ENCLOSURE A

Post-1999 Rate-of-Progress Plan

for

Southwest Connecticut

Ozone Reduction Strategy for the Southwest Connecticut Portion of the New York-New Jersey-Connecticut Severe Nonattainment Area

POST-1999 RATE-OF-PROGRESS PLAN

Final Version for Submittal to EPA

State of Connecticut
Department of Environmental Protection
Bureau of Air Management

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EXECUTIVE SUMMARY

Section 182(c)(2) of the Clean Air Act (CAA) requires each state with one-hour ozone nonattainment areas classified as serious and above to submit a State Implementation Plan (SIP) revision describing how it will reduce ozone precursor emissions during the period after 1996. The SIP revision must provide for emission reductions of volatile organic compounds (VOC) equal to three percent per year for each contiguous three-year milestone period starting with 1997-1999, through the required attainment year. In areas such as Connecticut, where reductions in nitrogen oxide (NOx) emissions result in improved ambient ozone levels, emission reductions of NOx can be substituted to meet all or a portion of the required level of VOC reduction.

The State of Connecticut is comprised of two one-hour ozone nonattainment areas. The southwest portion of the State is classified by the EPA as a "severe" ozone nonattainment area, with a required attainment date of 2007. This area includes the towns of Bridgewater and Milford in Litchfield County, as well as all of the towns in Fairfield County, except the town of Shelton. The remainder of the State is classified by the EPA as a Aserious@ ozone nonattainment area. Based on these classifications, the entire State is subject to the post-1996 rate of progress (ROP) requirements described above.

The Connecticut Department of Environmental Protection (CTDEP or the Department) previously satisfied the ROP requirement statewide for the first milestone period (i.e., 1997 through 1999) through submittal of the 1999 ROP Plan, which was approved by EPA in the October 19, 2000 Federal Register. The current SIP revision, known as the Post-1999 ROP Plan, describes how Connecticut will meet the CAA's rate-of-progress requirements for the period between 2000 and 2007, the required attainment year for the Southwest Connecticut severe nonattainment area. Note that, although EPA recently issued final approval extending the required attainment date for the Greater Connecticut serious nonattainment area to 2007 (due to overwhelming transport from upwind areas; published in the January 3, 2001 Federal Register), ROP requirements for that area only apply through the CAA-defined 1999 date.

This Post-1999 ROP Plan describes the local and regional control measures that have been adopted to meet rate-of-progress requirements in Southwest Connecticut between the years 2000 and 2007. The Plan demonstrates that programs will be implemented in a timely manner, sufficient to satisfy the requirement that ozone precursor emission reductions average at least 3 percent per year for the milestone periods ending in 2002, 2005, and 2007. The Plan provides excess reductions in 2007 (i.e., beyond ROP requirements) sufficient to satisfy CAA Section 172(c)(9) and 182(c)(9) requirements that contingency measures be included in the SIP. The contingency requirement would be triggered if actual emissions in 2007 exceed ROP target levels. In addition, the Plan establishes transportation conformity budgets based on the emission projections for on-road mobile sources.

Relationship to Attainment Demonstration

In addition to the rate-of-progress requirements addressed by this Post-1999 ROP Plan, Connecticut has previously submitted SIP revisions demonstrating that adopted control strategies are sufficient to attain the one-hour ozone NAAQS by the required attainment date of 2007. EPA proposed to conditionally

approve the Southwest Connecticut ozone attainment demonstration on December 16, 1999 (64 FR 70348). One of the conditions for final approval is that Connecticut (along with a number of other states with severe ozone nonattainment areas) must adopt additional control measures sufficient to address a shortfall in emission reductions identified by EPA as needed to ensure attainment of the one-hour ozone NAAQS. Connecticut recently participated in a process to identify potential measures, both on a local level and on a regional level, with other member states of the Northeast Ozone Transport Commission (OTC) to address the shortfall. Connecticut is providing commitments elsewhere in this SIP revision package to adopt specific measures to address its portion of the shortfall. Reductions from these OTC measures are not reflected in the Post-1999 ROP Plan calculations.

Adopted Control Strategies

Post-1999 ROP emission reduction requirements will be satisfied in Southwest Connecticut through implementation of the state and federal control programs listed in Table E-1. These control programs are in addition to those previously accounted for in Connecticut's 15% Plan and 1999 ROP Plan.

Stationary source control programs included in the Post-1999 ROP Plan include:

- NOx Budget Program (CTDEP air regulation 22a-174-22b)
  Adopted in response to a memorandum of understanding between states in the Northeast Ozone Transport Commission and to EPA's "NOx SIP Call" requirement addressing regional ozone transport. The regulation establishes a statewide NOx budget and an allowance trading program for large electricity generating and industrial sources beginning in 2003. This program is expected to reduce NOx emissions in Southwest Connecticut by an estimated 5.4 tons/day starting in 2003, compared to average summer day emissions of 16.6 tons/day in 1996.

- Municipal Waste Combustor Controls (CTDEP air regulation 22a-174-38)
  This regulation imposes NOx emission limits in two phases, effective in December 2000 and May 2003. NOx reductions starting in 2003 are estimated to be 0.8 tons/day in Southwest Connecticut, compared to average summer day emissions of 4.0 tons/day in 1996.

A variety of on-road mobile source control strategies will provide increasing levels of emission reductions through 2007 and beyond. The combined effect of the following control programs are estimated to result in emission reductions in Southwest Connecticut of 20.8 tons/day of VOC and 31.7 tons/day of NOx in 2007, relative to typical summer day emissions of 30.5 tons/day of VOC and 55.3 tons/day of NOx in 1996:

- Enhanced Inspection and Maintenance Program (CTDEP air regulation 22a-174-27)
  Pursuant to CAA Section 182(c)(3), Connecticut enhanced its vehicle emission testing program in January 1998. The enhanced program replaces the previous single-speed idle test

Table E-1
Southwest Connecticut Severe Ozone Nonattainment Area
Ozone Precursor Reduction Strategies Included in Post-1999 ROP Plan[1]

Control Strategy	Pollutant		Federal Program	State Program	Rule Approval Date[2]	Initial Year of Implementation[3]
	VOC	NOx				
Stationary Sources[4]						
NOx Budget Program (EPA NOx SIP Call)		*		*	12/27/2000	2003
Municipal Waste Combustor Controls		*		*	10/26/2000[6]	2000,2003
Mobile Sources						
Enhanced I/M (final cutpoints)	*	*		*	10/27/2000	2002
Reformulated Gasoline - Phase II[4]	*	*	*		2/16/1994	2000
Tier 1 Motor Vehicle Controls	*	*	*		6/5/1991	1994
National Low Emission Vehicle Program	*	*	*		3/2/1998[7]	1998 (in CT)
Tier 2 Motor Vehicle Controls/Low Sulfur	*	*	*		2/10/2000	2004-2008
Heavy Duty Diesel Vehicle Phase 1 Controls	*	*	*		10/6/2000	2004-2005
Non-Road Engine Standards[5]	*	*	*		1994-2000[8]	1996-2008

[1] These controls are in addition to those described in the 15% Plan and the 1999 ROP Plan (i.e., pre-1990 Federal Motor Vehicle Control Program; federal rules addressing architectural & industrial maintenance coatings, consumer products, and automobile refinishing; RFG Phase I; enhanced I/M with initial cutpoints; Stage II vapor recovery with annual inspections; VOC RACT; NOx RACT; OTC Phase II NOx controls; and increased rule effectiveness of cutback asphalt and gasoline loading rack rules)

[2] Unless otherwise noted, this is the date that the final federal rule or EPA's approval of the state SIP submittal was published in the Federal Register.

[3] A range of implementation years is listed for some strategies due to gradual phase-in of standards. In addition, all listed mobile source strategies (except enhanced I/M and reformulated gasoline) result in increased levels of emission reductions through and beyond 2007 due to the gradual turnover of the affected fleets.

[4] Reformulated gasoline requirements also result in a reduction in evaporative VOC emissions throughout the gasoline distribution system.

[5] The initial implementation date for non-road vehicle standards varies by category (e.g., small gasoline engines, locomotives, construction equipment, etc). See Table 2 for additional information for each category.

[6] This is the date the Phase II MWC regulation became effective in Connecticut. The Department is submitting the regulation as an element of this SIP revision.

[7] EPA Administrator Browner determined that the NLEV program was in place on 3/2/1998. As a result, rules published on 6/6/1997 and 1/7/1998 went into effect.

[8] Federal rule approval dates for on-road engine standards vary by category. See Table 2 for more detailed information.

with a test conducted on a treadmill simulating travel at 25 miles per hour at a 25% load factor (i.e., an ASM2525 test). It should be noted that CTDEP is currently examining the I/M program in light of an EPA requirement to begin on-board diagnostic (OBD) testing of vehicles equipped with OBD-II technology and expiration of Connecticut's contract with its current I/M vendor, both of which are scheduled to occur in 2002. The Department expects any I/M program revisions will meet EPA performance criteria and achieve equal or greater emission reductions compared to the current program.

- Reformulated Gasoline - Phase II (EPA program required by CAA Section 211)
  The federal reformulated gasoline (RFG) program is a two-phased program designed to provide reductions of both VOC and NOx emissions. Phase I was implemented in 1995 and Phase II went into effect in 2000. Phase II RFG performance standards require a minimum emission reduction of 27% for VOC and 7% for NOx from baseline levels. Reformulated gasoline is sold statewide in Connecticut. Phase II RFG also provides reductions of evaporative VOC emissions throughout the gasoline distribution system.

- Federal Light Duty Vehicle Standards (EPA programs in response to CAA Section 202)
  EPA has promulgated increasingly stringent light duty motor vehicle emission standards in response to mandates and directives contained in the 1990 amendments to the CAA. "Tier 1" standards were promulgated in 1991, establishing both certification and useful life VOC and NOx standards for light duty vehicles and trucks, to be phased-in over model years from 1994 to 1996. These standards were tightened in 1998, when EPA issued formal recognition of a voluntary agreement between vehicle manufacturers and states, establishing a national low emission vehicle (NLEV) program for light duty vehicles. The NLEV program requires the phase-in of tighter standards, beginning with model year 1999 in the Northeast and model year 2003 throughout the remainder of the country. The NLEV mandate supplanted CTDEP air regulation 22a-174-36, which required low emitting vehicle phase-in beginning with model year 1998. In early 2000, EPA promulgated still tighter "Tier 2" emission standards that will eventually apply equally to all passenger vehicles (i.e., cars, sport utility vehicles, vans, and pick-up trucks) and require gasoline sulfur content to be reduced to an average level of 30 parts per million (ppm) from current levels around 300 ppm. Phase-in of the Tier 2 standards will occur from 2004 through 2009.

- Federal Heavy Duty Vehicle Standards (EPA programs in response to CAA Section 202)
  EPA has also adopted more stringent standards for on-road vehicles equipped with heavy duty engines. NOx and VOC standards adopted in 2000 apply to heavy duty diesel engines and vehicles starting in 2004 and heavy duty gasoline vehicles and engines starting in 2005. (Note that the emission projections contained in the Post-1999 ROP Plan do not include reductions expected from EPA's most recent (January 2001) rulemaking regulating heavy duty vehicle emissions, which establishes more stringent vehicle emission and diesel sulfur content limits beginning in 2007 and 2006, respectively.)

Non-road engines are used in a variety of applications such as outdoor power equipment, recreational vehicles, farm and construction equipment, lawn and garden equipment, marine vessels, locomotives, and aircraft. Prior to the mid-1990's, emissions from these engines were largely unregulated. EPA has since issued several rules regulating emissions from new non-road engines. The combined effect of these control programs is estimated to result in emission reductions in Southwest Connecticut of 18.8 tons/day of VOC and 1.5 tons/day of NOx in 2007, compared to 1996 typical summer day emission levels of 40.4 tons/day of VOC and 33.0 tons/day of NOx. Non-road engine emission control programs are summarized in Table E-2 and briefly described below.

- Non-Road Compression Ignition (Diesel) Engines
  EPA rules establish three tiers of emission standards for new non-road diesel engines. Tier 1 standards (adopted in 1994 and 1998) establish emission standards for most land-based diesel engines larger than 50 horsepower (hp), phased-in between 1996 and 2000, and other diesel engines smaller than 50 hp, phased-in between 1999 and 2000. More stringent Tier 2 standards (adopted in 1998) apply to new diesel engines of all sizes, with phase-in required between 2001 and 2006. Tier 3 standards (also adopted in 1998) require additional reductions from new diesel engines between 50 and 750 hp, to be phased-in between 2006 and 2008.

- Non-Road Spark-Ignition (e.g., Gasoline) Engines
  EPA rules regulate small (less than 25 hp) non-road spark-ignition (SI) engines (except marine and recreational engines) in three phases. Phase 1 standards, adopted in 1995 and effective in 1997, address all new small non-road SI engines. Phase 2 standards (adopted in 1999 and 2000) establish more stringent standards for small non-handheld SI engines (phased-in between 2001 and 2007) and small handheld SI engines (phased-in between 2002 and 2007). In 1996, EPA also established emission standards for gasoline powered marine outboard and personal watercraft engines, phased-in between 1998 and 2000.

- Locomotives
  In 1998, EPA issued regulations establishing emission standards for new and remanufactured locomotives and locomotive engines. Three sets of standards were adopted, with applicability of the standards tied to the date a locomotive is first manufactured (i.e., 1973 through 2001, 2002 to 2004, and 2005 and later).

- Marine Diesel Engines
  Marine diesel engines include small auxiliary and propulsion engines, medium-sized propulsion engines on coastal and harbor vessels, and very large propulsion engines on ocean-going vessels. Both new and modified marine diesel engines rated above 175 hp must adhere to international standards if vessel construction or engine modification commences on or after January 1, 2000. Furthermore, U.S.-flagged commercial vessels with new marine diesel engines >50 hp produced after 2003 (after 2006 for very large engines) must comply with EPA standards issued in 1999. Note that EPA's NONROAD model does not provide

Table E-2
EPA Non-Road Engine Standards

Non-Road Engine Category	Date of Final Rule	Implementation Phase-In Period
Compression Ignition (diesel) Engines		
Tier 1: Land-Based Diesel Engines > 50 hp	06/17/1994 (59 FR 31306)	1996-2000
Tier 1: Small Diesel Engines < 50 hp	10/23/1998 (63 FR 56968)	1999-2000
Tier 2: Diesel Engines (all sizes)	10/23/1998 (63 FR 56968)	2001-2006
Tier 3: Diesel Engines 50 - 750 hp	10/23/1998 (63 FR 56968)	2006-2008
Spark-Ignition (e.g., gasoline) Engines		
Phase 1: SI Engines < 25 hp (except marine & recreational)	07/03/1995 (60 FR 34581)	1997
Phase 2: Non-Handheld SI Engines < 25 hp	03/30/1999 (64 FR 15208)	2001-2007
Phase 2: Handheld SI < 25 hp	04/25/2000 (65 FR 24268)	2002-2007
Gasoline SI Marine Engines (outboard & personal watercraft)	10/04/1996 (61 FR 52088)	1998-2000
Marine Diesel Engines [1]		
MARPOL: New/Old Engines on Vessels Constructed Starting 1/1/2000	09/27/1997 MARPOL (Annex VI of International Convention on Prevention of Pollution from Ships)	2000
EPA: Commercial Marine Diesel Engines (US-flagged vessels)	12/29/1999	2004/2007
Locomotives		
New & Remanufactured Locomotives and Locomotive Engines [2]	04/16/1998 (63 FR 18978)	(see note 2) Tier 0: 1973-2001 Tier 1: 2002-2004 Tier 2: 2005 +

[1] The Post-1999 ROP Plan does not take emission reduction credit for marine diesel controls because EPA's NONROAD model does not provide projections for that category.

[2] EPA has established three sets of locomotive standards, applied based on the date the locomotive was first manufactured (i.e. during the Tier 0, Tier 1, or Tier 2 periods). The applicable standards take effect when the locomotive or locomotive engine is first manufactured and continue to apply at each periodic remanufacture.

emission projections for commercial marine engines. As a result, no credit is included in the Post-1999 ROP Plan for controls on the commercial marine source category.

Comparison of Projected Emissions to ROP Target Levels

Projected anthropogenic VOC and NOx emissions for Southwest Connecticut are displayed in Figure E-1 for the years 2002, 2005, and 2007. Emission projections incorporate the control programs described above and reflect estimated growth levels over the time period. VOC and NOx emissions are projected to decrease by 35% and 34%, respectively, in Southwest Connecticut between 1996 and 2007. The largest projected VOC emission decreases occur within the on-road (68% reduction over the period) and non-road sectors (46% reduction). These reductions are attributed to the enhanced I/M program and the second phase of reformulated gasoline (by 2002), as well as increasingly stringent federal emission standards for new on-road and non-road engines that are reflected throughout the period as the affected fleets gradually turn over.

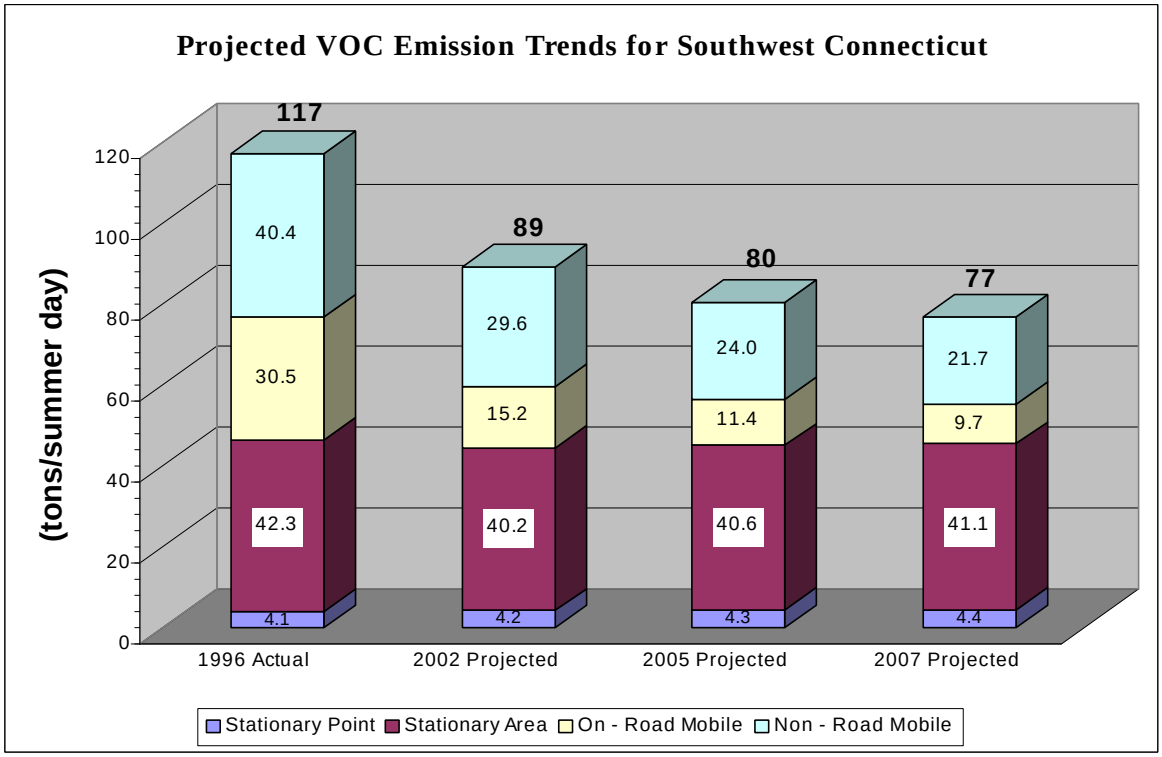
The largest decreases in NOx emissions between 1996 and 2007 occur within the on-road and stationary point source sectors. The on-road reductions (57% over the period) result from the enhanced I/M program, new federal emission standards, and (to a lesser extent) the second phase of reformulated gasoline. Both the NOx Budget Program and the adoption of more stringent emission limits for municipal waste combustion facilities contribute to the estimated 24% reduction in NOx emissions from stationary point sources in Southwest Connecticut between 1996 and 2007.

Emission projections are compared with the required ROP target levels in Table E-3. Target levels were calculated using EPA procedures and represent emission levels corresponding to the ROP requirement for reductions averaging 3% per year through the mandated attainment year. Projected emissions in 2002, 2005, and 2007 are less than or equal to their respective target levels, thus demonstrating that the ROP goal will be achieved. In addition, the surplus NOx emission reduction of 36.9 tons per day in 2007 is sufficient to satisfy CAA Section 172(c)(9) and 182(c)(9) mandates requiring contingency measures providing an additional 3% reduction in emissions, triggered if actual emissions in 2007 exceed the ROP target levels.

Transportation Conformity Budgets

On-road mobile source projections for 2002 and 2005 will serve as conformity budgets for transportation planning in Southwest Connecticut. Budgets are established at emission levels of 15.2 tons/day of VOC and 38.4 tons/day of NOx in 2002 and 11.4 tons/day of VOC and 29.0 tons/day of NOx in 2005. Transportation conformity budgets were previously established for 2007, and are equal to on-road emission projections included in this Post-1999 ROP Plan (i.e., 9.7 tons/day of VOC and 23.7 tons/day of NOx).

Figure E-1


Projected VOC Emission Trends for Southwest Connecticut
(tons/summer day)
0
20
40
60
80
100
120
117
89
80
77
40.4
30.5
42.3
4.1
29.6
15.2
40.2
4.2
24.0
11.4
40.6
4.3
21.7
9.7
41.1
4.4
1996 Actual
2002 Projected
2005 Projected
2007 Projected
Stationary Point
Stationary Area
On - Road Mobile
Non - Road Mobile

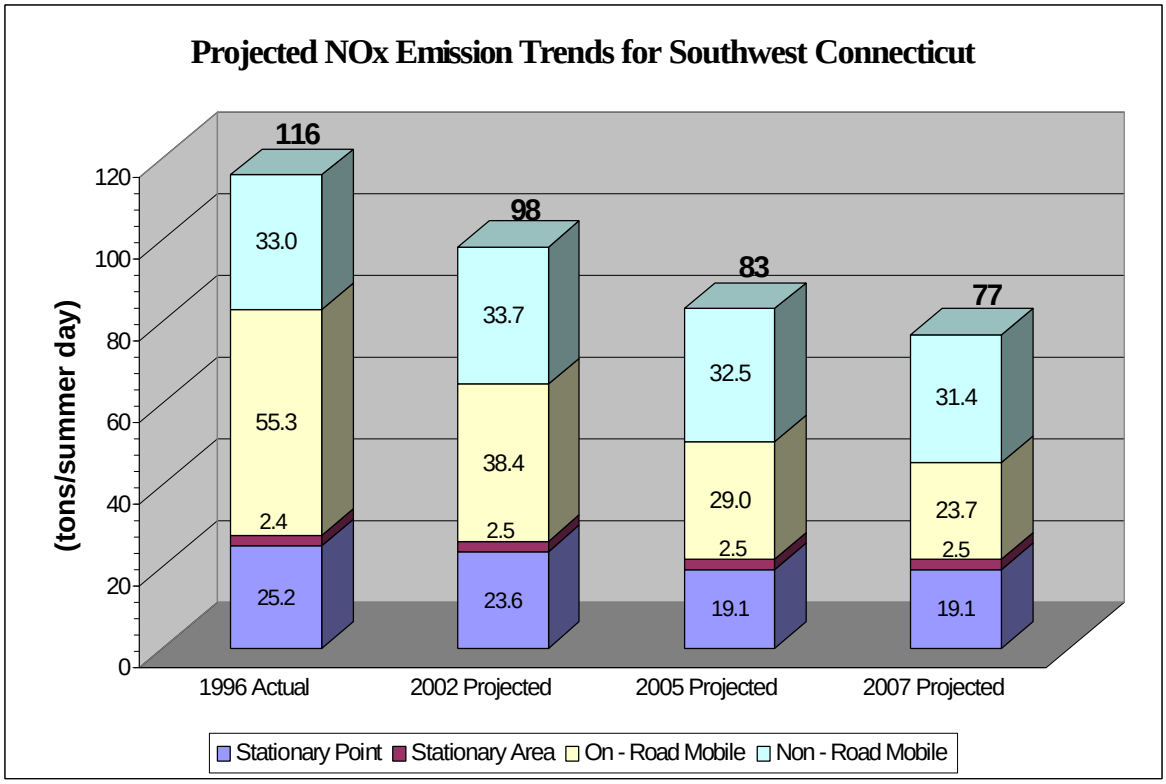

Projected NOx Emission Trends for Southwest Connecticut
(tons/summer day)
0
20
40
60
80
100
120
116
98
83
77
33.0
55.3
2.4
25.2
33.7
38.4
2.5
23.6
32.5
29.0
2.5
19.1
31.4
23.7
2.5
19.1
1996 Actual
2002 Projected
2005 Projected
2007 Projected
Stationary Point
Stationary Area
On - Road Mobile
Non - Road Mobile

Table E-3

Southwest Connecticut Severe Nonattainment Area
Comparison of Projected Emissions to Rate-of-Progress Target Levels
(tons/day)

	VOC	NOx
2002 Target Emission Levels	96.1	115.2
2002 Projected Emissions	89.2	98.2
2005 Target Emission Levels	83.7	114.9
2005 Projected Emissions	80.4	83.1
2007 Target Emission Levels	76.8	113.7
2007 Projected Emissions	76.8	76.8
2007 Surplus Reductions	0.0	36.9
2007 Required Contingency	--	3.6

Notes:

1) Projections include all programs listed in Table 3-1 and its footnotes.

2) Target emission levels represent the level of emissions that must be achieved by each milestone year to comply with rate of progress requirements. Target levels were calculated based on procedures specified in EPA guidance, as described in Section 2.2. Note that calculated target levels must account for non-creditable emission reductions resulting from pre-1990 CAA requirements (i.e., the pre-1990 federal motor vehicle emission control program, also known as the "Tier 0" control program).

3) The Post-1999 ROP Plan must include measures to achieve an additional 3 percent reduction, beyond ROP requirements, if needed to meet shortfalls from other control strategies. The contingency requirement can be satisfied with reductions in either VOC or NOx emissions (or a combination of both). Surplus reductions (the difference between 2007 target and projected emissions, or 36.9 tpd of NOx) are available for use to satisfy the contingency requirements of sections 172(c)(9) and 182(c)(9) of the Clean Air Act.

1.0 INTRODUCTION

Section 182(c)(2) of the Clean Air Act (CAA) requires each state with one-hour ozone nonattainment areas classified as serious and above to submit a State Implementation Plan (SIP) revision describing how it will reduce ozone precursor emissions during the period after 1996. The SIP revision must provide for emission reductions of volatile organic compounds (VOC) equal to three percent per year for each contiguous three-year milestone period starting with 1997-1999, through the required attainment year. As directed by section 182(c)(2)(C) of the CAA, the federal Environmental Protection Agency (EPA) has issued guidance (EPA, 1993 and EPA, 1994a) allowing emission reductions of nitrogen oxides (NOx) to be substituted for the required VOC reductions in areas where NOx controls are needed to achieve the ozone standard.

The State of Connecticut is comprised of two one-hour ozone nonattainment areas. The southwest portion of the State is classified by the U.S. Environmental Protection Agency (EPA) as a "severe" ozone nonattainment area, with a required attainment date of 2007. This area includes the towns of Bridgewater and Milford in Litchfield County, as well as all of the towns in Fairfield County, except the town of Shelton. The remainder of the State is classified by the EPA as a Aserious@ ozone nonattainment area. Based on these classifications, the entire State is subject to the post-1996 rate of progress (ROP) requirements described above.

The Connecticut Department of Environmental Protection (CTDEP or the Department) previously satisfied the 1997 though 1999 ROP requirement statewide through submittal of the 1999 ROP Plan, which was approved by EPA in the October 19, 2000 Federal Register. The current SIP revision, known as the Post-1999 ROP Plan, describes how Connecticut will meet the CAA's rate-of-progress requirements for the period between 2000 and 2007, the required attainment year for the Southwest Connecticut severe nonattainment area. Note that, although EPA recently issued final approval extending the required attainment date for the Greater Connecticut serious nonattainment area to 2007 (due to overwhelming transport from upwind areas; published in the January 3, 2001 Federal Register), ROP requirements for that area only apply through the CAA-defined 1999 date.

EPA=s Alternative Attainment Policy

This Post-1999 ROP Plan also addresses portions of the Phase II requirements of EPA=s policy memorandum of March 2, 1995, which describes an alternative attainment approach for ozone nonattainment areas (see Appendix A). Specifically, the Post-1999 ROP Plan describes the local and regional control measures that have been adopted to meet rate-of-progress requirements in Southwest Connecticut between the years 2000 and 2007. The Plan demonstrates that programs will be implemented in a timely manner, sufficient to satisfy the requirement for ozone precursor emission reductions that average at least 3 percent per year for the milestone periods ending in 2002, 2005, and 2007.

Other EPA Guidance

In addition to EPA=s March 2, 1995 memorandum, the Post-1999 ROP Plan was prepared using the following EPA guidance documents:

- # "Guidance on the Post-1996 Rate-of-Progress Plan and the Attainment Demonstration", USEPA OAQPS, EPA-452/R-93-015, January 1994, (corrected as of February 18, 1994).
- # "Transmittal of NOx Substitution Guidance", Memorandum and attachment from John S. Seitz, EPA OAQPS Director, to Regional Office Air Directors, December 15, 1993.
- # "Clarification of Policy for Nitrogen Oxide (NOx) Substitution", Memorandum from John S. Seitz, EPA OAQPS Director to Regional Office Air Directors, August 5, 1994.

Relationship to Attainment Demonstration

In addition to the rate-of-progress requirements addressed by this Post-1999 ROP Plan, Connecticut has previously submitted SIP revisions demonstrating that adopted control strategies are sufficient to comply with the one-hour ozone NAAQS by the required attainment date of 2007 (CTDEP, 1998 and 2000a). EPA proposed to conditionally approve the Southwest Connecticut attainment demonstration on December 16, 1999 (64 FR 70348). One of the conditions for final approval is that Connecticut (along with a number of other states with severe ozone nonattainment areas) must adopt additional control measures sufficient to address a shortfall in emission reductions identified by EPA as needed to ensure attainment of the one-hour ozone NAAQS. Connecticut recently participated in a process to identify potential measures, both on a local level and on a regional level, with other member states of the Northeast Ozone Transport Commission (OTC) to address the shortfall. Connecticut is providing commitments elsewhere in this SIP revision package to adopt specific measures to address its portion of the shortfall. Reductions from these OTC measures are not reflected in the Post-1999 ROP Plan calculations.

Organization

The narrative is organized into five sections. In addition to this introduction, Section 2 describes the calculation of target emission levels corresponding to ROP requirements for each milestone period. Section 3 documents projected VOC and NOx emission inventories for 2002, 2005, and 2007, including descriptions of growth factors and control strategies. Section 4 compares the projected inventories to the target levels for the corresponding milestone years, demonstrating that adequate control strategies will be implemented to achieve both ROP and contingency measure requirements. Finally, Section 5 lists references cited throughout the document.

2.0 CALCULATION OF 2002, 2005, and 2007 TARGET EMISSION LEVELS

Section 182(c)(2)(B) of the CAA requires states to submit a SIP revision which describes how each serious, severe, or extreme ozone nonattainment area will achieve an actual VOC emission reduction of at least 3 percent per year averaged over each consecutive three-year milestone period from 1996 through the required attainment year. The reduction must be calculated relative to the 1990 adjusted base year inventory and must be exclusive of any growth in emissions. Procedures for calculating the 1990 adjusted inventory and the required milestone year target levels of emissions are specified in "Guidance on the Post-1996 Rate-of-Progress Plan and the Attainment Demonstration" (EPA, 1994b).

Section 182(c)(2)(C) of the CAA allows states to substitute NOx emission reductions that occur after 1990 to meet the post-1996 VOC emission reduction requirements, provided that such reductions will reduce ozone by at least an equivalent amount. Substitution is allowed if the NOx emission reductions meet the criteria specified in EPA=s NOx substitution guidance (EPA, 1993 and EPA, 1994a).

As discussed below, EPA=s criteria for NOx substitution are met in Connecticut. Therefore, Connecticut has elected to rely on both VOC and NOx reductions to establish and achieve emission target levels for the milestone years of 2002, 2005, and 2007.

2.1 NOx Substitution

The CAA section 182(c)(2)(C) NOx substitution provision recognizes that reductions of VOC emissions alone may not be the most effective approach to attaining the ozone standard in all areas. EPA guidance establishes two conditions that must be met to qualify for the use of NOx substitution: i) consistency with attainment requirements; and ii) consistency with rate-of-progress requirements.

Consistency With Attainment

The first condition stipulates that overall VOC and NOx reductions must be consistent with the emission reductions required to demonstrate attainment. The EPA will allow NOx substitution if NOx regulations have been adopted and submitted to the EPA, and available ozone attainment modeling supports the use of NOx controls to reduce ozone in the area.

Connecticut met this first condition through the adoption and SIP submittal of a revised NOx regulation (i.e., Section 22a-174-22 of the Regulations of Connecticut State Agencies (RCSA), adopted May 1994 and revised January 1997) meeting EPA=s reasonably available control technology (RACT) requirements. Connecticut subsequently adopted a more stringent regulation (i.e., Section 22a-174-22a of RCSA, adopted March 1999) limiting NOx emissions from electric generating and large industrial facilities, consistent with the requirements of a memorandum of understanding adopted by most of the states in the Northeast Ozone Transport Region (OTR).
Available modeling analyses support the need for significant NOx emission reductions to achieve the ozone standard in Connecticut. Modeling performed by the Ozone Transport Assessment Group

(OTAG, 1998), EPA (EPA, 1998), and the New York State Department of Environmental Conservation (NYSDEC, 1994) project significant improvements in ambient ozone levels can only occur with large NOx reductions. Modeled ozone reductions are dependent on the implementation of a number of VOC and NOx control strategies, including mandatory CAA measures, EPA's regional NOx budget program, EPA's Tier 2 requirements for motor vehicles and fuels, and local measures. The VOC and NOx emission reductions resulting from these programs are documented in this Post-1999 ROP Plan. The modeling analyses are summarized in Connecticut's Ozone Attainment Demonstration SIP (CTDEP, 1998 and 2000a).

Consistency With Rate-of-Progress

The second condition that must be met to satisfy EPA=s NOx substitution criteria is that the sum of all creditable VOC and NOx reductions satisfy the three percent per year rate-of-progress reduction requirements. In addition, the reductions must be consistent with the ozone attainment strategy, as described above. As documented in Section 3, the ROP reduction requirements are projected to be achieved for each milestone year with the combination of VOC and NOx control strategies adopted by Connecticut.

The following sections describing required target levels and projected emissions incorporate the use of NOx substitution, where necessary, to meet the Post-1999 ROP requirements.

2.2 Target Emission Levels

Target emission levels represent the maximum amount of VOC and NOx emissions that can be emitted during a typical summer day, after accounting for the 3 percent per year ROP emission reduction requirement and non-creditable emission reductions. Non-creditable emission reductions include those resulting from pre-1990 Clean Air Act control requirements for motor vehicles and certain VOC species that have been declared exempt by EPA due to their relatively low photochemical reactivity (e.g., perchloroethylene and acetone). EPA guidance (EPA, 1994b) specifies a six-step procedure for determining target levels for each pollutant for each milestone year, using 1990 baseline emission estimates as the starting point for calculations. These procedures were applied to determine 2002, 2005, and 2007 VOC and NOx target emission levels for the Southwest Connecticut ozone nonattainment area.

It should be noted that, in the time period since EPA reviewed and approved Connecticut's 1990 base year inventory (CTDEP, 1995), 15% reasonable further progress (RFP) Plan (64 FR 12015; March 10, 1999), and 1999 ROP Plan (65 FR 62624; October 19, 2000), emission estimation methods for some source categories have been revised. In order to provide general consistency in emission estimates across the various years in the Post-1999 ROP, baseline emissions for 1990 and target level emissions for 1996 and 1999 were recalculated (prior to calculations for 2002, 2005, and 2007) using current methods for the on-road mobile, non-road mobile, and biogenic source categories. On-road emissions were determined using the MOBILE5b model (EPA, 1994c), with local inputs consistent with those used to develop the 2007 transportation conformity budgets (CTDEP, 2000a). Non-road emissions were estimated using EPA's draft NONROAD model (EPA, 2000a). Biogenic emissions were determined

using EPA's BEIS2.3 model (EPA1998b). The revised estimates of 1990 baseline emissions and 1996 and 1999 target levels (see Appendix B) are employed here only to serve as a consistent starting point for the establishment of target levels for 2002, 2005, and 2007 in the Post-1999 ROP Plan. The revised estimates are not intended to replace those included in the already approved 1990 baseline inventory, 15% RFP Plan, or 1999 ROP Plan.

A summary of the target level calculations for 2002, 2005, and 2007 is provided in Table 2-1. The table lists the recalculated 1990 base year rate-of-progress inventory (excluding biogenic emissions and exempt VOC species), the recalculated 1996 target level (for VOC only), the recalculated 1999 target levels (assuming equal percentage reductions from VOC and NOx), and the resultant VOC and NOx target levels for 2002, 2005, and 2007. Appendix B contains documentation for the recalculated target levels for 1996 and 1999. Target level calculations for 2002, 2005, and 2007 are also documented in Appendix B.

Under the EPA=s NOx substitution provisions, the percentage emission reduction required during each three-year milestone period (i.e., 9% for the periods 2000-2002 and 2003-2005 and 6% for the period 2006-2007) can be achieved through any combination of VOC and/or NOx reductions (e.g., for the three-year periods: 9% VOC & 0% NOx; 8% VOC & 1% NOx; 7% VOC & 2% NOx; .... or 0% VOC & 9% NOx). For ROP purposes, the relative percentage reduction of each pollutant is not important; the only requirement is that the combined reductions equal or exceed the required 3 percent per year average. In light of this, for each milestone period, Connecticut first determined if all required reductions would be achieved solely with adopted VOC control programs. If so, then the VOC target level was established relying entirely on VOC reductions. This was the case for milestone years 2002 and 2005, where adopted controls are expected to be sufficient to achieve the entire required 9% reduction from VOC strategies alone. For milestone year 2007, however, a small amount of NOx reductions (i.e., 0.9%) must be substituted to achieve the required 6% precursor reduction for that two-year milestone period. Section 3 of this narrative presents projected emissions for 2002, 2005, and 2007 that reflect adopted VOC and NOx control strategies.

Table 2-1
Southwest Connecticut Rate of Progress Emission Targets

	VOC		NOx	
	Target % Reduction	Emission Target (tons/day)	Target % Reduction	Emission Target (tons/day)
Recalculated 1990 ROP Inventory [(1)]	--	144.0	--	132.7
Recalculated 1996 Target Level [(2)]	15%	116.5	NA [(3)]	NA [(3)]
Recalculated 1999 Target Level [(2)]	4.5%	108.9	4.5%	116.3
2002 Target Level [(4)]	**9.0%**	**96.1**	**0.0%**	**115.2**
2005 Target Level [(4)]	**9.0%**	**83.7**	**0.0%**	**114.9**
2007 Target Level [(4)]	**5.1%**	**76.8**	**0.9%**	**113.7**

(1) Recalculated 1990 Rate-of-Progress (ROP) Inventory excludes biogenic VOC emissions, as well as perchloroethylene and acetone emissions, per EPA guidance. Emissions for all source categories, except mobile sources, are identical to those previously submitted to EPA with the 1990 base year inventory (CTDEP, 1995). On-road mobile sources were recalculated using EPA's MOBILE5b model and non-road emissions were recalculated using EPA's draft NONROAD model to provide consistency with projected emissions for 2002, 2005, and 2007. See Appendix B for a breakdown of 1990 emissions.

(2) See Appendix B for a summary of 1996 and 1999 target level recalculations.

(3) Not applicable. There are no NOx target levels for 1996 because the Clean Air Act mandates that 15% Plan requirements for 1996 be met with VOC reductions only.

(4) Target levels and required percentage reductions are determined using a multiple-step process described in EPA guidance (EPA, 1994b). Note that emission targets reflect reductions from pre-1990 CAA control requirements that are not creditable toward the 3%/year ROP requirements. See Appendix B for a more detailed summary of target level calculations for 2002, 2005, and 2007.

3.0 PROJECTED INVENTORIES FOR 2002, 2005, AND 2007

Connecticut is required by the CAA to adopt and implement control strategies sufficient to ensure that projected emission levels in the Southwest Connecticut severe nonattainment area do not exceed the ROP targets established for each ROP milestone year. Projected emissions must include the effects of expected emissions growth and adopted control strategies. The Department's 1996 periodic inventory (CTDEP, 2000b), with some modifications, was used as the starting point to project future emissions. The following sections document the modifications made to the 1996 periodic inventory, the growth factors used to project emissions, the adopted VOC and NOx control programs that have been (or will be) implemented, and the resultant projected inventories for 2002, 2005, and 2007 in Southwest Connecticut.

3.1 1996 Inventory

The Department's 1996 periodic inventory (CTDEP, 2000b), with modifications, was used as the starting point from which future emissions were projected. Modifications were limited to the methods used to estimate emissions for the on-road and non-road mobile source categories and a correction to emission estimates for pesticide use. Appendix C provides a summarized listing of the revised 1996 inventory.

3.1.1 Modifications to 1996 On-Road Emission Estimates

On-road emission estimates from the 1996 periodic inventory were recalculated using updated MOBILE5b inputs consistent with those documented in Connecticut's February 2000 update to the ozone attainment plan SIP (CTDEP, 2000a). The updated inputs reflect a greater proportion of vehicle miles traveled by light duty trucks (e.g., sport utility vehicles, vans, pick-up trucks), as well as a more representative fraction of vehicles operating in cold-start and hot-start modes (i.e., engines not fully warmed up). MOBILE5b input files are included in Appendix D.

3.1.2 Modifications to 1996 Non-Road Emission Estimates

Non-road emission estimates from the 1996 periodic inventory were recalculated using EPA's draft NONROAD emissions model (EPA, 2000a), which was not available at the time the periodic inventory was prepared. Affected categories include commercial, airport (ground-service), construction, farm, industrial, logging, lawn and garden, recreational equipment, and recreational vessels. The NONROAD model does not provide emission estimates for aircraft or commercial vessels; therefore, 1996 periodic inventory estimates were used for those categories. Output listings from the NONROAD model are provided in Appendix E.

3.2 Growth Factors

Projected emissions for 2002, 2005, and 2007 were developed by applying growth factors to the revised 1996 emission estimates. Growth factors for most industrial-related stationary point and area source

categories were developed using statewide employment projections obtained from the Connecticut Department of Labor (CTDOL, 2000). Linear interpolation or extrapolation was applied to derive growth factors for 2002, 2005, and 2007 based on CTDOL's employment estimates for 1996 and 2006 for various industrial categories. For reference purposes, total employment in Connecticut is expected to increase by 10.7% between 1996 and 2006 (i.e., from 1,689,710 to 1,870,480 people). Detailed CTDOL employment projections by industry category are included in Appendix F.

Growth factors for on-road mobile sources and asphalt paving were based on projected growth in vehicle miles traveled (VMT), as supplied by the Connecticut Department of Transportation (CTDOT, 2000). Typical summer day VMT in Southwest Connecticut is projected to increase by 9.0% in 2002, 13.2% in 2005, and 16.1% in 2007, relative to 1996 VMT of 20,239,443 miles per summer day. VMT estimates for 2002 and 2005 are based on CTDOT's Series 25d projections while VMT estimates for 2007 are based on CTDOT's Series 24a projections (to be consistent with the previously adopted 2007 transportation conformity budgets).

Growth factors for gasoline storage and marketing activities were estimated by extrapolating highway vehicle gasoline consumption data from the 1990 through 1999 period to 2002, 2005, and 2007. Based on these data, obtained from the Federal Highway Administration's "Highway Statistics Series" (see FHWA's website at http://www.fhwa.dot.gov/ohim/ohimstat.htm), gasoline consumption is projected to increase by 17.2%, 22.0%, and 25.2% in 2002, 2005, and 2007 respectively, compared to 1996 levels.

Default growth factors incorporated into EPA's NONROAD model were used to project future emissions for most non-road source categories. According to model documentation (EPA, 2000a), EPA's model includes national growth rates developed by Power Systems Research for the various non-road source categories. See the NONROAD model web page (http://www.epa.gov/otaq/nonrdmdl.htm) for more details. CTDOL employment projections were used to derive growth factors for aircraft and commercial marine engines, neither of which are considered by the NONROAD model.

Statewide projected population growth, obtained from the United States Census Bureau (Census Bureau, 1997), was used to project emissions from the following categories: architectural coatings, traffic markings, dry cleaning, consumer/commercial solvent use, municipal waste landfills, publicly owned treatment works, residential fuel combustion, wood stoves, structural fires, and open burning. Statewide population is expected to increase by 0.9% in 2002, 1.5% in 2005 and 2.7% in 2007 from an estimated 1996 population of 3,267,030 (Census Bureau, 1999). Projections for 2002, 2005, and 2007 were derived by interpolating Census Bureau estimates for 1996 and projections for 2000, 2005, and 2015 (all based on 1990 census data).

Connecticut's NOx Budget Program (described in the next section) establishes a decreasing cap on NOx emissions from electric generating units (EGU) and other large fuel combustion units. As a result, emissions growth for the electric utility sector was limited to VOC emissions. Electric utility VOC emissions growth was assumed to be equivalent to the combined growth in EGU heat input for the three states of Connecticut, Massachusetts, and Rhode Island, as estimated by EPA in support of the NOx SIP Call (EPA, 2000b). Growth for 2007 in the 3-state region (i.e., 17% relative to 1996) is based on EPA's

1995/1996 data and 2007 projections of heat input. Growth for 2002 and 2005 (9% and 14%, respectively, relative to 1996) is interpolated.

No growth is assumed for municipal waste combustion. Connecticut's resource recovery facilities are operating at or near capacity, with no current plans to expand capacity. Growth factors for all source categories are listed in the detailed emission projection tables included in Appendix C.

3.3 Control Strategies

Both federal and state control strategies have been adopted to continue Connecticut's progress toward ozone attainment. Two EPA-approved plans, the 15% Plan (CTDEP, 1994) and the 1999 ROP Plan (CTDEP, 1997) document the strategies designed to ensure rate-of-progress between 1990-1996 and 1997-1999, respectively. A number of the mobile source programs included in those plans continue to provide additional emission reductions in the post-1999 era. Table 3-1 lists each of the control strategies relied on for ROP reductions during the period from 2000 to 2007. A brief summary of each strategy is provided in the following paragraphs.

3.3.1 Stationary Source Controls

Stationary source control reflected in the Post-1999 ROP Plan include Connecticut's NOx Budget Program, emission limit requirements for municipal waste combustion facilities, and Phase II of the reformulated gasoline program (as it affects the gasoline distribution system). These control programs, described below, are in addition to those accounted for in Connecticut's 15% Plan and 1999 ROP Plan.

NOx Budget Program

In September 1999, the CTDEP submitted a SIP revision to EPA to reduce NOx emissions from electric generating units (EGU) and other large combustion sources. The associated regulation (22a-174-22b; the "Post-2002 NOx Budget Program") was adopted in response to a memorandum of understanding reached between OTR states (i.e., the OTC NOx MOU) and an EPA rulemaking entitled, "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone", otherwise known as the "NOx SIP Call". Connecticut's regulation establishes a statewide NOx budget and a NOx allowance trading program for large electricity generating and industrial sources beginning in 2003. The EPA published final approval of the program as a SIP strengthening measure in the December 27, 2000 edition of the Federal Register.

Statewide budgets were set by EPA assuming an emission rate of 0.15 pounds NOx per million British thermal units (lbs NOx/mmBtu) at EGU's, multiplied by the projected heat input (mmBtu) from burning

Table 3-1
Southwest Connecticut Severe Ozone Nonattainment Area
Ozone Precursor Reduction Strategies Included in Post-1999 ROP Plan[1]

Control Strategy	Pollutant		Federal Program	State Program	Rule Approval Date[2]	Initial Year of Implementation[3]
	VOC	NOx				
Stationary Sources[4]						
NOx Budget Program (EPA NOx SIP Call)		*		*	12/27/2000	2003
Municipal Waste Combustor Controls		*		*	10/26/2000[6]	2000,2003
Mobile Sources						
Enhanced I/M (final cutpoints)	*	*		*	10/27/2000	2002
Reformulated Gasoline - Phase II[4]	*	*	*		2/16/1994	2000
Tier 1 Motor Vehicle Controls	*	*	*		6/5/1991	1994
National Low Emission Vehicle Program	*	*	*		3/2/1998[7]	1998 (in CT)
Tier 2 Motor Vehicle Controls/Low Sulfur	*	*	*		2/10/2000	2004-2008
Heavy Duty Diesel Vehicle Phase 1 Controls	*	*	*		10/6/2000	2004-2005
Non-Road Engine Standards[5]	*	*	*		1994-2000[8]	1996-2008

[1] These controls are in addition to those described in the 15% Plan and the 1999 ROP Plan (i.e., pre-1990 Federal Motor Vehicle Control Program; federal rules addressing architectural & industrial maintenance coatings, consumer products, and automobile refinishing; RFG Phase I; enhanced I/M with initial cutpoints; Stage II vapor recovery with annual inspections; VOC RACT; NOx RACT; OTC Phase II NOx controls; and increased rule effectiveness of cutback asphalt and gasoline loading rack rules)

[2] Unless otherwise noted, this is the date that the final federal rule or EPA's approval of the state SIP submittal was published in the Federal Register.

[3] A range of implementation years is listed for some strategies due to gradual phase-in of standards. In addition, all listed mobile source strategies (except enhanced I/M and reformulated gasoline) result in increased levels of emission reductions through and beyond 2007 due to the gradual turnover of the affected fleets.

[4] Reformulated gasoline requirements also result in a reduction in evaporative VOC emissions throughout the gasoline distribution system.

[5] The initial implementation date for non-road vehicle standards varies by category (e.g., small gasoline engines, locomotives, construction equipment, etc). See Table 2 for additional information for each category.

[6] This is the date the Phase II MWC regulation became effective in Connecticut. The Department is submitting the regulation as an element of this SIP revision.

[7] EPA Administrator Browner determined that the NLEV program was in place on 3/2/1998. As a result, rules published on 6/6/1997 and 1/7/1998 went into effect.

[8] Federal rule approval dates for on-road engine standards vary by category. See Table 2 for more detailed information.

the quantity of fuel needed to meet the 2007 forecast for electricity demand (see 63 FR 57407; October 27, 1998). The NOx SIP Call state budgets also assumed, on average, a 30% NOx reduction from cement kilns, a 60% reduction from industrial boilers and combustion turbines, and a 90% reduction from large internal combustion engines. The non-EGU control assumptions were applied at units where the heat input capacities were greater than 250 mmBtu per hour, or in cases where heat input data were not available or appropriate, at units with actual emissions greater than one ton per day.

Connecticut's NOx Budget Program establishes a statewide budget cap (with trading) of 4477 tons per season, starting with the 2003 ozone season (May through September). This cap represents a 60% reduction from the statewide 1990 baseline NOx emissions level of 11,130 tons per season. The budget cap is consistent with EPA's NOx SIP Call and reflects the February 1999 memorandum of understanding agreed to by Connecticut, Massachusetts, and Rhode Island (see 64 FR 49989; September 15, 1999). The "Three State MOU" redistributes the EGU and compliance supplement pool portions of the three states' budgets among themselves, but does not alter the combined totals specified by EPA.

In Southwest Connecticut, NOx Budget Program sources emitted an estimated 5211 tons of NOx over the 5-month ozone season in 1990. Beginning in 2003, affected sources will be allocated allowances totaling 1720 tons during the ozone season. On an average daily basis during the ozone season, the budget cap will result in estimated NOx emission reduction of about 5.4 tons/day in Southwest Connecticut beginning in 2003, relative to average summer day emissions in 1996 of 16.6 tons/day. Prior requirements (i.e., OTC Phase 2 NOx Controls, as described in the 1999 ROP Plan), result in an estimated NOx reduction of about 1.3 tons/day in Southwest Connecticut during the 2000 through 2002 ozone seasons, when compared to 1996 emission levels. Calculated reductions are documented in Appendix G.

Municipal Waste Combustor Emission Limits

Municipal waste combustion units are subject to Section 22a-174-38 of the Department's air regulations. The most recent revisions to the regulation (effective October 26, 2000) establish more stringent emission limitations for several pollutants, including NOx. The NOx emission limits are imposed in two phases that result in additional emission reductions beyond the previous reasonably available control technology (RACT) requirements. The first phase became effective December 19, 2000. Phase 2 emission limits must be met by May 1, 2003. The rule includes a trading component. The Department plans to submit the revised regulation as a SIP revision prior to October 2001.

Emission reductions resulting from each phase of the MWC rule are summarized in Appendix G. Estimated NOx reductions in Southwest Connecticut are 0.25 tons/day during the Phase 1 period (i.e., 2000-2002) and 0.76 tons/day during Phase 2 (beginning in 2003), relative to typical summer day NOx emissions in 1996 of 4.0 tons/day (at RACT limits).

Reformulated Gasoline - Phase II

The federal reformulated gasoline (RFG) program is mandated by CAA Section 211. Its primary purpose is to reduce motor vehicle emissions of smog-forming pollutants such as volatile organic compounds (VOCs) and nitrogen oxides (NOx) as well as certain toxic or hazardous air pollutant emissions. The lower volatility of RFG also results in reduced evaporation of VOC as the gasoline makes its way through the gasoline distribution system (which is included as part of the stationary source inventory).

The CAA stipulated that RFG must be sold in specified ozone non-attainment areas, including Southwest Connecticut (as well as Greater Connecticut). The CAA required the federal RFG program to be implemented in two phases. Phase I was implemented in 1995 and Phase II went into effect in 2000. The Post-1999 ROP Plan accounts for the incremental effects of Phase II RFG on the gasoline distribution system by assuming emission reductions are proportional to the relative change in MOBILE5b uncontrolled refueling emissions at the Reid vapor pressures (RVP) associated with RFG Phase I and Phase II (i.e., 3.97 g/gall at 7.9 RVP & 3.44 g/gall at 6.8 RVP, respectively). The resulting 13.3% reduction was applied to 1996 VOC emission estimates, along with appropriate growth factors, to project VOC emissions from gasoline distribution in 2002, 2005, and 2007. Appendix D includes the MOBILE5b input files used to estimate these reductions.

3.3.2 On-Road Mobile Source Controls

As listed in Table 3-1 and described below, on-road mobile source controls contained in the Post-1999 ROP Plan include several phases of Federal emission standards for new highway vehicles, a second phase of reformulated gasoline, and Connecticut's enhanced inspection and maintenance (I/M) program. These controls are in addition to those previously accounted for in Connecticut's 15% Plan and Post-1999 ROP Plan.

EPA's MOBILE5b emissions factor model (EPA, 1994c) was used in combination with CTDOT VMT estimates to project Post-1999 emissions with controls in place. Resultant on-road emission projections, presented in Section 3.4, will serve as transportation conformity emission budgets for 2002, 2005, and 2007. Projections for 2007 are identical to those previously used to establish 2007 transportation conformity budgets (CTDEP, 2000a). Projections for each milestone year include a 3% contingency to account for non-growth related modeling uncertainties (e.g., future refinements to traffic modeling procedures). Note that similar provisions for modeling uncertainty were included in both the 1999 ROP Plan (CTDEP, 1997) and the Ozone Attainment Demonstration (CTDEP, 2000a).

The combined reductions of all on-road control programs included in the 1999 ROP Plan are projected to result in VOC emission reductions of 15.3 tons/day in 2002, 19.1 tons/day in 2005, and 20.8 tons/day in 2007, relative to typical summer day emissions of 30.5 tons/day in 1996. NOx reductions of 16.9 tons/day in 2002, 26.3 tons/day in 2005, and 31.7 tons/day in 2007 are also projected, relative to typical summer day emissions of 55.3 tons/day in 1996. The summary tables in Appendix C include breakdowns of on-road emissions by vehicle type. MOBILE5b input files and VMT totals for each

milestone year are documented in Appendix D and Appendix H, respectively. CTDOT VMT estimation procedures are documented in Appendix I.

The following paragraphs describe each of the on-road mobile source control programs relied on to meet Post-1999 ROP Plan requirements.

Federal Motor Vehicle Emission Standards

Federal emission standards for on-road vehicles have become increasingly more stringent since the Clean Air Act was amended in 1990. On June 5, 1991 (56 FR 25724) EPA published a final rule establishing "Tier 1" emission standards to supplement previous federal standards (i.e., "Tier 0" standards established prior to the 1990 CAA Amendments) for light duty vehicles and trucks. The final rule implemented the mandates of CAA sections 202(g) and 202(h), setting both certification and useful life standards for emissions of NOx and VOC (as well as carbon monoxide and particulate matter), phased-in over model years from 1994 through 1996 (see http://www.epa.gov/otaq/regs/ld-hwy/tier-1).

Light duty vehicles emission standards were tightened further when, on March 2, 1998, EPA Administrator Browner determined that the National Low Emission Vehicle (NLEV) Program was in effect as a result of a voluntary agreement reached between 23 vehicle manufacturers and 9 northeastern states, including Connecticut (see http://www.epa.gov/oms/regs/ld-hwy/lev-nlev/subpt-r.pdf). The NLEV Program required the phase-in of lower emitting vehicles, beginning with model year 1999 in the Northeast, and beginning with model year 2001 throughout the remainder of the country. The federal NLEV Program supplanted Connecticut's previously adopted low emission vehicle program (i.e., Department regulation 22a-174-36), which required implementation of more restrictive emission standards for model year 1998 and newer light duty vehicles.

More recently, EPA adopted final rules requiring more protective emission standards for all new passenger vehicles, including cars, sport utility vehicles (SUVs), minivans, vans, and pick-up trucks. These "Tier 2" standards, published on February 10, 2000 (65 FR 6698; see also http://www.epa.gov/otaq/tr2home.htm) mark the first time that the largest passenger vehicles will be subject to the same emission standards as cars. Manufacturers of new vehicles weighing less than 6000 pounds will have a phase-in period between 2004 and 2007. Manufacturers of heavier passenger vehicles will be provided a longer phase-in period, from 2004 through 2009.

An integral part of the Tier 2 program is the requirement that the petroleum industry greatly reduce the sulfur content of gasoline to ensure proper operation of emission control equipment and reduce secondary pollutant formation. During the period from 2004 through 2006, most refiners and importers of gasoline are required to reduce sulfur levels from current average values of around 300 parts per million (ppm) to a final average of 30 ppm, with a final cap of 80 ppm. The smallest refiners will be allowed an additional year to comply, with possible extensions of two additional years for demonstrated economic hardship.

The Tier 2 standards will result in cars that are 77 percent cleaner and light-duty trucks that are up to 95

percent cleaner than Tier 1 models. On a national level, EPA estimates that the Tier 2 standards will reduce NOx emissions from passenger vehicles by over 70% by 2030. Additional reductions of VOC (and particulate matter) emissions will also be realized.

In addition to more stringent light duty vehicle standards, EPA has also finalized rules requiring emission reductions from on-road vehicles equipped with heavy duty engines. On October 6, 2000 (65 FR 59895) EPA published final rules affirming more stringent NOx and hydrocarbon (HC) emission standards for heavy duty diesel engines and vehicles (starting in 2004) and establishing tighter NOx and HC standards for heavy duty gasoline engines and vehicles (starting in 2005). Standards vary by gross vehicle weight rating (GVWR) and fuel-type, and require new test procedures and diagnostic systems to ensure that in-use emissions are properly controlled (see http://www.epa.gov/otaq/regs/hd-hwy/2000frm/f00026.pdf).

Emission projections in the Post-1999 ROP Plan reflect reductions from all of the above on-road vehicle standards, as generated using EPA's MOBILE5b emissions model. The Post-1999 ROP Plan does not include reductions from EPA's recent final rule (66 FR 5001; January 18, 2001) requiring: 1) significant additional NOx and HC (as well as particulate matter) reductions from heavy duty engines and vehicles, beginning in 2007, and 2) a lowering of diesel sulfur levels to 15 ppm from current levels of 500 ppm, beginning in 2006 (see http://www.epa.gov/otaq/diesel.htm).

Reformulated Gasoline - Phase II

The federal reformulated gasoline (RFG) program is mandated by CAA Section 211. Its purpose is to reduce motor vehicle emissions of smog-forming pollutants such as volatile organic compounds (VOCs) and nitrogen oxides (NOx) as well as certain toxic or hazardous air pollutant emissions. The CAA stipulated that RFG must be sold in the specified ozone non-attainment areas, including Southwest Connecticut (as well as Greater Connecticut). The CAA required the federal RFG program to be implemented in two phases. Phase I was implemented in 1995 and Phase II went into effect in 2000. Phase II RFG performance standards require a minimum emission reduction of 27% for VOC and 7% for NOx (as well as at least a 22% reduction in toxics) relative to conventional gasoline. The Post-1999 ROP Plan incorporates the emission reduction benefits of the RFG program, as calculated using EPA's MOBILE5b emissions model.

Enhanced Inspection and Maintenance Program

Section 182(c)(3) of the CAA requires Connecticut to adopt an enhanced vehicle emission inspection and maintenance (I/M) program throughout most of the state. In response to this requirement, Connecticut began statewide testing of vehicles in January 1998 using the ASM2525 procedure, a tailpipe emission test conducted on a treadmill simulating travel at 25 miles per hour at a 25% load factor. The ASM2525 test replaced the previous single-speed idle test, which began operation in 1983.

Emission projections in the Post-1999 ROP Plan were developed using EPA's MOBILE5b model, based on the following user-supplied input options:

- Annual, centralized ASM2525 testing of model year 1980 and earlier vehicles with tight cutpoints for hydrocarbons (HC) and NOx, including credits for technician training;

- Biennial, centralized ASM2525 testing of model year 1981 and later vehicles with tight cutpoints for hydrocarbons (HC) and NOx, including credits for technician training;

- Enhanced I/M testing of low emission vehicles (required for phase-in beginning with model year 1998), assumed to be consistent with EPA specifications for LEV (EPA, 1994e, Appendix 2B);

- Both biennial and annual tests are at centralized, test-only stations, based on 3% waiver and 96% compliance;

- Anti-tampering (ATP) checks (catalyst & fuel inlet) and evaporative pressure tests for 1971 and later model years;

- Evaporative purge tests for 1981 and later model years.

EPA published final approval of Connecticut's enhanced inspection and maintenance program on October 27, 2000 (65 FR 64357). The Department is currently examining the I/M program in light of impending EPA requirements to begin on-board diagnostic (OBD) testing of vehicles equipped with OBD-II technology and expiration of Connecticut's contract with its current I/M vendor, both of which are scheduled to occur in 2002. The Department expects any I/M program revisions will meet EPA performance criteria and achieve equal or greater emission reductions compared to the current program.

3.3.3 Non-Road Mobile Source Controls

Non-road engines are used in a variety of applications such as outdoor power equipment, recreational vehicles, farm and construction equipment, lawn and garden equipment, marine vessels, locomotives, and aircraft. Prior to the mid-1990's, emissions from these engines were largely unregulated. As listed in Table 3-2 and described below, EPA has since issued several rules regulating emissions from new non-road engines (see http://www.epa.gov/otaq/nonroad.htm).

Except as otherwise noted, EPA's NONROAD model (EPA, 2000a) was used to estimate emissions from each nonroad source category. In combination, EPA's standards are projected to result in emissions decreases of 18.8 tons/day of VOC and 1.5 tons/day of NOx in 2007, relative to 1996 emission levels of 40.4 tons/day of VOC and 33.0 tons/day of NOx in Southwest Connecticut.

Table 3-2
EPA Non-Road Engine Standards

Non-Road Engine Category	Date of Final Rule	Implementation Phase-In Period
Compression Ignition (diesel) Engines		
Tier 1: Land-Based Diesel Engines > 50 hp	06/17/1994 (59 FR 31306)	1996-2000
Tier 1: Small Diesel Engines < 50 hp	10/23/1998 (63 FR 56968)	1999-2000
Tier 2: Diesel Engines (all sizes)	10/23/1998 (63 FR 56968)	2001-2006
Tier 3: Diesel Engines 50 - 750 hp	10/23/1998 (63 FR 56968)	2006-2008
Spark-Ignition (e.g., gasoline) Engines		
Phase 1: SI Engines < 25 hp (except marine & recreational)	07/03/1995 (60 FR 34581)	1997
Phase 2: Non-Handheld SI Engines < 25 hp	03/30/1999 (64 FR 15208)	2001-2007
Phase 2: Handheld SI < 25 hp	04/25/2000 (65 FR 24268)	2002-2007
Gasoline SI Marine Engines (outboard & personal watercraft)	10/04/1996 (61 FR 52088)	1998-2000
Marine Diesel Engines [1]		
MARPOL: New/Old Engines on Vessels Constructed Starting 1/1/2000	09/27/1997 MARPOL (Annex VI of International Convention on Prevention of Pollution from Ships)	2000
EPA: Commercial Marine Diesel Engines (US-flagged vessels)	12/29/1999	2004/2007
Locomotives		(see note 2)
New & Remanufactured Locomotives and Locomotive Engines [2]	04/16/1998 (63 FR 18978)	Tier 0: 1973-2001 Tier 1: 2002-2004 Tier 2: 2005 +

[1] The Post-1999 ROP Plan does not take emission reduction credit for marine diesel controls because EPA's NONROAD model does not provide projections for that category.

[2] EPA has established three sets of locomotive standards, applied based on the date the locomotive was first manufactured (i.e. during the Tier 0, Tier 1, or Tier 2 periods). The applicable standards take effect when the locomotive or locomotive engine is first manufactured and continue to apply at each periodic remanufacture.

EPA's first non-road regulations were finalized in 1994 (59 FR 31306), when emission standards were issued for most large (> 50 horsepower or 37 kilowatts) land-based non-road compression-ignition (CI, or diesel) engines used in applications such as agricultural and construction equipment. These Tier 1 standards were phased-in for different engine sizes between 1996 and 2000, reducing NOx emissions from these engines by 30%. EPA subsequently promulgated standards in 1998 for smaller (< 50 hp) diesel engines, including marine propulsion and auxiliary engines, that required phase-in between 1999 and 2000 (63 FR 56968). At the same time, EPA also issued more stringent Tier 2 emission standards for all non-road diesel engine sizes (phased in from 2001 to 2006) and Tier 3 standards for diesel engines between 50 and 750 hp (phased in from 2006 to 2008). The Tier 2 and Tier 3 standards will result in an additional 60% reduction in NOx emissions, relative to the Tier 1 standards.

EPA's Phase 1 standards for new small (< 25 hp) non-road spark-ignited (SI) engines were issued in 1995 (60 FR 34581). These engines, which usually burn gasoline, are used primarily in lawn and garden equipment. The standards apply to model year 1997 and newer engines. EPA subsequently issued more stringent Phase 2 emission standards for both small non-handheld engines (e.g., lawn mowers, generator sets, air compressors) and small handheld engines (e.g., leaf blowers, chain saws, augers) in 1999 (64 FR 15208) and 2000 (65 FR 24268), respectively. Phase 2 standards are to be phased-in from 2001 to 2007 for non-handheld engines and from 2002 to 2007 for handheld engines. EPA estimates that Phase 1 standards have resulted in HC emission reductions of 32%. Phase 2 standards are expected to achieve an additional 60% reduction in HC plus NOx (HC+NOx) emissions from non-handheld SI engines and an additional 70% reduction in (HC+NOx) emissions from handheld SI engines by the time the fleet is essentially turned over in 2027.

EPA finalized emission standards for new gasoline SI marine engines in 1996 (61 FR 52088). These engines, typically based on simple two-stroke technology, are used for outboard engines, personal watercraft, and jet boats. EPA estimates the standards, which are being phased in over the period from 1998 through 2006, will result in engines that emit 75% lower HC emissions by the year 2025 (with a slight increase in NOx emissions).

Marine diesel engines include small auxiliary and propulsion engines, medium-sized propulsion engines on coastal and harbor vessels, and very large propulsion engines on ocean-going vessels. Both new and modified marine diesel engines rated above 130 kilowatts (175 hp) must adhere to international standards (i.e., MARPOL convention) if vessel construction or engine modification commences on or after January 1, 2000. Furthermore, U.S.-flagged commercial vessels with new marine diesel engines >37 kilowatts (50 hp) produced after 2003 (after 2006 for very large engines) must comply with EPA standards issued in 1999 (64 FR 73300). These standards are projected to reduce NOx emissions by 24% when fully implemented, although emission reductions through 2007 are expected to be small due to the lengthy turnover time for marine engines. Note that EPA's NONROAD model does not provide emission projections for commercial marine engines. As a result, no credit is included in the Post-1999 ROP Plan for controls on the commercial marine source category.

In 1998, EPA issued regulations establishing emission standards for new and remanufactured locomotives and locomotive engines (63 FR 18978). Three sets of standards were adopted, with

applicability of the standards tied to the date a locomotive is first manufactured (i.e., 1973 through 2001, 2002 to 2004, and 2005 and later). EPA projects these standards will result in HC reductions of 50% and NOx reductions greater than 60% when fully implemented.

Emission projections in the Post-1999 ROP Plan reflect the various EPA non-road standards described above, except as noted for commercial marine engines. EPA's NONROAD emissions model (EPA, 2000a) was used to develop emission projections for all categories except aircraft and commercial marine vessels. Emissions projections for aircraft and commercial marine vessels were developed from 1996 Periodic Inventory estimates, with no additional controls assumed.

In addition to the control programs reflected in the Post-1999 ROP Plan emission projections, EPA has proposed or is planning to propose more stringent emission standards for a number of non-road categories, including:

- Large spark-ignited engines (> 25 hp) used in industrial applications such as forklifts, airport ground-service equipment, generators, welders, and ice grooming machines;
- Recreational spark-ignited engines used in motorcycles, all-terrain vehicles, snowmobiles, and other similar applications;
- Sterndrive and inboard gasoline marine engines; and
- Ocean-going and recreational marine diesel engines.

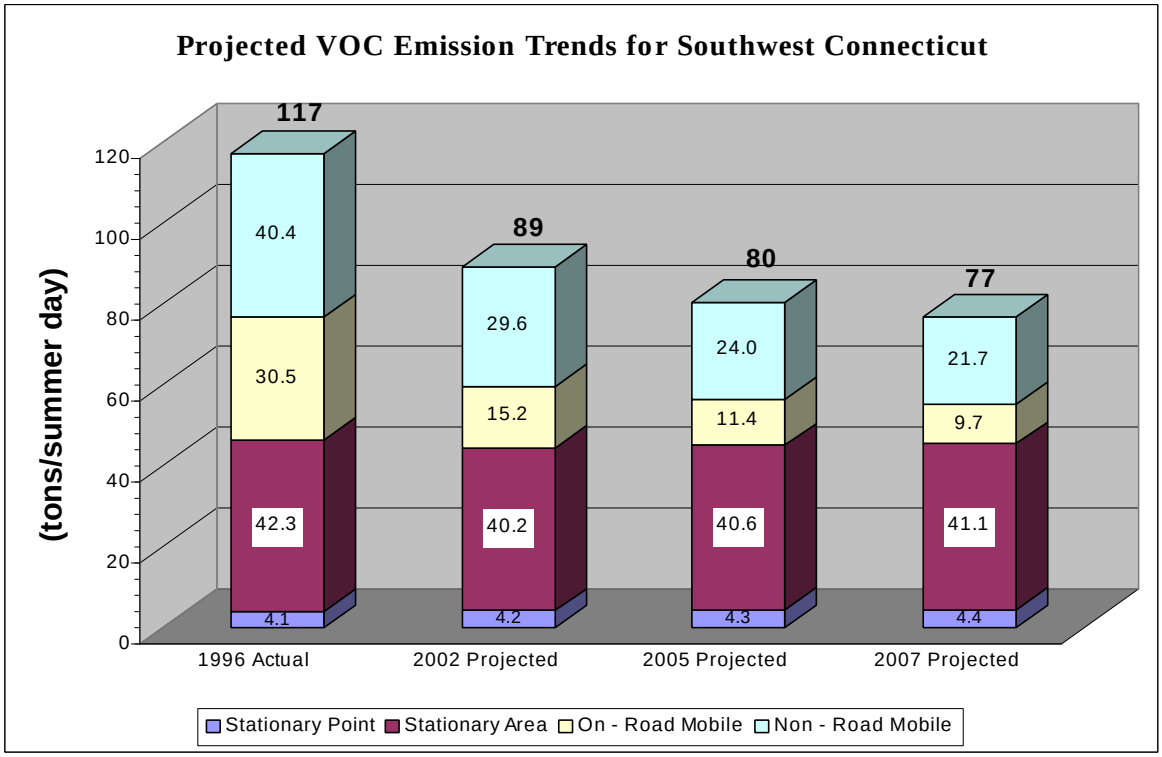
Depending on when and how standards for these categories are implemented, they may lead to additional emission reductions in the 2007 and later timeframe. These reductions are not included in the Post-1999 ROP Plan.

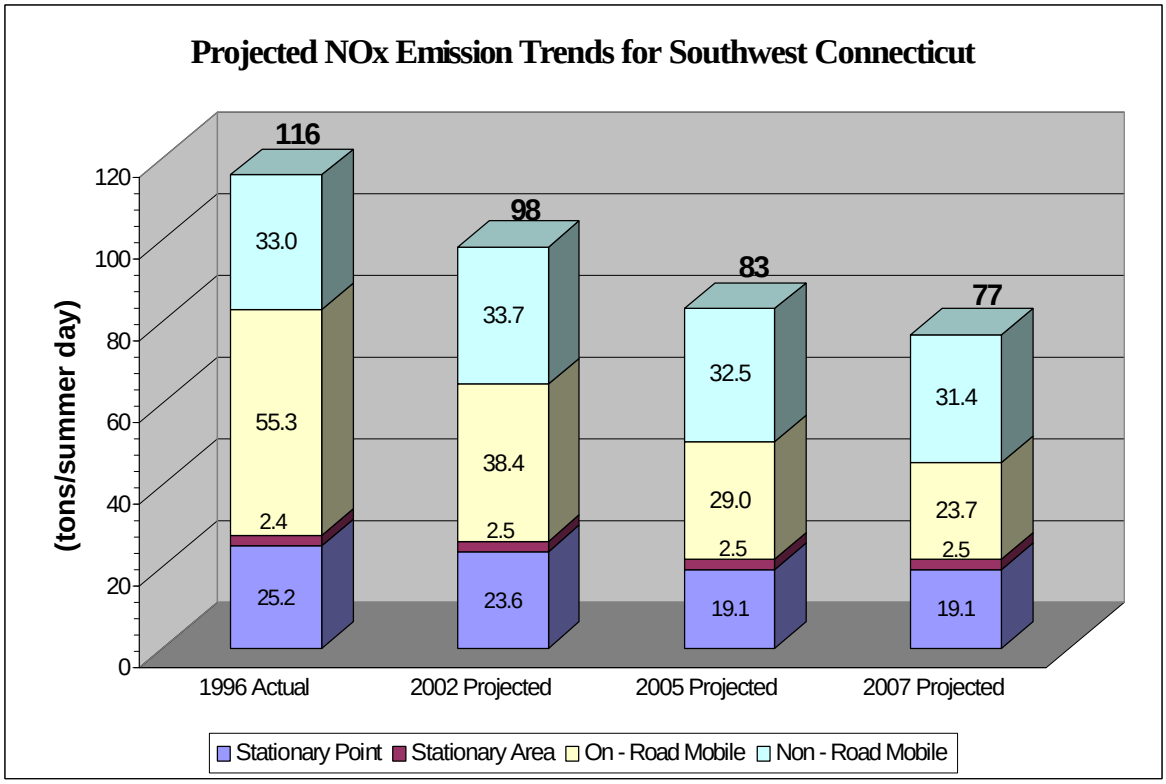
3.4 Projected Inventories

Projected VOC and NOx inventories for 2002, 2005, and 2007 were developed for Southwest Connecticut, accounting for the growth and controls discussed above. Projected anthropogenic VOC and NOx emissions are summarized in Figures 3-1 and 3-2, respectively. Base year emissions for 1996 (described in section 3.1, above) are also included for reference purposes. Emissions for each milestone year are broken down by the primary source categories: on-road, non-road, stationary point, and stationary area sources. Appendix C provides more detailed inventory information, including growth factors and controls for each emission source sub-category.

As indicated by the figures, control strategies will result in significant reductions in emissions of both VOC and NOx throughout the period, even after accounting for projected growth. Anthropogenic VOC and NOx emissions are projected to decrease by 35% and 34%, respectively, in Southwest Connecticut between 1996 and 2007. The largest projected VOC emission decreases occur within the on-road (68% reduction over the period) and non-road sectors (46% reduction). These reductions are attributed to the enhanced I/M program and the second phase of reformulated gasoline (by 2002), as well as increasingly

Figure 3-1 & 3-2


Projected VOC Emission Trends for Southwest Connecticut
(tons/summer day)
0
20
40
60
80
100
120
117
89
80
77
40.4
30.5
42.3
4.1
29.6
15.2
40.2
4.2
24.0
11.4
40.6
4.3
21.7
9.7
41.1
4.4
1996 Actual
2002 Projected
2005 Projected
2007 Projected
Stationary Point
Stationary Area
On - Road Mobile
Non - Road Mobile


Projected NOx Emission Trends for Southwest Connecticut
(tons/summer day)
0
20
40
60
80
100
120
116
98
83
77
33.0
55.3
2.4
25.2
33.7
38.4
2.5
23.6
32.5
29.0
2.5
19.1
31.4
23.7
2.5
19.1
1996 Actual
2002 Projected
2005 Projected
2007 Projected
Stationary Point
Stationary Area
On - Road Mobile
Non - Road Mobile

stringent federal emission standards for new on-road and non-road engines that are reflected throughout the period as the affected fleets gradually turn over.

The largest decreases in NOx emissions occur within the on-road and stationary point source sectors. The on-road reductions (57% over the period) result from the enhanced I/M program, new federal emission standards, and (to a lesser extent) the second phase of reformulated gasoline. Both the NOx Budget Program and the adoption of more stringent emission limits for municipal waste combustion facilities contribute to the estimated 24% reduction in NOx emissions from stationary point sources in Southwest Connecticut.

3.5 Transportation Conformity Budgets

On-road mobile source projections for 2002 and 2005 will serve as conformity budgets for transportation planning in Southwest Connecticut. Budgets are established at emission levels of 15.2 tons/day of VOC and 38.4 tons/day of NOx in 2002 and 11.4 tons/day of VOC and 29.0 tons/day of NOx in 2005. Transportation conformity budgets were previously established for 2007 (CTDEP, 2000a), and are equal to on-road emission projections included in this Post-1999 ROP Plan (9.7 tons/day of VOC and 23.7 tons/day of NOx).

4.0 COMPARISON OF 1999 PROJECTED EMISSIONS TO ROP REQUIREMENTS

4.1 Comparison to Target Levels

Projected VOC and NOx emission levels must not exceed the calculated target levels in order to comply with the ROP requirement for a 3% annual average reduction between each milestone year. Target levels were determined in accordance with EPA guidance procedures, as documented in Section 2. Projected emissions were determined based on the procedures documented in Section 3. As discussed in Section 2.2, if all required ROP reductions for a milestone year could not be achieved through VOC reductions, then VOC targets were set equal to projected VOC emission levels for that year. NOx targets were subsequently calculated to ensure that the combined VOC and NOx targets would reflect the required ROP reduction for the applicable milestone period.

Projected emissions for 2002, 2005, and 2007 are compared to the corresponding ROP target levels in Table 4-1. VOC and NOx emissions are projected to be less than or equal to their respective target levels in each milestone year, thus demonstrating that the ROP goals will be met. Surplus NOx reductions of 36.9 tons per day in 2007 are available to satisfy contingency requirements.

4.2 Contingency Requirement

Sections 172(c)(9) and 182(c)(9) of the CAA require that ozone nonattainment areas classified as moderate or above include contingency measures in their SIPs. Contingency measures are additional controls to be implemented in the event of a failure to meet a milestone or attainment requirement. In the case of this ROP Plan, contingency measures would be triggered if actual emissions in 2007 exceed the targets levels associated with the required ROP reductions in VOC and/or NOx.

EPA requires that ROP Plans specify contingency measures totaling 3 percent of the adjusted 1990 base year inventory. If ROP targets are not met, implementation of contingency measures can be limited to the degree of failure. For example, if 2007 actual emissions exceed the combined VOC/NOx targets by 2 percent, then only a portion of the contingency plan would need to be implemented to address the 2 percent reduction shortfall.

For Southwest Connecticut, the contingency requirement is equivalent to a 3.6 ton/day reduction in NOx emissions (i.e., 3% of the 1990 adjusted base year NOx inventory for 2007, or 0.03 x 120.26; see Appendix B). As indicated in Table 4-1, the control measures described earlier will provide surplus NOx reductions of 36.9 tons/day in 2007, more than sufficient to meet the 3 percent contingency requirement of 3.6 tons/day.

Table 4-1

Southwest Connecticut Severe Nonattainment Area
Comparison of Projected Emissions to Rate-of-Progress Target Levels
(tons/day)

	VOC	NOx
2002 Target Emission Levels	96.1	115.2
2002 Projected Emissions	89.2	98.2
2005 Target Emission Levels	83.7	114.9
2005 Projected Emissions	80.4	83.1
2007 Target Emission Levels	76.8	113.7
2007 Projected Emissions	76.8	76.8
2007 Surplus Reductions	0.0	36.9
2007 Required Contingency	--	3.6

Notes:

1) Projections include all programs listed in Table 3-1 and its footnotes.

2) Target emission levels represent the level of emissions that must be achieved by each milestone year to comply with rate of progress requirements. Target levels were calculated based on procedures specified in EPA guidance, as described in Section 2.2. Note that calculated target levels must account for non-creditable emission reductions resulting from pre-1990 CAA requirements (i.e., the pre-1990 federal motor vehicle emission control program, also known as the "Tier 0" control program).

3) The Post-1999 ROP Plan must include measures to achieve an additional 3 percent reduction, beyond ROP requirements, if needed to meet shortfalls from other control strategies. The contingency requirement can be satisfied with reductions in either VOC or NOx emissions (or a combination of both). Surplus reductions (the difference between 2007 target and projected emissions, or 36.9 tpd of NOx) are available for use to satisfy the contingency requirements of sections 172(c)(9) and 182(c)(9) of the Clean Air Act.

5.0 REFERENCES

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Appendix A

EPA's Alternative Ozone Attainment Policy

March 2, 1995 Memorandum from Mary Nichols (EPA Assistant Administrator) to EPA Regional Administrators

3/2/95

MEMORANDUM

SUBJECT: Ozone Attainment Demonstrations

FROM: Mary D. Nichols
Assistant Administrator for Air and Radiation

TO: Regional Administrator, Regions I-X

The purpose of this memorandum is to provide guidance on an alternative approach to provide States flexibility in their planning efforts for ozone nonattainment areas classified as serious and above. The basic principles of this approach are: 1) meeting the attainment dates in the Clean Air Act while maintaining progress, 2) ensuring enforceability of commitments to adopt additional measures needed to reach attainment, and 3) promoting market-based alternatives. The EPA will work with States to encourage the development of market-based trading programs to provide flexibility in meeting the requirements of these control measures. This guidance applies to areas significantly affected by ozone transport. In consultation with your States, you should determine whether it is appropriate to apply it to other areas as well.

Background

The 1990 Clean Air Act Amendments set forth many new requirements intended to address widespread nonattainment of the NAAQS for ozone. Although a great deal of work has been done and significant progress has been made, many States have been unable to complete these State implementation plan (SIP) requirements within the schedules prescribed in the Act due to circumstances beyond their control. This is a particularly difficult problem for areas affected by transport of ozone and ozone precursors. These areas must develop complex regulatory plans, based on photochemical grid models that in many cases must take into account upwind and downwind flow of ozone and precursors. The models, in turn, must be based on detailed emission inventories and other inputs, the development of which has been unavoidably delayed due to unforeseen difficulties in gathering the necessary data. Similarly, in many instances, the large amount of reductions likely to be needed to

demonstrate attainment, and the consequent difficulties in developing control measures to achieve those reductions, has resulted in unavoidable delays in rule development by the States.

This memorandum provides States with an approach for obtaining full approval for their attainment demonstration State implementation plans by implementing a two-phased program. In addition to the other requirements set forth in this memorandum, States must fulfill all ozone nonattainment obligations due to be completed prior to November 1994 (e.g., 15 percent plans, VOC and NOx RACT) before EPA will approve ozone nonattainment plans based on this approach.

Phase I

Under the first phase, States should submit a plan to implement, by May 1999,1 a set of specific control measures (including at least a 9 percent reduction to satisfy rate-of-progress requirements) to obtain major reductions in ozone precursors. In the Northeast ozone transport region (OTR), the measures should include: 1) all mandatory Clean Air Act measures required prior to November 1994, including: VOC and NOx RACT on major sources, enhanced I/M, reformulated gasoline (where required), rate-of-progress requirements (at least up to 1999), clean fuel fleets; 2) the regional NOx MOU (on the timetable agreed upon by the OTC); 3) LEV or a 49-State car program if one is adopted. The specific control measures required in areas outside the OTR will be determined on a case-by-case basis based on consultation between the States and the appropriate Regional Office(s). For the Lake Michigan States (Illinois, Indiana and Wisconsin) the phase I measures should include all measures necessary to meet the rate-of-progress requirements out to the attainment date (2007). At a minimum, the measures selected for all other areas should be comparable to those in the OTR and Lake Michigan area.

In addition, SIPs should include either modeling with interim assumptions about ozone transport (this modeling might not show attainment) or modeling that shows attainment based on an assumed

1 There are two exceptions to this date. The first is where the Act specifies a different date (earlier or later). In this situation, measures should be implemented in accordance with the schedule in the Act. The second case is where States have agreed (e.g., in a memorandum of understanding) to implement specific regional controls according to a scheduled outlined in the MOU. In this case, States should follow the implementation scheduled agreed to in the MOU.

boundary condition (to be determined in consultation with EPA). Finally, submittals should include an enforceable commitment to 1) participate in a consultative process to address regional transport, 2) adopt additional control measures as necessary to attain the ozone NAAQS, meet rate-of-progress requirements, and eliminate significant contribution to nonattainment downwind, and 3) identify any reductions that are needed from upwind areas for the area to meet the NAAQS. The commitment should also specify a schedule for completing adoption of additional rules. An enforceable commitment is one that has been adopted into the SIP by the State and is submitted to EPA as a SIP revision. The EPA will work with States regarding the specific commitments that are needed.

States should submit, by May 1995, a letter committing to follow the approach described in this guidance, as well as a general explanation of efforts to date to complete both the attainment modeling (and the emission inventory and other inputs to the model) and the regulations necessary to achieve reductions. The letter should include a schedule for the adoption of enforceable rules needed to implement the required phase I control measures.

In order to provide lead time for phased implementation of those measures not later than May 1999, any measures not already scheduled for earlier adoption should be adopted no later than the end of 1995. If administrative scheduling, such as legislative sessions or State review procedures renders it impossible for a control agency to complete the regulatory process for certain rules by the end of 1995, the State may propose a schedule providing for the adoption of such rules during 1996. Again, the important point is that the State must adopt enforceable measures by a date that ensures adequate lead time to enable full implementation no later than May 1999. The Regions should track States' progress toward completion of the adoption process.

Phase II

The second phase of this approach begins with a 2-year process, ending at the close of 1996, to assess regional control strategies and refine local control strategies, using improvements in the modeling process (e.g., more refined emission inventories) to perform further control strategy evaluations that take into consideration potential regional control strategies. This will also give the States and EPA the opportunity to determine appropriate regional strategies to resolve transport issues. The goal of phase II is for EPA and the affected States to reach consensus on the additional regional, local and national emission

reductions that are needed for the remaining rate-of-progress requirements and attainment. In the event that agreement is not reached, EPA intends, by the end of 1997, to use its authority under the Act (e.g., under sections 126 and/or 110) to work with all affected States to ensure that the required reductions are achieved.

Based on the results of the 2-year assessment, States will be expected to submit by mid-1997 the modeling and attainment plan to show attainment through local and regional controls. The attainment plan should identify the measures that are needed for rate-of-progress and attainment. The remaining rules needed for serious areas to attain must be adopted and implemented in time for those areas to meet their attainment date of 1999.

For nonattainment areas with later attainment dates, States should adopt and implement local and regional control measures as determined to be necessary to meet the statutory attainment deadlines. States should phase-in adoption of rules to provide for implementation of measures for rate-of-progress beginning in the period immediately following 1999. These rules must be submitted to EPA no later than the end of 1999 (unless they were submitted as part of phase I), and provide for timely implementation of progress requirements.

If you have any questions during implementation of this policy, please contact me or John Seitz, Director of the Office of Air Quality Planning and Standards. The staff contact is Laurel Schultz (919-541-5511).

cc: Air Branch Chief, Regions I-X
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Appendix B

Revised Target Emission Levels

B-1: Revised 1990 Inventory
B-2: Recalculated 1996 Target Emission Levels
B-3: Recalculated 1999 Target Emission Levels
B-4: 2002, 2005, and 2007 Target Emission Levels

Updated (w/NONROAD; 12/99 MOB5b Inputs; BEIS2.3) 1990 VOC Emissions for Southwest Connecticut
(Page 1 of 5)

	1990 Updated VOC	
	Point	Area
STATIONARY SOURCES	(lbs/day)	(lbs/day)
VOC STORAGE/TRANSPORT/MARKETING		
Gasoline Storage Floating Roof	540.6	
Gasoline Storage Other	0.0	
Volatile Organic Liquid (VOL) Storage		
VOL Ship/Barge Transfer		144.3
Barge/Tanker Cleaning		0.0
Bulk Gas Terminals	2,764.0	
Gasoline Bulk Plants		
Tank Truck Unloading		1,607.3
Vehicle Fuel/Underground Tank Breathing		9,640.4
Aircraft Refueling		84.6
Gasoline Trucks in Transit		74.2
Leaking Underground Storage Tanks		728.0
Spills		299.3
Sub-Total: VOC Stor/Trans/Market	***3,304.6***	***12,578.1***
INDUSTRIAL PROCESSES		
Organic Chemical Manufacture	719.3	
SOCMI Fugitive		
SOCMI Storage Tanks		65.9
Inorganic Chemical Manufacture		
Fermentation Processes		0.0
Pharmaceutical Manufacture	523.1	
Plastic Products Manufacture	51.9	
Rubber Tire Manufacture		
SBR Rubber Manufacture	0.0	
Textile Polymers & Resin Mfg		
Synthetic Fiber Manufacture		
Iron & Steel Manufacture	0.0	
Other	2.7	
Sub-Total: Industrial Processes	***1,297.0***	***65.9***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 VOC Emissions for SouthwestConnecticut
(Page 2 of 5)

	1990 Updated VOC	
	Point	Area
STATIONARY SOURCES	(lbs/day)	(lbs/day)
INDUSTRIAL SURFACE COATING		
Large Appliances		3,162.6
Magnet Wire	123.7	197.2
Autos and Light Trucks		0.0
Cans	354.8	3,606.3
Metal Coils	0.0	1,763.8
Paper	0.0	
Fabric	908.5	
Metal and Wood Furniture	138.5	2,668.1
Miscellaneous Metal Products	1,723.5	2,092.3
Flatwood Products		218.7
Plastic Products	0.0	
Large Ships	0.0	117.3
Large Aircraft	254.5	1,910.9
High Performance Maintenance Coating		2,515.4
Special Purpose Coating		2,515.4
Others	738.8	1,349.4
Sub-Total: Ind Surface Coating	***4,242.3***	***22,117.4***
NON - INDUSTRIAL SURFACE COATING		
Architectural Coatings		13,430.5
Auto Refinishing	0.0	10,800.6
Traffic Markings		2,404.4
Sub-Total: Non-Ind Surf Coating	***0.0***	***26,635.5***
OTHER SOLVENT USE		
Degreasing	1,414.3	22,155.4
Perchloroethylene Dry Cleaning	515.4	1,297.4
Petroleum Dry Cleaning	163.1	40.1
Graphic Arts	319.6	3,715.6
Adhesives	1,077.3	
Cutback Asphalt Paving		7,490.8
Emulsified Asphalt Paving		1,415.4
Solvent Extraction Processes	68.1	
Consumer/Commercial Solvent Use		14,149.2
Other	649.0	
Sub-Total: Other Solvent Use	***4,206.8***	***50,263.9***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 VOC Emissions for SouthwestConnecticut
(Page 3 of 5)

	1990 Updated VOC	
	Point	Area
STATIONARY SOURCES	(lbs/day)	(lbs/day)
WASTE DISPOSAL		
Municipal Waste Combustion	1,568.8	
Municipal Waste Landfills		1,730.3
TSDFs		244.3
POTWs		1,538.5
ITWs		0.0
Sub-Total: Waste Disposal	***1,568.8***	***3,513.1***
OTHER STATIONARY SOURCES		
Utility Fuel Combustion	734.6	
Industrial Fuel Combustion	53.0	64.1
Commercial Fuel Combustion	42.9	60.3
Residential Fuel Combustion		84.5
Wood Stoves		
Forest Fires		18.4
Structural Fires		1,008.0
Open Burning		29.8
Slash Burning		0.0
Agricultural Burning		0.0
Orchard Heaters		0.0
Pesticide Applications		1,759.7
Asphalt Roofing		0.0
Internal Combustion Engines	548.7	
Sub-Total: Other Stationary Srcs	***1,379.2***	***3,024.8***
COMMERCIAL PROCESSES		
Bakeries	1,331.6	648.8
Sub-Total: Commercial Processes	***1,331.6***	***648.8***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 VOC Emissions for SouthwestConnecticut
(Page 4 of 5)

	1990 Updated VOC	
	Point	Area
MOBILE SOURCES	(lbs/day)	(lbs/day)
ON - ROAD MOBILE SOURCES		
Light Duty Gas Vehicles		
Light Duty Gas Truck 1		
Light Duty Gas Truck 2		
Heavy Duty Gas Vehicles		
Light Duty Diesel Vehicle		
Light Duty Diesel Truck		
Heavy Duty Diesel Vehicle		
Motorcycles		
Sub-Total: On-Road Mobile Sources	***0.0***	***84,302.0***
NON - ROAD MOBILE SORCES		
Airport Equipment		0.0
Commercial Equipment		5,296.7
Construction Equipment		8,444.5
Farm Equipment		16.9
Industrial Equipment		2,620.4
Lawn & Garden		51,112.3
Logging Equipment		0.0
Recreational Equipment		266.6
Recreational Vessels		5,992.5
Rail		22.0
Aircraft		220.9
Commercial Vessels		43.7
Sub-Total: Non-Road Mobile Sources	***0.0***	***74,036.6***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 VOC Emissions for SouthwestConnecticut
(Page 5 of 5)

	1990 Updated VOC	
	Point	Area
VOC EMISSION TOTALS	(lbs/day)	(lbs/day)
Sub-Total: VOC Stor/Trans/Market	*3,304.6*	*12,578.1*
Sub-Total: Industrial Processes	*1,297.0*	*65.9*
Sub-Total: Ind Surface Coating	*4,242.3*	*22,117.4*
Sub-Total: Non-Ind Surf Coating	*0.0*	*26,635.5*
Sub-Total: Other Solvent Use	*4,206.8*	*50,263.9*
Sub-Total: Waste Disposal	*1,568.8*	*3,513.1*
Sub-Total: Other Stationary Srcs	*1,379.2*	*3,024.8*
Sub-Total: Commercial Processes	*1,331.6*	*648.8*
Sub-Total: Stationary Sources	***17,330.3***	***118,847.5***
Estimated VOC RACT Reductions		
Sub-Total: Stationary Sources	***17,330.3***	***118,847.5***
Sub-Total: On-Road Mobile Sources	*0.0*	*84,302.0*
Sub-Total: Non-Road Mobile Sources	*0.0*	*74,036.6*
Sub-Total: Mobile Sources	***0.0***	***158,338.6***
5% On-Road Uncertainty Factor (1999 Only)	***0.0***	***0.0***
Sub-Total: Mobile Sources	***0.0***	***158,338.6***
Biogenic VOC Emissions	***0.0***	***247,405.2***
GRAND TOTAL VOC	***17,330.3***	***524,591.3***

SUMMARY BY SOURCE CATEGORY

	1990 Updated VOC	
	(lbs/day)	(tons/day)
Stationary Point	17,330.3	8.7
Stationary Area	118,847.5	59.4
On - Road Mobile	84,302.0	42.2
Non - Road Mobile	74,036.6	37.0
TOTAL ANTHROPOGENIC VOC	**294,516.4**	**147.3**

Updated (w/NONROAD; 12/99 MOB5b Inputs; BEIS2.3) 1990 NOx Emissions for Southwest Connecticut
(Page 1 of 3)

	1990 Updated NOx	
	Point	Area
STATIONARY SOURCES	(lbs/day)	(lbs/day)
WASTE DISPOSAL		
Municipal Waste Combustion	13,656.0	
Sub-Total: Waste Disposal	***13,656.0***	***0.0***
OTHER STATIONARY SOURCES		
Utility Fuel Combustion	68,070.9	
Industrial Fuel Combustion	1,898.6	1,628.9
Commercial Fuel Combustion	1,544.0	1,778.9
Residential Fuel Combustion		1,920.2
Forest Fires		3.1
Structural Fires		128.3
Open Burning		5.8
Slash Burning		0.0
Agricultural Burning		0.0
Orchard Heaters		0.0
Internal Combustion Engines	2,128.3	
Sub-Total: Other Stationary Srcs	***73,641.8***	***5,465.2***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 NOx Emissions for SouthwestConnecticut
(Page 2 of 3)

	1990 Updated NOx	
	Point	Area
MOBILE SOURCES	(lbs/day)	(lbs/day)
ON - ROAD MOBILE SOURCES		
Light Duty Gas Vehicles		
Light Duty Gas Truck 1		
Light Duty Gas Truck 2		
Heavy Duty Gas Vehicles		
Light Duty Diesel Vehicle		
Light Duty Diesel Truck		
Heavy Duty Diesel Vehicle		
Motorcycles		
Sub-Total: On-Road Mobile Sources	***0.0***	***116,878.0***
NON - ROAD MOBILE SORCES		
Airport Equipment		0.0
Commercial Equipment		2,432.5
Construction Equipment		36,652.2
Farm Equipment		110.8
Industrial Equipment		11,286.6
Lawn & Garden		4,658.8
Logging Equipment		0.0
Recreational Equipment		20.9
Recreational Vessels		286.8
Rail		71.6
Aircraft		35.1
Commercial Vessels		238.0
Sub-Total: Non-Road Mobile Sources	***0.0***	***55,793.3***

Updated (w/NONROAD & 12/99 MOB5b Inputs) 1990 NOx Emissions for SouthwestConnecticut
(Page 3 of 3)

	1990 Updated NOx	
	Point	Area
NOx EMISSION TOTALS	(lbs/day)	(lbs/day)
Sub-Total: Waste Disposal	*13,656.0*	*0.0*
Sub-Total: Other Stationary Srcs	*73,641.8*	*5,465.2*
Sub-Total: Stationary Sources	***87,297.8***	***5,465.2***
Estimated NOx RACT/OTC Reductions		
Sub-Total: Stationary Sources	***87,297.8***	***5,465.2***
Sub-Total: On-Road Mobile Sources	*0.0*	*116,878.0*
Sub-Total: Non-Road Mobile Sources	*0.0*	*55,793.3*
Sub-Total: Mobile Sources	***0.0***	***172,671.3***
5% On-Road Uncertainty Factor (1999 Only)	***0.0***	***0.0***
Sub-Total: Mobile Sources	***0.0***	***172,671.3***
Biogenic NOx Emissions	***0.0***	***1,106.1***
GRAND TOTAL NOx	***87,297.8***	***178,136.5***

SUMMARY BY SOURCE CATEGORY

	1990 Updated NOx	
	(lbs/day)	(tons/day)
Stationary Point	87,297.8	43.6
Stationary Area	5,465.2	2.7
On - Road Mobile	116,878.0	58.4
Non - Road Mobile	55,793.3	27.9
GRAND TOTAL NOx	**265,434.3**	**132.7**

B-2
SW CT Severe 1-Hr Ozone Nonattainment Area
Recalculated 1996 ROP Emission Target Levels*

EPA Guidance Step[a]	VOC (tons/day)
1. 1990 Adjusted Base Year Inventory for 1996[b]	
1a. Highway Vehicles	34.89
1b. All Other Source Categories	103.95
1c. Total (Step 1a + Step 1b)	138.83
2. 1990 Adjusted Base Year Inventory for 1999[c]	
2a. Highway Vehicles	33.36
2b. All Other Source Categories	103.95
2c. Total (Step 2a + Step 2b)	137.31
3. Non-Creditable Fleet Turnover Reductions 1996-1999[d] (Step 2c - Step 1c)	1.52
4. Uncorrected 1996 Target Level[e] (0.85 x Step 1c)	118.01
5. Corrected 1996 Target Level [f] (Step 4 - Step 3)	116.49

* These emission target levels were determined consistent with methods in CT's 15% Plans (approved by EPA in the March 10, 1999 Federal Register), but have been adjusted to reflect subsequent changes to on-road MOBILE5b inputs and EPA's draft NONROAD model. The 1996 and 1999 target levels have been recalculated solely to provide consistency between target and projection calculations for the 2002, 2005, and 2007 rate-of-progress demonstrations and do not affect the previously approved 15% Plans or 1999 ROP Plans.

(a) All calculations performed in accordance with EPA guidance memorandums "Modeling 15% VOC Reduction(s) from I/M in 1999 -- SupplementalGuidance" (December 23, 1996) and "Date by which States Need to Achieve all the Reductions Needed for the 15% Plan from I/M and Guidance for Recalculation" (August 13, 1996).

(b) Highway vehicle emission estimates calculated with the MOBILE5b model using 1996 emission factors (actually 1/1/97 factors with summer inputs) with all 1990 Clean Air Act controls turned off and EPA default cold mode values, combined with Series 18 1990 vehicle miles traveled (VMT). Nonroad emissions calculated using EPA's NONROAD model. Emissions for all other source categories are identical to estimates contained in the approved 15% Plans (including perchloroethylene adjustment). The result represents the 1990 inventory adjusted for non-creditable emissionreductions between 1990 and 1996.

(c) Highway vehicle emission estimates calculated with the MOBILE5b model using 1999 emission factors (actually 1/1/00 factors with summer inputs) with all 1990 Clean Air Act controls turned off and EPA default cold mode values, combined with Series 18 1990 vehicle miles traveled (VMT). Nonroad emissions calculated using EPA's NONROAD model. Emissions for all other source categories are identical to estimates contained in the approved 15% Plans (including perchloroethylene adjustment). The result represents the 1990 inventory adjusted for non-creditable emission reductions between 1990 and 1999.

(d) This number represents non-creditable emission reductions that occur between 1996 and 1999 due to continued turnover of vehicles meeting pre-1990 standards.

(e) This number represents the 1996 target level of emissions, prior to correction for pre-1990 control reductions that occur between 1996 and 1999.

(f) This number represents the 1996 target level of emissions, after correction for pre-1990 control reductions that occur between 1996 and 1999.

B-3

SW CT Severe 1-Hr Ozone Nonattainment Area
Recalculated 1999 ROP Emission Target Levels*

EPA Guidance Step[a]	1999 Severe Area VOC (tons/day)	1999 Severe Area NOx (tons/day)
1. 1990 Base Year Inventory	270.96	133.27
2a. Biogenic Emissions	123.70	0.55
2b. Perchloroethylene/Acetone Adjustment	3.26	0.00
2c. 1990 ROP Base Year Inventory (1 - 2a - 2b)	144.00	132.72
3a. FMVCP/RVP Reduction (90 to 99)	8.79	10.91
3b. 1990 Adjusted Base Year Inventory (2c - 3a)	135.21	121.81
4a. Required ROP Reduction (%)	4.50%	4.50%
4b. Required ROP Reduction[b] (3b x 4a)	6.08	5.48
5a. FMVCP/RVP Correction[c]	1.52	10.91
5b. Total Required Reduction (4b + 5a)	7.61	16.39
6a. Target Level for 1996[d]	116.49	NA
6b. Target Level for 1999 (VOC: 6a - 5b)(NOx: 2c - 5b)	108.88	116.33

* These emission target levels were determined consistent with methods in CT's 1999 ROP Plans (approved by EPA in the October 19, 20000 Federal Register), but have been adjusted to reflect subsequent changes to on-road MOBILE5b inputs and EPA's draft NONROAD model. The 1996 and 1999 target levels have been recalculated solely to provide consistency between target and projection calculations for the 2002, 2005, and 2007 rate-of-progress demonstrations and do not affect the previously approved 15% Plans or 1999 ROP Plans.

(a) Target emission levels were calculated in accordance with EPA's "Guidance on the Post-1996 Rate of Progress Plan and the Attainment Demonstration" (EPA-452/R-93-015, as amended 2/18/94).

(b) ROP Emission reduction required between 1996 and 1999 for VOC and between 1990 and 1999 for NOx.

(c) Federal Motor Vehicle Control Program (FMVCP) reduction between 1996 and 1999 for VOC and between 1990 and 1999 for NOx.

(d) 1996 VOC Target Levels are recalculated as documented elsewhere in this Appendix.

B-4

SW CT Severe 1-Hr Ozone Nonattainment Area
ROP Emission Target Levels for 2002, 2005, and 2007 *

EPA Guidance Step[a]	2002 VOC (tons/day)	2002 NOx (tons/day)	2005 VOC (tons/day)	2005 NOx (tons/day)	2007 VOC (tons/day)	2007 NOx (tons/day)
1. 1990 Base Year Inventory	270.96	133.27	270.96	133.27	270.96	133.27
2a. 1990 Biogenic Emissions	123.70	0.55	123.70	0.55	123.70	0.55
2b. 1990 Perc & Acetone Adjustment	3.26	0.00	3.26	0.00	3.26	0.00
2c. 1990 ROP Base Year Inventory (1 - 2a - 2b)	144.00	132.72	144.00	132.72	144.00	132.72
3a. FMVCP/RVP Reduction (90 to MY)	9.51	12.06	9.75	12.36	9.79	12.46
3b. 1990 Adjusted Base Year Inv (2c - 3a)	134.48	120.66	134.25	120.36	134.21	120.26
4a. Required ROP Reduction (%)	9.00%	0.00%	9.00%	0.00%	5.11%	0.89%
4b. Required ROP Emission Reduction[b] (3b x 4a)	12.10	0.00	12.08	0.00	6.86	1.07
5a. FMVCP/RVP Correction[c]	0.73	1.15	0.23	0.30	0.04	0.10
5b. Total Required Reduction (4b + 5a)	12.83	1.15	12.31	0.30	6.90	1.17
6a. Previous Milestone Year Target[d]	108.88	116.33	96.05	115.18	83.74	114.88
6b. Target Level for Current Milestone Year (6a - 5b)	96.05	115.18	83.74	114.88	76.83	113.71

(a) Target emission levels were calculated in accordance with EPA's "Guidance on the Post-1996 Rate of Progress Plan and the Attainment Demonstration" (EPA-452/R-93-015, as amended 2/18/94). Flowcharts of EPA's six-step process are also included in this appendix.

(b) ROP emission reduction required between the previous and current milestone years.

(c) Federal Motor Vehicle Control Program (FMVCP) reductions between the previous and current milestone years are not creditable to ROP.

(d) 1999 target levels are as determined elsewhere in this Appendix.

Appendix C

Revised 1996 Emissions and Projected Emissions through 2007

Southwest Connecticut Severe 1-Hour Ozone Nonattainment Area
1996 and Projected 2002, 2005, and 2007 VOC Emissions
(Page 1 of 5)

	A	B	C	D	E	F	J	K	L	M	N	O	P
1		1996 PI VOC		Growth Factor			2002 VOC		2005 VOC		2007 VOC		Controls
2		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
3	***STATIONARY SOURCES***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
4													
5	**VOC STORAGE/TRANSPORT/MARKETING**												
6	Gasoline/Crude Oil Storage All (exc float roof)			1.17	1.22	1.252	0.00	0.00	0.00	0.00	0.00	0.00	RFG Phase 2
7	Gasoline/Crude Oil Storage Floating Roof	375.95		1.17	1.22	1.252	381.95	0.00	397.50	0.00	407.87	0.00	RFG Phase 2
8	Volatile Organic Liquid (VOL) Storage			1.17	1.22	1.252	0.00	0.00	0.00	0.00	0.00	0.00	
9	VOL Ship/Barge Transfer		0.00	1.17	1.22	1.252	0.00	0.00	0.00	0.00	0.00	0.00	RFG Phase 2
10	Barge/Tanker Cleaning			1.17	1.22	1.252	0.00	0.00	0.00	0.00	0.00	0.00	RFG Phase 2
11	Bulk Gas Terminals	757.55		1.17	1.22	1.252	769.64	0.00	800.98	0.00	821.87	0.00	RFG Phase 2
12	Gasoline Bulk Plants			1.17	1.22	1.252	0.00	0.00	0.00	0.00	0.00	0.00	
13	Tank Truck Unloading		530.45	1.17	1.22	1.252	0.00	538.92	0.00	560.86	0.00	575.49	RFG Phase 2
14	Vehicle Fuel		2,259.86	1.17	1.22	1.252	0.00	2,295.93	0.00	2,389.41	0.00	2,451.73	RFG Phase 2
15	Underground Tank Breathing		905.69	1.17	1.22	1.252	0.00	920.14	0.00	957.61	0.00	982.59	RFG Phase 2
16	Aircraft Refueling		25.72	1.22	1.33	1.403	0.00	31.37	0.00	34.19	0.00	36.08	
17	Gasoline Trucks in Transit		69.76	1.17	1.22	1.252	0.00	70.87	0.00	73.76	0.00	75.68	RFG Phase 2
18	Leaking Underground Storage Tanks		422.15	1.01	1.02	1.02	0.00	426.79	0.00	429.12	0.00	430.66	
19	Spills		1,216.34	1.01	1.02	1.02	0.00	1,229.72	0.00	1,236.41	0.00	1,240.87	
20	***Sub-Total: VOC Stor/Trans/Market***	1,133.50	5,429.97				1,151.59	5,513.75	1,198.48	5,681.36	1,229.74	5,793.11	
21													
22	**INDUSTRIAL PROCESSES**												
23	Organic Chemical Manufacture	1,568.46		1.09	1.14	1.168	1,712.41	0.00	1,784.38	0.00	1,832.36	0.00	
24	SOCMI Fugitive			1.09	1.14	1.168	0.00	0.00	0.00	0.00	0.00	0.00	
25	SOCMI Storage Tanks		178.83	1.09	1.14	1.168	0.00	195.24	0.00	203.45	0.00	208.92	
26	Inorganic Chemical Manufacture			1.09	1.14	1.168	0.00	0.00	0.00	0.00	0.00	0.00	
27	Fermentation Processes		3.44	0.95	0.93	0.91	0.00	3.27	0.00	3.19	0.00	3.13	
28	Pharmaceutical Manufacture	98.00		1.09	1.14	1.168	106.99	0.00	111.49	0.00	114.49	0.00	
29	Plastic Products Manufacture	35.48		1.01	1.02	1.02	35.86	0.00	36.06	0.00	36.18	0.00	
30	Rubber Tire Manufacture			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
31	SBR Rubber Manufacture			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
32	Textile Polymers & Resin Mfg			0.9	0.85	0.814	0.00	0.00	0.00	0.00	0.00	0.00	
33	Synthetic Fiber Manufacture			1.02	1.03	1.034	0.00	0.00	0.00	0.00	0.00	0.00	
34	Iron & Steel Manufacture	0.01		0.98	0.97	0.963	0.01	0.00	0.01	0.00	0.01	0.00	
35	Other	32.85		0.99	0.98	0.976	32.43	0.00	32.21	0.00	32.07	0.00	
36	***Sub-Total: Industrial Processes***	1,734.80	182.27				1,887.70	198.51	1,964.15	206.64	2,015.12	212.05	

Southwest Connecticut Severe 1-Hour Ozone Nonattainment Area
1996 and Projected 2002, 2005, and 2007 VOC Emissions
(Page 2 of 5)

	A	B	C	D	E	F	J	K	L	M	N	O	P
38		1996 PI VOC		Growth Factor			2002 VOC		2005 VOC		2007 VOC		Controls
39		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
40	***STATIONARY SOURCES (cont)***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
41													
42	**INDUSTRIAL SURFACE COATING**												
43	Large Appliances		1,465.57	1.04	1.06	1.068	0.00	1,519.89	0.00	1,547.05	0.00	1,565.15	
44	Magnet Wire		229.77	1.03	1.05	1.058	0.00	237.03	0.00	240.65	0.00	243.07	
45	Autos and Light Trucks		0.00	1	0.99	0.993	0.00	0.00	0.00	0.00	0.00	0.00	
46	Cans		3,982.91	1.03	1.05	1.058	0.00	4,108.69	0.00	4,171.57	0.00	4,213.50	
47	Metal Coils		1,335.44	1.03	1.05	1.058	0.00	1,377.61	0.00	1,398.70	0.00	1,412.75	
48	Paper	10.00	0.00	0.99	0.98	0.975	9.86	0.00	9.79	0.00	9.75	0.00	
49	Fabric	93.00	0.00	1.02	1.03	1.034	94.73	0.00	95.60	0.00	96.18	0.00	
50	Metal and Wood Furniture	54.00	1,939.29	1.1	1.15	1.183	59.40	2,133.22	62.10	2,230.18	63.90	2,294.83	
51	Miscellaneous Metal Products	508.42	2,523.44	1.03	1.05	1.058	524.48	2,603.13	532.50	2,642.97	537.85	2,669.53	
52	Flatwood Products		203.55	1.06	1.09	1.106	0.00	215.32	0.00	221.21	0.00	225.13	
53	Plastic Products		0.00	1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
54	Large Ships		7.11	1.01	1.02	1.02	0.00	7.19	0.00	7.23	0.00	7.25	
55	Large Aircraft	75.03	1,328.76	1.01	1.02	1.02	75.86	1,343.38	76.27	1,350.69	76.54	1,355.56	
56	High Performance Maintenance Coating		2,533.99	1.01	1.02	1.02	0.00	2,049.49	0.00	2,060.65	0.00	2,068.08	Federal AIM @ 20%
57	Special Purpose Coating		2,533.99	1.01	1.02	1.02	0.00	2,049.49	0.00	2,060.65	0.00	2,068.08	Federal AIM @ 20%
58	Others	1,200.37	700.13	1.01	1.02	1.02	1,213.58	707.83	1,220.18	711.68	1,224.58	714.25	
59	***Sub-Total: Ind Surface Coating***	1,940.82	18,783.95				1,977.90	18,352.27	1,996.44	18,643.23	2,008.80	18,837.20	
60													
61	**NON - INDUSTRIAL SURFACE COATING**												
62	Architectural Coatings		10,676.71	1.01	1.02	1.027	0.00	8,620.24	0.00	8,672.01	0.00	8,770.84	Federal AIM @ 20%
63	Auto Refinishing		1,140.93	1.1	1.14	1.177	0.00	788.06	0.00	822.70	0.00	845.79	Federal Rule @ 37%
64	Traffic Markings		1,937.49	1.009	1.015	1.027	0.00	1,564.31	0.00	1,573.70	0.00	1,591.63	Federal AIM @ 20%
65	***Sub-Total: Non-Ind Surf Coating***	0.00	13,755.13				0.00	10,972.61	0.00	11,068.41	0.00	11,208.26	
66													
67	**OTHER SOLVENT USE**												
68	Degreasing	606.75	17,764.98	1.01	1.02	1.02	613.43	17,960.43	616.76	18,058.15	618.99	18,123.30	
69	Petroleum Dry Cleaning	96.05	1.41	1.01	1.02	1.027	96.94	1.42	97.52	1.43	98.63	1.45	
70	Graphic Arts	478.67	3,639.07	1.03	1.04	1.05	491.69	3,738.04	498.20	3,787.53	502.54	3,820.52	
71	Adhesives	90.75		1.01	1.02	1.02	91.75	0.00	92.25	0.00	92.58	0.00	
72	Cutback Asphalt Paving		0.00	1.09	1.13	1.161	0.00	0.00	0.00	0.00	0.00	0.00	
73	Emulsified Asphalt Paving		1,334.96	1.09	1.13	1.161	0.00	1,452.06	0.00	1,510.61	0.00	1,549.65	
74	Solvent Extraction Processes			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
75	Consumer/Commercial Solvent Use		17,737.96	1.01	1.02	1.027	0.00	16,080.06	0.00	16,176.62	0.00	16,360.97	Federal Rule @ 0.8lbs/capita reduction
76	Other	760.43		1.01	1.02	1.02	768.80	0.00	772.98	0.00	775.77	0.00	
77	***Sub-Total: Other Solvent Use***	2,032.65	40,478.38				2,062.60	39,232.01	2,077.71	39,534.34	2,088.50	39,855.88	

Southwest Connecticut Severe 1-Hour Ozone Nonattainment Area
1996 and Projected 2002, 2005, and 2007 VOC Emissions
(Page 3 of 5)

	A	B	C	D	E	F	J	K	L	M	N	O	P
79		1996 PI VOC		Growth Factor			2002 VOC		2005 VOC		2007 VOC		Controls
80		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
81	***STATIONARY SOURCES (cont)***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
82													
83	**WASTE DISPOSAL**												
84	Municipal Waste Combustion	76.05		1	1	1	76.05	0.00	76.05	0.00	76.05	0.00	
85	Municipal Waste Landfills		938.67	1.01	1.02	1.027	0.00	947.34	0.00	953.03	0.00	963.89	
86	TSDFs		501.50	1.01	1.02	1.02	0.00	507.02	0.00	509.78	0.00	511.62	
87	POTWs		917.69	1.01	1.02	1.027	0.00	926.16	0.00	931.73	0.00	942.34	
88	ITWs			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
89	***Sub-Total: Waste Disposal***	76.05	2,357.86				76.05	2,380.52	76.05	2,394.53	76.05	2,417.85	
90													
91	**OTHER STATIONARY SOURCES**												
92	Utility Fuel Combustion	556.57		1.09	1.14	1.168	607.66	0.00	633.21	0.00	650.24	0.00	
93	Industrial Fuel Combustion	105.57	53.87	1.01	1.02	1.02	106.73	54.46	107.31	54.76	107.70	54.96	
94	Commercial Fuel Combustion	29.83	20.82	1.07	1.11	1.137	32.05	22.37	33.17	23.15	33.91	23.67	
95	Residential Fuel Combustion		132.40	1.01	1.02	1.027	0.00	133.62	0.00	134.43	0.00	135.96	
96	Wood Stoves			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
97	Forest Fires		0.00	1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
98	Structural Fires		1,015.41	1.01	1.02	1.027	0.00	1,024.79	0.00	1,030.94	0.00	1,042.69	
99	Open Burning		58.20	1.01	1.02	1.027	0.00	58.74	0.00	59.09	0.00	59.76	
100	Slash Burning			1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
101	Agricultural Burning			1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
102	Orchard Heaters			1.05	1.07	1.09	0.00	0.00	0.00	0.00	0.00	0.00	
103	Pesticide Applications		1,700.43	1.05	1.07	1.09	0.00	1,783.89	0.00	1,825.61	0.00	1,853.43	
104	Asphalt Roofing			1.13	1.19	1.23	0.00	0.00	0.00	0.00	0.00	0.00	
105	Internal Combustion Engines	98.94		1.06	1.1	1.118	105.29	0.00	108.47	0.00	110.58	0.00	
106	***Sub-Total: Other Stationary Sources***	790.91	2,981.13				851.74	3,077.87	882.15	3,127.97	902.43	3,170.46	
107													
108	**COMMERCIAL PROCESSES**												
109	Bakeries	435.92	593.51	1.03	1.05	1.057	449.36	611.80	456.07	620.95	460.55	627.05	
110	Breweries		3.44	1.04	1.06	1.077	0.00	3.59	0.00	3.66	0.00	3.71	
111	***Sub-Total: Commercial Processes***	435.92	596.95				449.36	615.39	456.07	624.61	460.55	630.75	

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	A	B	C	D	E	F	J	K	L	M	N	O	P
113		1996 PI VOC		Growth Factor			2002 VOC		2005 VOC		2007 VOC		Controls
114		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
115	***MOBILE SOURCES***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
116													
117	**ON - ROAD MOBILE SOURCES**												
118	Light Duty Gas Vehicles		36,846.00					16,548.00		11,486.00		9,200.60	Enh IM;RFG2;NLEV;Tier2(2004)
119	Light Duty Gas Truck 1		11,934.00					5,400.00		3,732.00		2,670.40	Enh IM;RFG2;NLEV;Tier2(2004)
120	Light Duty Gas Truck 2		6,460.00					3,268.00		2,836.00		2,684.40	Enh IM;RFG2;NLEV;Tier2(2004)
121	Heavy Duty Gas Vehicles		2,978.00					1,644.00		1,402.00		1,390.60	RFG2;Tier2(2004)
122	Light Duty Diesel Vehicle		32.00					28.00		26.00		30.00	
123	Light Duty Diesel Truck		22.00					18.00		18.00		-8.00	Tier2(2004)
124	Heavy Duty Diesel Vehicle		2,086.00					2,014.00		2,050.00		2,198.00	HDDV Stds (2004)
125	Motorcycles		678.00					604.00		630.00		650.00	
126	***Sub-Total: On-Road Mobile Sources***	0.00	61,036.00					29,524.00		22,180.00		18,816.00	
127													
128	**NON - ROAD MOBILE SOURCES**												
129	Airport Equipment		0.00				0.00	0.00	0.00	0.00	0.00	0.00	
130	Commercial Equipment		6,500.50				0.00	4,501.20	0.00	4,012.04	0.00	3,896.03	RFG2;Federal Rules(96-08 phase-in)
131	Construction Equipment		8,838.40				0.00	6,007.32	0.00	4,785.12	0.00	4,061.30	RFG2;Federal Rules(96-08 phase-in)
132	Farm Equipment		16.03				0.00	12.18	0.00	10.66	0.00	9.57	RFG2;Federal Rules(96-08 phase-in)
133	Industrial Equipment		2,296.49				0.00	1,564.30	0.00	1,324.70	0.00	1,181.22	RFG2;Federal Rules(96-08 phase-in)
134	Lawn & Garden		56,678.53				0.00	41,223.28	0.00	32,560.13	0.00	29,159.72	RFG2;Federal Rules(97-07 phase-in)
135	Logging Equipment		0.00				0.00	0.00	0.00	0.00	0.00	0.00	
136	Recreational Equipment		246.24				0.00	194.17	0.00	187.13	0.00	188.92	RFG2
137	Recreational Vessels		5,800.00				0.00	5,079.06	0.00	4,545.06	0.00	4,187.19	RFG2;Federal Rules(98-06 phase-in)
138	Rail		25.69				0.00	18.61	0.00	15.73	0.00	14.24	Federal Rules(2000+ phase-in)
139	Aircraft		438.50	1.22	1.33	1.403	0.00	534.81	0.00	582.97	0.00	615.07	
140	Commercial Vessels		43.31	1.14	1.21	1.261	0.00	49.48	0.00	52.57	0.00	54.63	
141	***Sub-Total: Non-Road Mobile Sources***	0.00	80,883.69				0.00	59,184.42	0.00	48,076.12	0.00	43,367.89	

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	A	B	C	D	E	F	J	K	L	M	N	O	P
143		1996 PI VOC		Growth Factor			2002 VOC		2005 VOC		2007 VOC		Controls
144		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
145	***VOC EMISSION TOTALS***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
146	**STATIONARY SOURCES**												
147	Sub-Total: VOC Stor/Trans/Market	1,133.50	5,429.97				1,151.59	5,513.75	1,198.48	5,681.36	1,229.74	5,793.11	
148	Sub-Total: Industrial Processes	1,734.80	182.27				1,887.70	198.51	1,964.15	206.64	2,015.12	212.05	
149	Sub-Total: Ind Surface Coating	1,940.82	18,783.95				1,977.90	18,352.27	1,996.44	18,643.23	2,008.80	18,837.20	
150	Sub-Total: Non-Ind Surf Coating	0.00	13,755.13				0.00	10,972.61	0.00	11,068.41	0.00	11,208.26	
151	Sub-Total: Other Solvent Use	2,032.65	40,478.38				2,062.60	39,232.01	2,077.71	39,534.34	2,088.50	39,855.88	
152	Sub-Total: Waste Disposal	76.05	2,357.86				76.05	2,380.52	76.05	2,394.53	76.05	2,417.85	
153	Sub-Total: Other Stationary Srcs	790.91	2,981.13				851.74	3,077.87	882.15	3,127.97	902.43	3,170.46	
154	Sub-Total: Commercial Processes	435.92	596.95				449.36	615.39	456.07	624.61	460.55	630.75	
155	***Sub-Total: Stationary Sources***	8,144.65	84,565.64				8,456.93	80,342.93	8,651.06	81,281.09	8,781.20	82,125.56	
156													
157													
158													
159	**MOBILE SOURCES**												
160	Sub-Total: On-Road Mobile Sources	0.00	61,036.00				0.00	30,409.72	0.00	22,845.40	0.00	19,380.48	**Includes 3% Modeling Uncertainty(2002-2007)**
161	Sub-Total: Non-Road Mobile Sources	0.00	80,883.69				0.00	59,184.42	0.00	48,076.12	0.00	43,367.89	
162	***Sub-Total: Mobile Sources***	0.00	141,919.69				0.00	89,594.14	0.00	70,921.52	0.00	62,748.37	
163													
164													
165													
166	***Sub-Total: Biogenic VOC Emissions***	0.00	247,405.18				0.00	247,405.18	0.00	247,405.18	0.00	247,405.18	
167													
168	**GRAND TOTAL VOC**	8,144.65	473,890.51				8,456.93	417,342.25	8,651.06	399,607.79	8,781.20	392,279.11	
169													
170													
171	**SUMMARY BY SOURCE CATEGORY**												
172													
173		**1996 Actual**					**2002 Projected**		**2005 Projected**		**2007 Projected**		
174		**(lbs/day)**	**(tons/day)**				**(lbs/day)**	**(tons/day)**	**(lbs/day)**	**(tons/day)**	**(lbs/day)**	**(tons/day)**	
175	Stationary Point	8,144.65	4.07				8,456.93	4.23	8,651.06	4.33	8,781.20	4.39	
176	Stationary Area	84,565.64	42.28				80,342.93	40.17	81,281.09	40.64	82,125.56	41.06	
177	On - Road Mobile	61,036.00	30.52				30,409.72	15.20	22,845.40	11.42	19,380.48	9.69	**Conformity Budgets for 2002, 2005, and 2007**
178	Non - Road Mobile	80,883.69	40.44				59,184.42	29.59	48,076.12	24.04	43,367.89	21.68	
179	**TOTAL ANTHROPOGENIC VOC**	234,629.98	117.31				178,394.00	89.20	160,853.67	80.43	153,655.13	76.83	

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	A	B	C	D	E	F	J	K	L	M	N	O	P
1		1996 PI NOx		Growth Factor			2002 NOx		2005 NOx		2007 NOx		Controls
2		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
3	***STATIONARY SOURCES***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
4													
5	**VOC STORAGE/TRANSPORT/MARKETING**												
6	Gasoline/Crude Oil Storage All (exc float roof)			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
7	Gasoline/Crude Oil Storage Floating Roof			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
8	Volatile Organic Liquid (VOL) Storage			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
9	VOL Ship/Barge Transfer			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
10	Barge/Tanker Cleaning			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
11	Bulk Gas Terminals			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
12	Gasoline Bulk Plants			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
13	Tank Truck Unloading			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
14	Vehicle Fuel			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
15	Underground Tank Breathing			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
16	Aircraft Refueling			1.22	1.33	1.4	0.00	0.00	0.00	0.00	0.00	0.00	
17	Gasoline Trucks in Transit			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
18	Leaking Underground Storage Tanks			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
19	Spills			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
20	***Sub-Total: VOC Stor/Trans/Market***	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	
21													
22	**INDUSTRIAL PROCESSES**												
23	Organic Chemical Manufacture			1.09	1.14	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
24	SOCMI Fugitive			1.09	1.14	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
25	SOCMI Storage Tanks			1.09	1.14	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
26	Inorganic Chemical Manufacture			1.09	1.14	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
27	Fermentation Processes			0.95	0.93	0.91	0.00	0.00	0.00	0.00	0.00	0.00	
28	Pharmaceutical Manufacture			1.09	1.14	1.17	0.00	0.00	0.00	0.00	0.00	0.00	
29	Plastic Products Manufacture	22.20		1.01	1.02	1.02	22.44	0.00	22.56	0.00	22.64	0.00	
30	Rubber Tire Manufacture			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
31	SBR Rubber Manufacture			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
32	Textile Polymers & Resin Mfg			0.9	0.85	0.81	0.00	0.00	0.00	0.00	0.00	0.00	
33	Synthetic Fiber Manufacture			1.02	1.03	1.03	0.00	0.00	0.00	0.00	0.00	0.00	
34	Iron & Steel Manufacture	0.10		0.98	0.97	0.96	0.10	0.00	0.10	0.00	0.10	0.00	
35	Other	136.19		0.99	0.98	0.98	134.43	0.00	133.55	0.00	132.97	0.00	
36	***Sub-Total: Industrial Processes***	158.49	0.00				156.97	0.00	156.21	0.00	155.71	0.00	

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	A	B	C	D	E	F	J	K	L	M	N	O	P
38		1996 PI NOx		Growth Factor			2002 NOx		2005 NOx		2007 NOx		Controls
39		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
40	***STATIONARY SOURCES (cont)***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
41													
42	**INDUSTRIAL SURFACE COATING**												
43	Large Appliances			1.04	1.06	1.07	0.00	0.00	0.00	0.00	0.00	0.00	
44	Magnet Wire			1.03	1.05	1.06	0.00	0.00	0.00	0.00	0.00	0.00	
45	Autos and Light Trucks			1	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	
46	Cans			1.03	1.05	1.06	0.00	0.00	0.00	0.00	0.00	0.00	
47	Metal Coils			1.03	1.05	1.06	0.00	0.00	0.00	0.00	0.00	0.00	
48	Paper			0.99	0.98	0.97	0.00	0.00	0.00	0.00	0.00	0.00	
49	Fabric	1.80		1.02	1.03	1.03	1.83	0.00	1.85	0.00	1.86	0.00	
50	Metal and Wood Furniture			1.1	1.15	1.18	0.00	0.00	0.00	0.00	0.00	0.00	
51	Miscellaneous Metal Products			1.03	1.05	1.06	0.00	0.00	0.00	0.00	0.00	0.00	
52	Flatwood Products			1.06	1.09	1.11	0.00	0.00	0.00	0.00	0.00	0.00	
53	Plastic Products			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
54	Large Ships			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
55	Large Aircraft			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
56	High Performance Maintenance Coating			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
57	Special Purpose Coating			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
58	Others			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
59	***Sub-Total: Ind Surface Coating***	1.80	0.00				1.83	0.00	1.85	0.00	1.86	0.00	
60													
61	**NON - INDUSTRIAL SURFACE COATING**												
62	Architectural Coatings			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
63	Auto Refinishing			1.1	1.14	1.18	0.00	0.00	0.00	0.00	0.00	0.00	
64	Traffic Markings			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
65	***Sub-Total: Non-Ind Surf Coating***	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	
66													
67	**OTHER SOLVENT USE**												
68	Degreasing			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
69	Petroleum Dry Cleaning			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
70	Graphic Arts			1.03	1.04	1.05	0.00	0.00	0.00	0.00	0.00	0.00	
71	Adhesives			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
72	Cutback Asphalt Paving			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
73	Emulsified Asphalt Paving			1.09	1.13	1.16	0.00	0.00	0.00	0.00	0.00	0.00	
74	Solvent Extraction Processes			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
75	Consumer/Commercial Solvent Use			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
76	Other			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
77	***Sub-Total: Other Solvent Use***	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	

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	A	B	C	D	E	F	J	K	L	M	N	O	P
79		1996 PI NOx		Growth Factor			2002 NOx		2005 NOx		2007 NOx		Controls
80		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
81	***STATIONARY SOURCES (cont)***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
82													
83	**WASTE DISPOSAL**												
84	Municipal Waste Combustion	9,337.39		1	1	1	8,838.76	0.00	7,814.10	0.00	7,814.10	0.00	CT MWC Rule-Phase1 (2000) & Phase 2 (2003)
85	Municipal Waste Landfills			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
86	TSDFs			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
87	POTWs			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
88	ITWs			1.01	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	
89	***Sub-Total: Waste Disposal***	9,337.39	0.00				8,838.76	0.00	7,814.10	0.00	7,814.10	0.00	
90													**Note: OTC/NBP Reductions**
91	**OTHER STATIONARY SOURCES**												**listed later in Table (SubTutals).**
92	Utility Fuel Combustion	36,146.96		1	1	1	36,146.96	0.00	36,146.96	0.00	36,146.96	0.00	OTC MOU (99);NBP(03)
93	Industrial Fuel Combustion	2,640.91	1,442.62	1.01	1.02	1.02	2,669.96	1,458.49	2,684.49	1,466.43	2,694.18	1,471.72	OTC MOU (99);NBP(03)
94	Commercial Fuel Combustion	1,095.76	1,146.32	1.07	1.11	1.14	1,177.45	1,231.77	1,218.29	1,274.50	1,245.52	1,302.99	
95	Residential Fuel Combustion		2,107.41	1.01	1.02	1.027	0.00	2,126.87	0.00	2,139.64	0.00	2,164.03	
96	Wood Stoves			1.01	1.02	1.027	0.00	0.00	0.00	0.00	0.00	0.00	
97	Forest Fires		0.00	1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
98	Structural Fires		129.23	1.01	1.02	1.027	0.00	130.42	0.00	131.21	0.00	132.70	
99	Open Burning		11.58	1.01	1.02	1.027	0.00	11.69	0.00	11.76	0.00	11.89	
100	Slash Burning			1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
101	Agricultural Burning			1	1	1	0.00	0.00	0.00	0.00	0.00	0.00	
102	Orchard Heaters			1.05	1.07	1.09	0.00	0.00	0.00	0.00	0.00	0.00	
103	Pesticide Applications			1.05	1.07	1.09	0.00	0.00	0.00	0.00	0.00	0.00	
104	Asphalt Roofing			1.13	1.19	1.23	0.00	0.00	0.00	0.00	0.00	0.00	
105	Internal Combustion Engines	863.52		1.06	1.1	1.12	918.95	0.00	946.66	0.00	965.14	0.00	OTC MOU (99);NBP(03)
106	***Sub-Total: Other Stationary Sources***	40,747.15	4,837.16				40,913.32	4,959.25	40,996.40	5,023.54	41,051.79	5,083.32	
107													
108	**COMMERCIAL PROCESSES**												
109	Bakeries	66.30		1.03	1.05	1.06	68.34	0.00	69.37	0.00	70.05	0.00	
110	Breweries			1.04	1.06	1.08	0.00	0.00	0.00	0.00	0.00	0.00	
111	***Sub-Total: Commercial Processes***	66.30	0.00				68.34	0.00	69.37	0.00	70.05	0.00	

Southwest Connecticut Severe 1-Hour Ozone Nonattainment Area
1996 and Projected 2002, 2005, and 2007 NOx Emissions
(Page 4 of 5)

	A	B	C	D	E	F	J	K	L	M	N	O	P
113		1996 PI NOx		Growth Factor			2002 NOx		2005 NOx		2007 NOx		Controls
114		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
115	***MOBILE SOURCES***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
116													
117	**ON - ROAD MOBILE SOURCES**												
118	Light Duty Gas Vehicles		49,492.00					30,274.00		19,870.00		15,767.20	Enh IM;RFG2;NLEV;Tier2(2004)
119	Light Duty Gas Truck 1		16,638.00					9,820.00		6,708.00		3,218.20	Enh IM;RFG2;NLEV;Tier2(2004)
120	Light Duty Gas Truck 2		9,134.00					6,388.00		5,608.00		4,533.00	Enh IM;RFG2;NLEV;Tier2(2004)
121	Heavy Duty Gas Vehicles		5,616.00					4,998.00		4,736.00		4,683.40	RFG2;Tier2(2004)
122	Light Duty Diesel Vehicle		144.00					126.00		130.00		130.00	
123	Light Duty Diesel Truck		80.00					66.00		58.00		14.80	Tier2(2004)
124	Heavy Duty Diesel Vehicle		29,470.00					22,764.00		19,104.00		17,530.00	HDDV Stds (2004)
125	Motorcycles		96.00					108.00		110.00		112.00	
126	***Sub-Total: On-Road Mobile Sources***	0.00	110,670.00				0.00	74,544.00	0.00	56,324.00	0.00	45,988.60	
127													
128	**NON - ROAD MOBILE SOURCES**												
129	Airport Equipment		0.00				0.00	0.00	0.00	0.00	0.00	0.00	RFG2
130	Commercial Equipment		3,582.14				0.00	4,653.20	0.00	4,859.03	0.00	4,956.54	RFG2;Federal Rules(96-08 phase-in)
131	Construction Equipment		41,054.63				0.00	38,194.43	0.00	35,240.00	0.00	32,640.12	RFG2;Federal Rules(96-08 phase-in)
132	Farm Equipment		121.60				0.00	112.28	0.00	103.62	0.00	96.01	RFG2;Federal Rules(96-08 phase-in)
133	Industrial Equipment		12,773.11				0.00	13,800.91	0.00	14,179.25	0.00	14,381.18	RFG2;Federal Rules(96-08 phase-in)
134	Lawn & Garden		7,658.54				0.00	9,858.01	0.00	9,746.43	0.00	9,845.84	RFG2;Federal Rules(97-07 phase-in)
135	Logging Equipment		0.00				0.00	0.00	0.00	0.00	0.00	0.00	RFG2;Federal Rules(97-07 phase-in)
136	Recreational Equipment		27.85				0.00	31.57	0.00	28.78	0.00	28.46	RFG2
137	Recreational Vessels		328.28				0.00	374.40	0.00	406.81	0.00	431.50	RFG2;Federal Rules(98-06 phase-in)
138	Rail		88.84				0.00	94.03	0.00	89.86	0.00	85.75	Federal Rules(2000+ phase-in)
139	Aircraft		56.14	1.22	1.33	1.4	0.00	68.47	0.00	74.64	0.00	78.75	
140	Commercial Vessels		236.48	1.14	1.21	1.26	0.00	270.20	0.00	287.05	0.00	298.29	
141	***Sub-Total: Non-Road Mobile Sources***	0.00	65,927.60				0.00	67,457.50	0.00	65,015.47	0.00	62,842.44	

Southwest Connecticut Severe 1-Hour Ozone Nonattainment Area
1996 and Projected 2002, 2005, and 2007 NOx Emissions
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	A	B	C	D	E	F	J	K	L	M	N	O	P
143		1996 PI NOx		Growth Factor			2002 NOx		2005 NOx		2007 NOx		Controls
144		Point	Area	vs. 1996			Point	Area	Point	Area	Point	Area	Implemented
145	***NOx EMISSION TOTALS***	(lbs/day)	(lbs/day)	2002	2005	2007	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	(lbs/day)	After 1996
146	**STATIONARY SOURCES**												
147	Sub-Total: VOC Stor/Trans/Market	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	
148	Sub-Total: Industrial Processes	158.49	0.00				156.97	0.00	156.21	0.00	155.71	0.00	
149	Sub-Total: Ind Surface Coating	1.80	0.00				1.83	0.00	1.85	0.00	1.86	0.00	
150	Sub-Total: Non-Ind Surf Coating	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	
151	Sub-Total: Other Solvent Use	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00	
152	Sub-Total: Waste Disposal	9,337.39	0.00				8,838.76	0.00	7,814.10	0.00	7,814.10	0.00	
153	Sub-Total: Other Stationary Srcs	40,747.15	4,837.16				40,913.32	4,959.25	40,996.40	5,023.54	41,051.79	5,083.32	
154	Sub-Total: Commercial Processes	66.30	0.00				68.34	0.00	69.37	0.00	70.05	0.00	
155	***Sub-Total: Stationary Sources***	50,311.13	4,837.16				49,979.23	4,959.25	49,037.93	5,023.54	49,093.51	5,083.32	
156	***NOx Reductions due to OTC/MOU & NBP***						-2,692.11		-10,796.58		-10,796.58		
157													
158													
159	**MOBILE SOURCES**												
160	Sub-Total: On-Road Mobile Sources	0.00	110,670.00				0.00	76,780.32	0.00	58,013.72	0.00	47,368.26	**Includes 3% Modeling Uncertainty(2002-2007)**
161	Sub-Total: Non-Road Mobile Sources	0.00	65,927.60				0.00	67,457.50	0.00	65,015.47	0.00	62,842.44	
162	***Sub-Total: Mobile Sources***	0.00	176,597.60				0.00	144,237.82	0.00	123,029.19	0.00	110,210.70	
163													
164													
165													
166	***Sub-Total: Biogenic NOx Emissions***	0.00	1,106.06				0.00	1,106.06	0.00	1,106.06	0.00	1,106.06	
167													
168	**GRAND TOTAL NOx**	50,311.13	182,540.82				47,287.12	150,303.13	38,241.36	129,158.79	38,296.94	116,400.08	
169													
170													
171	**SUMMARY BY SOURCE CATEGORY**												
172													
173		**1996 Actual**					**2002 Projected**		**2005 Projected**		**2007 Projected**		
174		**(lbs/day)**	**(tons/day)**				**(lbs/day)**	**(tons/day)**	**(lbs/day)**	**(tons/day)**	**(lbs/day)**	**(tons/day)**	
175	Stationary Point	50,311.13	25.16				47,287.12	23.64	38,241.36	19.12	38,296.94	19.15	
176	Stationary Area	4,837.16	2.42				4,959.25	2.48	5,023.54	2.51	5,083.32	2.54	
177	On - Road Mobile	110,670.00	55.34				76,780.32	38.39	58,013.72	29.01	47,368.26	23.68	**Conformity Budgets for 2002, 2005, and 2007**
178	Non - Road Mobile	65,927.60	32.96				67,457.50	33.73	65,015.47	32.51	62,842.44	31.42	
179	**TOTAL ANTHROPOGENIC NOx**	231,745.89	115.87				########	98.24	166,294.09	83.15	153,590.96	76.80	
180													

Appendix D

MOBILE5b Input Files

1990 Revised MOBILE5b Input File for SW CT

```
1          PROMPT - vertical flag input, no prompting
Post1999 ROP/1990 Run/No 1990 CAAA/Jan 1991 ef/SWCT/New Inp(cm only for 90)
1          TAMFLG - default tampering rates
1          SPDFLG - one speed for all vehicle types per scenario
2          VMFLAG - use one VMT mix for each scenario
3          MYMRFG - CT specific registration distribution by age
5          NEWFLG - all 1990 caaa disabled, use default bers
2          IMFLAG - Yes basic, annual I/M program
1          ALHFLG - no additional correction factor inputs
1          ATPFLG - no anti-tampering program
5          RLFLAG - no refueling losses considered
2          LOCFLG - read in local area parameters one time
1          TEMFLG - use min and max  temperatures
3          OUTFMT - 112 column descriptive format
4          PRTFLG - print all 3 pollutant emission factors
1          IDLFLG - DO NOT print idle emissions results
3          NMHFLG - print VOCs
1          HCFLAG - DO NOT print emission factor components
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.064 .080 .095 .103 .102 .071 .068 .044 .057 .033
.027 .047 .053 .026 .015 .010 .007 .008 .007 .005
.004 .004 .003 .003 .010
.027 .052 .062 .067 .067 .052 .045 .027 .028 .031
.033 .037 .034 .031 .020 .013 .018 .015 .013 .010
.010 .010 .008 .008 .045
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.040 .074 .088 .096 .095 .100 .083 .052 .043 .054
.051 .038 .035 .030 .018 .007 .009 .010 .009 .006
.005 .004 .003 .003 .006
.171 .186 .178 .156 .125 .096 .076 .058 .038 .031
.022 .056 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
83 22 68 20  9  9 085 111 2221 1111
91 no caaa FF    C  76.  95. 11.5  8.6 89 1 1 1 1   1 lap rec           0000000
1 91 65.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 65 MPH
.623.153.078.041.008.002.087.008
1 91 63.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 63 MPH
.623.153.078.041.008.002.087.008
1 91 58.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 58 MPH
.623.153.078.041.008.002.087.008
1 91 51.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 54 MPH
.623.153.078.041.008.002.087.008
1 91 45.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 45 MPH
.623.153.078.041.008.002.087.008
1 91 33.0 89.0 20.6 27.3 20.6  1                   RURAL INTERSTATE 33 MPH
.623.153.078.041.008.002.087.008
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1 91 30.0 89.0 20.6 27.3 20.6  1                RURAL INTERSTATE 30 MPH
.623.153.078.041.008.002.087.008
1 91 20.0 89.0 20.6 27.3 20.6  1                RURAL INTERSTATE 20 MPH
.623.153.078.041.008.002.087.008
1 91 10.0 89.0 20.6 27.3 20.6  1                RURAL INTERSTATE 10 MPH
.623.153.078.041.008.002.087.008
1 91 65.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 65 MPH
.623.153.078.041.008.002.087.008
1 91 63.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 63 MPH
.623.153.078.041.008.002.087.008
1 91 58.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 58 MPH
.623.153.078.041.008.002.087.008
1 91 55.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 55 MPH
.683.167.085.020.009.002.026.008
1 91 54.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 54 MPH
.683.167.085.020.009.002.026.008
1 91 51.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 54 MPH
.623.153.078.041.008.002.087.008
1 91 51.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 51 MPH
.683.167.085.020.009.002.026.008
1 91 49.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 49 MPH
.683.167.085.020.009.002.026.008
1 91 45.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 45 MPH
.623.153.078.041.008.002.087.008
1 91 45.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 40 MPH
.683.167.085.020.009.002.026.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 35 MPH
.683.167.085.020.009.002.026.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 35 MPH
.707.172.087.007.009.002.008.008
1 91 33.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 33 MPH
.623.153.078.041.008.002.087.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 30 MPH
.623.153.078.041.008.002.087.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 30 MPH
.683.167.085.020.009.002.026.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 23 MPH
.707.172.087.007.009.002.008.008
1 91 20.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 20 MPH
.623.153.078.041.008.002.087.008
1 91 17.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 15 MPH
.683.167.085.020.009.002.026.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 10 MPH
.623.153.078.041.008.002.087.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  RURAL OTH. PRIN. ARTERIAL 10 MPH
.707.172.087.007.009.002.008.008
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1 91  5.0 89.0 20.6 27.3 20.6  1                    RURAL OTH. PRIN. ARTERIAL  5 MPH
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1 91 51.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 51 MPH
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1 91 49.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 49 MPH
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1 91 45.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 40 MPH
.677.165.083.018.009.002.038.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 35 MPH
.677.165.083.018.009.002.038.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 30 MPH
.677.165.083.018.009.002.038.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 30 MPH
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1 91 23.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 15 MPH
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1 91 10.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL 10 MPH
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1 91  5.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERAL RURAL  5 MPH
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1 91 49.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 49 MPH
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1 91 45.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 45 MPH
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1 91 40.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 35 MPH
.688.168.084.022.009.002.019.008
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1 91 35.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 35 MPH
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.688.168.084.022.009.002.019.008
1 91 30.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 27 MPH
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1 91 17.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 17 MPH
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1 91 15.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 15 MPH
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.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR  5 MPH
.688.168.084.022.009.002.019.008
1 91  5.0 89.0 20.6 27.3 20.6  1                    MAJOR COLLECTOR  5 MPH
.707.172.087.007.009.002.008.008
1 91 55.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 55 MPH
.686.166.084.018.009.002.027.008
1 91 54.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 54 MPH
.686.166.084.018.009.002.027.008
1 91 51.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 51 MPH
.686.166.084.018.009.002.027.008
1 91 49.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 49 MPH
.686.166.084.018.009.002.027.008
1 91 45.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 40 MPH
.686.166.084.018.009.002.027.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 35 MPH
.686.166.084.018.009.002.027.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 30 MPH
.686.166.084.018.009.002.027.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 15 MPH
.686.166.084.018.009.002.027.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                  MINOR COLLECTOR  5 MPH
.686.166.084.018.009.002.027.008
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1 91  5.0 89.0 20.6 27.3 20.6  1                MINOR COLLECTOR  5 MPH
.707.172.087.007.009.002.008.008
1 91 45.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                  LOCAL RURAL  5 MPH
.707.172.087.007.009.002.008.008
1 91 65.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 65 MPH
.640.155.078.029.009.002.079.008
1 91 63.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 63 MPH
.640.155.078.029.009.002.079.008
1 91 58.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 58 MPH
.640.155.078.029.009.002.079.008
1 91 51.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 51 MPH
.640.155.078.029.009.002.079.008
1 91 45.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 45 MPH
.640.155.078.029.009.002.079.008
1 91 33.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 33 MPH
.640.155.078.029.009.002.079.008
1 91 30.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 30 MPH
.640.155.078.029.009.002.079.008
1 91 20.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 20 MPH
.640.155.078.029.009.002.079.008
1 91 10.0 89.0 20.6 27.3 20.6  1                INTERSTATE URBAN 10 MPH
.640.155.078.029.009.002.079.008
1 91 65.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 65 MPH
.673.163.083.033.009.002.029.008
1 91 63.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 63 MPH
.673.163.083.033.009.002.029.008
1 91 58.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 58 MPH
.673.163.083.033.009.002.029.008
1 91 51.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 51 MPH
.673.163.083.033.009.002.029.008
1 91 45.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 45 MPH
.673.163.083.033.009.002.029.008
1 91 33.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 33 MPH
.673.163.083.033.009.002.029.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 30 MPH
.673.163.083.033.009.002.029.008
1 91 20.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 20 MPH
.673.163.083.033.009.002.029.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  OTHER EXPRESSWAY 10 MPH
.673.163.083.033.009.002.029.008
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1 91 55.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 55 MPH
.694.169.086.015.009.002.016.009
1 91 54.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 54 MPH
.694.169.086.015.009.002.016.009
1 91 51.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 51 MPH
.694.169.086.015.009.002.016.009
1 91 49.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 49 MPH
.694.169.086.015.009.002.016.009
1 91 45.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 40 MPH
.694.169.086.015.009.002.016.009
1 91 40.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 35 MPH
.694.169.086.015.009.002.016.009
1 91 35.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 30 MPH
.694.169.086.015.009.002.016.009
1 91 30.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 15 MPH
.694.169.086.015.009.002.016.009
1 91 15.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN  5 MPH
.694.169.086.015.009.002.016.009
1 91  5.0 89.0 20.6 27.3 20.6  1                OTHER PRIN. ARTERIAL URBAN  5 MPH
.707.172.087.007.009.002.008.008
1 91 55.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 55 MPH
.703.172.086.010.009.002.009.009
1 91 54.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 54 MPH
.703.172.086.010.009.002.009.009
1 91 51.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 51 MPH
.703.172.086.010.009.002.009.009
1 91 49.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 49 MPH
.703.172.086.010.009.002.009.009
1 91 45.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 40 MPH
.703.172.086.010.009.002.009.009
1 91 40.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 35 MPH
.703.172.086.010.009.002.009.009
1 91 35.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  MINOR ARTERIAL 30 MPH
.703.172.086.010.009.002.009.009
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1 91 30.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 15 MPH
.703.172.086.010.009.002.009.009
1 91 15.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL  5 MPH
.703.172.086.010.009.002.009.009
1 91  5.0 89.0 20.6 27.3 20.6  1                    MINOR ARTERIAL  5 MPH
.707.172.087.007.009.002.008.008
1 91 55.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 55 MPH
.701.170.086.012.009.002.011.009
1 91 54.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 54 MPH
.701.170.086.012.009.002.011.009
1 91 51.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 51 MPH
.701.170.086.012.009.002.011.009
1 91 49.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 49 MPH
.701.170.086.012.009.002.011.009
1 91 45.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 45 MPH
.707.172.087.007.009.002.008.008
1 91 40.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 40 MPH
.701.170.086.012.009.002.011.009
1 91 40.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 35 MPH
.701.170.086.012.009.002.011.009
1 91 35.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 30 MPH
.701.170.086.012.009.002.011.009
1 91 30.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 15 MPH
.701.170.086.012.009.002.011.009
1 91 15.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                  COLLECTOR 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                  COLLECTOR  5 MPH
.701.170.086.012.009.002.011.009
1 91  5.0 89.0 20.6 27.3 20.6  1                  COLLECTOR  5 MPH
.707.172.087.007.009.002.008.008
1 91 45.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 45 MPH
.707.172.087.007.009.002.008.008
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1 91 40.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 40 MPH
.707.172.087.007.009.002.008.008
1 91 35.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 35 MPH
.707.172.087.007.009.002.008.008
1 91 30.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 30 MPH
.707.172.087.007.009.002.008.008
1 91 27.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 27 MPH
.707.172.087.007.009.002.008.008
1 91 23.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 23 MPH
.707.172.087.007.009.002.008.008
1 91 17.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 17 MPH
.707.172.087.007.009.002.008.008
1 91 15.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 15 MPH
.707.172.087.007.009.002.008.008
1 91 10.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN 10 MPH
.707.172.087.007.009.002.008.008
1 91  5.0 89.0 20.6 27.3 20.6  1                    LOCAL URBAN  5 MPH
.707.172.087.007.009.002.008.008
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1996 Revised MOBILE5b Input File for SW CT

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5          PROMPT - 1996 OZONE SEVERE AREA
SWCT:Rerun 1996 Periodic Inventory with MOB5b;Default cold modes;Revised '96
Reg/VMT mix;Rest same
1          TAMFLG - DEFAULT TAMPERING RATES
1          SPDFLG - ONE SPEED PER SCENARIO
2          VMFLAG - NON-DEFAULT VMT MIX FOR EVERY SCENARIO
3          MYMRFG - NON-DEFAULT MY REG DISTRIBUTION
2          NEWFLG - MOBILE BASIC EXHAUST EMISSION RATES
6          IMFLAG - 2 I/M program w/technician training credit
1          ALHFLG - NO ADDITIONAL CORRETION FACTORS
2          ATPFLG - ATP w/o Pressure & Purge
5          RLFLAG - zero refueling
2          LOCFLG - enter LAP record once
1          TEMFLG - MOBILE DETERMINE THE TEMPS BASED MIN, MAX
3          OUTFMT - print 112 column descriptive output format
4          PRTFLG - print exhaust HC, CO and NOx results
1          IDLFLG - NO IDLE EMISSION FACTORS CALCULATED
3          NMHFLG - VOC hydrocarbons
1          HCFLAG - print evap HC components
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.091 .126 .092 .064 .045 .035 .051 .086 .098 .073
.065 .048 .034 .020 .011 .009 .007 .010 .009 .006
.003 .002 .001 .002 .011
.057 .080 .056 .033 .029 .024 .037 .069 .080 .072
.072 .050 .037 .022 .015 .015 .028 .036 .031 .023
.017 .013 .013 .013 .079
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.069 .102 .067 .053 .042 .040 .049 .056 .068 .061
.047 .034 .024 .014 .014 .013 .030 .040 .031 .027
.010 .012 .013 .014 .069
.056 .064 .049 .049 .037 .029 .032 .036 .035 .044
.059 .511 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 50 01.840 00.000
2 1 2 1
83 22 68 80 5. 7. 92. 1 1 2222 1111                ANNUAL FOR OLDIES
83 22 81 20 5. 7. 92. 1 2 2222 1111                BIENNIAL for 81+
83 71 20 2222 12  092 12211111                     ATP w/catalyst, fuel
96 SEVERE        C  76.  95.  7.9  7.9 96 1 1 2 1   1  Reform C
4 97 65.0 89.0 20.6 27.3 20.6  1                   Rural INTERSTATE 65 mph
98 21
.563.175.080.032.002.001.145.002
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4 97 63.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 63 mph
98 21
.563.175.080.032.002.001.145.002
4 97 56.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 56 mph
98 21
.563.175.080.032.002.001.145.002
4 97 54.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 54 mph
98 21
.563.175.080.032.002.001.145.002
4 97 51.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 51 mph
98 21
.563.175.080.032.002.001.145.002
4 97 40.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 40 mph
98 21
.563.175.080.032.002.001.145.002
4 97 30.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 30 mph
98 21
.563.175.080.032.002.001.145.002
4 97 20.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 20 mph
98 21
.563.175.080.032.002.001.145.002
4 97 10.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 10 mph
98 21
.563.175.080.032.002.001.145.002
4 97 65.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 65 mph
98 21
.563.175.080.032.002.001.145.002
4 97 63.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 63 mph
98 21
.563.175.080.032.002.001.145.002
4 97 56.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 56 mph
98 21
.563.175.080.032.002.001.145.002
4 97 54.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 54 mph
98 21
.563.175.080.032.002.001.145.002
4 97 51.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 51 mph
98 21
.563.175.080.032.002.001.145.002
4 97 40.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 40 mph
98 21
.563.175.080.032.002.001.145.002
4 97 30.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 30 mph
98 21
.563.175.080.032.002.001.145.002
4 97 20.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 20 mph
98 21
.563.175.080.032.002.001.145.002
4 97 10.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 10 mph
98 21
.563.175.080.032.002.001.145.002
4 97 50.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 50 mph
98 21
.650.201.092.023.002.001.029.002
4 97 45.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 45 mph
98 21
.650.201.092.023.002.001.029.002
4 97 40.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 40 mph
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98 21
.650.201.092.023.002.001.029.002
4 97 35.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 35 mph
98 21
.650.201.092.023.002.001.029.002
4 97 30.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 30 mph
98 21
.650.201.092.023.002.001.029.002
4 97 25.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 25 mph
98 21
.650.201.092.023.002.001.029.002
4 97 20.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 20 mph
98 21
.650.201.092.023.002.001.029.002
4 97 15.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 15 mph
98 21
.650.201.092.023.002.001.029.002
4 97 10.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART 10 mph
98 21
.650.201.092.023.002.001.029.002
4 97  5.0 89.0 20.6 27.3 20.6  1                Rural A OTHER PRINC ART  5 mph
98 21
.650.201.092.023.002.001.029.002
4 97 50.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 50 mph
98 21
.641.199.091.020.002.001.045.001
4 97 45.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 45 mph
98 21
.641.199.091.020.002.001.045.001
4 97 40.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 40 mph
98 21
.641.199.091.020.002.001.045.001
4 97 35.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 35 mph
98 21
.641.199.091.020.002.001.045.001
4 97 30.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 30 mph
98 21
.641.199.091.020.002.001.045.001
4 97 25.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 25 mph
98 21
.641.199.091.020.002.001.045.001
4 97 20.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 20 mph
98 21
.641.199.091.020.002.001.045.001
4 97 15.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 15 mph
98 21
.641.199.091.020.002.001.045.001
4 97 10.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART 10 mph
98 21
.641.199.091.020.002.001.045.001
4 97  5.0 89.0 20.6 27.3 20.6  1                Rural MINOR ART  5 mph
98 21
.641.199.091.020.002.001.045.001
4 97 45.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 45 mph
98 21
.669.207.095.012.002.001.013.001
4 97 40.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 40 mph
98 21
```

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.669.207.095.012.002.001.013.001
4 97 35.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 35 mph
98 21
.669.207.095.012.002.001.013.001
4 97 30.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 30 mph
98 21
.669.207.095.012.002.001.013.001
4 97 25.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 25 mph
98 21
.669.207.095.012.002.001.013.001
4 97 10.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 10 mph
98 21
.669.207.095.012.002.001.013.001
4 97  5.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL  5 mph
98 21
.669.207.095.012.002.001.013.001
4 97 45.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 45 mph
98 21
.672.208.095.007.002.001.009.006
4 97 40.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 40 mph
98 21
.672.208.095.007.002.001.009.006
4 97 35.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 35 mph
98 21
.672.208.095.007.002.001.009.006
4 97 30.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 30 mph
98 21
.672.208.095.007.002.001.009.006
4 97 25.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 25 mph
98 21
.672.208.095.007.002.001.009.006
4 97 10.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 10 mph
98 21
.672.208.095.007.002.001.009.006
4 97  5.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL  5 mph
98 21
.672.208.095.007.002.001.009.006
4 97 45.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 45 mph
98 21
.666.206.095.016.002.001.013.001
4 97 40.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 40 mph
98 21
.666.206.095.016.002.001.013.001
4 97 35.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 35 mph
98 21
.666.206.095.016.002.001.013.001
4 97 30.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 30 mph
98 21
.666.206.095.016.002.001.013.001
4 97 25.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 25 mph
98 21
.666.206.095.016.002.001.013.001
4 97 20.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 20 mph
98 21
.666.206.095.016.002.001.013.001
4 97 10.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 10 mph
98 21
.666.206.095.016.002.001.013.001
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4 97 65.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 65 mph
98 21
.624.193.089.033.002.001.057.001
4 97 63.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 63 mph
98 21
.624.193.089.033.002.001.057.001
4 97 56.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 56 mph
98 21
.624.193.089.033.002.001.057.001
4 97 54.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 54 mph
98 21
.624.193.089.033.002.001.057.001
4 97 51.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 51 mph
98 21
.624.193.089.033.002.001.057.001
4 97 40.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 40 mph
98 21
.624.193.089.033.002.001.057.001
4 97 30.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 30 mph
98 21
.624.193.089.033.002.001.057.001
4 97 20.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 20 mph
98 21
.624.193.089.033.002.001.057.001
4 97 10.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 10 mph
98 21
.624.193.089.033.002.001.057.001
4 97 65.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 65 mph
98 21
.645.199.091.023.002.001.037.002
4 97 63.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 63 mph
98 21
.645.199.091.023.002.001.037.002
4 97 56.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 56 mph
98 21
.645.199.091.023.002.001.037.002
4 97 54.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 54 mph
98 21
.645.199.091.023.002.001.037.002
4 97 51.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 51 mph
98 21
.645.199.091.023.002.001.037.002
4 97 40.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 40 mph
98 21
.645.199.091.023.002.001.037.002
4 97 30.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 30 mph
98 21
.645.199.091.023.002.001.037.002
4 97 20.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 20 mph
98 21
.645.199.091.023.002.001.037.002
4 97 10.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 10 mph
98 21
.645.199.091.023.002.001.037.002
4 97 50.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 50 mph
98 21
.658.204.093.014.002.001.025.003
4 97 45.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 45 mph
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98 21
.658.204.093.014.002.001.025.003
4 97 40.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 40 mph
98 21
.658.204.093.014.002.001.025.003
4 97 35.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 35 mph
98 21
.658.204.093.014.002.001.025.003
4 97 30.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 30 mph
98 21
.658.204.093.014.002.001.025.003
4 97 25.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 25 mph
98 21
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4 97 20.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 20 mph
98 21
.658.204.093.014.002.001.025.003
4 97 15.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 15 mph
98 21
.658.204.093.014.002.001.025.003
4 97 10.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 10 mph
98 21
.658.204.093.014.002.001.025.003
4 97  5.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART  5 mph
98 21
.658.204.093.014.002.001.025.003
4 97 50.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 50 mph
98 21
.667.207.095.009.002.001.016.003
4 97 45.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 45 mph
98 21
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4 97 40.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 40 mph
98 21
.667.207.095.009.002.001.016.003
4 97 35.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 35 mph
98 21
.667.207.095.009.002.001.016.003
4 97 30.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 30 mph
98 21
.667.207.095.009.002.001.016.003
4 97 25.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 25 mph
98 21
.667.207.095.009.002.001.016.003
4 97 20.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 20 mph
98 21
.667.207.095.009.002.001.016.003
4 97 15.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 15 mph
98 21
.667.207.095.009.002.001.016.003
4 97 10.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 10 mph
98 21
.667.207.095.009.002.001.016.003
4 97  5.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART  5 mph
98 21
.667.207.095.009.002.001.016.003
4 97 45.0 89.0 20.6 27.3 20.6  1                Urban COLL 45 mph
98 21
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.673.209.096.009.002.001.008.002
4 97 40.0 89.0 20.6 27.3 20.6  1                    Urban COLL 40 mph
98 21
.673.209.096.009.002.001.008.002
4 97 35.0 89.0 20.6 27.3 20.6  1                    Urban COLL 35 mph
98 21
.673.209.096.009.002.001.008.002
4 97 30.0 89.0 20.6 27.3 20.6  1                    Urban COLL 30 mph
98 21
.673.209.096.009.002.001.008.002
4 97 25.0 89.0 20.6 27.3 20.6  1                    Urban COLL 25 mph
98 21
.673.209.096.009.002.001.008.002
4 97 10.0 89.0 20.6 27.3 20.6  1                    Urban COLL 10 mph
98 21
.673.209.096.009.002.001.008.002
4 97  5.0 89.0 20.6 27.3 20.6  1                    Urban COLL  5 mph
98 21
.673.209.096.009.002.001.008.002
4 97 45.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 45 mph
98 21
.674.209.096.008.002.001.007.003
4 97 40.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 40 mph
98 21
.674.209.096.008.002.001.007.003
4 97 35.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 35 mph
98 21
.674.209.096.008.002.001.007.003
4 97 30.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 30 mph
98 21
.674.209.096.008.002.001.007.003
4 97 25.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 25 mph
98 21
.674.209.096.008.002.001.007.003
4 97 20.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 20 mph
98 21
.674.209.096.008.002.001.007.003
4 97 10.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 10 mph
98 21
.674.209.096.008.002.001.007.003
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2002 MOBILE5b Input File for SW CT

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5           PROMPT - vertical flag input, no prompting
MOB5B SWCT 2002 O3 Budget(1/1/03 run)
(ASMfinal,Pr&Pur,RFG2,NLEV,HDDV'04,96Reg,96RevVMT%,EPACM%)
1           TAMFLG - default tampering rates
1           SPDFLG - one speed for all vehicle types per scenario
2           VMFLAG - use one VMT mix for each scenario - 1996 CT/LDV weighted
w/EPA
3           MYMRFG - CT specific registration distribution by age - 1996
2           NEWFLG - include 2004 HDD NOx/NMHC stds in one-time-data per 1/30/98
EPA Info Sheet#5
6           IMFLAG - YES, two I/M programs, both ASM2525, one annual, one biennial
1           ALHFLG - no additional correction factor inputs
8           ATPFLG - ATP, full pressure, and purge checks of evap system
5           RLFLAG - no refueling losses considered
2           LOCFLG - read in local area parameters one time
1           TEMFLG - use min and max temperatures
3           OUTFMT - 112 column descriptive format
4           PRTFLG - print all 3 pollutant emission factors
1           IDLFLG - DO NOT print idle emission results
3           NMHFLG - print VOCs
1           HCFLAG - DO NOT print emission factor components
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.091 .126 .092 .064 .045 .035 .051 .086 .098 .073
.065 .048 .034 .020 .011 .009 .007 .010 .009 .006
.003 .002 .001 .002 .011
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.072 .050 .037 .022 .015 .015 .028 .036 .031 .023
.017 .013 .013 .013 .079
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.069 .102 .067 .053 .042 .040 .049 .056 .068 .061
.047 .034 .024 .014 .014 .013 .030 .040 .031 .027
.010 .012 .013 .014 .069
.056 .064 .049 .049 .037 .029 .032 .036 .035 .044
.059 .511 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 50 01.840 00.000
2 1 2 1
83 22 68 80 3. 3. 96. 111 2222 5211 25.0 25.0 1.0  ASM annual tight ctpts
83 22 81 20 3. 3. 96. 112 2222 5211 25.0 25.0 1.0  ASM biennial tight ctpts
83 71 20 2222 12  096 12211111                      atp 2/22/95 no gas cap
83 71 20 2222 12  096                               prs 2/22/95
83 81 20 2222 12  096                               prg
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02 SERIOUS SI    C  76.  95.  8.1 07.5 00 1 1 2 1   1     RFG
4 03 65.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 65 mph
98 21
.563.175.080.032.002.001.145.002
4 03 63.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 63 mph
98 21
.563.175.080.032.002.001.145.002
4 03 56.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 56 mph
98 21
.563.175.080.032.002.001.145.002
4 03 54.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 54 mph
98 21
.563.175.080.032.002.001.145.002
4 03 51.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 51 mph
98 21
.563.175.080.032.002.001.145.002
4 03 40.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 40 mph
98 21
.563.175.080.032.002.001.145.002
4 03 30.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 30 mph
98 21
.563.175.080.032.002.001.145.002
4 03 20.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 20 mph
98 21
.563.175.080.032.002.001.145.002
4 03 10.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 10 mph
98 21
.563.175.080.032.002.001.145.002
4 03 65.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 65 mph
98 21
.563.175.080.032.002.001.145.002
4 03 63.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 63 mph
98 21
.563.175.080.032.002.001.145.002
4 03 56.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 56 mph
98 21
.563.175.080.032.002.001.145.002
4 03 54.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 54 mph
98 21
.563.175.080.032.002.001.145.002
4 03 51.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 51 mph
98 21
.563.175.080.032.002.001.145.002
4 03 40.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 40 mph
98 21
.563.175.080.032.002.001.145.002
4 03 30.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 30 mph
98 21
.563.175.080.032.002.001.145.002
4 03 20.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 20 mph
98 21
.563.175.080.032.002.001.145.002
4 03 10.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 10 mph
98 21
.563.175.080.032.002.001.145.002
4 03 50.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 50 mph
98 21
.650.201.092.023.002.001.029.002
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4 03 45.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 45 mph
98 21
.650.201.092.023.002.001.029.002
4 03 40.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 40 mph
98 21
.650.201.092.023.002.001.029.002
4 03 35.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 35 mph
98 21
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4 03 30.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 30 mph
98 21
.650.201.092.023.002.001.029.002
4 03 25.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 25 mph
98 21
.650.201.092.023.002.001.029.002
4 03 20.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 20 mph
98 21
.650.201.092.023.002.001.029.002
4 03 15.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 15 mph
98 21
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4 03 10.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 10 mph
98 21
.650.201.092.023.002.001.029.002
4 03  5.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART  5 mph
98 21
.650.201.092.023.002.001.029.002
4 03 50.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 50 mph
98 21
.641.199.091.020.002.001.045.001
4 03 45.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 45 mph
98 21
.641.199.091.020.002.001.045.001
4 03 40.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 40 mph
98 21
.641.199.091.020.002.001.045.001
4 03 35.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 35 mph
98 21
.641.199.091.020.002.001.045.001
4 03 30.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 30 mph
98 21
.641.199.091.020.002.001.045.001
4 03 25.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 25 mph
98 21
.641.199.091.020.002.001.045.001
4 03 20.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 20 mph
98 21
.641.199.091.020.002.001.045.001
4 03 15.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 15 mph
98 21
.641.199.091.020.002.001.045.001
4 03 10.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 10 mph
98 21
.641.199.091.020.002.001.045.001
4 03  5.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART  5 mph
98 21
.641.199.091.020.002.001.045.001
4 03 45.0 89.0 20.6 27.3 20.6  1                    Rural MAJOR COLL 45 mph
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98 21
.669.207.095.012.002.001.013.001
4 03 40.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 40 mph
98 21
.669.207.095.012.002.001.013.001
4 03 35.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 35 mph
98 21
.669.207.095.012.002.001.013.001
4 03 30.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 30 mph
98 21
.669.207.095.012.002.001.013.001
4 03 25.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 25 mph
98 21
.669.207.095.012.002.001.013.001
4 03 10.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 10 mph
98 21
.669.207.095.012.002.001.013.001
4 03  5.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL  5 mph
98 21
.669.207.095.012.002.001.013.001
4 03 45.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 45 mph
98 21
.672.208.095.007.002.001.009.006
4 03 40.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 40 mph
98 21
.672.208.095.007.002.001.009.006
4 03 35.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 35 mph
98 21
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4 03 30.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 30 mph
98 21
.672.208.095.007.002.001.009.006
4 03 25.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 25 mph
98 21
.672.208.095.007.002.001.009.006
4 03 10.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 10 mph
98 21
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4 03  5.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL  5 mph
98 21
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4 03 45.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 45 mph
98 21
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4 03 40.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 40 mph
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4 03 35.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 35 mph
98 21
.666.206.095.016.002.001.013.001
4 03 30.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 30 mph
98 21
.666.206.095.016.002.001.013.001
4 03 25.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 25 mph
98 21
.666.206.095.016.002.001.013.001
4 03 20.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 20 mph
98 21
```

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.666.206.095.016.002.001.013.001
4 03 10.0 89.0 20.6 27.3 20.6  1                    Rural LOCAL 10 mph
98 21
.666.206.095.016.002.001.013.001
4 03 65.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 65 mph
98 21
.624.193.089.033.002.001.057.001
4 03 63.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 63 mph
98 21
.624.193.089.033.002.001.057.001
4 03 56.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 56 mph
98 21
.624.193.089.033.002.001.057.001
4 03 54.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 54 mph
98 21
.624.193.089.033.002.001.057.001
4 03 51.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 51 mph
98 21
.624.193.089.033.002.001.057.001
4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 40 mph
98 21
.624.193.089.033.002.001.057.001
4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 30 mph
98 21
.624.193.089.033.002.001.057.001
4 03 20.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 20 mph
98 21
.624.193.089.033.002.001.057.001
4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban INTERSTATE 10 mph
98 21
.624.193.089.033.002.001.057.001
4 03 65.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 65 mph
98 21
.645.199.091.023.002.001.037.002
4 03 63.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 63 mph
98 21
.645.199.091.023.002.001.037.002
4 03 56.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 56 mph
98 21
.645.199.091.023.002.001.037.002
4 03 54.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 54 mph
98 21
.645.199.091.023.002.001.037.002
4 03 51.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 51 mph
98 21
.645.199.091.023.002.001.037.002
4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 40 mph
98 21
.645.199.091.023.002.001.037.002
4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 30 mph
98 21
.645.199.091.023.002.001.037.002
4 03 20.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 20 mph
98 21
.645.199.091.023.002.001.037.002
4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban OTHER EXP 10 mph
98 21
.645.199.091.023.002.001.037.002
```

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4 03 50.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 50 mph
98 21
.658.204.093.014.002.001.025.003
4 03 45.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 45 mph
98 21
.658.204.093.014.002.001.025.003
4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 40 mph
98 21
.658.204.093.014.002.001.025.003
4 03 35.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 35 mph
98 21
.658.204.093.014.002.001.025.003
4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 30 mph
98 21
.658.204.093.014.002.001.025.003
4 03 25.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 25 mph
98 21
.658.204.093.014.002.001.025.003
4 03 20.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 20 mph
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4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 10 mph
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4 03 50.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 50 mph
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4 03 45.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 45 mph
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4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 40 mph
98 21
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4 03 35.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 35 mph
98 21
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4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 30 mph
98 21
.667.207.095.009.002.001.016.003
4 03 25.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 25 mph
98 21
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4 03 20.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 20 mph
98 21
.667.207.095.009.002.001.016.003
4 03 15.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 15 mph
98 21
.667.207.095.009.002.001.016.003
4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 10 mph
98 21
.667.207.095.009.002.001.016.003
4 03  5.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART  5 mph
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98 21
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4 03 45.0 89.0 20.6 27.3 20.6  1                    Urban COLL 45 mph
98 21
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4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban COLL 40 mph
98 21
.673.209.096.009.002.001.008.002
4 03 35.0 89.0 20.6 27.3 20.6  1                    Urban COLL 35 mph
98 21
.673.209.096.009.002.001.008.002
4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban COLL 30 mph
98 21
.673.209.096.009.002.001.008.002
4 03 25.0 89.0 20.6 27.3 20.6  1                    Urban COLL 25 mph
98 21
.673.209.096.009.002.001.008.002
4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban COLL 10 mph
98 21
.673.209.096.009.002.001.008.002
4 03  5.0 89.0 20.6 27.3 20.6  1                    Urban COLL  5 mph
98 21
.673.209.096.009.002.001.008.002
4 03 45.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 45 mph
98 21
.674.209.096.008.002.001.007.003
4 03 40.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 40 mph
98 21
.674.209.096.008.002.001.007.003
4 03 35.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 35 mph
98 21
.674.209.096.008.002.001.007.003
4 03 30.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 30 mph
98 21
.674.209.096.008.002.001.007.003
4 03 25.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 25 mph
98 21
.674.209.096.008.002.001.007.003
4 03 20.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 20 mph
98 21
.674.209.096.008.002.001.007.003
4 03 10.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 10 mph
98 21
.674.209.096.008.002.001.007.003
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2005 MOBILE5b Input File for SW CT

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5           PROMPT - vertical flag input, no prompting
MOB5B SWCT 2005 O3 Budget(1/1/06
run)(ASMfinal,Pr&Pur,RFG2,NLEV,HDDV'04,96Reg,96RevVMT%,EPACM%,w/oTier2)
1           TAMFLG - default tampering rates
1           SPDFLG - one speed for all vehicle types per scenario
2           VMFLAG - use one VMT mix for each scenario - 1996 CT/LDV weighted
w/EPA
3           MYMRFG - CT specific registration distribution by age - 1996
2           NEWFLG - include 2004 HDD NOx/NMHC stds in one-time-data per 1/30/98
EPA Info Sheet#5
6           IMFLAG - YES, two I/M programs, both ASM2525, one annual, one biennial
1           ALHFLG - no additional correction factor inputs
8           ATPFLG - ATP, full pressure, and purge checks of evap system
5           RLFLAG - no refueling losses considered
2           LOCFLG - read in local area parameters one time
1           TEMFLG - use min and max temperatures
3           OUTFMT - 112 column descriptive format
4           PRTFLG - print all 3 pollutant emission factors
1           IDLFLG - DO NOT print idle emission results
3           NMHFLG - print VOCs
1           HCFLAG - DO NOT print emission factor components
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.091 .126 .092 .064 .045 .035 .051 .086 .098 .073
.065 .048 .034 .020 .011 .009 .007 .010 .009 .006
.003 .002 .001 .002 .011
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.072 .050 .037 .022 .015 .015 .028 .036 .031 .023
.017 .013 .013 .013 .079
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
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.047 .034 .024 .014 .014 .013 .030 .040 .031 .027
.010 .012 .013 .014 .069
.056 .064 .049 .049 .037 .029 .032 .036 .035 .044
.059 .511 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 50 01.840 00.000
2 1 2 1
83 22 68 80 3. 3. 96. 111 2222 5211 25.0 25.0 1.0  ASM annual tight ctpts
83 22 81 20 3. 3. 96. 112 2222 5211 25.0 25.0 1.0  ASM biennial tight ctpts
83 71 20 2222 12  096 12211111                      atp 2/22/95 no gas cap
83 71 20 2222 12  096                               prs 2/22/95
83 81 20 2222 12  096                               prg
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05 SERIOUS SI    C  76.  95.  8.1 07.5 00 1 1 2 1   1     RFG
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98 21
.563.175.080.032.002.001.145.002
4 06 63.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 63 mph
98 21
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4 06 56.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 56 mph
98 21
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4 06 54.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 54 mph
98 21
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4 06 51.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 51 mph
98 21
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4 06 40.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 40 mph
98 21
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4 06 30.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 30 mph
98 21
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4 06 20.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 20 mph
98 21
.563.175.080.032.002.001.145.002
4 06 10.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 10 mph
98 21
.563.175.080.032.002.001.145.002
4 06 65.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 65 mph
98 21
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4 06 63.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 63 mph
98 21
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4 06 56.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 56 mph
98 21
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4 06 54.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 54 mph
98 21
.563.175.080.032.002.001.145.002
4 06 51.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 51 mph
98 21
.563.175.080.032.002.001.145.002
4 06 40.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 40 mph
98 21
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4 06 30.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 30 mph
98 21
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4 06 20.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 20 mph
98 21
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4 06 10.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 10 mph
98 21
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4 06 50.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 50 mph
98 21
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98 21
.650.201.092.023.002.001.029.002
4 06 35.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 35 mph
98 21
.650.201.092.023.002.001.029.002
4 06 30.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 30 mph
98 21
.650.201.092.023.002.001.029.002
4 06 25.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 25 mph
98 21
.650.201.092.023.002.001.029.002
4 06 20.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 20 mph
98 21
.650.201.092.023.002.001.029.002
4 06 15.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 15 mph
98 21
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4 06 10.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 10 mph
98 21
.650.201.092.023.002.001.029.002
4 06  5.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART  5 mph
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4 06 50.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 50 mph
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98 21
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98 21
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4 06 35.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 35 mph
98 21
.641.199.091.020.002.001.045.001
4 06 30.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 30 mph
98 21
.641.199.091.020.002.001.045.001
4 06 25.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 25 mph
98 21
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4 06 20.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 20 mph
98 21
.641.199.091.020.002.001.045.001
4 06 15.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 15 mph
98 21
.641.199.091.020.002.001.045.001
4 06 10.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 10 mph
98 21
.641.199.091.020.002.001.045.001
4 06  5.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART  5 mph
98 21
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4 06 45.0 89.0 20.6 27.3 20.6  1                    Rural MAJOR COLL 45 mph
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98 21
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4 06 40.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 40 mph
98 21
.669.207.095.012.002.001.013.001
4 06 35.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 35 mph
98 21
.669.207.095.012.002.001.013.001
4 06 30.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 30 mph
98 21
.669.207.095.012.002.001.013.001
4 06 25.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 25 mph
98 21
.669.207.095.012.002.001.013.001
4 06 10.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 10 mph
98 21
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4 06  5.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL  5 mph
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4 06 35.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 35 mph
98 21
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4 06 30.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 30 mph
98 21
.672.208.095.007.002.001.009.006
4 06 25.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 25 mph
98 21
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4 06  5.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL  5 mph
98 21
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4 06 45.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 45 mph
98 21
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4 06 40.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 40 mph
98 21
.666.206.095.016.002.001.013.001
4 06 35.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 35 mph
98 21
.666.206.095.016.002.001.013.001
4 06 30.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 30 mph
98 21
.666.206.095.016.002.001.013.001
4 06 25.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 25 mph
98 21
.666.206.095.016.002.001.013.001
4 06 20.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 20 mph
98 21
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.666.206.095.016.002.001.013.001
4 06 10.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 10 mph
98 21
.666.206.095.016.002.001.013.001
4 06 65.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 65 mph
98 21
.624.193.089.033.002.001.057.001
4 06 63.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 63 mph
98 21
.624.193.089.033.002.001.057.001
4 06 56.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 56 mph
98 21
.624.193.089.033.002.001.057.001
4 06 54.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 54 mph
98 21
.624.193.089.033.002.001.057.001
4 06 51.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 51 mph
98 21
.624.193.089.033.002.001.057.001
4 06 40.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 40 mph
98 21
.624.193.089.033.002.001.057.001
4 06 30.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 30 mph
98 21
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4 06 20.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 20 mph
98 21
.624.193.089.033.002.001.057.001
4 06 10.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 10 mph
98 21
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4 06 65.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 65 mph
98 21
.645.199.091.023.002.001.037.002
4 06 63.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 63 mph
98 21
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4 06 56.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 56 mph
98 21
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4 06 54.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 54 mph
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.645.199.091.023.002.001.037.002
4 06 51.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 51 mph
98 21
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4 06 40.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 40 mph
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4 06 30.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 30 mph
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98 21
.645.199.091.023.002.001.037.002
4 06 10.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 10 mph
98 21
.645.199.091.023.002.001.037.002
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4 06 50.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 50 mph
98 21
.658.204.093.014.002.001.025.003
4 06 45.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 45 mph
98 21
.658.204.093.014.002.001.025.003
4 06 40.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 40 mph
98 21
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4 06 35.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 35 mph
98 21
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4 06 30.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 30 mph
98 21
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4 06 25.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 25 mph
98 21
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4 06 20.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 20 mph
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4 06 15.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 15 mph
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4 06 10.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART 10 mph
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4 06  5.0 89.0 20.6 27.3 20.6  1                Urban OTHER PRINC ART  5 mph
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4 06 50.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 50 mph
98 21
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4 06 45.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 45 mph
98 21
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4 06 40.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 40 mph
98 21
.667.207.095.009.002.001.016.003
4 06 35.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 35 mph
98 21
.667.207.095.009.002.001.016.003
4 06 30.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 30 mph
98 21
.667.207.095.009.002.001.016.003
4 06 25.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 25 mph
98 21
.667.207.095.009.002.001.016.003
4 06 20.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 20 mph
98 21
.667.207.095.009.002.001.016.003
4 06 15.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 15 mph
98 21
.667.207.095.009.002.001.016.003
4 06 10.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART 10 mph
98 21
.667.207.095.009.002.001.016.003
4 06  5.0 89.0 20.6 27.3 20.6  1                Urban MINOR ART  5 mph
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98 21
.667.207.095.009.002.001.016.003
4 06 45.0 89.0 20.6 27.3 20.6  1                    Urban COLL 45 mph
98 21
.673.209.096.009.002.001.008.002
4 06 40.0 89.0 20.6 27.3 20.6  1                    Urban COLL 40 mph
98 21
.673.209.096.009.002.001.008.002
4 06 35.0 89.0 20.6 27.3 20.6  1                    Urban COLL 35 mph
98 21
.673.209.096.009.002.001.008.002
4 06 30.0 89.0 20.6 27.3 20.6  1                    Urban COLL 30 mph
98 21
.673.209.096.009.002.001.008.002
4 06 25.0 89.0 20.6 27.3 20.6  1                    Urban COLL 25 mph
98 21
.673.209.096.009.002.001.008.002
4 06 10.0 89.0 20.6 27.3 20.6  1                    Urban COLL 10 mph
98 21
.673.209.096.009.002.001.008.002
4 06  5.0 89.0 20.6 27.3 20.6  1                    Urban COLL  5 mph
98 21
.673.209.096.009.002.001.008.002
4 06 45.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 45 mph
98 21
.674.209.096.008.002.001.007.003
4 06 40.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 40 mph
98 21
.674.209.096.008.002.001.007.003
4 06 35.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 35 mph
98 21
.674.209.096.008.002.001.007.003
4 06 30.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 30 mph
98 21
.674.209.096.008.002.001.007.003
4 06 25.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 25 mph
98 21
.674.209.096.008.002.001.007.003
4 06 20.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 20 mph
98 21
.674.209.096.008.002.001.007.003
4 06 10.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 10 mph
98 21
.674.209.096.008.002.001.007.003
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2007 MOBILE5b Input File for SW CT

```
5           PROMPT - vertical flag input, no prompting
MOB5B SWCT 2007 O3 Budget(1/1/08
run)(ASMfinal,Pr&Pur,RFG2,NLEV,HDDV'04,96Reg,96RevVMT%,EPACM%,w/oTier2)
1           TAMFLG - default tampering rates
1           SPDFLG - one speed for all vehicle types per scenario
2           VMFLAG - use one VMT mix for each scenario - 1996 CT/LDV weighted
w/EPA
3           MYMRFG - CT specific registration distribution by age - 1996
2           NEWFLG - include 2004 HDD NOx/NMHC stds in one-time-data per 1/30/98
EPA Info Sheet#5
6           IMFLAG - YES, two I/M programs, both ASM2525, one annual, one biennial
1           ALHFLG - no additional correction factor inputs
8           ATPFLG - ATP, full pressure, and purge checks of evap system
5           RLFLAG - no refueling losses considered
2           LOCFLG - read in local area parameters one time
1           TEMFLG - use min and max temperatures
3           OUTFMT - 112 column descriptive format
4           PRTFLG - print all 3 pollutant emission factors
1           IDLFLG - DO NOT print idle emission results
3           NMHFLG - print VOCs
1           HCFLAG - DO NOT print emission factor components
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.091 .126 .092 .064 .045 .035 .051 .086 .098 .073
.065 .048 .034 .020 .011 .009 .007 .010 .009 .006
.003 .002 .001 .002 .011
.057 .080 .056 .033 .029 .024 .037 .069 .080 .072
.072 .050 .037 .022 .015 .015 .028 .036 .031 .023
.017 .013 .013 .013 .079
.067 .086 .073 .075 .068 .065 .071 .079 .082 .083
.069 .051 .038 .022 .013 .010 .007 .007 .006 .004
.002 .001 .002 .002 .018
.095 .102 .094 .076 .060 .058 .054 .073 .084 .077
.065 .044 .031 .017 .010 .008 .006 .012 .009 .005
.003 .002 .002 .002 .012
.069 .102 .067 .053 .042 .040 .049 .056 .068 .061
.047 .034 .024 .014 .014 .013 .030 .040 .031 .027
.010 .012 .013 .014 .069
.056 .064 .049 .049 .037 .029 .032 .036 .035 .044
.059 .511 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
004
1 7 3 90 90 05.639 00.000
1 7 3 91 97 04.598 00.000
1 7 3 98 03 03.679 00.000
1 7 3 04 50 01.840 00.000
2 1 2 1
83 22 68 80 3. 3. 96. 111 2222 5211 25.0 25.0 1.0  ASM annual tight ctpts
83 22 81 20 3. 3. 96. 112 2222 5211 25.0 25.0 1.0  ASM biennial tight ctpts
83 71 20 2222 12  096 12211111                      atp 2/22/95 no gas cap
83 71 20 2222 12  096                               prs 2/22/95
83 81 20 2222 12  096                               prg
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07 SERIOUS SI    C  76.  95.  8.1 07.5 00 1 1 2 1   1     RFG
4 08 65.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 65 mph
98 21
.563.175.080.032.002.001.145.002
4 08 63.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 63 mph
98 21
.563.175.080.032.002.001.145.002
4 08 56.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 56 mph
98 21
.563.175.080.032.002.001.145.002
4 08 54.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 54 mph
98 21
.563.175.080.032.002.001.145.002
4 08 51.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 51 mph
98 21
.563.175.080.032.002.001.145.002
4 08 40.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 40 mph
98 21
.563.175.080.032.002.001.145.002
4 08 30.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 30 mph
98 21
.563.175.080.032.002.001.145.002
4 08 20.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 20 mph
98 21
.563.175.080.032.002.001.145.002
4 08 10.0 89.0 20.6 27.3 20.6  1                    Rural INTERSTATE 10 mph
98 21
.563.175.080.032.002.001.145.002
4 08 65.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 65 mph
98 21
.563.175.080.032.002.001.145.002
4 08 63.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 63 mph
98 21
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4 08 56.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 56 mph
98 21
.563.175.080.032.002.001.145.002
4 08 54.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 54 mph
98 21
.563.175.080.032.002.001.145.002
4 08 51.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 51 mph
98 21
.563.175.080.032.002.001.145.002
4 08 40.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 40 mph
98 21
.563.175.080.032.002.001.145.002
4 08 30.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 30 mph
98 21
.563.175.080.032.002.001.145.002
4 08 20.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 20 mph
98 21
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4 08 10.0 89.0 20.6 27.3 20.6  1                    Rural E OTHER PRINC ART 10 mph
98 21
.563.175.080.032.002.001.145.002
4 08 50.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 50 mph
98 21
.650.201.092.023.002.001.029.002
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98 21
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4 08 40.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 40 mph
98 21
.650.201.092.023.002.001.029.002
4 08 35.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 35 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 30 mph
98 21
.650.201.092.023.002.001.029.002
4 08 25.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 25 mph
98 21
.650.201.092.023.002.001.029.002
4 08 20.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 20 mph
98 21
.650.201.092.023.002.001.029.002
4 08 15.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 15 mph
98 21
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4 08 10.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART 10 mph
98 21
.650.201.092.023.002.001.029.002
4 08  5.0 89.0 20.6 27.3 20.6  1                    Rural A OTHER PRINC ART  5 mph
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4 08 50.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 50 mph
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98 21
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98 21
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4 08 35.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 35 mph
98 21
.641.199.091.020.002.001.045.001
4 08 30.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 30 mph
98 21
.641.199.091.020.002.001.045.001
4 08 25.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 25 mph
98 21
.641.199.091.020.002.001.045.001
4 08 20.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 20 mph
98 21
.641.199.091.020.002.001.045.001
4 08 15.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 15 mph
98 21
.641.199.091.020.002.001.045.001
4 08 10.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART 10 mph
98 21
.641.199.091.020.002.001.045.001
4 08  5.0 89.0 20.6 27.3 20.6  1                    Rural MINOR ART  5 mph
98 21
.641.199.091.020.002.001.045.001
4 08 45.0 89.0 20.6 27.3 20.6  1                    Rural MAJOR COLL 45 mph
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98 21
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4 08 40.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 40 mph
98 21
.669.207.095.012.002.001.013.001
4 08 35.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 35 mph
98 21
.669.207.095.012.002.001.013.001
4 08 30.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 30 mph
98 21
.669.207.095.012.002.001.013.001
4 08 25.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 25 mph
98 21
.669.207.095.012.002.001.013.001
4 08 10.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL 10 mph
98 21
.669.207.095.012.002.001.013.001
4 08  5.0 89.0 20.6 27.3 20.6  1                Rural MAJOR COLL  5 mph
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98 21
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4 08 35.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 35 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 30 mph
98 21
.672.208.095.007.002.001.009.006
4 08 25.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 25 mph
98 21
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4 08 10.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL 10 mph
98 21
.672.208.095.007.002.001.009.006
4 08  5.0 89.0 20.6 27.3 20.6  1                Rural MINOR COLL  5 mph
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4 08 30.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 30 mph
98 21
.666.206.095.016.002.001.013.001
4 08 25.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 25 mph
98 21
.666.206.095.016.002.001.013.001
4 08 20.0 89.0 20.6 27.3 20.6  1                Rural LOCAL 20 mph
98 21
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.666.206.095.016.002.001.013.001
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4 08 65.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 65 mph
98 21
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4 08 63.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 63 mph
98 21
.624.193.089.033.002.001.057.001
4 08 56.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 56 mph
98 21
.624.193.089.033.002.001.057.001
4 08 54.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 54 mph
98 21
.624.193.089.033.002.001.057.001
4 08 51.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 51 mph
98 21
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4 08 40.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 40 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 30 mph
98 21
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4 08 20.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 20 mph
98 21
.624.193.089.033.002.001.057.001
4 08 10.0 89.0 20.6 27.3 20.6  1                Urban INTERSTATE 10 mph
98 21
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4 08 65.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 65 mph
98 21
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98 21
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4 08 56.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 56 mph
98 21
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4 08 54.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 54 mph
98 21
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4 08 51.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 51 mph
98 21
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4 08 40.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 40 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 30 mph
98 21
.645.199.091.023.002.001.037.002
4 08 20.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 20 mph
98 21
.645.199.091.023.002.001.037.002
4 08 10.0 89.0 20.6 27.3 20.6  1                Urban OTHER EXP 10 mph
98 21
.645.199.091.023.002.001.037.002
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4 08 50.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 50 mph
98 21
.658.204.093.014.002.001.025.003
4 08 45.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 45 mph
98 21
.658.204.093.014.002.001.025.003
4 08 40.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 40 mph
98 21
.658.204.093.014.002.001.025.003
4 08 35.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 35 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 30 mph
98 21
.658.204.093.014.002.001.025.003
4 08 25.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 25 mph
98 21
.658.204.093.014.002.001.025.003
4 08 20.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 20 mph
98 21
.658.204.093.014.002.001.025.003
4 08 15.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 15 mph
98 21
.658.204.093.014.002.001.025.003
4 08 10.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART 10 mph
98 21
.658.204.093.014.002.001.025.003
4 08  5.0 89.0 20.6 27.3 20.6  1                    Urban OTHER PRINC ART  5 mph
98 21
.658.204.093.014.002.001.025.003
4 08 50.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 50 mph
98 21
.667.207.095.009.002.001.016.003
4 08 45.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 45 mph
98 21
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4 08 40.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 40 mph
98 21
.667.207.095.009.002.001.016.003
4 08 35.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 35 mph
98 21
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4 08 30.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 30 mph
98 21
.667.207.095.009.002.001.016.003
4 08 25.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 25 mph
98 21
.667.207.095.009.002.001.016.003
4 08 20.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 20 mph
98 21
.667.207.095.009.002.001.016.003
4 08 15.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 15 mph
98 21
.667.207.095.009.002.001.016.003
4 08 10.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART 10 mph
98 21
.667.207.095.009.002.001.016.003
4 08  5.0 89.0 20.6 27.3 20.6  1                    Urban MINOR ART  5 mph
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98 21
.667.207.095.009.002.001.016.003
4 08 45.0 89.0 20.6 27.3 20.6  1                    Urban COLL 45 mph
98 21
.673.209.096.009.002.001.008.002
4 08 40.0 89.0 20.6 27.3 20.6  1                    Urban COLL 40 mph
98 21
.673.209.096.009.002.001.008.002
4 08 35.0 89.0 20.6 27.3 20.6  1                    Urban COLL 35 mph
98 21
.673.209.096.009.002.001.008.002
4 08 30.0 89.0 20.6 27.3 20.6  1                    Urban COLL 30 mph
98 21
.673.209.096.009.002.001.008.002
4 08 25.0 89.0 20.6 27.3 20.6  1                    Urban COLL 25 mph
98 21
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4 08 10.0 89.0 20.6 27.3 20.6  1                    Urban COLL 10 mph
98 21
.673.209.096.009.002.001.008.002
4 08  5.0 89.0 20.6 27.3 20.6  1                    Urban COLL  5 mph
98 21
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4 08 45.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 45 mph
98 21
.674.209.096.008.002.001.007.003
4 08 40.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 40 mph
98 21
.674.209.096.008.002.001.007.003
4 08 35.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 35 mph
98 21
.674.209.096.008.002.001.007.003
4 08 30.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 30 mph
98 21
.674.209.096.008.002.001.007.003
4 08 25.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 25 mph
98 21
.674.209.096.008.002.001.007.003
4 08 20.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 20 mph
98 21
.674.209.096.008.002.001.007.003
4 08 10.0 89.0 20.6 27.3 20.6  1                    Urban LOCAL 10 mph
98 21
.674.209.096.008.002.001.007.003
```

2007 MOBILE5b Input File to Determine Evaporative Rates for RVP=6.8

```
1          PROMPT - vertical flag input, no prompting included          0000000
Post1999 ROP/2007 Run/No 1990 CAAA/Jan 2008 ef/SWCT/no RFG/RVP 6.8 refuel
1          TAMFLG - default tampering rates                             0000000
1          SPDFLG - one speed for all vehicle types per scenario        0000000
2          VMFLAG - use one VMT mix for each scenario                   0000000
3          MYMRFG - CT specific registration distribution by age        0000000
5          NEWFLG - all 1990 caaa disabled, use default bers            0000000
1          IMFLAG - No I/M program                                      0000000
1          ALHFLG - no additional correction factor inputs              0000000
1          ATPFLG - no anti-tampering program                           0000000
3          RLFLAG - refueling losses considered                         0000000
2          LOCFLG - read in local area parameters one time              0000000
1          TEMFLG - use min and max  temperatures                       0000000
3          OUTFMT - 112 column descriptive format                       0000000
4          PRTFLG - print all 3 pollutant emission factors              0000000
1          IDLFLG - DO NOT print idle emissions results                 0000000
3          NMHFLG - print VOCs                                          0000000
3          HCFLAG - print emission factor components                    0000000
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.064 .080 .095 .103 .102 .071 .068 .044 .057 .033
.027 .047 .053 .026 .015 .010 .007 .008 .007 .005
.004 .004 .003 .003 .010
.027 .052 .062 .067 .067 .052 .045 .027 .028 .031
.033 .037 .034 .031 .020 .013 .018 .015 .013 .010
.010 .010 .008 .008 .045
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.040 .074 .088 .096 .095 .100 .083 .052 .043 .054
.051 .038 .035 .030 .018 .007 .009 .010 .009 .006
.005 .004 .003 .003 .006
.171 .186 .178 .156 .125 .096 .076 .058 .038 .031
.022 .056 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
09 1111
08 no caaa FF    C  76.  95.  7.9  6.8 00 1 1 1 1   1 lap rec           0000000
1 08 65.0 89.0 20.6 27.3 20.6  1                  RURAL INTERSTATE 65 MPH
.623.153.078.041.008.002.087.008
```

2007 MOBILE5b Input File to Determine Evaporative Rates for RVP=7.9

```
1          PROMPT - vertical flag input, no prompting included          0000000
Post1999 ROP/2007 Run/No 1990 CAAA/Jan 2008 ef/SWCT/no RFG/RVP 7.9 refuel
1          TAMFLG - default tampering rates                             0000000
1          SPDFLG - one speed for all vehicle types per scenario        0000000
2          VMFLAG - use one VMT mix for each scenario                   0000000
3          MYMRFG - CT specific registration distribution by age        0000000
5          NEWFLG - all 1990 caaa disabled, use default bers            0000000
1          IMFLAG - No I/M program                                      0000000
1          ALHFLG - no additional correction factor inputs              0000000
1          ATPFLG - no anti-tampering program                           0000000
3          RLFLAG - refueling losses considered                         0000000
2          LOCFLG - read in local area parameters one time              0000000
1          TEMFLG - use min and max  temperatures                       0000000
3          OUTFMT - 112 column descriptive format                       0000000
4          PRTFLG - print all 3 pollutant emission factors              0000000
1          IDLFLG - DO NOT print idle emissions results                 0000000
3          NMHFLG - print VOCs                                          0000000
3          HCFLAG - print emission factor components                    0000000
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.064 .080 .095 .103 .102 .071 .068 .044 .057 .033
.027 .047 .053 .026 .015 .010 .007 .008 .007 .005
.004 .004 .003 .003 .010
.027 .052 .062 .067 .067 .052 .045 .027 .028 .031
.033 .037 .034 .031 .020 .013 .018 .015 .013 .010
.010 .010 .008 .008 .045
.058 .087 .109 .117 .119 .111 .104 .073 .053 .054
.048 .031 .030 .020 .009 .007 .006 .005 .004 .003
.003 .002 .002 .002 .004
.075 .093 .111 .120 .119 .095 .080 .057 .038 .033
.029 .031 .030 .024 .014 .010 .007 .008 .006 .005
.004 .004 .003 .003 .010
.040 .074 .088 .096 .095 .100 .083 .052 .043 .054
.051 .038 .035 .030 .018 .007 .009 .010 .009 .006
.005 .004 .003 .003 .006
.171 .186 .178 .156 .125 .096 .076 .058 .038 .031
.022 .056 .000 .000 .000 .000 .000 .000 .000 .000
.000 .000 .000 .000 .000
09 1111
08 no caaa FF    C  76.  95.  7.9  7.9 00 1 1 1 1   1 lap rec           0000000
1 08 65.0 89.0 20.6 27.3 20.6  1                  RURAL INTERSTATE 65 MPH
.623.153.078.041.008.002.087.008
```

Appendix E

NONROAD Model Inputs

1990 SWCT NONROAD Model Run Parameters

```
  EPA`s NONROAD Emissions Model, Core Model Ver. 2.1, Dec 1998     Nov 22
11:52:35: 2000

                  *** Output Files ***

         Output data file    :c:\nonroad\ctruns\1990\fair90a.out

                  *** Input Files ***

         Options file        :C:\NONROAD\CTRUNS\1990\FAIR90A.OPT
         Allocation XREF file:c:\nonroad\data\allocate\allocate.xrf
         Activity file       :c:\nonroad\data\activity\activity.dat
         State/Regions file  :c:\nonroad\data\season\season.dat
         Seasonality file    :c:\nonroad\data\season\season.dat
         Tech fractions file :c:\nonroad\data\tech\tech.dat

                  *** Population Files ***

                            :c:\nonroad\data\pop\ct.pop

                  *** Emission Factors Files ***

         BSFC file           :c:\nonroad\data\emsfac\bsfc.emf
         THC EXHAUST file    :c:\nonroad\data\emsfac\exhthc.emf
         CO EXHAUST file     :c:\nonroad\data\emsfac\exhco.emf
         NOX EXHAUST file    :c:\nonroad\data\emsfac\exhnox.emf
         CO2 EXHAUST file    : Not Supplied.
         SOX EXHAUST file    : Not Supplied.
         PM EXHAUST file     :c:\nonroad\data\emsfac\exhpm.emf
         CRANKCASE file      :c:\nonroad\data\emsfac\crank.emf
         HOT SOAKS file      : Not Supplied.
         DIURNAL file        :c:\nonroad\data\emsfac\diurnal.emf
         REFUELING file      : Not Supplied.
         SPILLAGE file       :c:\nonroad\data\emsfac\spillage.emf
         RUNINGLOSS file     : Not Supplied.
         RESTNGLOSS file     : Not Supplied.

                  *** Deterioration Factors Files ***

         THC EXHAUST file    :c:\nonroad\data\detfac\exhthc.det
         CO EXHAUST file     :c:\nonroad\data\detfac\exhco.det
         NOX EXHAUST file    :c:\nonroad\data\detfac\exhnox.det
         CO2 EXHAUST file    : Not Supplied.
         SOX EXHAUST file    : Not Supplied.
         PM EXHAUST file     :c:\nonroad\data\detfac\exhpm.det
         CRANKCASE file      : Not Supplied.
         HOT SOAKS file      : Not Supplied.
         DIURNAL file        : Not Supplied.
         REFUELING file      : Not Supplied.
         SPILLAGE file       : Not Supplied.
         RUNINGLOSS file     : Not Supplied.
         RESTNGLOSS file     : Not Supplied.
```

```
                    *** Spatial Allocation Files ***

                              :c:\nonroad\data\allocate\ct_airtr.alo
                              :c:\nonroad\data\allocate\ct_const.alo
                              :c:\nonroad\data\allocate\ct_farms.alo
                              :c:\nonroad\data\allocate\ct_golf.alo
                              :c:\nonroad\data\allocate\ct_holsl.alo
                              :c:\nonroad\data\allocate\ct_house.alo
                              :c:\nonroad\data\allocate\ct_loggn.alo
                              :c:\nonroad\data\allocate\ct_lscap.alo
                              :c:\nonroad\data\allocate\ct_metal.alo
                              :c:\nonroad\data\allocate\ct_mnfg.alo
                              :c:\nonroad\data\allocate\ct_oil.alo
                              :c:\nonroad\data\allocate\ct_pop.alo
                              :c:\nonroad\data\allocate\ct_rvprk.alo
                              :c:\nonroad\data\allocate\ct_water.alo

                    *** Growth Indicator Files ***

                              :C:\nonroad\data\growth\nation.grw

                    *** Scenario Specific Parameters ***

          First Title line    :FAIRFIELD CTY 1990 TYP SUMMER DAY (DEFAULTS EXC
BELOW)
          Second Title line   :RVP=8.7; TEMP 76/95/89
          Fuel RVP (psi)      :  8.70
          Fuel Oxygen weight %:  0.00
          Gasoline Sulfur %   :  0.03
          Diesel Sulfur %     :  0.33
          LPG/CNG Sulfur %    :  0.00
          Minimum Temperature : 76.00
          Maximum Temperature : 95.00
          Average Ambient Temp: 89.00
          Altitude of region  :LOW

                    *** Period Parameters ***

          Year of Inventory   :1990
          Inventory for       :SEASONAL period
          Emissions summed for:TYPICAL DAY
          Season              :SUMMER
          Day of week         :WEEKDAY

                    *** Region of Interest ***

          Region level        : County-level estimates
          Counties of Interest
                              :09001 - Fairfield County, Connecticut

                    *** Equipment Types ***

          All equipment types.

     **** Number of Population Records Found ****

                     09000 Connecticut       : 1009
```

1996 SWCT NONROAD Model Run Parameters

```
  EPA`s NONROAD Emissions Model, Core Model Ver. 2.1, Dec 1998     Nov 24
09:05:47: 2000

                    *** Output Files ***

          Output data file    :c:\nonroad\ctruns\1996\fair96a.out

                    *** Input Files ***

          Options file        :C:\NONROAD\CTRUNS\1996\FAIR96A.OPT
          Allocation XREF file:c:\nonroad\data\allocate\allocate.xrf
          Activity file       :c:\nonroad\data\activity\activity.dat
          State/Regions file  :c:\nonroad\data\season\season.dat
          Seasonality file    :c:\nonroad\data\season\season.dat
          Tech fractions file :c:\nonroad\data\tech\tech.dat

                    *** Population Files ***

                              :c:\nonroad\data\pop\ct.pop

                    *** Emission Factors Files ***

          BSFC file           :c:\nonroad\data\emsfac\bsfc.emf
          THC EXHAUST file    :c:\nonroad\data\emsfac\exhthc.emf
          CO EXHAUST file     :c:\nonroad\data\emsfac\exhco.emf
          NOX EXHAUST file    :c:\nonroad\data\emsfac\exhnox.emf
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\emsfac\exhpm.emf
          CRANKCASE file      :c:\nonroad\data\emsfac\crank.emf
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        :c:\nonroad\data\emsfac\diurnal.emf
          REFUELING file      : Not Supplied.
          SPILLAGE file       :c:\nonroad\data\emsfac\spillage.emf
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.

                    *** Deterioration Factors Files ***

          THC EXHAUST file    :c:\nonroad\data\detfac\exhthc.det
          CO EXHAUST file     :c:\nonroad\data\detfac\exhco.det
          NOX EXHAUST file    :c:\nonroad\data\detfac\exhnox.det
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\detfac\exhpm.det
          CRANKCASE file      : Not Supplied.
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        : Not Supplied.
          REFUELING file      : Not Supplied.
          SPILLAGE file       : Not Supplied.
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.
```

```
                    *** Spatial Allocation Files ***

                              :c:\nonroad\data\allocate\ct_airtr.alo
                              :c:\nonroad\data\allocate\ct_const.alo
                              :c:\nonroad\data\allocate\ct_farms.alo
                              :c:\nonroad\data\allocate\ct_golf.alo
                              :c:\nonroad\data\allocate\ct_holsl.alo
                              :c:\nonroad\data\allocate\ct_house.alo
                              :c:\nonroad\data\allocate\ct_loggn.alo
                              :c:\nonroad\data\allocate\ct_lscap.alo
                              :c:\nonroad\data\allocate\ct_metal.alo
                              :c:\nonroad\data\allocate\ct_mnfg.alo
                              :c:\nonroad\data\allocate\ct_oil.alo
                              :c:\nonroad\data\allocate\ct_pop.alo
                              :c:\nonroad\data\allocate\ct_rvprk.alo
                              :c:\nonroad\data\allocate\ct_water.alo

                    *** Growth Indicator Files ***

                              :C:\nonroad\data\growth\nation.grw

                    *** Scenario Specific Parameters ***

          First Title line    :FAIRFIELD CTY 1996 TYP SUMMER DAY (DEFAULTS EXC
BELOW)
          Second Title line   :RVP=7.9; OXY=2.0; TEMP 76/95/89
          Fuel RVP (psi)      :  7.90
          Fuel Oxygen weight %:  2.00
          Gasoline Sulfur %   :  0.03
          Diesel Sulfur %     :  0.33
          LPG/CNG Sulfur %    :  0.00
          Minimum Temperature : 76.00
          Maximum Temperature : 95.00
          Average Ambient Temp: 89.00
          Altitude of region  :LOW

                    *** Period Parameters ***

          Year of Inventory   :1996
          Inventory for       :SEASONAL period
          Emissions summed for:TYPICAL DAY
          Season              :SUMMER
          Day of week         :WEEKDAY

                    *** Region of Interest ***

          Region level        : County-level estimates
          Counties of Interest
                              :09001 - Fairfield County, Connecticut

                    *** Equipment Types ***

          All equipment types.

     **** Number of Population Records Found ****

                     09000 Connecticut       : 1009
```

2002 SWCT NONROAD Model Run Parameters

```
  EPA`s NONROAD Emissions Model, Core Model Ver. 2.1, Dec 1998     Nov 22
09:53:33: 2000

                    *** Output Files ***

          Output data file    :c:\nonroad\ctruns\2002\fair02a.out

                    *** Input Files ***

          Options file        :C:\NONROAD\CTRUNS\2002\FAIR02A.OPT
          Allocation XREF file:c:\nonroad\data\allocate\allocate.xrf
          Activity file       :c:\nonroad\data\activity\activity.dat
          State/Regions file  :c:\nonroad\data\season\season.dat
          Seasonality file    :c:\nonroad\data\season\season.dat
          Tech fractions file :c:\nonroad\data\tech\tech.dat

                    *** Population Files ***

                              :c:\nonroad\data\pop\ct.pop

                    *** Emission Factors Files ***

          BSFC file           :c:\nonroad\data\emsfac\bsfc.emf
          THC EXHAUST file    :c:\nonroad\data\emsfac\exhthc.emf
          CO EXHAUST file     :c:\nonroad\data\emsfac\exhco.emf
          NOX EXHAUST file    :c:\nonroad\data\emsfac\exhnox.emf
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\emsfac\exhpm.emf
          CRANKCASE file      :c:\nonroad\data\emsfac\crank.emf
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        :c:\nonroad\data\emsfac\diurnal.emf
          REFUELING file      : Not Supplied.
          SPILLAGE file       :c:\nonroad\data\emsfac\spillage.emf
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.

                    *** Deterioration Factors Files ***

          THC EXHAUST file    :c:\nonroad\data\detfac\exhthc.det
          CO EXHAUST file     :c:\nonroad\data\detfac\exhco.det
          NOX EXHAUST file    :c:\nonroad\data\detfac\exhnox.det
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\detfac\exhpm.det
          CRANKCASE file      : Not Supplied.
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        : Not Supplied.
          REFUELING file      : Not Supplied.
          SPILLAGE file       : Not Supplied.
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.
```

```
                    *** Spatial Allocation Files ***

                              :c:\nonroad\data\allocate\ct_airtr.alo
                              :c:\nonroad\data\allocate\ct_const.alo
                              :c:\nonroad\data\allocate\ct_farms.alo
                              :c:\nonroad\data\allocate\ct_golf.alo
                              :c:\nonroad\data\allocate\ct_holsl.alo
                              :c:\nonroad\data\allocate\ct_house.alo
                              :c:\nonroad\data\allocate\ct_loggn.alo
                              :c:\nonroad\data\allocate\ct_lscap.alo
                              :c:\nonroad\data\allocate\ct_metal.alo
                              :c:\nonroad\data\allocate\ct_mnfg.alo
                              :c:\nonroad\data\allocate\ct_oil.alo
                              :c:\nonroad\data\allocate\ct_pop.alo
                              :c:\nonroad\data\allocate\ct_rvprk.alo
                              :c:\nonroad\data\allocate\ct_water.alo

                    *** Growth Indicator Files ***

                              :C:\nonroad\data\growth\nation.grw

                    *** Scenario Specific Parameters ***

          First Title line    :FAIRFIELD CTY 2002 TYP SUMMER DAY (DEFAULTS EXC
BELOW)
          Second Title line   :RVP=6.8; OXY=2.0%; TEMP 76/95/89
          Fuel RVP (psi)      :  6.80
          Fuel Oxygen weight %:  2.00
          Gasoline Sulfur %   :  0.03
          Diesel Sulfur %     :  0.33
          LPG/CNG Sulfur %    :  0.00
          Minimum Temperature : 76.00
          Maximum Temperature : 95.00
          Average Ambient Temp: 89.00
          Altitude of region  :LOW

                    *** Period Parameters ***

          Year of Inventory   :2002
          Inventory for       :SEASONAL period
          Emissions summed for:TYPICAL DAY
          Season              :SUMMER
          Day of week         :WEEKDAY

                    *** Region of Interest ***

          Region level        : County-level estimates
          Counties of Interest
                              :09001 - Fairfield County, Connecticut

                    *** Equipment Types ***

          All equipment types.

     **** Number of Population Records Found ****

                     09000 Connecticut       : 1009
```

2005 SWCT NONROAD Model Run Parameters

```
  EPA`s NONROAD Emissions Model, Core Model Ver. 2.1, Dec 1998     Nov 22
09:49:10: 2000

                    *** Output Files ***

          Output data file    :c:\nonroad\ctruns\2005\fair05a.out

                    *** Input Files ***

          Options file        :C:\NONROAD\CTRUNS\2005\FAIR05A.OPT
          Allocation XREF file:c:\nonroad\data\allocate\allocate.xrf
          Activity file       :c:\nonroad\data\activity\activity.dat
          State/Regions file  :c:\nonroad\data\season\season.dat
          Seasonality file    :c:\nonroad\data\season\season.dat
          Tech fractions file :c:\nonroad\data\tech\tech.dat

                    *** Population Files ***

                              :c:\nonroad\data\pop\ct.pop

                    *** Emission Factors Files ***

          BSFC file           :c:\nonroad\data\emsfac\bsfc.emf
          THC EXHAUST file    :c:\nonroad\data\emsfac\exhthc.emf
          CO EXHAUST file     :c:\nonroad\data\emsfac\exhco.emf
          NOX EXHAUST file    :c:\nonroad\data\emsfac\exhnox.emf
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\emsfac\exhpm.emf
          CRANKCASE file      :c:\nonroad\data\emsfac\crank.emf
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        :c:\nonroad\data\emsfac\diurnal.emf
          REFUELING file      : Not Supplied.
          SPILLAGE file       :c:\nonroad\data\emsfac\spillage.emf
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.

                    *** Deterioration Factors Files ***

          THC EXHAUST file    :c:\nonroad\data\detfac\exhthc.det
          CO EXHAUST file     :c:\nonroad\data\detfac\exhco.det
          NOX EXHAUST file    :c:\nonroad\data\detfac\exhnox.det
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\detfac\exhpm.det
          CRANKCASE file      : Not Supplied.
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        : Not Supplied.
          REFUELING file      : Not Supplied.
          SPILLAGE file       : Not Supplied.
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.
```

```
                    *** Spatial Allocation Files ***

                              :c:\nonroad\data\allocate\ct_airtr.alo
                              :c:\nonroad\data\allocate\ct_const.alo
                              :c:\nonroad\data\allocate\ct_farms.alo
                              :c:\nonroad\data\allocate\ct_golf.alo
                              :c:\nonroad\data\allocate\ct_holsl.alo
                              :c:\nonroad\data\allocate\ct_house.alo
                              :c:\nonroad\data\allocate\ct_loggn.alo
                              :c:\nonroad\data\allocate\ct_lscap.alo
                              :c:\nonroad\data\allocate\ct_metal.alo
                              :c:\nonroad\data\allocate\ct_mnfg.alo
                              :c:\nonroad\data\allocate\ct_oil.alo
                              :c:\nonroad\data\allocate\ct_pop.alo
                              :c:\nonroad\data\allocate\ct_rvprk.alo
                              :c:\nonroad\data\allocate\ct_water.alo

                    *** Growth Indicator Files ***

                              :C:\nonroad\data\growth\nation.grw

                    *** Scenario Specific Parameters ***

          First Title line    :FAIRFIELD CTY 2005 TYP SUMMER DAY (DEFAULTS EXC
BELOW)
          Second Title line   :RVP=6.8; OXY=2.0%; TEMP 76/95/89
          Fuel RVP (psi)      :  6.80
          Fuel Oxygen weight %:  2.00
          Gasoline Sulfur %   :  0.03
          Diesel Sulfur %     :  0.33
          LPG/CNG Sulfur %    :  0.00
          Minimum Temperature : 76.00
          Maximum Temperature : 95.00
          Average Ambient Temp: 89.00
          Altitude of region  :LOW

                    *** Period Parameters ***

          Year of Inventory   :2005
          Inventory for       :SEASONAL period
          Emissions summed for:TYPICAL DAY
          Season              :SUMMER
          Day of week         :WEEKDAY

                    *** Region of Interest ***

          Region level        : County-level estimates
          Counties of Interest
                              :09001 - Fairfield County, Connecticut

                    *** Equipment Types ***

          All equipment types.

     **** Number of Population Records Found ****

                     09000 Connecticut       : 1009
```

2007 SWCT NONROAD Model Run Parameters

```
  EPA`s NONROAD Emissions Model, Core Model Ver. 2.1, Dec 1998     Nov 22
09:32:01: 2000

                    *** Output Files ***

          Output data file    :c:\nonroad\ctruns\2007\fair07a.out

                    *** Input Files ***

          Options file        :C:\NONROAD\CTRUNS\2007\FAIR07A.OPT
          Allocation XREF file:c:\nonroad\data\allocate\allocate.xrf
          Activity file       :c:\nonroad\data\activity\activity.dat
          State/Regions file  :c:\nonroad\data\season\season.dat
          Seasonality file    :c:\nonroad\data\season\season.dat
          Tech fractions file :c:\nonroad\data\tech\tech.dat

                    *** Population Files ***

                              :c:\nonroad\data\pop\ct.pop

                    *** Emission Factors Files ***

          BSFC file           :c:\nonroad\data\emsfac\bsfc.emf
          THC EXHAUST file    :c:\nonroad\data\emsfac\exhthc.emf
          CO EXHAUST file     :c:\nonroad\data\emsfac\exhco.emf
          NOX EXHAUST file    :c:\nonroad\data\emsfac\exhnox.emf
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\emsfac\exhpm.emf
          CRANKCASE file      :c:\nonroad\data\emsfac\crank.emf
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        :c:\nonroad\data\emsfac\diurnal.emf
          REFUELING file      : Not Supplied.
          SPILLAGE file       :c:\nonroad\data\emsfac\spillage.emf
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.

                    *** Deterioration Factors Files ***

          THC EXHAUST file    :c:\nonroad\data\detfac\exhthc.det
          CO EXHAUST file     :c:\nonroad\data\detfac\exhco.det
          NOX EXHAUST file    :c:\nonroad\data\detfac\exhnox.det
          CO2 EXHAUST file    : Not Supplied.
          SOX EXHAUST file    : Not Supplied.
          PM EXHAUST file     :c:\nonroad\data\detfac\exhpm.det
          CRANKCASE file      : Not Supplied.
          HOT SOAKS file      : Not Supplied.
          DIURNAL file        : Not Supplied.
          REFUELING file      : Not Supplied.
          SPILLAGE file       : Not Supplied.
          RUNINGLOSS file     : Not Supplied.
          RESTNGLOSS file     : Not Supplied.
```

```
                    *** Spatial Allocation Files ***

                              :c:\nonroad\data\allocate\ct_airtr.alo
                              :c:\nonroad\data\allocate\ct_const.alo
                              :c:\nonroad\data\allocate\ct_farms.alo
                              :c:\nonroad\data\allocate\ct_golf.alo
                              :c:\nonroad\data\allocate\ct_holsl.alo
                              :c:\nonroad\data\allocate\ct_house.alo
                              :c:\nonroad\data\allocate\ct_loggn.alo
                              :c:\nonroad\data\allocate\ct_lscap.alo
                              :c:\nonroad\data\allocate\ct_metal.alo
                              :c:\nonroad\data\allocate\ct_mnfg.alo
                              :c:\nonroad\data\allocate\ct_oil.alo
                              :c:\nonroad\data\allocate\ct_pop.alo
                              :c:\nonroad\data\allocate\ct_rvprk.alo
                              :c:\nonroad\data\allocate\ct_water.alo

                    *** Growth Indicator Files ***

                              :C:\nonroad\data\growth\nation.grw

                    *** Scenario Specific Parameters ***

          First Title line    :Fairfield Cty 2007 Typ Summer Day (defaults exc
below)
          Second Title line   :RVP=6.8; OXY=2.0%; TEMP 76/95/89
          Fuel RVP (psi)      :  6.80
          Fuel Oxygen weight %:  2.00
          Gasoline Sulfur %   :  0.03
          Diesel Sulfur %     :  0.33
          LPG/CNG Sulfur %    :  0.00
          Minimum Temperature : 76.00
          Maximum Temperature : 95.00
          Average Ambient Temp: 89.00
          Altitude of region  :LOW

                    *** Period Parameters ***

          Year of Inventory   :2007
          Inventory for       :SEASONAL period
          Emissions summed for:TYPICAL DAY
          Season              :SUMMER
          Day of week         :WEEKDAY

                    *** Region of Interest ***

          Region level        : County-level estimates
          Counties of Interest
                              :09001 - Fairfield County, Connecticut

                    *** Equipment Types ***

          All equipment types.

     **** Number of Population Records Found ****

                     09000 Connecticut       : 1009
```

Appendix F

Employment Projections by Industry Category
Connecticut Department of Labor

Employment Projections by Industry - Connecticut Statewide

Industry Title	Employment		Change	
	1996	2006	Net	%
Total All Industries	**1,689,710**	**1,870,480**	**180,770**	**10.7**
Agricultural, Forestry, and Fishing	**14,940**	**17,560**	**2,620**	**17.5**
Agricultural Production, Crops	3,790	4,100	310	8.2
Agricultural Services	10,060	12,260	2,210	22.0
Construction	**52,460**	**63,410**	**10,950**	**20.9**
General Building Contractors	10,270	12,970	2,710	26.3
General Contractors, except Building	6,770	7,930	1,170	17.3
Special Trade Contractors	35,430	42,500	7,080	20.0
Durable Goods Manufacturing	**194,220**	**195,870**	**1,650**	**0.9**
Lumber and Wood Products	2,490	2,730	240	9.4
Furniture and Fixtures	2,280	2,660	380	16.8
Stone, Clay, and Glass	2,870	2,710	-160	-5.4
Primary Metal Industries	9,160	8,850	-310	-3.4
Fabricated Metal Products	34,010	35,800	1,780	5.2
Industrial Machinery and Equipment	35,180	34,910	-270	-0.8
Electronic and Other Electrical Equipment	28,330	30,080	1,750	6.2
Transportation Equipment	50,550	50,240	-300	-0.6
Instruments and Related Products	22,860	21,520	-1,330	-5.8
Miscellaneous Manufacturing Industries	6,510	6,370	-140	-2.2
Nondurable Goods Manufacturing	**81,190**	**84,590**	**3,400**	**4.2**
Food and Kindred Products	8,810	8,090	-720	-8.2
Textile Mill Products	2,070	1,720	-350	-16.8
Apparel and Textile Products	4,510	4,650	140	3.1
Paper and Allied Products	7,880	7,700	-180	-2.3
Printing and Publishing	25,150	26,290	1,140	4.6
Chemicals and Allied Products	19,940	22,990	3,050	15.3
Petroleum and Coal Products	1,130	1,220	90	8.3
Rubber and Misc. Plastics Products	10,520	10,710	190	1.8

Transportation	**53,760**	**60,230**	**6,470**	**12.0**
Local and Interurban Transit	11,980	14,110	2,130	17.8
Trucking and Warehousing	16,710	18,560	1,850	11.1
U.S. Postal Service	12,730	12,580	-160	-1.3
Water Transportation	2,020	2,500	480	23.7
Transportation by Air	4,480	6,120	1,640	36.5
Transportation Services	5,810	6,350	530	9.2
Communications and Utilities	**30,540**	**32,200**	**1,660**	**5.4**
Communications	17,960	19,650	1,690	9.4
Utilities and Sanitary Services	12,580	12,550	-30	-0.3
Wholesale Trade, Total	**80,580**	**89,070**	**8,490**	**10.5**
Wholesale Trade, Durable Goods	47,360	52,710	5,350	11.3
Wholesale Trade, Nondurable Goods	33,220	36,360	3,140	9.5
Retail Trade	**266,950**	**287,100**	**20,160**	**7.6**
Building Materials and Garden Supplies	10,700	11,950	1,250	11.7
General Merchandise Stores	28,460	31,110	2,650	9.3
Food Stores	51,390	54,030	2,630	5.1
Auto Dealers and Service Stations	26,790	28,300	1,510	5.6
Apparel and Accessories Stores	17,810	19,190	1,380	7.7
Furniture and Homefurnishings Stores	12,730	14,630	1,900	14.9
Eating and Drinking Places	76,540	81,920	5,380	7.0
Miscellaneous Retail Stores	42,520	45,980	3,460	8.1
Finance, Insurance, and Real Estate	**128,810**	**142,860**	**14,050**	**10.9**
Depository Institutions	24,470	24,460	-10	-0.1
Nondepository Institutions	7,200	8,290	1,090	15.1
Security and Commodity Brokers	9,380	14,690	5,310	56.6
Insurance Carriers	57,730	62,260	4,540	7.9
Insurance Agents, Brokers, and Services	10,870	11,420	560	5.1
Real Estate	15,050	16,550	1,500	10.0
Holding and Other Investment Offices	4,120	5,190	1,080	26.1
Services	**691,450**	**800,970**	**109,520**	**15.8**
Hotels and Other Lodging Places	10,560	13,850	3,290	31.2

	Personal Services	18,320	19,960	1,640	9.0
	Business Services	95,150	121,040	25,890	27.2
	Auto Repair Services and Parking	13,260	15,390	2,130	16.1
	Miscellaneous Repair Services	4,120	4,700	580	14.2
	Motion Pictures	3,990	4,390	410	10.2
	Amusement and Recreation Services	28,560	36,690	8,130	28.5
	Health Services	160,980	187,810	26,830	16.7
	Legal Services	14,060	14,800	750	5.3
	Educational Services	124,200	131,500	7,300	5.9
	Social Services	38,460	47,690	9,230	24.0
	Museums, Botanical, Zoological Gardens	1,600	1,770	170	10.8
	Membership Organizations	13,640	14,950	1,310	9.6
	Engineering and Management Services	35,150	41,600	6,450	18.4
	Self-employed, unpaid family workers, private households	128,390	143,710	15,310	11.9
	Services, n.e.c.	1,040	1,130	90	8.6
Government		**94,110**	**95,790**	**1,680**	**1.8**
	Federal Government, except Postal	10,910	10,860	-50	-0.5
	State Government, except Education & Hospitals	38,920	38,650	-270	-0.7
	Local Government, except Education & Hospitals	44,280	46,280	2,010	4.5

Connecticut Employment Projections

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Appendix G

NOx SIP Call and MWC Rule Emission Calculations

NOx SIP Call Emission Reductions in Southwest Connecticut

				OZONE SEASON NOx (May - September)					TYPICAL SUMMER DAY NOx		
		MAX RATED BOILER SIZE	DESIGN CAPACITY	1990 HEAT INPUT	NOx BASELINE 1990	NOx RACT TARGET 1996-1998	PHASE II TARGET 1999-2002	PHASE III TARGET 2003+	Actual Daily NOx 1996	Estimated Daily NOx 1999-2002	Estimated Daily NOx 2003+
FACILITY	UNIT	(mmBTU/hr)	(MW)	(MMBtu)	(tons)	(tons)	(tons)	(tons)	(tpd)	(tpd)	(tpd)
WISVEST - Bridgeport Harbo	BHB1	800	85	1528496	338.9	191.1	152.9	114.6	0.00	1.02	0.75
WISVEST - Bridgeport Harbo	BHB2	1700	170	3349081	742.6	418.6	334.9	251.2	1.57	2.23	1.64
WISVEST - Bridgeport Harbo	BHB4	257	22	1782	0.4	0.3	0.3	0.3	0.00	0.00	0.00
WISVEST - Bridgeport Harbo	BHB3	4100	410	10960372	3068.3	2082.2	1096.0	822.0	9.37	7.31	5.37
NRG	GREENWICH - Cos Cob 10	255	20	8082	3.4	2.0	2.0	2.0	0.01	0.01	0.01
NRG	GREENWICH - Cos Cob 11	255	20	3677	1.5	0.9	0.9	0.9	0.01	0.01	0.01
NRG	GREENWICH - Cos Cob 12	255	20	4653	1.9	1.2	1.2	1.2	0.01	0.01	0.01
NRG	NORWALK STATION 1	1467	163	3353925	501.4	418.1	335.4	251.5	2.83	2.24	1.64
NRG	NORWALK STATION 2	1467	163	3691378	552.2	460.4	369.1	276.9	2.85	2.46	1.81
NRG	NORWALK 1C add to OTC list	222	16	1405	0.3	0.3	0.3	0.3		0.00	0.00
				Totals:	5210.9	3575.1	2293.0	1720.9	16.65	15.30	11.25
								Sum:	**16.65**	**15.30**	**11.25**
								Reduction vs 1996:		**1.35**	**5.40**

Note: 1990 heat inputs were used to develop 1999 and 2003 projections, based on the relevant statewide seasonal emission caps (i.e., 5866 tons/season beginning 1999 and 4477 tons/season beginning 2003). Daily ROP projections for 2002 are assumed to equal seasonal Phase II targets (increased slightly by proportional distribution of the compliance supplement pool of 120 tons among all CT sources), divided by 153. Daily ROP projections for 2005 and 2007 are assumed to equal the seasonal Phase iii targets divided by 153. Estimates do not include any emissions trading. Actual allocations will be determined based on procedures adopted by CTDEP.

NOx Emission Reductions in Southwest Connecticut Resulting from CT's MWC Rule

FACILITY	PROJECTED ANNUAL HEAT INPUT (MMBtu) - FACILITY TOTAL (90% of MRC)	RACT/ Trading Limit (lb/MMBtu)	MWC Rule Phase I Limits (ppmv)	MWC Rule Phase I Limits (lb/MMBtu)	MWC Rule Phase II Limits (ppmv)	MWC Rule Phase II Limits (lb/MMBtu)	Annual Emissions (tons)					
							Actual 1996 Emissions from BIG96	1996 Emissions at Lower of RACT or Permit Limit	Emissions at Phase I Rates	Emissions at Phase II Rates	Reduction Phase I vs RACT/Permit Limit (Dec 2000)	Reduction Phase II vs RACT/Permit Limit (May 2003)
Bridgeport RESCO Co., L.P.	7,686,900	0.38	205	0.356	177	0.308	1,690	1,461	1,370	1,183	91	278
						ANNUAL (tons)		1,461	1,370	1,183	91	278
						OZONE SEASON (tons)		612	574	496	38	116
						AVERAGE SUMMER DAY (tons/day)		4.00	3.75	3.24	0.25	0.76

Notes:

1) Average summer day emissions were calculated by dividing annual emissions by 365. Ozone season emissions were calculated by multiplying average summer day emissior by 153 (the number of days in the ozone season).

2) The Bridgeport RESCO facility is the only MWC facility located in Southwest Connecticut. Actual emissions listed for 1996 (i.e., 1690 tons) do not reflect emissions trading used to achieve RACT compliance. ROP emission reductions were calculated relative to emission levels at RACT limit (i.e., 1461 tons).

Appendix H

Estimates of Vehicle Miles Traveled and Emissions by Roadway Facility Class for 1990, 1996, 2002, 2005, and 2007 in Southwest Connecticut

1990 SERIES 18 BUILD
OZONE - SEVERE AREA 9/25/00

PEAK PERIOD	VOC (tons/day)	NOX (tons/day)	SUMMER VMT
Rural - Interstate/Princ. Art.	.075	.206	38767.
Rural - Other Princ. Arterials	.461	1.106	229140.
Rural - Minor Arterial	.165	.202	93454.
Rural - Major Collector	.523	.331	159996.
Rural - Minor Collector	.526	.421	197456.
Rural - Local Roads	.568	.440	232270.
Urban - Interstate	3.605	7.003	1773114.
Urban - Other Expressways	1.460	2.567	760542.
Urban - Other Princ. Arterials	1.631	1.056	552180.
Urban - Minor Arterial	2.779	1.742	905018.
Urban - Collector	2.783	1.509	768178.
Urban - Local Roads	1.700	1.136	608003.
Subtotals	16.276	17.719	6318121.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.152	.419	78709.
Rural - Other Princ. Arterials	.879	2.309	465221.
Rural - Minor Arterial	.316	.443	189737.
Rural - Major Collector	.607	.737	324840.
Rural - Minor Collector	.746	.934	400895.
Rural - Local Roads	.975	.866	453930.
Urban - Interstate	6.790	18.141	3599966.
Urban - Other Expressways	2.970	5.733	1544128.
Urban - Other Princ. Arterials	2.372	2.158	1121093.
Urban - Minor Arterial	3.791	3.636	1837466.
Urban - Collector	3.446	3.096	1559636.
Urban - Local Roads	2.830	2.247	1194610.
Subtotals	25.875	40.719	12770230.
TOTALS	42.151	58.439	19088350.

NOTE: Emissions are in tons/day.

TOTALS	38239.	53016.

NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 19088350.
Serious Area = 59410790.
Statewide Total = 78499100.

1

1

1996 SERIES 20 ACTION
OZONE - SEVERE AREA 02/05/01

PEAK PERIOD	VOC (tons/day)	NOX (tons/day)	SUMMER VMT
Rural - Interstate/Princ. Art.	.065	.266	49894.
Rural - Other Princ. Arterials	.597	1.473	314306.
Rural - Minor Arterial	.135	.233	98171.
Rural - Major Collector	.275	.318	169793.
Rural - Minor Collector	.251	.212	116231.
Rural - Local Roads	.379	.403	214699.
Urban - Interstate	2.725	5.925	1913077.
Urban - Other Expressways	1.028	2.564	798960.
Urban - Other Princ. Arterials	1.729	1.438	694221.
Urban - Minor Arterial	2.201	2.013	1054249.
Urban - Collector	.766	.682	377751.
Urban - Local Roads	1.567	1.403	801821.
Subtotals	11.718	16.930	6603173.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.137	.584	103520.
Rural - Other Princ. Arterials	.845	3.134	652147.
Rural - Minor Arterial	.246	.527	203693.
Rural - Major Collector	.462	.674	352303.
Rural - Minor Collector	.321	.443	241165.
Rural - Local Roads	.640	.833	434523.
Urban - Interstate	5.225	15.180	3969413.
Urban - Other Expressways	2.159	5.568	1657748.
Urban - Other Princ. Arterials	1.971	2.978	1440426.
Urban - Minor Arterial	2.955	4.222	2187444.
Urban - Collector	1.193	1.412	783793.
Urban - Local Roads	2.644	2.854	1610107.
Subtotals	18.798	38.408	13636284.
TOTALS	30.515	55.338	20239457.

NOTE: Emissions are in tons/day.

TOTALS	27684.	50203.

NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 20239457.
Serious Area = 63450009.
Statewide Total = 83689466.

1

1

2002 SERIES 25D ACTION
OZONE - SEVERE AREA 10/18/00

PEAK PERIOD	VOC (tons/day)	NOX (tons/day)	SUMMER VMT
Rural - Interstate/Princ. Art.	.036	.184	57316.
Rural - Other Princ. Arterials	.287	1.046	342398.
Rural - Minor Arterial	.064	.157	104754.
Rural - Major Collector	.137	.214	189859.
Rural - Minor Collector	.092	.126	116731.
Rural - Local Roads	.183	.271	238593.
Urban - Interstate	1.492	3.986	2112943.
Urban - Other Expressways	.491	1.650	874086.
Urban - Other Princ. Arterials	.812	.963	751089.
Urban - Minor Arterial	1.039	1.325	1143187.
Urban - Collector	.307	.419	389242.
Urban - Local Roads	.725	.902	864977.
Subtotals	5.664	11.243	7185175.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.078	.442	118924.
Rural - Other Princ. Arterials	.446	2.263	710438.
Rural - Minor Arterial	.116	.352	217354.
Rural - Major Collector	.218	.453	393938.
Rural - Minor Collector	.138	.264	242200.
Rural - Local Roads	.313	.566	488846.
Urban - Interstate	2.639	10.508	4384115.
Urban - Other Expressways	1.062	3.716	1813627.
Urban - Other Princ. Arterials	.926	1.973	1558423.
Urban - Minor Arterial	1.376	2.756	2371977.
Urban - Collector	.524	.868	807629.
Urban - Local Roads	1.265	1.873	1776676.
Subtotals	9.101	26.032	14884146.
TOTALS	14.765	37.275	22069321.

NOTE: Emissions are in tons/day.

TOTALS 13395. 33815.
NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 22069321.
Serious Area = 70641780.
Statewide Total = 92711101.

1

1

2005 SERIES 25D ACTION
OZONE - SEVERE AREA 10/18/00

PEAK PERIOD	VOC (tons/day)	NOX (tons/day)	SUMMER VMT
Rural - Interstate/Princ. Art.	.030	.149	59863.
Rural - Other Princ. Arterials	.233	.860	365977.
Rural - Minor Arterial	.051	.128	107618.
Rural - Major Collector	.109	.172	191887.
Rural - Minor Collector	.075	.107	126678.
Rural - Local Roads	.140	.219	242553.
Urban - Interstate	1.217	3.274	2185652.
Urban - Other Expressways	.420	1.466	980721.
Urban - Other Princ. Arterials	.595	.816	800719.
Urban - Minor Arterial	.763	1.029	1125042.
Urban - Collector	.245	.347	408956.
Urban - Local Roads	.548	.722	879087.
Subtotals	4.425	9.288	7474752.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.065	.369	124210.
Rural - Other Princ. Arterials	.376	1.930	759357.
Rural - Minor Arterial	.091	.287	223296.
Rural - Major Collector	.166	.362	398145.
Rural - Minor Collector	.115	.226	262844.
Rural - Local Roads	.239	.455	496935.
Urban - Interstate	2.084	8.684	4534980.
Urban - Other Expressways	.901	3.309	2034882.
Urban - Other Princ. Arterials	.745	1.680	1661397.
Urban - Minor Arterial	1.027	2.135	2334332.
Urban - Collector	.410	.717	848537.
Urban - Local Roads	.961	1.497	1805512.
Subtotals	7.181	21.652	15484425.
TOTALS	11.606	30.941	22959177.

NOTE: Emissions are in tons/day.

TOTALS 10529. 28069.
NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 22959177.
Serious Area = 73390269.
Statewide Total = 96349447.

1

MOBILE 5B 2005 Series 25D BUILD SW CT 2005 Series 25D Tier2

OZONE - SEVERE AREA - TIER 2 REDUCTIONS 10/24/00

PEAK PERIOD	VOC (tons/day)	NOX	SUMMER VMT
Rural - Interstate/Princ. Art.	.001	.007	59863.
Rural - Other Princ. Arterials	.008	.041	365977.
Rural - Minor Arterial	.002	.013	107618.
Rural - Major Collector	.004	.024	191887.
Rural - Minor Collector	.003	.016	126678.
Rural - Local Roads	.006	.030	242553.
Urban - Interstate	.048	.262	2185652.
Urban - Other Expressways	.022	.119	980721.
Urban - Other Princ. Arterials	.018	.097	800719.
Urban - Minor Arterial	.025	.138	1125042.
Urban - Collector	.009	.050	408956.
Urban - Local Roads	.020	.108	879087.
Subtotals	.166	.904	7474752.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.002	.014	124210.
Rural - Other Princ. Arterials	.016	.085	759357.
Rural - Minor Arterial	.005	.027	223296.
Rural - Major Collector	.009	.049	398145.
Rural - Minor Collector	.006	.032	262844.
Rural - Local Roads	.011	.061	496935.
Urban - Interstate	.100	.543	4534980.
Urban - Other Expressways	.045	.246	2034882.
Urban - Other Princ. Arterials	.037	.202	1661397.
Urban - Minor Arterial	.052	.285	2334332.
Urban - Collector	.019	.105	848537.
Urban - Local Roads	.041	.222	1805512.
Subtotals	.344	1.872	15484425.
TOTALS	.510	2.776	22959177.

NOTE: Emissions are in tons/day.

TOTALS 463. 2518.
NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 22959177.
Serious Area = 73390269.
Statewide Total = 96349447.

MOBILE 5B 2007 Series 24a SWO307B2.TXT:
96Reg;96VMT%/EPALDVsplits;EPACM%;NLEV;ASMfinal/Pr&Pur;RFG2;HDDV04
OZONE - SEVERE AREA 12/1/99

PEAK PERIOD	VOC (tons/day)	NOX (tons/day)	SUMMER VMT
Rural - Interstate/Princ. Art.	.028	.162	63312.
Rural - Other Princ. Arterials	.222	.743	372704.
Rural - Minor Arterial	.040	.104	103713.
Rural - Major Collector	.091	.153	205777.
Rural - Minor Collector	.064	.086	121029.
Rural - Local Roads	.105	.173	229534.
Urban - Interstate	1.227	3.064	2386797.
Urban - Other Expressways	.351	1.249	995638.
Urban - Other Princ. Arterials	.494	.722	841251.
Urban - Minor Arterial	.640	.896	1171960.
Urban - Collector	.191	.286	406346.
Urban - Local Roads	.426	.587	861114.
Subtotals	3.878	8.223	7759174.
OFF-PEAK PERIOD			
Rural - Interstate/Princ. Art.	.059	.335	131366.
Rural - Other Princ. Arterials	.325	1.669	773313.
Rural - Minor Arterial	.072	.234	215191.
Rural - Major Collector	.140	.323	426965.
Rural - Minor Collector	.088	.179	251123.
Rural - Local Roads	.182	.364	476259.
Urban - Interstate	1.873	8.074	4952331.
Urban - Other Expressways	.744	2.838	2065832.
Urban - Other Princ. Arterials	.628	1.486	1745499.
Urban - Minor Arterial	.852	1.855	2431683.
Urban - Collector	.323	.593	843124.
Urban - Local Roads	.754	1.228	1786716.
Subtotals	6.040	19.177	16099403.
TOTALS	9.918	27.400	23858577.

NOTE: Emissions are in tons/day.

TOTALS 8998. 24857.
NOTE: Emissions are in kilograms/day.

SUMMER VMT TOTALS
Severe Area = 23858577.
Serious Area = 75587377.
Statewide Total = 99445954.

Southwest Connecticut
Projected Motor Vehicle Emission in 2007
(tons/typical summer day)

	VOC (tons/day)	NOx (tons/day)
Without Tier 2 Reductions	9.9	27.4
Tier 2 Reductions	0.5	4.4
With Tier 2 Reductions	9.4	23.0
3% Contingency for Modeling Uncertainty	0.3	0.7
2007 Transportation Conformity Budgets	**9.7**	**23.7**

See the following EPA link for EPA's Guidance on combining Tier 2 reductions with MOBILE5b emission estimates. The Tier 2 reductions listed in Tables 1 through 5 of this guidance were used to determine Tier 2 benefits for 2007 (i.e., 0.5 tpd VOC and 4.4 tpd NOx for SW CT). Tables 8 and 9 of the Guidance were used to determine Tier 2 benefits for 2005.

http://www.epa.gov/otaq/transp/conform/ozone.pdf

Appendix I

CTDOT's PERFORM Model Documentation

(Note: Additional detailed documentation of CTDOT's *PER*son *FORe*casting *M*odel is available from CTDOT upon request)

(ConnDOT, May 1995)

ConnDOT Modeling Procedures

The ConnDOT Statewide Travel Model is a network-based computer model utilizing TRANPLAN software. It uses the traditional four-step travel modeling procedure, with additional intermediate steps where needed. Highway and transit networks are an integral part of the model, allowing proposed service changes (highway or transit) to be incorporated into the model. Thus the effect of adding a transit service, increased highway capacity or any other network-orientated change (which can be modeled in this manner) can be analyzed.

The ConnDOT model consists of four basic steps: Trip generations, trip distribution, model split and trip assignment. It analyzes three trip purposes: home-based work, home-based nonwork and non-home based trips, and four travel modes: auto drive alone (SOV), auto shared ride (HOV), bus (local and express), and rail.

LANDUSE AND CENSUS

Landuse data (population, employment, etc.) forms the basis for the amount and type of activity in a region. This demographic information is available from several sources. The Census is a nationwide survey conducted every ten years and provides the existing demographic profile of Connecticut. The model incorporates the 1990 Census. Existing employment figures come from the State Labor Department.

Land use forecasts are developed by ConnDOT, in cooperation with OPM and the RPA's. Existing and forecasted land use data are input to the model in the Trip Generation and Modal Split phase.

TRIP GENERATION

Trip generation provides the connection between landuse and travel. Trip generation may be divided into two phases: 1) developing an understanding and quantification of the travel-landuse connection and 2) applying the results of the quantification to forecasted land use characteristics to develop future travel estimates.

The ultimate goal of trip generation is to determine the number of person trips, which are produced from or attracted to a zone. This is done by developing a relationship that reproduces actual productions and attractions from the existing land use data.

TRIP DISTRIBUTION

Trip distribution is the process which determines how the productions and attractions from trip generation are distributed amongst the state's 1300 traffic analysis zones (TAZ). Trip distribution is based on the Gravity Model, which states that the number of trips between two areas is directly related to the activities in the areas (represented by trip generation) and inversely related to the separation between areas (represented as a function of travel time). In other words, areas with large amounts of activity tend to exchange more trips and areas further from each other tend to exchange fewer trips.

These spacial relationships are input to the gravity model in the form of travel time factors, which vary by trip purpose.

The trip distribution section of the travel model produces a series of trip tables, which are matrices depicting the number of person trips between every pair of TAZs.

LEVEL OF SERVICE

The level of service (LOS) determination is an intermediate step in the travel model which is important enough to dictate mention. It is the means by which service characteristics of transportation systems are input to the travel model, specifically, the modal split portion (see next section for a discussion of mode split).

Level of service files consist of the common travel attributes of competing available modes for any trip interchange. The most common LOS attributes are travel time and cost. Thus, service changes to transit (speeds, fares, or frequency) are modeled by altering the LOS of the pertinent mode. Similarly, changes that would affect the highway travel times or cost are input to the model via the highway LOS files.

MODAL SPLIT

Modal split is the step in which the interzonal person trips distributed by the Gravity Model are allocated to each available travel mode. The ConnDOT mode split model is a FORTRAN program developed by Cambridge Systematics as part of the Statewide Transit Study. It is a logit model, which relates the perceived attractiveness of a trip by a particular mode to the probability of choosing that mode over other available modes.

The modal variation for trip interchanges are developed by means of the Level of Service data (discussed above) and, additionally, various land use information which affects mode choice (population, employment density, number of cars available in a household).

The mode split model outputs person trip matrices broken down by travel mode (single occupant vehicle, multi-occupant vehicle, local and express bus, and rail).

OCCUPANCY MODEL

Before the fourth step of the travel model (trip assignment) can be considered, multiple-occupant vehicles must be calculated. The Occupancy Model converts the shared ride person trips to shared ride vehicle trips.

Occupancy factors for home-based work trips are calculated from an occupancy curve which relates the occupancy of shared ride vehicles to the ratio of shared ride persons and total persons in any trip interchange. This curve was derived from observations of occupancy at various locations during the commuter traffic hours.

Occupancy rates for non-work trip purposes are from ConnDOT's traffic accident database, in which

the statistics from highway accidents are used to determine average occupancies by time of day. The off-peak period occupancies are used for the non-work trip purposes. The resultant shared ride vehicle trips are then combined with single occupant vehicles and assigned to the highway network in the next step.

TRIP ASSIGNMENT (Loading Networks)

Trip assignment or network loading is the process in which the volumes on the transportation system are estimated; these can be present-day volumes on an existing network or forecasted volumes on alternative future systems. Assignment volumes may be expressed as vehicles on a highway network or persons on a bus or rail transit system.

Highway assignments in the ConnDOT model are done by an Equilibrium assignment process; in this procedure, vehicle trips are iteratively assigned to the network so as to balance the travel between alternate paths. Several iterations are required to accomplish this; the roadway congestion affects the choice of alternate paths.

Transit assignments indicate the amount of ridership on a transit system (bus or rail).

PRODUCTS/USES

The travel model's primary products and their uses are as follows:

- Highway assignments: used to design and evaluate alternate highway proposals
- VMT's (Vehicle Miles of Travel): VMT is the product of highway distance times traffic volume. It is a basic input to highway source emissions models for SIP, EIS, Indirect Source applications.
- Trip tables: analyze town to town movements
    - -analyze mass transit potential
    - -analyze carpooling potential
- LOS of highway sections: evaluate quality of service on highway systems
- Transit usage forecasts: evaluate transit systems and transit proposals.