

Delaware County Transportation Plan 2009 - 2030

Air Quality Conformity Documentation

Prepared for the
Delaware Muncie Metropolitan Plan Commission

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Table of Contents

| <i>Section</i> | <i>Page</i> |
|--|-------------|
| Table of Contents | i |
| List of Tables | i |
| List of Figures | i |
| Executive Summary | ii |
| Introduction | 1 |
| Federal Conformity Requirements | 2 |
| 2030 Long Range Plan | 4 |
| Travel Demand Model | 5 |
| Model Post-Processing and Mobile 6.2 Input Files | 7 |
| Analysis Results | 10 |
| Appendix – Mobile 6.2 Files | 13-41 |

List of Tables

| <i>Table</i> | <i>Page</i> |
|--|-------------|
| Table ES-1: Interim 2010 Analysis Year Comparison to Baseline | ii |
| Table ES-2: 2015, 2025 & 2030 Analysis Year Comparison to Budget | ii |
| TABLE 1: LONG RANGE PROJECT LIST | 4 |
| TABLE 2: HPMS ADJUSTMENT FACTORS | 7 |
| TABLE 3: TIME OF DAY FACTORS | 8 |
| TABLE 4: BPR CURVE PARAMETERS | 8 |
| TABLE 5: VMT FRACTIONS | 9 |
| TABLE 6: EMISSION ANALYSIS RESULTS | 10 |
| TABLE 7: DETAILED EMISSION ANALYSIS RESULTS - 2002 | 11 |
| TABLE 8: DETAILED EMISSION ANALYSIS RESULTS - 2015 | 11 |
| TABLE 9: DETAILED EMISSION ANALYSIS RESULTS - 2025 | 12 |
| TABLE 10: DETAILED EMISSION ANALYSIS RESULTS - 2030 | 12 |

List of Figures

| <i>Figure</i> | <i>Page</i> |
|---|-------------|
| FIGURE 1: MODELED VEHICLE MILES OF TRAVEL | 6 |
| Figure 2: EMISSION ANALYSIS RESULTS | 10 |

EXECUTIVE SUMMARY

The Air Quality Conformity Determination for the 2009-2030 Delaware-Muncie Transportation Plan was performed in order to meet federal regulations from the Clean Air Act Amendment of 1990 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Delaware County was designated non-attainment for ozone in June, 2004. Delaware County was re-designated from non-attainment to attainment for ozone under the 8-hour standard in January, 2006. Delaware County is considered a maintenance area for conformity purposes with an established budget in the State Implementation Plan (SIP).

The Delaware-Muncie Metropolitan Plan Commission, as the Metropolitan Planning Organization (MPO) for the Delaware County Maintenance Area, must demonstrate that the Transportation Plan will conform to air quality emission budgets for the ozone precursors of volatile organic compounds (VOC's) and nitrogen oxides (NOx) for the year 2015. Air quality conformity for the 2009-2030 Delaware-Muncie Transportation Plan was determined based on the analysis of each of the study years of the Plan (2010, 2015, 2025 & 2030) and it was determined that VOC and NOx emissions would not exceed the 2015 SIP budget if the projects are implemented as set forth in the Plan. The original conformity analysis for Delaware County established the 2002 baseline emissions. The 2010 emission analysis was included to show an interim test that was below the baseline.

The conformity analysis demonstrates that vehicle emissions based on the 2009-2030 Delaware-Muncie Transportation Plan are below the 2002 baseline budget for 2010 and below the 2015 SIP budget for 2015, 2025 and 2030. The 2010 analysis year to 2002 baseline year comparison supports the finding that there are no factors which would cause or contribute to a new violation or exacerbate an existing violation in the years 2006 to 2015. Based on this documentation, the 2009-2030 Delaware-Muncie Transportation Plan conforms to the Clean Air Act as amended and Delaware County meets the conformity requirements of the Clean Air Act as amended.

Table ES-1: Interim 2010 Analysis Year Comparison to Baseline Emissions

| Analysis Year | Total VOC Emissions Tons/Day | 2002 VOC Baseline Tons/Day | Total NOx Emissions Tons/Day | 2002 NOx Baseline Tons/Day |
|---------------|------------------------------|----------------------------|------------------------------|----------------------------|
| 2010 | 3.87 | 8.19 | 6.52 | 13.89 |

Table ES-2: 2015, 2025 and 2030 Analysis Year Comparison to 2015 SIP Budget

| Analysis Year | Total VOC Emissions Tons/Day | 2015 VOC SIP Budget Tons/Day | Total NOx Emissions Tons/Day | 2015 NOx SIP Budget Tons/Day |
|---------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2015 | 3.14 | 3.5 | 4.28 | 4.82 |
| 2025 | 2.16 | 3.5 | 2.26 | 4.82 |
| 2030 | 2.18 | 3.5 | 2.01 | 4.82 |

INTRODUCTION

Delaware County, Indiana was designated as a basic non-attainment area in June 2004 and redesignated a maintenance area in January 2006 for ozone under the 8-hour ozone standard. 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 mobile source 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 2009-2030 Delaware-Muncie Transportation Plan Update 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 NO_x 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, a maintenance area, has an established emissions budget (since 2007) based upon a SIP.

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: 2010 (Base Year and within 5 years of last conformity determination), 2015 (within 10 years of last conformity determination), 2025, and 2030 (the final Transportation Plan horizon year). The VMT was then adjusted using factors that were derived for Base Year (2010) using 2007 estimated VMT's from the Highway Performance Monitoring System (HPMS). Second, a post processing procedure was used to compute average speeds for each FHWA functional classification, 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 NO_x. 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 2010, 2015, 2025, and 2030. The target attainment year under the maintenance plan in the SIP now is 2015, thus this year was included along with 2025 and 2030 in the current analysis.

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 a designated Maintenance Area for Ozone in January 2006. A SIP was developed for this county and a motor vehicle budget is in effect.

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

2015 Model Year Expansion Projects – Construction in 2014 or Sooner

| Gov. | Des # | Project | Location | Type of Work |
|----------------------|--|--|---|---|
| Muncie | 0710092 0501031 | (#3) Morrison Widening (# 5) Everbrook Extension (# 6) Evermore Extension (#49) Morrison Widening | from Jackson St. to Keller Rd. from SR 332 to Bethel Avenue. from Marleon Dr. to Morrison Rd. from Evermore to Bethel Avenue | Center Turn Lane New Road New Road Center Turn Lane |
| Yorktown / Muncie | | (#10) Nebo Rd. Widening2 | from Norfolk S.R.R. to SR 332 | Center Turn Lane |
| Yorktown | | (# 2) Sutherland Extension (# 9) Nebo Road Widening | from Broadway St. to CR 600W from River Road to Norfolk S.R.R. | New Road Center Turn Lane |
| Delaware County | | (#10.5) Nebo Rd. Widen 3 | from SR 332 to Bethel Avenue | Center Turn Lane |
| State | 9700420 9901350 9901360 9700310 9901680 0013780 0013840 0400893 | (#18) I-69 (#19) SR 67 over NSRR (#20) Bypass (US35/SR3,67) (#22) SR 32 Widening (#25) SR 67 Widening (#26) SR 67 at Cowan Road (#27) US 35 at McGalliard (#29) SR 3 Widening | ramps to and from SR 67 Bypass east of Cowan Road Bypass at Centennial Ave. from Nebo Rd. to Andrews to Tiger from Bypass to SR 28 new interchange for Bypass new interchange for Bypass Bypass to SR 28 | Added Lanes (2) Grade Separation Grade Separation Added Lanes (4,3) Center Turn Lane Interchange Interchange Center Turn Lane |

2025 Model Year Expansion Projects – Construction in 2024 or Sooner

| Gov. | Des # | Project | Location | Type of Work |
|---------------------|---------|---|--|--|
| Muncie | 9786020 | (# 1) Barr Extension (# 4&8) Wheeling Widening (# 7) Jackson Widening (#12) Riggin Widening (#16) Morrison Widening | from Princeton Av. to Riggin Rd. from Riverside Ave. to Haines St. from Celia Ave. to White River Blvd. from Wheeling Ave. to Walnut St. from River Rd. to Jackson St. | New Road Center Turn Lane Center Turn Lane Center Turn Lane Center Turn Lane |
| Yorktown /County | 0710090 | (#11) Andrews/500W Exten. (#13) CR 600W Extension | from SR 32 to River Road from SR 32 to River Rd. | New Road/Bridge New Road |

2030 Model Year Expansion Projects – Construction in 2029 or Sooner

| Gov. | Des # | Project | Location | Type of Work |
|--------------------|-------|--|---|-------------------------|
| Yorktown | | (#14) CR 200S Extension (#17) Nebo Widening | from Andrews-500W to CR 600W.from River Rd. to SR 332. | Added Lanes New Road |
| Delaware County | | (#17.5) Nebo Widening | from SR 332 to Bethel Avenue. | Added Lanes |

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 calibration and conversion to TransCAD software as part of the *Western Growth & Arterial Study* which was completed in 2003. This calibration established 2000 as the 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 was capable of producing accurate traffic forecasts out to year 2030.

The Muncie/Delaware County travel demand model was recalibrated by Bernardin, Lochmueller & Associates in 2009 using 2010 as the base year. 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.

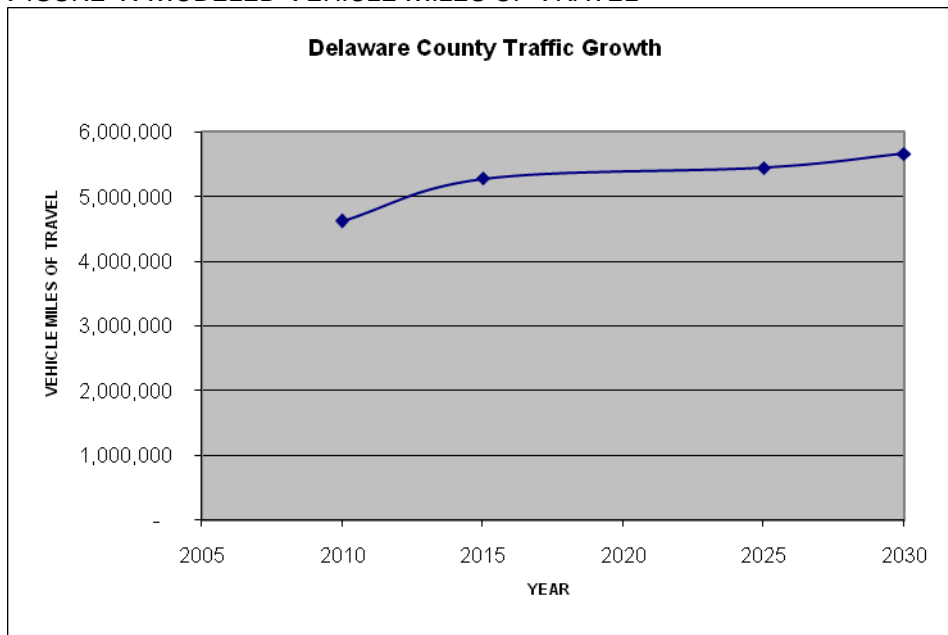
Mode choice is the process used to separate the trips which use transit from those which use automobiles. It is also used to separate the auto drive-alone trips from auto shared-ride trips.

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 |

| Functional Classification | Functional Class Code | HPMS Adjustment Factor |
|---------------------------|-----------------------|------------------------|
| Rural Interstate | 1 | 0.86 |
| Rural Principal Arterial | 2 | 1.26 |
| Rural Minor Arterial | 6 | 0.86 |
| Rural Major Collector | 7 | 5.45 |
| Rural Minor Collector | 8 | 0.94 |
| Rural Local | 9 | 2.68 |
| Urban Interstate | 11 | 3.34 |
| Urban Expressway | 12 | 1.09 |
| Urban Principal Arterial | 14 | 1.03 |
| Urban Minor Arterial | 16 | 1.13 |
| Urban Collector | 17 | 0.52 |
| Urban Local | 19 | 4.98 |

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 on the next page.

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.

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

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

| HPMS Classification | Mobile 6 Classification | Mobile 6 Vehicle Type | | | | | | | | | | | | | | MC | |
|--------------------------------|-------------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | LDV | LDT1 | LDT2 | LDT3 | LDT4 | HDV2B | HDV3 | HDV4 | HDV5 | HDV6 | HDV7 | HDV8A | HDV8B | HDBS | | HDBT |
| 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

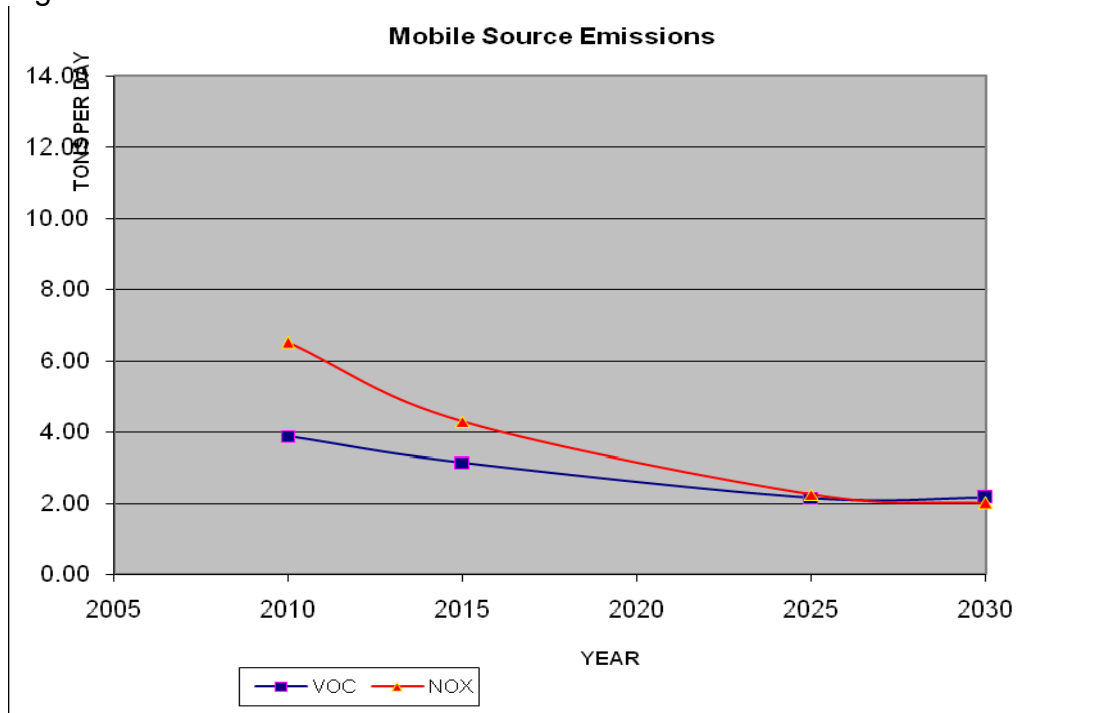
The regional emissions analysis was conducted to provide estimates of the levels of emissions of volatile organic compounds (VOC) and oxides of Nitrogen (NOx) for the various scenarios. VOC and NOx contribute directly to the production of ozone. The revised Indiana State Implementation Plan (SIP) with was approved effective January 2, 2006 with a maintenance plan mobile source emissions budget for VOC and NOx for Delaware County.

The results of the regional emissions analysis are summarized in Tables 6 through 12, and in Figure 2. Table 6 shows that Analysis Year 2010 emissions for VOC and NOx are lower than in 2002 and near the Maintenance Plan Budget, while the analysis years from 2015 on are below the Maintenance Plan Budget. 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 | NOX |
|--------|-----------|----------|----------|
| | | Tons/day | Tons/day |
| 2002 | 4,410,000 | 8.19 | 13.89 |
| Budget | | 3.50 | 4.82 |
| 2010 | 4,626,495 | 3.87 | 6.52 |
| 2015 | 5,283,346 | 3.14 | 4.28 |
| 2025 | 5,448,718 | 2.16 | 2.26 |
| 2030 | 5,663,927 | 2.18 | 2.01 |

Figure 2: EMISSION ANALYSIS RESULTS



TABLES 7-10: DETAILED EMISSION ANALYSIS RESULTS

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

| Functional Class System | Model VMT | Adjusted VMT | Average Speed | VOC Tons/day | NOx Tons/day |
|--------------------------|-----------|--------------|---------------|--------------|--------------|
| Rural Interstate | 707,939 | 615,165 | 69.6 | 0.479 | 1.137 |
| Rural Principal Arterial | 174,249 | 219,554 | 57.9 | 0.173 | 0.353 |
| Rural Minor Arterial | 240,438 | 206,777 | 56.8 | 0.164 | 0.313 |
| Rural Major Collector | 273,643 | 1,491,354 | 47.7 | 1.230 | 1.986 |
| Rural Minor Collector | 41,112 | 38,645 | 43.8 | 0.033 | 0.050 |
| Rural Local | 35,356 | 94,754 | 41.3 | 0.081 | 0.119 |
| Urban Interstate | 26,560 | 113,325 | 64.0 | 0.089 | 0.206 |
| Urban Expressway | 142,878 | 163,770 | 56.4 | 0.131 | 0.267 |
| Urban Principal Arterial | 606,198 | 624,384 | 41.9 | 0.531 | 0.789 |
| Urban Minor Arterial | 546,738 | 617,814 | 34.4 | 0.552 | 0.755 |
| Urban Collector | 147,122 | 76,503 | 31.6 | 0.070 | 0.094 |
| Urban Local | 72,779 | 362,439 | 28.9 | 0.342 | 0.450 |
| Ramp | 22,109 | * | | * | * |
| Forecast 2015 Totals | 3,037,121 | 4,626,495 | | 3.87 | 6.52 |

*Adjusted VMT contains ramp VMT in Interstate and Expressway

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

| Functional Class System | Model VMT | Adjusted VMT | Average Speed | VOC Tons/day | NOx Tons/day |
|--------------------------|-----------|--------------|---------------|--------------|--------------|
| Rural Interstate | 769,351 | 668,500 | 69.5 | 0.374 | 0.688 |
| Rural Principal Arterial | 199,660 | 251,572 | 58.2 | 0.142 | 0.230 |
| Rural Minor Arterial | 294,600 | 253,356 | 56.8 | 0.143 | 0.219 |
| Rural Major Collector | 311,676 | 1,698,634 | 48.2 | 0.994 | 1.318 |
| Rural Minor Collector | 42,609 | 40,052 | 43.8 | 0.024 | 0.030 |
| Rural Local | 39,446 | 105,715 | 41.3 | 0.064 | 0.078 |
| Urban Interstate | 27,824 | 119,569 | 64.0 | 0.067 | 0.121 |
| Urban Expressway | 151,941 | 178,731 | 56.4 | 0.102 | 0.165 |
| Urban Principal Arterial | 720,275 | 741,883 | 42.9 | 0.445 | 0.551 |
| Urban Minor Arterial | 630,475 | 712,437 | 34.9 | 0.448 | 0.510 |
| Urban Collector | 185,605 | 96,515 | 32.6 | 0.062 | 0.069 |
| Urban Local | 50,772 | 414,366 | 29.7 | 0.274 | 0.300 |
| Ramp | 83,206 | * | | * | * |
| Forecast 2015 Totals | 3,484,651 | 5,283,346 | | 3.14 | 4.28 |

*Adjusted vmt contains ramp vmt in Interstate and Expressway

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

| Functional Class System | Model VMT | Adjusted VMT | Average Speed | VOC Tons/day | NOx Tons/day |
|--------------------------|-----------|--------------|---------------|--------------|--------------|
| Rural Interstate | 857,185 | 744,425 | 69.4 | 0.277 | 0.364 |
| Rural Principal Arterial | 204,361 | 257,495 | 57.2 | 0.097 | 0.115 |
| Rural Minor Arterial | 285,739 | 245,736 | 47.4 | 0.092 | 0.107 |
| Rural Major Collector | 322,046 | 1,755,151 | 46.8 | 0.683 | 0.708 |
| Rural Minor Collector | 41,709 | 39,206 | 42.2 | 0.016 | 0.015 |
| Rural Local | 40,244 | 107,854 | 38.2 | 0.044 | 0.042 |
| Urban Interstate | 31,794 | 134,331 | 54.5 | 0.050 | 0.065 |
| Urban Expressway | 152,479 | 180,057 | 55.1 | 0.068 | 0.081 |
| Urban Principal Arterial | 721,872 | 743,528 | 31.2 | 0.298 | 0.289 |
| Urban Minor Arterial | 646,160 | 730,161 | 27.4 | 0.309 | 0.275 |
| Urban Collector | 194,368 | 101,071 | 28.1 | 0.044 | 0.038 |
| Urban Local | 81,863 | 407,678 | 28.5 | 0.184 | 0.157 |
| Ramp | 29,561 | * | | * | * |
| Forecast 2015 Totals | 3,609,382 | 5,448,718 | | 2.16 | 2.26 |

*Adjusted vmt contains ramp vmt in Interstate and Expressway

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

| Functional Class System | Model VMT | Adjusted VMT | Average Speed | VOC Tons/day | NOx Tons/day |
|--------------------------|-----------|--------------|---------------|--------------|--------------|
| Rural Interstate | 905,011 | 785,880 | 69.3 | 0.283 | 0.321 |
| Rural Principal Arterial | 213,168 | 268,592 | 57.8 | 0.097 | 0.102 |
| Rural Minor Arterial | 295,761 | 254,354 | 45.9 | 0.093 | 0.095 |
| Rural Major Collector | 331,711 | 1,807,825 | 45.9 | 0.682 | 0.630 |
| Rural Minor Collector | 42,555 | 40,002 | 42.1 | 0.015 | 0.014 |
| Rural Local | 42,102 | 112,833 | 38.3 | 0.044 | 0.038 |
| Urban Interstate | 33,570 | 141,525 | 54.3 | 0.052 | 0.058 |
| Urban Expressway | 157,527 | 186,181 | 55.1 | 0.069 | 0.071 |
| Urban Principal Arterial | 746,281 | 768,669 | 29.9 | 0.299 | 0.259 |
| Urban Minor Arterial | 674,569 | 762,263 | 26.8 | 0.313 | 0.250 |
| Urban Collector | 201,184 | 104,616 | 27.7 | 0.044 | 0.034 |
| Urban Local | 86,176 | 429,156 | 28.3 | 0.186 | 0.142 |
| Ramp | 30,887 | * | | * | * |
| Forecast 2015 Totals | 4,094,628 | 5,663,927 | | 2.18 | 2.01 |

*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. The historic trends for Delaware County in recent decades include: decreased manufacturing including the recent closing of a major GM factory, slow population growth, and active local environmental groups. An ethanol plant is planned in the Shideler area, but its emissions would have a minor impact. There are no known factors that would cause or seriously contribute to an air quality violation

from now in 2007 to the year 2015. 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 SIXTEEN (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 BUSESSES
* 15 HDBT TRANSIT AND URBAN BUSESSES
* 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

```

2010 SCENARIO FILES – MOBILE 6.2 INPUT FILE

```

MOBILE6 INPUT FILE :
DATABASE AGES      : 5, 1
POLLUTANTS        : HC NOX
DATABASE OUTPUT    :
DATABASE OPTIONS   : C:\PROGRA~1\TRANSC~3\Muncie10.d
EMISSIONS TABLE  : C:\PROGRA~1\TRANSC~3\Muncie10.tb1

```

RUN DATA

MIN/MAX TEMP : 64.0 84.9
 ABSOLUTE HUMIDITY : 93.7
 CLOUD COVER : 0.34
 SUNRISE/SUNSET : 6 9
 FUEL RVP : 9.0
 SEASON : 1

SCENARIO REC : 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

SCENARIO REC : Scenario 2: Rural OPA (M6 Non-Ramp)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 57.9 NON-RAMP

SCENARIO REC : Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 56.8 ARTERIAL

SCENARIO REC : Scenario 4: Rural Major Collector (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 47.7 ARTERIAL

SCENARIO REC : Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 43.8 ARTERIAL

SCENARIO REC : Scenario 6: Rural Local (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 41.3 ARTERIAL

SCENARIO REC : Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 64.0 FREEWAY 92.0 0.0 0.0 8.0

SCENARIO REC : Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 56.4 FREEWAY 92.0 0.0 0.0 8.0

SCENARIO REC : Scenario 9: Urban OPA (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 41.9 ARTERIAL

SCENARIO REC : Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 34.4 ARTERIAL

SCENARIO REC : Scenario 11: Urban Collector (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 31.6 ARTERIAL

SCENARIO REC : Scenario 12: Urban Local (M6 Arterial/Collector)
 CALENDAR YEAR : 2010
 EVALUATION MONTH : 7
 AVERAGE SPEED : 28.9 ARTERIAL
 END OF RUN :

2010 SCENARIO FILES – MOBILE 6.2 OUTPUT FILE

```

*****
* MOBILE6.2.03 (24-Sep-2003) *
* Input file: C:\PROGRA~1\TRANSCAD\~X4H1.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 6 AM, Sunset at 9 PM.

# # # # #
* 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.
    
```

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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 | LDLT | HDDV | MC | All Veh |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|
| GVWR: | | <6000 | >6000 | (All) | | | | | | |
| VMT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.613 | 0.691 | 1.186 | 0.818 | 0.837 | 0.138 | 0.338 | 0.253 | 2.44 | 0.706 |
| Composite NOX : | 0.543 | 0.699 | 1.057 | 0.790 | 2.689 | 0.658 | 1.147 | 11.251 | 1.59 | 1.677 |

```

* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* 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.
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 | LDLT | HDDV | MC | All Veh |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|
| GVWR: | | <6000 | >6000 | (All) | | | | | | |
| VMT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.625 | 0.702 | 1.210 | 0.832 | 0.843 | 0.138 | 0.337 | 0.252 | 2.04 | 0.716 |
| Composite NOX : | 0.529 | 0.680 | 1.033 | 0.770 | 2.586 | 0.515 | 0.897 | 8.975 | 1.43 | 1.460 |

```

* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
M583 Warning: The user supplied arterial average speed of 56.8 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.
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

```

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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

| Vehicle Type: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.627 | 0.705 | 1.216 | 0.835 | 0.847 | 0.138 | 0.338 | 0.253 | 1.98 | 0.718 |
| Composite NOX : | 0.527 | 0.677 | 1.029 | 0.767 | 2.567 | 0.497 | 0.866 | 8.021 | 1.40 | 1.375 |

* # # # # #
* Scenario 4: Rural Major Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 4.
* # # # # #
M583 Warning: The user supplied arterial average speed of 47.7 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.
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: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.657 | 0.730 | 1.269 | 0.868 | 0.890 | 0.145 | 0.354 | 0.275 | 1.87 | 0.748 |
| Composite NOX : | 0.510 | 0.655 | 1.003 | 0.744 | 2.412 | 0.394 | 0.686 | 6.365 | 1.19 | 1.208 |

* # # # # #
* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 5.
* # # # # #
M583 Warning: The user supplied arterial average speed of 43.8 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.
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

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: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |

| Composite Emission Factors (g/mi): | | | | | | | | | | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|------|-------|
| Composite VOC : | 0.622 | 0.698 | 1.199 | 0.826 | 0.846 | 0.140 | 0.341 | 0.258 | 2.42 | 0.714 |
| Composite NOX : | 0.545 | 0.701 | 1.062 | 0.793 | 2.664 | 0.642 | 1.118 | 10.942 | 1.57 | 1.651 |

* * * * *
 * Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
 * File 1, Run 1, Scenario 8.
 * * * * *

M582 Warning:
 The user supplied freeway average speed of 56.4 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.

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: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |

| Composite Emission Factors (g/mi): | | | | | | | | | | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.632 | 0.708 | 1.221 | 0.839 | 0.853 | 0.140 | 0.341 | 0.258 | 2.13 | 0.724 |
| Composite NOX : | 0.536 | 0.688 | 1.046 | 0.780 | 2.580 | 0.527 | 0.918 | 9.090 | 1.44 | 1.478 |

* * * * *
 * Scenario 9: Urban OPA (M6 Arterial/Collector)
 * File 1, Run 1, Scenario 9.
 * * * * *

M583 Warning:
 The user supplied arterial average speed of 41.9 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.

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 | LDLT | HDDV | MC | All Veh |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|
| GVWR: | <6000 | >6000 | (All) | | | | | | | |
| VT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.679 | 0.748 | 1.304 | 0.890 | 0.933 | 0.152 | 0.372 | 0.300 | 1.91 | 0.772 |
| Composite NOX : | 0.500 | 0.641 | 0.987 | 0.730 | 2.314 | 0.361 | 0.628 | 5.829 | 1.13 | 1.147 |

* * * * *
 * Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
 * File 1, Run 1, Scenario 10.
 * * * * *
 M583 Warning:
 The user supplied arterial average speed of 34.4 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.

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 | LDLT | HDDV | MC | All Veh |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|
| GVWR: | <6000 | >6000 | (All) | | | | | | | |
| VT Distribution: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.714 | 0.775 | 1.357 | 0.924 | 1.015 | 0.168 | 0.410 | 0.352 | 2.03 | 0.810 |
| Composite NOX : | 0.492 | 0.629 | 0.975 | 0.717 | 2.185 | 0.344 | 0.599 | 5.554 | 1.09 | 1.109 |

* * * * *
 * Scenario 11: Urban Collector (M6 Arterial/Collector)
 * File 1, Run 1, Scenario 11.
 * * * * *
 M583 Warning:
 The user supplied arterial average speed of 31.6 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.

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

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |

Composite Emission Factors (g/mi):

| | | | | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.734 | 0.793 | 1.390 | 0.945 | 1.058 | 0.176 | 0.430 | 0.379 | 2.09 | 0.832 |
| Composite NOX : | 0.499 | 0.635 | 0.982 | 0.723 | 2.138 | 0.345 | 0.601 | 5.581 | 1.07 | 1.115 |

* * * * *

* Scenario 12: Urban Local (M6 Arterial/Collector)

* File 1, Run 1, Scenario 12.

* * * * *

M583 Warning:

The user supplied arterial average speed of 28.9
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.

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: | 0.3478 | 0.3890 | 0.1336 | | 0.0359 | 0.0003 | 0.0020 | 0.0860 | 0.0054 | 1.0000 |

Composite Emission Factors (g/mi):

| | | | | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.755 | 0.812 | 1.424 | 0.969 | 1.108 | 0.185 | 0.452 | 0.409 | 2.17 | 0.856 |
| Composite NOX : | 0.508 | 0.643 | 0.994 | 0.733 | 2.092 | 0.349 | 0.608 | 5.644 | 1.04 | 1.127 |

2015 SCENARIO FILES – MOBILE 6.2 INPUT FILE

MOBILE6 INPUT FILE :
DATABASE AGES : 5, 1
POLLUTANTS : HC NOX
DATABASE OUTPUT :
DATABASE OPTIONS : C:\PROGRA~1\TRANSC~3\Muncie15.d
EMISSIONS TABLE : C:\PROGRA~1\TRANSC~3\Muncie15.tb1

RUN DATA
MIN/MAX TEMP : 64.0 84.9
ABSOLUTE HUMIDITY : 93.7
CLOUD COVER : 0.34
SUNRISE/SUNSET : 6 9
FUEL RVP : 9.0
SEASON : 1

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

* 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.

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: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |

Composite Emission Factors (g/mi):

| | | | | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.397 | 0.496 | 0.878 | 0.594 | 0.569 | 0.075 | 0.234 | 0.193 | 2.44 | 0.507 |
| Composite NOX : | 0.344 | 0.456 | 0.796 | 0.543 | 1.310 | 0.241 | 0.662 | 5.357 | 1.59 | 0.933 |

* #####

* Scenario 2: Rural OPA (M6 Non-Ramp)

* File 1, Run 1, Scenario 2.

* #####

M581 Warning: The user supplied freeway average speed of 58.2 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.

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: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |

Composite Emission Factors (g/mi):

| | | | | | | | | | | |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.402 | 0.502 | 0.893 | 0.602 | 0.572 | 0.075 | 0.234 | 0.192 | 2.06 | 0.512 |
| Composite NOX : | 0.335 | 0.445 | 0.778 | 0.530 | 1.262 | 0.191 | 0.523 | 4.313 | 1.43 | 0.830 |

* #####

* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)

* File 1, Run 1, Scenario 3.

* #####

M583 Warning: The user supplied arterial average speed of 56.8 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.

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

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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

| Vehicle Type: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.404 | 0.504 | 0.897 | 0.604 | 0.575 | 0.075 | 0.234 | 0.193 | 1.98 | 0.513 |
| Composite NOX : | 0.334 | 0.442 | 0.775 | 0.528 | 1.251 | 0.182 | 0.500 | 3.828 | 1.40 | 0.785 |
| ----- | | | | | | | | | | |

* # # # # #

* Scenario 4: Rural Major Collector (M6 Arterial/Collector)

* File 1, Run 1, Scenario 4.

* # # # # #

M583 Warning: The user supplied arterial average speed of 48.2 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.

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: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.420 | 0.518 | 0.929 | 0.623 | 0.600 | 0.079 | 0.244 | 0.208 | 1.87 | 0.531 |
| Composite NOX : | 0.324 | 0.429 | 0.757 | 0.513 | 1.179 | 0.146 | 0.401 | 3.069 | 1.19 | 0.704 |
| ----- | | | | | | | | | | |

* # # # # #

* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)

* File 1, Run 1, Scenario 5.

* # # # # #

M583 Warning:
The user supplied arterial average speed of 43.8 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.

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 |
|---------------|------|--------|--------|------|------|------|------|------|----|---------|
|---------------|------|--------|--------|------|------|------|------|------|----|---------|

Delaware County 2030 Transportation Plan Air Quality Conformity Documentation

| GVWR: | <6000 | >6000 | (All) | | | | | | | |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| VMT Distribution: | 0.3031 | 0.4218 | 0.1449 | ----- | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.431 | 0.527 | 0.946 | 0.634 | 0.619 | 0.082 | 0.252 | 0.222 | 1.89 | 0.542 |
| Composite NOX : | 0.319 | 0.422 | 0.748 | 0.505 | 1.143 | 0.135 | 0.372 | 2.848 | 1.14 | 0.678 |
| ----- | | | | | | | | | | |

* * * * *

* Scenario 6: Rural Local (M6 Arterial/Collector)

* File 1, Run 1, Scenario 6.

* * * * *

M583 Warning: The user supplied arterial average speed of 41.3 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.

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) | ----- | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| VMT Distribution: | 0.3031 | 0.4218 | 0.1449 | ----- | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.437 | 0.532 | 0.956 | 0.640 | 0.633 | 0.084 | 0.259 | 0.232 | 1.92 | 0.549 |
| Composite NOX : | 0.316 | 0.418 | 0.743 | 0.501 | 1.122 | 0.132 | 0.361 | 2.767 | 1.13 | 0.667 |
| ----- | | | | | | | | | | |

* * * * *

* Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)

* File 1, Run 1, Scenario 7.

* * * * *

M515 Warning: The combined freeway and ramp average speed entered cannot be greater than 60.7 miles per hour. The average speed will be reset to this value.

M582 Warning: The user supplied freeway average speed of 60.7 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.

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 |
|---------------|------|--------|--------|------|------|------|------|------|----|---------|
|---------------|------|--------|--------|------|------|------|------|------|----|---------|

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

| GVWR: | <6000 | >6000 | (All) | | | | | | | |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| VMT Distribution: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.402 | 0.501 | 0.887 | 0.599 | 0.574 | 0.076 | 0.237 | 0.197 | 2.42 | 0.512 |
| Composite NOX : | 0.345 | 0.457 | 0.799 | 0.545 | 1.298 | 0.235 | 0.646 | 5.209 | 1.57 | 0.921 |

* * * * *

* Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)

* File 1, Run 1, Scenario 8.

* * * * *

M582 Warning: The user supplied freeway average speed of 56.4 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.

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: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.408 | 0.506 | 0.901 | 0.607 | 0.578 | 0.076 | 0.237 | 0.197 | 2.13 | 0.517 |
| Composite NOX : | 0.339 | 0.449 | 0.788 | 0.536 | 1.257 | 0.193 | 0.530 | 4.330 | 1.44 | 0.835 |

* * * * *

* Scenario 9: Urban OPA (M6 Arterial/Collector)

* File 1, Run 1, Scenario 9.

* * * * *

M583 Warning: The user supplied arterial average speed of 42.9 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.

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: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

```
Composite Emission Factors (g/mi):
Composite VOC :    0.433    0.528    0.950    0.636    0.624    0.082    0.255    0.226    1.90    0.544
Composite NOX :    0.318    0.421    0.746    0.504    1.135    0.134    0.368    2.820    1.14    0.674
-----
```

```
* * * * *
* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.
* * * * *
```

```
M583 Warning:
    The user supplied arterial average speed of 34.9
    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.
```

```
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: | 0.3031 | 0.4218 | 0.1449 | | 0.0360 | 0.0003 | 0.0021 | 0.0866 | 0.0053 | 1.0000 |

```
-----
Composite Emission Factors (g/mi):
Composite VOC :    0.456    0.546    0.985    0.658    0.677    0.091    0.280    0.266    2.02    0.570
Composite NOX :    0.312    0.411    0.734    0.494    1.068    0.126    0.347    2.655    1.10    0.649
-----
```

```
* * * * *
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.
* * * * *
```

```
M583 Warning:
    The user supplied arterial average speed of 32.6
    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.
```

```
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
```


Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | | | | | | | | | | |
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.265 | 0.338 | 0.513 | 0.383 | 0.306 | 0.038 | 0.119 | 0.161 | 2.44 | 0.338 |
| Composite NOX : | 0.218 | 0.325 | 0.540 | 0.380 | 0.405 | 0.050 | 0.288 | 1.534 | 1.59 | 0.443 |
| ----- | | | | | | | | | | |

* * * * *
 * 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.
 M 48 Warning: there are no sales for vehicle class HDGV8b
 M 48 Warning: there are no sales for vehicle class LDDT12

Calendar Year: 2025
 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 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | | | | | | | | | | |
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.269 | 0.342 | 0.522 | 0.388 | 0.308 | 0.037 | 0.119 | 0.160 | 2.04 | 0.340 |
| Composite NOX : | 0.213 | 0.315 | 0.527 | 0.369 | 0.390 | 0.039 | 0.226 | 1.202 | 1.43 | 0.404 |
| ----- | | | | | | | | | | |

* * * * *
 * Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
 * File 1, Run 1, Scenario 3.
 * * * * *

M583 Warning: The user supplied arterial average speed of 56.8 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.
 M 48 Warning: there are no sales for vehicle class HDGV8b
 M 48 Warning: there are no sales for vehicle class LDDT12

Calendar Year: 2025
 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 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|-------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | | | | | | | | | | |
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

* * * * *
 * Scenario 6: Rural Local (M6 Arterial/Collector)
 * File 1, Run 1, Scenario 6.
 * * * * *

M583 Warning:
 The user supplied arterial average speed of 41.0
 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.

M 48 Warning:
 there are no sales for vehicle class HDGV8b

M 48 Warning:
 there are no sales for vehicle class LDDT12

Calendar Year: 2025
 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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |

| Composite Emission Factors (g/mi): | | | | | | | | | | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.298 | 0.365 | 0.561 | 0.415 | 0.350 | 0.042 | 0.133 | 0.194 | 1.92 | 0.368 |
| Composite NOX : | 0.202 | 0.295 | 0.499 | 0.347 | 0.346 | 0.027 | 0.156 | 0.799 | 1.13 | 0.350 |

* * * * *
 * Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
 * File 1, Run 1, Scenario 7.
 * * * * *

M515 Warning:
 The combined freeway and ramp average speed entered
 cannot be greater than 60.7 miles per hour.
 The average speed will be reset to this value.

M582 Warning:
 The user supplied freeway average speed of 60.7
 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.

M 48 Warning:
 there are no sales for vehicle class HDGV8b

M 48 Warning:
 there are no sales for vehicle class LDDT12

Calendar Year: 2025
 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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |

| Composite Emission Factors (g/mi): | | | | | | | | | | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Composite VOC : | 0.269 | 0.342 | 0.519 | 0.387 | 0.309 | 0.038 | 0.121 | 0.164 | 2.42 | 0.341 |
| Composite NOX : | 0.219 | 0.325 | 0.543 | 0.381 | 0.401 | 0.049 | 0.281 | 1.494 | 1.57 | 0.440 |

Delaware County 2030 Transportation Plan Air Quality Conformity Documentation

* * * * *

* Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)

* File 1, Run 1, Scenario 8.

* * * * *

M582 Warning:

The user supplied freeway average speed of 56.4 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.

M 48 Warning:

there are no sales for vehicle class HDGV8b

M 48 Warning:

there are no sales for vehicle class LDDT12

Calendar Year: 2025
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.273 | 0.346 | 0.527 | 0.392 | 0.312 | 0.038 | 0.121 | 0.164 | 2.13 | 0.344 |
| Composite NOX : | 0.215 | 0.319 | 0.534 | 0.374 | 0.389 | 0.040 | 0.231 | 1.226 | 1.44 | 0.410 |

* * * * *

* Scenario 9: Urban OPA (M6 Arterial/Collector)

* File 1, Run 1, Scenario 9.

* * * * *

M583 Warning:

The user supplied arterial average speed of 42.7 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.

M 48 Warning:

there are no sales for vehicle class HDGV8b

M 48 Warning:

there are no sales for vehicle class LDDT12

Calendar Year: 2025
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.294 | 0.363 | 0.557 | 0.412 | 0.343 | 0.041 | 0.130 | 0.188 | 1.90 | 0.364 |
| Composite NOX : | 0.203 | 0.297 | 0.502 | 0.349 | 0.351 | 0.028 | 0.160 | 0.817 | 1.14 | 0.353 |

* * * * *

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.

* #####

M583 Warning:
The user supplied arterial average speed of 34.9
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.

M 48 Warning:
there are no sales for vehicle class HDGV8b

M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year: 2025
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.313 | 0.376 | 0.579 | 0.428 | 0.378 | 0.046 | 0.143 | 0.221 | 2.02 | 0.384 |
| Composite NOX : | 0.199 | 0.290 | 0.492 | 0.341 | 0.330 | 0.026 | 0.151 | 0.768 | 1.10 | 0.342 |
| ----- | | | | | | | | | | |

* #####
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.

* #####

M583 Warning:
The user supplied arterial average speed of 33.0
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.

M 48 Warning:
there are no sales for vehicle class HDGV8b

M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year: 2025
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.320 | 0.382 | 0.588 | 0.435 | 0.389 | 0.047 | 0.148 | 0.232 | 2.06 | 0.391 |
| Composite NOX : | 0.201 | 0.291 | 0.495 | 0.343 | 0.326 | 0.026 | 0.151 | 0.771 | 1.08 | 0.344 |
| ----- | | | | | | | | | | |

* #####

* Scenario 12: Urban Local (M6 Arterial/Collector)

* File 1, Run 1, Scenario 12.

* #####

M583 Warning:
The user supplied arterial average speed of 28.9
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.

M 48 Warning:
there are no sales for vehicle class HDGV8b

M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year: 2025
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.337 | 0.398 | 0.611 | 0.452 | 0.417 | 0.051 | 0.159 | 0.260 | 2.17 | 0.410 |
| Composite NOX : | 0.206 | 0.297 | 0.503 | 0.350 | 0.315 | 0.027 | 0.153 | 0.782 | 1.04 | 0.349 |
| ----- | | | | | | | | | | |

2030 SCENARIO FILES – MOBILE 6.2 INPUT FILE

MOBILE6 INPUT FILE :
 DATABASE AGES : 5, 1
 POLLUTANTS : HC NOX
 DATABASE OUTPUT :
 DATABASE OPTIONS : C:\PROGRA~1\TRANSC~3\Muncie30.d
 EMISSIONS TABLE : C:\PROGRA~1\TRANSC~3\Muncie30.tb1

RUN DATA
 MIN/MAX TEMP : 64.0 84.9
 ABSOLUTE HUMIDITY : 93.7
 CLOUD COVER : 0.34
 SUNRISE/SUNSET : 6 9
 FUEL RVP : 9.0
 SEASON : 1

SCENARIO REC : Scenario 1: Rural Interstate (M6 Freeway/Freeway Ramp)
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 7
 AVERAGE SPEED : 69.6 FREEWAY 97.0 0.0 0.0 3.0

SCENARIO REC : Scenario 2: Rural OPA (M6 Non-Ramp)
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 7
 AVERAGE SPEED : 58.0 NON-RAMP

SCENARIO REC : Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 7
 AVERAGE SPEED : 56.8 ARTERIAL

SCENARIO REC : Scenario 4: Rural Major Collector (M6 Arterial/Collector)
 CALENDAR YEAR : 2030
 EVALUATION MONTH : 7
 AVERAGE SPEED : 48.5 ARTERIAL

SCENARIO REC : Scenario 5: Rural Minor Collector (M6 Arterial/Collector)

```

CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 43.9 ARTERIAL

SCENARIO REC       : Scenario 6: Rural Local (M6 Arterial/Collector)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 41.1 ARTERIAL

SCENARIO REC       : Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 64.0 FREEWAY 92.0 0.0 0.0 8.0

SCENARIO REC       : Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 56.4 FREEWAY 92.0 0.0 0.0 8.0

SCENARIO REC       : Scenario 9: Urban OPA (M6 Arterial/Collector)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 42.7 ARTERIAL

SCENARIO REC       : Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 34.9 ARTERIAL

SCENARIO REC       : Scenario 11: Urban Collector (M6 Arterial/Collector)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 33.1 ARTERIAL

SCENARIO REC       : Scenario 12: Urban Local (M6 Arterial/Collector)
CALENDAR YEAR      : 2030
EVALUATION MONTH  : 7
AVERAGE SPEED     : 29.9 ARTERIAL

END OF RUN        :
    
```

2030 SCENARIO FILES – MOBILE 6.2 OUTPUT FILE

```

*****
* MOBILE6.2.03 (24-Sep-2003) *
* Input file: C:\PROGRA-1\TRANSCAD\~X4H5.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 6 AM, Sunset at 9 PM.

# # # # #
* 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.
M 48 Warning: there are no sales for vehicle class HDGV8b
M 48 Warning: there are no sales for vehicle class LDDT12

Calendar Year: 2030
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)
    
```

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

| | | | | | | | | | | |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.262 | 0.335 | 0.467 | 0.369 | 0.283 | 0.036 | 0.085 | 0.155 | 2.44 | 0.327 |
| Composite NOX : | 0.211 | 0.314 | 0.466 | 0.353 | 0.223 | 0.045 | 0.204 | 0.994 | 1.59 | 0.371 |
| ----- | | | | | | | | | | |

```
* #####
* Scenario 2: Rural OPA (M6 Non-Ramp)
* File 1, Run 1, Scenario 2.
* #####
M581 Warning: The user supplied freeway average speed of 58.0 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.
M 48 Warning: there are no sales for vehicle class HDGV8b
M 48 Warning: there are no sales for vehicle class LDDT12
```

```
Calendar Year: 2030
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.266 | 0.339 | 0.475 | 0.374 | 0.286 | 0.036 | 0.085 | 0.154 | 2.05 | 0.329 |
| Composite NOX : | 0.206 | 0.305 | 0.454 | 0.343 | 0.215 | 0.035 | 0.160 | 0.775 | 1.43 | 0.343 |
| ----- | | | | | | | | | | |

```
* #####
* Scenario 3: Rural Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 3.
* #####
M583 Warning:
The user supplied arterial average speed of 56.8
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.
M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12
```

```
Calendar Year: 2030
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.268 | 0.341 | 0.477 | 0.376 | 0.288 | 0.036 | 0.085 | 0.155 | 1.98 | 0.330 |
| Composite NOX : | 0.205 | 0.303 | 0.452 | 0.341 | 0.213 | 0.034 | 0.154 | 0.744 | 1.40 | 0.339 |
| ----- | | | | | | | | | | |

```
* #####
* Scenario 4: Rural Major Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 4.
* #####
```

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

M583 Warning: The user supplied arterial average speed of 48.5 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.
M 48 Warning: there are no sales for vehicle class HDGV8b
M 48 Warning: there are no sales for vehicle class LDDT12

```

Calendar Year: 2030
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.280 | 0.351 | 0.494 | 0.388 | 0.303 | 0.038 | 0.089 | 0.167 | 1.87 | 0.342 |
| Composite NOX : | 0.200 | 0.293 | 0.439 | 0.331 | 0.201 | 0.027 | 0.124 | 0.594 | 1.20 | 0.316 |
| ----- | | | | | | | | | | |

* * * * *
* Scenario 5: Rural Minor Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 5.
* * * * *

M583 Warning:
The user supplied arterial average speed of 43.9 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.
M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12

```

Calendar Year: 2030
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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.289 | 0.358 | 0.505 | 0.395 | 0.316 | 0.039 | 0.093 | 0.178 | 1.89 | 0.351 |
| Composite NOX : | 0.197 | 0.288 | 0.432 | 0.325 | 0.195 | 0.025 | 0.114 | 0.546 | 1.14 | 0.307 |
| ----- | | | | | | | | | | |

* * * * *
* Scenario 6: Rural Local (M6 Arterial/Collector)
* File 1, Run 1, Scenario 6.
* * * * *

M583 Warning: The user supplied arterial average speed of 41.1 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.
M 48 Warning: there are no sales for vehicle class HDGV8b
M 48 Warning: there are no sales for vehicle class LDDT12

```

Calendar Year: 2030
Month: July
Altitude: Low
Minimum Temperature: 64.0 (F)
Maximum Temperature: 84.9 (F)
    
```


Delaware County 2030 Transportation Plan Air Quality Conformity Documentation

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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.295 | 0.362 | 0.512 | 0.400 | 0.325 | 0.040 | 0.096 | 0.187 | 1.92 | 0.357 |
| Composite NOX : | 0.195 | 0.285 | 0.427 | 0.321 | 0.191 | 0.024 | 0.110 | 0.528 | 1.13 | 0.303 |

* * * * *
 * Scenario 7: Urban Interstate (M6 Freeway/Freeway Ramp)
 * File 1, Run 1, Scenario 7.

* * * * *
 M515 Warning:
 The combined freeway and ramp average speed entered
 cannot be greater than 60.7 miles per hour.
 The average speed will be reset to this value.
 M582 Warning:
 The user supplied freeway average speed of 60.7
 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.
 M 48 Warning:
 there are no sales for vehicle class HDGV8b
 M 48 Warning:
 there are no sales for vehicle class LDDT12

Calendar Year: 2030
 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: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.265 | 0.339 | 0.472 | 0.373 | 0.287 | 0.036 | 0.086 | 0.158 | 2.42 | 0.331 |
| Composite NOX : | 0.212 | 0.314 | 0.469 | 0.354 | 0.221 | 0.043 | 0.199 | 0.969 | 1.57 | 0.369 |

* * * * *
 * Scenario 8: Urban Freeway/Expressway (M6 Freeway/Freeway Ramp)
 * File 1, Run 1, Scenario 8.
 * * * * *
 M582 Warning:
 The user supplied freeway average speed of 56.4
 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.

M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year: 2030
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) | | | | | | |
| VTM Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.270 | 0.343 | 0.480 | 0.378 | 0.290 | 0.036 | 0.086 | 0.158 | 2.13 | 0.334 |
| Composite NOX : | 0.209 | 0.309 | 0.461 | 0.347 | 0.214 | 0.036 | 0.163 | 0.791 | 1.44 | 0.348 |
| ----- | | | | | | | | | | |

* # # # # #
* Scenario 9: Urban OPA (M6 Arterial/Collector)
* File 1, Run 1, Scenario 9.
* # # # # #
M583 Warning:
The user supplied arterial average speed of 42.7
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.

M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year: 2030
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) | | | | | | |
| VTM Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.291 | 0.360 | 0.508 | 0.397 | 0.320 | 0.040 | 0.094 | 0.182 | 1.90 | 0.353 |
| Composite NOX : | 0.196 | 0.287 | 0.430 | 0.323 | 0.193 | 0.025 | 0.112 | 0.539 | 1.14 | 0.306 |
| ----- | | | | | | | | | | |

* # # # # #
* Scenario 10: Urban Minor Arterial (M6 Arterial/Collector)
* File 1, Run 1, Scenario 10.
* # # # # #
M583 Warning:
The user supplied arterial average speed of 34.9
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.

M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12

```

Calendar Year: 2030
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: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HGCV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.310 | 0.373 | 0.528 | 0.413 | 0.352 | 0.044 | 0.105 | 0.213 | 2.02 | 0.372 |
| Composite NOX : | 0.193 | 0.279 | 0.420 | 0.315 | 0.182 | 0.023 | 0.106 | 0.506 | 1.10 | 0.297 |
| ----- | | | | | | | | | | |

```

* * * * *
* Scenario 11: Urban Collector (M6 Arterial/Collector)
* File 1, Run 1, Scenario 11.
    
```

```

* * * * *
M583 Warning:
The user supplied arterial average speed of 33.1
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.
    
```

```

M 48 Warning:
there are no sales for vehicle class HDGV8b
    
```

```

M 48 Warning:
there are no sales for vehicle class LDDT12
    
```

```

Calendar Year: 2030
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: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HGCV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| ----- | | | | | | | | | | |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.317 | 0.379 | 0.537 | 0.419 | 0.361 | 0.045 | 0.108 | 0.223 | 2.06 | 0.379 |
| Composite NOX : | 0.195 | 0.281 | 0.423 | 0.317 | 0.180 | 0.023 | 0.106 | 0.508 | 1.08 | 0.298 |
| ----- | | | | | | | | | | |

```

* * * * *
* Scenario 12: Urban Local (M6 Arterial/Collector)
* File 1, Run 1, Scenario 12.
    
```

```

* * * * *
M583 Warning:
The user supplied arterial average speed of 29.9
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.
    
```

```

M 48 Warning:
there are no sales for vehicle class HDGV8b
    
```

```

M 48 Warning:
there are no sales for vehicle class LDDT12
    
```

Calendar Year: 2030

Delaware County 2030 Transportation Plan
Air Quality Conformity Documentation

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: GVWR: | LDGV | LDGT12 <6000 | LDGT34 >6000 | LDGT (All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VMT Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |
| Composite Emission Factors (g/mi): | | | | | | | | | | |
| Composite VOC : | 0.329 | 0.391 | 0.553 | 0.432 | 0.381 | 0.048 | 0.115 | 0.244 | 2.14 | 0.393 |
| Composite NOX : | 0.198 | 0.284 | 0.427 | 0.321 | 0.175 | 0.023 | 0.107 | 0.511 | 1.05 | 0.301 |