INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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August 25, 2005

Mr. Bharat Mathur
Acting Regional Administrator
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, IL 60604-3950

Re: Redesignation Petition and Maintenance Plan for Delaware County, Indiana Final Submittal

Dear Mr. Mathur

The Indiana Department of Environmental Management (IDEM) prepared a draft Redesignation Petition and Maintenance Plan for Delaware County, Indiana, and submitted them to the United States Environmental Protection Agency (US EPA) with a request for parallel processing on June 24, 2005. IDEM conducted a public hearing concerning the Redesignation Petition and Maintenance Plan on July 25, 2005 and the public comment period concluded on July 29, 2005.

Attached hereto is the final Redesignation Petition and Maintenance Plan for Delaware County, Indiana. This final version documents the public review process (note that no substantive comments were received). The document has not been altered significantly since it was submitted to the U.S. EPA for parallel processing on June 24, 2005.

The attached document consists of the following:

Redesignation Petition and Maintenance Plan

- A formal request that the Delaware County 8-hour ozone nonattainment area be redesignated to a maintenance area. It contains and meets the requirements set forth in Section 107 of the Clean Air Act and in the Redesignation guidance issued September 4, 1992.
- A maintenance year of 2015 is established and 2010 is analyzed as an interim year.
- The appendices of the document contain historic trend data, projected emission inventory data and thorough documentation of the mobile emissions analysis.
- A transcript of the public hearing and record of all comments received.

Motor Vehicle Emissions Budgets

- Contained in the Redesignation Petition is a new Motor Vehicle Emissions Budget for 2015. The Muncie Metropolitan Planning Organization's travel demand model and MOBILE6 were used to determine emissions for the 8-hour ozone nonattainment area.
- A conservative safety margin was applied to the 2015 projected emissions.
- The Travel Demand Model was updated with the best available assumptions.

IDEM hereby requests that the U.S. EPA proceed with final review and approval of this submittal. If you have any questions or need additional information, please contact Sarah Raymond, Air Programs Branch at (317)232-8449.

Sincerely,

Thomas W. Easterly
Commissioner

TWE/kaw/sad
Attachments

cc: Pat Morris, US EPA (w/enclosures)
Jay Bortzer, US EPA (no Enclosures)
Ed Doty, US EPA (w/enclosures)
John Mooney, US EPA (w/enclosures)
Merv Nolot (no enclosures)
George Needham (no enclosures)
Scott Deloney (enclosures)
Kathryn Watson (enclosures)
Sarah Raymond (enclosures)

REQUEST FOR REDESIGNATION AND MAINTENANCE PLAN FOR OZONE ATTAINMENT IN THE 8-HOUR OZONE BASIC NONATTAINMENT AREA

Delaware County, Indiana

Developed By:
The Indiana Department of Environmental Management

August 25, 2005

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REQUEST FOR REDESIGNATION AND MAINTENANCE PLAN FOR OZONE ATTAINMENT IN THE 8-HOUR OZONE BASIC NONATTAINMENT AREA

DELAWARE COUNTY, INDIANA

1.0 INTRODUCTION

This document is intended to support Indiana's request that Delaware County, Indiana, be redesignated from nonattainment to attainment of the 8-hour ozone standard. This county has recorded three (3) years of complete, quality-assured ambient air quality monitoring data for the years 2002 – 2004 demonstrating attainment with the 8-hour ozone standard.

Section 107 of the Clean Air Act (CAA) establishes specific requirements to be met in order for an area to be considered for redesignation including:

(a) A determination that the area has attained the 8-hour ozone standard.
(b) An approved State Implementation Plan (SIP) for the area under Section 110(k).
(c) A determination that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP and other federal requirements.
(d) A fully approved maintenance plan under Section 175(A).
(e) A determination that all Section 110 and Part D requirements have been met.

This document addresses each of those requirements. It also provides additional information to support continued compliance with the 8-hour ozone standard.

1.1 Background

The Clean Air Act Amendments of 1990 (CAAA) required areas failing to meet the National Ambient Air Quality Standard (NAAQS) for ozone to develop SIPs to expeditiously attain and maintain the standard. In 1997 the United States Environmental Protection Agency (U.S. EPA) revised the air quality standard for ozone replacing the 1979 1-hour standard with an 8-hour ozone standard set at 0.08 parts per million (ppm). The standard was challenged legally and upheld by the U.S. Supreme Court in February of 2001. The U.S. EPA designated areas that attain or do not attain the 8-hour ozone standard on April 15, 2004.

At the time of the 1990 CAAA, there were no monitors in Delaware County. Since that time, a monitoring network has been developed that includes a site in Albany, Indiana. On April 15, 2004, U.S. EPA designated Delaware County Basic nonattainment and subject to the new 8-hour ozone requirements, including development of a plan to reduce volatile organic compound

(VOC) and oxides of nitrogen (NO_x) emissions and a demonstration that the area will meet the 8-hour ozone standard for ozone by June 15, 2009.

Delaware County has never previously been subject to nonattainment area rulemakings.

1.2 Geographical Description

Delaware County is located northeast of the Indianapolis Area in Central Indiana. The City of Albany is located in the east central part of Delaware County. Delaware County is adjacent to Madison, Grant, Blackford, Jay, Randolph and Henry Counties. This area is shown in Figure 3.1.

1.3 Status of Air Quality

Ozone monitoring data for the most recent three (3) years, 2002 through 2004, demonstrates that air quality has met the NAAQS for ozone in this Basic nonattainment area. This fact, accompanied by the decreases in emission levels discussed in Section 4.0, justifies a redesignation to attainment for the subject area based on Section 107(d)(3)(E) of the CAAA.

2.0 REQUIREMENTS FOR REDESIGNATION

2.1 General

Section 110 and Part D of the CAAA lists the requirements that must be met by nonattainment areas prior to consideration for redesignation to attainment. In addition, U.S. EPA has published detailed guidance in a document entitled *"Procedures for Processing Requests to Redesignate Areas to Attainment"*, issued September 4, 1992, to Regional Air Directors. This document is hereafter referred to as "Redesignation Guidance". This Request for Redesignation and Maintenance Plan is based on the Redesignation Guidance, supplemented with additional guidance received from staff of the Criteria Pollutant Section of U.S. EPA Region V.

The subsections below refer in greater detail to the requirements listed in Section 1.0 of this document. Each subsection describes how the requirement has been met. The pertinent sections of the CAAA are referenced where appropriate.

2.2 Ozone Monitoring 107(d)(3)(E)(i)

1) A demonstration that the NAAQS for ozone, as published in 40 CFR 50.4, has been attained. Ozone monitoring data must show that violations of the ambient standard are no longer occurring.

2) Ambient monitoring data quality assured in accordance with 40 CFR 58.10, recorded in the U.S. EPA Air Quality System (AQS) data base, and is available for public view.

3) A showing that the three (3) year average of the fourth highest values, based on data from all monitoring sites in the area or its affected downwind environs, is below 85 parts per billion (ppb). This showing must rely on three (3) complete, consecutive calendar years of quality assured data.

4) A commitment that, once redesignated, the State will continue to operate an appropriate monitoring network to verify the maintenance of the attainment status.

2.3 Emission Inventory 107(d)(3)(E)(iii)

1) A comprehensive emission inventory of the precursors of ozone completed for the base year.

2) A projection of the emission inventory for a year at least 10 years following redesignation.

3) A demonstration that the projected level of emissions is sufficient to maintain the ozone standard.

4) A demonstration that improvement in air quality between the year violations occurred and attainment was achieved is based on permanent and enforceable emission reductions and not on temporary adverse economic conditions or unusually favorable meteorology.

5) Provisions for future annual updates of the inventory to enable tracking of the emission levels including an annual emission statement from major sources.

2.4 Modeling Demonstration

While no modeling is required for redesignating ozone nonattainment areas, the Indiana Department of Environmental Management (IDEM) has relied upon it extensively to determine necessary controls for this area.

2.5 Controls and Regulations 107(d)(3)(E)(ii) & 107(d)(3)(E)(v)

1) A U.S. EPA-approved SIP control strategy that includes Reasonably Available Control Technology (RACT) requirements for existing stationary sources covered

by Control Technology Guidelines (CTG) and non-CTG RACT for all major sources.

2) Evidence that control measures required in past ozone SIP revisions have been fully implemented.

3) Acceptable provisions to provide for new source review.

4) Assurances that existing controls will remain in effect after redesignation, unless the State demonstrates through photochemical modeling that the standard can be maintained without one (1) or more controls.

5) If appropriate, a commitment to adopt a requirement that all transportation plans conform with, and are consistent with, the SIP.

2.6 Corrective Actions for Potential Future Violations of the Standard

1) A commitment to submit a revised plan eight (8) years after redesignation.

2) A commitment to expeditiously enact and implement additional contingency control measures in response to exceeding specified predetermined levels (triggers) or in the event that future violations of the ambient standards occur.

3) A list of potential contingency measures that would be implemented in such an event.

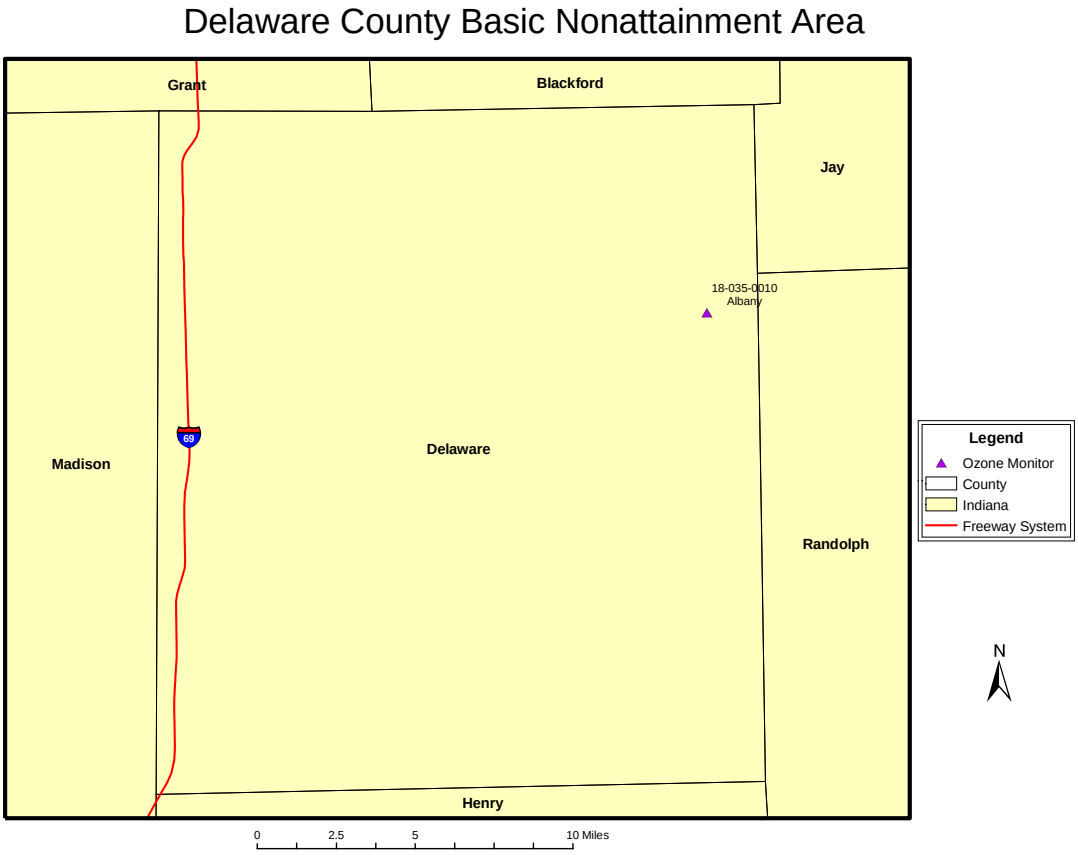
4) A list of VOC and NO_x sources potentially subject to future controls.

3.0 OZONE MONITORING

3.1 Ozone Monitoring Network

There is one (1) monitor measuring ozone concentrations in this nonattainment area. The monitor is currently operated by the IDEM, Office of Air Quality (OAQ). A listing of the four (4) highest readings from 2001 through 2004 is shown in Table 3.1 and was retrieved from the U.S. EPA's Air Quality System (AQS). The location of the monitoring site for this nonattainment area is shown in Figure 3.1.

Figure 3.1



3.2 Ambient Ozone Monitoring Data

The following information is taken from U.S. EPA's "Guideline on Data Handling Conventions for the 8-hour Ozone National Ambient Air Quality Standard (NAAQS)," U.S. EPA-454/R-98-017, December 1998.

Three (3) complete years of ozone monitoring data are required to demonstrate attainment at a monitoring site. The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the three (3) year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm (i.e. the site is said to be in attainment). Three (3) significant digits must be carried in the computations. Because the third decimal digit, in ppm, is rounded, 0.084 ppm is the largest concentration that is less than, or equal to, 0.08 ppm. Therefore, for the purposes of this request, the 8-hour standard is considered to be 0.085 ppm. Values below 0.085 ppm meet the standard, values equal to, or greater than, 0.085 exceed the standard. These data handling procedures are applied on an individual basis at each monitor in the area. An area is in compliance with the 8-

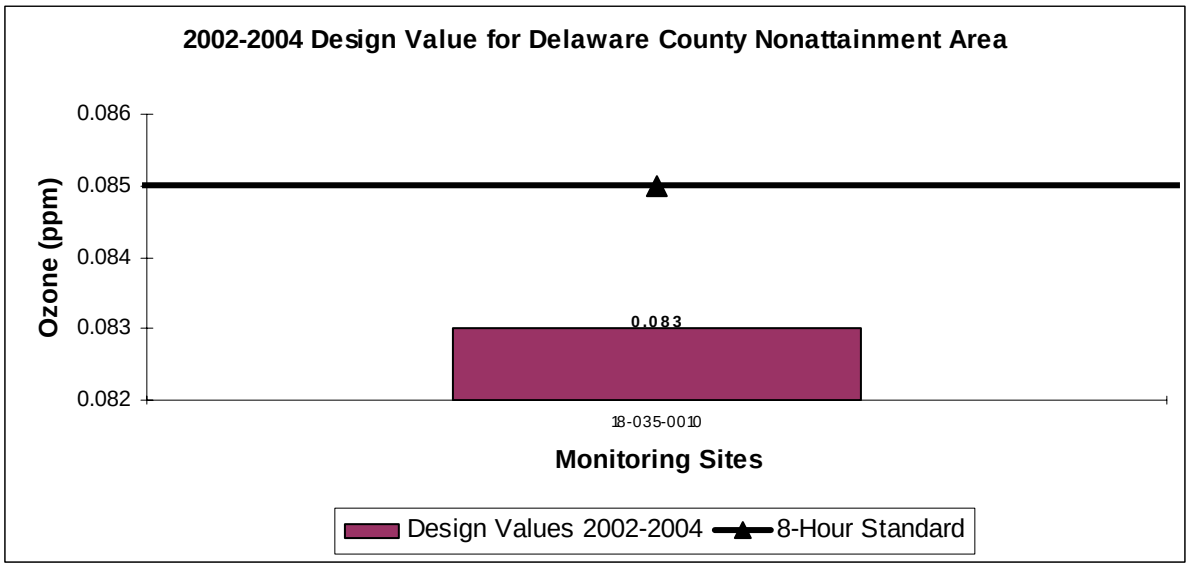
hour ozone NAAQS if, and only if, the monitoring site in the area meets the NAAQS. An individual site's three (3) year average of the annual forth highest daily maximum 8-hour average ozone concentration is also called the design value. Table 3.1 shows the monitoring data for the most recent years, 2001 – 2004, at the monitoring site.

Table 3.1
Monitoring Data for Delaware County 2001 – 2004

					1ST	2ND	3RD	4TH	2002-2004
SITE ID	COUNTY	ADDRESS	YEAR	% OBS	8-HR (ppm)	8-HR (ppm)	8-HR (ppm)	8-HR (ppm)	AVERAGE (ppm)
180350010	DELAWARE	ALBANY ELEMENTARY	2001	99	0.095	0.089	0.085	0.084	
180350010	DELAWARE	ALBANY ELEMENTARY	2002	99	0.098	0.098	0.097	0.095	
180350010	DELAWARE	ALBANY ELEMENTARY	2003	99	0.098	0.092	0.088	0.085	
180350010	DELAWARE	ALBANY ELEMENTARY	2004	99	0.080	0.078	0.073	0.070	**0.083**

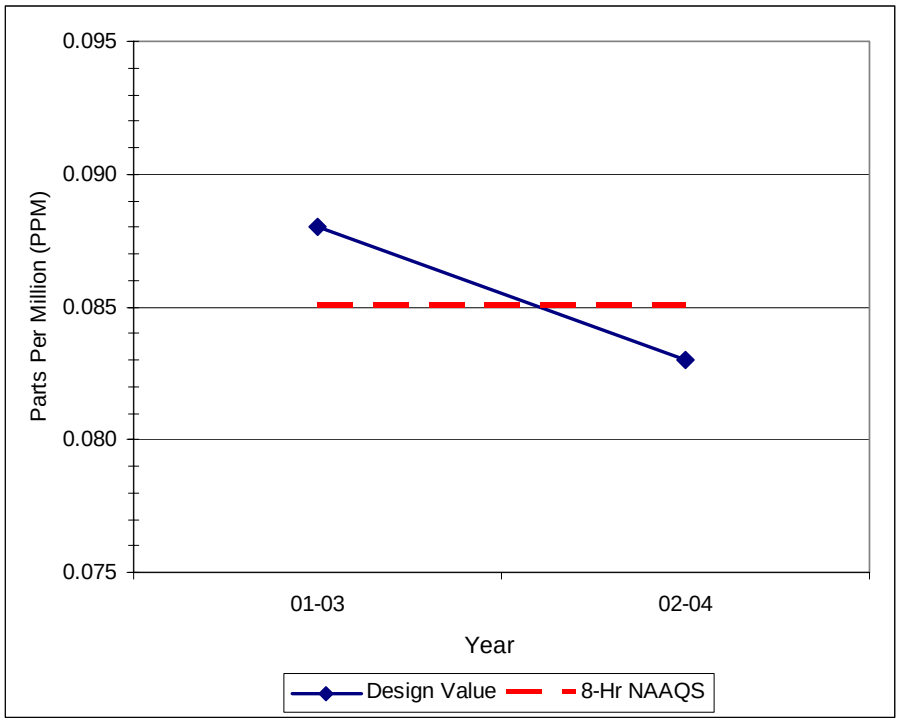
The graph below visually demonstrates the design value for this nonattainment area.

Graph 3.1
2002-2004 Design Value for Delaware County Nonattainment Area



The design value calculated for the Delaware County nonattainment area demonstrates that the NAAQS for ozone has been attained.

Graph 3.2
Trends in Delaware County, Indiana 8-hour Design Values, 2001 through 2004



The above graph shows the trend in design values for the region over the past several years. A comprehensive list of the site's design values over this time period is in Appendix A. The area's design value has trended downward, as emissions have declined due to such factors as the Acid Rain program, and cleaner automobiles and fuels on both regional and local scales. U.S. EPA's rule to control nitrogen oxides from specific source categories (40 CFR Parts 51, 72, 75 and 96, published on October 17, 1998 and referred to as the "NO_x SIP Call") has significantly reduced emissions from large electric generating units (EGUs), industrial boilers, and cement kilns. Indiana's NO_x Rule was adopted on June 6, 2001 (326 IAC 10-3 and 10-4). An analysis of meteorological conditions and monitoring values is in Section 7.0 and supports the conclusion that attainment of the standard as of 2004 is not the result of unusually favorable meteorological conditions. It is expected that this downward trend will continue as the above programs continue and the U.S. EPA Clean Air Interstate Rule is implemented.

3.3 Quality Assurance

IDEM has quality-assured all data shown in Appendix A in accordance with 40 CFR 58.10 and the Indiana Quality Assurance Manual. IDEM has recorded the data in the Air Quality System (AQS) database and, thus, they are available to the public.

3.4 Continued Monitoring

Indiana commits to continue monitoring ozone levels at the site indicated in Table 3.1 and Appendix A. IDEM will consult with U.S. EPA Region V staff prior to making any changes to the existing monitoring network should changes be necessary in the future. IDEM will continue to quality assure the monitoring data to meet the requirements of 40 CFR 58. Connection to a central station and updates to the IDEM website[1], will provide real time availability of the data and knowledge of any exceedances. IDEM will enter all data into AQS on a timely basis in accordance with federal guidelines.

4.0 EMISSION INVENTORY

U.S. EPA's Redesignation Guidance requires the submittal of a comprehensive inventory of ozone precursor emissions (VOC and NO_x) representative of the year when the area achieves attainment of the ozone air quality standard. Indiana must also demonstrate that the improvement in air quality between the year that violations occurred and the year that attainment was achieved is based on permanent and enforceable emission reductions. Other emissions inventory related requirements include a projection of the emission inventory to a year at least ten (10) years following redesignation, a demonstration that the projected level of emissions is sufficient to maintain the ozone standard, and a commitment to provide future updates of the inventory to enable tracking of emission levels during the ten (10) year maintenance period.

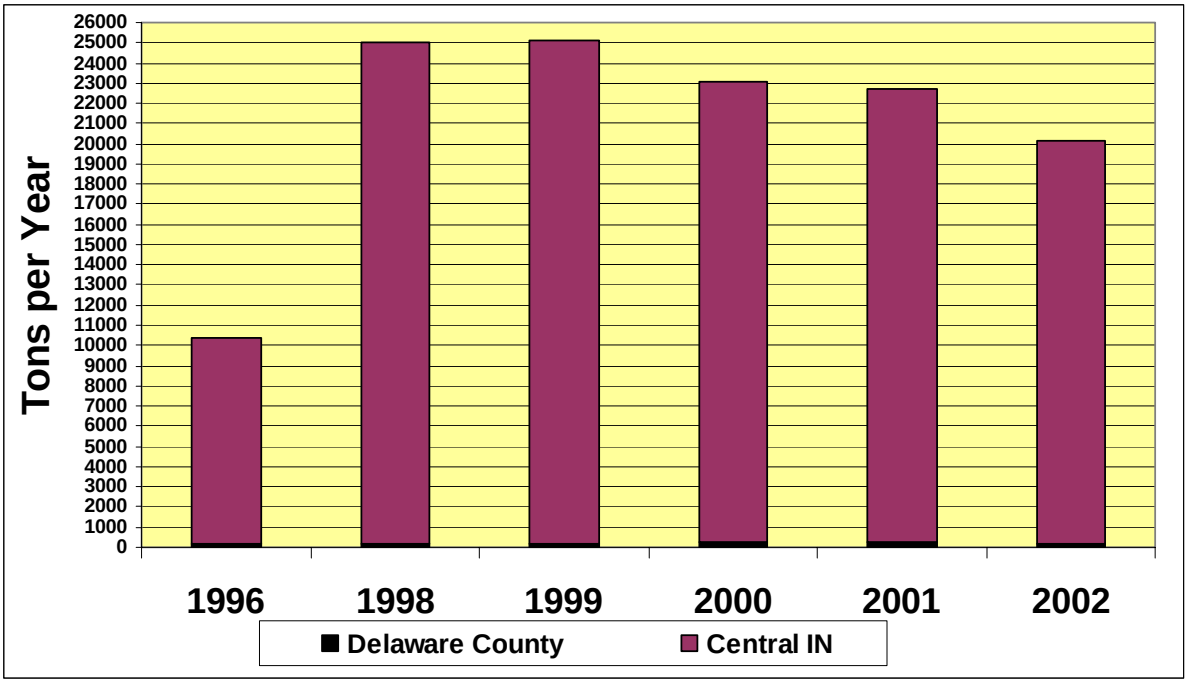
The following subsections address each of these requirements.

4.1 Emission Trends

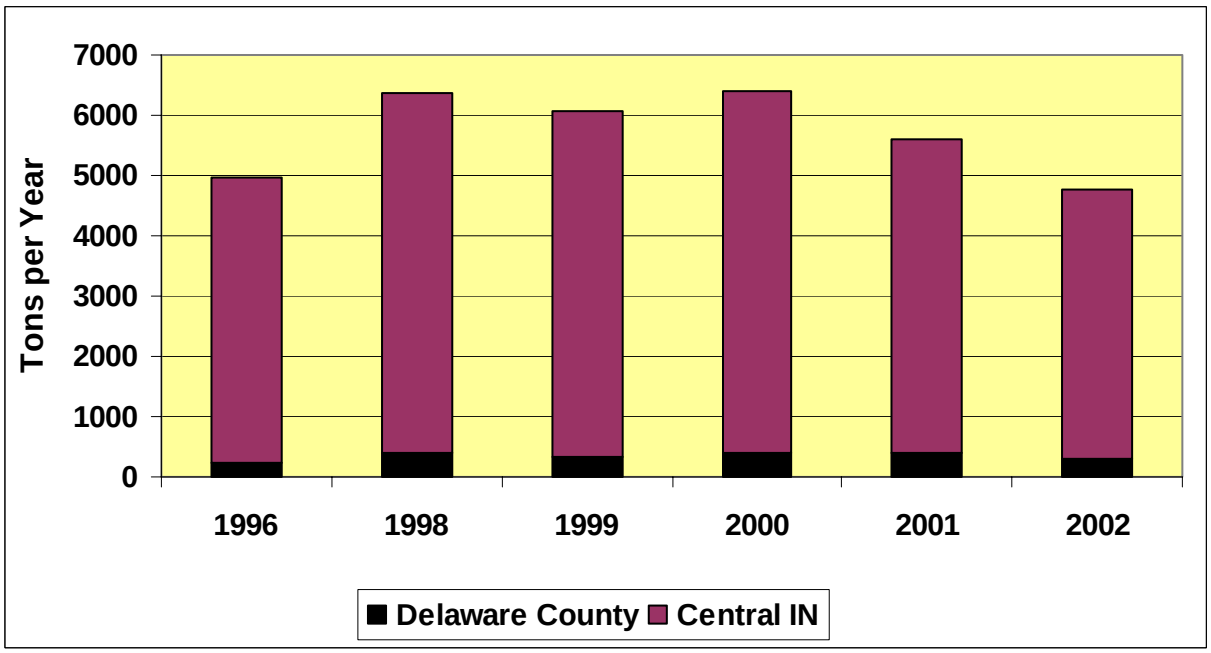
Graphs 4.1 and 4.2 below show the trend in point source emissions of NO_x and VOC respectively that correspond to the years of monitored values used in this report. To better illustrate emissions that impact ozone formation at the Albany monitoring site, these graphs include the Indianapolis nonattainment area emissions for the nine Central Indiana counties (Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby), as well as the emissions in Delaware County. The point source data are taken from Indiana's annual emissions reporting program. Data later than 2002 are not available for all sources. The large increases in NOx and VOC emissions from 1996 to 1998 is due to the fact that several companies did not submit their emissions in 1996 but were included in the 1998 emissions inventory. These graphs also show a downward trend in regional NO_x and VOC across Central Indiana. Appendix B shows detailed information for these emissions.

1 http://www.in.gov/idem

Graph 4.1
Delaware County and Central Indiana NO_x Point Source Emissions 1996 – 2002

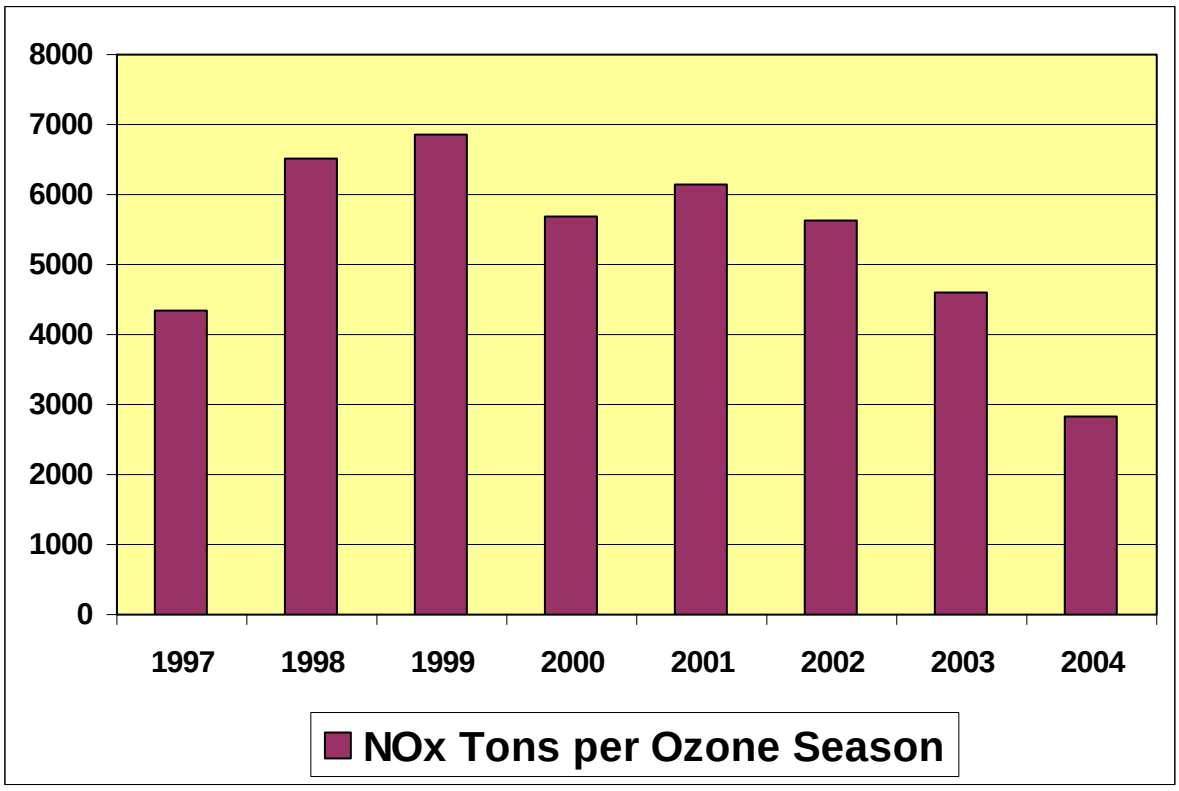


Graph 4.2
Delaware County and Central Indiana VOC Point Source Emissions 1996 – 2002



Graph 4.3 below shows the trend in regional NO_x emissions from Electric Generating Units (EGUs) for the Delaware County area, including Hamilton, Henry, Madison, Marion, Morgan and Wayne counties. This graph reflects NO_x emissions below the levels in graph 4.1 because graph 4.1 reflects emissions from every point source in the Central Indiana area and graph 4.3 only reflects emissions from electric generating units. Appendix C contains detailed information on these emissions. While ozone and its precursors are transported into this region from outside the area, this information does provide some indication of the impact from Indiana sources near the nonattainment area. Ozone concentrations at monitors in Greene and Jackson counties indicate that NO_x emissions are decreasing beyond Central Indiana as well.

Graph 4.3
Emissions from Electric Generating Units Located Upwind of Delaware County



NO_x emissions are decreasing substantially in response to national programs affecting all EGUs, including the Acid Rain program and the NO_x SIP Call. Other sectors of the inventory also impact ozone formation, but large regional sources such as EGUs have a substantial impact on the formation of ozone. It should also be noted that the Cinergy Noblesville power plant located in Hamilton County has changed from a coal fired power plant to a natural gas power plant. There are no power plants located in Delaware County.

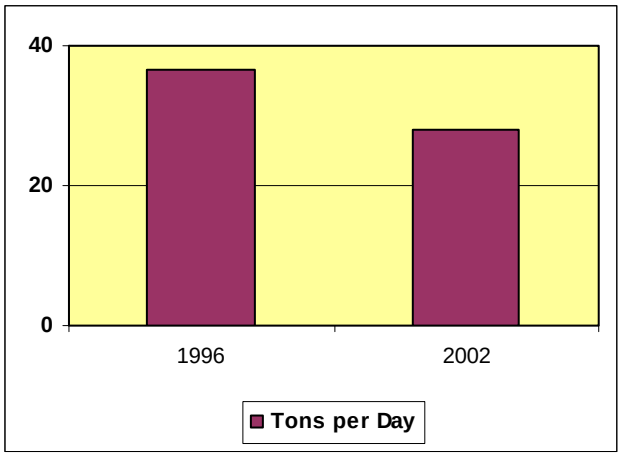
These data for graph 4.3 were taken from U.S. EPA's Clean Air Markets database[2]. Data are available sooner for these units than other point sources in the inventory because of the NO_x SIP Call budget and trading requirements. Information from 2003 is significant because some EGUs started operation of their NO_x SIP Call controls in order to generate Early Reduction Credits for their future year NO_x budgets. The first season of the SIP Call budget period began May 31, 2004.

As part of the NO_x SIP Call, the states were required to adopt into their rules a budget for all large EGUs. Indiana's budget is adopted at 326 IAC 10-4. The budget represents a state-wide cap on NO_x emissions. Although each unit is allocated emissions based upon historic heat input, utilities can meet this budget by over-controlling certain units or purchasing credits from the market to account for overages at other units. To summarize, NO_x emissions have substantially decreased over the years represented on these graphs. These emissions, capped by the state rule, should remain at least this low through the maintenance period covered by this request but are not guaranteed to stay this low since EGUs can purchase allowances from out of state. The state cap for the NO_x SIP Call will stay in place through 2008, at which time the Clean Air Interstate Rule (CAIR) program will supersede it. CAIR, issued in March 2005 and to be implemented in late 2006, will reduce regional EGU NO_x emissions by approximately another fifteen percent (15%) in 2015.

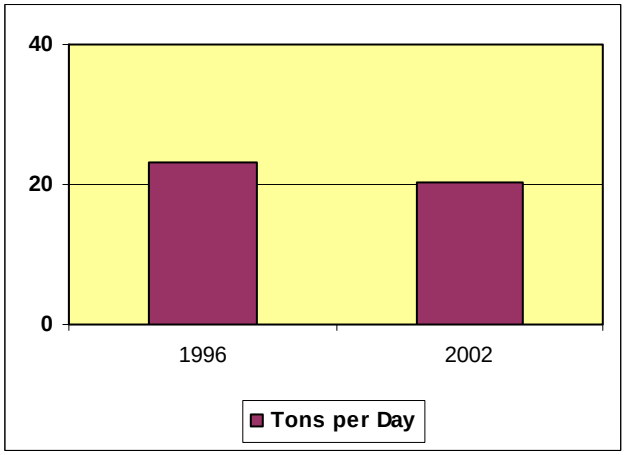
Graphs 4.4 and 4.5 below show the trends for the total emissions for all anthropogenic source categories in these years, which is a downward trend from 1996 to 2002. The decrease in NO_x can be largely attributed to those EGUs located upwind of Delaware County that have reduced their NO_x emissions as a result of the NO_x SIP Call. The reductions in VOC is a result of a closed plant in Delaware County The closing of this plant is discussed in Section 4.5 and listed in Table 4.2. These emission decreases correspond to the trend in ozone concentrations monitored from 2001-2004 discussed in Section 3.0. Appendix D contains detailed information on these emissions.

2 http://www.epa.gov/airmarkets

Graph 4.4
VOC Emissions Trends, 1996 – 2002, All Sources in Delaware County



Graph 4.5
NO_x Emissions Trends, 1996 – 2002, All Sources in Delaware County



4.2 Base Year Inventory

IDEM prepared a comprehensive inventory for Delaware County, including area, mobile, and point sources for precursors of ozone (volatile organic compounds and nitrogen oxides) for base year 2002.

- Area sources were taken from the Indiana 2002 periodic inventory submitted to U.S. EPA. These estimates were made from the U.S. Department of Commerce Bureau of Economic Analysis (BEA) growth factors, with some updated local information.
- Mobile source emissions were calculated using MOBILE6 produced emission factors.
- Point source information was compiled from IDEM's 2002 annual emissions statement database and the 2002 U.S. EPA Air Markets acid rain database[3].
- Biogenic emissions are not included in these summaries.
- Nonroad emissions were generated by U.S. EPA and are part of the 2002 National Emissions Inventory (NEI). To address concerns about the accuracy of some of the categories in U.S. EPA's Nonroad emissions model, the Lake Michigan Air Directors' Consortium (LADCO) (Midwest Regional Planning Organization), contracted with two (2) companies to review the base data and make recommendations. One of the contractors also estimated emissions for two (2) onroad categories not included in U.S. EPA's Nonroad model. Emissions were estimated for railroads. Recreational motorboat population and spatial surrogates (used to assign emissions to each county) were significantly updated. The populations for the construction equipment category was reviewed and updated based upon surveys completed in the Midwest and the temporal allocation for agricultural sources was also updated. A new onroad estimation model was provided by U.S. EPA for the 2002 analysis.

Appendix E contains detailed information for the 2002 emissions in Delaware County as well as the nine (9) Central Indiana counties in the Indianapolis nonattainment area.

4.3 Emission Projections

In consultation with the U.S. EPA, IDEM selected the year 2015 as the maintenance year for this redesignation request. This document contains projected emissions inventories for 2010 and 2015.

IDEM performed emission projections for Delaware County using the following approaches:

- Mobile source emission projections are based on the U.S. EPA MOBILE6 model. The analysis is described in more detail in Section 5.0. All projections were made in accordance with "Procedures for Preparing Emissions Projections" U.S. EPA-45/4-91-019.
- Emissions inventories are required to be projected to future dates to assess the influence growth and future controls will have. The Midwest Regional Planning Organization has developed growth and control files for Point, Area, and Nonroad categories. These files were used to develop the future year emissions estimates used in this document. This was done so

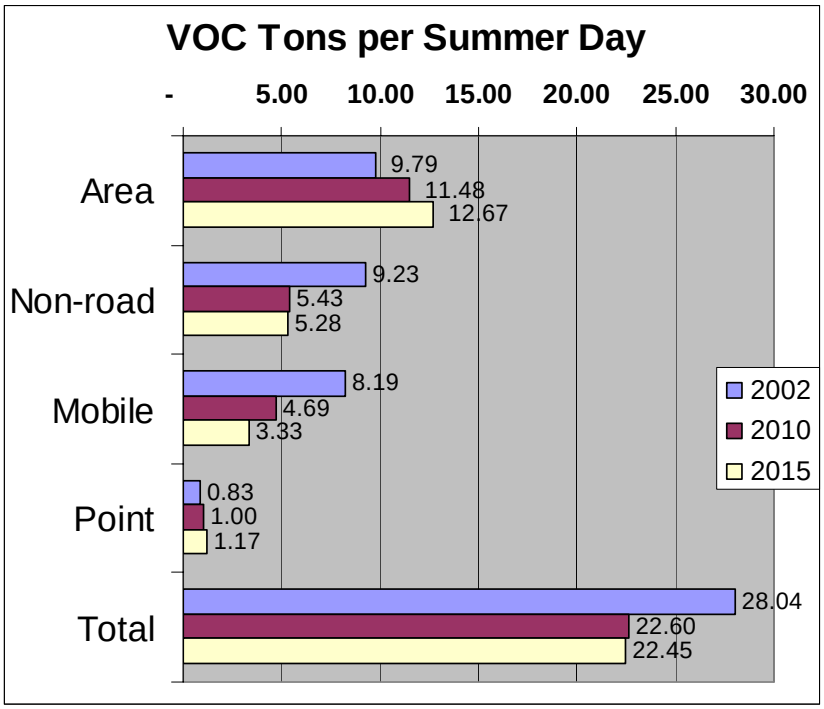
3 http://www.epa.gov/airmarkets/acidrain

that the inventories used for redesignation are consistent with modeling performed in the future.

The detailed inventory information for Delaware County as well as the nine (9) Central Indiana counties in the Indianapolis nonattainment area for 2010 and 2015 is in Appendix E.

Emission trends are an important gauge for continued compliance of the ozone standard. Therefore, IDEM performed an initial comparison of the inventories for the base year and maintenance year inventories for Delaware County which is summarized below. Graphs 4.6 and 4.7 visually compare the 2002 estimated with 2010 and 2015 projected emissions for Delaware County. Mobile Source emission inventories are described in Section 5.

Graph 4.6
Comparison of 2002 Estimated and 2010 and 2015 Projected VOC Emissions in Delaware County



Graph 4.7
Comparison of 2002 Estimated and 2010 and 2015 Projected NO_x Emissions in Delaware County

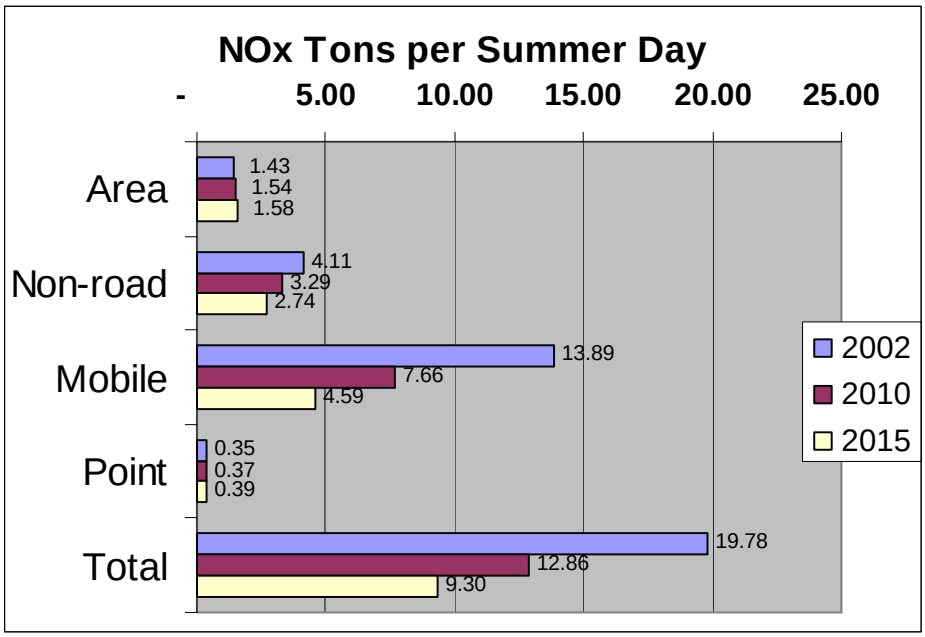


Table 4.1
Comparison of 2002 Estimated and 2015 Projected Emission Estimates in Tons per Summer Day, Delaware County, All Sources

	2002	2015	Change
VOC	28.04	22.45	- 5.59 (19.93% decrease)
NO_x	19.78	9.30	- 10.48 (52.98% decrease)

VOC emissions in the nonattainment area are projected to decrease by nineteen point nine three percent (19.93%). Area source emissions, and, to a lesser extent, point sources, show an increase due to the expectation that population will grow considerably in this area. However, cleaner vehicles and fuels that will be in place in 2010 and 2015 result in a significant decrease in VOC emissions.

NO_x emissions show a large decrease, fifty-two point nine eight percent (52.98%). In 2002, mobile sources comprised over seventy percent (70%) of the inventory. Decreases in the mobile inventory are attributed to U.S. EPA rules covering Tier II Motor Vehicle Emissions Standards

and Gasoline Sulfur Control Requirements[4], Highway Heavy-Duty Engine Rule[5] and Non-Road Diesel Engine Rule[6]. Also, due to the implementation of the NO_x SIP Call across the eastern United States, NO_x and ozone levels entering this area will also be decreased. The Clean Air Interstate Rule (CAIR), issued in March 2005 and to be implemented in late 2006, will reduce regional EGU NO_x emissions by approximately another fifteen percent (15%) in 2015. Since CAIR is a regional cap and trade program, it cannot be predicted at this time what effect this will have on EGU units located in Central Indiana, and so potential reductions are not included in Graph 4.7 or Table 4.1. There are no EGU units located in Delaware County.

4.4 Demonstration of Maintenance

Ambient air quality data indicate that air quality met the NAAQS for ozone in 2004. U.S. EPA's Redesignation Guidance (Page 9) states, "A state may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emissions rates will not cause a violation of the NAAQS." Ozone concentrations in Delaware County will be substantially reduced due to the implementation of the NO_x SIP Call in the upwind Central Indiana region. The NO_x SIP rule will result in major reductions of EGU emissions (see Section 6.2). The development of plans to attain the ozone and fine particulate standards in Marion and surrounding counties will also have a positive effect upon air quality in Delaware County. Therefore, air quality should meet the ozone NAAQS through the projected year 2015. Section 7.0 further discusses the implications of these emissions trends and provides an analysis to support these conclusions.

In Indiana, major point sources in all counties are required to submit air emissions information once every three (3) years or annually, if VOC potential to emit is greater than two hundred fifty (250) tons or NO_x greater than two thousand five hundred (2500) tons, in accordance with the Emission Reporting Rule, 326 IAC 2-6. IDEM prepares a new periodic inventory for all ozone precursor emission sectors every three (3) years. These ozone precursor inventories will be prepared for 2005, 2008, and 2011, as necessary, to comply with the inventory reporting requirements established in the CAAA. Emissions information will be compared to the 2002 base year and the 2015 projected maintenance year inventories to assess emission trends, as necessary, to assure continued compliance with the ozone standard.

4.5 Permanent and Enforceable Emissions Reductions

Permanent and enforceable reductions of volatile organic compounds and oxides of nitrogen have contributed to the attainment of the 8-hour ozone standard. Some of these reductions were due to the application of RACT rules, some were due to the application of tighter federal

4 http://www.epa.gov/fedrgstr/EPA-AIR/2000/February/Day-10/a19a.htm
5 http://www.epa.gov/fedrgstr/EPA-AIR/1997/October/Day-21/a27494.htm
6 http://www.epa.gov/fedrgstr/EPA-AIR/1998/October/Day-23/a24836.htm

standards on new vehicles, and some were due to closure of point source facilities. Table 4.2 shows significant reductions resulting from a closed plant in Delaware County between 1996 and 2002. Any reopening of closed facilities at these sources will require review as a new source and the application of appropriate controls to ensure that the emission increases resulting from the reopening of the sources will not cause a violation of the 8-hour ozone standard in Delaware County and in downwind areas. Also, Title IV of the Clean Air Act and the NO_x SIP Call required the reduction of oxides of nitrogen from utility sources. Section 6.0 identifies these reductions along with an explanation of their status.

Table 4.2
Closed Source, Annual VOC Emissions for Delaware County

County	Plant ID	Plant Name	NAICS	1996	1998	1999	2000	2001	2002
035	00048	INDIANA STEEL & WIRE CORPORATION	332618	45	37	28	28	30	0
		Total (Tons Per Year)		**45**	**37**	**28**	**28**	**30**	**0**

4.6 Provisions for Future Updates

As required by Section 175A(b) of the CAAA, Indiana commits to submit to the Administrator, eight (8) years after redesignation, an additional revision of this SIP. The revision will contain Indiana's plan for maintaining the national primary ozone air quality standard for ten (10) years beyond the first ten (10) year period after redesignation.

5.0 TRANSPORTATION CONFORMITY BUDGETS

The following is a summary of the detailed discussion contained in the Delaware County 2030 Transportation Plan, Air Quality Conformity Documentation, located in Appendix G.

5.1 On-Road Emission Estimations

The Delaware-Muncie Municipal Planning Commission (DMMPC) is the Metropolitan Planning Organization (MPO) for the Muncie area. This organization has a travel demand model that was developed by the consultant Bernardin, Lochmueller & Associates, Inc. The travel demand model predicts the traffic volumes and speeds on nearly all the roads in the entire Delaware County area. The consultant has also developed the post-processing that uses the U.S. EPA emissions estimation model MOBILE6 to calculate total emissions from on-road mobile sources.

5.2 Overview

Broadly described, MOBILE6 is used to determine "emission factors", which are the average emissions per mile (grams/mile) for different road facility types. MOBILE6 describes road facility types as Freeway, Arterial, Local or Ramp. Vehicle speeds also affect the emission factor values. Other factors also affect the emission factors such as air temperature, humidity, age of the vehicle fleet and the types of vehicles on the roads. These data are estimated using the best available information to create emission factors for the appropriate ozone precursors, NO_x and VOC. After emission factors are determined, the emission factor(s) must be multiplied by the vehicle-miles-traveled (VMT) to ultimately determine the quantity of vehicle-emissions. This VMT information comes from the travel demand model.

There are a number of ways emission factors from MOBILE6 can be used with the travel demand model information. Extensive area-specific speed and facility-type information can be input into MOBILE6 to the extent that MOBILE6 provides a single emission factor that represents the average for all vehicles and facility (road) types in the modeled area. The post-processing simply requires multiplying this emission factor by the total VMT to get the total emissions for the area. Another method is to create "look-up" tables that describe the emission factors for each speed on each facility (road) type. This requires much more extensive post-processing where each segment of road (or "link") has an average-speed and facility-type attribute that is "looked-up" in the appropriate emission factor table. This emission factor is multiplied by the link's traffic-volume and link-length (VMT) to get the emissions from that link. The sum of each link-emission will be the total emissions. If each of the emissions are calculated for each link, this is considered a "link-by-link" analysis. This type of analysis can be further simplified by finding the average speed for all roads of a particular facility-type and looking up a single emission factor for that average speed on that facility-type. This aggregates all the link speeds of that facility-type and reduces the number of calculations significantly. There are other methods as well, none being necessarily superior to the other. The consultation parties chose to use a simplified version of the latter method; creating one emission factor for each facility (road) type.

It should be noted that each year analyzed will have different emission factors, volumes, speeds and likely some additional links.

5.3 Local Road VMT

The model's 2002 VMT for each road type is adjusted relative to 2002 HPMS (Highway Performance Monitoring System) data that is gathered and maintained by INDOT under federal guidelines. Adjustment factors for each road type have been developed. Most correlate well with the model with the exception of local roads, which are under represented in the model. Local roads are commonly not represented in the network because they tend to be less congested, have less total VMT, and have a negligible effect on the modeled road network.

5.4 Emission Estimations

Table 5.1 contains the results of the emissions analysis for the appropriate years.

Table 5.1 - Emission Estimations for On-Road Mobile Sources

	2002	2010	2015	2015 Margin of Safety
VMT (miles/day)	4,410,000	4,822,355	5,097,099	
VOC (tons/day)	8.19	4.69	3.33	5.1%
NOx (tons/day)	13.89	7.66	4.59	5.0%

5.5 Motor Vehicle Emission Budget

Table 5.2 contains the motor vehicle emissions budget for the Delaware County ozone nonattainment area for the year 2015.

Table 5.2 – Mobile Vehicle Emission Budgets

2015	tons/day
VOC	3.50
NOx	4.82

2015 projected emissions inventory numbers for NOx and VOC were calculated by plotting a polynomial curve of 2002, 2010, 2020 and 2030 numbers for Delaware County and the nine (9) Central Indiana Counties (Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, and Shelby). By taking the equation of the polynomial curve and inserting the year, 2015, mobile vehicle emission numbers were able to be calculated for the year 2015. A detailed description of the calculations can be found in Appendix F.

The mobile vehicle emission budget includes the emission estimates calculated for 2015, and a margin of safety. The emission estimates are derived from the DMMPC travel demand model and MOBILE6.2 as described above under the current DMMPC 2030 Long Range Plan. Margins of safety are used to accommodate the wide array of assumptions that are factored into the calculation process. Since assumptions (model inputs, land use, census data, population characteristics) change over time, it is necessary to have a margin of safety that will accommodate the impact of refined assumptions in the conformity process. This budget results in the 2015 total emissions, for both VOC and NO_x. This budget is still below the base year emissions shown in Graphs 4.6 and 4.7.

All methodologies, latest planning assumptions and the safety margins were determined through the interagency consultation process described in 40 CFR 93.105 and 326 IAC 19-2-1.

6.0 CONTROL MEASURES AND REGULATIONS

This section provides specific information on the control measures implemented in Delaware County, including CAAA requirements and additional state or local measures implemented beyond CAAA requirements.

6.1 Reasonably Available Control Technology (RACT)

As required by Section 172 of the CAAA, Indiana in the mid-1990s promulgated rules requiring RACT for emissions of VOCs. There were no specific rules required by the CAA, such as RACT for existing sources, for this county beyond state-wide rules. State-wide RACT rules have applied to all new sources locating in Indiana since that time. The Indiana rules are found in 326 IAC 8. The following is a listing of applicable rules:

326 IAC 8-1-6	BACT for non-specific sources
326 IAC 8-2	Surface Coating Emission Limitations
326 IAC 8-3	Organic Solvent Degreasing Operations
326 IAC 8-4	Petroleum Sources
326 IAC 8-5	Miscellaneous Operation
326 IAC 8-6	Organic Solvent Emission Limitations
326 IAC 8-8.1	Landfills
326 IAC 8-10	Auto Body Refinishing

6.2 Implementation of Past SIP Revisions

This nonattainment area was not required to develop an Attainment Demonstration SIP for the 1-hour ozone NAAQS. Similarly, since the area was only recently designated nonattainment for ozone and the area has now attained the standard, no Attainment Demonstration SIP has been required to bring the area into attainment for the 8-hour ozone NAAQS. Therefore, this requirement does not apply. Emissions of VOCs are regulated by applicable state-wide provisions of 326 IAC 8.

6.3 Nitrogen Oxides (NO_x) Rule

The U.S. EPA NO_x SIP Call required twenty-two (22) states to pass rules that would result in significant emission reductions from large EGUs, industrial boilers, and cement kilns in the eastern United States. Indiana adopted this rule in 2001. Beginning in 2004, for Indiana this rule will account for a reduction of approximately thirty-one percent (31%) of all NO_x emissions state-wide compared to previous uncontrolled levels.

The other states have also adopted these rules. The result is that significant reductions will continue to occur upwind and within the Delaware County nonattainment area because of the number of large electric utilities located in Southern and Central Indiana, Kentucky, Illinois, and

Tennessee. U.S. EPA and IDEM have performed modeling that indicates this area will attain the 8-hour ozone standard with the implementation of the NO_x SIP Call. Controls for EGUs formally commenced May 31, 2004. From Graph 4.3, "Emissions from Electric Generating Units Located Upwind of Delaware County," it can be seen that emissions covered by this program started trending down in 2002 and then much larger reductions occurred in 2003. Table 6.1, compiled from data taken from the U.S. EPA Clean Air Markets website, quantifies the gradual NO_x reductions that have occurred in Indiana as a result of Title IV of the Clean Air Act Amendments and the beginning of the NO_x SIP Call Rule.

Further, U.S. EPA has recently published Phase II of the NO_x SIP Call, which establishes a budget for large (greater than 1 ton per day emissions) stationary internal combustion engines. This rule will decrease emissions state-wide from natural compressor stations by four thousand two hundred and sixty-three (4,263) tons during the ozone season. Indiana is on track to finalize this rule in mid-2005. Implementation of this rule will be in 2007.

Table 6.1
Trends in EGU Ozone Season NO_x Emissions State-Wide in Indiana

Year	NO_x Emissions (tons/ozone season)	NO_x Emission Rate (lbs/MMBtu)
1997	152,834	0.557
1998	159,931	0.540
1999	149,827	0.502
2000	133,881	0.476
2001	136,121	0.481
2002	114,082	0.409
2003	99,967	0.342
Cap 2004-2009	43,654	0.150

6.4 Measures Beyond Clean Air Act Requirements

Reductions in ozone precursor emissions have occurred, or are anticipated to occur, as a result of federal control programs. These additional control measures include:

Tier II Emission Standards for Vehicles and Gasoline Sulfur Standards

In February 2000, U.S. EPA finalized a federal rule to significantly reduce emissions from cars and light trucks, including sport utility vehicles (SUVs). Under this proposal, automakers will be required to sell cleaner cars, and refineries will be required to make cleaner, lower sulfur gasoline. This rule will apply nationwide. The federal rules will phase in between 2004 and 2009. U.S. EPA has estimated that NO_x emission reductions will be approximately seventy-seven percent (77%) for passenger cars, eighty-six percent

(86%) for smaller SUVs, light trucks, and minivans, and sixty-five to ninety-five percent (65-95%) reductions for larger SUVs, vans, and heavier trucks. VOC emission reductions will be approximately twelve percent (12%) for passenger cars, eighteen percent (18%) for smaller SUVs, light trucks, and minivans, and fifteen percent (15%) for larger SUVs, vans, and heavier trucks.

Heavy-Duty Diesel Engines

In July 2000, U.S. EPA issued a final rule for Highway Heavy Duty Diesel Engines, a program which includes low-sulfur diesel fuel standards, which will be phased in from 2004 through 2007. This rule applies to heavy-duty gasoline and diesel trucks and buses. This rule will result in a forty percent (40%) reduction in NO_x from diesel trucks and buses, a large sector of the mobile sources NO_x inventory.

Clean Air Nonroad Diesel Rule

In May 2004, U.S. EPA issued the Clean Air Nonroad Diesel Rule. This rule applies to diesel engines used in industries such as construction, agriculture, and mining. It also contains a cleaner fuel standard, similar to the highway diesel program. The new standards will cut emissions from nonroad diesel engines by over ninety percent (90%). Nonroad diesel equipment, as described in this rule, currently accounts for forty-seven (47%) percent of diesel particulate matter (PM) and twenty-five percent (25%) of nitrogen oxides (NO_x) from mobile sources nationwide. Sulfur levels will be reduced in nonroad diesel fuel by ninety-nine percent (99%) from current levels, from approximately three-thousand (3,000) parts per million (ppm) now to fifteen (15) ppm in 2010. New engine standards take effect, based on engine horsepower, starting in 2008.

Together, these rules will substantially reduce local and regional sources of ozone precursors. The modeling analyses discussed in Section 7.0 include these rules and show the ozone concentrations expected to result from the implementation of these rules.

6.5 Controls to Remain in Effect

Indiana commits to maintaining the aforementioned control measures after redesignation. Indiana hereby commits that any changes to its rules or emission limits applicable to VOC and/or NO_x sources, as required for maintenance of the ozone standard in Delaware County, will be submitted to U.S. EPA for approval as a SIP revision.

Indiana, through IDEM's Office of Air Quality and Office of Enforcement, has the legal authority and necessary resources to actively enforce any violations of its rules or permit provisions. After redesignation, Indiana intends to continue enforcing all rules that relate to the emission of ozone precursors in Delaware County.

6.6 New Source Review (NSR) Provisions

Indiana has a longstanding and fully implemented New Source Review (NSR) program. This program is addressed in rule 326 IAC 2. The rule includes provisions for the Prevention of Significant Deterioration (PSD) permitting program in 326 IAC 2-2. Indiana's PSD program was conditionally approved on March 3, 2003 (68 FR 9892) and received final approval on May 20, 2004 (69 FR 29071) by U.S. EPA as part of the SIP.

Any facility that is not listed in the 2002 emission inventory, or for the closing of which credit was taken in demonstrating attainment, will not be allowed to construct, reopen, modify, or reconstruct without meeting all applicable permit rule requirement. The review process will be identical to that used for new sources. Once the area is redesignated, OAQ will implement NSR through the PSD program, which requires an air quality analysis to evaluate whether the new source will threaten the NAAQS.

7.0 MODELING

7.1 Summary of Modeling Results for National Emission Control Strategies in Final Rulemakings

Although U.S. EPA's redesignation guidance does not require modeling for ozone nonattainment areas seeking redesignation, extensive modeling has been performed covering the Central Indiana region to determine the effect of national emission control strategies on ozone levels. The modeling analyses determined that Delaware County is significantly impacted by ozone, and ozone precursor transport and regional NO_x reductions would be necessary to attain the 8-hour standard in this area.

U.S. EPA Modeling Analysis for HDE Final Rulemaking

U.S. EPA conducted modeling for Tier II vehicles and low-sulfur fuels. This analysis was performed in 2000 to support final rulemaking for the Heavy Duty Engine (HDE) and Vehicle Standards and Highway Diesel Fuel Rule and its expected impact on ozone levels. "Technical Support Document for the Heavy Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements: Air Quality Modeling Analyses" (U.S. EPA420-R-00-028) was referenced for support of this ozone redesignation for the seven counties. Base year emissions from 1996 were modeled for three (3) ozone episodes: June 12-24, 1995; July 5-15, 1995; and August 7-21, 1995. Results of this modeling show that ozone impacts from these fuel emission control measures, as well as the proposed NO_x SIP call, would be substantial in Delaware County. Relative reduction factors (RRF) were calculated for each of the monitors in operation and having a complete three (3) year design value for 1996. Monitors without a complete three (3) year design value, such as Delaware County, were not evaluated in the modeling.

However, the four closest monitors to the Delaware County monitor (within thirty (30) miles) were determined and the corresponding RRFs were averaged. The four (4) monitors (Fort Harrison, Fortville, Noblesville and Emporia) are located downwind of the Indianapolis urban area and are considered representative of the ambient air in Delaware County. The averaged RRF was calculated to be 0.8903 and was applied to the most current three (3) year (2001-2003) design value at the Albany ozone monitor in Delaware County. The resulting future year design value was calculated as shown below in Table 7.1. The modeled future year design value for the ozone monitor in Delaware County will attain the 8-hour ozone NAAQS.

Table 7.1
Modeling Results from U.S. EPA Heavy Duty Diesel

Monitor ID	Monitor Name	County	Design Value (ppb)	Modeled Relative Reduction Factor (RRFs)	Future Design Value (ppb)
			2001-2003	**2007 Base**	**2007**
180350010	Albany	Delaware	88	0.8903 [a]	81.4

[a] Indicates the average calculated RRF from the four closest monitors.

LADCO Modeling Analysis for 8-hour Ozone Standard Assessment

The Lake Michigan Air Directors Consortium (LADCO), which is the Midwest Regional Planning Organization, performed modeling to evaluate the effect of the NO_x SIP Call and Tier II / Low Sulfur rule for future-year 2007 ozone in the Lake Michigan area. This modeling was originally designed to assess the 1-hour ozone standard. Further analysis was conducted and documented in LADCO's White Paper "8-hour Ozone Assessment," dated May 2, 2001. Base year design values used were the average of the design values for the three (3) three (3) year periods (1994-1996, 1995-1997, 1996-1998). Base year emissions were taken from 1996 and four ozone episodes were evaluated: June 22-28, 1991; July 14-21, 1991; June 13-25, 1995; and July 7-18, 1995.

While modeling results were not calculated for Delaware County, the average decrease in ozone from the base case modeling run with modeling runs that applied emission controls required by the Clean Air Act, NO_x SIP Call and Tier II / Low-Sulfur requirements was nine (9) ppb. This average is for nonattainment areas in northwest, north-central, central, southwest and southern Indiana. Monitors located in or near urban areas showed a slightly lower average ozone decrease of eight (8) ppb while upwind monitors or monitors located in rural areas showed an average ozone decrease of eleven (11) ppb. Southern Indiana averaged higher ozone decreases as compared to Central and Northern Indiana due to the number of power plants located near the Ohio River. Therefore, anticipated ozone decreases from LADCO's modeling analysis would be approximately six to nine (6-9) ppb in the Delaware County area. The anticipated ozone decrease in the 2001 – 2003 design value of eighty-eight (88) ppb would bring the future year 2007 design value below the 8-hour ozone NAAQS.

7.2 Summary of Modeling Results to Support Recent Rulemakings

U.S. EPA Modeling for Clean Air Interstate Rule (CAIR), 2004

On March 10, 2005, the U.S. EPA promulgated the Clean Air Interstate Rule (CAIR). NO_x emissions will be cut from 4.5 million tons in 2003 to a cap of 1.5 million tons by 2009 and 1.3 million tons in 2015 in 28 eastern states and the District of Columbia.

U.S. EPA performed modeling to support the associated emission reductions. The modeling was based on 1999-2003 design values. Future year modeling was conducted for Delaware County and the future year design values for 2010 and 2015 were evaluated for attainment of the 8-hour ozone NAAQS, as shown below in Table 7.2. Results of the CAIR modeling show that Delaware County will continue to attain the 8-hour ozone NAAQS in 2010. With further reductions projected in CAIR for 2015, the design value continues to decrease.

Table 7.2
Modeling Results from U.S. EPA for the Clean Air Interstate Rule

Monitor ID	Monitor Name	County	Design Value	Future Design Value	Future Design Value
			1999-2003	**2010 w/o CAIR**	**2010 w/ CAIR**
180500101	Albany	Delaware	88	76.1	75.6

LADCO modeling for Clean Air Interstate Rule (CAIR)

LADCO conducted modeling to support the associated emission reductions for CAIR. This modeling is based on 2000 – 2004 design values. Future year modeling for 2010 was conducted and the future year design values were determined, as shown below in Table 7.3. Results of the CAIR analysis show that Delaware County will attain 8-hour ozone NAAQS

Table 7.3
Modeling Results from LADCO for the Clean Air Interstate Rule

Monitor ID	Monitor Name	County	Design Value	Modeled Relative Reduction Factor (RRFs)	Future Design Value
			2002-2004	**2010 Base**	**2010**
180950010	Emporia	Madison	89	0.895	79.7
180350010	Albany	Delaware	83	0.890	79.3

7.3 Summary of Existing Modeling Results

U.S. EPA and LADCO modeling for future year design values has consistently shown that existing national emission control measures will bring Delaware County into attainment of the 8-hour ozone NAAQS. Proposed rulemakings to be implemented in the next several years will provide even greater assurance that air quality will continue to meet the standard into the future. Modeling support for the NO_x SIP Call, Heavy Duty Engine and Highway Diesel Fuel, and Tier II/Low Sulfur Fuel Rules have shown that future year design values for Delaware County will attain the ozone standard with modeled future year design values well below eighty-five (85) ppb. U.S. EPA has modeled base case future years with existing emission controls only and shown that Delaware County will attain the 8-hour ozone NAAQS without proposed additional national emission control strategies. Future national emission control strategies will ensure that the county's attainment will be maintained with an increasing margin of safety over time.

7.4 Temperature Analysis for Delaware County

Meteorological conditions are one of the most important factors that influence ozone development and transport. IDEM has conducted an analysis to determine how the temperatures during the ozone conducive months of May, June, July, August and September for the years 1996 through 2004 compare to normal temperatures for the Central Indiana area for the years 1971 through 2000. Complete climatological data are not available for Delaware County. Therefore, IDEM used the Indianapolis National Weather Service Office, Indianapolis Climate Data. Normal maximum temperatures by summer months from 1971-2000 for the Indianapolis, Central Indiana area are as follows:

May – 73.5^{o} F
June – 82.1^{o} F
July – 85.6^{o} F
August – 83.7^{o} F
September – 77.4^{o} F
May - September – 80.5^{o} F

IDEM compiled Indianapolis' monthly maximum temperatures for the previous nine (9) years (1996 – 2004) to determine the average maximum monthly temperatures in Central Indiana. This analysis was made to find how the temperatures during the summer months compared to normal summer month temperatures throughout central, west-central, south-central and east-central Indiana. Overall, the temperatures during the 1998, 1999 and 2002 summer months of May, June, July, August, and September were one percent (1%) to two percent (2%) higher while temperatures during the 1996, 1997, 2000, 2001, 2003 and 2004 summer months were one percent (1%) to three percent (3%) lower than the normal temperatures. Table 7.4 shows the average temperatures in Central Indiana for each of the past nine (9)years and the percent difference from normal for each year.

Table 7.4
Analysis of Maximum Temperatures for Central Indiana
(Percent Change from Maximum Temperature (^{o}F) Normals (1971 – 2000))

	Normal	1996		1997		1998		1999	
	Max	Max	%	Max	%	Max	%	Max	%
May	73.5	70	-5	66.9	-9	76.4	+4	75.1	+2
June	82.1	80.9	-1	77.6	-5	80.3	-2	82.3	0
July	85.6	82.9	-3	86.2	+1	84.0	-2	89.2	+4
August	83.7	84.1	0	80.8	-3	84.5	+1	83.3	0
September	77.4	75.5	-2	77.1	+1	83.0	+7	81.2	+5
AVERAGE	80.5	78.7	-2	77.7	-3	81.6	+1	82.2	+2

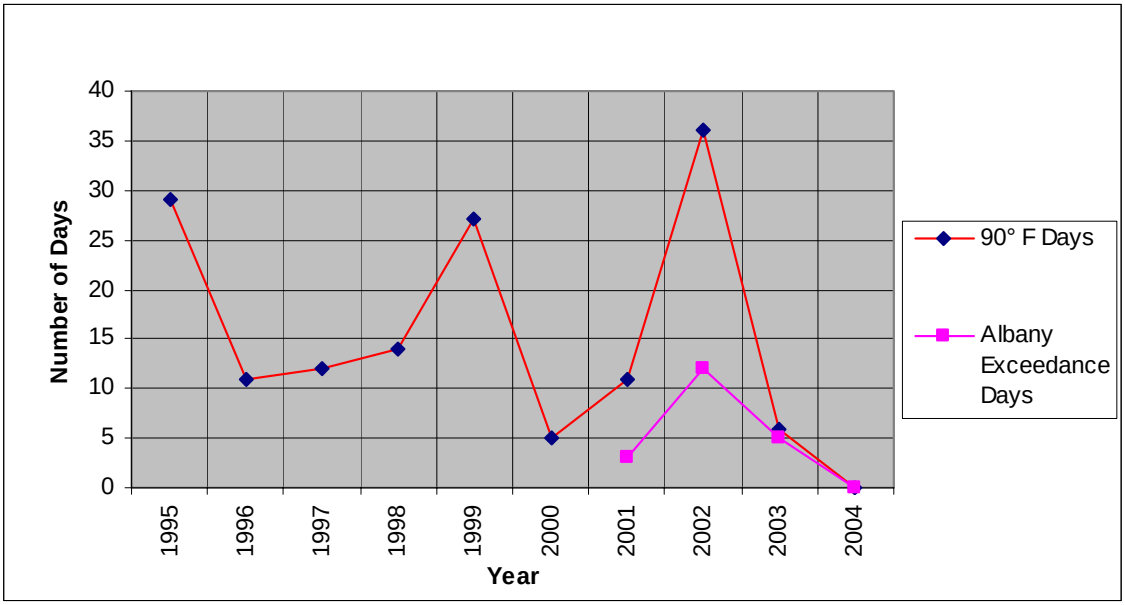
	2000		2001		2002		2003		2004	
	Max	%	Max	%	Max	%	Max	%	Max	%
May	74.9	+2	74.6	+1	70.4	-4	70.3	-4	76.2	+4
June	80.2	-2	79.5	-3	83.6	+2	78.0	-5	81.7	-2
July	82.4	-4	83.9	-2	88.2	+3	83.4	-3	81.6	-5
August	82.6	-1	85.2	+2	86.7	+4	83.9	0	78.9	-6
September	75.5	-2	75.4	-3	82.1	+6	74.2	-4	79.4	+2
AVERAGE	79.1	-2	79.7	-1	82.2	+2	80.0	-3	79.4	-2

The number of days with temperatures of 90^{o} F and higher was calculated and compared to the normal number of days from 1971 through 2000 as well as the number of days with 8-hour ozone exceedances. Table 7.5 shows a table of the comparison of 8-hour ozone exceedances and temperatures while Graph 7.1 shows the correlation graphically**.**

Table 7.5
Comparison of Days with 90^{o} F and 8-hour Ozone Exceedance Days

Number of Days with Temperatures of 90^{o} F and higher											
	Normal	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
# of 90^{o} F days	14.9	29	11	12	14	27	5	11	36	6	0
Number of 8-hour Exceedance Days at Delaware County ozone monitor											
Monitor	County	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Albany	Delaware	N/A	N/A	N/A	N/A	N/A	N/A	3	12	5	0

Graph 7.1
Comparison of Days with 90° F and 8-hour Ozone Exceedance Days



As can be seen, a greater number of ozone exceedance days per year correlate with a greater number of 90° F days per year. However, years with a lesser number of 90° F days still yield 8-hour ozone exceedance days.

7.5 Summary of Meteorological Conditions

The analysis of the departure from normal of the maximum temperatures during the summer months show variation of the average maximum temperatures from negative three percent (-3%) to two percent (2%). The analysis shows that ten (10) or more days with temperatures of 90° F and higher occurred in 1995, 1996, 1997, 1998, 1999, 2001 and 2002. The number of 8-hour ozone exceedance days for those years, especially those with more monitoring data, shows a greater correlation to the number of higher temperature days. However, the years with a lesser number of 90° F days still yielded 8-hour ozone exceedance days. 2002 was a relatively warm year and 2004 was a relatively cool year but there do not appear to be any abnormal temperature swings or other recent summers with excessively warmer or cooler than normal temperatures over the past decade.

In 2002, there were thirty-six (36) occurrences of 90° F and higher days and twelve (12) occurrences of 8-hour ozone exceedance days. In 2003, there were six (6) occurrences of 90° F and higher days and five (5) occurrences of 8-hour ozone exceedance days. In 2004, there were no 90° F and higher days and no 8-hour ozone exceedances. The lower values correspond to lowered local and regional ozone precursor emissions. U.S. EPA developed the 8-hour ozone

standard as a 4th high ozone value averaged over three (3) years to account for these variations in temperature and 8-hour exceedance days.

8.0 CORRECTIVE ACTIONS

8.1 Commitment to Revise Plan

As noted in Section 4.5 above, Indiana hereby commits to review its Maintenance Plan eight (8) years after redesignation, as required by Section 175(A) of the CAAA

8.2 Commitment for Contingency Measures

Indiana hereby commits to adopt and implement expeditiously necessary corrective actions in the following circumstances:

Warning Level Response:

A Warning Level Response shall be prompted whenever an annual (1-year) fourth high monitored value of 88 parts per billion (ppb) occurs in a single ozone season within the maintenance area. A Warning Level Response will consist of a study to determine whether the ozone value indicates a trend toward higher ozone values or whether emissions appear to be increasing. The study will evaluate where the trend if any, is likely to continue and, if so, the control measures necessary to reverse the trend taking into consideration ease and timing for implementation, as well as economic and social considerations. The study, including the applicable recommended next steps, shall be completed within twelve (12) months from the close of the most recent ozone season (September 30).

Should it be determined through the Warning Level study that action is necessary to reverse the noted trend, the procedures for control selection and implementation outlined under "Action Level Response" shall be followed.

Action Level Response:

An Action Level Response shall be prompted whenever a two (2)-year average fourth high monitored value of 85 parts per billion (ppb) occurs within the maintenance area. In the event that the Action Level is triggered and is not found to be due to an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement, IDEM will determine additional control measures needed to assure future attainment of NAAQS for ozone. In this case, measures that can be implemented in a short time will be selected in order to be in place within eighteen (18) months from the close of the ozone season that prompted the Action Level.

Control Measure Selection and Implementation:

Adoption of any additional control measures is subject to necessary administrative and legal process. This process will include publication of notices, an opportunity for public hearing, and other measures required by Indiana law for rulemaking by state environmental boards.

If a new measure/control is already promulgated and scheduled to be implemented at the federal or state level, and that measure/control is determined to be sufficient to address the upward trend in air quality, additional local measures may be unnecessary. Furthermore, Indiana will submit to U.S. EPA an analysis to demonstrate that the proposed measures are adequate to return the area to attainment.

8.3 List of Contingency Measures

Contingency measures to be considered will be selected from a comprehensive list of measures deemed appropriate and effective at the time the selection is made. Listed below are example measures that may be considered. The selection of measures will be based upon cost-effectiveness, emission reduction potential, economic and social considerations, or other factors that IDEM deems appropriate. IDEM will solicit input from all interested and affected persons in the maintenance area prior to selecting appropriate contingency measures. All of the listed contingency measures are potentially effective or proven methods of obtaining significant reductions of ozone precursor emissions. Because it is not possible at this time to determine what control measure will be appropriate at an unspecified time in the future, the list of contingency measures outlined below is not comprehensive. Indiana anticipates that only a few of these measures will be required.

1) Lower-Reid vapor pressure gasoline program.

2) Broader geographic applicability of existing measures.

3) Tighten RACT on existing sources covered by U.S. EPA Control Technique Guidelines issued in response to the 1990 CAAA.

4) Apply RACT to smaller existing sources.

5) A modern vehicle inspection/maintenance program.

6) One or more transportation control measures sufficient to achieve at least a half a percent (0.5 %) reduction in actual area wide VOC emissions. Transportation measures will be selected from the following based upon the factors listed above after consultation with affected local governments:

a) Trip reduction programs, including, but not limited to, employer-based transportation management plans, area wide rideshare programs, work schedule changes, and telecommuting.

b) Transit improvements.

c) Traffic flow improvements.

d) Other new or innovative transportation measures not yet in widespread use that affects state and local governments deemed appropriate.

7) Alternative fuel and diesel retrofit programs for fleet vehicle operations.

8) Controls on consumer products consistent with those adopted elsewhere in the United States.

9) Require VOC or NO_x emission offsets for new and modified major sources.

10) Require VOC or NO_x emission offsets for new and modified minor sources.

11) Increase the ratio of emission offsets required for new sources.

12) Require VOC or NO_x controls on new minor sources (less than 100 tons).

No contingency measure shall be implemented without providing the opportunity for full public participation during which the relative costs and benefits of individual measures, at the time they are under consideration, can be fully evaluated.

9.0 PUBLIC PARTICIPATION

Indiana published notification for a public hearing and solicitation for public comment concerning the draft Redesignation Petition and Maintenance Plan in several publications, including The Indianapolis Star and The Muncie Star Press on June 25, 2005.

A public hearing to receive comments on the redesignation request was conducted on July 25, 2005 in the City Hall Auditorium, located at 300 North High Street in Muncie, Indiana. The public comment period closed on July 29, 2005. No comments were received during the public comment period. Appendix H includes a copy of the public notice, certifications of publication, and the transcript from the public hearing.

10.0 CONCLUSIONS

The Delaware County basic nonattainment area has attained the NAAQS standard and complied with the applicable provisions of the 1990 Amendments to the Clean Air Act regarding redesignation of basic ozone nonattainment areas. Documentation to that effect is contained herein. IDEM has prepared a State Implementation and Maintenance Plan that meets the requirements of Section 110(a)(1) of the 1990 Clean Air Act.

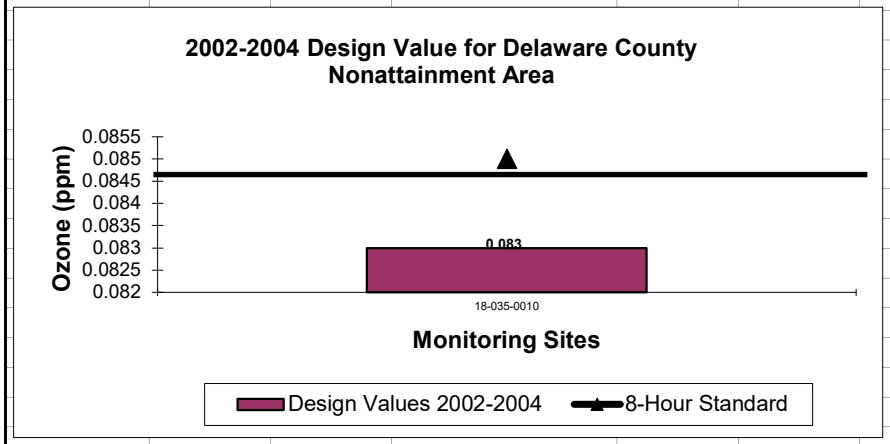
Indiana has performed an analysis that shows the air quality improvements are due to permanent and enforceable measures. In addition, significant regional NOx reductions will ensure continued compliance (maintenance) with the standard and that all CAAA requirements necessary for redesignation have been met. .

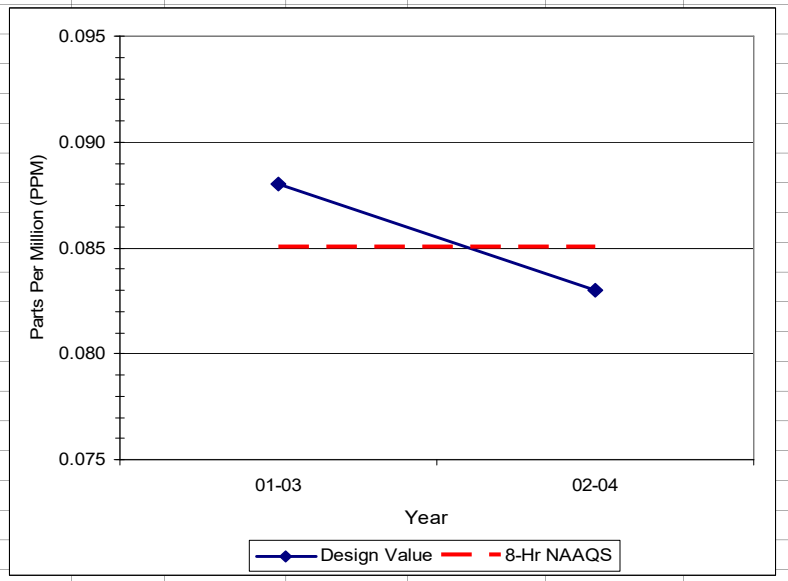
Based on this presentation, the Delaware County ozone basic nonattainment area meets the requirements for redesignation under the CAA and U.S. EPA guidance. Furthermore, because this area is subject to significant transport of pollutants, significant regional NO_x reductions will ensure continued compliance (maintenance) with the standards with an increasing margin of safety.

The State of Indiana hereby requests that the Delaware County ozone basic nonattainment area be redesignated to attainment simultaneously with U.S. EPA approval of the Indiana State Implementation and Maintenance Plan provisions contained herein.

APPENDIX A
Delaware County Basic Nonattainment Area
Air Quality System (AQS) and IDEM Monitor Data Values

SITE ID	CITY	COUNTY	ADDRESS	YEAR	% OBS	1ST 8-HR (ppm)	2ND 8-HR (ppm)	3RD 8-HR (ppm)	4TH 8-HR (ppm)	2002-2004 AVERAGE (ppm)
18-035-0010	Albany	Delaware	Albany Elementary	2001	99	0.095	0.089	0.085	0.084	
18-035-0010	Albany	Delaware	Albany Elementary	2002	99	0.098	0.098	0.097	0.095	
18-035-0010	Albany	Delaware	Albany Elementary	2003	99	0.098	0.092	0.088	0.085	
18-035-0010	Albany	Delaware	Albany Elementary	2004	99	0.080	0.078	0.073	0.070	**0.083**





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APPENDIX B

Delaware County Basic Nonattainment Area

NOx and VOC Point Source Emissions 1996-2002

DELAWARE COUNTY NOX EMISSIONS

COUNTY	1996	1998	1999	2000	2001	2002
Delaware	210	189	201	300	270	186
TOTAL	**210**	**189**	**201**	**300**	**270**	**186**

DELAWRE COUNTY VOC EMISSIONS

COUNTY	1996	1998	1999	2000	2001	2002
Delaware	245	392	331	396	397	300
TOTAL	**245**	**392**	**331**	**396**	**397**	**300**

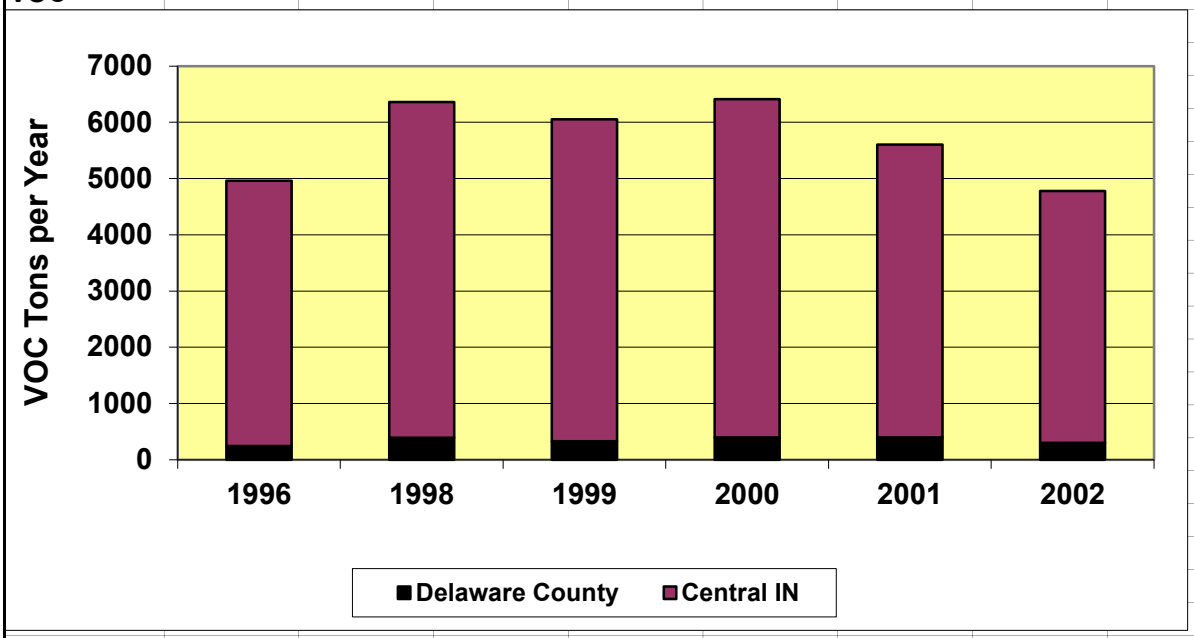
CENTRAL INDIANA NOX EMISSIONS

COUNTY	1996	1998	1999	2000	2001	2002
Boone	0	0	0	0	0	0
Hamilton	1177	2258	2170	2155	1588	1193
Hancock	125	83	90	84	106	58
Hendricks	45	74	95	124	13	2
Johnson	27	13	13	10	11	8
Madison	973	632	691	434	350	326
Marion	3175	15341	14939	12718	12748	12056
Morgan	2002	3699	3951	4603	4692	4743
Shelby	2679	2701	2984	2681	2948	1591
TOTAL	**10203**	**24801**	**24933**	**22809**	**22456**	**19977**

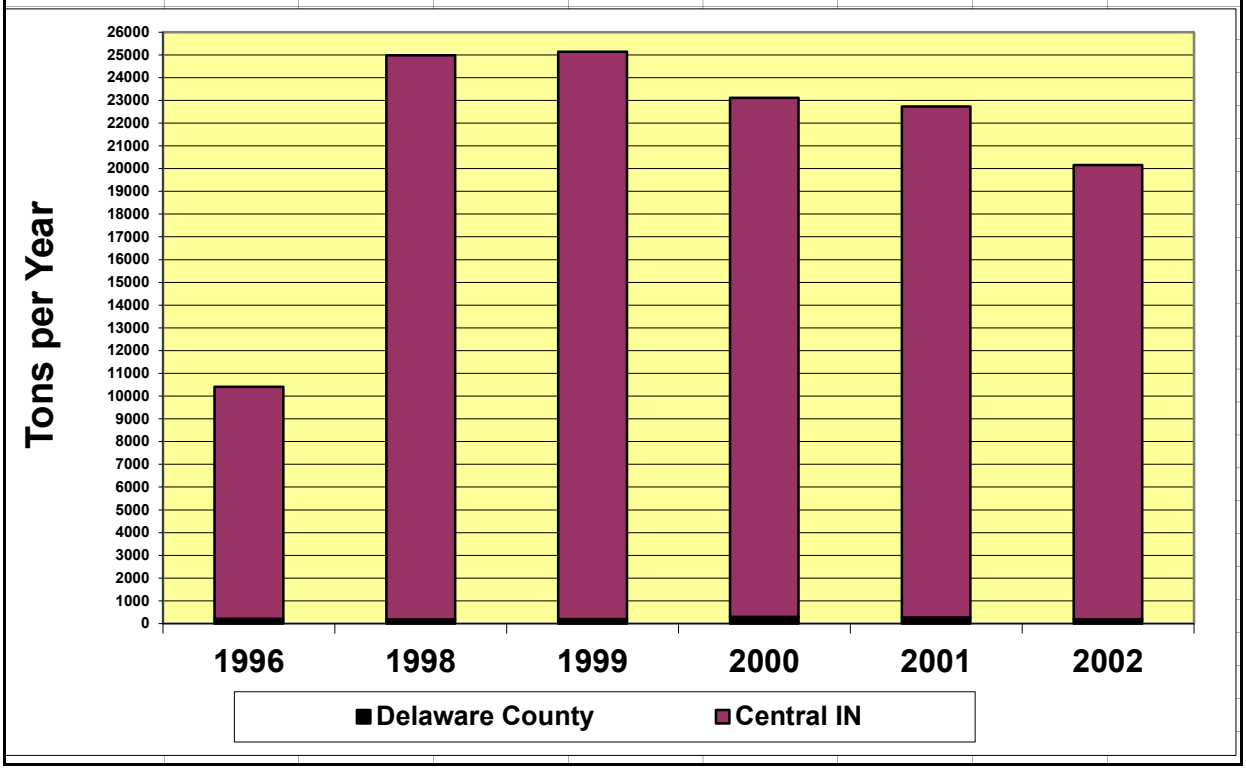
CENTRAL INDIANA VOC EMISSIONS

COUNTY	1996	1998	1999	2000	2001	2002
Boone	0	2	2	22	12	9
Hamilton	162	179	191	197	143	148
Hancock	918	289	300	319	243	178
Hendricks	10	13	15	45	10	37
Johnson	664	661	872	1006	664	494
Madison	838	359	467	414	454	485
Marion	1294	3559	3009	3115	2640	2100
Morgan	24	28	44	37	89	112
Shelby	805	878	824	859	953	914
TOTAL	**4715**	**5968**	**5724**	**6014**	**5208**	**4477**

VOC

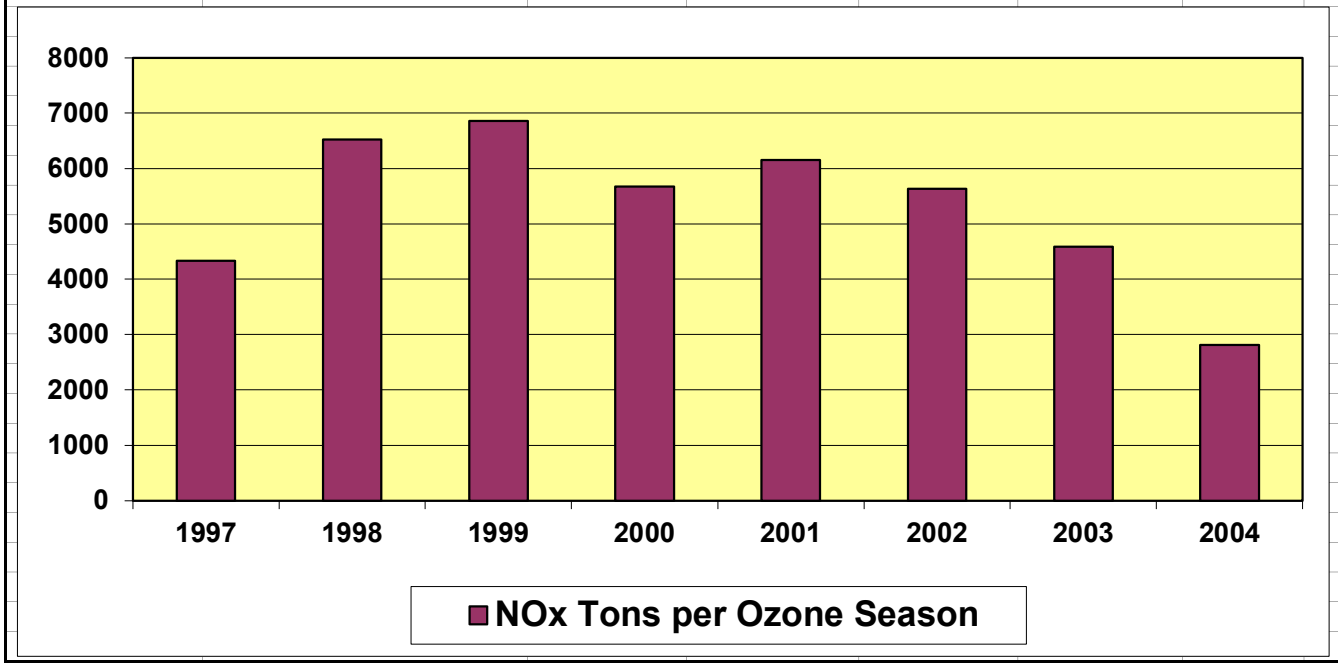

VOC Tons per Year
7000
6000
5000
4000
3000
2000
1000
0
1996
1998
1999
2000
2001
2002
Delaware County
Central IN

NOX


Tons per Year
26000
25000
24000
23000
22000
21000
20000
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1996
1998
1999
2000
2001
2002
Delaware County
Central IN

APPENDIX C
Delaware County Basic Nonattainment Area
NOx Emissions from Electric Generating Units

COUNTY	PLANT	1997	1998	1999	2000	2001	2002	2003	2004
Hamilton	Cinergy-Noblesville	536	1278	1036	881	779	791	471	9.9
Henry	Henry County Generator	Not Reported	Not Reported	Not Reported	Not Reported	162	30	9.7	8.6
Madison	Indiana Municipal Power-Anderson	Not Reported	Not Reported	Not Reported	5	4	3	0.8	0.7
Marion	Georgetown Substation	Not Reported	Not Reported	Not Reported	3	9	7	0.9	2.1
Marion	Elmer W. Stout (IPL-Harding Street Station)	1961	2949	3447	2411	2893	2779	2339	1892.4
Morgan	HT Pritchard (IPL-Eagle Valley)	1323	1576	1607	1698	1601	2020	1763.7	900.9
Wayne	Whitewater Valley (Richmond Power and Light)	512	721	764	678	704	5	1	0.7
	TOTAL	**4332**	**6524**	**6854**	**5676**	**6152**	**5635**	**4586.1**	**2815.3**



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APPENDIX D

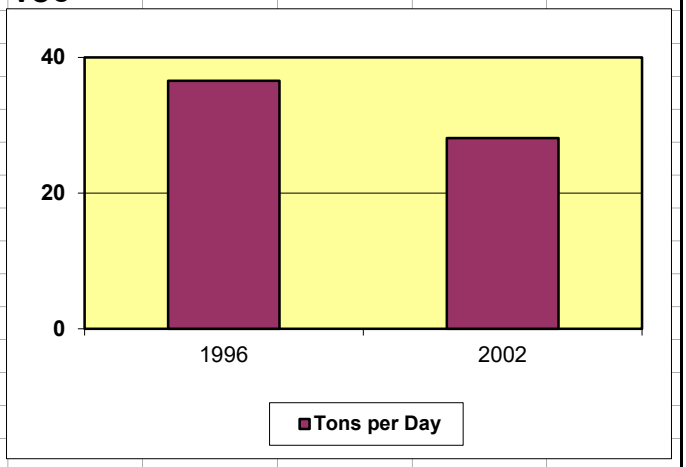
Delaware County Basic Nonattainment Area

1996-2002 NOx and VOC Emission Trends All Sources Delaware County

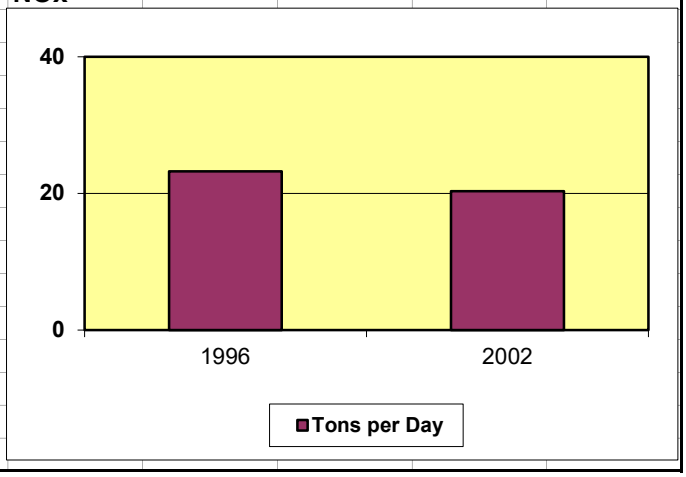
	1996 VOC	2002 VOC
AREA	12.52	9.79
NONROAD	6.83	9.29
MOBILE	11.93	8.19
POINT	5.25	0.83
TOTAL	**36.53**	**28.10**

	1996 NOX	2002 NOX
AREA	1.66	1.43
NONROAD	5.68	4.50
MOBILE	15.16	13.89
POINT	0.72	0.50
TOTAL	**23.22**	**20.32**

VOC



NOx



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APPENDIX E

Delaware County Basic Nonattainment Area

2002 Base Year Emissions Inventory and Projected Emissions Inventory NOx and VOC Totals

Delaware County and Central Indiana

Estimated Tons Per Summer Day

VOC 2002 Base Year Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	9.79	9.23	8.19	0.83	**28.04**

NOx 2002 Base Year Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	1.43	4.11	13.89	0.35	**19.78**

VOC 2010 Projected Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	11.48	5.43	4.69	1.00	**22.60**

NOx 2010 Projected Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	1.54	3.29	7.66	0.37	**12.86**

VOC 2015 Projected Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	12.67	5.28	3.33	1.17	**22.46**

NOx 2015 Projected Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Delaware	1.58	2.74	4.59	0.39	**9.29**

VOC 2002 Base Year Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Boone	5.30	2.58	3.62	0.01	**11.51**
Hamilton	12.67	6.14	10.42	0.49	**29.72**
Hancock	5.17	1.72	4.28	0.66	**11.83**
Hendricks	7.26	1.98	5.31	0.11	**14.66**
Johnson	10.92	3.02	5.92	1.36	**21.22**
Madison	10.46	3.22	5.64	1.72	**21.04**
Marion	51.07	19.91	45.22	6.41	**122.61**
Morgan	5.28	2.08	3.81	0.29	**11.46**
Shelby	4.81	0.88	3.25	1.99	**10.93**
Total	**112.94**	**41.53**	**87.47**	**13.04**	

NOx 2002 Base Year Emissions Inventory

	Area	Non-Road	Mobile	Point	Total
Boone	0.42	2.54	6.95	0.00	**9.90**
Hamilton	1.70	5.86	16.22	6.69	**30.47**
Hancock	0.52	2.57	7.63	0.12	**10.85**
Hendricks	0.80	5.01	9.60	0.00	**15.41**
Johnson	1.33	2.43	10.38	0.02	**14.16**
Madison	1.57	4.34	9.55	1.11	**16.57**
Marion	11.63	22.68	75.76	32.50	**142.57**
Morgan	0.55	1.61	6.60	13.43	**22.19**
Shelby	0.71	2.12	6.53	3.61	**12.97**
Total	**19.24**	**49.16**	**149.22**	**57.48**	

VOC 2010 Projected Emissions Inventory					
	Area	Non-Road	Mobile	Point	Total
Boone	6.36	1.85	1.86	0.02	**10.09**
Hamilton	15.77	3.82	5.50	0.57	**25.66**
Hancock	6.11	1.38	2.11	0.50	**10.10**
Hendricks	8.76	1.39	2.67	0.16	**12.98**
Johnson	13.13	2.36	2.99	1.74	**20.22**
Madison	11.90	2.84	2.68	2.44	**19.86**
Marion	58.39	12.32	22.14	8.02	**100.87**
Morgan	6.16	1.65	1.76	0.33	**9.90**
Shelby	5.64	0.52	1.60	2.43	**10.19**
Total	**132.22**	**28.13**	**43.31**	**16.21**	

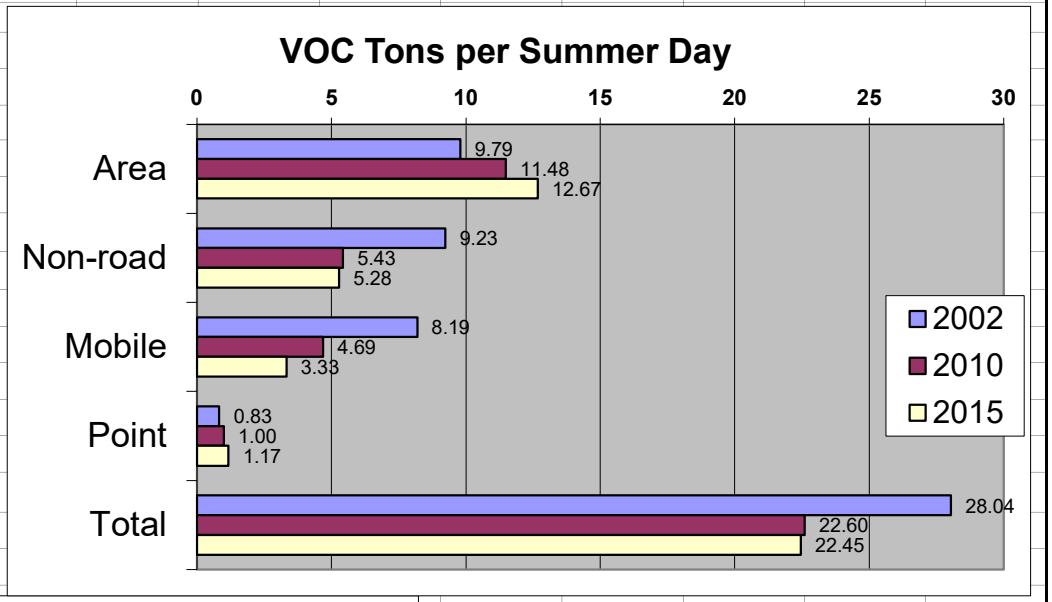
NOx 2010 Projected Emissions Inventory					
	Area	Non-Road	Mobile	Point	Total
Boone	0.45	2.13	3.57	0.00	**6.16**
Hamilton	1.88	4.89	8.80	1.24	**16.81**
Hancock	0.57	2.09	3.82	0.14	**6.62**
Hendricks	0.88	4.04	4.92	0.00	**9.84**
Johnson	1.45	1.99	5.27	0.03	**8.74**
Madison	1.70	3.27	4.67	1.27	**10.91**
Marion	12.62	18.15	37.84	25.40	**94.01**
Morgan	0.59	1.37	3.25	14.92	**20.13**
Shelby	0.76	1.65	3.27	3.64	**9.32**
Total	**20.91**	**39.58**	**75.41**	**46.64**	

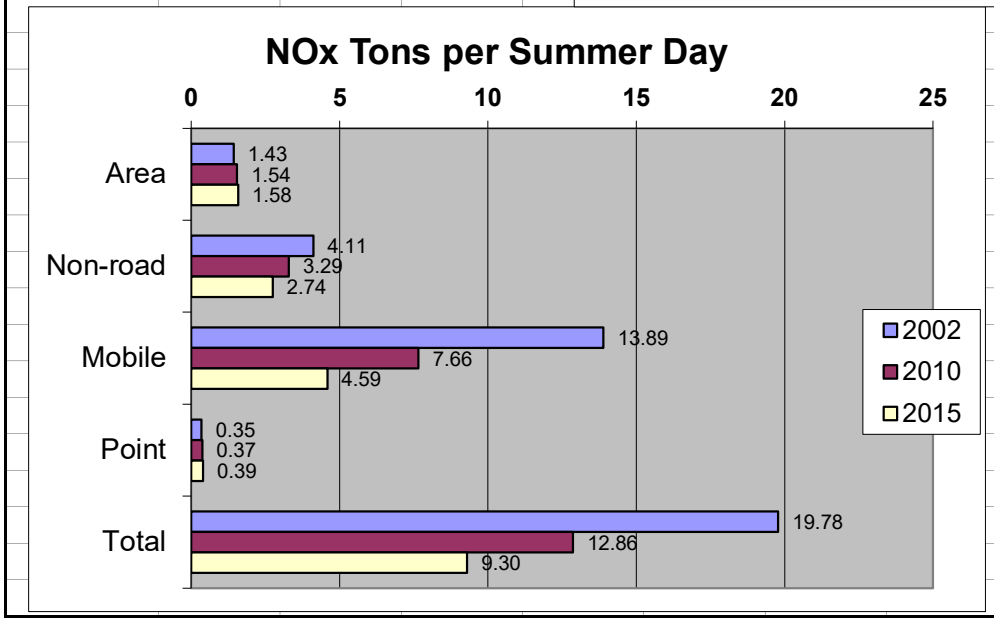
VOC 2015 Projected Emissions Inventory					
	Area	Non-Road	Mobile	Point	Total
Boone	7.05	1.63	1.40	0.02	**10.10**
Hamilton	17.68	3.61	4.20	0.67	**26.16**
Hancock	6.70	1.14	1.60	0.61	**10.05**
Hendricks	9.68	1.23	2.00	0.19	**13.10**
Johnson	14.61	1.98	2.27	2.09	**20.95**
Madison	13.00	2.23	1.95	2.88	**20.06**
Marion	64.48	11.67	15.92	9.27	**101.34**
Morgan	6.77	1.37	1.29	0.36	**9.79**
Shelby	6.22	0.46	1.20	2.83	**10.71**
	146.19	**25.33**	**31.83**	**18.92**	

NOx 2015 Projected Emissions Inventory					
	Area	Non-Road	Mobile	Point	Total
Boone	0.47	1.65	2.35	0.00	**4.47**
Hamilton	1.93	3.61	5.96	1.25	**12.75**
Hancock	0.58	1.65	2.51	0.15	**4.89**
Hendricks	0.90	3.23	3.20	0.00	**7.33**
Johnson	1.48	1.55	3.47	0.03	**6.53**
Madison	1.74	2.77	2.94	1.44	**8.89**
Marion	12.89	14.64	23.97	26.82	**78.32**
Morgan	0.60	1.08	2.12	16.15	**19.96**
Shelby	0.79	1.23	2.09	3.87	**7.97**
	21.38	**31.41**	**48.61**	**49.71**	

Delaware County

	2002	2010	2015
Sector	**NOx**	**NOx**	**NOx**
Area	1.43	1.54	1.58
Non-road	4.11	3.29	2.74
Mobile	13.89	7.66	4.59
Point	0.35	0.37	0.39
Total	19.78	12.86	9.30
Sector	**VOC**	**VOC**	**VOC**
Area	9.79	11.48	12.67
Non-road	9.23	5.43	5.28
Mobile	8.19	4.69	3.33
Point	0.83	1.00	1.17
Total	28.04	22.60	22.45





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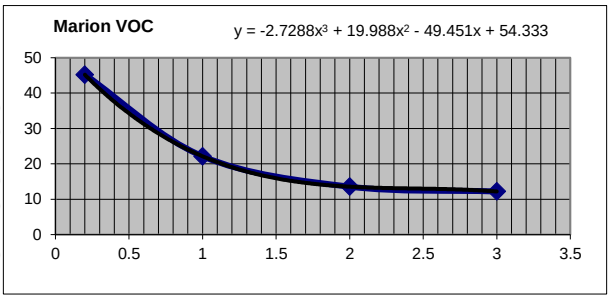
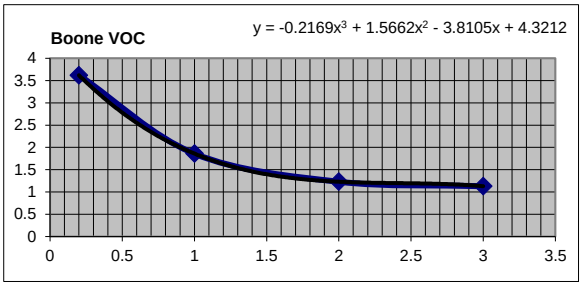
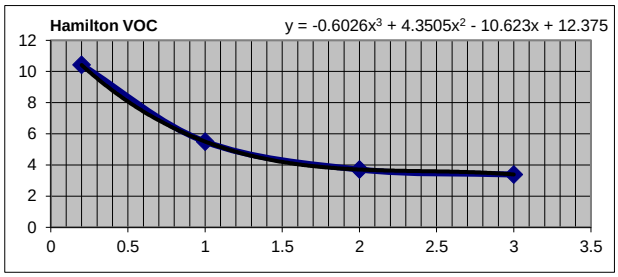
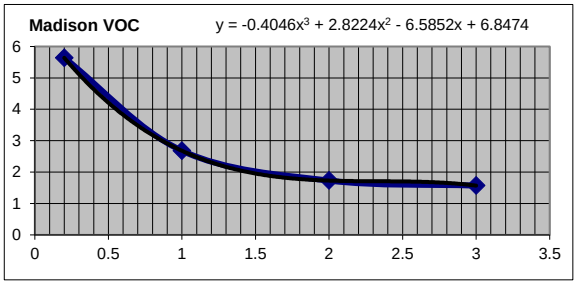
APPENDIX F
Delaware County Basic Nonattainment Area
Detailed Desciption of VOC and NOx 2015 Projected Emission Inventory Mobile Numbers
Delaware County and Central Indiana
Estimated Tons Per Summer Day

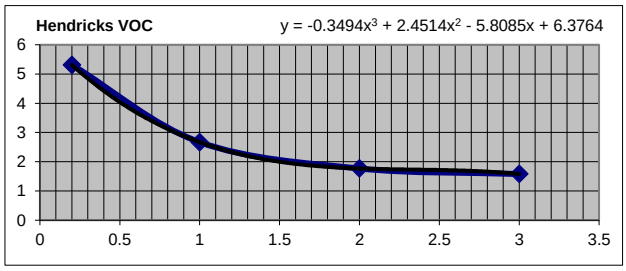
	VOC 2002 0.2	VOC 2010 1	VOC 2020 2	VOC 2030 3	VOC 2015 1.5
Marion	45.22	22.14	13.55	12.19	15.92
Boone	3.62	1.86	1.23	1.13	1.40
Hamilton	10.42	5.50	3.71	3.39	4.20
Madison	5.64	2.68	1.73	1.57	1.95
Hendricks	5.31	2.67	1.77	1.58	2.00
Hancock	4.28	2.11	1.45	1.34	1.60
Morgan	3.81	1.76	1.16	1.03	1.29
Shelby	3.25	1.60	1.08	0.99	1.20
Johnson	5.92	2.99	2.05	1.88	2.27

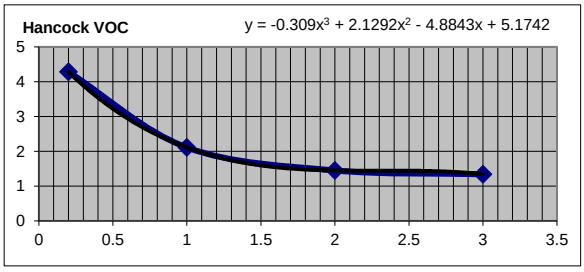


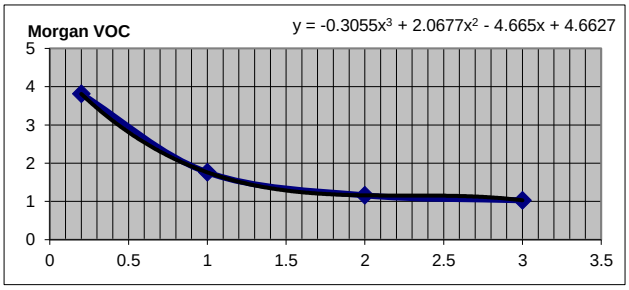


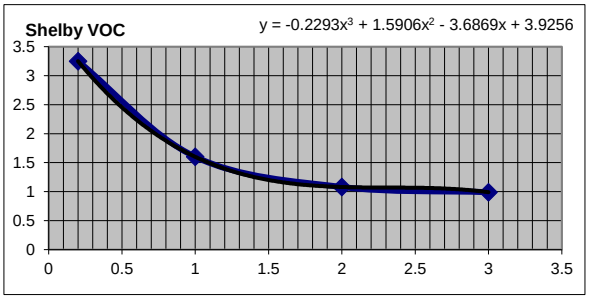


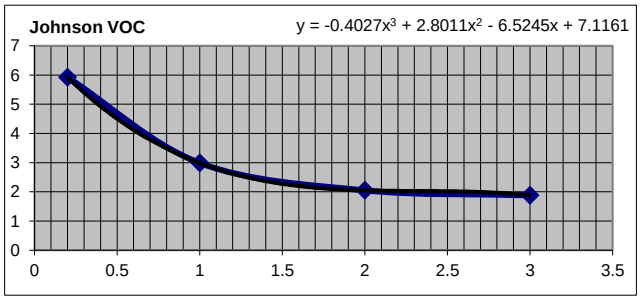




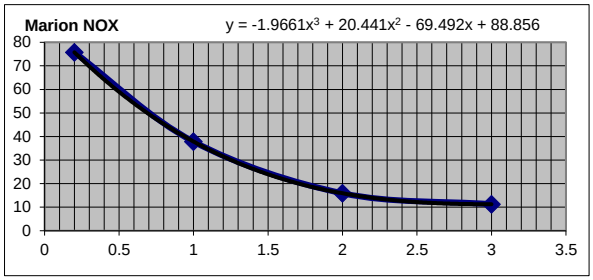


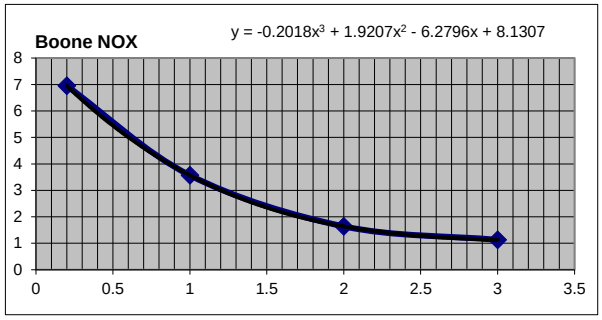


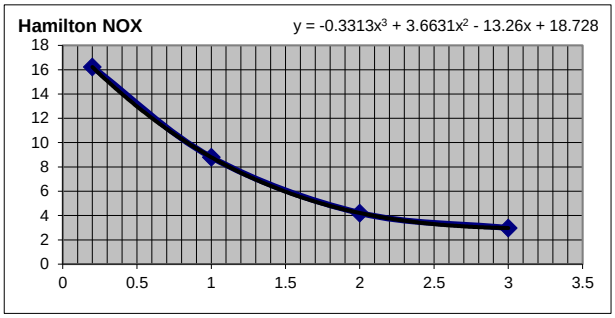


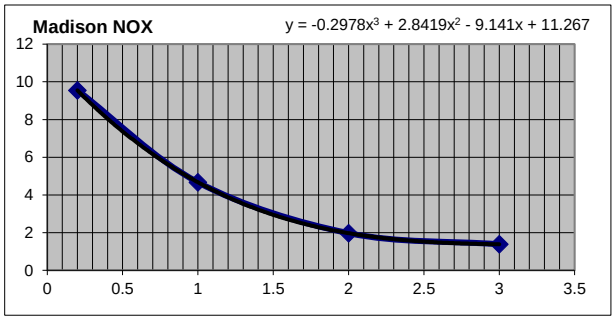


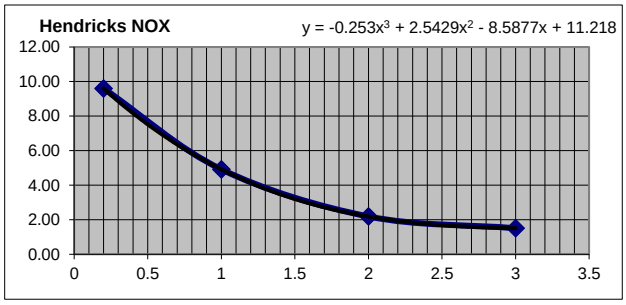
	NOX 2002	NOX 2010	NOX 2020	NOX 2030	NOX 2015
	0.2	1	2	3	1.5
Marion	75.76	37.84	15.91	11.27	23.97
Boone	6.95	3.57	1.64	1.13	2.35
Hamilton	16.22	8.80	4.21	2.97	5.96
Madison	9.55	4.67	1.97	1.38	2.94
Hendricks	9.60	4.92	2.19	1.51	3.20
Hancock	7.63	3.82	1.79	1.26	2.51
Morgan	6.60	3.25	1.50	1.02	2.12
Shelby	6.53	3.27	1.41	0.98	2.09
Johnson	10.38	5.27	2.44	1.73	3.47

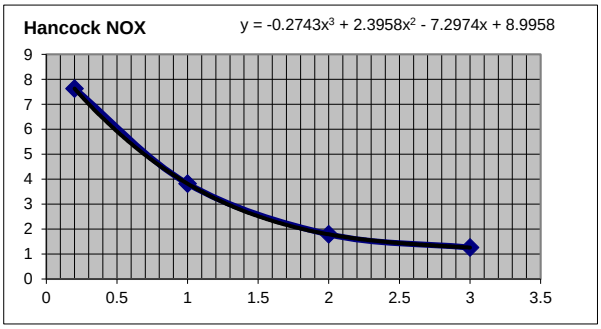


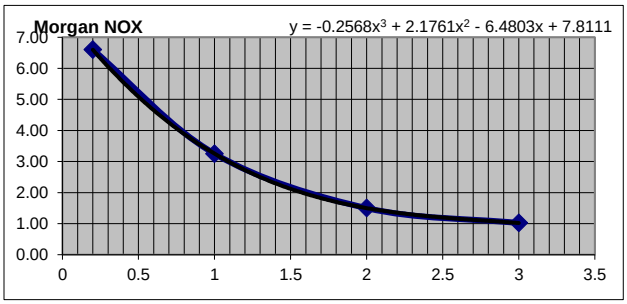


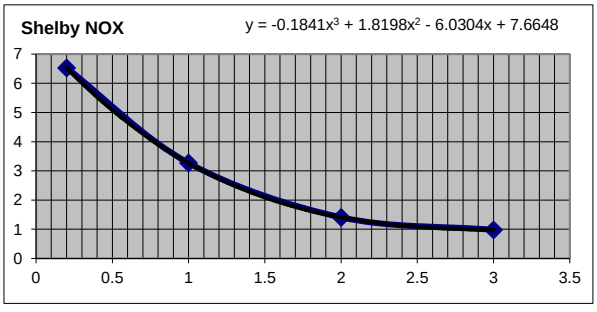


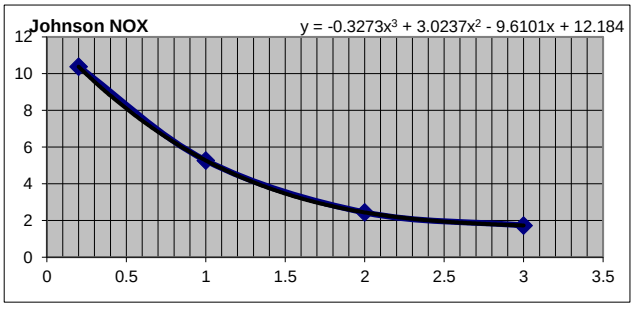












Delaware County Transportation Plan
2005 - 2030

Air Quality Conformity Documentation

DRAFT
May 17, 2005

Prepared for the
Delaware Muncie Metropolitan Plan Commission

May 2005

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Introduction

Delaware County, Indiana was designated as a basic non attainment area for ozone under the 8-hour ozone standard in June of 2004. With this designation, the Delaware Muncie Metropolitan Planning Commission, serving as the Metropolitan Planning Organization for the Muncie - Delaware County area, is the agency responsible for conducting the air quality analyses. All plans, programs and projects must be reviewed for conformity with the standards to assure that they do not exceed the established budgets as established in the State Implementation Plan (SIP). Projects under the jurisdiction of the Indiana Department of Transportation (INDOT) and the Madison County Council of Governments (MCCOG) are located within Delaware County and have been included in the 2005-2030 Delaware-Muncie Transportation Plan and the transportation conformity analysis.

In general, examinations for conformity have two major components: (1) an air quality analysis to determine that air pollutant emissions do not exceed the budgets for VOCs and NOx set in the State Implementation Plan (SIP) and (2) a monitoring of the progress in implementation of the Transportation Control Measures (TCMs) contained in the SIP. Delaware County, as a newly designated non-attainment area, does not yet have an established emissions budget based upon a SIP. SIP development is not required to be completed until 3 years after an area is designated, in this case 3 years after June 2004, though it is possible that the SIP may be prepared sometime in 2005. After consultation with the state air agency (IDEM), US EPA, FHWA, and INDOT, it was agreed that an interim "no greater than" year 2002 baseline test would be used for the current Delaware County conformity analysis. Also, since no SIP has been established for Delaware County, there are no approved TCMs to be evaluated at this time. Therefore, it was possible to show conformity of the 2030 Transportation Plan simply by determining that the air pollutant emissions do not exceed the 2002 emissions.

The air quality analysis involved four procedures. First, a travel model using the TransCAD software was used to determine the vehicle-miles-traveled (VMT) for each of the analysis years (2002, 2010, 2015, 2025, and 2030). The VMT was then adjusted using factors which were derived for the base year (2002). These factors allow the model output to be reconciled with estimates of VMT from the Highway Performance Monitoring System (HPMS). Second, a post processing procedure was used to compute speeds, by three time periods of the day, for each facility type, and from that data, Mobile 6.2 input files were created. Third, the Mobile 6.2 emission factor model was used to determine the emission factors for VOCs and NOx. Fourth, the VMT by functional classification was then multiplied by the emission factors to determine the emissions. Further explanation of the components of the analysis is documented in this report.

Federal Conformity Requirements

Federal Regulations for Metropolitan Planning in 23 CFR (Code of Federal Regulations) Part 450 require that federally funded highway and transit projects be included in a conforming plan and Transportation Improvement Program (TIP). 40 CFR Part 93, amended August 15, 1997, outlines the requirements for making conformity determinations under Subpart A. Applicable requirements are listed below.

> *1. The Transportation Plan must specifically describe the transportation system envisioned for certain future years, which are called horizon years.*
>
> - *The horizon years may be no more than 10 years apart.*
> - *The first horizon year may not be more than 10 years from the base year used to validate the travel demand model.*
> - *If the attainment year is in the time span of the Transportation Plan, the attainment year must be a horizon year.*
> - *The last horizon year must be the last year of the Transportation Plan's forecast year.*

The 2030 Transportation Plan lists specific projects by time periods that meet this requirement. Traffic modeling for the conformity analysis was done for the years 2002, 2010, 2015, 2025, and 2030. The attainment year for SIP development will be 2015, thus this additional year was included.

> *2. The Transportation Plan will quantify and document the demographic and employment factors influencing the expected transportation demand; and the highway and transit system shall be described in terms of the regionally significant additions or modifications to the existing transportation network, which the transportation plan envisions to be operational in the horizon years.*

The documentation of how travel demand is estimated using existing and forecasted demographic and employment data is described in the March, 2005 Travel Demand Model Technical Documentation included as an appendix of the 2030 Transportation Plan. Regionally significant additions or modifications to the transportation system included in the financially constrained transportation plan are listed by time period in the next section of this report. Non-capacity increasing projects, which were not used in the conformity analysis, are listed in the main Transportation Plan document.

> *3. The Transportation Plan must be financially reasonable and the TIP must be fiscally constrained consistent with the U.S. DOT's metropolitan planning regulations at 23 CFR part 450 in order to be found in conformity.*

All projects included in the conformity analysis are fiscally constrained within the plan horizon. A list of illustrative (fiscally unconstrained) projects is also included in the main Transportation Plan document.

> *4. The conformity determination must be based on the latest emission estimation model available.*

This analysis uses the US EPA approved Mobile 6.2 software, which is the latest emission model available for use in Indiana.

> *5. The MPO must make the conformity determination according to the interagency consultation procedures required in 40 CFR Parts 51 and 93 (sections 51.390 and 93.105), and according to the public involvement procedures established by the MPO in compliance with 23 CFR Part 450.*

All major decisions relating to methodology, assumptions, and data used in the conformity analysis have been made via the interagency consultation process. Parties to the interagency consultation process include DMMPC, INDOT, IDEM, FHWA, US EPA, and FTA, each has had the opportunity to participate in the consultation meetings. The plan updated process has also included a public involvement component that is consistent with the MPO's currently adopted public involvement procedures.

> *6. The Transportation Plan must provide for the timely implementation of Traffic Control Measures (TCM) from the applicable State Implementation Plan (SIP). Nothing in the plan may interfere with the implementation of any TCM in the applicable implementation plan.*

An implementation plan has not yet been developed. No TCMs are currently applicable in the Muncie/Delaware County MPO area.

> *7. The Transportation Plan must be consistent with the motor vehicle emissions budget in the applicable State Implementation Plan (SIP).*

Delaware County was newly designated as a Basic Non-Attainment Area for Ozone in June 2004. A SIP has not yet been developed for this county, and thus a motor vehicle budget has not been created. During the interagency consultation process, an agreement was reached that the conformity determination for this Transportation Plan update would be done using an interim test whereby no future horizon year can exceed 2002 emissions.

> *8. The regional emissions analysis shall estimate emissions from the entire transportation system, including all regionally significant projects contained in the Transportation Plan and all other regionally significant highway and transit projects expected in the non-attainment area in the time frame of the Transportation Plan.*

All regionally significant projects within Delaware County have been included in the 2030 Transportation Plan list of projects. Those projects that involve an

increase in a regionally significant increase in capacity have been included in the conformity analysis.

> *9. The emissions analysis methodology shall meet the requirement of section 93.122: (a) Regional emissions analysis for the Transportation Plan shall include all regionally significant projects expected in the maintenance area. Projects that are not regionally significant are not required to be explicitly modeled, but VMT from such projects must be estimated in accordance with reasonable professional practices. The effects of TCM's and similar projects that are not regionally significant may also be estimated in accordance with reasonable professional practices. (b) For TCM's demonstrating a quantifiable emission reduction benefit, the emissions analysis may include that emissions reduction credit. (c) For areas with a Transportation Plan that meets the content requirements of section 93.106, the emissions analysis shall be performed for each horizon year.*

The emissions analysis methodology includes all regionally significant projects. VMT from all facilities is included in the analysis, including off-model facilities. There are no required TCMs for the Delaware County non-attainment area. There are also no additional credits being sought from the Congestion Mitigation and Air Quality (CMAQ) program funded projects that will be implemented in Delaware County.

2030 Long Range Plan

Capacity expansion projects that were explicitly modeled in the conformity analysis are listed below in Table 1. The fiscally constrained listing specifies, by conformity horizons, when projects are expected to be completed. For a complete listing of projects, capacity, non-capacity, financially constrained, and non-financially constrained, please refer to the main 2030 Transportation Plan document.

TABLE 1: Long Range Project List - Modeled

Year 2005-2010

Model Year	Project Name	Des Number	Miles	Project Type	Jurisdiction	Funding Phase
2010						
	(#1) Barr Extension		0.61	New Road	City of Muncie	2005-2009
	(#3) Morrison Widening		1.05	Center Turn Lane	Delaware County	2005-2009
	(#18) I-69	9700420	0	Added Travel Lanes	State	2005-2009
	(#19) Bypass (US 35/SR 3 & 67)	9901350	0	Grade Separation	State	2005-2009
	(#22) SR 32	9700310	1.71	Added Travel Lanes	State	2005-2009
	(#21) SR 32	9407670	0.65	Added Travel Lanes	State	2005-2009
	(#20) Centennial Grade Separation	9901360	0	Grade Separation	State	2005-2009
	(#23) SR 32	13680	3.84	Center Turn Lane	State	2005-2009
	(#2) Sutherland Extension		0.52	New Road	Yorktown	2005-2009

Year 2011-2015

Model Year	Project Name	Des Number	Miles	Project Type	Jurisdiction	Funding Phase
2015						
	(#4) Wheeling Widening	9786020	0.53	Added Travel Lanes	City of Muncie	2005-2009
	(#6) Evermore Extension		0.43	New Road	City of Muncie	2010-2014
	(#44) Centennial Median		0.52	Median/Center Lane	City of Muncie	2010-2014
	(#5) Everbrook Extension		0.22	New Road	City of Muncie	2010-2014
	(#8) Wheeling Widening	9522040	0.76	Added Travel Lanes	City of Muncie	2010-2014
	(#47) Walnut Median		0.28	Median/Center Lane	City of Muncie	2010-2014
	(#46) Walnut Median		0.75	Median/Center Lane	City of Muncie	2010-2014
	(#7) Jackson Widening		0.8	Center Turn Lane	City of Muncie	2010-2014
	(#43) Broadway Median		0.6	Median/Center Lane	City of Muncie	2010-2014
	(#9) Nebo Widening		1.32	Center Turn Lane	Delaware County	2005-2009
	(#11) Andrews/500W Connection		0.35	New Road/Bridge	Delaware County	2010-2014
	(#49) Morrison Median		0.24	Median/Center Lane	Delaware County	2010-2014
	(#10) Nebo Widening		0.91	Center Turn Lane	Delaware County	2010-2014
	(#24) SR 67	13720	5.5	Center Turn Lane	State	2005-2009
	(#25) SR 67	9901680	3.3	Center Turn Lane	State	2005-2009
	(#27) Bypass (US 35/SR 3 & 67)	13840	0	Interchange	State	2010-2014
	(#26) Bypass (US 35/SR 3 & 67)	13780	0	Interchange	State	2010-2014

Year 2016-2025

Model Year	Project Name	Des Number	Miles	Project Type	Jurisdiction	Funding Phase
2025						
	(#12) Riggin Widening		1.4	Center Turn Lane	City of Muncie	2015-2024
	(#16) Morrison Widening		0.9	Center Turn Lane	Delaware County	2015-2024
	(#14) CR 200S Extension		1	New Road	Delaware County	2015-2024
	(#15) Evermore Extension		1	New Road	Delaware County	2015-2024
	(#17) Nebo		2.92	Added Travel Lanes	Delaware County	2015-2024
	I-69 (#28)		0	Added Travel Lanes	State	2010-2014
	(#29) SR 3		1.62	Center Turn Lane	State	2010-2014
	(#13) CR 600W Extension		1	New Road	Yorktown	2015-2024

Year 2026-2030

Model Year	Project Name	Des Number	Miles	Project Type	Jurisdiction	Funding Phase
2030						
	(#30) SR 32		2.5	Added Travel Lanes	State	2015-2024

Travel Demand Model

The Muncie/Delaware County regional travel demand model is a mathematical computer model, using state of the art TransCAD software, which relates current and future travel demand to basic socioeconomic information. The model area covers all of Delaware County. This area is divided into 545 smaller units called traffic analysis zones. All major roadways are represented in the travel model.

The Muncie/Delaware County regional travel demand model underwent a recalibration and conversion to TransCAD software as part of the *Western Growth & Arterial Study* which was completed in 2003. This recalibration established 2000 as the new base year for the model. The model update and recalibration in 2003 utilized the latest data from the 2000 Census, ES202 employment dataset, 2000 Census Transportation Planning Package, and several additional sources which are reported in detail in the Travel Demand Model Technical Documentation. During the model calibration process, model parameters were adjusted such that the model output matched—within accepted standards--several calibration criteria based on measured data. These criteria included items such as comparisons against traffic counts, modeled vs. observed vehicle miles of travel, trip lengths by trip purpose, etc. The result of the

recalibration was a travel model which replicated travel in the Muncie area for 2002, and is capable of producing accurate traffic forecasts out to year 2030.

The recalibrated travel model was used in the regional air quality analysis. The Muncie/Delaware County travel demand model uses the standard four steps of modeling: trip generation, trip distribution, mode choice, and traffic assignment. In addition, it considers travel by vehicles (trucks and autos) entering, leaving, and crossing the study area. These types of trips are known as external-internal, internal-external, and external-external, respectively.

Trip generation is the process of determining the number of unlinked trip ends—called productions and attractions--and their spatial distribution based on socioeconomic variables such as households and employment. Trip rates used to define these relationships were derived from the travel data collection efforts described above. The internal trip purposes are home-based work, non home-based work, home-based other, home based other, non home-based other, home-based school.

Trip distribution is the process of linking the trip ends thereby creating trips which traverse the area. The travel model uses a gravity model to link all trips except the external-external ones. The gravity model is based on the principle that productions are linked to attractions as a direct function of the number of attractions of a zone and as an inverse function of the travel time between zones. This inverse function of travel time is used to generate parameters called friction factors which, in turn, direct the gravity model. The friction factors used in the gravity model were developed as part of the calibration effort performed during the model update of 2000.

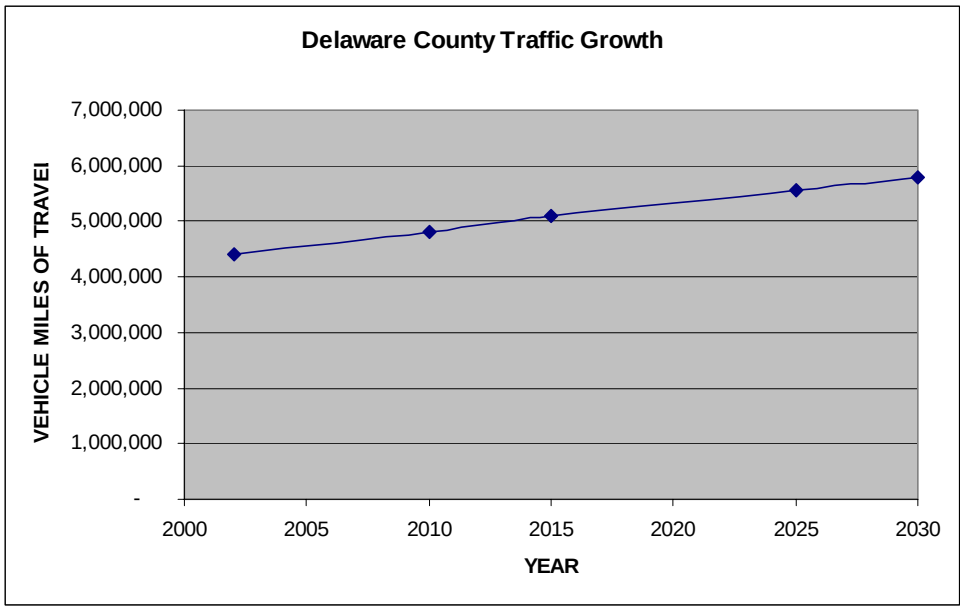
Mode choice is the process used to separate the trips which use transit from those which use automobiles. It is also used to separate the auto drive-alone trips from auto shared-ride trips. In the Muncie/Delaware County travel demand model, mode choice is modeled based on stratifications by trip purpose and travel times using recent household travel survey data from the 2000 Evansville Household Survey. This procedure accounts for person trips that use transit or shared-ride (carpool), and the result is a origin to destination auto trip table.

Traffic assignment is the process used to determine which links of the network an auto or truck trip will use. A capacity restraint provision is used to adjust travel times between assignment iterations, to account for the effects of congestion. This sequence is called an equilibrium assignment. The results of this process produces a forecast of traffic volumes on each link in the network and an estimate of congested travel speeds, which allows for the calculation of vehicle-miles-traveled (VMT) and vehicle-hours-traveled (VHT).

Each of the horizon years contained in the Transportation Plan were coded into the model as a specific socioeconomic forecast with appropriate network

capacity projects for that time period. These scenarios yielded the traffic forecasts used in the conformity analysis. Vehicle miles of travel forecasts from these model runs are summarized in Figure 1.

FIGURE 1: MODELED VEHICLE MILES OF TRAVEL



Model Post-Processing and Mobile 6.2 Input Files

Model outputs are expressed in terms daily volumes for each roadway segment. The raw model results from each scenario have traffic estimates only for those facilities coded in the model. These modeled traffic estimates generally include facilities that are classified as major collector or higher. Travel on the lower classed roadways (collector and local), while not entirely absent, is under-represented in the model. For estimating total emissions, raw model VMT is summarized by functional classification. These values are adjusted on a functional classification basis using a Model-to-HPMS VMT adjustment factor. The Model-to-HPMS VMT adjustment factor is calculated using the base year 2002 Model VMT compared to the base year HPMS reported VMT. HPMS is considered to be a more complete estimate of vehicle miles of travel in a county, and accounts for travel on all classifications of roadways. The HPMS adjustment factors are used in each of the Transportation Plan scenarios.

Table 2: HPMS Adjustment Factors

Functional Classification	Functional Class Code	HPMS Adjustment Factor
Rural Interstate	1	1.01
Rural Principal Arterial	2	0.88
Rural Minor Arterial	6	0.78
Rural Major Collector	7	3.52
Rural Minor Collector	8	0.56
Rural Local	9	4.22
Urban Interstate	11	0.92
Urban Expressway	12	1.06
Urban Principal Arterial	14	1.08
Urban Minor Arterial	16	1.03
Urban Collector	17	0.36
Urban Local	19	9.46

Additionally, it is necessary to post-process the model estimates of travel speed by each road link to better match observed speeds. In the post-processing, an average speed and VMT are computed for each time period for each link via excel spreadsheet. The spreadsheet also contains an attribute for FHWA functional class. In the post-processing, peak period volumes are compared to a peak period capacity to determine a volume to capacity ratio. Capacities use HCM 2000 methodology (described in the model documentation). Time of day factors by trip purpose in the Muncie/Delaware Model were derived from the 2000 Evansville Household Travel Survey, see table 3 below.

Table 3: Time of Day Factors

TIME OF DAY FACTORS BY TRIP PURPOSE					
PERIOD	HBW	HBSC	HBO	NHBW	NHBO
AM PEAK 3 HOURS	36.7%	47.5%	15.9%	17.6%	10.1%
PM PEAK 3 HOURS	30.8%	23.5%	26.1%	28.0%	23.7%
OFF PEAK 18 HOURS	32.5%	29.0%	58.0%	54.4%	66.2%

Source: 2000 Evansville Household Travel Survey

Volume to capacity (v/c) ratios for each link for each hour are then used to estimate a period specific speed. A BPR volume delay function was used to estimate the link speeds for each time period formulated as follows.

$$Speed_{congested} = \frac{Speed_{freeflow}}{1 + \alpha (v/c)^{\beta}}$$

Alpha and Beta parameters are US EPA recommended values, where:

Table 4: BPR Curve Parameters

Volume-Delay Curve Parameters		
	Under 60 mph	Over 60 mph
Alpha	0.20	0.15
Beta	8.00	10.00

To avoid unrealistically low average speeds, the V/C ratio is capped at 1.6. Any links that have a V/C ratio that exceeds 1.6 is assumed to remain at 1.6 for speed estimation purposes.

After speeds were estimated for each modeled link for the three daily time periods and for each of the analysis years, the data was aggregated by FHWA functional classification for use in Mobile 6.2 using the AVERAGE SPEED command. The average speed for each functional class was calculated using a VMT weighted average. The VMT weighted average was computed by multiplying the speed for each link by the link's VMT. Next, the Speed*VMT values were summed for each functional class. The functional class sum was divided by the sum of that functional class's modeled VMT to yield an average speed.

The calculated congested speeds for Rural Interstates, Urban Interstates and Urban Expressways were adjusted for an assumed percentage of ramp VMT according to the procedures outlined in the Mobile6 User's Guide Section

2.8.8.2.d. Speed assumptions are listed in Tables 7 through 11 and in the Mobile 6.2 input files contained in the Appendix.

Indiana specific VMT per vehicle type was derived by IDEM from the Indiana Department of Transportation (INDOT) 2002 state-wide HPMS data for vehicle classification for each of the twelve INDOT functional classes. The INDOT data covers thirteen vehicle groups which are different from the sixteen vehicle groups required by Mobile6. An adjustment was made by IDEM to convert the INDOT VMT fraction to a Mobile6 VMT fraction, and this data was provided by IDEM for the Muncie/Delaware analysis. The VMT fraction for each functional class was input to Mobile6 using the VMT FRACTION command. All VMT Fractions used in the analysis are listed in Table 5 and in the Mobile 6 input files contained in the Appendix.

Table 5: VMT Fractions

		Mobile 6 Vehicle Type															
HPMS Classification	**Mobile 6 Classification**	**LDV**	**LDT1**	**LDT2**	**LDT3**	**LDT4**	**HDV2B**	**HDV3**	**HDV4**	**HDV5**	**HDV6**	**HDV7**	**HDV8A**	**HDV8B**	**HDBS**	**HDBT**	**MC**
Rural Interstate	Freeway / Freeway Ramp	0.353	0.054	0.178	0.055	0.025	0.107	0.011	0.008	0.006	0.023	0.028	0.030	0.109	0.006	0.003	0.005
Rural Other Principal Arterial	Non-Ramp	0.433	0.066	0.219	0.068	0.031	0.057	0.006	0.005	0.003	0.013	0.015	0.016	0.059	0.003	0.002	0.005
Rural Minor Arterial	Arterial / Collector	0.466	0.071	0.236	0.073	0.033	0.037	0.004	0.003	0.002	0.008	0.010	0.011	0.038	0.003	0.001	0.004
Rural Major Collector	Arterial / Collector	0.482	0.073	0.244	0.075	0.035	0.028	0.003	0.002	0.002	0.006	0.007	0.008	0.028	0.002	0.001	0.005
Rural Minor Collector	Arterial / Collector	0.453	0.069	0.229	0.071	0.033	0.040	0.004	0.003	0.002	0.009	0.010	0.011	0.041	0.003	0.001	0.021
Rural Local	Arterial / Collector	0.479	0.073	0.242	0.075	0.034	0.029	0.003	0.002	0.002	0.007	0.008	0.008	0.030	0.003	0.001	0.005
Urban Interstate	Freeway / Freeway Ramp	0.416	0.063	0.210	0.065	0.030	0.069	0.007	0.005	0.004	0.015	0.018	0.020	0.070	0.004	0.002	0.003
Urban Freeway/Expressway	Freeway / Freeway Ramp	0.455	0.069	0.230	0.071	0.033	0.045	0.004	0.004	0.003	0.010	0.012	0.013	0.046	0.002	0.001	0.003
Urban Other Principal Arterial	Arterial / Collector	0.487	0.074	0.246	0.076	0.035	0.025	0.003	0.002	0.001	0.006	0.007	0.007	0.026	0.002	0.001	0.004
Urban Minor Arterial	Arterial / Collector	0.494	0.075	0.250	0.077	0.035	0.020	0.002	0.002	0.001	0.005	0.005	0.006	0.021	0.002	0.001	0.004
Urban Collector	Arterial / Collector	0.502	0.076	0.254	0.078	0.036	0.015	0.002	0.001	0.001	0.003	0.004	0.004	0.016	0.001	0.001	0.006
Urban Local	Local Road	0.510	0.078	0.258	0.080	0.037	0.011	0.001	0.001	0.001	0.002	0.003	0.003	0.011	0.003	0.001	0.003

Vehicle fleet age distribution was provided for light duty vehicles for Delaware County by IDEM, these values are used in the IN_cty18.d file. For other vehicle classes, the standard Mobile 6.2 defaults are used. The IN_cty18.d remains constant in each scenario, the file is listed in the Appendix

Other assumptions, such as the minimum and maximum July temperatures (64.0 and 84.9) for Muncie; absolute humidity (93.7), cloud cover (0.34), and sunrise/sunset (5am & 8pm respectively) were provided by IDEM. Each of these variables are specified in the Mobile 6.2 input files for each scenario.

The Mobile 6.2 model is run using the above-mentioned user inputs to get emission rates for each of the model scenarios. Emissions are then calculated from the adjusted VMT, by functional classification, using the Mobile 6.2 output emission rates.

Analysis Results

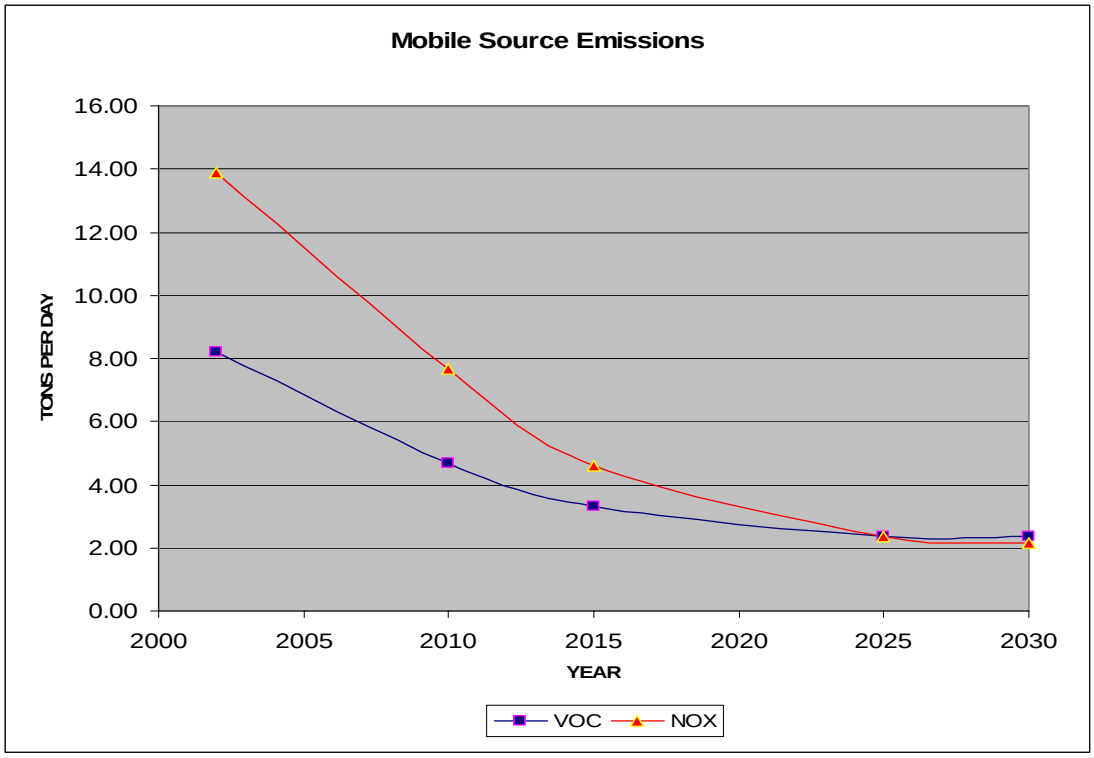
The regional emissions analysis was conducted to provide estimates of the levels of emissions of volatile organic compounds (VOC) and oxides of Nitrogen (NOx) for the various scenarios. VOC and NOx contribute directly to the production of ozone. Because no emission budgets are yet established for VOC and NOx, emissions are not permitted to exceed the 2002 levels.

The results of the regional emissions analysis are summarized in Tables 6 through 12, and in Figure 2. Table 6 shows that for each of the analysis years, the VOC and NOx emissions are less than those in 2002. Figure 2 illustrates that emissions for both ozone precursors is estimated to decline steadily over the next 25 years.

Table 6: Emission Analysis Results

Year	Daily VMT	VOC *Tons/day*	NOX *Tons/day*
2002	4,410,000	8.19	13.89
2010	4,822,355	4.69	7.66
2015	5,097,099	3.33	4.59
2025	5,548,298	2.36	2.38
2030	5,776,640	2.35	2.14

Figure 2: Emission Analysis Results



Tables 7-11: Detailed Emission Analysis Results

Modeled Vehicle Miles of Travel and Mobile Source Emissions for 2002 Scenario

	VMT		Average	VOC	NOX
	Model	Adjusted	Speed	Tons/day	Tons/day
Rural Interstate	563,723	581,000	69.6	0.81	4.75
Rural Principal Arterial	234,090	206,000	57.7	0.32	0.92
Rural Minor Arterial	246,120	193,000	52.0	0.32	0.56
Rural Major Collector	409,791	1,443,000	48.0	2.52	3.53
Rural Minor Collector	65,790	37,000	42.6	0.07	0.10
Rural Local	23,454	99,000	38.0	0.18	0.23
Urban Interstate	18,558	28,000	54.9	0.04	0.14
Urban Expressway	151,217	161,000	55.4	0.26	0.61
Urban Principal Arterial	590,397	637,000	36.0	1.21	1.41
Urban Minor Arterial	604,853	626,000	27.1	1.32	0.89
Urban Collector	223,966	81,000	27.1	0.17	0.16
Urban Local	33,609	318,000	29.0	0.97	0.58
Ramp	23,713	*		*	*
	3,189,280	4,410,000		8.19	13.89

* Adjusted vmt contains ramp vmt in Interstate and Expressway

Modeled Vehicle Miles of Travel and Mobile Source Emissions for 2010 Scenario

	VMT		Average	VOC	NOX
	Model	Adjusted	Speed	Tons/day	Tons/day
Rural Interstate	626,056	645,757	69.6	0.48	2.43
Rural Principal Arterial	248,217	218,432	57.9	0.18	0.45
Rural Minor Arterial	258,360	202,598	53.7	0.18	0.30
Rural Major Collector	448,083	1,577,837	48.3	1.47	1.95
Rural Minor Collector	68,073	38,284	42.6	0.04	0.05
Rural Local	25,547	107,835	38.1	0.11	0.13
Urban Interstate	20,577	31,535	54.7	0.03	0.07
Urban Expressway	190,888	203,237	55.6	0.18	0.36
Urban Principal Arterial	642,095	692,779	40.5	0.68	0.78
Urban Minor Arterial	636,534	658,789	32.1	0.69	0.69
Urban Collector	238,830	86,376	30.3	0.09	0.09
Urban Local	37,931	358,897	29.5	0.56	0.35
Ramp	27,354	*		*	*
	3,468,544	4,822,355		4.69	7.66

* Adjusted vmt contains ramp vmt in Interstate and Expressway

Modeled Vehicle Miles of Travel and Mobile Source Emissions for 2015 Scenario

	VMT		Average	VOC	NOX
	Model	Adjusted	Speed	Tons/day	Tons/day
Rural Interstate	669,554	692,516	69.5	0.35	1.32
Rural Principal Arterial	255,741	225,053	57.8	0.13	0.25
Rural Minor Arterial	270,648	212,234	53.8	0.12	0.18
Rural Major Collector	464,605	1,636,017	47.8	1.00	1.20
Rural Minor Collector	69,252	38,947	42.5	0.02	0.03
Rural Local	26,685	112,637	38.1	0.07	0.08
Urban Interstate	22,166	35,598	54.1	0.02	0.04
Urban Expressway	194,708	207,304	55.5	0.12	0.21
Urban Principal Arterial	662,680	714,990	33.8	0.48	0.48
Urban Minor Arterial	668,679	692,057	26.4	0.50	0.46
Urban Collector	245,406	88,754	28.0	0.06	0.06
Urban Local	46,608	440,992	28.7	0.45	0.28
Ramp	33,003	*		*	*
	3,629,734	5,097,099		3.33	4.59

* Adjusted vmt contains ramp vmt in Interstate and Expressway

Modeled Vehicle Miles of Travel and Mobile Source Emissions for 2025 Scenario

	VMT		Average	VOC	NOX
	Model	Adjusted	Speed	Tons/day	Tons/day
Rural Interstate	758,925	783,912	69.4	0.25	0.54
Rural Principal Arterial	278,152	244,775	57.4	0.09	0.12
Rural Minor Arterial	284,090	222,775	53.2	0.08	0.09
Rural Major Collector	508,874	1,791,901	46.7	0.71	0.69
Rural Minor Collector	73,288	41,217	42.2	0.02	0.02
Rural Local	27,688	116,872	38.2	0.05	0.04
Urban Interstate	25,411	39,665	54.5	0.01	0.02
Urban Expressway	207,444	220,865	55.4	0.08	0.10
Urban Principal Arterial	708,277	764,185	32.1	0.34	0.28
Urban Minor Arterial	717,510	742,596	27.0	0.35	0.28
Urban Collector	257,587	93,160	28.0	0.04	0.03
Urban Local	51,404	486,375	28.2	0.34	0.18
Ramp	35,350	*		*	*
	3,934,000	5,548,298		2.36	2.38

* Adjusted vmt contains ramp vmt in Interstate and Expressway

Modeled Vehicle Miles of Travel and Mobile Source Emissions for 2030 Scenario

	VMT		Average	VOC	NOX
	Model	Adjusted	Speed	Tons/day	Tons/day
Rural Interstate	807,747	834,011	69.2	0.26	0.43
Rural Principal Arterial	291,840	256,821	58.0	0.09	0.10
Rural Minor Arterial	292,749	229,565	52.7	0.08	0.08
Rural Major Collector	527,780	1,858,476	45.8	0.71	0.64
Rural Minor Collector	76,625	43,094	42.1	0.02	0.02
Rural Local	28,709	121,182	38.3	0.05	0.04
Urban Interstate	27,102	41,967	54.6	0.01	0.02
Urban Expressway	215,540	229,484	55.3	0.08	0.09
Urban Principal Arterial	737,393	795,600	31.0	0.32	0.26
Urban Minor Arterial	740,277	766,159	26.5	0.33	0.25
Urban Collector	269,022	97,295	27.7	0.04	0.03
Urban Local	53,160	502,986	27.9	0.35	0.17
Ramp	36,969	*		*	*
	4,104,913	5,776,640		2.35	2.14

* Adjusted vmt contains ramp vmt in Interstate and Expressway

The regional emissions analysis of the projects in the 2030 Transportation Plan indicates that the plan contributes to the improvement of air quality. In summary, it can be concluded that the Transportation Plan conforms to the national air quality standards.

Appendix – Mobile 6.2 Files

Delaware County Vehicle Registration – Input File

```
REG DIST
*
* THIS FILE CONTAINS THE DEFAULT MOBILE6 VALUES FOR THE DISTRIBUTION OF
* VEHICLES BY AGE FOR JULY OF ANY CALENDAR YEAR.  THERE ARE SIXTEEEN (16)
* SETS OF VALUES REPRESENTING 16 COMBINED GASOLINE/DIESEL VEHICLE CLASS
* DISTRIBUTIONS.  THESE DISTRIBUTIONS ARE SPLIT FOR GASOLINE AND DIESEL
* USING THE SEPARATE INPUT (OR DEFAULT) VALUES FOR DIESEL SALES FRACTIONS.
* EACH DISTRIBUTION CONTAINS 25 VALUES WHICH REPRESENT THE FRACTION OF
* ALL VEHICLES IN THAT CLASS (GASOLINE AND DIESEL) OF THAT AGE IN JULY.
* THE FIRST NUMBER IS FOR AGE 1 (CALENDAR YEAR MINUS MODEL YEAR PLUS ONE)
* AND THE LAST NUMBER IS FOR AGE 25.  THE LAST AGE INCLUDES ALL VEHICLES
* OF AGE 25 OR OLDER.  THE FIRST NUMBER IN EACH DISTRIBUTION IS AN INTEGER
* WHICH INDICATES WHICH OF THE 16 VEHICLE CLASSES ARE REPRESENTED BY THE
* DISTRIBUTION.  THE SIXTEEN VEHICLE CLASSES ARE:
*
*  1  LDV    LIGHT-DUTY VEHICLES (PASSENGER CARS)
*  2  LDT1   LIGHT-DUTY TRUCKS 1 (0-6,000 LBS. GVWR, 0-3750 LBS. LVW)
*  3  LDT2   LIGHT DUTY TRUCKS 2 (0-6,001 LBS. GVWR, 3751-5750 LBS. LVW)
*  4  LDT3   LIGHT DUTY TRUCKS 3 (6,001-8500 LBS. GVWR, 0-3750 LBS. LVW)
*  5  LDT4   LIGHT DUTY TRUCKS 4 (6,001-8500 LBS. GVWR, 3751-5750 LBS. LVW)
*  6  HDV2B  CLASS 2B HEAVY DUTY VEHICLES (8501-10,000 LBS. GVWR)
*  7  HDV3   CLASS 3 HEAVY DUTY VEHICLES (10,001-14,000 LBS. GVWR)
*  8  HDV4   CLASS 4 HEAVY DUTY VEHICLES (14,001-16,000 LBS. GVWR)
*  9  HDV5   CLASS 5 HEAVY DUTY VEHICLES (16,001-19,500 LBS. GVWR)
* 10  HDV6   CLASS 6 HEAVY DUTY VEHICLES (19,501-26,000 LBS. GVWR)
* 11  HDV7   CLASS 7 HEAVY DUTY VEHICLES (26,001-33,000 LBS. GVWR)
* 12  HDV8A  CLASS 8A HEAVY DUTY VEHICLES (33,001-60,000 LBS. GVWR)
* 13  HDV8B  CLASS 8B HEAVY DUTY VEHICLES (>60,000 LBS. GVWR)
* 14  HDBS   SCHOOL BUSSES
* 15  HDBT   TRANSIT AND URBAN BUSSES
* 16  MC     MOTORCYCLES (ALL)
*
* THE 25 AGE VALUES ARE ARRANGED IN TWO ROWS OF 10 VALUES FOLLOWED BY A ROW
* WITH THE LAST 5 VALUES.  COMMENTS (SUCH AS THIS ONE) ARE INDICATED BY
* AN ASTERISK IN THE FIRST COLUMN. EMPTY ROWS ARE IGNORED.  VALUES ARE
* READ "FREE FORMAT," MEANING ANY NUMBER MAY APPEAR IN ANY ROW WITH AS
* MANY CHARACTERS AS NEEDED (INCLUDING A DECIMAL) AS LONG AS 25 VALUES
* FOLLOW THE INITIAL INTEGER VALUE SEPARATED BY A SPACE.
*
* IF ALL 28 VEHICLE CLASSES DO NOT NEED TO BE ALTERED FROM THE DEFAULT
* VALUES, THEN ONLY THE VEHICLE CLASSES THAT NEED TO BE CHANGED NEED TO
* BE INCLUDED IN THIS FILE.  THE ORDER IN WHICH THE VEHICLE CLASSES ARE
* READ DOES NOT MATTER, HOWEVER EACH VEHICLE CLASS SET MUST CONTAIN 25
* VALUES AND BE IN THE PROPER AGE ORDER.
*
REG DIST
* COUNTY 18, DELAWARE
* LDV
1 0.0428 0.0571 0.0505 0.0495 0.0617 0.0591 0.0560 0.0588 0.0536 0.0615
  0.0564 0.0551 0.0551 0.0488 0.0416 0.0439 0.0343 0.0260 0.0215 0.0167
  0.0127 0.0065 0.0031 0.0037 0.0241
* LDT1
2 0.0411 0.0548 0.0485 0.0270 0.0331 0.0205 0.0306 0.0264 0.0459 0.0465
  0.0535 0.0475 0.0422 0.0659 0.0436 0.0700 0.0538 0.0600 0.0558 0.0439
  0.0254 0.0170 0.0126 0.0115 0.0229
* LDT2
3 0.0634 0.0845 0.0747 0.0605 0.0896 0.0810 0.0797 0.0761 0.0556 0.0527
  0.0511 0.0451 0.0365 0.0291 0.0223 0.0214 0.0239 0.0081 0.0083 0.0066
  0.0076 0.0043 0.0021 0.0025 0.0132
* LDT3
4 0.0468 0.0624 0.0552 0.0531 0.0694 0.0823 0.0549 0.0542 0.0546 0.0638
  0.0484 0.0419 0.0349 0.0171 0.0241 0.0321 0.0293 0.0213 0.0219 0.0184
  0.0162 0.0103 0.0063 0.0041 0.0772
* LDT4
5 0.0679 0.0905 0.0802 0.0761 0.0797 0.0878 0.0662 0.0612 0.0617 0.0504
  0.0374 0.0144 0.0243 0.0135 0.0194 0.0041 0.0054 0.0072 0.0104 0.0108
  0.0032 0.0009 0.0014 0.0005 0.1256
```

2002 SCENARIO FILES – MOBILE 6.2 INPUT FILE

```
******************** Header Section   ********************
MOBILE6 INPUT FILE : Delaware County Emissions 2002
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
POLLUTANTS         : HC NOX
REPORT FILE        : Muncie02.txt
EMISSIONS TABLE    : Muncie02.tb1
RUN DATA
******************** Run Section      ********************
* These min/max temperatures are July averages from Delaware County
MIN/MAX TEMP       : 64.0  84.9
ABSOLUTE HUMIDITY  : 93.7
CLOUD COVER        : 0.34
SUNRISE/SUNSET     : 5  8
FUEL RVP           : 9.0
NO REFUELING       :
REG DIST           : IN_cty18.d
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 69.6 FREEWAY 97.0  0.0  0.0  3.0
VMT FRACTIONS          :
0.3525 0.0536 0.1783 0.0549 0.0253 0.1065 0.0106 0.0084
0.0061 0.0234 0.0279 0.0304 0.1088 0.0058 0.0028 0.0047
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 2: Rural OPA (M6 Non-Ramp)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 57.7 NON-RAMP
VMT FRACTIONS          :
0.4333 0.0658 0.2190 0.0675 0.0311 0.0573 0.0057 0.0045
0.0033 0.0126 0.0150 0.0164 0.0585 0.0033 0.0015 0.0052
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 52.0 ARTERIAL
VMT FRACTIONS          :
0.4662 0.0708 0.2357 0.0726 0.0334 0.0374 0.0037 0.0029
0.0022 0.0082 0.0098 0.0107 0.0382 0.0026 0.0013 0.0043
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 4: Rural Major Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 48.0 ARTERIAL
VMT FRACTIONS          :
0.4821 0.0732 0.2437 0.0751 0.0345 0.0275 0.0027 0.0022
0.0016 0.0060 0.0072 0.0078 0.0280 0.0024 0.0011 0.0049
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 42.6 ARTERIAL
VMT FRACTIONS          :
0.4532 0.0689 0.2292 0.0706 0.0325 0.0399 0.0040 0.0031
0.0023 0.0088 0.0104 0.0114 0.0407 0.0026 0.0013 0.0211
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 6: Rural Local (M6 Arterial/Collector)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 38.0 ARTERIAL
VMT FRACTIONS          :
0.4789 0.0728 0.2421 0.0746 0.0343 0.0294 0.0029 0.0023
0.0017 0.0065 0.0077 0.0084 0.0300 0.0026 0.0013 0.0045
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2002
EVALUATION MONTH   : 7
AVERAGE SPEED      : 54.9 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS          :
0.4155 0.0631 0.2101 0.0647 0.0298 0.0688 0.0068 0.0054
0.0040 0.0151 0.0180 0.0196 0.0702 0.0043 0.0021 0.0025
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
```

```
CALENDAR YEAR       : 2002
EVALUATION MONTH    : 7
AVERAGE SPEED       : 55.4 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS             :
0.4554 0.0692 0.2303 0.0710 0.0326 0.0446 0.0044 0.0035
0.0026 0.0098 0.0117 0.0127 0.0456 0.0022 0.0011 0.0033
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 9: Urban OPA (M6 Arterial/Collector)
CALENDAR YEAR       : 2002
EVALUATION MONTH    : 7
AVERAGE SPEED       : 36.0 ARTERIAL
VMT FRACTIONS             :
0.4868 0.0740 0.2462 0.0759 0.0349 0.0251 0.0025 0.0020
0.0014 0.0055 0.0066 0.0072 0.0257 0.0015 0.0007 0.0040
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR       : 2002
EVALUATION MONTH    : 7
AVERAGE SPEED       : 27.1 ARTERIAL
VMT FRACTIONS             :
0.4944 0.0751 0.2499 0.0770 0.0354 0.0203 0.0020 0.0016
0.0012 0.0045 0.0053 0.0058 0.0207 0.0018 0.0008 0.0042
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 11: Urban Collector (M6 Arterial/Collector)
CALENDAR YEAR       : 2002
EVALUATION MONTH    : 7
AVERAGE SPEED       : 27.1 ARTERIAL
VMT FRACTIONS             :
0.5024 0.0763 0.2540 0.0783 0.0360 0.0152 0.0015 0.0012
0.0009 0.0033 0.0040 0.0043 0.0155 0.0010 0.0005 0.0056
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 12: Urban Local (M6 Local Road) - 12.9
CALENDAR YEAR       : 2002
EVALUATION MONTH    : 7
VMT BY FACILITY     : fvmtlocl.def
VMT FRACTIONS             :
0.5099 0.0775 0.2579 0.0795 0.0366 0.0106 0.0010 0.0008
0.0006 0.0023 0.0028 0.0030 0.0108 0.0028 0.0013 0.0026
END OF RUN          :
```

2002 SCENARIO FILES – MOBILE 6.2 OUTPUT FILE

```
************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                           *
* Input file: MUNCIE02.IN (file 1, run 1).                             *
************************************************************************
  M617 Comment:
               User supplied alternate AC input: Cloud Cover Fraction set to 0.34.
  M618 Comment:
               User supplied alternate AC input: Sunrise at  5 AM, Sunset at  8 PM.
  M603 Comment:
               User has disabled the calculation of REFUELING emissions.


* Reading Registration Distributions from the following external
* data file: IN_CTY18.D
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M 96 Warning:
                 69.6     speed reduced to 65 mph maximum
  M515 Warning:
            The combined freeway and ramp average speed entered
            cannot be greater than 63.3 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of 63.3
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b

                    Calendar Year:  2002
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:  279. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3517    0.2317    0.0791              0.0995    0.0008    0.0013    0.2312    0.0047    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.561     1.401     1.902     1.528     1.238     0.668     0.722     0.447      2.47     1.263
     Composite NOX :      1.341     1.421     1.726     1.499     5.993     2.780     2.604    25.453      1.59     7.432
  ------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 2: Rural OPA (M6 Non-Ramp)
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 57.7
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b

                    Calendar Year:  2002
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:  279. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4323    0.2846    0.0972              0.0536    0.0010    0.0016    0.1245    0.0052    1.0000
  ------------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite VOC :      1.592     1.433     1.946     1.564     1.244     0.667     0.720     0.446      2.06     1.420
     Composite NOX :      1.308     1.380     1.684     1.457     5.758     2.167     2.026    21.042      1.42     4.063
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 52.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2002
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4652    0.3062    0.1045              0.0351    0.0010    0.0017    0.0819    0.0043    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.639     1.478     2.001     1.611     1.304     0.679     0.734     0.463      1.89     1.518
     Composite NOX :      1.287     1.353     1.655     1.430     5.554     1.838     1.717    15.353      1.27     2.649
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 4: Rural Major Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 48.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2002
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4810    0.3166    0.1081              0.0259    0.0011    0.0018    0.0606    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.677     1.512     2.043     1.647     1.378     0.693     0.751     0.485      1.90     1.583
     Composite NOX :      1.274     1.334     1.637     1.411     5.419     1.682     1.570    14.177      1.19     2.222
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 42.6
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2002
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4522    0.2978    0.1017              0.0374    0.0010    0.0017    0.0871    0.0211    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      1.732     1.560     2.099     1.697     1.456     0.722     0.783     0.525      1.93     1.604
    Composite NOX :      1.257     1.310     1.613     1.387     5.192     1.546     1.443    13.161      1.14     2.491
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 6: Rural Local (M6 Arterial/Collector)
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 38.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2002
                          Month:  July
                       Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:  279. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4778    0.3146    0.1074              0.0277    0.0011    0.0018    0.0651    0.0045    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      1.784     1.602     2.150     1.741     1.606     0.756     0.822     0.575      1.99     1.680
    Composite NOX :      1.245     1.292     1.596     1.369     5.039     1.484     1.384    12.705      1.12     2.148
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 54.9
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4146    0.2730    0.0932              0.0644    0.0009    0.0015    0.1499    0.0025    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      1.629     1.469     1.986     1.600     1.283     0.677     0.731     0.459      2.06     1.420
    Composite NOX :      1.325     1.399     1.703     1.476     5.698     2.120     1.982    20.247      1.40     4.500
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 55.4
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
```

```
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
             Fuel Sulfur Content:  279. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4544    0.2992    0.1022              0.0416    0.0010    0.0017    0.0966    0.0033    1.0000
 -------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.625     1.465     1.981     1.596     1.267     0.676     0.731     0.458      2.10     1.485
     Composite NOX :      1.327     1.401     1.705     1.479     5.705     2.157     2.017    20.536      1.41     3.428
 -------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 9: Urban OPA (M6 Arterial/Collector)
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 36.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
             Fuel Sulfur Content:  279. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4857    0.3199    0.1093              0.0235    0.0011    0.0018    0.0547    0.0040    1.0000
 -------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.809     1.622     2.174     1.763     1.635     0.774     0.842     0.600      2.02     1.717
     Composite NOX :      1.241     1.286     1.590     1.363     4.935     1.469     1.370    12.583      1.10     2.001
 -------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
             Fuel Sulfur Content:  279. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4933    0.3247    0.1108              0.0192    0.0011    0.0018    0.0448    0.0042    1.0000
 -------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.997     1.784     2.378     1.935     2.127     0.887     0.972     0.765      2.25     1.915
     Composite NOX :      1.295     1.329     1.641     1.409     4.626     1.507     1.406    12.867      1.03     1.927
 -------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 27.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5013    0.3300    0.1127              0.0142    0.0011    0.0019    0.0332    0.0056    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.997     1.784     2.378     1.935     2.087     0.887     0.971     0.763      2.25     1.928
     Composite NOX :      1.295     1.329     1.641     1.409     4.606     1.507     1.406    12.867      1.03     1.775
  ------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 12: Urban Local (M6 Local Road) - 12.9
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading Hourly Roadway VMT distribution from the following external
* data file: FVMTLOCL.DEF

  Reading User Supplied ROADWAY VMT Factors
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2002
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:  279. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5088    0.3351    0.1145              0.0104    0.0011    0.0019    0.0256    0.0026    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      2.817     2.552     3.274     2.736     4.786     1.258     1.396     1.324      3.10     2.759
     Composite NOX :      1.239     1.237     1.546     1.316     4.193     1.957     1.829    14.421      0.88     1.642
  ------------------------------------------------------------------------------------------------------------------------
```

2010 SCENARIO FILES – MOBILE 6.2 INPUT FILE

```
******************** Header Section   ********************
MOBILE6 INPUT FILE : Delaware County Emissions 2010
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
POLLUTANTS         : HC NOX
REPORT FILE        : Muncie10.txt
EMISSIONS TABLE    : Muncie10.tb1
RUN DATA
******************** Run Section      ********************
* These min/max temperatures are July averages from Delaware County
MIN/MAX TEMP       : 64.0  84.9
ABSOLUTE HUMIDITY  : 93.7
CLOUD COVER        : 0.34
SUNRISE/SUNSET     : 5  8
FUEL RVP           : 9.0
NO REFUELING       :
REG DIST           : IN_cty18.d
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 69.6 FREEWAY 97.0  0.0  0.0  3.0
VMT FRACTIONS          :
0.3525 0.0536 0.1783 0.0549 0.0253 0.1065 0.0106 0.0084
0.0061 0.0234 0.0279 0.0304 0.1088 0.0058 0.0028 0.0047
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 2: Rural OPA (M6 Non-Ramp)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 57.9 NON-RAMP
VMT FRACTIONS          :
0.4333 0.0658 0.2190 0.0675 0.0311 0.0573 0.0057 0.0045
0.0033 0.0126 0.0150 0.0164 0.0585 0.0033 0.0015 0.0052
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 53.7 ARTERIAL
VMT FRACTIONS          :
0.4662 0.0708 0.2357 0.0726 0.0334 0.0374 0.0037 0.0029
0.0022 0.0082 0.0098 0.0107 0.0382 0.0026 0.0013 0.0043
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 4: Rural Major Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 48.3 ARTERIAL
VMT FRACTIONS          :
0.4821 0.0732 0.2437 0.0751 0.0345 0.0275 0.0027 0.0022
0.0016 0.0060 0.0072 0.0078 0.0280 0.0024 0.0011 0.0049
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 42.6 ARTERIAL
VMT FRACTIONS          :
0.4532 0.0689 0.2292 0.0706 0.0325 0.0399 0.0040 0.0031
0.0023 0.0088 0.0104 0.0114 0.0407 0.0026 0.0013 0.0211
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 6: Rural Local (M6 Arterial/Collector)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 38.1 ARTERIAL
VMT FRACTIONS          :
0.4789 0.0728 0.2421 0.0746 0.0343 0.0294 0.0029 0.0023
0.0017 0.0065 0.0077 0.0084 0.0300 0.0026 0.0013 0.0045
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
AVERAGE SPEED      : 54.7 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS          :
0.4155 0.0631 0.2101 0.0647 0.0298 0.0688 0.0068 0.0054
0.0040 0.0151 0.0180 0.0196 0.0702 0.0043 0.0021 0.0025
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
```

```
CALENDAR YEAR       : 2010
EVALUATION MONTH    : 7
AVERAGE SPEED       : 55.6 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS             :
0.4554 0.0692 0.2303 0.0710 0.0326 0.0446 0.0044 0.0035
0.0026 0.0098 0.0117 0.0127 0.0456 0.0022 0.0011 0.0033
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 9: Urban OPA (M6 Arterial/Collector)
CALENDAR YEAR       : 2010
EVALUATION MONTH    : 7
AVERAGE SPEED       : 40.5 ARTERIAL
VMT FRACTIONS             :
0.4868 0.0740 0.2462 0.0759 0.0349 0.0251 0.0025 0.0020
0.0014 0.0055 0.0066 0.0072 0.0257 0.0015 0.0007 0.0040
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR       : 2010
EVALUATION MONTH    : 7
AVERAGE SPEED       : 32.1 ARTERIAL
VMT FRACTIONS             :
0.4944 0.0751 0.2499 0.0770 0.0354 0.0203 0.0020 0.0016
0.0012 0.0045 0.0053 0.0058 0.0207 0.0018 0.0008 0.0042
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 11: Urban Collector (M6 Arterial/Collector)
CALENDAR YEAR       : 2010
EVALUATION MONTH    : 7
AVERAGE SPEED       : 30.3 ARTERIAL
VMT FRACTIONS             :
0.5024 0.0763 0.2540 0.0783 0.0360 0.0152 0.0015 0.0012
0.0009 0.0033 0.0040 0.0043 0.0155 0.0010 0.0005 0.0056
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 12: Urban Local (M6 Local Road) - 12.9
CALENDAR YEAR       : 2010
EVALUATION MONTH    : 7
VMT BY FACILITY     : fvmtlocl.def
VMT FRACTIONS             :
0.5099 0.0775 0.2579 0.0795 0.0366 0.0106 0.0010 0.0008
0.0006 0.0023 0.0028 0.0030 0.0108 0.0028 0.0013 0.0026
END OF RUN          :
```

2010 SCENARIO FILES – MOBILE 6.2 OUTPUT FILE

```
************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                           *
* Input file: MUNCIE10.IN (file 1, run 1).                             *
************************************************************************
  M617 Comment:
               User supplied alternate AC input: Cloud Cover Fraction set to 0.34.
  M618 Comment:
               User supplied alternate AC input: Sunrise at  5 AM, Sunset at  8 PM.
  M603 Comment:
               User has disabled the calculation of REFUELING emissions.


* Reading Registration Distributions from the following external
* data file: IN_CTY18.D
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)

* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M 96 Warning:
                 69.6     speed reduced to 65 mph maximum
  M515 Warning:
            The combined freeway and ramp average speed entered
            cannot be greater than 63.3 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of 63.3
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3522    0.2319    0.0790              0.0974    0.0003    0.0012    0.2333    0.0047    1.0000
 ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.850     0.742     0.935     0.791     0.594     0.188     0.318     0.253      2.44     0.674
    Composite NOX :      0.694     0.777     1.032     0.842     2.688     0.875     1.128    11.282      1.59     3.409
 ------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 2: Rural OPA (M6 Non-Ramp)
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 57.9
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4329    0.2848    0.0972              0.0524    0.0004    0.0014    0.1257    0.0052    1.0000
 ------------------------------------------------------------------------------------------------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite VOC :      0.869     0.757     0.956     0.807     0.600     0.188     0.317     0.252      2.04     0.759
     Composite NOX :      0.677     0.756     1.007     0.820     2.586     0.685     0.882     9.003      1.43     1.883
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 53.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2010
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4658    0.3065    0.1045              0.0343    0.0004    0.0015    0.0827    0.0043    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.888     0.771     0.975     0.823     0.617     0.190     0.322     0.259      1.86     0.803
     Composite NOX :      0.668     0.745     0.994     0.808     2.521     0.602     0.774     7.366      1.31     1.346
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 4: Rural Major Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 48.3
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2010
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4817    0.3169    0.1080              0.0252    0.0004    0.0016    0.0613    0.0049    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.917     0.792     1.004     0.846     0.648     0.196     0.332     0.274      1.87     0.844
     Composite NOX :      0.657     0.731     0.978     0.794     2.437     0.530     0.682     6.518      1.19     1.122
  ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 42.6
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b

                  Calendar Year:  2010
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm
```

```
             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4528    0.2981    0.1016              0.0365    0.0004    0.0015    0.0880    0.0211    1.0000
 ---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
    Composite VOC :      0.950     0.815     1.033     0.870     0.685     0.205     0.349     0.297      1.90     0.870
    Composite NOX :      0.646     0.717     0.963     0.779     2.329     0.484     0.623     5.918      1.14     1.235
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 6: Rural Local (M6 Arterial/Collector)
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
           The user supplied arterial average speed of 38.1
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
  M615 Comment:
            User supplied VMT mix.
  M 48 Warning:
           there are no sales for vehicle class HDGV8b

                Calendar Year:  2010
                       Month:  July
                    Altitude:  Low
           Minimum Temperature:  64.0 (F)
           Maximum Temperature:  84.9 (F)
             Absolute Humidity:   94. grains/lb
              Nominal Fuel RVP:   9.0 psi
                 Weathered RVP:   8.8 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4785    0.3149    0.1073              0.0270    0.0004    0.0016    0.0658    0.0045    1.0000
 ---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
    Composite VOC :      0.978     0.834     1.058     0.891     0.733     0.216     0.368     0.326      1.96     0.895
    Composite NOX :      0.639     0.707     0.952     0.769     2.263     0.465     0.597     5.724      1.12     1.075
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 54.7
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.
  M615 Comment:
            User supplied VMT mix.
  M 48 Warning:
           there are no sales for vehicle class HDGV8b

                Calendar Year:  2010
                       Month:  July
                    Altitude:  Low
           Minimum Temperature:  64.0 (F)
           Maximum Temperature:  84.9 (F)
             Absolute Humidity:   94. grains/lb
              Nominal Fuel RVP:   9.0 psi
                 Weathered RVP:   8.8 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4151    0.2732    0.0931              0.0630    0.0004    0.0014    0.1513    0.0025    1.0000
 ---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
    Composite VOC :      0.887     0.770     0.974     0.822     0.616     0.191     0.323     0.261      2.02     0.753
    Composite NOX :      0.683     0.761     1.015     0.825     2.552     0.661     0.851     8.653      1.39     2.061
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
           The user supplied freeway average speed of 55.6
           will be used for all hours of the day. 100% of VMT
           has been assigned to a fixed combination of freeways
           and freeway ramps for all hours of the day and all
            vehicle types.
  M615 Comment:
```

```
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2010
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4550    0.2995    0.1021              0.0408    0.0004    0.0015    0.0974    0.0033    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.883     0.767     0.970     0.818     0.611     0.190     0.322     0.259      2.08     0.788
     Composite NOX :      0.685     0.764     1.018     0.828     2.562     0.683     0.879     8.882      1.42     1.620
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 9: Urban OPA (M6 Arterial/Collector)
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2010
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4864    0.3202    0.1092              0.0229    0.0004    0.0016    0.0553    0.0040    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.963     0.823     1.045     0.880     0.702     0.209     0.357     0.309      1.92     0.888
     Composite NOX :      0.642     0.711     0.957     0.774     2.289     0.472     0.606     5.753      1.13     1.021
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 32.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2010
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4940    0.3250    0.1108              0.0186    0.0004    0.0016    0.0454    0.0042    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.029     0.870     1.106     0.930     0.814     0.235     0.404     0.376      2.08     0.955
     Composite NOX :      0.643     0.707     0.953     0.770     2.162     0.460     0.590     5.647      1.07     0.955
 ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 30.3
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5020    0.3303    0.1126              0.0139    0.0004    0.0017    0.0335    0.0056    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.049     0.886     1.127     0.947     0.840     0.242     0.418     0.394      2.13     0.984
     Composite NOX :      0.649     0.712     0.959     0.775     2.118     0.461     0.592     5.634      1.06     0.894
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 12: Urban Local (M6 Local Road) - 12.9
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading Hourly Roadway VMT distribution from the following external
* data file: FVMTLOCL.DEF

  Reading User Supplied ROADWAY VMT Factors
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.5094    0.3354    0.1144              0.0099    0.0005    0.0017    0.0261    0.0026    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.509     1.276     1.605     1.360     1.695     0.376     0.661     0.758      3.07     1.426
     Composite NOX :      0.646     0.699     0.943     0.761     1.890     0.614     0.791     7.576      0.88     0.892
  ---------------------------------------------------------------------------------------------------------------------
  ---------------------------------------------------------------------------------------------------------------------
```

2015 SCENARIO FILES – MOBILE 6.2 INPUT FILE

```
******************** Header Section   ********************
MOBILE6 INPUT FILE : Delaware County Emissions 2015
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
POLLUTANTS         : HC NOX
REPORT FILE        : Muncie15.txt
EMISSIONS TABLE    : Muncie15.tb1
RUN DATA
******************** Run Section      ********************
* These min/max temperatures are July averages from Greene County
MIN/MAX TEMP       : 64.0  84.9
ABSOLUTE HUMIDITY  : 93.7
CLOUD COVER        : 0.34
SUNRISE/SUNSET     : 5  8
FUEL RVP           : 9.0
NO REFUELING       :
REG DIST           : IN_cty18.d
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 69.5 FREEWAY 97.0  0.0  0.0  3.0
VMT FRACTIONS          :
0.3525 0.0536 0.1783 0.0549 0.0253 0.1065 0.0106 0.0084
0.0061 0.0234 0.0279 0.0304 0.1088 0.0058 0.0028 0.0047
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 2: Rural OPA (M6 Non-Ramp)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 57.8 NON-RAMP
VMT FRACTIONS          :
0.4333 0.0658 0.2190 0.0675 0.0311 0.0573 0.0057 0.0045
0.0033 0.0126 0.0150 0.0164 0.0585 0.0033 0.0015 0.0052
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 53.8 ARTERIAL
VMT FRACTIONS          :
0.4662 0.0708 0.2357 0.0726 0.0334 0.0374 0.0037 0.0029
0.0022 0.0082 0.0098 0.0107 0.0382 0.0026 0.0013 0.0043
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 4: Rural Major Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 47.8 ARTERIAL
VMT FRACTIONS          :
0.4821 0.0732 0.2437 0.0751 0.0345 0.0275 0.0027 0.0022
0.0016 0.0060 0.0072 0.0078 0.0280 0.0024 0.0011 0.0049
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 42.5 ARTERIAL
VMT FRACTIONS          :
0.4532 0.0689 0.2292 0.0706 0.0325 0.0399 0.0040 0.0031
0.0023 0.0088 0.0104 0.0114 0.0407 0.0026 0.0013 0.0211
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 6: Rural Local (M6 Arterial/Collector)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 38.1 ARTERIAL
VMT FRACTIONS          :
0.4789 0.0728 0.2421 0.0746 0.0343 0.0294 0.0029 0.0023
0.0017 0.0065 0.0077 0.0084 0.0300 0.0026 0.0013 0.0045
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
AVERAGE SPEED      : 54.1 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS          :
0.4155 0.0631 0.2101 0.0647 0.0298 0.0688 0.0068 0.0054
0.0040 0.0151 0.0180 0.0196 0.0702 0.0043 0.0021 0.0025
******************** Scenario Section ********************
SCENARIO RECORD    : Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
```

```
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 7
AVERAGE SPEED       : 55.5 FREEWAY 92.0  0.0  0.0  8.0
VMT FRACTIONS             :
0.4554 0.0692 0.2303 0.0710 0.0326 0.0446 0.0044 0.0035
0.0026 0.0098 0.0117 0.0127 0.0456 0.0022 0.0011 0.0033
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 9: Urban OPA (M6 Arterial/Collector)
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 7
AVERAGE SPEED       : 33.8 ARTERIAL
VMT FRACTIONS             :
0.4868 0.0740 0.2462 0.0759 0.0349 0.0251 0.0025 0.0020
0.0014 0.0055 0.0066 0.0072 0.0257 0.0015 0.0007 0.0040
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 7
AVERAGE SPEED       : 26.4 ARTERIAL
VMT FRACTIONS             :
0.4944 0.0751 0.2499 0.0770 0.0354 0.0203 0.0020 0.0016
0.0012 0.0045 0.0053 0.0058 0.0207 0.0018 0.0008 0.0042
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 11: Urban Collector (M6 Arterial/Collector)
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 7
AVERAGE SPEED       : 28.0 ARTERIAL
VMT FRACTIONS             :
0.5024 0.0763 0.2540 0.0783 0.0360 0.0152 0.0015 0.0012
0.0009 0.0033 0.0040 0.0043 0.0155 0.0010 0.0005 0.0056
******************** Scenario Section ********************
SCENARIO RECORD     : Scenario 12: Urban Local (M6 Local Road) - 12.9
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 7
VMT BY FACILITY     : fvmtlocl.def
VMT FRACTIONS             :
0.5099 0.0775 0.2579 0.0795 0.0366 0.0106 0.0010 0.0008
0.0006 0.0023 0.0028 0.0030 0.0108 0.0028 0.0013 0.0026
END OF RUN          :
```

2015 SCENARIO FILES – MOBILE 6.2 OUTPUT FILE

```
************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                           *
* Input file: MUNCIE15.IN (file 1, run 1).                             *
************************************************************************
  M617 Comment:
               User supplied alternate AC input: Cloud Cover Fraction set to 0.34.
  M618 Comment:
               User supplied alternate AC input: Sunrise at  5 AM, Sunset at  8 PM.
  M603 Comment:
               User has disabled the calculation of REFUELING emissions.


* Reading Registration Distributions from the following external
* data file: IN_CTY18.D
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M 96 Warning:
                 69.5     speed reduced to 65 mph maximum
  M515 Warning:
            The combined freeway and ramp average speed entered
            cannot be greater than 63.3 miles per hour.
            The average speed will be reset to this value.
  M582 Warning:
            The user supplied freeway average speed of 63.3
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3522    0.2319    0.0790              0.0970    0.0003    0.0012    0.2337    0.0047    1.0000
 ---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
    Composite VOC :      0.533     0.500     0.701     0.551     0.398     0.108     0.202     0.194      2.44     0.455
    Composite NOX :      0.467     0.515     0.706     0.564     1.309     0.401     0.565     5.380      1.59     1.732
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 2: Rural OPA (M6 Non-Ramp)
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M581 Warning:
            The user supplied freeway average speed of 57.8
            will be used for all hours of the day. 100% of VMT
            has been assigned to the freeway roadway type for
            all hours of the day and all vehicle types.
  M615 Comment:
               User supplied VMT mix.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  July
                         Altitude:  Low
               Minimum Temperature:  64.0 (F)
               Maximum Temperature:  84.9 (F)
                 Absolute Humidity:   94. grains/lb
                  Nominal Fuel RVP:   9.0 psi
                     Weathered RVP:   8.8 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No
```

```
       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4329    0.2848    0.0972              0.0522    0.0004    0.0014    0.1259    0.0052    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.543     0.508     0.714     0.560     0.402     0.108     0.202     0.193      2.04     0.505
    Composite NOX :      0.456     0.502     0.689     0.549     1.259     0.313     0.441     4.286      1.42     1.020
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 53.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                         Month:  July
                      Altitude:  Low
            Minimum Temperature:  64.0 (F)
            Maximum Temperature:  84.9 (F)
              Absolute Humidity:   94. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   8.8 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                   ATP Program:  No
               Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4658    0.3065    0.1045              0.0341    0.0004    0.0015    0.0829    0.0043    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.552     0.515     0.725     0.568     0.412     0.109     0.204     0.198      1.86     0.530
    Composite NOX :      0.450     0.494     0.680     0.542     1.228     0.276     0.389     3.547      1.32     0.774
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 4: Rural Major Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 47.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                         Month:  July
                      Altitude:  Low
            Minimum Temperature:  64.0 (F)
            Maximum Temperature:  84.9 (F)
              Absolute Humidity:   94. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   8.8 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                   ATP Program:  No
               Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.4817    0.3169    0.1080              0.0251    0.0004    0.0016    0.0614    0.0049    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.569     0.527     0.745     0.582     0.432     0.113     0.211     0.211      1.87     0.555
    Composite NOX :      0.441     0.484     0.668     0.531     1.181     0.241     0.339     3.120      1.19     0.666
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 5.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 42.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
```

```
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  July
                       Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:     0.4528    0.2981    0.1016              0.0364    0.0004    0.0015    0.0881    0.0211    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :       0.586     0.539     0.762     0.595     0.456     0.118     0.221     0.228      1.90     0.581
    Composite NOX :       0.434     0.475     0.658     0.522     1.133     0.222     0.312     2.839      1.14     0.721
 -------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 6: Rural Local (M6 Arterial/Collector)
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 38.1
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  July
                       Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:     0.4785    0.3149    0.1073              0.0268    0.0004    0.0016    0.0660    0.0045    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :       0.602     0.549     0.778     0.607     0.484     0.124     0.232     0.249      1.96     0.583
    Composite NOX :       0.429     0.469     0.651     0.515     1.100     0.213     0.300     2.768      1.12     0.640
 -------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 54.1
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  July
                       Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
            GVWR:                 <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:     0.4151    0.2732    0.0931              0.0627    0.0004    0.0014    0.1516    0.0025    1.0000
 -------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

```
     Composite VOC :      0.554     0.516     0.727     0.570     0.413     0.110     0.206     0.200      1.98     0.500
     Composite NOX :      0.458     0.503     0.693     0.551     1.237     0.296     0.417     4.053      1.37     1.088
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M582 Warning:
            The user supplied freeway average speed of 55.5
            will be used for all hours of the day. 100% of VMT
            has been assigned to a fixed combination of freeways
            and freeway ramps for all hours of the day and all
             vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4550    0.2995    0.1021              0.0406    0.0004    0.0015    0.0976    0.0033    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.551     0.514     0.723     0.567     0.409     0.109     0.205     0.198      2.07     0.521
     Composite NOX :      0.460     0.506     0.696     0.554     1.248     0.312     0.439     4.218      1.41     0.900
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 9: Urban OPA (M6 Arterial/Collector)
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 33.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  July
                        Altitude:  Low
             Minimum Temperature:  64.0 (F)
             Maximum Temperature:  84.9 (F)
               Absolute Humidity:   94. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   8.8 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.4864    0.3202    0.1092              0.0229    0.0004    0.0016    0.0553    0.0040    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.622     0.563     0.798     0.623     0.516     0.131     0.247     0.274      2.04     0.605
     Composite NOX :      0.429     0.466     0.649     0.513     1.060     0.210     0.296     2.679      1.09     0.606
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 26.4
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
              User supplied VMT mix.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  July
                        Altitude:  Low
```

```
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
 VMT Distribution:     0.4940    0.3250    0.1108              0.0185    0.0004    0.0016    0.0455    0.0042    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :       0.673     0.603     0.856     0.667     0.605     0.150     0.282     0.340      2.24      0.660
    Composite NOX :       0.450     0.484     0.672     0.532     1.003     0.218     0.307     2.821      1.02      0.606
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 28.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
 VMT Distribution:     0.5019    0.3303    0.1126              0.0139    0.0005    0.0017    0.0335    0.0056    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :       0.660     0.593     0.842     0.656     0.580     0.145     0.273     0.322      2.19      0.654
    Composite NOX :       0.444     0.478     0.664     0.526     1.013     0.215     0.303     2.751      1.04      0.568
 ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 12: Urban Local (M6 Local Road) - 12.9
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading Hourly Roadway VMT distribution from the following external
* data file: FVMTLOCL.DEF

  Reading User Supplied ROADWAY VMT Factors
  M615 Comment:
             User supplied VMT mix.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  64.0 (F)
              Maximum Temperature:  84.9 (F)
                Absolute Humidity:   94. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.8 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
 VMT Distribution:     0.5094    0.3354    0.1144              0.0097    0.0005    0.0017    0.0263    0.0026    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :       0.926     0.843     1.170     0.926     1.050     0.216     0.406     0.583      3.07      0.923
    Composite NOX :       0.442     0.468     0.642     0.512     0.911     0.282     0.397     3.808      0.88      0.568
 ---------------------------------------------------------------------------------------------------------------------
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APPENDIX H

Public Participation Process

LEGAL NOTICE OF PUBLIC HEARING

Redesignation Petition and Maintenance Plan in association with the 8 hour ozone standard, for Delaware County.

Notice is hereby given under 40 CFR 51.102 that the Indiana Department of Environmental Management (IDEM) will hold a public hearing on Monday, July 25, 2005. The purpose of this hearing is to receive public comment on the Draft Redesignation Petition and Maintenance Plan in association with the 8 hour ozone standard, for Delaware County. The meeting will convene at 6:00 p.m. (local time) in the City Hall Auditorium, 300 North High Street, Muncie, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

This Redesignation Petition and Maintenance Plan is being drafted and submitted consistent with United States Environmental Protection Agency (USEPA) guidance.

Copies of the draft documents are available to any person upon request and at the following locations:

- Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, 100 North Senate, Room N1003, Indianapolis, Indiana.
- Muncie-Center Township Public Library, 315 West Adams, Muncie, Indiana.
- Yorktown-Mt.Pleasant Township Community Library, 8920 West Adaline, Yorktown, Indiana.

Oral statements will be heard, but for the accuracy of the record, statements should be submitted in writing. Written statements may be submitted to the attendant designated to receive written comments at the public hearing.

IDEM will also accept written comments through July 29, 2005. Mailed comments should be addressed to:

Delaware County Redesignation Petition and Maintenance Plan
Kathryn Watson, Chief
Air Programs Branch, Office of Air Quality – Mail Code 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

A transcript of the hearing and all written submissions provided at the public hearing shall be open to public inspection at IDEM and copies may be made available to any person upon payment of reproduction costs. Any person heard or represented at the hearing or requesting notice shall be given written notice of actions resulting from the hearing.

Form Prescribed by State Board of Accounts

General Form No. 99P (Rev. 2002)

Ind. Dept. of Environmental Management (Governmental Unit)

County, Indiana

To: **The Star Press**

Muncie, IN

Redesignation Petition & Maintenance Plan

PUBLISHER'S CLAIM

LINE COUNT

Display Matter (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) number of equivalent lines ______

Head – number of lines ______

Body – number of lines ______

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Total number of lines in notice 100

COMPUTATION OF CHARGES

______ lines, ______ columns wide equals 100 equivalent lines at 0.319 per line @ 1 days, $ 31.93

Additional charge for notices containing rule or tabular work (50 percent of above amount) ______

Charge for extra proofs of publication ($1.00 for each proof in excess of two) ______

TOTAL AMOUNT OF CLAIM $ 31.93

DATA FOR COMPUTING COST

Width of single column 7.4 ems

Number of insertions 1

Size of type 6 point

Pursuant to the provisions and penalties of Ch. 155, Acts 1953,

I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

[signature]

Date: 06/24/2005 Title: Clerk

LEGAL NOTICE OF PUBLIC HEARING
Redesignation Petition and Maintenance Plan
in association with the 8 hour ozone standard
for Delaware County

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IDEM will also accept written comments through July [illegible], 2005. Mailed comments should be addressed to:

Delaware County Redesignation Petition and Maintenance Plan
Kathryn Watson [illegible]
Air Programs Branch, Office of Air Quality, Mail Code 61-50
100 North Senate Avenue [illegible]
Indiana Department of Environmental Management
Indianapolis, IN 46206-2[illegible]

A transcript of the hearing and all written submissions provided at the public hearing shall be open to public inspection at IDEM and copies may be made available to any person upon payment of reproduction costs. Any person heard or represented at the hearing or requesting notice shall be given written notice of actions resulting from the hearing.

For additional information, contact [illegible] at the Indiana Department of Environmental Management, Office of Air Quality, Room [illegible], Indiana Government Center North, 100 North Senate Avenue, Indianapolis, or call (317) [illegible] or (800) 451-6027 (press 0 and ask for [illegible]) (in Indiana).

Kathryn Watson, Chief
Air Programs Branch
Office of Air Quality

SALES 0010 Rev. 7-04

PUBLISHER'S AFFIDAVIT

State of Indiana)
) ss
Delaware County)

Personally appeared before me, a notary public in and for said county and state, the undersigned Josie M. James who, being duly sworn, says that she is clerk of The Star Press newspaper of general circulation printed and published in the English language in the city of Muncie in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 time, the dates of publication being as follows:

June 24, 2005

[signature]

Subscribed and sworn to before me this 28 day of June, 2005

[signature]
Notary Public

My Commission expires:
LINDA G. HESSLER, NOTARY PUBLIC
MY COMMISSION EXPIRES NOV. 28, 2007
RESIDENT OF DELAWARE COUNTY, INDIANA

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchelle E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

Mucie Star Press
P.O. Box 2408
Muncie, Indiana 47307

Phone: 765-213-5700
Fax: 765-213-5758

Date: June 20, 2005

FILE

ATTENTION: **PUBLIC NOTICES - LEGAL ADVERTISING SECTION**

Enclosed please find Indiana Department of Environmental Management Public Hearing Legal Notices(s) concerning Air Pollution Control Board Rules.

Pease print one time, on or before SATURDAY, JUNE 25, 2005, in order for us to satisfy our statutory requirements.

Please send a notarized form no. 99p and/or publisher's claim, together with the clipping, showing the date of publication and your Federal ID number to:

MAIL TO:
Attn: Karol Chuma, Room N1001
Indiana Department of Environmental Management
100 N. Senate Avenue, Mail Code 61-50
Indianapolis, Indiana 46206

If you have any questions, please call me at 317-233-0426. Thank you.

Sincerely,

Karol T. Chuma
Rules Development Section
Office of Air Quality

Enclosures

For Office Use Only

LEGAL NOTICE OF PUBLIC HEARING

Redesignation Petition and Maintenance Plan In Association With The 8 Hour Ozone Standard, For Delaware County

Attn: Scott Deloney & Sandra Robinson

TO: ACCOUNTING
IGCN - Room 1345

FROM: KAROL T. CHUMA
IGCN - 1001
RULES SECTION
OFFICE OF AIR QUALITY

DATE: 6-30-05

Note: Please send a copy of the paid publication to Muncie Star Press
Attention: Muncie, IN

The attached invoice for publication of public notice is approved for payment.

ACCOUNT # 3610/140900

ENVIRONMENTAL MANAGEMENT

MARION COUNTY, INDIANA

To: INDIANAPOLIS NEWSPAPERS
307 N PENNSYLVANIA ST - PO BOX 145
INDIANAPOLIS, IN 46206-0145

PUBLISHER'S CLAIM

LEGAL NOTICE
OF PUBLIC HEARING
Redesignation Petition and Maintenance Plan in association with the 8 hour ozone standard, for Delaware County.

Notice is hereby given under 40 CFR 51.102 that the Indiana Department of Environmental Management (IDEM) will hold a public hearing on Monday, July 25, 2005. The purpose of this hearing is to receive public comment on the Draft Redesignation Petition and Maintenance Plan in association with the 8 hour ozone standard, for Delaware County. The meeting will convene at 6:00 p.m. (local time) in the City Hall Auditorium, 300 North High Street, Muncie, Indiana. All interested persons are invited and will be given opportunity to express their views concerning the draft documents.

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IDEM will also accept written comments through July 29, 2005. Mailed comments should be addressed to:

Delaware County Redesignation Petition and Maintenance Plan, Kathryn Watson, Chief
Air Programs Branch, Office of Air Quality – Mail Code 61-50
100 North Senate Avenue
Indiana Department of Environmental Management
Indianapolis, IN 46206-2251

A transcript of the hearing and all written submissions provided at the public hearing shall be open to public inspection at IDEM and copies may be made available to any person upon payment of reproduction costs. Any person heard or represented at the hearing or requesting notice shall be given written notice of actions resulting from the hearing.

For additional information contact Krista Gremos, at the Indiana Department of Environmental Management, Office of Air Quality, Rm 1001, Indiana Government Center North, 100 North Senate Ave. Indianapolis or call (317) 233-5680 or (800) 451-6027 ext. 3-5680 (in Indiana).

Kathryn Watson, Chief
Air Programs Branch
Office of Air Quality

Individuals requiring reasonable accommodations for participation in this hearing should contact the IDEM Americans with Disabilities Act (ADA) coordinator at:
ATTN: ADA Coordinator
Indiana Department of Environmental Management
Mail Code 50-10
100 North Senate Avenue
Indianapolis, IN 46204-2251
Or call (317) 233-1785 (Voice) or (317) 232-6565 (TDD).
Please provide a minimum of 72 hours notification.

(S- 6/23 -3861124)

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115.0 lines 1.0 columns wide equals 115.0 equivalent lines at .356 cents per line $ 40.94

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Charges for extra proofs of publication ($1.00 for each proof in excess of two) $ .00 $ .00

TOTAL AMOUNT OF CLAIM $_____

DATA FOR COMPUTING COST

Width of single column 7.83 ems Size of type 5.7 point

Number of insertions 1.0

$ 40.94

Pursuant to the provisions and penalties of Chapter 155, Acts of 1953,
I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

Karen Mullins
Clerk
Title

DATE: 06/23/2005

80515-3861124

PUBLISHER'S AFFIDAVIT

State of Indiana SS:
MARION County

Personally appeared before me, a notary public in and for said county and state, the undersigned **Karen Mullins** who, being duly sworn, says that SHE is clerk of the INDIANAPOLIS NEWSPAPERS a DAILY STAR newspaper of general circulation printed and published in the English language in the city of INDIANAPOLIS in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for **1** time(s), between the dates of:

06/23/2005 and **06/23/2005**

Karen Mullins
Clerk
Title

Subscribed and sworn to before me on **06/23/2005**

Kimberly R. Hacker
Notary Public

KIMBERLY R. HACKER
Notary Public, State of Indiana
County of Morgan
My Commission Expires May 13, 2010

My commission expires: _____

Form 65-REV 1-88

STATE PRESCRIBED FORMULA

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94 POINTS / 5.7 PT. TYPE - 16.49
16.49 EMS / 250 - .06596 SQUARES
.06596 SQUARES x $5.14 - .339 CENTS PER LINE

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PUBLISHED 2 TIMES= .509
PUBLISHED 3 TIMES= .679
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

Indianapolis Star & News
P.O. Box 145
Indianapolis, Indiana 46204

Phone: 317-444-7163
Fax: 317-444-8806

Date: June 20, 2005

FILE

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Pease print one time, on or before SATURDAY, JUNE 25, 2005, in order for us to satisfy our statutory requirements.

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MAIL TO:
Attn: Karol Chuma, Room N1001
Indiana Department of Environmental Management
100 N. Senate Avenue, Mail Code 61-50
Indianapolis, Indiana 46206

If you have any questions, please call me at 317-233-0426. Thank you.

Sincerely,

Karol T. Chuma
Rules Development Section
Office of Air Quality

Enclosures

For Office Use Only
LEGAL NOTICE OF PUBLIC HEARING Redesignation Petition and Maintenance Plan In Association With The 8 Hour Ozone Standard, For Delaware County Attn: Scott Deloney & Sandra Robinson

TO: ACCOUNTING
IGCN - Room 4345

FROM: KAROL T. CHUMA
IGCN - 1001
RULES SECTION
OFFICE OF AIR QUALITY

DATE: 6-20-05

Note: Please send a copy of the paid publication to [illegible]

The attached invoice for publication of public notice is approved for payment.

ACCOUNT # 3610/140900

SUMMARY OF COMMENTS RECEIVED DURING PUBLIC HEARING

A hearing to receive public comments on the Draft Redesignation Petition and Maintenance Plan in association with the 8-hour ozone standard for Delaware County was held on Monday, June 25, 2005 at 6:00 p.m. in the City Hall, 300 North High Street, Muncie, Indiana.

Attendees at the public hearing included, Marta Moody (Director, Delaware-Muncie Metropolitan Plan Commission), Hugh Smith (Principal Planner, Delaware-Muncie Metropolitan Plan Commission), Sarah Raymond (Environmental Manager, IN Dept of Environmental Management (IDEM)) and Scott Deloney (Section Chief, IN Dept of Environmental Management (IDEM)).

Marta Moody and Hugh Smith posed several questions seeking clarification on statements that were made in reference to the Maintenance Plan. These questions were specifically related to transportation conformity. Sarah Raymond and Scott Deloney provided further clarification to these questions. No formal comments on the 8-hour Ozone Redesignation Petition and Maintenance Plan were made.

STATE OF INDIANA)
) BEFORE THE INDIANA DEPARTMENT
COUNTY OF MARION) OF ENVIRONMENTAL MANAGEMENT

IN THE MATTER OF:)
REDESIGNATION PETITION AND)
MAINTENANCE PLAN)
IN ASSOCIATION WITH THE 8-HOUR)
OZONE STANDARD FOR DELAWARE COUNTY)

The above-captioned hearing was held at City Hall, 300 North High Street, Delaware County, Muncie, Indiana, on July 25, 2005, commencing at 6:00 p.m.

Wm. F. Daniels d/b/a
ACCURATE REPORTING OF INDIANA
12922 Brighton Avenue
Carmel, Indiana 46032
(317)848-0088

A P P E A R A N C E S

HEARING OFFICER FOR THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT:

Ms. Sarah Kay Raymond
Environment Manager
Program Planning & Policy Section
Indiana Department of
Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206

Mr. Scott A. Deloney
Chief
Program Planning & Policy Section
Indiana Department of
Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206

July 25, 2005

6:00 p.m.

HEARING OFFICER RAYMOND: This is a public hearing to accept comments concerning the Draft Redesignation Petition and Maintenance Plan in association with the 8-hour ozone standard for the Muncie Area. This hearing is being held to conform to the provisions in 40 CFR Part 51 regarding public hearings for State Implementation Plan submittals.

My name is Sarah Raymond. I am an Environmental Manager for the Planning and Policy Section of the Indiana Department of Environmental Management's Office of Air Quality. I have been appointed to act as hearing officer for this public hearing.

Notice of the time and place of the hearing was given as provided by law by publication in the following newspapers: The Indianapolis Star in Indianapolis and The Star Press in Muncie. The purpose of this public hearing is to provide interested persons an opportunity to offer comments to the State regarding the Draft Redesignation Petition and Maintenance Plan for the Muncie Area.

Appearance blanks have been distributed in the hearing room for all those desiring to be shown appearing on the record in this cause. If you have

not already filled out the form, please do so and indicate if you are appearing for yourself or on behalf of a group or organization and identify such group or organization. Also, note the capacity in which you appear, such as, attorney, officer, or authorized spokesperson.

Any person who is heard or represented at this hearing or who requests notice may be given written notice of the final action taken on the State Implementation Plan submittal. Please indicate on the appearance card if you wish to receive this notification. When appearance cards have been completed, they should be handed to me and I will include them with the official record of this proceeding.

Oral statements will be heard, but written statements may be handed to me or mailed to the Office of Air Quality on or before the close of business on July 28, 2005. A written transcript of this hearing is being made. The transcript will be open for public inspection and a copy of the transcript will be made available to any person upon payment of the copying cost.

After the conclusion of this public hearing, I will prepare a written report summarizing the comments

received at this hearing and recommending changes which may need to be made to this document. I would like to introduce the following documents into the record: Notice of Public Hearing, which is this, the Draft Redesignation Petition and Maintenance Plan for the Muncie Area.

Finally, I would like to briefly go over the contents of this draft document. In 1997, the United States Environmental Protection Agency established a new, more stringent standard for ozone, referred to as the 8-hour ozone standard. The standard itself was established at 0.08 parts per million measured over an eight-hour period. Within the Guidelines On Data Handling Conventions For The 8-Hour Ozone, National Ambient Air Quality Standard, published by the U.S. EPA in December of 1998. The U.S. EPA established parts per million, ppm, and three significant figures as the basis for computation of 8-hour ozone concentrations.

In accordance with this guidance, three significant digits are used to determine an area's design value and for conducting attainment tests. Specifically, because the third decimal digit is rounded, 0.084 ppm is the largest concentration that is less than or equal to the standard of .08 ppm.

Therefore, an ozone concentration equal to or greater than 0.085 parts per million is considered to be above or in violation of the standard.

Legal challenges to the new standard for ozone resulted in delayed implementation of the standard until February 2001, when the Supreme Court ruled that the U.S. EPA could proceed with implementation of the new standard, providing that the U.S. EPA implementation is consistent with the Clean Air Act. The U.S. EPA's first action in implementing the new standard for ozone was to designate areas throughout the country as attainment, nonattainment, or unclassifiable.

The Muncie Area, specifically Delaware County, was designated nonattainment under the 8-hour ozone standard on April 15, 2004. This designation was based on a monitored design value of 0.088 parts per million. This design value derived from an average of the annual fourth highest ozone values over the previous three years, those being 2001 through 2003. At the conclusion of the 2004 ozone season, the monitor within the Muncie Area measured air quality that meets the ambient air quality standards for ozone.

The most recent design value for the area is

0.083 parts per million, which is based on the average of the annual fourth highest ozone values for the years 2002 through 2004. This design value represents ozone concentrations that are below the National Ambient Air Quality Standard, thus the area is eligible to be redesignated to attainment under the 8-hour ozone standard and classified as maintenance.

The Indiana Department of Environmental Management has prepared the Draft Redesignation Petition and Maintenance Plan for the Muncie Area in accordance with U.S. EPA guidance. The draft petition outlines a demonstration that the area has attained the standard based on monitored concentrations and that the reductions in monitored concentrations are attributable to permanent and enforceable reductions and precursor emissions, specifically reductions of both volatile organic compounds and oxides of nitrogen.

Furthermore, the draft maintenance plan outlines the following: Precursor emissions of volatile organic compounds and oxides of nitrogen will continue to decline into the future. Due to existing and future emission controls, the area's air quality is not projected to worsen and should improve further over time. A commitment for all existing emission

controls to remain in place. A commitment to revise the plan within eight years of redesignation. A commitment to adopt and expeditiously implement necessary corrective actions if a warning or action level response is triggered. A warning level response is triggered by a one-year fourth high monitor value of 0.088 parts per million. An action level response is triggered by a two-year average fourth high monitor value of 0.085 parts per million. A mobile source emissions budget for transportation conformity purposes.

This concludes my comments regarding the Draft Redesignation Petition and Maintenance Plan for the Muncie Area. This hearing is now open for public comment. Are there any public comments?

MS. MOODY: What was the statement that you made concerning revisiting in eight years? Revisit the plan in eight years?

MR. DELONEY: The maintenance plan has a ten-year horizon. Since it was developed in 2005, our horizon currently is 2015. So in 2013, we have to revisit the maintenance plan and extend the horizon for ten years beyond 2015. So 2013, we will be revising this maintenance plan and turning it into a 2025.

MS. MOODY: So when you revise the -- in 2013

when you work on revisions, then will we look again at the VOC and NOX emissions. And, like, I forget what our budget ended up being with the 2015 projection, but we will do a similar thing?

MR. DELONEY: Exactly. Your conformity budget, when we do the eight years from now, will be for the year 2025. It probably will not get approved until 2014, so you will use 2015 and 2025 for budget purposes. But then for 2015 and after, your only budget that will apply will be that 2025.

MS. MOODY: Not that I'm going to be around, but when you start working on it in 2015, our next plan update will be '08. And then '09, '10, '11, '12, '13, '14 -- so when we do a plan update in '14 and we calculate conformity, will you then at that point use figures to plug into the budget?

MR. DELONEY: Exactly. In 2013, we will be doing exactly what we did this year, in coordination with whatever is the most recent plan update at that time, we will coordinate with you. Is 2025 an analysis year right now?

MS. MOODY: Uh-huh.

MR. DELONEY: So we'll just coordinate with you. So when you do 2025 or whatever is your most recent plan update, which will be 2014, the numbers that we

are doing for 2025 work the same. At that time your horizon is going to be 2045. Wow.

MS. MOODY: Right now it's '30, so you add 25 to that or if you go 25, 35 --

MR. DELONEY: Right. If we're talking ten years from now, then it would be at least 2040. Yeah, that's exactly what we'll be doing.

HEARING OFFICER RAYMOND: Plus, right now we use 2002 as the base emission year and every three years, they do that inventory. So in 2013, it will be another base year inventory to use when you guys go into your conformity budgets.

MS. MOODY: Gotcha.

MR. DELONEY: Now, your conformity budgets can change too. You do your next plan update to determine that you're predicting VMT growth and that you don't have the wiggle room that appeared that you had before or if you'd actually do a run and see or something comes along; I-69 results in far more traffic than what you were anticipating or major roadway improvements really change travel flow and impacts emission because of the alteration in speed. We can at that time go and revise your conformity budget. We can go through the exact same process we are going through right now to revise it.

MS. MOODY: Oh, really?

MR. DELONEY: Yeah. Our State Implementation Plan is just like your Transportation Plan. It's only there until it needs to be revised.

MS. MOODY: Until it needs to be amended. But you have mandatory update times, though?

MR. DELONEY: Ours is eight years where yours is three.

MS. MOODY: But any time during that eight years, like you were saying, we could do an amendment if necessary. That's good to know.

MR. SMITH: That's good, because we're fairly a static growth area for right now and we don't know if that will change, and if it does then that will alter things.

MR. DELONEY: Right. And your growth trends are what's assumed in your forecast for the future. So, yeah, if there is some change unexpected that changes things for 2020, '25, any analysis year, we can go back and update the maintenance plan accordingly.

MS. MOODY: Are copies of that available, of the maintenance plan?

HEARING OFFICER RAYMOND: Yes. We have them.

MR. DELONEY: There are three of them.

MS. MOODY: Perfect.

MR. DELONEY: If I'm not mistaken, I believe that one of the appendices is actually your --

HEARING OFFICER RAYMOND: Yeah. It's Appendix G is the conformity plan.

MR. DELONEY: "G," right here (indicating). It's actually a copy of your --

HEARING OFFICER RAYMOND: Transportation plan.

MS. MOODY: Very good.

MR. DELONEY: It's your air quality documentation. Because this documents exactly how the emission estimates are prepared. The raw data associated with VMT and your travel demand model and everything else.

MS. MOODY: So what's the time line, your submitting this to the EPA?

MR. DELONEY: The public comment period closes this Friday at 4:30, so then next week we will be -- obviously, we need written comments. We didn't get any oral or comment forms, so if we receive any comments via the mail, which we hadn't yet by Friday, then next week we would log those comments in, develop formal responses to those, establish the public participation component of the plan, because there is a placeholder in there, then as soon as we have the transcript, we'll be doing a final submittal in two

weeks. So within two weeks, we will be making a final submittal to U.S. EPA.

The Evansville redesignation petition was the first one that we had done and we held our hearing the end of April. We made that submittal on June 2nd. And the publication for notice of approval is September 2nd, and that's the first notice that EPA has written in association with the 8-hour standard. So that one is basically setting the stage, everything else should just click.

MS. MOODY: So from June 2nd to September 2nd, three months, is that a mandatory time or just the time they take?

MR. DELONEY: No, no, no, no. That's for Region 5 U.S. EPA to work with their headquarters since this is the first approval. They don't have a implementation rule or guidance that states how to draft a redesignation petition and maintenance plan under the 8-hour standard yet. So they have to coordinate with their legal counsel as well as headquarter's staff since Region 5 U.S. EPA is actually drafting the federal registered notice. So that's the only reason why it's taking so long to get out of the pipeline.

But for yours, our submittal will be made in no

later than the end of the first week in August, and they will probably -- my guess is by mid-September, publish a Notice of Proposed Action indicating we've reviewed this, it's complete, we're proposing to approve based on the following technical documentation. Then they take comment for 30 days and then they draft the final. So basically their process is just like our process.

MS. MOODY: So possibly November?

MR. DELONEY: My guess is November. Right. Let's see, end of September through October, so, yeah, by the end of November, they should publish a final notice of approval in the federal register and then there will be an effective date. Thirty days from the date of publication, their action is effective. So sometime this December the area would formally be reclassified. They will be designated attainment and classified as maintenance.

HEARING OFFICER RAYMOND: Doesn't the EPA also have another comment period when they do their formal --

MR. DELONEY: The final?

HEARING OFFICER RAYMOND: Yeah.

MR. DELONEY: There is an opportunity to comment, but they can go direct final if they don't --

depending on the level of comment they receive during that draft notice, so if there is anything controversial.

MS. MOODY: I can't imagine why anybody would comment in opposition to it. Well, okay, maybe if it was an environmental group, they might feel like it was premature or the standard budget was too high. I don't know. It seems odd that anybody would argue.

MR. DELONEY: The only adverse comment that we've received with regard to a redesignation petition thus far, is that we should wait to see what happens until the end of this ozone season just to make sure it was due to controls and not ideal weather conditions during last summer. But we already see that 2005 isn't going to pan anything different then what we saw last year. Because, for example, the fourth high value for Delaware County would have to be 100 parts per billion and the highest value ever recorded in Delaware as a fourth high is 95.

So 2002 was the worst ozone that Indiana has seen in decades and even that represents the 95 for Delaware County. And it didn't even approach what the critical value is for what we have to hit for the area to be back in violation of the standard.

MS. MOODY: Oh, good. Because it's, like, I've

wondered about that, not that it makes any difference to us now. But from an air quality standpoint, I've wondered what, you know, like, what we would need to hit. But that's a lot higher than I realized, because I was afraid if we hit, you know, like, .088 or whatever, I'm going oh, gosh.

MR. DELONEY: No. No. The area is in the clear and in the clear soundly. That's not to say if we had two really bad ozone seasons back to back that it wouldn't be in violation again, but it's not going to happen this year. Let's say it happens next year or in 2007 or '08, we are not too concerned about that in the area of being redesignated to nonattainment. Redesignations don't happen, that's what the maintenance plan is for. So what we would do is, we would go in and take a look and see, okay, are there sufficient controls to ensure that this area, this pattern of violations, doesn't continue into the future.

And now we have the technical support through our chemical modeling that shows 2009, 2010, what the projected design values are based on what federally enforceable controls are kicking in. And your projected design values for what represents the attainment deadline now, 2009, is in the low 70s.

So things are only going to get better, not worse.

MS. MOODY: Yeah. That is good. So did I follow that right, once you become a maintenance area, your designated attainment will become a maintenance area?

MR. DELONEY: Right.

MS. MOODY: Did you say you can't be redesignated back to nonattainment?

MR. DELONEY: You can be redesignated to nonattainment, but that process is extremely difficult. What would happen is that there would have to be some sort of SIP failure. The maintenance has a trigger. Sarah had, in the script, read about the warning level trigger and the action level trigger. The redesignation part of this document is more or less a request: Hey, EPA, we've attained a standard based on monitoring data, we're eligible to be redesignated. The maintenance is where we're saying not only has the area attained the standard, it will continue to attain the standard. If any backsliding occurs, the following actions will be taken.

So if, for example, we hit an 88 as a fourth high just in one year, we initiate a study; why did that happen? Is it necessary for us to take further action? Then if we have a two-year average above the standard, then we're really concerned because we're

really on the wrong path. Then we will take a closer look at, okay, is action necessary and, if so, what steps will be taken now. And then what we will do is file a report to EPA, and as long as we're meeting our commitments within the maintenance plan, EPA wouldn't take action to have the area redesignated. And that's where, in our case, we would use our photochemical modeling: Okay, so the area had two really bad years, but look at what's coming down the pike in terms of federal controls. We shouldn't have to implement any additional controls now or have the area redesignated when the projected air quality is well below the standards.

MS. MOODY: How is Indianapolis doing?

MR. DELONEY: Sarah and I were just talking about that as we were waiting for the hearing tonight. Because Indianapolis is in a much different position than most of the areas in the state, by the end of 2005, our portion of the Greater Chicago Area and Indianapolis are probably going to be the only two areas in violation of the ozone standard.

Fort Wayne, South Bend, Elkhart, Goshen, and even our portions of the Louisville Area should come into compliance by the end of this year. Indianapolis and Northwest Indiana are the only two that that is not

going to happen for and it's not going to happen the year after either. Those areas are probably going to have to institute additional controls in order to comply to the standard by their assigned deadline of 2009 and 2010 for Greater Chicago.

So the type of plan that we'll be writing is going to be much different. This is what we're going to do in order to attain the standard, not that we've attained the standard because of the following. The difference if you look at -- right now the difference between the fourth high value for Delaware County and the fourth high value for Indianapolis is 11 parts per billion difference.

In Muncie, the monitor in Delaware County represents the downwind site for Greater Indianapolis, since Madison County is actually part of that Nine-County Area. So it's the closest downwind monitor outside of that Nine-County Region. Then we have two monitors halfway between the Ohio River and the Nine-County Central Indiana Region. One is in Jackson County and one is in Greene County, and those monitors are reading about 11 parts per billion, 11 to 14 parts per billion, different than Indianapolis.

MS. MOODY: Less?

MR. DELONEY: Right now. The fourth high for

2005. Those areas that were projected to benefit from reductions in regional transport, appear to really be benefiting, 2004 represented that, but we had a very mild summer too. 2005, we've had the ozone conducive conditions, but the values have been substantially lower in those areas.

So as we mentioned during our public meeting a year ago, Muncie's ozone values really are attributable to transport more so than local contributions and the components to that transport have been reduced starting last year.

MS. MOODY: Good. That is good. And one of the reasons I asked about Indianapolis was, like you said, obviously there is some wind carryover into our area from Indianapolis. I realize that, and who knows how much. I don't think you can measure that exactly, but there is an impact. So I was just curious how Indianapolis was doing.

MR. DELONEY: Sarah was actually the author to this document and she looked at the Greater Indianapolis Area from a regional perspective, in looking at what does the future hold for us. Just because emissions are reducing in Delaware County, if everything around it doesn't reduce, then air quality in Delaware County doesn't necessarily improve.

So she did look at that Nine-County Central Indiana Region as well as all of the power plants beyond there that could influence monitored values here and still it's only going to get better. But that's not taking into account what Indianapolis is going to have to do to attain the standard, that's just based on what is on the books now. So if they adopt a cleaner motor fuel, for example, it's going to significantly reduce both VOC and NOX. And as a result, air quality is not just going to improve in Central Indiana, you will even see further benefit here.

MS. MOODY: That's encouraging.

MR. DELONEY: That's encouraging all the way around. Any other questions or comments?

MS. MOODY: I can't think of any.

HEARING OFFICER RAYMOND: In the absence of any further comments, these proceedings are hereby concluded. This hearing is adjourned.

7:00 p.m.

STATE OF INDIANA)
)SS:
COUNTY OF HAMILTON)

I, Sherri L. Rutledge, a Notary Public in and for the State of Indiana, do hereby certify that the foregoing hearing was held on July 25, 2005, at City Hall, in Muncie, Indiana.

That said hearing was taken down in stenograph notes and afterwards reduced to typewriting by me; that the typewritten transcript is a true and complete record of the proceedings at the hearing;

I do further certify that I am a disinterested person in this matter, that I am not a relative or attorney of any of the parties, or otherwise interested in the employ of any of the parties.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 15th day of August, 2005.

_____
Sherri L. Rutledge, Notary Public
Residing in Hamilton County, Indiana

My Commission Expires
September 25, 2011

SHERRI L. RUTLEDGE
Printed Signature