.2	~~~ Use of Low Reid Vapor Pressure Fuels
4.3	~~~ Use of Low-Sulfur Fuels
4.4	~~~ Use Cetaine and Other Additives or Catalysts in Diesel Fuels
5	**Expand the Use of Alternative Fuels and Energy Sources**
5.1	~~~ Implement Truck Stop Electrification Program
5.2	~~~ Convert Off-Road Vehicles and Other Equipment Engines to Electric or Propane
5.3	~~~ Increase the Use of LEV and SULEV Vehicles
6	**Reduce Energy Demand through Conservation and Energy Efficiency**
6.1	~~~ Implement Programs to Increase Conservation and Improve the Energy Efficiency of Buildings
6.2	~~~ Implement Programs to Increase the Use of Energy Star "Green" Products
6.3	~~~ Implement Energy Efficiency in the Operation and Design of Facilities and in the Purchase and Use of Equipment
7	**Reduce Air Quality Impacts through Better Land Use Management**
7.1	~~~ Plant Trees and Use Landscaping and Other Techniques to Reduce the "Heat Island Effect"
7.2	~~~ Implement a Smart Growth Program
8	**Reduce the Emissions from Vehicles**
8.1	~~~ Implement Programs to Increase Fleet Turnover to Newer Vehicles
8.2	~~~ Establish Programs to Identify and Repair or Replace High-Emitter Vehicles
8.3	~~~ Implement and/or Expand Vehicle Inspection and Maintenance Programs
8.4	~~~ Utilize Transportation System Design and Traffic Flow Control Methods to Reduce Vehicle Emissions
8.5	~~~ Restrict the IdlingTime of Vehicles
8.6	~~~ Implement Retrofit Programs for Diesel Engines
9	**Reduce the Vehicle Miles Traveled**
9.1	~~~ Implement Programs to Increase Walking and Bicycling Modes of Travel
9.2	~~~ Implement Programs to Increase Carpooling, Ridesharing and the Use of Public Transportation
9.3	~~~ Develop Workplace Programs as Telecommuting and Flexible Scheduling to Reduce Travel Demands
10	**Provide Educational Programs for Stakeholders and the Public on Environmental Issues and Awareness**
10.1	~~~ Implement and Publicize an Ozone Action Day Program
10.2	~~~ Establish a Point-of-Contact and Support Resources for Stakeholders and the Public to Obtain Air Quality and Other Environmental Information
10.3	~~~ Develop and Implement Educational Programs to Promote Environmental Awareness and Action

11	**Support and/or Expand Existing Federal and State Air Quality Programs**
11.1	**~~~ Support Clean Skies Program**
11.2	**~~~ Expand Controls on Facilities Beyond Existing State Requirements**
11.3	**~~~ Participate in the Clean Cities Program**
11.4	**~~~ Early Implement of VOC and NOx RACT**
12	**Organize Committees and Associations of Stakeholders to Coordinate Air Quality Improvement Efforts**
13	**Restrict or Eliminate Specific Activities Impacting Air Quality**
13.1	**~~~ Restrict or Ban Outdoor Burning**
14	**Reduce VOC and/or NOx Emissions from Stationary Sources and Other Source Categories**
15	**Reduce the Emissions from Non-road Vehicles and Related Equipment**
16	**Adopt New Technologies**