

APPENDIX A

**County Emission Inventories for
On-Road Motor Vehicles**



PREFACE

This Appendix presents the county by county planning emissions inventories for 2008 and 2010 for the emission inventory category of on-road motor vehicles. Data for the pollutants Reactive Organic Gases (ROG, the same as VOC used elsewhere in this document), Carbon Monoxide (CO), and Nitrogen Oxides (NOx). ARB compiled the emissions data in this Appendix on July 23, 2004 using EMFAC2002, Version 2.2 (April 2003), San Joaquin Valley by subarea, summer, WIS enabled with updated vehicle populations and vehicle miles traveled data. The data in this appendix serve as further detail to Table 3-1 and Table 3-4, and are intended to support the derivation of conformity emissions budgets for counties in the SJVAB. Table 3-4 sets the conformity budgets; any discrepancy between totals in this Appendix and Table 3-4 are due to rounding conventions, and no totals in this Appendix represent conformity budgets.

The District used the following protocol to round emissions data to the nearest 0.1 tons per day:

- If the digit to be discarded is less than five, the last digit retained is unchanged;
- If the digit to be discarded is five or greater, the last digit retained is increased by one unit.

This rounding convention is consistent with practices given under the American Society for Testing and Materials (ASTM) "Standard for Metric Practice E 380". The original data was expressed to the nearest 0.01 tons per day; the District computed totals using the original data expressed to the nearest 0.01 tons per day and then rounded the total to tenths; consequently, the sums of columns may be slightly off due to rounding.

The emissions inventories are presented in the following order: 2008 ROG, 2008 CO, 2008 NOx, 2010 ROG, 2010 CO, and 2010 NOx.

The "I/M Adjustment" row in selected tables refers to the motor vehicle Inspection and Maintenance Program (I & M), which is implemented by the Bureau of Automotive Repair. The standard program is called Basic I & M. Enhanced I & M has more stringent testing requirements and is to be implemented in urbanized areas that are classified as "serious" and above nonattainment for ozone or "high moderate" and above for carbon monoxide and which had a population of 200,000 or more in 1980. The program is also known as a "smog check". The "ISR/Incentive" adjustment refers to an emission reduction from the District's Indirect Source Rules and Incentive Program that reduces emissions (NOx only for 2008 and 2010) from mobile sources. Adjustments for state measures reflect the state emission control measures given in Table 4-3 that affect mobile source emissions (2010 ROG and NOx only).

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

Table A-1. SJVAB On-Road Motor Vehicle ROG Emissions, 2008 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	23.0	5.7	3.3	0.8	1.2	1.8	4.1	3.2	2.9
LDT1	14.5	3.4	2.5	0.6	1.0	1.3	1.8	1.9	2.1
LDT2	10.4	2.5	1.8	0.4	0.5	0.9	1.5	1.4	1.4
MDV	4.5	1.0	0.8	0.2	0.3	0.4	0.7	0.6	0.5
LHDT1-Gas	1.5	0.4	0.3	0.0	0.1	0.1	0.2	0.2	0.2
LHDT1-Dsl	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LHDT2-Gas	0.5	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
LHDT2-Dsl	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MHDT-Gas	2.7	0.6	0.5	0.1	0.2	0.2	0.4	0.4	0.4
MHDT-Dsl	0.6	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
HHDT-Gas	1.6	0.4	0.3	0.1	0.2	0.1	0.2	0.2	0.2
HHDT-Dsl	3.7	0.8	0.9	0.2	0.2	0.3	0.5	0.4	0.5
SBUS	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
UB-Gas	1.1	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1
UB-Dsl	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MH	0.8	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
MCY	2.0	0.5	0.4	0.1	0.1	0.1	0.3	0.3	0.2
Totals	67.8	16.1	11.8	2.6	4.1	5.3	10.2	8.9	8.9
I/M Adjustment	3.1	0.4	0.3	0.1	0.2	0.3	1.0	0.4	0.5

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Table A-2. SJVAB On-Road Motor Vehicle CO Emissions, 2008 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	240.3	57.2	36.5	9.6	12.8	20.5	44.5	29.6	29.8
LDT1	163.7	36.0	29.6	7.6	12.5	17.3	19.9	17.9	22.9
LDT2	117.4	27.6	22.0	4.9	6.2	11.1	17.0	13.8	15.0
MDV	51.0	11.4	9.3	1.9	3.4	4.9	8.0	6.1	6.1
LHDT1-Gas	8.4	2.0	1.8	0.3	0.8	0.4	1.1	0.9	1.1
LHDT1-Dsl	0.7	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1
LHDT2-Gas	2.9	0.8	0.9	0.1	0.1	0.1	0.4	0.4	0.3
LHDT2-Dsl	0.5	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1
MHDT-Gas	19.9	4.6	3.9	0.6	1.2	1.4	2.9	2.6	2.8
MHDT-Dsl	4.1	1.0	1.0	0.2	0.2	0.3	0.6	0.5	0.5
HHDT-Gas	21.1	4.5	3.3	1.2	2.5	2.0	2.3	2.4	3.0
HHDT-Dsl	15.3	3.5	3.6	0.7	0.9	1.2	2.0	1.6	1.9
SBUS	3.3	0.6	0.8	0.2	0.1	0.2	0.3	0.3	0.7
UB-Gas	9.9	1.8	2.4	0.4	1.2	0.5	1.3	1.1	1.2
UB-Dsl	0.7	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
MH	18.3	3.3	3.3	0.7	1.6	1.6	3.0	2.6	2.3
MCY	18.3	4.3	4.5	0.9	0.7	0.8	2.8	2.2	2.1
Totals	695.7	158.9	123.2	29.1	44.3	62.3	106.2	82.1	89.7

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

Table A-3. SJVAB On-Road Motor Vehicle NOx Emissions, 2008 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	19.4	4.3	3.1	0.9	1.1	1.7	3.6	2.3	2.5
LDT1	13.1	2.6	2.4	0.7	1.0	1.4	1.6	1.3	1.9
LDT2	12.6	2.7	2.4	0.6	0.7	1.2	1.9	1.4	1.7
MDV	6.4	1.3	1.2	0.3	0.4	0.6	1.1	0.7	0.8
LHDT1-Gas	2.3	0.5	0.5	0.1	0.2	0.1	0.3	0.3	0.3
LHDT1-Dsl	2.4	0.5	0.5	0.1	0.2	0.2	0.3	0.3	0.3
LHDT2-Gas	0.7	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
LHDT2-Dsl	1.8	0.4	0.5	0.1	0.1	0.1	0.2	0.2	0.2
MHDT-Gas	2.1	0.5	0.5	0.1	0.1	0.1	0.3	0.3	0.2
MHDT-Dsl	15.9	3.8	3.8	0.5	0.7	0.9	2.4	1.9	1.9
HHDT-Gas	2.8	0.6	0.5	0.2	0.2	0.2	0.3	0.3	0.4
HHDT-Dsl	69.6	15.5	15.9	2.7	3.5	4.8	10.5	8.2	8.6
SBUS	2.6	0.6	0.6	0.1	0.1	0.3	0.4	0.2	0.3
UB-Gas	1.0	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1
UB-Dsl	3.6	0.7	1.0	0.1	0.1	0.2	0.7	0.4	0.4
MH	1.8	0.3	0.3	0.1	0.2	0.2	0.3	0.2	0.2
MCY	0.5	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Totals	158.4	34.8	33.8	6.5	8.7	12.1	24.4	18.3	19.8
I/M Adjustment	5.7	0.7	0.6	0.2	0.3	0.6	1.7	0.7	0.9
ISR/Incentive		0.5	0.5	0.1	0.1	0.1	0.3	0.3	0.2

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

Table A-4. SJVAB On-Road Motor Vehicle ROG Emissions, 2010 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	19.2	4.8	2.8	0.7	0.9	1.5	3.5	2.6	2.4
LDT1	12.5	2.9	2.1	0.5	0.9	1.1	1.6	1.6	1.8
LDT2	9.4	2.3	1.7	0.4	0.5	0.8	1.4	1.3	1.2
MDV	4.1	1.0	0.7	0.1	0.3	0.3	0.7	0.6	0.5
LHDT1-Gas	1.4	0.3	0.3	0.0	0.1	0.1	0.2	0.2	0.2
LHDT1-Dsl	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LHDT2-Gas	0.5	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1
LHDT2-Dsl	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MHDT-Gas	2.4	0.5	0.5	0.1	0.1	0.2	0.3	0.3	0.3
MHDT-Dsl	0.6	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
HHDT-Gas	1.4	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.2
HHDT-Dsl	3.4	0.8	0.8	0.2	0.2	0.3	0.4	0.3	0.4
SBUS	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
UB-Gas	1.1	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1
UB-Dsl	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MH	0.7	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
MCY	1.9	0.5	0.4	0.1	0.1	0.1	0.3	0.3	0.2
Totals	59.3	14.1	10.5	2.3	3.6	4.5	8.9	7.7	7.7
I/M Adjustment	2.6	0.3	0.2	0.1	0.1	0.3	0.8	0.4	0.4
State Measures		0.9	0.7	0.1	0.2	0.3	0.5	0.5	0.5

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Table A-5. SJVAB On-Road Motor Vehicle CO Emissions, 2010 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	202.1	48.0	31.1	8.2	10.4	17.1	37.8	24.7	24.7
LDT1	138.6	30.2	25.2	6.6	10.8	14.7	17.0	15.0	19.2
LDT2	103.5	24.3	19.6	4.4	5.4	9.7	15.0	12.0	13.1
MDV	45.7	10.2	8.4	1.7	3.0	4.4	7.2	5.4	5.4
LHDT1-Gas	7.0	1.7	1.6	0.2	0.7	0.3	0.9	0.8	0.9
LHDT1-Dsl	0.7	0.1	0.2	0.0	0.1	0.0	0.1	0.1	0.1
LHDT2-Gas	2.5	0.7	0.7	0.1	0.1	0.1	0.3	0.3	0.3
LHDT2-Dsl	0.5	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1
MHDT-Gas	16.7	3.8	3.4	0.5	1.0	1.1	2.4	2.2	2.3
MHDT-Dsl	4.0	1.0	1.0	0.2	0.2	0.2	0.6	0.5	0.5
HHDT-Gas	17.8	3.9	2.8	1.2	2.3	1.5	1.8	1.9	2.5
HHDT-Dsl	14.2	3.2	3.3	0.7	0.8	1.1	1.8	1.5	1.8
SBUS	3.2	0.6	0.7	0.2	0.1	0.2	0.3	0.3	0.7
UB-Gas	9.6	1.7	2.4	0.4	1.2	0.5	1.3	1.1	1.0
UB-Dsl	0.7	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
MH	15.7	2.8	2.7	0.6	1.5	1.4	2.7	2.1	1.9
MCY	16.4	3.9	4.1	0.8	0.6	0.6	2.4	2.0	1.9
Totals	598.6	136.2	107.5	25.6	38.3	53.2	91.7	70.0	76.1

EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN

Table A-6. SJVAB On-Road Motor Vehicle NOx Emissions, 2010 by County (summer, tons/day)

Vehicle Class	Grand Total	Fresno	Kern (SJV)	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
LDA	16.1	3.6	2.6	0.7	0.9	1.4	3.0	1.9	2.0
LDT1	11.0	2.2	2.1	0.6	0.9	1.2	1.4	1.1	1.6
LDT2	11.0	2.4	2.1	0.5	0.6	1.1	1.7	1.2	1.4
MDV	5.6	1.1	1.1	0.2	0.4	0.6	0.9	0.6	0.7
LHDT1-Gas	2.4	0.5	0.6	0.1	0.2	0.1	0.3	0.3	0.3
LHDT1-Dsl	2.1	0.4	0.5	0.1	0.2	0.1	0.3	0.3	0.3
LHDT2-Gas	0.7	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
LHDT2-Dsl	1.6	0.4	0.5	0.1	0.1	0.1	0.2	0.2	0.2
MHDT-Gas	1.9	0.4	0.5	0.1	0.1	0.1	0.3	0.2	0.2
MHDT-Dsl	14.1	3.4	3.4	0.5	0.7	0.7	2.1	1.7	1.7
HHDT-Gas	2.4	0.5	0.4	0.2	0.2	0.2	0.2	0.3	0.3
HHDT-Dsl	60.9	13.8	14.1	2.5	3.3	4.0	8.8	7.0	7.5
SBUS	2.6	0.6	0.6	0.1	0.1	0.3	0.4	0.2	0.3
UB-Gas	1.0	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1
UB-Dsl	3.5	0.7	1.0	0.1	0.1	0.2	0.7	0.3	0.4
MH	1.7	0.3	0.3	0.1	0.2	0.2	0.3	0.2	0.2
MCY	0.5	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Totals	138.9	30.6	30.1	5.9	8.0	10.3	20.9	15.8	17.3
I/M Adjustment	5.0	0.6	0.5	0.2	0.3	0.5	1.5	0.6	0.8
ISR/Incentive		0.6	0.6	0.1	0.1	0.1	0.3	0.3	0.3
State Measures		1.8	1.8	0.3	0.5	0.6	1.2	0.9	1.0

