



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

September 10, 2021

Ms. Cheryl L. Newton
Acting Regional Administrator
U.S. EPA Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

Re: Revised 2017 Base-Year Emissions Inventory, Certification of Indiana's Nonattainment New Source Review Plan, and Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone "Marginal" Nonattainment Area

Dear Ms. Newton:

On June 14, 2021, United States Environmental Protection Agency (U.S. EPA) revised the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-hour ozone "Marginal" Nonattainment Area boundary to include a portion of Porter County (Center, Jackson, Liberty, Pine, Portage, Union, Washington, and Westchester townships) in Indiana (86 FR 31438). Consequently, the Indiana Department of Environmental Management (IDEM) hereby submits a revised 2017 base-year emissions inventory for Indiana's portion of the Chicago, IL-IN-WI 2015 8-hour ozone "Marginal" Nonattainment Area.

U.S. EPA's June 14, 2021, action did not revise the initial nonattainment boundary for Indiana's portion of the Louisville, Kentucky-Indiana (KY-IN) nonattainment area (Clark and Floyd counties). Therefore, IDEM requests that U.S. EPA proceed with review and approval of Indiana's submittal for Clark and Floyd counties dated January 21, 2021.

IDEM is enclosing information for Porter County (partial) as well as information previously submitted for Lake County (partial) to update and replace the January 21, 2021, submittals regarding Indiana's portion of the Chicago nonattainment area and requests U.S. EPA's review and approval of the following documents that fulfill Section 172 and 182 Clean Air Act (CAA) requirements:

- Enclosure 1 – Revised 2017 Base-Year Emissions Inventory for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-hour ozone "Marginal" Nonattainment Area. The revised base-year emissions inventory satisfies the state's obligation under Section 182(a)(1) of the CAA and represents

a comprehensive and accurate inventory of ozone precursor emissions for Calumet, Hobart, North, Ross, and St. John Townships in Lake County and Center, Jackson, Liberty, Pine, Portage, Union, Washington, and Westchester Townships in Porter County.

- Enclosure 2 – Certification of Indiana’s Nonattainment New Source Review (NNSR) Plan for the 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS). This is a resubmittal of the Certification of Indiana’s Nonattainment New Source Review (NNSR) Plan for the 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) submitted on January 21, 2021. Indiana’s existing NNSR rules are contained in 326 Indiana Administrative Code (IAC) 2-3. These rules satisfy, and are at least as stringent as, the NNSR SIP plan requirements contained in 40 Code of Federal Regulations (CFR) 51.165 for the 2015 8-hour ozone NAAQS.
- Enclosure 3 – Revised Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for Indiana’s Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone “Marginal” Nonattainment Area.

IDEM provided a 30-day comment period and opportunity for public hearing concerning the Revised 2017 Base-Year Emissions Inventory, Certification of Indiana’s Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for Indiana’s Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone “Marginal” Nonattainment Area. A public hearing was not requested and there were not any comments received. Please refer to Public Participation Process Documentation (Enclosure 4) for further information and dates regarding the public participation process.

This submittal consists of one (1) hard copy of the required documentation. An electronic version of the submittal in PDF format that is identical to the hard copy has been sent to Sarah Arra, Chief of U.S. EPA Region 5’s Attainment Planning and Maintenance Section, and Chris Panos of U.S. EPA Region 5. If you have any questions or need additional information, please contact Brian Callahan, Chief, Air Quality Standards and Implementation Section, Office of Air Quality, at (317) 232-8244 or bcallaha@idem.IN.gov.

Sincerely,



Matt Stuckey
Assistant Commissioner
Office of Air Quality

MS/sd/bc/gf/as
Enclosures

1. Revised 2017 Base-Year Emissions Inventory for Indiana’s Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone “Marginal” Nonattainment Area

Ms. Cheryl L. Newton

Page 3 of 3

2. Certification of Indiana's Nonattainment New Source Review (NNSR) Plan for the 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS)
3. Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone "Marginal" Nonattainment Area
4. Public Participation Process Documentation

cc: Sarah Arra, U.S. EPA Region 5 (no enclosures)
Chris Panos, U.S. EPA Region 5 (no enclosures)
Kathleen D'Agostino, U.S. EPA Region 5 (no enclosures)
Emily Crispell, U.S. EPA Region 5 (no enclosures)
Matt Stuckey, IDEM-OAQ (no enclosures)
Scott Deloney, IDEM-OAQ (no enclosures)
Brian Callahan, IDEM-OAQ (no enclosures)
Gale Ferris, IDEM-OAQ (w/ enclosures)
Amy Smith, IDEM-OAQ (w/ enclosures)
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Enclosure 1

Revised 2017 Base-Year Emissions Inventory
for Indiana's Portion of the Chicago, Illinois-
Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour
Ozone "Marginal" Nonattainment Area

**Calumet, Hobart, North, Ross, and St.
John Townships in Lake County**

and

**Center, Jackson, Liberty, Pine, Portage,
Union, Washington, and Westchester
Townships in Porter County**

Prepared by the Indiana Department of
Environmental Management (IDEM)

September 2021

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Table of Contents

List of Tables.....	i
List of Appendices	i
1.0 Introduction	1
2.0 Base-Year Emissions Inventory	1
2.1 Point (EGU and NonEGU)	2
2.2 Nonpoint.....	2
2.3 Nonroad Mobile Sources.....	2
2.4 Onroad Mobile Sources.....	3
3.0 Temporal Allocation of Annual Emissions	3
4.0 Lake County (Partial) and Porter County (Partial) Summary and Detailed Data	3
5.0 Public Participation.....	37

List of Tables

Table 4.1: Lake County (Partial) and Porter County (Partial) Emission Allocation Ratios	4
Table 4.2: Lake County (Partial) and Porter County (Partial) NO _x and VOC Emissions by Source Category, Tons per Ozone Season Day, 2017	4
Table 4.3: Detailed Lake County (Partial) and Porter County (Partial) NO _x and VOC Emissions by SCC Level One Descriptions, Tons per Ozone Season Day, 2017.....	5
Table 4.4: Detailed Lake County (Partial) and Porter County (Partial) NO _x and VOC Emissions by SCC Level One and Two Descriptions, Tons per Ozone Season Day, 2017	6
Table 4.5: Detailed Lake County (Partial) and Porter County (Partial) NO _x and VOC Emissions by SCC, Tons per Ozone Season Day, 2017	10
Table 4.6: Lake County (Partial) and Porter County (Partial) Point Source NO _x and VOC Emissions, Tons per Year and Tons per Ozone Season Day, 2017	33

List of Appendices

Appendix 1A – Link for U.S. EPA’s *2017 National Emissions Inventory: January 2021 Updated Release, Technical Support Document*

Appendix 1B - Supplemental Onroad Emissions Data for Lake and Porter Counties

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1.0 Introduction

On April 30, 2018, United States Environmental Protection Agency (U.S. EPA) issued nonattainment designations and classifications under the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS) for several areas of the country (83 FR 25776).¹ As part of this action, U.S. EPA designated a portion of Lake County, Indiana (Calumet, Hobart, North, Ross, and St. John townships) as part of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-hour ozone “Marginal” Nonattainment Area, and designated Clark and Floyd counties, Indiana, as part of the Louisville, Kentucky-Indiana (KY-IN) 2015 8-hour ozone “Marginal” Nonattainment Area. For areas designated “nonattainment” with a “marginal” classification for the 2015 NAAQS, Section 182(a)(1) of the Clean Air Act (CAA) requires the development of a comprehensive, accurate, and current inventory of actual emissions from all sources in the nonattainment area, including periodic revisions as the Administrator may determine necessary to assure that the requirements for this part are met. As such, on January 21, 2021, the Indiana Department of Environmental Management (IDEM) submitted a 2017 Base-Year Inventory for Lake (partial), Clark, and Floyd counties to U.S. EPA for review and approval.

On June 14, 2021, U.S. EPA revised the Chicago, IL-IN-WI 2015 8-hour ozone “Marginal” Nonattainment Area boundary to include a portion of Porter County (Center, Jackson, Liberty, Pine, Portage, Union, Washington, and Westchester townships) in Indiana (86 FR 31438).² Therefore, IDEM hereby submits to U.S. EPA this revised 2017 Base-Year Emissions Inventory for Indiana’s portion of the Chicago, IL-IN-WI 2015 8-hour ozone “Marginal” Nonattainment Area.

This document contains emissions data for Porter County (partial), as well as emissions data previously submitted for Lake County (partial) to update and replace the January 21, 2021, submittal concerning Indiana’s portion of the Chicago nonattainment area. Because U.S. EPA’s June 14, 2021, action only revises the designation for Porter County, Indiana, IDEM is not revising the portion of the January 21, 2021, submittal concerning the 2017 base-year emissions inventory for Clark and Floyd counties.

2.0 Base-Year Emissions Inventory

U.S. EPA’s rule for the “Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements” (referred to as the 2015 ozone implementation rule) indicates that states shall use a reasonable further progress (RFP) baseline year for the 2015 ozone standards that corresponds with the calendar year for the most recent triennial emissions inventory preceding the year of the area’s effective date of nonattainment designation (83 FR 62998).³ U.S. EPA’s 2017 National Emissions Inventory (NEI) is the most recently available triennial emissions inventory preceding the nonattainment designations.

¹ The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2018-06-04/pdf/2018-11838.pdf>.

² The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2021-06-14/pdf/2021-11454.pdf>.

³ The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2018-12-06/pdf/2018-25424.pdf>.

Based on the 2015 ozone implementation rule and in consultation with U.S. EPA, IDEM has selected the base-year of 2017 for the inventory.

IDEM has prepared a comprehensive and accurate inventory of ozone precursor emissions (NO_x and VOCs) for Lake County (partial) and Porter County (partial) (Section 4.0 of this document), organized by anthropogenic source categories: point sources, including electric-generating units (EGUs) and nonEGUs; nonpoint sources (also called area sources); nonroad mobile sources; and onroad mobile sources. Tables are provided for each area, including summaries by source categories and detailed data by source classification codes (SCCs).

Indiana has elected to use U.S. EPA's 2017 NEI for point, nonpoint (area), and nonroad anthropogenic emission sources. Onroad values were interpolated from emission factors produced by the 2014a version of U.S. EPA's MOVES software program. Biogenic emissions are not included in these summaries.

2.1 Point (EGU and NonEGU)

IDEM's Office of Air Quality (OAQ) collects data, calculates, and stores emissions for point sources on an annual basis in the Emission Inventory Tracking System (EMITS). These point source emissions are uploaded to the NEI each year using the Emission Inventory System (EIS) and feedback is provided to U.S. EPA on a variety of other estimates. Point source data was collected through Indiana's Emission Statement Program according to Title 326, Article 2, Rule 6 of the Indiana Administrative Code (326 IAC 2-6). All data is collated into the EMITS and submitted to U.S. EPA through the EIS Gateway. U.S. EPA has added to this inventory, incorporating data from various sources such as data submitted to the Clean Air Markets Database. Airport operations are handled as point sources in the database (see Section 3.2 of U.S. EPA's *2017 National Emissions Inventory: January 2021 Updated Release, Technical Support Document*, for which a link is provided in Appendix 1A).

2.2 Nonpoint

Nonpoint sources were developed by U.S. EPA with comments provided by the states. Section 4 of U.S. EPA's *2017 National Emissions Inventory: January 2021 Updated Release, Technical Support Document* (Appendix 1A) describes in detail the stationary sources included in the nonpoint source estimations, emission estimation methods, sources of data for inputs, where states provided input, and how controls were taken into account.

2.3 Nonroad Mobile Sources

Section 5 of U.S. EPA's *2017 National Emissions Inventory: January 2021 Updated Release, Technical Support Document* (Appendix 1A) details the nonroad mobile source emissions generated by a diverse collection of equipment, ranging from

lawn mowers to locomotive support. U.S. EPA's MOVES model estimates emissions from nonroad mobile sources using a variety of fuel types.

2.4 Onroad Mobile Sources

The Northwest Indiana Regional Planning Commission (NIRPC), which is the local metropolitan planning organization (MPO) for Lake and Porter counties, provided onroad mobile source estimations at IDEM's request. Table 4.2 contains onroad emissions data provided by NIRPC for the affected portions of Lake and Porter counties. Detailed data and information concerning calculations are provided in Appendix 1B, "Supplemental Onroad Emissions Data for Lake and Porter Counties".

3.0 Temporal Allocation of Annual Emissions

The area, nonroad, and point source categories were calculated using the same formulation for average season day emissions. Annual base year emissions were compiled from U.S. EPA's 2017 Emissions Modeling Platform. The annual emissions provided by this inventory were then used to calculate average summer day emissions using U.S. EPA guidance on how the model estimates daily emissions.⁴ The monthly profile percentages for June, July, and August were added together and then divided by the number of days in the season (92). This is applied at the process level using the profiles that are specified for each SCC that is assigned to the process.⁵ Lake County (partial) and Porter County (partial) emissions estimates (Section 4.0) are rounded to two decimal places.

4.0 Lake County (Partial) and Porter County (Partial) Summary and Detailed Data

The following tables contain summaries and detailed data concerning the Lake County (partial) and Porter County (partial) inventory. Emission inventories are usually built on a countywide basis. Several steps were taken to adapt full inventories for Lake and Porter counties to a subset that represents the nonattainment townships. Point (EGU and NonEGU) sources for the townships were identified as those above a latitude of 41.435, which marks the appropriate southern boundary of the nonattainment area. Area and nonroad source classification codes were assigned ratios representing their percentage of activity within Lake and Porter counties, as shown in Table 4.1. For onroad sources, partial county emissions' data was provided by NIRPC in consultation with IDEM and U.S. EPA. Through consultation with IDEM, U.S. EPA, and NIRPC, it was determined that NIRPC could interpolate 2017 emission rates using the 2015 and 2020 rates provided by the Indiana Department of Transportation. To extract the specific townships designated as nonattainment by U.S. EPA, a two-step approach was taken. For the running emissions, the network links in the NIRPC travel demand model from these townships were applied to the interpolated 2017 emission rates. For the

⁴ Memorandum from Gregory Stella, U.S. EPA, Emission Factor and Inventory Group, regarding Temporal Allocation of Annual Emissions Using EMCH Temporal Profiles, dated April 29, 2002: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.360.5157&rep=rep1&type=pdf>.

⁵ Searchable database: <https://ofmpub.epa.gov/sccwebservices/sccsearch/>.

nonrunning emissions, it was agreed that NIRPC could multiply the full county nonrunning emissions by the percentage of registered vehicles that reside in the townships designated as nonattainment. The combination of these running and nonrunning emissions are the 2017 onroad emission estimates included in this document.

Table 4.1: Lake County (Partial) and Porter County (Partial) Emission Allocation Ratios

County	Ratio	Type	Comment
Lake	0.85	Employment	Represents the fraction of Lake County employment contained within the 5 nonattainment townships.
	0.84	Population	Represents the fraction of Lake County population contained within the 5 nonattainment townships.
	0.15	Agriculture Acreage	Represents the fraction of Lake County agricultural acreage contained within the 5 nonattainment townships.
Porter	0.85	Employment	Represents the fraction of Porter County employment contained within the 8 nonattainment townships.
	0.86	Population	Represents the fraction of Porter County population contained within the 8 nonattainment townships.
	0.37	Agriculture Acreage	Represents the fraction of Porter County agricultural acreage contained within the 8 nonattainment townships.
Sources:			
<ul style="list-style-type: none"> • Employment and population estimates for Lake and Porter counties: Stats Indiana (https://www.stats.indiana.edu/). • Agricultural acreage estimate for Lake County: State GIS database. • Agricultural acreage estimate for Porter County: United States Geological Survey (USGS) 2016 National Land Cover Database. 			

The tables show NO_x and VOC emissions estimates in tons per ozone season day unless otherwise noted.

Table 4.2: Lake County (Partial) and Porter County (Partial) NO_x and VOC Emissions by Source Category, Tons per Ozone Season Day, 2017

County	Source Category	NO _x	VOCs
Lake	EGU	0.30	0.12
Lake	Nonpoint	5.21	11.40
Lake	Nonroad	3.78	2.06
Lake	Point	29.88	8.04
Lake	Onroad	10.32	4.71
Porter	EGU	3.46	0.12
Porter	Nonpoint	3.37	5.16
Porter	Nonroad	1.25	1.26
Porter	Point	25.23	1.95

County	Source Category	NO _x	VOCs
Porter	Onroad	5.03	1.75

Table 4.3: Detailed Lake County (Partial) and Porter County (Partial) NO_x and VOC Emissions by SCC Level One Descriptions, Tons per Ozone Season Day, 2017

County	Source Category	SCC Level One	NO _x	VOCs
Lake	EGU	External Combustion Boilers	0.05	0.04
Lake	EGU	Internal Combustion Engines	0.25	0.08
Lake	Nonpoint	Industrial Processes	0.03	0.16
Lake	Nonpoint	Miscellaneous Area Sources	0.01	0.04
Lake	Nonpoint	Mobile Sources	3.30	0.17
Lake	Nonpoint	Solvent Utilization		9.96
Lake	Nonpoint	Stationary Source Fuel Combustion	1.81	0.16
Lake	Nonpoint	Storage and Transport		0.69
Lake	Nonpoint	Waste Disposal, Treatment, and Recovery	0.06	0.23
Lake	Nonroad	Mobile Sources	3.78	2.06
Lake	Point	Chemical Evaporation	0.02	2.56
Lake	Point	External Combustion	0.00	0.00
Lake	Point	External Combustion Boilers	13.92	0.47
Lake	Point	Industrial Processes	15.04	4.92
Lake	Point	Internal Combustion Engines	0.84	0.06
Lake	Point	Mobile Sources	0.04	0.03
Porter	EGU	External Combustion Boilers	3.21	0.11
Porter	EGU	Internal Combustion Engines	0.25	0.01
Porter	Nonpoint	Industrial Processes		0.03
Porter	Nonpoint	Miscellaneous Area Sources	0.00	0.03
Porter	Nonpoint	Mobile Sources	2.60	0.15
Porter	Nonpoint	Solvent Utilization		3.99
Porter	Nonpoint	Stationary Source Fuel Combustion	0.71	0.07

County	Source Category	SCC Level One	NO _x	VOCs
Porter	Nonpoint	Storage and Transport		0.72
Porter	Nonpoint	Waste Disposal, Treatment, and Recovery	0.05	0.17
Porter	Nonroad	Mobile Sources	1.25	1.26
Porter	Point	Chemical Evaporation	0.02	0.29
Porter	Point	External Combustion	0.00	0.00
Porter	Point	External Combustion Boilers	3.20	0.08
Porter	Point	Industrial Processes	21.76	1.55
Porter	Point	Internal Combustion Engines	0.23	0.02
Porter	Point	Mobile Sources	0.02	0.02

Table 4.4: Detailed Lake County (Partial) and Porter County (Partial) NO_x and VOC Emissions by SCC Level One and Two Descriptions, Tons per Ozone Season Day, 2017

County	Source Category	SCC Level One	SCC Level Two	NO _x	VOCs
Lake	EGU	External Combustion Boilers	Electric Generation	0.05	0.04
Lake	EGU	Internal Combustion Engines	Electric Generation	0.25	0.08
Lake	Nonpoint	Industrial Processes	Food and Kindred Products: SIC 20		0.08
Lake	Nonpoint	Industrial Processes	Oil and Gas Exploration and Production	0.03	0.08
Lake	Nonpoint	Miscellaneous Area Sources	Agriculture Production - Livestock		0.00
Lake	Nonpoint	Miscellaneous Area Sources	Other Combustion	0.01	0.03
Lake	Nonpoint	Mobile Sources	Marine Vessels, Commercial	0.71	0.05
Lake	Nonpoint	Mobile Sources	Railroad Equipment	2.59	0.12
Lake	Nonpoint	Solvent Utilization	Degreasing		1.02
Lake	Nonpoint	Solvent Utilization	Dry Cleaning		0.00
Lake	Nonpoint	Solvent Utilization	Graphic Arts		1.10
Lake	Nonpoint	Solvent Utilization	Miscellaneous Non-industrial: Commercial		0.51
Lake	Nonpoint	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial		4.92
Lake	Nonpoint	Solvent Utilization	Surface Coating		2.40

County	Source Category	SCC Level One	SCC Level Two	NO _x	VOCs
Lake	Nonpoint	Stationary Source Fuel Combustion	Commercial/Institutional	0.29	0.02
Lake	Nonpoint	Stationary Source Fuel Combustion	Industrial	1.43	0.08
Lake	Nonpoint	Stationary Source Fuel Combustion	Residential	0.10	0.06
Lake	Nonpoint	Storage and Transport	Petroleum and Petroleum Product Storage		0.52
Lake	Nonpoint	Storage and Transport	Petroleum and Petroleum Product Transport		0.17
Lake	Nonpoint	Waste Disposal, Treatment, and Recovery	Composting		0.05
Lake	Nonpoint	Waste Disposal, Treatment, and Recovery	Open Burning	0.06	0.15
Lake	Nonpoint	Waste Disposal, Treatment, and Recovery	Wastewater Treatment		0.03
Lake	Nonroad	Mobile Sources	CNG	0.00	0.00
Lake	Nonroad	Mobile Sources	Off-highway Vehicle CNG	0.02	0.01
Lake	Nonroad	Mobile Sources	Off-highway Vehicle Diesel	3.15	0.28
Lake	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline	0.34	1.38
Lake	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline, 2-Stroke	0.01	0.25
Lake	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline, 4-Stroke	0.02	0.06
Lake	Nonroad	Mobile Sources	Off-highway Vehicle LPG	0.16	0.02
Lake	Nonroad	Mobile Sources	Pleasure Craft	0.08	0.05
Lake	Nonroad	Mobile Sources	Railroad Equipment	0.01	0.00
Lake	Point	Chemical Evaporation	Organic Chemical Storage		0.03
Lake	Point	Chemical Evaporation	Organic Solvent Evaporation	0.01	0.12
Lake	Point	Chemical Evaporation	Petroleum Liquids Storage (non-Refinery)	0.01	1.67
Lake	Point	Chemical Evaporation	Petroleum Product Storage at Refineries		0.56
Lake	Point	Chemical Evaporation	Printing/Publishing		0.00
Lake	Point	Chemical Evaporation	Surface Coating Operations		0.15
Lake	Point	Chemical Evaporation	Transportation and Marketing of Petroleum Products	0.00	0.02
Lake	Point	Chemical Evaporation	unknown		0.01
Lake	Point	External Combustion	Space Heaters	0.00	0.00

County	Source Category	SCC Level One	SCC Level Two	NO_x	VOCs
Lake	Point	External Combustion Boilers	Commercial/Institutional	0.18	0.01
Lake	Point	External Combustion Boilers	Industrial	13.74	0.46
Lake	Point	Industrial Processes	Chemical Manufacturing	0.85	0.06
Lake	Point	Industrial Processes	Fabricated Metal Products	0.02	0.00
Lake	Point	Industrial Processes	Food and Agriculture	0.02	0.30
Lake	Point	Industrial Processes	In-process Fuel Use	2.50	0.10
Lake	Point	Industrial Processes	Mineral Products	2.42	0.02
Lake	Point	Industrial Processes	Miscellaneous Manufacturing Industries	0.49	0.01
Lake	Point	Industrial Processes	Petroleum Industry	2.17	1.26
Lake	Point	Industrial Processes	Primary Metal Production	6.47	2.76
Lake	Point	Industrial Processes	Pulp and Paper and Wood Products		0.17
Lake	Point	Industrial Processes	Secondary Metal Production	0.10	0.23
Lake	Point	Internal Combustion Engines	Commercial/Institutional	0.09	0.01
Lake	Point	Internal Combustion Engines	Industrial	0.06	0.00
Lake	Point	Internal Combustion Engines	Railroad Equipment	0.69	0.05
Lake	Point	Mobile Sources	Aircraft	0.04	0.03
Lake	Point	Mobile Sources	Off-highway Vehicle Diesel	0.00	0.00
Lake	Point	Mobile Sources	Off-highway Vehicle Gasoline, 4-Stroke	0.00	0.00
Porter	EGU	External Combustion Boilers	Electric Generation	3.21	0.11
Porter	EGU	Internal Combustion Engines	Electric Generation	0.25	0.01
Porter	Nonpoint	Industrial Processes	Food and Kindred Products: SIC 20		0.03
Porter	Nonpoint	Miscellaneous Area Sources	Agriculture Production - Livestock		0.02
Porter	Nonpoint	Miscellaneous Area Sources	Other Combustion	0.00	0.01
Porter	Nonpoint	Mobile Sources	Marine Vessels, Commercial	0.52	0.05
Porter	Nonpoint	Mobile Sources	Railroad Equipment	2.08	0.10
Porter	Nonpoint	Solvent Utilization	Degreasing		0.45
Porter	Nonpoint	Solvent Utilization	Dry Cleaning		0.00

County	Source Category	SCC Level One	SCC Level Two	NO _x	VOCs
Porter	Nonpoint	Solvent Utilization	Graphic Arts		0.77
Porter	Nonpoint	Solvent Utilization	Miscellaneous Non-industrial: Commercial		0.25
Porter	Nonpoint	Solvent Utilization	Miscellaneous Non-industrial: Consumer and Commercial		1.71
Porter	Nonpoint	Solvent Utilization	Surface Coating		0.82
Porter	Nonpoint	Stationary Source Fuel Combustion	Commercial/Institutional	0.09	0.01
Porter	Nonpoint	Stationary Source Fuel Combustion	Industrial	0.59	0.03
Porter	Nonpoint	Stationary Source Fuel Combustion	Residential	0.03	0.03
Porter	Nonpoint	Storage and Transport	Petroleum and Petroleum Product Storage		0.62
Porter	Nonpoint	Storage and Transport	Petroleum and Petroleum Product Transport		0.11
Porter	Nonpoint	Waste Disposal, Treatment, and Recovery	Composting		0.05
Porter	Nonpoint	Waste Disposal, Treatment, and Recovery	Open Burning	0.05	0.11
Porter	Nonpoint	Waste Disposal, Treatment, and Recovery	Wastewater Treatment		0.00
Porter	Nonroad	Mobile Sources	CNG	0.00	0.00
Porter	Nonroad	Mobile Sources	LPG	0.00	0.00
Porter	Nonroad	Mobile Sources	Off-highway Vehicle CNG	0.01	0.00
Porter	Nonroad	Mobile Sources	Off-highway Vehicle Diesel	0.93	0.08
Porter	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline	0.16	0.94
Porter	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline, 2-Stroke	0.00	0.16
Porter	Nonroad	Mobile Sources	Off-highway Vehicle Gasoline, 4-Stroke	0.01	0.03
Porter	Nonroad	Mobile Sources	Off-highway Vehicle LPG	0.06	0.01
Porter	Nonroad	Mobile Sources	Pleasure Craft	0.06	0.04
Porter	Nonroad	Mobile Sources	Railroad Equipment	0.01	0.00
Porter	Point	Chemical Evaporation	Organic Solvent Evaporation		0.00
Porter	Point	Chemical Evaporation	Petroleum Liquids Storage (non-Refinery)		0.00
Porter	Point	Chemical Evaporation	Printing/Publishing		
Porter	Point	Chemical Evaporation	Surface Coating Operations	0.02	0.28

County	Source Category	SCC Level One	SCC Level Two	NO _x	VOCs
Porter	Point	Chemical Evaporation	Transportation and Marketing of Petroleum Products		0.00
Porter	Point	External Combustion	Space Heaters	0.00	0.00
Porter	Point	External Combustion Boilers	Commercial/Institutional	0.00	0.00
Porter	Point	External Combustion Boilers	Industrial	3.20	0.08
Porter	Point	Industrial Processes	Chemical Manufacturing		0.00
Porter	Point	Industrial Processes	In-process Fuel Use	0.21	0.01
Porter	Point	Industrial Processes	Mineral Products	0.00	0.00
Porter	Point	Industrial Processes	Miscellaneous Manufacturing Industries	0.01	
Porter	Point	Industrial Processes	Petroleum Industry		0.00
Porter	Point	Industrial Processes	Primary Metal Production	21.54	1.38
Porter	Point	Industrial Processes	Pulp and Paper and Wood Products		0.16
Porter	Point	Industrial Processes	Secondary Metal Production	0.00	0.00
Porter	Point	Internal Combustion Engines	Commercial/Institutional	0.05	0.00
Porter	Point	Internal Combustion Engines	Industrial	0.01	0.00
Porter	Point	Internal Combustion Engines	Railroad Equipment	0.18	0.01
Porter	Point	Mobile Sources	Aircraft	0.02	0.02

Table 4.5: Detailed Lake County (Partial) and Porter County (Partial) NO_x and VOC Emissions by SCC, Tons per Ozone Season Day, 2017

County	Source Category	SCC	NO _x	VOCs
Lake	EGU	10100601	0.02	0.01
Lake	EGU	10100704	0.03	0.03
Lake	EGU	20100201	0.25	0.08
Lake	Nonpoint	2102001000	0.00	0.00
Lake	Nonpoint	2102002000	0.00	0.00
Lake	Nonpoint	2102004001	0.01	0.00
Lake	Nonpoint	2102004002	0.16	0.01

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2102005000	0.00	0.00
Lake	Nonpoint	2102006000	1.21	0.07
Lake	Nonpoint	2102007000	0.01	0.00
Lake	Nonpoint	2102008000	0.04	0.00
Lake	Nonpoint	2102011000	0.00	0.00
Lake	Nonpoint	2103001000	0.00	0.00
Lake	Nonpoint	2103002000	0.00	0.00
Lake	Nonpoint	2103004001	0.00	0.00
Lake	Nonpoint	2103004002	0.00	0.00
Lake	Nonpoint	2103005000	0.00	0.00
Lake	Nonpoint	2103006000	0.25	0.01
Lake	Nonpoint	2103007000	0.01	0.00
Lake	Nonpoint	2103008000	0.02	0.00
Lake	Nonpoint	2103011000	0.00	0.00
Lake	Nonpoint	2104001000	0.00	0.00
Lake	Nonpoint	2104002000	0.00	0.00
Lake	Nonpoint	2104004000	0.00	0.00
Lake	Nonpoint	2104006000	0.08	0.00
Lake	Nonpoint	2104007000	0.00	0.00
Lake	Nonpoint	2104008100	0.00	0.01
Lake	Nonpoint	2104008210	0.00	0.00
Lake	Nonpoint	2104008220	0.00	0.00
Lake	Nonpoint	2104008230	0.00	0.00
Lake	Nonpoint	2104008310	0.00	0.01
Lake	Nonpoint	2104008320	0.00	0.00
Lake	Nonpoint	2104008330	0.00	0.00
Lake	Nonpoint	2104008400	0.00	0.00
Lake	Nonpoint	2104008510	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2104008530	0.00	0.00
Lake	Nonpoint	2104008610	0.00	0.01
Lake	Nonpoint	2104008620	0.00	0.00
Lake	Nonpoint	2104008630	0.00	0.00
Lake	Nonpoint	2104008700	0.00	0.01
Lake	Nonpoint	2104009000	0.00	0.01
Lake	Nonpoint	2104011000	0.00	0.00
Lake	Nonpoint	2280002101	0.02	0.00
Lake	Nonpoint	2280002102	0.07	0.00
Lake	Nonpoint	2280002103	0.13	0.02
Lake	Nonpoint	2280002104	0.06	0.00
Lake	Nonpoint	2280002201	0.14	0.01
Lake	Nonpoint	2280002202	0.19	0.01
Lake	Nonpoint	2280002203	0.08	0.01
Lake	Nonpoint	2280002204	0.03	0.00
Lake	Nonpoint	2285002006	2.38	0.11
Lake	Nonpoint	2285002007	0.16	0.01
Lake	Nonpoint	2285002008	0.06	0.00
Lake	Nonpoint	2302002100		0.02
Lake	Nonpoint	2302002200		0.05
Lake	Nonpoint	2302003000		0.01
Lake	Nonpoint	2302003100		0.01
Lake	Nonpoint	2302003200		0.00
Lake	Nonpoint	2310000551		0.00
Lake	Nonpoint	2310000552		0.00
Lake	Nonpoint	2310000553		0.00
Lake	Nonpoint	2310010100	0.00	0.00
Lake	Nonpoint	2310010200	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2310010300		0.04
Lake	Nonpoint	2310011001	0.00	0.00
Lake	Nonpoint	2310011201		0.00
Lake	Nonpoint	2310011501		0.00
Lake	Nonpoint	2310011502		0.00
Lake	Nonpoint	2310011503		0.00
Lake	Nonpoint	2310011505		0.01
Lake	Nonpoint	2310011600	0.01	0.00
Lake	Nonpoint	2310021010	0.00	0.00
Lake	Nonpoint	2310021030		0.00
Lake	Nonpoint	2310021100	0.00	0.00
Lake	Nonpoint	2310021102	0.00	0.00
Lake	Nonpoint	2310021202	0.00	0.00
Lake	Nonpoint	2310021251	0.00	0.00
Lake	Nonpoint	2310021300		0.01
Lake	Nonpoint	2310021302	0.01	0.00
Lake	Nonpoint	2310021351	0.00	0.00
Lake	Nonpoint	2310021400	0.00	0.00
Lake	Nonpoint	2310021501		0.00
Lake	Nonpoint	2310021502		0.00
Lake	Nonpoint	2310021503		0.00
Lake	Nonpoint	2310021505		0.00
Lake	Nonpoint	2310021506		0.00
Lake	Nonpoint	2310021603	0.00	0.00
Lake	Nonpoint	2310023000	0.00	0.00
Lake	Nonpoint	2310023010	0.00	0.00
Lake	Nonpoint	2310023030		0.00
Lake	Nonpoint	2310023100	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2310023102	0.00	0.00
Lake	Nonpoint	2310023202	0.00	0.00
Lake	Nonpoint	2310023251	0.00	0.00
Lake	Nonpoint	2310023300		0.00
Lake	Nonpoint	2310023302	0.00	0.00
Lake	Nonpoint	2310023310		0.00
Lake	Nonpoint	2310023351	0.00	0.00
Lake	Nonpoint	2310023400	0.00	0.00
Lake	Nonpoint	2310023511		0.00
Lake	Nonpoint	2310023512		0.00
Lake	Nonpoint	2310023513		0.00
Lake	Nonpoint	2310023515		0.00
Lake	Nonpoint	2310023516		0.00
Lake	Nonpoint	2310023603	0.00	0.00
Lake	Nonpoint	2310111401		0.00
Lake	Nonpoint	2310121401		0.00
Lake	Nonpoint	2401001000		1.34
Lake	Nonpoint	2401005000		0.25
Lake	Nonpoint	2401008000		0.17
Lake	Nonpoint	2401015000		0.01
Lake	Nonpoint	2401020000		0.11
Lake	Nonpoint	2401025000		0.00
Lake	Nonpoint	2401030000		0.05
Lake	Nonpoint	2401055000		0.00
Lake	Nonpoint	2401065000		0.00
Lake	Nonpoint	2401070000		0.18
Lake	Nonpoint	2401085000		0.09
Lake	Nonpoint	2401090000		0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2401100000		0.21
Lake	Nonpoint	2401200000		0.00
Lake	Nonpoint	2415000000		1.02
Lake	Nonpoint	2420000000		0.00
Lake	Nonpoint	2425000000		1.10
Lake	Nonpoint	2460100000		1.10
Lake	Nonpoint	2460200000		1.12
Lake	Nonpoint	2460400000		0.11
Lake	Nonpoint	2460500000		0.53
Lake	Nonpoint	2460600000		1.02
Lake	Nonpoint	2460800000		1.00
Lake	Nonpoint	2460900000		0.04
Lake	Nonpoint	2461021000		0.03
Lake	Nonpoint	2461022000		0.38
Lake	Nonpoint	2461850000		0.10
Lake	Nonpoint	2501011011		0.04
Lake	Nonpoint	2501011012		0.04
Lake	Nonpoint	2501011013		0.05
Lake	Nonpoint	2501011014		0.01
Lake	Nonpoint	2501011015		0.00
Lake	Nonpoint	2501012011		0.00
Lake	Nonpoint	2501012012		0.00
Lake	Nonpoint	2501012013		0.06
Lake	Nonpoint	2501012014		0.02
Lake	Nonpoint	2501012015		0.00
Lake	Nonpoint	2501050120		0.02
Lake	Nonpoint	2501055120		0.00
Lake	Nonpoint	2501060051		0.04

County	Source Category	SCC	NO_x	VOCs
Lake	Nonpoint	2501060052		0.00
Lake	Nonpoint	2501060053		0.08
Lake	Nonpoint	2501060201		0.09
Lake	Nonpoint	2501080050		0.05
Lake	Nonpoint	2501080100		0.00
Lake	Nonpoint	2505030120		0.00
Lake	Nonpoint	2505040120		0.17
Lake	Nonpoint	2610000100	0.00	0.00
Lake	Nonpoint	2610000400	0.00	0.00
Lake	Nonpoint	2610000500	0.05	0.13
Lake	Nonpoint	2610030000	0.01	0.01
Lake	Nonpoint	2630020000		0.03
Lake	Nonpoint	2680003000		0.05
Lake	Nonpoint	2805002000		0.00
Lake	Nonpoint	2805007100		0.00
Lake	Nonpoint	2805009100		0.00
Lake	Nonpoint	2805010100		0.00
Lake	Nonpoint	2805018000		0.00
Lake	Nonpoint	2805025000		0.00
Lake	Nonpoint	2805035000		0.00
Lake	Nonpoint	2805040000		0.00
Lake	Nonpoint	2805045000		0.00
Lake	Nonpoint	2810025000	0.01	0.03
Lake	Nonpoint	2810060100	0.00	0.00
Lake	Nonpoint	2810060200	0.00	0.00
Lake	Nonroad	2260002022	0.00	0.14
Lake	Nonroad	2260003022	0.00	0.00
Lake	Nonroad	2260004020	0.00	0.05

County	Source Category	SCC	NO_x	VOCs
Lake	Nonroad	2260004021	0.00	0.13
Lake	Nonroad	2260004022	0.00	0.00
Lake	Nonroad	2260004033	0.00	0.08
Lake	Nonroad	2260004035	0.00	0.00
Lake	Nonroad	2260004036	0.00	0.07
Lake	Nonroad	2260004044	0.01	0.14
Lake	Nonroad	2260005022	0.00	0.00
Lake	Nonroad	2260006022	0.00	0.04
Lake	Nonroad	2260007022	0.00	0.00
Lake	Nonroad	2265001050	0.01	0.03
Lake	Nonroad	2265002022	0.03	0.06
Lake	Nonroad	2265003022	0.04	0.03
Lake	Nonroad	2265003060	0.00	0.00
Lake	Nonroad	2265004022	0.05	0.11
Lake	Nonroad	2265004033	0.08	0.32
Lake	Nonroad	2265004035	0.00	0.02
Lake	Nonroad	2265004036	0.00	0.02
Lake	Nonroad	2265004044	0.02	0.09
Lake	Nonroad	2265005022	0.00	0.00
Lake	Nonroad	2265006022	0.09	0.22
Lake	Nonroad	2265007022	0.00	0.00
Lake	Nonroad	2267002022	0.00	0.00
Lake	Nonroad	2267003022	0.14	0.02
Lake	Nonroad	2267004044	0.00	0.00
Lake	Nonroad	2267005022	0.00	0.00
Lake	Nonroad	2267006022	0.01	0.00
Lake	Nonroad	2268002022	0.00	0.00
Lake	Nonroad	2268003022	0.01	0.01

County	Source Category	SCC	NO_x	VOCs
Lake	Nonroad	2268003060	0.00	0.00
Lake	Nonroad	2268005022	0.00	0.00
Lake	Nonroad	2268006022	0.01	0.00
Lake	Nonroad	2270002022	2.43	0.22
Lake	Nonroad	2270003022	0.22	0.01
Lake	Nonroad	2270003060	0.11	0.01
Lake	Nonroad	2270004022	0.01	0.00
Lake	Nonroad	2270004036	0.00	0.00
Lake	Nonroad	2270004044	0.04	0.00
Lake	Nonroad	2270005022	0.08	0.01
Lake	Nonroad	2270006022	0.19	0.02
Lake	Nonroad	2270007022	0.00	0.00
Lake	Nonroad	2282005022	0.03	0.15
Lake	Nonroad	2282010005	0.08	0.05
Lake	Nonroad	2282020022	0.06	0.00
Lake	Nonroad	2285002015	0.01	0.00
Lake	Nonroad	2285004015	0.00	0.00
Lake	Nonroad	2285006015	0.00	0.00
Lake	Point	10200401	0.17	0.00
Lake	Point	10200501	0.04	0.00
Lake	Point	10200601	9.18	0.20
Lake	Point	10200602	0.78	0.04
Lake	Point	10200603	0.08	0.00
Lake	Point	10200701	1.38	0.13
Lake	Point	10200704	2.11	0.08
Lake	Point	10200799	0.00	0.00
Lake	Point	10201002	0.00	0.00
Lake	Point	10300602	0.01	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Point	10300799	0.17	0.01
Lake	Point	10500106	0.00	0.00
Lake	Point	20200102	0.01	0.00
Lake	Point	20200104	0.03	0.00
Lake	Point	20200201	0.00	0.00
Lake	Point	20200202	0.00	0.00
Lake	Point	20200401	0.02	0.00
Lake	Point	20300101	0.09	0.01
Lake	Point	2265008005	0.00	0.00
Lake	Point	2270008005	0.00	0.00
Lake	Point	2275001000	0.03	0.01
Lake	Point	2275020000	0.01	0.00
Lake	Point	2275050011	0.00	0.00
Lake	Point	2275050012	0.00	0.01
Lake	Point	2275060011	0.00	0.00
Lake	Point	2275060012	0.00	0.00
Lake	Point	2275070000	0.00	0.00
Lake	Point	28500201	0.69	0.05
Lake	Point	30102320		0.01
Lake	Point	30102322		0.00
Lake	Point	30102399	0.07	0.01
Lake	Point	30103204	0.08	0.00
Lake	Point	30107002	0.00	0.02
Lake	Point	30107101	0.22	0.01
Lake	Point	30187097		0.00
Lake	Point	30187098		0.00
Lake	Point	30188801		0.00
Lake	Point	30190003	0.49	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Point	30190023	0.00	0.00
Lake	Point	30200754	0.02	0.00
Lake	Point	30201401		0.00
Lake	Point	30201403		0.07
Lake	Point	30201407		0.00
Lake	Point	30201410		0.03
Lake	Point	30201412		0.00
Lake	Point	30201899		0.19
Lake	Point	30299998		0.01
Lake	Point	30300305	0.00	0.00
Lake	Point	30300336		0.00
Lake	Point	30300371	0.03	0.00
Lake	Point	30300372	0.00	0.00
Lake	Point	30300375	0.01	0.00
Lake	Point	30300376	1.75	0.00
Lake	Point	30300399	0.15	0.00
Lake	Point	30301503	0.55	0.48
Lake	Point	30301511		0.00
Lake	Point	30301513	0.45	0.10
Lake	Point	30301515	0.00	0.02
Lake	Point	30301517	0.01	0.01
Lake	Point	30301518	0.00	0.00
Lake	Point	30301526	2.13	0.04
Lake	Point	30301527	0.08	0.00
Lake	Point	30301528	0.08	0.02
Lake	Point	30301532	0.02	
Lake	Point	30301540		0.00
Lake	Point	30301542	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Point	30301565	0.03	0.00
Lake	Point	30301573		0.24
Lake	Point	30301574		0.23
Lake	Point	30301575	0.00	0.00
Lake	Point	30301577		0.00
Lake	Point	30301581	0.02	0.00
Lake	Point	30301587		0.04
Lake	Point	30301598	0.00	0.00
Lake	Point	30301599	1.11	1.51
Lake	Point	30390024	0.06	0.05
Lake	Point	30399999	0.00	0.00
Lake	Point	30400112		0.00
Lake	Point	30400131		0.01
Lake	Point	30400138		0.02
Lake	Point	30400150		0.15
Lake	Point	30400199		0.04
Lake	Point	30402201	0.08	0.01
Lake	Point	30490033	0.02	0.00
Lake	Point	30501620	2.42	0.01
Lake	Point	30501699		0.00
Lake	Point	30599999		0.01
Lake	Point	30600106	1.70	0.02
Lake	Point	30600201	0.39	0.01
Lake	Point	30600503		0.21
Lake	Point	30600602		0.01
Lake	Point	30600701		0.09
Lake	Point	30600801		0.25
Lake	Point	30600802		0.02

County	Source Category	SCC	NO_x	VOCs
Lake	Point	30600812		0.00
Lake	Point	30600816		0.00
Lake	Point	30600817		0.00
Lake	Point	30600904	0.08	0.22
Lake	Point	30601301		0.40
Lake	Point	30609904		0.01
Lake	Point	30688801		0.00
Lake	Point	30700499		0.17
Lake	Point	30988801		0.00
Lake	Point	30990003	0.02	0.00
Lake	Point	39000699	1.63	0.05
Lake	Point	39000701	0.87	0.05
Lake	Point	39000797	0.00	0.00
Lake	Point	39990023	0.03	0.00
Lake	Point	39990024	0.37	0.00
Lake	Point	39999999	0.08	0.00
Lake	Point	40100251		0.00
Lake	Point	40100335		0.00
Lake	Point	40200101		0.07
Lake	Point	40200201		0.01
Lake	Point	40201801		0.05
Lake	Point	40201803		0.02
Lake	Point	40201805		0.00
Lake	Point	40301016		0.02
Lake	Point	40301017		0.00
Lake	Point	40301018		0.00
Lake	Point	40301021		0.18
Lake	Point	40301024		0.00

County	Source Category	SCC	NO_x	VOCs
Lake	Point	40301099		0.00
Lake	Point	40301107		0.23
Lake	Point	40301115		0.02
Lake	Point	40301119		0.01
Lake	Point	40301120		0.00
Lake	Point	40301197		0.06
Lake	Point	40301299		0.04
Lake	Point	40400101		0.00
Lake	Point	40400106		0.01
Lake	Point	40400107		0.00
Lake	Point	40400108		0.00
Lake	Point	40400109		0.00
Lake	Point	40400116		0.13
Lake	Point	40400117		0.00
Lake	Point	40400121		0.02
Lake	Point	40400122		0.04
Lake	Point	40400140		0.04
Lake	Point	40400141		0.00
Lake	Point	40400148		0.06
Lake	Point	40400149		0.05
Lake	Point	40400150	0.01	0.02
Lake	Point	40400151		0.03
Lake	Point	40400152		0.00
Lake	Point	40400153		0.04
Lake	Point	40400154		0.04
Lake	Point	40400160		0.01
Lake	Point	40400161		0.10
Lake	Point	40400170		0.50

County	Source Category	SCC	NO_x	VOCs
Lake	Point	40400171		0.00
Lake	Point	40400172		0.05
Lake	Point	40400178		0.17
Lake	Point	40400179		0.16
Lake	Point	40400199		0.00
Lake	Point	40400205		0.02
Lake	Point	40400250	0.00	0.00
Lake	Point	40400261		0.11
Lake	Point	40400301		0.00
Lake	Point	40400302		0.00
Lake	Point	40400304		0.05
Lake	Point	40400306		0.02
Lake	Point	40400322		0.00
Lake	Point	40500516		0.00
Lake	Point	40600130		0.00
Lake	Point	40600131		0.01
Lake	Point	40600133		0.00
Lake	Point	40600134		0.00
Lake	Point	40600135	0.00	0.00
Lake	Point	40600140		0.00
Lake	Point	40600141	0.00	0.00
Lake	Point	40600166		0.00
Lake	Point	40688801		0.00
Lake	Point	40714697		0.00
Lake	Point	40714698		0.01
Lake	Point	40715809		0.00
Lake	Point	40715810		0.00
Lake	Point	40799999		0.01

County	Source Category	SCC	NO_x	VOCs
Lake	Point	42500202		0.00
Lake	Point	42500301		0.01
Lake	Point	49000206		0.00
Lake	Point	49000299	0.01	0.12
Porter	EGU	10100203	3.00	0.11
Porter	EGU	10100601	0.21	0.00
Porter	EGU	20100101	0.00	0.00
Porter	EGU	20100201	0.25	0.01
Porter	Nonpoint	2102001000	0.00	0.00
Porter	Nonpoint	2102002000	0.00	0.00
Porter	Nonpoint	2102004001	0.00	0.00
Porter	Nonpoint	2102004002	0.06	0.00
Porter	Nonpoint	2102005000	0.00	0.00
Porter	Nonpoint	2102006000	0.50	0.03
Porter	Nonpoint	2102007000	0.00	0.00
Porter	Nonpoint	2102008000	0.02	0.00
Porter	Nonpoint	2102011000	0.00	0.00
Porter	Nonpoint	2103001000	0.00	0.00
Porter	Nonpoint	2103002000	0.00	0.00
Porter	Nonpoint	2103004001	0.00	0.00
Porter	Nonpoint	2103004002	0.00	0.00
Porter	Nonpoint	2103005000	0.00	0.00
Porter	Nonpoint	2103006000	0.08	0.00
Porter	Nonpoint	2103007000	0.00	0.00
Porter	Nonpoint	2103008000	0.01	0.00
Porter	Nonpoint	2103011000	0.00	0.00
Porter	Nonpoint	2104001000	0.00	0.00
Porter	Nonpoint	2104002000	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Porter	Nonpoint	2104004000	0.00	0.00
Porter	Nonpoint	2104006000	0.03	0.00
Porter	Nonpoint	2104007000	0.00	0.00
Porter	Nonpoint	2104008100	0.00	0.00
Porter	Nonpoint	2104008210	0.00	0.00
Porter	Nonpoint	2104008220	0.00	0.00
Porter	Nonpoint	2104008230	0.00	0.00
Porter	Nonpoint	2104008310	0.00	0.00
Porter	Nonpoint	2104008320	0.00	0.00
Porter	Nonpoint	2104008330	0.00	0.00
Porter	Nonpoint	2104008400	0.00	0.00
Porter	Nonpoint	2104008510	0.00	0.00
Porter	Nonpoint	2104008530	0.00	0.00
Porter	Nonpoint	2104008610	0.00	0.00
Porter	Nonpoint	2104008620	0.00	0.00
Porter	Nonpoint	2104008630	0.00	0.00
Porter	Nonpoint	2104008700	0.00	0.00
Porter	Nonpoint	2104009000	0.00	0.00
Porter	Nonpoint	2104011000	0.00	0.00
Porter	Nonpoint	2280002101	0.01	0.00
Porter	Nonpoint	2280002102	0.02	0.00
Porter	Nonpoint	2280002103	0.19	0.04
Porter	Nonpoint	2280002104	0.06	0.00
Porter	Nonpoint	2280002201	0.02	0.00
Porter	Nonpoint	2280002202	0.06	0.00
Porter	Nonpoint	2280002203	0.15	0.01
Porter	Nonpoint	2280002204	0.01	0.00
Porter	Nonpoint	2285002006	1.96	0.09

County	Source Category	SCC	NO_x	VOCs
Porter	Nonpoint	2285002007	0.07	0.00
Porter	Nonpoint	2285002008	0.04	0.00
Porter	Nonpoint	2302002100		0.01
Porter	Nonpoint	2302002200		0.02
Porter	Nonpoint	2302003000		0.00
Porter	Nonpoint	2302003100		0.00
Porter	Nonpoint	2302003200		0.00
Porter	Nonpoint	2401001000		0.47
Porter	Nonpoint	2401005000		0.07
Porter	Nonpoint	2401008000		0.06
Porter	Nonpoint	2401015000		0.00
Porter	Nonpoint	2401020000		0.01
Porter	Nonpoint	2401040000		
Porter	Nonpoint	2401055000		0.00
Porter	Nonpoint	2401065000		0.00
Porter	Nonpoint	2401070000		0.13
Porter	Nonpoint	2401090000		0.00
Porter	Nonpoint	2401100000		0.07
Porter	Nonpoint	2401200000		0.00
Porter	Nonpoint	2415000000		0.45
Porter	Nonpoint	2420000000		0.00
Porter	Nonpoint	2425000000		0.77
Porter	Nonpoint	2460100000		0.38
Porter	Nonpoint	2460200000		0.39
Porter	Nonpoint	2460400000		0.04
Porter	Nonpoint	2460500000		0.18
Porter	Nonpoint	2460600000		0.35
Porter	Nonpoint	2460800000		0.35

County	Source Category	SCC	NO_x	VOCs
Porter	Nonpoint	2460900000		0.01
Porter	Nonpoint	2461021000		0.01
Porter	Nonpoint	2461022000		0.12
Porter	Nonpoint	2461850000		0.12
Porter	Nonpoint	2501011011		0.02
Porter	Nonpoint	2501011012		0.02
Porter	Nonpoint	2501011013		0.02
Porter	Nonpoint	2501011014		0.00
Porter	Nonpoint	2501011015		0.00
Porter	Nonpoint	2501012011		0.00
Porter	Nonpoint	2501012012		0.00
Porter	Nonpoint	2501012013		0.03
Porter	Nonpoint	2501012014		0.01
Porter	Nonpoint	2501012015		0.00
Porter	Nonpoint	2501050120		0.34
Porter	Nonpoint	2501055120		0.00
Porter	Nonpoint	2501060051		0.02
Porter	Nonpoint	2501060052		0.00
Porter	Nonpoint	2501060053		0.03
Porter	Nonpoint	2501060201		0.04
Porter	Nonpoint	2501080050		0.06
Porter	Nonpoint	2501080100		0.00
Porter	Nonpoint	2505030120		0.00
Porter	Nonpoint	2505040120		0.10
Porter	Nonpoint	2610000100	0.00	0.00
Porter	Nonpoint	2610000400	0.00	0.00
Porter	Nonpoint	2610000500	0.03	0.08
Porter	Nonpoint	2610030000	0.02	0.03

County	Source Category	SCC	NO_x	VOCs
Porter	Nonpoint	2630020000		0.00
Porter	Nonpoint	2680003000		0.05
Porter	Nonpoint	2805002000		0.00
Porter	Nonpoint	2805007100		0.00
Porter	Nonpoint	2805009100		0.00
Porter	Nonpoint	2805010100		0.00
Porter	Nonpoint	2805018000		0.01
Porter	Nonpoint	2805025000		0.01
Porter	Nonpoint	2805035000		0.00
Porter	Nonpoint	2805040000		0.00
Porter	Nonpoint	2805045000		0.00
Porter	Nonpoint	2810025000	0.00	0.01
Porter	Nonpoint	2810060100	0.00	0.00
Porter	Nonpoint	2810060200	0.00	0.00
Porter	Nonroad	2260001022	0.00	0.25
Porter	Nonroad	2260001060	0.00	0.00
Porter	Nonroad	2260002022	0.00	0.02
Porter	Nonroad	2260003022	0.00	0.00
Porter	Nonroad	2260004020	0.00	0.01
Porter	Nonroad	2260004021	0.00	0.09
Porter	Nonroad	2260004022	0.00	0.00
Porter	Nonroad	2260004033	0.00	0.03
Porter	Nonroad	2260004035	0.00	0.00
Porter	Nonroad	2260004036	0.00	0.05
Porter	Nonroad	2260004044	0.00	0.10
Porter	Nonroad	2260005022	0.00	0.00
Porter	Nonroad	2260006022	0.00	0.01
Porter	Nonroad	2260007022	0.00	0.00

County	Source Category	SCC	NO_x	VOCs
Porter	Nonroad	2265001022	0.01	0.09
Porter	Nonroad	2265001050	0.00	0.01
Porter	Nonroad	2265001060	0.00	0.00
Porter	Nonroad	2265002022	0.01	0.01
Porter	Nonroad	2265003022	0.01	0.01
Porter	Nonroad	2265003060	0.00	0.00
Porter	Nonroad	2265004022	0.03	0.08
Porter	Nonroad	2265004033	0.02	0.10
Porter	Nonroad	2265004035	0.00	0.01
Porter	Nonroad	2265004036	0.00	0.01
Porter	Nonroad	2265004044	0.02	0.06
Porter	Nonroad	2265005022	0.00	0.00
Porter	Nonroad	2265006022	0.03	0.08
Porter	Nonroad	2265007022	0.00	0.00
Porter	Nonroad	2267001060	0.00	0.00
Porter	Nonroad	2267002022	0.00	0.00
Porter	Nonroad	2267003022	0.06	0.01
Porter	Nonroad	2267004044	0.00	0.00
Porter	Nonroad	2267005022	0.00	0.00
Porter	Nonroad	2267006022	0.01	0.00
Porter	Nonroad	2268002022	0.00	0.00
Porter	Nonroad	2268003022	0.00	0.00
Porter	Nonroad	2268003060	0.00	0.00
Porter	Nonroad	2268005022	0.00	0.00
Porter	Nonroad	2268006022	0.00	0.00
Porter	Nonroad	2270001060	0.00	0.00
Porter	Nonroad	2270002022	0.43	0.04
Porter	Nonroad	2270003022	0.09	0.01

County	Source Category	SCC	NO_x	VOCs
Porter	Nonroad	2270003060	0.04	0.00
Porter	Nonroad	2270004022	0.00	0.00
Porter	Nonroad	2270004036	0.00	0.00
Porter	Nonroad	2270004044	0.03	0.00
Porter	Nonroad	2270005022	0.22	0.02
Porter	Nonroad	2270006022	0.07	0.01
Porter	Nonroad	2270007022	0.00	0.00
Porter	Nonroad	2282005022	0.02	0.08
Porter	Nonroad	2282010005	0.06	0.04
Porter	Nonroad	2282020022	0.04	0.00
Porter	Nonroad	2285002015	0.01	0.00
Porter	Nonroad	2285004015	0.00	0.00
Porter	Nonroad	2285006015	0.00	0.00
Porter	Point	10200401	0.00	0.00
Porter	Point	10200402	0.00	0.00
Porter	Point	10200601	1.09	0.04
Porter	Point	10200602	0.14	0.02
Porter	Point	10200603	0.00	0.00
Porter	Point	10200704	0.54	0.00
Porter	Point	10200707	1.42	0.02
Porter	Point	10201002	0.00	0.00
Porter	Point	10300602	0.00	0.00
Porter	Point	10301002	0.00	0.00
Porter	Point	10500106	0.00	0.00
Porter	Point	20200102	0.01	0.00
Porter	Point	20200401	0.00	0.00
Porter	Point	20300101	0.05	0.00
Porter	Point	2275001000	0.01	0.01

County	Source Category	SCC	NO_x	VOCs
Porter	Point	2275050011	0.00	0.01
Porter	Point	2275050012	0.00	0.01
Porter	Point	2275060011	0.00	0.00
Porter	Point	2275060012	0.00	0.00
Porter	Point	28500201	0.18	0.01
Porter	Point	30100799		0.00
Porter	Point	30101199		0.00
Porter	Point	30300302	0.00	0.16
Porter	Point	30300303	0.06	0.26
Porter	Point	30300308	0.00	0.02
Porter	Point	30300314	0.00	0.03
Porter	Point	30300315		0.00
Porter	Point	30300317	8.89	0.02
Porter	Point	30300318	1.11	
Porter	Point	30301503	2.37	0.22
Porter	Point	30301513	0.18	
Porter	Point	30301518	0.01	
Porter	Point	30301521		0.00
Porter	Point	30301522	0.38	0.00
Porter	Point	30301532	0.10	0.06
Porter	Point	30301573		0.29
Porter	Point	30301574		0.01
Porter	Point	30301599	0.33	0.20
Porter	Point	30390001	0.00	0.00
Porter	Point	30390002	0.00	0.00
Porter	Point	30390003	2.96	0.10
Porter	Point	30390004	1.10	0.01
Porter	Point	30390024	4.04	

County	Source Category	SCC	NO _x	VOCs
Porter	Point	30400768	0.00	0.00
Porter	Point	30599999	0.00	0.00
Porter	Point	30600602		0.00
Porter	Point	30799998		0.16
Porter	Point	39000699	0.21	0.01
Porter	Point	39999999	0.01	
Porter	Point	40201001	0.02	0.00
Porter	Point	40201726		0.00
Porter	Point	40201801		0.00
Porter	Point	40201805		0.00
Porter	Point	40201806		0.00
Porter	Point	40201899		0.11
Porter	Point	40290013	0.01	0.00
Porter	Point	40299998		0.17
Porter	Point	40400301		0.00
Porter	Point	40400302		0.00
Porter	Point	40500309		
Porter	Point	40600140		0.00
Porter	Point	49099998		0.00

Table 4.6: Lake County (Partial) and Porter County (Partial) Point Source NO_x and VOC Emissions, Tons per Year and Tons per Ozone Season Day, 2017

County	Agency Facility ID	Site Name	NO _x (tons per year)	VOCs (tons per year)	NO _x (tons per ozone season day)	VOCs (tons per ozone season day)
Lake		COLEHOUR	26.41	1.73	0.07	0.00
Lake		COMMUNITY HOSPITAL	0.01	0.01	0.00	0.00
Lake		EAST CHICAGO	18.12	1.19	0.05	0.00
Lake		ESCC	0.01	0.01	0.00	0.00

County	Agency Facility ID	Site Name	NO _x (tons per year)	VOCs (tons per year)	NO _x (tons per ozone season day)	VOCs (tons per ozone season day)
Lake		Gary/Chicago	12.32	6.87	0.04	0.02
Lake		GIBSON	1.44	0.09	0.00	0.00
Lake		Griffith-Merrillville	1.20	2.59	0.00	0.01
Lake		HOBART SKY RANCH	0.16	0.35	0.00	0.00
Lake		HORSESHOE CASINO	0.01	0.01	0.00	0.00
Lake		IVANHOE	4.79	0.31	0.01	0.00
Lake		JOHNSONS STRAWBERRY FARM	0.00	0.01	0.00	0.00
Lake		KIRK	204.22	13.39	0.55	0.04
Lake		NIPSCO SOUTHLAKE COMPLEX	0.01	0.01	0.00	0.00
Lake		NORTHWEST FAMILY HOSP	0.01	0.01	0.00	0.00
Lake		POLICE	0.01	0.01	0.00	0.00
Lake		ST MARGARET MERCY	0.01	0.01	0.00	0.00
Lake		ST MARGARET MERCY HOSPITAL	0.01	0.01	0.00	0.00
Lake		ST MARY MEDICAL CENTER	0.01	0.01	0.00	0.00
Lake	00003	BP Products North America Inc Whiting R	1439.96	659.08	3.81	1.78
Lake	00006	Albanese Confectionery Group Inc	4.55	68.81	0.01	0.19
Lake	00062	CCL Design		0.57		0.00
Lake	00072	Marathon Pipe Line, LLC		50.64		0.14
Lake	00081	Enbridge Energy Limited Partnership Ha		23.98		0.07
Lake	00112	CARMEUSE LIME INC	888.73	5.15	2.42	0.01
Lake	00118	ArcelorMittal Plate, LLC (Gary Plate)	8.89	0.99	0.02	0.00
Lake	00121	US STEEL GARY WORKS	3089.13	226.25	8.42	0.62
Lake	00133	South Shore Slag LLC contractor of USS	3.79	0.31	0.01	0.00
Lake	00161	Industrial Steel Construction Inc		24.33		0.07
Lake	00171	Oil Technology Inc contractor of USS Ga		1.02		0.00
Lake	00172	USS Central Teaming Company Inc	1.57	0.13	0.00	0.00
Lake	00173	Mid Continent Coal & Coke contractor of	0.00	0.00	0.00	0.00
Lake	00174	Tube City IMS LLC contractor of USS Gar	0.19	0.01	0.00	0.00
Lake	00176	USS BRANDENBURG INDUSTRIAL SERVICE CO	0.00	1.65	0.00	0.00

County	Agency Facility ID	Site Name	NO _x (tons per year)	VOCs (tons per year)	NO _x (tons per ozone season day)	VOCs (tons per ozone season day)
Lake	00201	JUPITER ALUMINUM CORPORATION	24.50	86.99	0.06	0.24
Lake	00202	Silgan Containers Manufacturing Corpora	5.53	23.91	0.02	0.07
Lake	00203	CARGILL INC	71.25	47.83	0.19	0.13
Lake	00204	Armsted Rail Company Inc	38.08	5.08	0.10	0.01
Lake	00209	Premcor Pipeline Company		15.20		0.04
Lake	00214	EXPLORER PIPELINE COMP		94.55		0.26
Lake	00220	Niagara LaSalle Corporation	11.69	2.19	0.03	0.01
Lake	00227	DOVER CHEMICAL HAMMOND WORKS	8.21	8.70	0.02	0.02
Lake	00228	Huhtamaki Inc.	13.29	64.20	0.04	0.17
Lake	00230	WOLF LAKE TERMINALS INC	25.42	4.57	0.07	0.01
Lake	00231	MPLX Terminals LLC	0.00	56.94	0.00	0.16
Lake	00233	ExxonMobil Pipeline Company		34.58		0.09
Lake	00239	Buckeye Terminals LLC	0.30	58.31	0.00	0.16
Lake	00242	Eco Services Operations Corp	29.07	8.98	0.08	0.02
Lake	00291	Buckeye Terminals, LLC., Hartsdale Stat	0.00	24.72	0.00	0.07
Lake	00300	US STEEL EAST CHICAGO	24.06	0.74	0.07	0.00
Lake	00301	Safety Kleen Oil Recovery Company Incor	87.27	6.85	0.23	0.02
Lake	00307	CITGO East Chicago Terminal		190.93		0.52
Lake	00310	W.R. Grace & Co. - Conn.	193.68	1.31	0.52	0.00
Lake	00316	ARCELORMITTAL USA LLC	2868.45	829.38	7.81	2.25
Lake	00318	ArcelorMittal USA LLC	1056.28	103.93	2.88	0.28
Lake	00320	BUCKEYE TERMINALS LLC East Chicago Term	3.47	82.86	0.01	0.23
Lake	00345	Tradebe Treatment and Recycling LLC	11.80	48.63	0.03	0.13
Lake	00356	Beemsterboer Slag Corp contractor of Ar	20.32	1.19	0.06	0.00
Lake	00358	Harsco Metals Americas - contractor of	3.89	3.48	0.01	0.01
Lake	00369	Oil Technology Incorporated - contracto		0.71		0.00
Lake	00375	Oil Technology Inc - contractor of Acel		3.60		0.01
Lake	00382	Indiana Harbor Coke Company LP contract	713.74	1.40	1.94	0.00

County	Agency Facility ID	Site Name	NO _x (tons per year)	VOCs (tons per year)	NO _x (tons per ozone season day)	VOCs (tons per ozone season day)
Lake	00384	NATIONAL PROCESSING COMPANY		1.49		0.00
Lake	00435	PRAXAIR INC	63.45	4.94	0.17	0.01
Lake	00448	Ironside Energy LLC contractor of Acelo	17.35	14.44	0.05	0.04
Lake	00449	Whiting Clean Energy Inc	84.80	25.80	0.25	0.08
Lake	00458	Holcim US Incorporated	9.28	0.90	0.03	0.00
Lake	00465	Fritz Enterprises, Inc. - contractor of	17.74	1.42	0.05	0.00
Lake	00497	Enbridge Energy Limited Partnership Gr		46.90		0.13
Lake	00505	AKJ Industries Inc contractor of USS Ga		0.38		0.00
Lake	00537	Beemsterboer Slag Corporation A Contrac	0.00	0.00	0.00	0.00
Lake	00538	Phoenix Services LLC A Contractor of Ar	0.11	0.01	0.00	0.00
Lake	00578	Fritz Enterprises Incorporated	10.31	0.83	0.03	0.00
Lake	05057	MID CONTINENT COAL & COKE COMPANY	3.97	0.32	0.01	0.00
Porter		BODIN	0.00	0.00	0.00	0.00
Porter		BURNS HARBOR	66.01	4.32	0.18	0.01
Porter		BURNS INTL HARBOR	0.01	0.01	0.00	0.00
Porter		CARLSON FARM	0.00	0.01	0.00	0.00
Porter		FLYING M	0.00	0.00	0.00	0.00
Porter		MIDWEST STEEL	0.01	0.01	0.00	0.00
Porter		PORTAGE COMMUNITY HOSPITAL	0.01	0.01	0.00	0.00
Porter		Porter County Muni	6.50	7.38	0.02	0.02
Porter		PORTER MEMORIAL HOSPITAL	0.01	0.01	0.00	0.00
Porter		WYCKOFF AIRSTRIP	0.00	0.01	0.00	0.00
Porter	00001	ArcelorMittal Burns Harbor LLC	9000.89	500.58	24.39	1.36
Porter	00002	Northern Indiana Public Service Company	1169.39	41.69	3.22	0.11
Porter	00005	PRECOAT METALS DIVISION SEQUA COATINGS	10.12	43.71	0.03	0.12
Porter	00009	U S STEEL MIDWEST PLANT	73.94	2.42	0.20	0.01
Porter	00021	Powder Processing Technology LLC	7.37	0.24	0.02	0.00
Porter	00024	Calumite Company LLC contractor of Arce	0.32	0.02	0.00	0.00

County	Agency Facility ID	Site Name	NO _x (tons per year)	VOCs (tons per year)	NO _x (tons per ozone season day)	VOCs (tons per ozone season day)
Porter	00026	Metal Services LLC dba Phoenix Services	0.86	0.07	0.00	0.00
Porter	00030	Ardagh Metal Beverage USA Incorporated		61.60		0.17
Porter	00036	NLMK Indiana	60.66	27.67	0.16	0.08
Porter	00039	PVS Steel Services Inc	10.40	0.57	0.03	0.00
Porter	00067	PORTSIDE ENERGY LLC	93.50	4.50	0.27	0.01
Porter	00074	Oil Technology Inc contractor of Arcelo		0.56		0.00
Porter	00076	SMS Mill Services LLC contractor of Ace	0.00	0.05	0.00	0.00
Porter	00085	PVS Steel Services Inc	21.25	1.17	0.06	0.00
Porter	00094	Jet Corr Inc/Pratt Paper (IN) LLC	20.80	65.47	0.06	0.17
Porter	00098	Indiana Flame Service - contractor of A	1.18	0.06	0.00	0.00
Porter	00104	Tube City IMS LLC contractor of NLMK In	0.02	0.00	0.00	0.00
Porter	00108	Mid Continent Coal & Coke contractor of	0.00	0.00	0.00	0.00
Porter	00116	Beemsterboer Slag Corporation a Contrac	2.43	0.20	0.01	0.00
Porter	00117	Mid Continent Coal and Coke a Contracto	4.10	0.33	0.01	0.00
Porter	00118	PSC Metals Inc - Contractor of ArcelorM	0.00	0.00	0.00	0.00
Porter	00123	Fritz Enterprises Incorporated	12.84	1.02	0.03	0.00

5.0 Public Participation

In accordance with 40 CFR 51.102, IDEM provided notice of opportunity for a public hearing regarding the draft Revised 2017 Base-Year Emissions Inventory for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone "Marginal" Nonattainment Area.

Notice of availability of the complete draft document was posted on IDEM's website at <http://www.in.gov/idem/5474.htm> under "Northwest, Multi-County Notices" on August 5, 2021, and remained posted until at least September 6, 2021. During the public comment period IDEM did not receive any public comments. The deadline during the public comment period to request a hearing was September 6, 2021. There was not a request for a public hearing and therefore the hearing was not required to be held. A copy of the legal notice is provided in Enclosure 4, Public Participation Process Documentation.

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Appendix 1A

*U.S. EPA 2017 National Emissions Inventory:
January 2021 Updated Release, Technical Support
Document -*

<https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>

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Appendix 1B

Supplemental Onroad Emissions Data for Lake and Porter Counties:

- Northwest Indiana (Lake and Porter Counties)
Nonattainment/Maintenance Area Onroad
Mobile Emission Estimates
- MOVES2014 Input Data and Parameters,
Northwest Indiana Regional Planning
Commission (NIRPC)

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**Northwest Indiana (Lake and Porter Counties)
Nonattainment/Maintenance Area Onroad Emission Estimates**

County	Emission Type	2015		2017		2020	
		VOC	NOx	VOC	NOx	VOC	NOx
		Tons/Summer Day					
Calumet, Hobart, North, Ross, and St. John Townships, Lake County, IN	Running & Non-Running	5.43	12.99	4.71	10.32	3.62	7.17
Lake County, Indiana	Running & Non-Running	6.58	16.18	5.73	12.91	4.40	8.94
Center, Jackson, Liberty, Pine, Portage, Union, Washington, Westchester Townships, Porter County, IN	Running & Non-Running	2.07	6.51	1.75	5.03	1.20	3.27
Porter County, Indiana	Running & Non-Running	2.59	7.27	2.30	5.86	1.78	4.07
Lake County (Partial) and Porter County (Partial) Onroad Emission Estimates	Running & Non-Running	7.50	19.50	6.46	15.35	4.82	10.44

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MOVES2014 Input Data and Parameters

May 27, 2015

Northwest Indiana Regional Planning Commission (NIRPC)
Lake, Porter and LaPorte Counties

Developed for:
Indiana Department of Transportation

Developed by:



Table of Contents

1.0 Introduction	1
2.0 Source Type Population	2
2.1 BMV Vehicle Registration and License Data	2
2.2 Heavy Vehicle Source Types	4
Mileage Accumulation Rates.....	4
2.3 Forecasting Vehicle Populations by Source Types	4
2.4 Vehicle Age Distribution	5
3.0 Vehicle Type VMT	5
3.1 Road Type, Daily, and Monthly Distributions	6
3.2 Hourly Distributions	6
4.0 Average Speed Distribution	8
5.0 Ramp Fraction.....	8
6.0 Meteorology Data.....	8
7.0 Fuel	9
AVFT Assumptions.....	9
8.0 I/M Program	11
9.0 Summary of MOVES2014 Runs and Settings	12
Appendix A – Updated Vehicle Fleet Assumptions Derived from BMV Data	16
Appendix B – Updated Hourly VMT Fractions Derived from INDOT Data	21
Appendix C – Inputs Carried Over from MOVES2010a Rate Development	26

List of Tables

Table 1: What's Been Updated?	1
Table 2: Mapping BMV Data to MOVES2014.....	3
Table 3: Comparison of BMV Data to MOVES 2014 AVFT Defaults	9
Table 4: Summary of Lake and Porter Emission Rate Runs	12
Table 5: Summary of Laporte Emission Rate Runs	13
Table 6: Summary of County Data Manager Inputs	14
Table 7: MOVES Source Types	15
Table 8: MOVES Road Types.....	15
Table A-1: Vehicle Population Lake County.....	16
Table A-2: Vehicle Population Porter County	16
Table A-3: Vehicle Population LaPorte County.....	16
Table A-4: Vehicle Age Distribution Lake County	17
Table A-5: Vehicle Age Distribution Porter County	18
Table A-6: Vehicle Age Distribution LaPorte County	19
Table A-7: AVFT Percentages for Light Duty Vehicles NIRPC Region	20
Table B-1: Updated Hourly VMT Fractions from INDOT Data RoadType1.....	21
Table B-2: Updated Hourly VMT Fractions from INDOT Data RoadType2.....	22
Table B-3: Updated Hourly VMT Fractions from INDOT Data RoadType3.....	23
Table B-4: Updated Hourly VMT Fractions from INDOT Data RoadType4.....	24
Table B-5: Updated Hourly VMT Fractions from INDOT Data RoadType5.....	25
Table C-1: Default VMT Distributions by VehicleType and RoadType	26
Table C-2: Default Daily Distributions by Month.....	26
Table C-3: Ramp Fractions	26
Table C-4: Default Monthly Distribution Factors.....	27
Table C-5: Meteorology Assumptions	28
Table C-6: Fuel	29
Table C-7: Fuel Formulation	29
Table C-8: Inspection and Maintenance Program	30

1.0 Introduction

This report documents the methods used to create input parameters prior to running a set of MOVES2014 runs for Northwest Indiana Regional Planning Commission (NIRPC) covering the following:

- Lake and Porter Counties 8-hour Ozone Maintenance Area
- Lake and Porter Counties PM 2.5 non-attainment area.
- LaPorte County 8-hour Ozone Maintenance Area

This report contains a discussion of the input settings used in MOVES2014 and the development of the input datasets. These MOVES2014 runs are intended to develop a default set of emission rates that can be used for conformity determination and is part of a statewide effort being conducted by the Indiana Department of Transportation (INDOT) for all participating MPOs or other jurisdictions with air quality conformity needs.

What Has Been Updated?

MOVES Input	Updated?	Notes
Source (Vehicle) Type Population	Yes	<i>New BMV data</i>
Vehicle Type VMT (by 13 MOVES Vehicle Types)	Yes	<i>HourVMTFraction updated using INDOT WIM & ATR data</i>
Age Distribution (Vehicle Population by Age of Vehicle)	Yes	<i>New BMV data</i>
Fuel (AVFT, % Fuel Type/Engine Type by Vehicle Type)	Yes	<i>New BMV data</i>
Fuel (all other files)	Yes	<i>Used MOVES2014 defaults for each county</i>
Average Speed Distribution (% of VHT in each 5 mph speed bin)	No	<i>Not Needed for Emission Rate Mode (Dummy Inputs)</i>
Road Type Distribution (VMT by 5 MOVES Road Types)	No	<i>Retained inputs from 2012 emission rate development</i>
Ramp Fraction	No	<i>Retained inputs from 2012 emission rate development</i>
Meteorology Data	No	<i>Retained inputs from 2012 emission rate development</i>
I/M Program	No	<i>Retained inputs from 2012 emission rate development</i>

2.0 Source Type Population

The vehicle populations for light duty vehicles, which include motorcycles, passenger cars, passenger trucks, and light commercial trucks (source types 11, 21, 31, and 32 respectively) were developed from a new vehicle registration dataset provided to INDOT by the Indiana Bureau of Motor Vehicles (BMV) in December of 2014. These are discussed in section 2.1 below. The vehicle populations for heavy duty vehicles, which include trucks and buses (source types 41, 42, 43, 51, 52, 53, 54, 61, and 62 respectively) were developed using procedures recommended in EPA's MOVES guidance. This is discussed in section 2.2 below.

2.1 BMV Vehicle Registration and License Data

A statewide vehicle fleet dataset was provided to the Indiana Department of Transportation (INDOT) from the Indiana Bureau of Motor Vehicles (BMV) in December of 2014. The analysis was performed by the Corradino Group under contract to INDOT. The dataset was processed by BMV and combined attributes of both vehicle title/registration (VIN) and license type.

The raw BMV dataset contained the number of vehicles classified by the combination of:

- Vehicle Type, and
- Vehicle Year, and
- Fuel Type, and
- County

There were approximately 6.67 million VINs in the statewide data set. Out of these, approximately 5.85 million were for On-Road vehicles of interest to this analysis.

BMV Vehicle Type Records Excluded from Further Analysis:

- Low Speed
- Off-Road Vehicle
- RV-Travel Trailer
- Snowmobile
- Special Machinery
- Trailer
- Watercraft

Table 2 shows how the BMV Vehicle Type classifications were cross-mapped to MOVES Source Type ID categories. The vehicle populations for light duty vehicles, which including motorcycles, passenger cars, passenger trucks, and light commercial trucks (source types 11, 21, 31, and 32 respectively) were developed from the 2014 BMV vehicle registration. The vehicle populations for heavy duty vehicles, which include trucks and buses (source types 41, 42, 43, 51, 52, 53, 54, 61, and 62 respectively) used the BMV heavy duty vehicle population as a control total for each county.

Table 2: BMV Data to MOVES2014

BMV Type	MOVES Usage			
	Source Type ID	Source Type Population	Vehicle Age Distribution	AVFT File
MOTORCYCLE	11	X	X	MD
Dealer	21	X	X	X
PASSENGER	21	X	X	X
RV-Truck Camper	31	X	X	X
Truck 7,000	31	X	X	X
Truck 9,000	31	X	X	X
Truck Camper	31	X	X	X
Farm Truck	32	X	X	X
Truck 10,000	32	X	X	X
Truck 11,000	32	X	X	X
City Bus	42	T	MD	MD
Commercial Bus	42	T	MD	MD
Church Bus	43	T	MD	MD
School Bus	43	T	MD	MD
Special Bus	43	T	MD	MD
Recovery Vehicle	52	T	MD	MD
Truck 16,000	52	T	MD	MD
Truck 20,000	52	T	MD	MD
Truck 23,000	52	T	MD	MD
Truck 26,000	52	T	MD	MD
Truck 30,000	52	T	MD	MD
Truck 36,000	53	T	MD	MD
Truck 42,000	53	T	MD	MD
Truck 48,000	53	T	MD	MD
Truck 54,000	53	T	MD	MD
Truck 60,000	53	T	MD	MD
RV	54	T	MD	MD
RV-Motorhome	54	T	MD	MD
Farm Semi Tractor	61	T	MD	MD
Truck 66,000	61	T	MD	MD
Truck 66,000+	61	T	MD	MD
Semi Tractor	62	T	MD	MD
Truck	62	T	MD	MD
SEMI	62	T	MD	MD
Semi	62	T	MD	MD
LOW SPEED	N/A	N/A	N/A	N/A
OFF-ROAD VEHICLE	N/A	N/A	N/A	N/A
RV-Travel Trailer	N/A	N/A	N/A	N/A
SNOWMOBILE	N/A	N/A	N/A	N/A
SPECIAL MACHINERY	N/A	N/A	N/A	N/A
TRAILER	N/A	N/A	N/A	N/A
WATERCRAFT	N/A	N/A	N/A	N/A

Legend	
X	BMV values were used
MD	Moves Defaults used in place of BVM data
T	BMV data used for Heavy Duty Veh. control total applied to MAR method
N/A	Discarded

2.2 Heavy Vehicle Source Types

Vehicle populations for all other source types (buses and heavy vehicles) were derived by applying the Mileage Accumulation Rate (MAR) method documented in EPA's Technical Guidance on the Use of MOVES2010 for Emission Inventory Preparation in State Implementation Plans and Transportation Conformity, Section 3.3 Source Type Population.

Mileage Accumulation Rates

Development of the Mileage Accumulation Rates was done during the previous 2011-2012 emission rate development process facilitated by INDOT. The MARs developed at that time have been carried forward into this update, but have been updated to reconcile with current BMV data related to heavy vehicles. The default MARs were extracted from MOVES by running MOVES for a single pollutant and a single year for all vehicles, fuels, months, days, and hours. The activity output was set to report both distance and population. A ratio of population to vehicle-miles-traveled (VMT) was calculated from these outputs. The ratios were calculated for each source type.

The Northwestern Indiana Regional Planning Commission (NIRPC), which is the metropolitan planning organization (MPO) for Lake and Porter Counties, provided VMT by MOVES road types extracted from their travel demand model's base year. Since the default MARs in MOVES vary by year (but not by location), the MOVES run that was executed to extract the MARs was run for a year consistent with the travel demand model's base year. This resulted in MARs that could be applied directly to the validated VMTs reported by the travel demand model. The travel demand model VMTs were converted into annual VMT and distributed by vehicle types using statewide default VMT distribution factors documented in this report in the section on Default VMT Distributions. The MARs were then applied to the annual vehicle type VMTs. The result was an estimated vehicle population for each source type for the travel demand model's base year. Since the vehicle populations for source types 11, 21, 31, and 32 were developed directly from the vehicle registration data, the population estimates derived for those source types using the MAR method were discarded and the observed data were used instead. As a final step, MAR-derived heavy duty vehicle classes were adjusted proportionally to match heavy duty vehicle population totals for each county from BMV data.

2.3 Forecasting Vehicle Populations by Source Types

Future year vehicle populations were developed base on socioeconomic growth rates for the maintenance area. The MPO provided base year and horizon year population and employment data for the area. Annual growth rates were calculated for population growth and employment growth individually. Population growth rates were then used to grow the light vehicle populations (source types 11, 21, 31, and 32). Employment growth rates were used to grow the heavy vehicle populations (source types 41, 42, 43, 51, 52, 53, 54, 61, and 62). Vehicle populations were calculated in 5 year increments from 2015 to 2045. The county level source type values and forecasts are shown in Tables A-1, A-2, and A-3 in Appendix A. When generating MOVES2014 emission rates the vehicle populations for Lake and Porter Counties are

combined into a single input file. LaPorte County emission rates are developed separately, so the county's vehicle population files are not combined with Lake and Porter county files.

2.4 Vehicle Age Distribution

The vehicle age distributions for MOVES source types 11, 21, 31, and 32 (motorcycles, cars, passenger trucks, and light commercial vehicles respectively) were developed through an analysis of Indiana's 2014 vehicle registration data. The BMV dataset allowed the totals for each model year by vehicle type and county to be assembled into the required MOVES 2014 format. Whereby, the vehicles are classified into one year age bins between 0 and 29 years old, and older vehicles into the 30 years old or more bin.

In keeping with previous practice, vehicle age distributions were only derived for light duty vehicles from the BMV data (source types 11, 21, 31, and 32 from the vehicle registration data). Because of the transient nature of the heavy vehicle classes, MOVES2014 default vehicle age distributions specific to each source types were used. Vehicle age distributions for all source types were kept constant for all future years. The vehicle age distributions for Lake and Porter Counties as a combined area are shown in Appendix A of this report.

3.0 Vehicle Type VMT

As part of the previous 2011-2012 emission rate development effort, INDOT developed a default set of VMT distribution factors by Highway Performance Monitoring System (HPMS) vehicle type and by MOVES road type. The original distribution factors were developed by analyzing four consecutive years of continuous traffic count data ending in 2010 for twenty permanent traffic count stations throughout Indiana. During the current update, the Corradino Group evaluated the latest four years of continuous traffic count data; covering the years 2011, 2012, 2013, and 2014.

The stations were selected to provide a spread of locations corresponding to each of the four MOVES road types. Furthermore, these stations were selected from among sites that were concentrated in nonattainment and maintenance areas. An inventory of the sites used to develop the distributions is shown in Figure 1. Of the available sites, 16 unique Weigh in Motion (WIM) sites and 26 ATR sites were utilized.

The vehicle counts reported at each station were provided by vehicle class. These were aggregated into the six basic HPMS vehicle types: motorcycle, passenger car, light truck, bus, single-unit heavy truck, and combination heavy truck. The distribution of VMT by vehicle type was calculated for each road type by taking each vehicle type's percentage of total traffic.

3.1 Road Type, Daily, and Monthly Distributions

Road Type, Daily and Monthly distribution factors were calculated from INDOT's official count adjustment factors which are more commonly used to develop AADT from raw traffic counts. These factors are based on the set of daily traffic counts collected from all permanent count stations throughout the state. The daily distribution factors determine what percentage of VMT is occurring on weekdays and what percentage is occurring on weekends. The monthly distribution factors determine what percentage of annual VMT is occurring in each month of the year. After comparing results for Daily and Monthly distributions developed using the 2007-2010 data versus the newer 2011-2014 data, the differences were trivial and the previously developed MOVES Daily and Monthly VMT fraction files were retained for use in the MOVES2014 analysis.

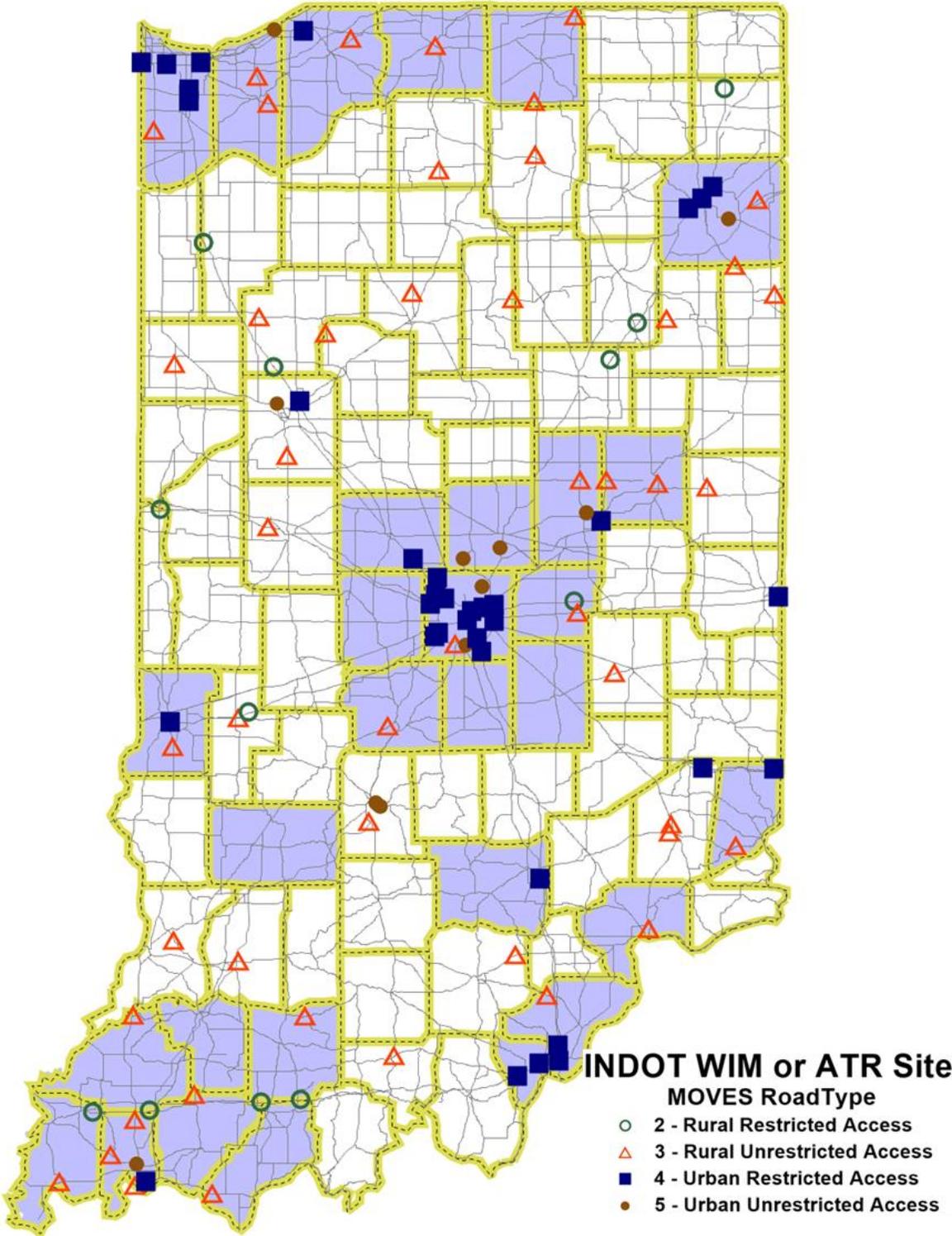
VehTypeVMT - When converting files from MOVES 2010 format to MOVES 2014 format, HPMS Base Year VMT by HPMS Vehicle Type ID was converted so that VMT for HPMS vehicle types 20 and 30 were combined and classified as HPMS vehicle type 25.

The statewide default daily distribution factors are shown in Tables C-1, C-2, and C-4 in Appendix C. The statewide default monthly distribution factors are also shown in Appendix C.

3.2 Hourly Distributions

The same set of forty two permanent traffic count locations discussed in the section on Default VMT Distributions was analyzed to develop a set of hourly distribution factors. These factors were calculated by road type, by HPMS vehicle type. Hourly factors were only calculated for the average weekday. The hourly distribution pattern for each traffic count location was reviewed. Any data that appeared to reflect either an error in the data or an outlier of behavior were removed to prevent bias in the data. The statewide default hourly distribution factors are presented in Appendix B.

Figure 1 - INDOT Continuous Count Locations



4.0 Average Speed Distribution

National MOVES defaults are used for the average speed distribution inputs. Per the *User Guide for MOVES2014*, when running MOVES2014 in emission rate mode, the speed distribution is needed for model setup, but not used in the development of emission rates. The speed distribution for a given scenario is accounted for later in the inventory development process, when the emission rates are applied to detailed travel demand model outputs as part of the INDOT Air Quality Post-Processor.

5.0 Ramp Fraction

The ramp fractions represent the percentage of vehicle-hours-traveled (VHT) for road types 2 (rural restricted access) and 4 (urban restricted access) occurring on the ramps associated with those road types. These fractions were calculated based on the percentage of VHT occurring on ramps reported by the base year travel demand model. These ramp fractions are reported in Appendix C.

6.0 Meteorology Data

The default set of hourly temperatures and hourly relative humidity for use in MOVES 2014 was retained from the MOVES 2010a inputs originally developed using EPA's data converters for changing MOBILE6.2 minimum / maximum temperatures and absolute humidity to the MOVES equivalent formats.

Meteorological data reflect average annual conditions for the PM 2.5 runs. During the previous emission rate update, the MOBILE6.2 meteorological input data for each of the twelve months of the years were averaged together to create average annual temperatures and humidity. These were then passed through the data converters. The data reflect summer conditions for ozone using MOBILE6.2 inputs for July. The MOVES formatted meteorological data for the NIRPC counties of Lake, Porter, and LaPorte as a combined area are presented in Appendix C of this report.

7.0 Fuel

The 2014 version of MOVES has features developed as a result of the EPA Tier 2 Gasoline Model, impacts of ethanol and other key fuel properties, and incorporates the EPA Sulfur Effects Model. MOVES2014 has a new set of Fuel Supply Regions based on regional fuels, and reduces the number of Fuels in MOVES from approximately 300 to 40. MOVES2014 contains the most current ethanol (E10, E15, E85) and fuel formulation projections based on AEO2014.

Development of the updated NIRPC emission rates uses default MOVES2014 fuel formulation assumptions based on each county's Fuel Supply Region, and defaults to summer conditions.

Figure 2-Indiana Fuel Supply Regions



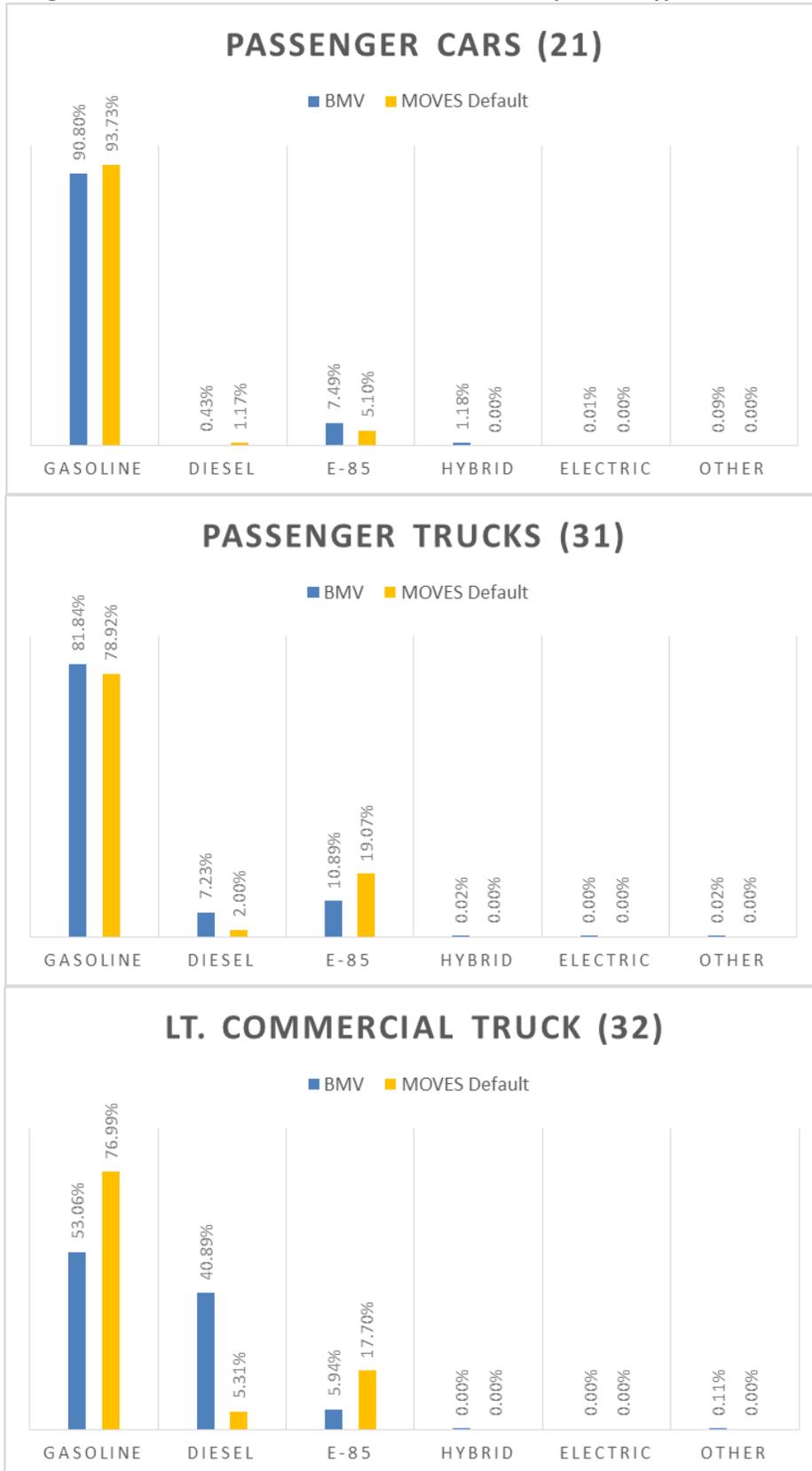
AVFT Assumptions

The 2014 BMV fleet mix data allowed the differentiation of vehicle types by fuel types. An evaluation of differences between BMV-derived data and MOVES 2014 defaults was conducted for light duty vehicles. Results showed that in many of the urban counties, the number of hybrid and electric passenger cars is large enough to warrant inclusion in the AVFT input file. The default MOVES file assumes zero hybrid or electric cars statewide. Additionally, BMV data shows a much larger fraction of diesel powered light duty trucks than indicated in the default data. And, the E-85 market share is actually much smaller in Indiana, than assumed in the default data. Statewide results are shown in Table 3, and Figures 3, 4, and 5. Because of these differences, it was decided that the BMV data provides a better set of assumptions for the light duty vehicle classes. Specific AVFT values used for this region are shown in the appendix A.

Table 3: Comparison of BMV Data to MOVES2014 AVFT Defaults

Fuel Type and Vehicle Technology				Statewide						
				FuelType -->	1	2	5	1	9	X
				EngTech -->	1	1	1	12	30	X
Data Source	Vehicle Type	Code	Year	Gasoline	Diesel	E-85	Hybrid	Electric	Other	
BMV	Passenger Car	21	2015	90.80%	0.43%	7.49%	1.18%	0.01%	0.09%	
BMV	Passenger Truck	31	2015	81.84%	7.23%	10.89%	0.02%	0.00%	0.02%	
BMV	Light Commercial Truck	32	2015	53.06%	40.89%	5.94%	0.00%	0.00%	0.11%	
MOVES Default	Passenger Car	21	2015	93.73%	1.17%	5.10%	0.00%	0.00%	0.00%	
MOVES Default	Passenger Truck	31	2015	78.92%	2.00%	19.07%	0.00%	0.00%	0.00%	
MOVES Default	Light Commercial Truck	32	2015	76.99%	5.31%	17.70%	0.00%	0.00%	0.00%	

Figures 3, 4, & 5 – BMV vs. MOVES Default for Fuels by Source Type, Statewide



8.0 I/M Program

Vehicles registered in Lake and Porter counties are required to undergo emissions tests and tampering inspections every two years if they were manufactured after 1976 and have a gross vehicle weight rating (GVWR) of 9,000 pounds or less. Vehicles manufactured in odd-numbered years are tested during odd-numbered years and vehicles manufactured in even-numbered years tested during even-numbered years. Exemptions include vehicles manufactured during the four latest model years and antique vehicles. MOVES input coding is consistent with the current local I/M Program in Lake and Porter counties. See Table C-8 in Appendix C.



9.0 Summary of MOVES2014 Runs and Settings

Table 4 –Summary of Lake and Porter Ozone and PM 2.5 Emission Rate Runs

<i>Lake and Porter Runs</i>			
Screen	MOVES Input Item		
		Ozone	PM 2.5
Description	Description	User Choice	
Scale	Domain/Scale	County	
	Calculation Type	Emission Rate	
Time Spans	Time Aggregation Level	Hour	Hour
	Year	2015, 2020, 2025, 2030, 2035, 2040, 2045	2015, 2020, 2025, 2030, 2035, 2040, 2045
	Months	July	April
	Days	Weekday	Weekday
	Hours	Select All	Select All
Geographic Bounds	Geographic Bounds	Lake County*	Lake County*
Vehicles	Vehicles	All Gas and Diesel Combinations	
Road Type	Road Type	Select All	
Pollutants/ Processes	Pollutants/ Processes	VOC, NOx, and supporting	PM 2.5 with all subspecies; NOx & SO2
General Output	Database Name	LakePorter Ozone	LakePorter PM
	Units	Select "Grams" and "Miles" and "Joules"	
	Activity	Distance, Population	
Output Emissions Detail	On Road	Select "Source Use Type" and "Road Type"	

*Represents both Lake and Porter Counties.

Table 5 –Summary of LaPorte County Ozone Emission Rate Runs

<i>LaPorte Runs</i>		
	MOVES Input Item	
	Screen	Ozone
Description	Description	User Choice
Scale	Domain/Scale	County
	Calculation Type	Emission Rate
Time Spans	Time Aggregation Level	Hour
	Year	2015, 2020, 2025, 2030, 2035, 2040, 2045
	Months	July
	Days	Weekday
	Hours	Select All
Geographic Bounds	Geographic Bounds	LaPorte County
Vehicles	Vehicles	All Gas and Diesel Combinations
Road Type	Road Type	Select All
Pollutants/ Processes	Pollutants/ Processes	VOC, NOx, and supporting
General Output	Database Name	LaPorte Ozone
	Units	Select "Grams" and "Miles" and "Joules"
	Activity	Distance, Population
Output Emissions Detail	On Road	Select "Source Use Type" and "Road Type"

Table 6 –Summary of County Data Manager Inputs

County Data Manager Input			
	Excel Sheet Tab Name	Ozone	PM 2.5
Source (Vehicle) Type Population	sourceTypeYear	Local Registration for Source Types 11, 21, 31, and 32; Estimated population using default MOVES mileage accumulation rates and local VMT for all other source types. Future year vehicle populations based on population growth rates for source types 11, 21, 31, and 32. Employment growth used for all other source types.	
Vehicle Type VMT (by 13 MOVES Vehicle Types)	HPMSVTypeYear	Statewide default vehicle distributions across road types developed by INDOT using an analysis of permanent count station data from a statewide data set.	
	MonthVMTFraction	Statewide default monthly fractions developed by INDOT using an analysis of permanent count station data from a statewide data set.	
	DayVMTFraction	Statewide default daily fractions developed by INDOT using an analysis of permanent count station data from a statewide data set.	
	HourVMTFraction	Statewide default hourly fractions developed by INDOT using an analysis of permanent count station data from a statewide data set.	
Average Speed Distribution (% of VHT in each 5 mph speed bin)	avgSpeed Distribution	National defaults.	
Road Type Distribution (VMT by 5 MOVES Road Types)	roadType Distribution	Calculated from local VMT data. Use travel demand model base year distributions for all years.	
Age Distribution (Vehicle Population by Age of Vehicle)	sourceTypeAge Distribution	Local age distributions developed from vehicle registration data for source types 11, 21, 31, and 32. Default MOVES age distributions for all other source types.	
Ramp Fraction	RoadType	Based on NIRPC travel demand model.	
Meteorology Data	ZoneMonthHour	MOBILE6 Summer Met Data Converted to MOVES format	MOBILE6 12 month Met Data Converted to MOVES format and averaged to annual meteorology
Fuel (% of Market Share by Fuel Type)	FuelFormulation	MOVES Defaults	
	FuelSupply	County MOVES Defaults for Summer (check if varies among counties)	County MOVES Defaults for annual (check if varies among counties)
I/M Program	IMCoverage	Consistent with current local I/M Program	

MOVES Codes used in the Appendices

Throughout the following appendices, references are made to MOVES2014 codes for two types of data. The values for the source type codes are shown in the Table 7 below. The values for the road type codes are shown in Table 8.

Table 7 - MOVES (vehicle) Source Types

SourceTypeID	Description
11	Motorcycles
21	Passenger Car
31	Passenger Truck
32	Light Commercial Truck
41	Intercity Bus
42	Transit Bus
43	School Bus
51	Refuse Truck
52	Single Unit Short-haul Truck
53	Single Unit Long-haul Truck
54	Motor Home
61	Combination Short-haul Truck
62	Combination Long-haul Truck

Table 8 - MOVES Road Types

RoadTypeID	Description
1	Off Network
2	Rural Restricted Access
3	Rural Unrestricted Access
4	Urban Restricted Access
5	Urban Unrestricted Access

Appendix A – Updated Vehicle Fleet Assumptions Derived from BMV Data

Table A-1: Vehicle Population for Lake County

sourceTypeID	Year									
	2010	2012	2014	2015	2020	2025	2030	2035	2040	2045
11	12,337	12,527	12,718	12,840	13,283	13,742	14,218	14,710	15,218	15,667
21	196,949	199,987	203,025	204,970	212,059	219,394	226,982	234,833	242,954	250,115
31	107,894	109,559	111,223	112,289	116,172	120,190	124,347	128,648	133,098	137,020
32	33,033	33,543	34,052	34,379	35,567	36,797	38,071	39,387	40,750	41,951
41	231	236	240	244	253	264	276	288	299	310
42	123	125	128	130	134	140	146	153	159	164
43	1,584	1,614	1,645	1,666	1,736	1,810	1,886	1,966	2,050	2,121
51	41	42	43	44	45	47	49	51	54	55
52	2,695	2,748	2,800	2,835	2,955	3,079	3,211	3,346	3,488	3,609
53	321	327	334	338	352	367	383	399	416	431
54	616	628	640	648	675	703	734	764	797	824
61	4,978	5,075	5,171	5,236	5,458	5,689	5,930	6,182	6,443	6,668
62	5,680	5,790	5,901	5,975	6,227	6,491	6,767	7,053	7,352	7,608

Table A-2: Vehicle Population for Porter County

sourceTypeID	Year									
	2010	2012	2014	2015	2020	2025	2030	2035	2040	2045
11	6,612	6,714	6,816	6,881	7,119	7,365	7,620	7,882	8,157	8,396
21	69,425	70,496	71,567	72,253	74,752	77,336	80,012	82,779	85,642	88,166
31	45,870	46,578	47,285	47,739	49,389	51,098	52,865	54,694	56,586	58,254
32	14,044	14,260	14,477	14,616	15,121	15,644	16,185	16,745	17,324	17,834
41	58	59	60	61	63	66	68	71	74	76
42	30	31	31	32	33	34	36	37	39	40
43	397	405	413	418	435	454	474	493	514	532
51	13	13	14	14	14	15	15	16	17	17
52	897	915	932	944	983	1,025	1,069	1,114	1,161	1,202
53	106	108	110	112	116	121	126	132	138	142
54	204	208	212	215	223	233	243	254	265	274
61	1,435	1,463	1,490	1,509	1,573	1,639	1,709	1,781	1,856	1,921
62	1,637	1,669	1,700	1,722	1,794	1,870	1,949	2,032	2,118	2,191

Table A-3: Vehicle Population for LaPorte County

sourceTypeID	Year									
	2010	2012	2014	2015	2020	2025	2030	2035	2040	2045
11	2,820	2,846	2,871	2,886	2,947	3,009	3,073	3,138	3,204	3,266
21	50,742	51,200	51,658	51,927	53,025	54,146	55,291	56,461	57,655	58,760
31	33,729	34,034	34,338	34,517	35,247	35,992	36,753	37,530	38,324	39,058
32	10,327	10,420	10,513	10,568	10,791	11,019	11,252	11,490	11,733	11,958
41	48	49	50	50	52	53	55	57	59	61
42	26	26	27	27	28	29	30	31	32	33
43	329	334	339	342	353	365	377	389	402	413
51	13	14	14	14	14	15	15	16	16	17
52	842	854	866	874	902	932	962	993	1,025	1,054
53	100	102	103	104	108	111	115	119	122	126
54	192	195	198	200	206	213	220	227	235	241
61	1,616	1,639	1,662	1,677	1,731	1,788	1,845	1,905	1,967	2,022
62	1,845	1,871	1,897	1,914	1,976	2,040	2,106	2,174	2,244	2,307

Data Sources: SourceTypes 11, 21, 31, and 32 use 2014 Indiana BMV summary statistics for vehicle registration & license plate data by county. All other Source Types use Mileage Accumulation Rate (MAR) method.

Table A-4: Vehicle Age Distribution for Lake County

AgeID	SourceTypeID																																																																																																																																																																																																																																																																																																																																																																																																																		
	11	21	31	32	41	42	43	51	52	53	54	61	62	11	21	31	32	41	42	43	51	52	53	54	61	62	11	21	31	32	41	42	43	51	52	53	54	61	62																																																																																																																																																																																																																																																																																																																																																																												
0	0.001374	0.008340	0.002494	0.012087	0.064302	0.054574	0.062222	0.049424	0.058853	0.078754	0.061510	0.053563	0.067085	0.024433	0.054402	0.040446	0.021072	0.062673	0.053191	0.060645	0.048172	0.057361	0.076759	0.059951	0.053563	0.067085	0.035352	0.060541	0.040612	0.031768	0.062485	0.053032	0.060464	0.048028	0.057190	0.076529	0.059772	0.054105	0.067762	0.036191	0.058054	0.039864	0.033480	0.062423	0.052979	0.060403	0.047980	0.057133	0.076453	0.059712	0.057558	0.072087	0.028403	0.052297	0.046681	0.033907	0.061737	0.052397	0.059740	0.047452	0.056505	0.075612	0.059056	0.056418	0.070660	0.026418	0.047029	0.032839	0.016579	0.055917	0.047458	0.054108	0.042979	0.051178	0.068485	0.053488	0.048929	0.061280	0.046652	0.041365	0.026146	0.022890	0.046837	0.039751	0.045321	0.035999	0.042867	0.057363	0.044802	0.036603	0.045843	0.054974	0.060531	0.048842	0.060327	0.042579	0.036137	0.041201	0.032727	0.038970	0.052148	0.040729	0.034074	0.042676	0.065053	0.066109	0.053955	0.042357	0.046827	0.039743	0.045312	0.035992	0.042858	0.057351	0.044793	0.035809	0.044849	0.064213	0.059333	0.050796	0.064820	0.053438	0.045353	0.051709	0.041073	0.048909	0.065448	0.051117	0.052629	0.065914	0.060854	0.065959	0.058632	0.057867	0.053271	0.045212	0.051548	0.040945	0.048756	0.065244	0.050958	0.062452	0.078217	0.048484	0.056773	0.061126	0.060862	0.040795	0.053620	0.041108	0.031356	0.039149	0.052388	0.030273	0.047826	0.059899	0.061923	0.058270	0.058715	0.052733	0.033192	0.048994	0.038293	0.025512	0.029448	0.039407	0.046610	0.038913	0.048735	0.050928	0.052756	0.058278	0.055942	0.027735	0.045609	0.033375	0.054598	0.031640	0.019477	0.029167	0.032515	0.046299	0.044132	0.049197	0.056491	0.055835	0.036429	0.037775	0.043086	0.063266	0.036444	0.019469	0.034780	0.042708	0.046207	0.040467	0.042045	0.050110	0.055086	0.028351	0.033295	0.021016	0.039565	0.035789	0.031185	0.033520	0.033237	0.030044	0.032832	0.039475	0.050360	0.042037	0.023588	0.027913	0.025367	0.034157	0.025999	0.023020	0.023315	0.027654	0.023052	0.025960	0.025040	0.038679	0.033586	0.017564	0.024497	0.020683	0.014635	0.019796	0.005226	0.020675	0.020591	0.013845	0.020463	0.025352	0.042566	0.036047	0.020119	0.025048	0.026689	0.040196	0.019374	0.003721	0.015546	0.023587	0.010007	0.021303	0.013446	0.023465	0.029522	0.022579	0.036661	0.030145	0.034228	0.022734	0.017578	0.020363	0.026470	0.009860	0.015194	0.014957	0.027684	0.025350	0.022641	0.028197	0.017388	0.027008	0.028940	0.018387	0.026594	0.026543	0.009576	0.014278	0.008204	0.022758	0.025136	0.021297	0.022441	0.020903	0.036743	0.025509	0.012162	0.023847	0.024967	0.008340	0.012827	0.006517	0.015962	0.016793	0.022137	0.020761	0.021174	0.029424	0.021171	0.002921	0.023292	0.025952	0.002197	0.007788	0.003712	0.008314	0.011766	0.018775	0.017685	0.018686	0.036737	0.025574	0.000660	0.017364	0.022011	0.002282	0.006795	0.003360	0.007732	0.010696	0.016580	0.015344	0.016222	0.019537	0.018134	0.001323	0.018639	0.019438	0.002895	0.008017	0.001969	0.004967	0.010375	0.013046	0.011961	0.012527	0.020286	0.010153	0.001326	0.018907	0.015295	0.001496	0.006490	0.002357	0.006214	0.012943	0.005207	0.011471	0.004628	0.005879	0.015824	0.000000	0.012386	0.006104	0.000305	0.005116	0.001262	0.003679	0.009306	0.004438	0.006255	0.003427	0.006619	0.008243	0.000585	0.007312	0.005202	0.000237	0.008628	0.001418	0.002245	0.005883	0.003853	0.002715	0.004023	0.005865	0.007845	0.000422	0.004020	0.004518	0.000754	0.010460	0.000880	0.001164	0.007594	0.005020	0.007381	0.003956	0.001470	0.008291	0.000000	0.000530	0.005885	0.000248	0.113996	0.019050	0.018186	0.045352	0.004164	0.002547	0.004629	0.002149	0.009364	0.000597	0.006972	0.004882	0.000264

Data Sources: SourceTypes 11, 21, 31, and 32 were obtained directly from Dec. 2014 Indiana BMV summary statistics for vehicle registration & license plate data by county. All other Source Types use MOVES defaults.

Table A-5: Vehicle Age Distribution for Porter County

AgeID	Source TypeID													
	11	21	31	32	41	42	43	51	52	53	54	61	62	
0	0.001004	0.009873	0.003318	0.007176	0.064302	0.054574	0.062222	0.049424	0.058853	0.078754	0.061510	0.053563	0.067085	
1	0.029682	0.059695	0.043803	0.017096	0.062673	0.053191	0.060645	0.048172	0.057361	0.076759	0.059951	0.053563	0.067085	
2	0.034270	0.068999	0.045440	0.026171	0.062485	0.053032	0.060464	0.048028	0.057190	0.076529	0.059772	0.054105	0.067762	
3	0.038428	0.070466	0.046016	0.032503	0.062423	0.052979	0.060403	0.047980	0.057133	0.076453	0.059712	0.057558	0.072087	
4	0.026670	0.060969	0.047962	0.023217	0.061737	0.052397	0.059740	0.047452	0.056505	0.075612	0.059056	0.056418	0.070660	
5	0.029825	0.053993	0.033273	0.017307	0.055917	0.047458	0.054108	0.042979	0.051178	0.068485	0.053488	0.048929	0.061280	
6	0.045311	0.045523	0.029335	0.017729	0.046837	0.039751	0.045321	0.035999	0.042867	0.057363	0.044802	0.036603	0.045843	
7	0.054058	0.065727	0.052741	0.044322	0.042579	0.036137	0.041201	0.032727	0.038970	0.052148	0.040729	0.034074	0.042676	
8	0.062661	0.068834	0.058493	0.047699	0.046827	0.039743	0.045312	0.035992	0.042858	0.057351	0.044793	0.035809	0.044849	
9	0.064812	0.058347	0.052830	0.054031	0.053438	0.045353	0.051709	0.041073	0.048909	0.065448	0.051117	0.052629	0.065914	
10	0.056352	0.064049	0.063316	0.050232	0.053271	0.045212	0.051548	0.040945	0.048756	0.065244	0.050958	0.062452	0.078217	
11	0.047892	0.056037	0.061856	0.059519	0.040795	0.053620	0.041108	0.031356	0.039149	0.052388	0.030273	0.047826	0.059899	
12	0.062518	0.053003	0.060484	0.049388	0.033192	0.048994	0.038293	0.025512	0.029448	0.039407	0.046610	0.038913	0.048735	
13	0.050473	0.046128	0.055750	0.049599	0.027735	0.045609	0.033375	0.054598	0.031640	0.019477	0.029167	0.032515	0.046299	
14	0.040436	0.041416	0.051900	0.054031	0.036429	0.037775	0.043086	0.063266	0.036444	0.019469	0.034780	0.042708	0.046207	
15	0.029682	0.035467	0.047255	0.058041	0.028351	0.033295	0.021016	0.039565	0.035789	0.031185	0.033520	0.033237	0.030044	
16	0.032836	0.032341	0.047299	0.047066	0.023588	0.027913	0.025367	0.034157	0.025999	0.023020	0.023315	0.027654	0.023052	
17	0.024089	0.019966	0.033583	0.033347	0.017564	0.024497	0.020683	0.014635	0.019796	0.005226	0.020675	0.020591	0.013845	
18	0.020648	0.019324	0.040175	0.038413	0.020119	0.025048	0.026689	0.040196	0.019374	0.003721	0.015546	0.023587	0.010007	
19	0.019644	0.010459	0.020486	0.030393	0.022579	0.036661	0.030145	0.034228	0.022734	0.017578	0.020363	0.026470	0.009860	
20	0.018497	0.011541	0.024070	0.037358	0.022641	0.028197	0.017388	0.027008	0.028940	0.018387	0.026594	0.026543	0.009576	
21	0.013192	0.006087	0.018052	0.028704	0.021297	0.022441	0.020903	0.036743	0.025509	0.012162	0.023847	0.024967	0.008340	
22	0.013479	0.005051	0.012920	0.023639	0.022137	0.020761	0.021174	0.029424	0.021171	0.002921	0.023292	0.025952	0.002197	
23	0.008603	0.003163	0.006770	0.012241	0.018775	0.017685	0.018686	0.036737	0.025574	0.000660	0.017364	0.022011	0.002282	
24	0.007886	0.002906	0.006991	0.011397	0.016580	0.015344	0.016222	0.019537	0.018134	0.001323	0.018639	0.019438	0.002895	
25	0.007456	0.001815	0.004115	0.015407	0.013046	0.011961	0.012527	0.020286	0.010153	0.001326	0.018907	0.015295	0.001496	
26	0.006883	0.001971	0.004425	0.013719	0.005207	0.011471	0.004628	0.005879	0.015824	0.000000	0.012386	0.006104	0.000305	
27	0.006453	0.001146	0.002832	0.011397	0.004438	0.006255	0.003427	0.006619	0.008243	0.000585	0.007312	0.005202	0.000237	
28	0.007169	0.001274	0.001770	0.005910	0.003853	0.002715	0.004023	0.005865	0.007845	0.000422	0.004020	0.004518	0.000754	
29	0.011758	0.000843	0.001150	0.008020	0.005020	0.007381	0.003956	0.001470	0.008291	0.000000	0.000530	0.005885	0.000248	
30	0.127330	0.023586	0.021592	0.074926	0.004164	0.002547	0.004629	0.002149	0.009364	0.000597	0.006972	0.004882	0.000264	

Data Sources: SourceTypes 11, 21, 31, and 32 were obtained directly from Dec. 2014 Indiana BMV summary statistics for vehicle registration & license plate data by county. All other Source Types use MOVES defaults.

Table A-6: Vehicle Age Distribution for LaPorte County

AgeID	SourceTypeID																																																																																																																																																																																																																																																																																																																																																																																																																		
	11	21	31	32	41	42	43	51	52	53	54	61	62	11	21	31	32	41	42	43	51	52	53	54	61	62	11	21	31	32	41	42	43	51	52	53	54	61	62																																																																																																																																																																																																																																																																																																																																																																												
0	0.001111	0.005958	0.002961	0.010617	0.064302	0.054574	0.062222	0.049424	0.058853	0.078754	0.061510	0.053563	0.067085	0.020894	0.037845	0.025235	0.022561	0.062673	0.053191	0.060645	0.048172	0.057361	0.076759	0.059951	0.053563	0.067085	0.024228	0.047465	0.026829	0.030524	0.062485	0.053032	0.060464	0.048028	0.057190	0.076529	0.059772	0.054105	0.067762	0.033785	0.049478	0.030154	0.036496	0.062423	0.052979	0.060403	0.047980	0.057133	0.076453	0.059712	0.057558	0.072087	0.026006	0.046586	0.035574	0.041141	0.061737	0.052397	0.059740	0.047452	0.056505	0.075612	0.059056	0.056418	0.070660	0.021116	0.041844	0.026419	0.017253	0.055917	0.047458	0.054108	0.042979	0.051178	0.068485	0.053488	0.048929	0.061280	0.041565	0.034521	0.019450	0.016589	0.046837	0.039751	0.045321	0.035999	0.042867	0.057363	0.044802	0.036603	0.045843	0.052456	0.054490	0.040494	0.059721	0.042579	0.036137	0.041201	0.032727	0.038970	0.052148	0.040729	0.034074	0.042676	0.055568	0.057422	0.042999	0.043796	0.046827	0.039743	0.045312	0.035992	0.042858	0.057351	0.044793	0.035809	0.044849	0.071127	0.057247	0.045686	0.055740	0.053438	0.045353	0.051709	0.041073	0.048909	0.065448	0.051117	0.052629	0.065914	0.058902	0.063908	0.052610	0.036496	0.053271	0.045212	0.051548	0.040945	0.048756	0.065244	0.050958	0.062452	0.078217	0.052901	0.059922	0.059215	0.049104	0.040795	0.053620	0.041108	0.031356	0.039149	0.052388	0.030273	0.047826	0.059899	0.065570	0.058165	0.054887	0.024552	0.033192	0.048994	0.038293	0.025512	0.029448	0.039407	0.046610	0.038913	0.048735	0.054679	0.059354	0.058531	0.040478	0.027735	0.045609	0.033375	0.054598	0.031640	0.019477	0.029167	0.032515	0.046299	0.043565	0.050802	0.055434	0.044459	0.036429	0.037775	0.043086	0.063266	0.036444	0.019469	0.034780	0.042708	0.046207	0.040009	0.050951	0.059169	0.035833	0.028351	0.033295	0.021016	0.039565	0.035789	0.031185	0.033520	0.033237	0.030044	0.029562	0.042128	0.052656	0.045123	0.023588	0.027913	0.025367	0.034157	0.025999	0.023020	0.023315	0.027654	0.023052	0.028006	0.032737	0.049148	0.027870	0.017564	0.024497	0.020683	0.014635	0.019796	0.005226	0.020675	0.020591	0.013845	0.021338	0.029279	0.045914	0.028534	0.020119	0.025048	0.026689	0.040196	0.019374	0.003721	0.015546	0.023587	0.010007	0.023783	0.021375	0.033798	0.018580	0.022579	0.036661	0.030145	0.034228	0.022734	0.017578	0.020363	0.026470	0.009860	0.013336	0.018429	0.035984	0.037160	0.022641	0.028197	0.017388	0.027008	0.028940	0.018387	0.026594	0.026543	0.009576	0.013114	0.012363	0.032204	0.016589	0.021297	0.022441	0.020903	0.036743	0.025509	0.012162	0.023847	0.024967	0.008340	0.014225	0.009242	0.020862	0.021898	0.022137	0.020761	0.021174	0.029424	0.021171	0.002921	0.023292	0.025952	0.002197	0.008224	0.006377	0.014394	0.014599	0.018775	0.017685	0.018686	0.036737	0.025574	0.000660	0.017364	0.022011	0.002282	0.007557	0.005175	0.009429	0.009290	0.016580	0.015344	0.016222	0.019537	0.018134	0.001323	0.018639	0.019438	0.002895	0.006446	0.003932	0.009839	0.015926	0.013046	0.011961	0.012527	0.020286	0.010153	0.001326	0.018907	0.015295	0.001496	0.006890	0.003797	0.009930	0.015926	0.005207	0.011471	0.004628	0.005879	0.015824	0.000000	0.012386	0.006104	0.000305	0.006446	0.002756	0.007197	0.015926	0.004438	0.006255	0.003427	0.006619	0.008243	0.000585	0.007312	0.005202	0.000237	0.010002	0.002351	0.005147	0.007299	0.003853	0.002715	0.004023	0.005865	0.007845	0.000422	0.004020	0.004518	0.000754	0.016893	0.002283	0.004054	0.007963	0.005020	0.007381	0.003956	0.001470	0.008291	0.000000	0.000530	0.005885	0.000248	0.130696	0.031819	0.033798	0.151958	0.004164	0.002547	0.004629	0.002149	0.009364	0.000597	0.006972	0.004882	0.000264

Data Sources: SourceTypes 11, 21, 31, and 32 were obtained directly from Dec. 2014 Indiana BMV summary statistics for vehicle registration & license plate data by county. All other Source Types use MOVES defaults.

Table A-7: AVFT percentages for Light Duty Vehicles

Fuel Type and Vehicle Technology									
<i>Lake, Porter, and LaPorte Counties</i>			FuelType -->	1	2	5	1	9	X
			engTech -->	1	1	1	12	30	X
Data Source	Vehicle Type	Code	Year	Gasoline	Diesel	E-85	Hybrid	Electric	Other
BMV	Passenger Car	21	2015	90.55%	0.38%	7.93%	1.02%	0.02%	0.11%
BMV	Passenger Truck	31	2015	81.89%	4.19%	13.87%	0.01%	0.00%	0.04%
BMV	Light Commercial Truck	32	2015	68.26%	24.96%	6.73%	0.01%	0.00%	0.04%

Appendix B – Updated Hourly VMT Fractions Derived from INDOT Data

Table B-1: Hourly VMT Fraction: RoadType 1, Off Network

Hr	SourceTypeID												
	11	21	31	32	41	42	43	51	52	53	54	61	62
1	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
3	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
4	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
5	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
6	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
7	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046
8	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
9	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061
10	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
11	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
12	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054
13	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058
14	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058
15	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
16	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071
17	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077
18	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077
19	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060
20	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044
21	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
22	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032
23	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
24	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018

- RoadType1 uses default values

Table B-2: Hourly VMT Fraction: RoadType 2, Rural Restricted Access

Hr	SourceTypeID												
	11	21	31	32	41	42	43	51	52	53	54	61	62
1	0.017	0.010	0.008	0.008	0.017	0.017	0.017	0.010	0.010	0.007	0.007	0.038	0.027
2	0.012	0.006	0.005	0.005	0.019	0.019	0.019	0.008	0.008	0.010	0.010	0.019	0.024
3	0.010	0.004	0.004	0.004	0.026	0.026	0.026	0.008	0.008	0.006	0.006	0.023	0.025
4	0.010	0.004	0.004	0.004	0.019	0.019	0.019	0.009	0.009	0.008	0.008	0.036	0.023
5	0.010	0.006	0.007	0.007	0.033	0.033	0.033	0.012	0.012	0.013	0.013	0.025	0.026
6	0.012	0.016	0.021	0.021	0.036	0.036	0.036	0.032	0.032	0.025	0.025	0.028	0.031
7	0.028	0.035	0.042	0.042	0.064	0.064	0.064	0.065	0.065	0.046	0.046	0.039	0.036
8	0.052	0.050	0.049	0.049	0.044	0.044	0.044	0.073	0.073	0.056	0.056	0.047	0.037
9	0.055	0.046	0.048	0.048	0.060	0.060	0.060	0.056	0.056	0.057	0.057	0.048	0.041
10	0.055	0.046	0.049	0.049	0.052	0.052	0.052	0.050	0.050	0.058	0.058	0.043	0.050
11	0.055	0.053	0.057	0.057	0.067	0.067	0.067	0.051	0.051	0.060	0.060	0.061	0.056
12	0.051	0.058	0.061	0.061	0.057	0.057	0.057	0.049	0.049	0.060	0.060	0.065	0.061
13	0.059	0.059	0.063	0.063	0.074	0.074	0.074	0.053	0.053	0.069	0.069	0.063	0.062
14	0.060	0.061	0.062	0.062	0.050	0.050	0.050	0.052	0.052	0.063	0.063	0.057	0.059
15	0.064	0.064	0.066	0.066	0.052	0.052	0.052	0.055	0.055	0.065	0.065	0.048	0.057
16	0.064	0.074	0.074	0.074	0.075	0.075	0.075	0.063	0.063	0.073	0.073	0.051	0.057
17	0.069	0.084	0.083	0.083	0.071	0.071	0.071	0.075	0.075	0.073	0.073	0.051	0.055
18	0.069	0.090	0.083	0.083	0.036	0.036	0.036	0.076	0.076	0.066	0.066	0.041	0.049
19	0.066	0.073	0.066	0.066	0.026	0.026	0.026	0.065	0.065	0.053	0.053	0.032	0.043
20	0.059	0.052	0.049	0.049	0.034	0.034	0.034	0.046	0.046	0.043	0.043	0.033	0.038
21	0.038	0.041	0.037	0.037	0.030	0.030	0.030	0.034	0.034	0.036	0.036	0.034	0.035
22	0.036	0.031	0.028	0.028	0.024	0.024	0.024	0.024	0.024	0.023	0.023	0.033	0.040
23	0.025	0.023	0.021	0.021	0.020	0.020	0.020	0.020	0.020	0.016	0.016	0.047	0.036
24	0.023	0.015	0.013	0.013	0.014	0.014	0.014	0.014	0.014	0.013	0.013	0.038	0.033

Source: INDOT Selected Weigh in Motion and ATR site data

Table B-3: Hourly VMT Fraction: RoadType 3, Rural Unrestricted Access

Hr	SourceTypeID												
	11	21	31	32	41	42	43	51	52	53	54	61	62
1	0.009	0.005	0.005	0.005	0.002	0.002	0.002	0.003	0.003	0.005	0.005	0.010	0.006
2	0.005	0.003	0.002	0.002	0.002	0.002	0.002	0.020	0.020	0.007	0.007	0.007	0.004
3	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.014	0.014	0.007	0.007	0.005	0.003
4	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.008	0.008	0.008	0.008	0.005	0.004
5	0.018	0.010	0.008	0.008	0.004	0.004	0.004	0.003	0.003	0.011	0.011	0.009	0.009
6	0.016	0.017	0.023	0.023	0.015	0.015	0.015	0.034	0.034	0.030	0.030	0.021	0.021
7	0.009	0.023	0.032	0.032	0.025	0.025	0.025	0.062	0.062	0.063	0.063	0.033	0.033
8	0.009	0.040	0.044	0.044	0.088	0.088	0.088	0.096	0.096	0.051	0.051	0.038	0.046
9	0.036	0.044	0.050	0.050	0.077	0.077	0.077	0.073	0.073	0.047	0.047	0.047	0.044
10	0.018	0.055	0.066	0.066	0.053	0.053	0.053	0.084	0.084	0.072	0.072	0.058	0.054
11	0.027	0.065	0.074	0.074	0.134	0.134	0.134	0.073	0.073	0.072	0.072	0.067	0.067
12	0.091	0.075	0.088	0.088	0.108	0.108	0.108	0.107	0.107	0.083	0.083	0.069	0.077
13	0.118	0.077	0.084	0.084	0.050	0.050	0.050	0.067	0.067	0.076	0.076	0.071	0.079
14	0.132	0.075	0.071	0.071	0.093	0.093	0.093	0.062	0.062	0.065	0.065	0.072	0.079
15	0.146	0.076	0.072	0.072	0.105	0.105	0.105	0.076	0.076	0.049	0.049	0.072	0.083
16	0.036	0.086	0.085	0.085	0.015	0.015	0.015	0.059	0.059	0.050	0.050	0.065	0.088
17	0.064	0.089	0.081	0.081	0.066	0.066	0.066	0.076	0.076	0.042	0.042	0.065	0.085
18	0.046	0.083	0.071	0.071	0.034	0.034	0.034	0.037	0.037	0.055	0.055	0.074	0.072
19	0.073	0.056	0.053	0.053	0.056	0.056	0.056	0.011	0.011	0.063	0.063	0.068	0.049
20	0.046	0.041	0.034	0.034	0.031	0.031	0.031	0.008	0.008	0.055	0.055	0.052	0.034
21	0.027	0.028	0.023	0.023	0.005	0.005	0.005	0.008	0.008	0.037	0.037	0.037	0.025
22	0.028	0.022	0.014	0.014	0.028	0.028	0.028	0.003	0.003	0.025	0.025	0.027	0.017
23	0.018	0.014	0.011	0.011	0.002	0.002	0.002	0.011	0.011	0.017	0.017	0.016	0.012
24	0.018	0.008	0.005	0.005	0.002	0.002	0.002	0.006	0.006	0.010	0.010	0.013	0.008

Source: INDOT Selected Weigh in Motion and ATR site data

Table B-5: Hourly VMT Fraction: RoadType 4, Urban Restricted Access

Hr	SourceTypeID												
	11	21	31	32	41	42	43	51	52	53	54	61	62
1	0.003	0.014	0.012	0.012	0.018	0.018	0.018	0.010	0.010	0.018	0.018	0.017	0.026
2	0.004	0.008	0.007	0.007	0.017	0.017	0.017	0.007	0.007	0.012	0.012	0.013	0.024
3	0.004	0.005	0.005	0.005	0.013	0.013	0.013	0.005	0.005	0.009	0.009	0.011	0.024
4	0.007	0.005	0.005	0.005	0.013	0.013	0.013	0.006	0.006	0.008	0.008	0.012	0.024
5	0.012	0.006	0.009	0.009	0.015	0.015	0.015	0.009	0.009	0.011	0.011	0.015	0.027
6	0.007	0.014	0.023	0.023	0.027	0.027	0.027	0.020	0.020	0.017	0.017	0.018	0.033
7	0.009	0.029	0.049	0.049	0.038	0.038	0.038	0.040	0.040	0.027	0.027	0.032	0.040
8	0.016	0.046	0.058	0.058	0.042	0.042	0.042	0.053	0.053	0.051	0.051	0.062	0.045
9	0.112	0.061	0.058	0.058	0.058	0.058	0.058	0.057	0.057	0.080	0.080	0.079	0.049
10	0.214	0.056	0.054	0.054	0.076	0.076	0.076	0.059	0.059	0.058	0.058	0.055	0.048
11	0.109	0.049	0.052	0.052	0.071	0.071	0.071	0.057	0.057	0.059	0.059	0.058	0.053
12	0.029	0.050	0.051	0.051	0.061	0.061	0.061	0.058	0.058	0.055	0.055	0.055	0.056
13	0.030	0.052	0.053	0.053	0.061	0.061	0.061	0.059	0.059	0.058	0.058	0.054	0.057
14	0.033	0.056	0.056	0.056	0.065	0.065	0.065	0.060	0.060	0.058	0.058	0.053	0.056
15	0.040	0.060	0.060	0.060	0.067	0.067	0.067	0.065	0.065	0.058	0.058	0.051	0.058
16	0.040	0.066	0.067	0.067	0.068	0.068	0.068	0.072	0.072	0.062	0.062	0.055	0.056
17	0.029	0.076	0.079	0.079	0.058	0.058	0.058	0.080	0.080	0.064	0.064	0.068	0.055
18	0.147	0.081	0.078	0.078	0.052	0.052	0.052	0.075	0.075	0.055	0.055	0.066	0.049
19	0.085	0.076	0.067	0.067	0.048	0.048	0.048	0.063	0.063	0.068	0.068	0.065	0.045
20	0.022	0.058	0.049	0.049	0.039	0.039	0.039	0.047	0.047	0.057	0.057	0.051	0.042
21	0.016	0.043	0.036	0.036	0.028	0.028	0.028	0.035	0.035	0.039	0.039	0.036	0.039
22	0.012	0.035	0.029	0.029	0.023	0.023	0.023	0.026	0.026	0.028	0.028	0.029	0.035
23	0.007	0.030	0.025	0.025	0.021	0.021	0.021	0.020	0.020	0.024	0.024	0.025	0.031
24	0.012	0.022	0.018	0.018	0.019	0.019	0.019	0.015	0.015	0.023	0.023	0.022	0.029

Source: INDOT Selected Weigh in Motion and ATR site data

Table B-6: Hourly VMT Fraction: RoadType 5, Urban Unrestricted Access

SourceTypeID													
Hr	11	21	31	32	41	42	43	51	52	53	54	61	62
1	0.009	0.009	0.006	0.006	0.013	0.013	0.013	0.004	0.004	0.004	0.004	0.011	0.011
2	0.006	0.005	0.004	0.004	0.010	0.010	0.010	0.004	0.004	0.004	0.004	0.012	0.012
3	0.005	0.004	0.003	0.003	0.007	0.007	0.007	0.004	0.004	0.004	0.004	0.012	0.012
4	0.005	0.004	0.004	0.004	0.011	0.011	0.011	0.006	0.006	0.006	0.006	0.014	0.014
5	0.008	0.008	0.009	0.009	0.015	0.015	0.015	0.009	0.009	0.009	0.009	0.021	0.021
6	0.023	0.020	0.024	0.024	0.026	0.026	0.026	0.019	0.019	0.019	0.019	0.030	0.030
7	0.044	0.048	0.054	0.054	0.045	0.045	0.045	0.042	0.042	0.042	0.042	0.044	0.044
8	0.060	0.072	0.068	0.068	0.069	0.069	0.069	0.073	0.073	0.073	0.073	0.059	0.059
9	0.056	0.057	0.064	0.064	0.075	0.075	0.075	0.088	0.088	0.088	0.088	0.064	0.064
10	0.049	0.047	0.060	0.060	0.080	0.080	0.080	0.092	0.092	0.092	0.092	0.068	0.068
11	0.050	0.047	0.059	0.059	0.077	0.077	0.077	0.094	0.094	0.094	0.094	0.070	0.070
12	0.057	0.052	0.062	0.062	0.075	0.075	0.075	0.091	0.091	0.091	0.091	0.070	0.070
13	0.061	0.056	0.063	0.063	0.074	0.074	0.074	0.090	0.090	0.090	0.090	0.069	0.069
14	0.061	0.056	0.063	0.063	0.078	0.078	0.078	0.091	0.091	0.091	0.091	0.067	0.067
15	0.065	0.061	0.067	0.067	0.076	0.076	0.076	0.091	0.091	0.091	0.091	0.065	0.065
16	0.072	0.072	0.075	0.075	0.073	0.073	0.073	0.078	0.078	0.078	0.078	0.061	0.061
17	0.077	0.080	0.076	0.076	0.053	0.053	0.053	0.046	0.046	0.046	0.046	0.056	0.056
18	0.077	0.083	0.068	0.068	0.035	0.035	0.035	0.026	0.026	0.026	0.026	0.051	0.051
19	0.064	0.064	0.053	0.053	0.029	0.029	0.029	0.017	0.017	0.017	0.017	0.040	0.040
20	0.048	0.046	0.037	0.037	0.022	0.022	0.022	0.011	0.011	0.011	0.011	0.031	0.031
21	0.038	0.039	0.029	0.029	0.017	0.017	0.017	0.008	0.008	0.008	0.008	0.027	0.027
22	0.031	0.033	0.024	0.024	0.014	0.014	0.014	0.006	0.006	0.006	0.006	0.023	0.023
23	0.021	0.024	0.017	0.017	0.014	0.014	0.014	0.005	0.005	0.005	0.005	0.019	0.019
24	0.015	0.016	0.011	0.011	0.012	0.012	0.012	0.005	0.005	0.005	0.005	0.016	0.016

Source: INDOT Selected Weigh in Motion and ATR site data

Appendix C – Inputs Carried Over from MOVES2010a Rate Development

Table C-1: Indiana Default VMT Distributions by Vehicle Type and Road Type

Road Type	Motorcycle	Passenger Car	Light Duty Truck	Bus	Single Unit Truck	Combination Truck
2	0.00703	0.50641	0.16379	0.00417	0.00777	0.31082
3	0.00173	0.65975	0.22577	0.00079	0.01096	0.10099
4	0.00397	0.56995	0.25420	0.00283	0.00908	0.15996
5	0.00279	0.70275	0.24524	0.00140	0.00976	0.03805

Source: Statewide averages developed from Indiana Department of Transportation traffic count data.

Table C-2: Indiana Default Daily Distribution Factors

monthID	dayID	
	2	5
1	0.232541	0.767459
2	0.238055	0.761945
3	0.239340	0.760660
4	0.239605	0.760395
5	0.248476	0.751524
6	0.248974	0.751026
7	0.248115	0.751885
8	0.252703	0.747297
9	0.249608	0.750392
10	0.246281	0.753719
11	0.243974	0.756026
12	0.225878	0.774122

Source: Statewide averages developed from Indiana Department of Transportation traffic count data

Table C-3: Lake, Porter, and LaPorte Counties Ramp Fractions

Road Type	Ramp Fraction
2	0.79%
4	6.66%

Source: Analysis of VHT from the CMAP travel demand model.

Table C-4: Indiana Default Monthly Distribution Factors

monthID	monthVMTFraction
1	0.07334
2	0.06937
3	0.08270
4	0.08318
5	0.08913
6	0.08882
7	0.09080
8	0.09185
9	0.08542
10	0.08752
11	0.08124
12	0.07664

Source: Statewide averages developed from Indiana Department of Transportation traffic count data.

Table C-5: Meteorology Assumptions, Lake, Porter, and LaPorte Counties

Ozone					PM 2.5				
monthID	zoneID	HourID	temperature	relHumidity	monthID	zoneID	HourID	temperature	relHumidity
7	180890	1	67.0	88.0	4	180890	1	43.7	100.0
7	180890	2	65.8	91.8	4	180890	2	42.5	100.0
7	180890	3	64.9	94.9	4	180890	3	41.6	100.0
7	180890	4	64.2	97.2	4	180890	4	41.0	100.0
7	180890	5	63.6	99.0	4	180890	5	40.5	100.0
7	180890	6	63.0	100.0	4	180890	6	39.9	100.0
7	180890	7	62.5	100.0	4	180890	7	39.4	100.0
7	180890	8	62.9	100.0	4	180890	8	39.8	100.0
7	180890	9	65.5	92.6	4	180890	9	42.3	100.0
7	180890	10	69.7	80.2	4	180890	10	46.2	97.2
7	180890	11	74.0	69.4	4	180890	11	50.3	83.5
7	180890	12	77.7	61.4	4	180890	12	53.8	73.5
7	180890	13	80.9	55.3	4	180890	13	56.8	65.8
7	180890	14	82.6	52.2	4	180890	14	58.5	62.0
7	180890	15	83.2	51.2	4	180890	15	59.0	60.7
7	180890	16	83.4	50.9	4	180890	16	59.2	60.3
7	180890	17	83.0	51.6	4	180890	17	58.8	61.2
7	180890	18	81.7	53.7	4	180890	18	57.6	63.8
7	180890	19	79.7	57.5	4	180890	19	55.7	68.6
7	180890	20	77.0	62.9	4	180890	20	53.1	75.3
7	180890	21	74.3	68.8	4	180890	21	50.5	82.7
7	180890	22	71.9	74.5	4	180890	22	48.3	89.9
7	180890	23	70.3	78.8	4	180890	23	46.7	95.4
7	180890	24	68.6	83.4	4	180890	24	45.2	100.0

Source: Mobile 6.2 reported meteorological data from Air Quality Conformity Determination Between the 2040 Regional Transportation Plan, the Fiscal Year 2012 to 2015 Transportation Improvement Program, and the Indiana State Implementation Plan for Air Quality, Appendix E, developed by NIRPC in June, 2011 converted using EPA data converter.

Table C-6: Fuel

countyID	fuelYearID	monthGroupID	fuelFormulationID	marketShare	marketShareCV
18089	2010	7	20011	1	0.5
18089	2010	7	3160	1	0.5

Source: MOVES defaults for this region.

Table C-7: Fuel Formulation

Fuel Formulation ID	Fuel Sub type ID	RVP	Sulfur Level	ETOH Volume	MTBE Volume	ETBE Volume	TAME Volume	Aromatic Content
20011	20	0	11	0	0	0	0	0
3160	12	6.983	30	10	0	0	0	19.443
Fuel Formulation ID	Fuel Sub type ID	Olefin Content	Benzene Content	e200	e300	BioDiesel EsterVol	Cetane Index	PAH Content
20011	20	0	0	0	0	0	0	0
3160	12	7.262	0.633	50.756	83.915	0	0	0

Source: MOVES defaults for this region.

Table C-8: Lake and Porter County Inspection and Maintenance Program

polProcessID	stateID	countyID	yearID	sourceTypeID	fuelTypeID	IMProgramID	inspectFreq	testStandardsID	begModelYearID	endModelYearID	uselMyn	complianceFactor
101	18	18089	2010	21	1	1	1	11	1976	1980	N	93.12
101	18	18089	2010	31	1	1	1	11	1976	1980	N	93.12
101	18	18089	2010	32	1	1	2	11	1976	1980	N	93.12
102	18	18089	2010	21	1	1	1	11	1976	1980	N	93.12
102	18	18089	2010	31	1	1	2	11	1976	1980	N	93.12
102	18	18089	2010	32	1	1	2	11	1976	1980	N	93.12
101	18	18089	2010	21	1	6	2	33	1981	1995	N	93.12
101	18	18089	2010	31	1	6	2	33	1981	1995	N	93.12
101	18	18089	2010	32	1	6	2	33	1981	1995	N	93.12
102	18	18089	2010	21	1	6	2	33	1981	1995	N	93.12
102	18	18089	2010	31	1	6	2	33	1981	1995	N	93.12
102	18	18089	2010	32	1	6	2	33	1981	1995	N	93.12
301	18	18089	2010	21	1	6	2	33	1981	1995	N	93.12
301	18	18089	2010	31	1	6	2	33	1981	1995	N	93.12
301	18	18089	2010	32	1	6	2	33	1981	1995	N	93.12
302	18	18089	2010	21	1	6	2	33	1981	1995	N	93.12
302	18	18089	2010	31	1	6	2	33	1981	1995	N	93.12
302	18	18089	2010	32	1	6	2	33	1981	1995	N	93.12
101	18	18089	2010	21	1	10	2	51	1996	2008	N	93.12
101	18	18089	2010	31	1	10	2	51	1996	2008	N	93.12
101	18	18089	2010	32	1	10	2	51	1996	2008	N	93.12
102	18	18089	2010	21	1	10	2	51	1996	2008	N	93.12
102	18	18089	2010	31	1	10	2	51	1996	2008	N	93.12
102	18	18089	2010	32	1	10	2	51	1996	2008	N	93.12
301	18	18089	2010	21	1	10	2	51	1996	2008	N	93.12
301	18	18089	2010	31	1	10	2	51	1996	2008	N	93.12
301	18	18089	2010	32	1	10	2	51	1996	2008	N	93.12
302	18	18089	2010	21	1	10	2	51	1996	2008	N	93.12
302	18	18089	2010	31	1	10	2	51	1996	2008	N	93.12
302	18	18089	2010	32	1	10	2	51	1996	2008	N	93.12
112	18	18089	2010	21	1	7	2	41	1976	1995	N	93.12
112	18	18089	2010	21	1	8	2	43	1996	2008	N	93.12
112	18	18089	2010	31	1	7	2	41	1976	1995	N	93.12
112	18	18089	2010	31	1	8	2	43	1996	2008	N	93.12
112	18	18089	2010	32	1	7	2	41	1976	1995	N	93.12
112	18	18089	2010	32	1	8	2	43	1996	2008	N	93.12
113	18	18089	2010	21	1	7	2	41	1976	1995	N	93.12
113	18	18089	2010	21	1	8	2	43	1996	2008	N	93.12
113	18	18089	2010	31	1	7	2	41	1976	1995	N	93.12
113	18	18089	2010	31	1	8	2	43	1996	2008	N	93.12
113	18	18089	2010	32	1	7	2	41	1976	1995	N	93.12
113	18	18089	2010	32	1	8	2	43	1996	2008	N	93.12
101	18	18089	2010	21	1	11	2	11	1976	1980	Y	95
101	18	18089	2010	31	1	11	2	11	1976	1980	Y	95
101	18	18089	2010	32	1	11	2	11	1976	1980	Y	95
102	18	18089	2010	21	1	11	2	11	1976	1980	Y	95
102	18	18089	2010	31	1	11	2	11	1976	1980	Y	95
102	18	18089	2010	32	1	11	2	11	1976	1980	Y	95
301	18	18089	2010	21	1	11	2	11	1976	1980	Y	95
301	18	18089	2010	31	1	11	2	11	1976	1980	Y	95
301	18	18089	2010	32	1	11	2	11	1976	1980	Y	95
302	18	18089	2010	21	1	11	2	11	1976	1980	Y	95
302	18	18089	2010	31	1	11	2	11	1976	1980	Y	95
302	18	18089	2010	32	1	11	2	11	1976	1980	Y	95
101	18	18089	2010	21	1	12	2	33	1981	1995	Y	95
101	18	18089	2010	31	1	12	2	33	1981	1995	Y	95
101	18	18089	2010	32	1	12	2	33	1981	1995	Y	95
102	18	18089	2010	21	1	12	2	33	1981	1995	Y	95
102	18	18089	2010	31	1	12	2	33	1981	1995	Y	95
102	18	18089	2010	32	1	12	2	33	1981	1995	Y	95
301	18	18089	2010	21	1	12	2	33	1981	1995	Y	95
301	18	18089	2010	31	1	12	2	33	1981	1995	Y	95
301	18	18089	2010	32	1	12	2	33	1981	1995	Y	95
302	18	18089	2010	21	1	12	2	33	1981	1995	Y	95
302	18	18089	2010	31	1	12	2	33	1981	1995	Y	95
302	18	18089	2010	32	1	12	2	33	1981	1995	Y	95
112	18	18089	2010	21	1	13	2	41	1976	1995	Y	95
112	18	18089	2010	31	1	13	2	41	1976	1995	Y	95
112	18	18089	2010	32	1	13	2	41	1976	1995	Y	95
113	18	18089	2010	21	1	13	2	41	1976	1995	Y	95
113	18	18089	2010	31	1	13	2	41	1976	1995	Y	95
113	18	18089	2010	32	1	13	2	41	1976	1995	Y	95
101	18	18089	2010	21	1	14	2	51	1996	2006	Y	95
101	18	18089	2010	31	1	14	2	51	1996	2006	Y	95
101	18	18089	2010	32	1	14	2	51	1996	2006	Y	95
102	18	18089	2010	21	1	14	2	51	1996	2006	Y	95
102	18	18089	2010	31	1	14	2	51	1996	2006	Y	95
102	18	18089	2010	32	1	14	2	51	1996	2006	Y	95
301	18	18089	2010	21	1	14	2	51	1996	2006	Y	95
301	18	18089	2010	31	1	14	2	51	1996	2006	Y	95
301	18	18089	2010	32	1	14	2	51	1996	2006	Y	95
302	18	18089	2010	21	1	14	2	51	1996	2006	Y	95
302	18	18089	2010	31	1	14	2	51	1996	2006	Y	95
302	18	18089	2010	32	1	14	2	51	1996	2006	Y	95
112	18	18089	2010	21	1	15	2	45	1996	2006	Y	95
112	18	18089	2010	31	1	15	2	45	1996	2006	Y	95
112	18	18089	2010	32	1	15	2	45	1996	2006	Y	95
113	18	18089	2010	21	1	15	2	45	1996	2006	Y	95
113	18	18089	2010	31	1	15	2	45	1996	2006	Y	95
113	18	18089	2010	32	1	15	2	45	1996	2006	Y	95

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Enclosure 2

Certification of Indiana's Nonattainment New Source Review (NNSR) Plan for the 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS)

Prepared by the Indiana Department of
Environmental Management

September 2021

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Table of Contents

1.0 Introduction	1
2.0 Analysis	1
3.0 Certification of NNSR Rules and Request for SIP Approval	3

List of Tables

Table 1: 40 CFR 51.165 Requirements and Applicable Indiana NNSR Rules at 326 IAC 2-3.....	1
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1.0 Introduction

Pursuant to the requirements of Title 40, Part 51.165 in the Code of Federal Regulations (40 CFR 51.165) and Section 172(c)(5) of the Clean Air Act (CAA), Indiana has thoroughly reviewed its nonattainment new source review (NNSR) rules and certifies that they are at least as stringent as the NNSR state implementation plan (SIP) requirements of 40 CFR 51.165 as amended by the rule, *Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements* (83 FR 62998, December 6, 2018) (referred to hereafter as the 2015 ozone implementation rule). The following analysis provides a detailed discussion of the review.

2.0 Analysis

Indiana’s nonattainment new source review (NNSR) rules are established in Title 326 of the Indiana Administrative Code, Article 2, Rule 3 (326 IAC 2-3) and have been fully approved by United States Environmental Protection Agency (U.S. EPA) as part of Indiana’s SIP following all requirements for public participation. U.S. EPA approved the initial rules (94 FR 24837, October 7, 1994).¹ U.S. EPA approved amendments affecting 326 IAC 2-3-1, 326 IAC 2-3-2 and 326 IAC 2-3-3 to comply with federal rules for NSR Reform (67 FR 80186, December 31, 2002) (76 FR 40242, July 8, 2011)², which have not been subsequently amended. Table 1 provides a summary of the requirements in 40 CFR 51.165 and Indiana’s applicable rules at 326 IAC 2-3. Complete rules are contained in Indiana’s air permit rules at 326 IAC 2. The rules can be viewed in their entirety online at http://www.in.gov/legislative/iac/iac_title?iact=326&iaca=2&submit=+Go.

Table 1: 40 CFR 51.165 Requirements and Applicable NNSR Rules at 326 IAC 2-3

40 CFR 51.165	Applicable Indiana Regulation: 326 IAC 2-3	FR Approval of Indiana Regulation
<p>1. (a)(1)(iv)(A)(1)(i)-(iv) and (2): Major source thresholds for ozone – VOC and NOx.</p> <p><i>Note: Indiana has never had a nonattainment area classified as Extreme for ground-level ozone. Therefore, (a)(1)(iv)(A)(1)(iv) and 2(vi) do not apply in Indiana.</i></p>	<p>326 IAC 2-3-1(z)(1) and (2) p.70</p>	<p>94 FR 24837 Approved: 8/25/1994, Published: 10/7/1994, Effective: 12/6/1994 <i>And</i> 76 FR 40242 Approved: 6/28/2011,</p>

¹ <https://www.gpo.gov/fdsys/pkg/FR-1994-10-07/html/94-24837.htm>.

² <https://www.gpo.gov/fdsys/pkg/FR-2011-07-08/pdf/2011-17036.pdf>.

40 CFR 51.165	Applicable Indiana Regulation: 326 IAC 2-3	FR Approval of Indiana Regulation
2. (a)(1)(iv)(A)(3): Change constitutes a major source by itself.	326 IAC 2-3-1(z)(5) p.71	Published: 7/8/2011, Effective: 9/6/2011
3. (a)(1)(v)(E): Significant net emissions increase of NOx is significant for ozone.	326 IAC 2-3-1(y)(1) p.70	
4. (a)(1)(v)(F): Any emissions change of VOC in Extreme area triggers NNSR.	Indiana has never had a nonattainment area classified as Extreme for ground-level ozone.	N/A
5. (a)(1)(x)(A)-(C) and (E): Significant emissions rates for VOC and NOx as ozone precursors. <i>Note: Indiana has never had a nonattainment area classified as Extreme for ground-level ozone. Therefore, (a)(1)(x)(E) does not apply in Indiana.</i>	326 IAC 2-3-1(pp) p.73	94 FR 24837 Approved: 8/25/1994, Published: 10/7/1994, Effective: 12/6/1994 <i>And</i> 76 FR 40242 Approved: 6/28/2011, Published: 7/8/2011, Effective: 9/6/2011
6. (a)(3)(ii)(C)(1)-(2): Provisions for emissions reduction credits.	326 IAC 2-3-3(b)(5) p.78	94 FR 24837 Approved: 8/25/1994, Published: 10/7/1994, Effective: 12/6/1994
7. (a)(8): Requirements for VOC apply to NOx as ozone precursors.	326 IAC 2-3-1(y) p.70 326 IAC 2-3-2(a) and (b) p.74	94 FR 24837 Approved: 8/25/1994, Published: 10/7/1994, Effective: 12/6/1994
8. (a)(9)(i)-(iii): Offset ratios for VOC and NOx for ozone nonattainment areas. <i>Note: Subparagraphs (a)(9)(i)-(iii) were changed to (a)(9)(ii)-(iv) when U.S. EPA added new subparagraph (a)(9)(i) under the</i>	326 IAC 2-3-3(a)(5)(B) p.78	<i>And</i> 76 FR 40242 Approved: 6/28/2011, Published: 7/8/2011, Effective: 9/6/2011

40 CFR 51.165	Applicable Indiana Regulation: 326 IAC 2-3	FR Approval of Indiana Regulation
2008 PM2.5 NSR Implementation Rule).		
<p>9. a(12): Anti-backsliding provision(s), where applicable.</p> <p>40 CFR 51.165(a)(12) requires anti-backsliding requirements at 40 CFR 51.1105 to apply in any area designated nonattainment for the 2008 ozone NAAQS and designated nonattainment for the 1997 ozone NAAQS. Effective April 6, 2015, U.S. EPA revoked the 1997 8-hour ozone standard (80 FR 12264, March 6, 2015). There were no remaining nonattainment areas in Indiana under the standard at that time. Therefore, anti-backsliding requirements do not apply to Indiana for the 1997 8-hour ozone standard.</p> <p>In accordance with the 2015 ozone implementation rule, U.S. EPA intends to address any revocation of the 2008 8-hour ozone NAAQS, and any potential anti-backsliding requirements in a separate future rulemaking, which has yet to occur. Indiana's nonattainment NSR rules, codified at 326 IAC 2-3, remain consistent with federal ozone nonattainment NSR rules codified at 40 CFR 51.165 and CAA sections 172(c)(5), 173, 110(a)(2), 182(a)(4), 182(b)(5), and 182(c)(10). For a list of areas in Indiana that were designated nonattainment under the 2008 8-hour ozone NAAQS and dates associated with these classifications, please visit IDEM's website: https://www.in.gov/idem/sips/nonattainment-status-of-counties/.</p>		

3.0 Certification of NNSR Rules and Request for SIP Approval

Based on a review of requirements in Indiana's rules at 326 IAC 2-3 and requirements of 40 CFR 51.165, Indiana's long standing and fully implemented NNSR program meets requirements for the implementation of the 2015 8-hour ozone NAAQS. As such, IDEM certifies that state rules at 326 IAC 2-3 comply with NNSR state implementation plan (SIP) requirements in 40 CFR 51.165 and requests U.S. EPA's review and approval of this NNSR plan as an amendment to Indiana's SIP.

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Enclosure 3

Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone "Marginal" Nonattainment Area

Prepared by the Indiana Department of Environmental Management (IDEM)

September 2021

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Table of Contents

1.0 Introduction	1
2.0 Background Information	2
3.0 Certification and SIP Submittal	2

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1.0 Introduction

Under Section 182(a)(3)(B) of the federal Clean Air Act (CAA), states must submit state implementation plan (SIP) revisions for nonattainment areas classified as “Marginal” and above requiring that the owner or operator of each stationary source of oxides of nitrogen (NO_x) or volatile organic compounds (VOCs) “provide the State with a statement, in such form as the Administrator may prescribe (or accept an equivalent alternative developed by the State), for classes or categories of sources, showing the actual emissions of oxides of nitrogen and volatile organic compounds from that source. The first such statement shall be submitted within 3 years after November 15, 1990. Subsequent statements shall be submitted at least every year thereafter. The statement shall contain a certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement.”¹ United States Environmental Protection Agency (U.S. EPA) has indicated that the source emission statement requirement applies to all areas designated as “nonattainment” for the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS).²

The purpose of this document is to certify that Indiana’s Emissions Reporting Rule at 326 Indiana Administrative Code (IAC) 2-6 meets the requirements of the CAA and the 2015 8-hour ozone NAAQS for Indiana’s portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-hour ozone “Marginal” Nonattainment Area. On April 30, 2018, U.S. EPA issued nonattainment designations and classifications under the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS) for several areas of the country (83 FR 25776).³ As part of this action, U.S. EPA designated a portion of Lake County (Calumet, Hobart, North, Ross, and St. John townships) as part of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-hour ozone “Marginal” Nonattainment Area, and designated Clark and Floyd counties as part of the Louisville, Kentucky-Indiana 2015 8-hour ozone “Marginal” Nonattainment Area. As such, on January 21, 2021, the Indiana Department of Environmental Management (IDEM) submitted Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for the 2015 8-Hour Ozone NAAQS for review and approval.

On June 14, 2021, U.S. EPA revised the Chicago, IL-IN-WI 2015 8-hour ozone “Marginal” Nonattainment Area boundary to include Center, Jackson, Liberty, Pine, Portage, Union, Washington, and Westchester townships in Porter County, Indiana (86 FR 31438).⁴ IDEM hereby submits to U.S. EPA this revised Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for Indiana’s portion of the Chicago, IL-IN-WI 2015 8-hour ozone “Marginal” Nonattainment Area. IDEM therefore certifies that Indiana’s current Emissions Reporting Rule, 326 IAC 2-6, requires sources within Lake

¹ The regulation can be viewed at: <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart2-sec7511a.htm>.

² See Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements (83 FR 62998, December 6, 2018) at <https://www.govinfo.gov/content/pkg/FR-2018-12-06/pdf/2018-25424.pdf>.

³ The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2018-06-04/pdf/2018-11838.pdf>.

⁴ The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2021-06-14/pdf/2021-11454.pdf>.

and Porter counties that emit either NO_x or VOCs equal to or greater than 25 tons per year to annually report their actual emissions to IDEM. The rule can be viewed online at http://www.in.gov/legislative/iac/iac_title?iact=326&iaca=2&submit=+Go.

This document contains information for Porter County (partial) as well as emissions data previously submitted for Lake County to update and replace the January 21, 2021, submittal concerning Indiana's portion of the Chicago nonattainment area. Because U.S. EPA's June 14, 2021, action only revises the designation for Porter County, Indiana, IDEM is not revising the portion of the January 21, 2021, submittal concerning Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Clark and Floyd counties.

2.0 Background Information

Indiana has a long-standing Emissions Reporting Rule at 326 IAC 2-6. U.S. EPA initially determined that 326 IAC 2-6 satisfied CAA requirements and approved it into Indiana's SIP (59 FR 29953, June 10, 1994). Since then, Indiana has continued to satisfy CAA Section 182(a)(3)(B) requirements by appropriately applying 326 IAC 2-6 to affected ozone nonattainment areas. Lake and Porter counties are subject to the requirements in 326 IAC 2-6 under previous 8-hour ozone NAAQS and remain subject to requirements under the 2015 8-hour ozone NAAQS (69 FR 63069).⁵

3.0 Certification and SIP Submittal

Indiana's long-standing Emissions Reporting Rule, 326 IAC 2-6, satisfies the state's obligation under Section 182(a)(3)(B) of the CAA. Lake and Porter counties are subject to requirements in 326 IAC 2-6 under previous 8-hour ozone NAAQS and remain subject to requirements under the 2015 8-hour ozone NAAQS. As such, Indiana's Emissions Reporting Rule, 326 IAC 2-6, requires sources located in Lake and Porter counties that emit either NO_x or VOCs equal to or greater than 25 tons per year to annually report their actual emissions to IDEM. Indiana therefore certifies that 326 IAC 2-6 meets the emissions statement requirements of section 182(a)(3)(B) of the CAA and requirements under the 2015 8-hour ozone NAAQS for Indiana's portion of the Chicago, IL-IN-WI 2015 8-hour ozone "Marginal" Nonattainment Area.

⁵ The rule can be viewed at: <https://www.govinfo.gov/content/pkg/FR-2004-10-29/pdf/04-24238.pdf>.

Enclosure 4

Public Participation Process Documentation

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LEGAL NOTICE OF PUBLIC HEARING

Revised 2017 Base-Year Emissions Inventory, Certification of Indiana's Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) "Marginal" Nonattainment Area

Note: Legal notices for public hearings are no longer published in newspapers, but can be found on the Indiana Department of Environmental Management's web site at:

<https://www.in.gov/idem/public-notices/>

Notice is hereby given under 40 Code of Federal Regulations (CFR) 51.102 that the Indiana Department of Environmental Management (IDEM) is accepting written comment and providing an opportunity for a public hearing regarding the *Revised 2017 Base-Year Emissions Inventory, Certification of Indiana's Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) "Marginal" Nonattainment Area*. All interested persons are invited and will be given reasonable opportunity to express their views concerning this submittal.

On April 30, 2018, United States Environmental Protection Agency (U.S. EPA) initially designated Calumet, Hobart, North, Ross, and Saint John townships in Lake County as part of the Chicago, IL-IN-WI nonattainment area under the 2015 8-hour ozone NAAQS. On June 14, 2021, U.S. EPA revised the Chicago, IL-IN-WI nonattainment area boundary to include Center, Jackson, Liberty, Pine, Portage, Union, Washington, and Westchester townships in Porter County. This area is classified as a "marginal" nonattainment area and is subject to the requirements of Sections 172 and 182 of the Clean Air Act (CAA). As such, the above documents are being drafted and submitted consistent with U.S. EPA guidance.

The draft documents will be available for review on or before August 6, 2021, on the following Web page:

<https://www.in.gov/idem/sips/attainment-demonstrations/ozone-o3-attainment-demonstrations/>

Copies of the draft documents will be made available on or before August 6, 2021, to any person upon request at the following locations:

- IDEM Office of Air Quality, Indiana Government Center North, 100 North Senate Avenue, Room N1003, Indianapolis, Indiana
- IDEM Northwest Regional Office, 330 West U.S. Highway 30, Suite F, Valparaiso, Indiana

- Crown Point Community Library, 122 North Main Street, Crown Point, Indiana
- Gary Public Library, 220 West 5th Avenue, Gary, Indiana
- Hammond Public Library, 564 State Street, Hammond, Indiana
- Lake County Public Library-Highland Branch, 2841 Jewett Street, Highland, Indiana
- Lake Station-New Chicago Branch Public Library, 2007 Central Avenue, Lake Station, Indiana
- Valparaiso Public Library, 103 Jefferson Street, Valparaiso, Indiana
- Whiting Public Library, 1735 Oliver Street, Whiting, Indiana

Any person may submit written comments on the *Revised 2017 Base-Year Emissions Inventory, Certification of Indiana’s Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for Indiana’s Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) “Marginal” Nonattainment Area*. Written comments should be directed to: Ms. Amy Smith, IDEM Office of Air Quality, Room 1003, 100 North Senate Avenue, Indianapolis, Indiana 46204. Written comments can also be submitted via fax (317) 233-5967 or e-mail at amsmith@idem.IN.gov. Written comments must be submitted by September 6, 2021.

A public hearing on the *Revised 2017 Base-Year Emissions Inventory for Indiana’s Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone “Marginal” Nonattainment Area, Certification of Indiana’s Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana’s Emissions Reporting Rule, 326 IAC 2-6, for Indiana’s Portion of the Chicago, IL-IN-WI 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) “Marginal” Nonattainment Area* will be held if a request is received by September 6, 2021. If requested, the hearing will be held on September 8, 2021, and the comment period will be extended to September 15, 2021. If held, the hearing will convene at 5:30 p.m. local time at the Lake Station-New Chicago Branch Public Library, located at 2007 Central Avenue, Lake Station, Indiana 46405. Interested parties may present oral or written comments at the public hearing, if held. If a hearing is held, oral statements will be heard, but for the accuracy of the record, a written copy of the statements should be submitted. If a request is not received by September 6, 2021, the public hearing will be cancelled.

Interested parties can check the online IDEM calendar at <https://events.in.gov/idem> or contact Ms. Amy Smith (317) 233-8211 or amsmith@idem.IN.gov after September 6, 2021, to see if the public hearing has been canceled.

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

For additional information, contact Ms. Amy Smith via U.S. Mail at IDEM Office of Air Quality, Room N1003, Indiana Government Center North, 100 North Senate Avenue, Indianapolis, IN 46204, via e-mail at amsmith@idem.IN.gov, or via telephone at (317) 233-8211 (direct) or (800) 451-6027 (toll free in Indiana).

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Speech and hearing impaired callers may contact the agency via the Indiana Relay Service at 1-800-743-3333. Individuals requiring reasonable accommodations for participation in this hearing should contact the IDEM Americans with Disabilities Act (ADA) coordinator at: Attn: ADA Coordinator, Indiana Department of Environmental Management – Mail Code 50-10, 100 North Senate Avenue, Indianapolis, IN 46204-2251, or call (317) 233-1785 (voice) or (317) 233-6565 (TDD). Please provide a minimum of 72 hours notification.

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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

August 5, 2021

CERTIFICATE OF PUBLICATION

This is to certify that the Indiana Department of Environmental Management (IDEM) Notice of the opportunity for a Public Hearing regarding the following:

- Draft Revised 2017 Base-Year Emissions Inventory, Certification of Indiana's Nonattainment New Source Review (NNSR) Plan, and Revised Certification of Indiana's Emissions Reporting Rule, 326 IAC 2-6, for Indiana's Portion of the Chicago, Illinois-Indiana-Wisconsin (IL-IN-WI) 2015 8-Hour Ozone National Ambient Air Quality Standards (NAAQS) "Marginal" Nonattainment Area

was published on IDEM's web site on August 5, 2021. It is expected that it will remain posted on the site until at least September 6, 2021.

The notice in full was available online at the following web address, under "Northwest/Multi-County Notices":

<http://www.in.gov/idem/5474.htm>

The draft document was posted online August 4, 2021, at the following web address under "Clark, Floyd, Lake and Porter Counties":

<https://www.in.gov/idem/sips/attainment-demonstrations/ozone-o3-attainment-demonstrations/>

Web publication of the notice was at the request of Scott Deloney, Branch Chief, Programs Branch, Office of Air Quality, IDEM.

By:

Mike Finklestein
IDEM Webmaster

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