

SECTION 5 ONROAD MOBILE SOURCES

5.1 Emissions Estimate Methodology

The 2002 onroad mobile emissions inventory for the Baton Rouge Area has been prepared consistent with all applicable sections of EPA's most recent inventory guidance.¹ The onroad mobile inventory is an annual emissions inventory derived from monthly emissions estimates for CO, NO_x, and VOC.

Two essential data sets are required to produce the 2002 base year onroad mobile emissions inventory for the Baton Rouge Area. The two required data sets are: (1) 2002 vehicle miles traveled (VMT) data expressed in miles/day; and (2) 2002 vehicle fleet emission factors expressed in grams/mile. When multiplied together, one can estimate the area wide pollutants emitted by motor vehicles for any given period of time. The derivation of these two data sets is discussed below.

5.2 Vehicle Miles Traveled Data

The Louisiana Department of Transportation and Development (LDOTD) estimates statewide average daily VMT by parish and roadway functional class and these data are reported to the Federal Highway Administration (FHWA) annually. LDOTD compiles Highway Performance Monitoring System (HPMS) VMT using prescribed statistical sampling methodologies developed by the FHWA. Historically, LDOTD has provided these VMT estimates (actuals and forecasts) to LDEQ for the preparation of Clean Air Act-required emissions inventories. For the 2002 Louisiana 8-Hour Ozone NAAQS Base Year Emissions Inventory, LDEQ is using the reported 2002 HPMS-based VMT adjusted by month of the year. All HPMS VMT data used to prepare the 2002 Louisiana 8-Hour Ozone NAAQS Base Year Emissions Inventory is included in Appendix G.

¹ *Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations*, US EPA, August 2005.

5.3 Emissions Factor Estimation

Vehicle emission factors were derived using MOBILE6.2,² the current version of EPA's mobile emissions model. Fleet emission factors were determined for the calendar year of evaluation (2002) using localized fleet and meteorological data, as well as in-use fuel parameters appropriate for the Baton Rouge Area. Area specific input assumptions that were modeled include the following:

- 2002 vehicle registration distributions by age - reflecting the age of the vehicle fleet.
- VMT mix by roadway class - the percentage of VMT allocated to each of MOBILE6.2's sixteen (16) composite vehicle types.
- Vehicle speeds - assumed to average 90% of the HPMS roadway-class design speeds.
- Gasoline RVP values of 7.8 psi (May through September) and 9.0 psi for the remaining months of the year.
- An inspection and maintenance (I/M) program, as it existed in 2002, coupled with a vehicle emission-equipment anti-tampering program.
- Average monthly minimum and maximum temperatures for Baton Rouge as reported by the National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center (NCDC).
- Monthly absolute humidity levels were determined from relative humidity data for Baton Rouge as reported by NOAA, NCDC.

All MOBILE6.2 input and output files for the twelve calendar months, as well as the monthly parish emissions summaries, are included in Appendix H.

5.4 Emissions Summary

Table 5.4-1 summarizes the onroad mobile monthly emissions inventory (tons per month) for the Baton Rouge Area in 2002. Annual totals are shown at the bottom of the table. Table 5.4-2 summarizes emissions from onroad mobile sources for the Baton Rouge Area. All technical support documentation for the emissions summary is contained in Appendices I and J.

² MOBILE6.2 was released to state and local governments for official use on February 24, 2004; the release of MOBILE6.2 was announced concurrently with EPA's Office of Transportation and Air Quality's guidance on the use of the revised model, *Policy Guidance on the Use of MOBILE6.2 and the December 2003 AP-42 Method for Re-Entrained Road Dust for SIP Development and Transportation Conformity*.

**Table 5.4-1: 2002 Onroad Mobile Monthly Emissions Summary
for the Baton Rouge Area in tons**

Month	VOC	NO_x	CO
January	658.91	1387.92	11107.15
February	615.32	1295.06	9894.58
March	676.26	1410.73	9937.66
April	694.73	1376.75	9542.91
May	696.76	1371.20	9769.37
June	715.43	1358.30	10292.00
July	728.75	1382.53	10745.81
August	715.45	1343.49	10470.52
September	656.02	1244.22	9406.61
October	690.82	1352.19	9585.69
November	647.43	1354.90	9761.42
December	675.70	1447.68	11220.22
Total*	8171.58	16324.96	121733.93

**Table 5.4-2: 2002 Onroad Mobile Emissions Summary
for the Baton Rouge Area in tons per year**

Parish	CO	NO_x	VOC
Ascension	17612.37	2726.83	1195.36
E. Baton Rouge	63205.24	6794.47	4265.07
Iberville	9218.00	1636.59	610.55
Livingston	19935.10	3196.67	1363.70
W. Baton Rouge	11763.89	1969.07	737.42
Total*	121734.60	16323.63	8172.10

**Totals differ due to rounding.*