



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Governor

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April 1, 2025

Ms. Cheryl Newton
Acting Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3950

Re: Second 10-Year Maintenance Plan for the
Indiana Portion of the Cincinnati, Ohio-Kentucky-
Indiana (OH-KY-IN) 2008 8-Hour Ozone
Maintenance Area (Lawrenceburg Township,
Dearborn County, Indiana)

Dear Ms. Newton:

The Indiana Department of Environmental Management (IDEM) is hereby submitting the *Second 10-Year Maintenance Plan for the Indiana Portion of the Cincinnati, Ohio-Kentucky-Indiana (OH-KY-IN) 2008 8-Hour Ozone Maintenance Area (Lawrenceburg Township, Dearborn County, Indiana)*. This submittal demonstrates that the Indiana portion of the Cincinnati, OH-KY-IN 2008 ozone maintenance area will continue to attain the 2008 8-hour ozone standard for the entirety of the second 10-year maintenance period.

Effective July 20, 2012, United States Environmental Protection Agency (U.S. EPA) designated Lawrenceburg Township, Dearborn County, Indiana part of the Cincinnati, OH-KY-IN nonattainment area under the 2008 ozone National Ambient Air Quality Standards (NAAQS). Effective April 7, 2017, U.S. EPA redesignated Indiana's portion of the Cincinnati, OH-KY-IN area (Lawrenceburg Township, Dearborn County, Indiana) to attainment and approved Indiana's maintenance plan, which provided for attainment of the standard for at least 10 years after the redesignation in accordance with Section 175A of the federal Clean Air Act (CAA).

Under Section 175(B) of the CAA, states must submit a revision to the first maintenance plan eight years after redesignation to provide for maintenance of the NAAQS for an additional 10 years following the end of the first 10-year period (i.e., April 7, 2037). This submittal satisfies that commitment for Indiana's portion of the Cincinnati, OH-KY-IN 2008 ozone maintenance area.



Ms. Cheryl Newton
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IDEM provided a 30-day comment period concerning the draft *Second 10-Year Maintenance Plan for the Indiana Portion of the Cincinnati, Ohio-Kentucky-Indiana (OH-KY-IN) 2008 8-Hour Ozone Maintenance Area (Lawrenceburg Township, Dearborn County, Indiana)*. No public comments were received. Please refer to the submittal (*Appendix C - Public Participation Process Documentation*) for further information and dates regarding the public participation process.

A copy of this submittal was sent to U.S. EPA through the State Planning Electronic Collaboration System (SPeCS).

IDEM staff worked with U.S. EPA Region 5 to address any potential concerns regarding the submission. 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/sad/bc/gf/as

Enclosure:

Second 10-Year Maintenance Plan for the Indiana Portion of the Cincinnati, Ohio-Kentucky-Indiana (OH-KY-IN) 2008 8-Hour Ozone Maintenance Area (Lawrenceburg Township, Dearborn County, Indiana)

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SECOND 10-YEAR MAINTENANCE PLAN FOR
THE INDIANA PORTION OF THE CINCINNATI,
OHIO-KENTUCKY-INDIANA (OH-KY-IN) 2008
8-HOUR OZONE MAINTENANCE AREA

**Lawrenceburg Township, Dearborn County,
Indiana**

Developed By:
The Indiana Department of Environmental Management

April 2025

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- A Second Maintenance Plan for the 2008 Ozone Standard for the Cincinnati-Hamilton OH-KY-IN Area for National Ambient Air Quality Standards - Technical Documentation for Mobile Source Emissions, August 7, 2024, Ohio-Kentucky-Indiana Regional Council of Governments
- B Interagency Consultation, Updated Mobile Vehicle Emissions Budgets
- C Public Participation Process Documentation

**SECOND 10-YEAR MAINTENANCE PLAN FOR
THE INDIANA PORTION OF THE
CINCINNATI, OH-KY-IN,
2008 8-HOUR OZONE MAINTENANCE AREA**

DEARBORN COUNTY, INDIANA (LAWRENCEBURG TOWNSHIP)

1.0 INTRODUCTION

This document contains the second 10-year maintenance plan for the Indiana portion (Lawrenceburg Township in Dearborn County, Indiana) of the Cincinnati, Ohio-Kentucky-Indiana (OH-KY-IN) maintenance area under the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). This plan projects that Indiana's portion of the Cincinnati, OH-KY-IN maintenance area will continue to attain the 2008 8-hour ozone standard for the entirety of the second 10-year maintenance period.¹

1.1 Background

On March 12, 2008, United States Environmental Protection Agency (U.S. EPA) strengthened the 8-hour ozone NAAQS to a level of 0.075 parts per million (ppm) (73 FR 16436). On April 30, 2012, effective July 20, 2012, U.S. EPA designated nonattainment areas under the 2008 8-hour ozone NAAQS based on the most recent certified ambient air quality monitoring data (77 FR 30088). In this action, Lawrenceburg Township, Dearborn County, IN was designated as part of the Cincinnati, OH-KY-IN nonattainment area based on air quality data for the 2008-2010 period, with a classification of "marginal" and an attainment date of July 20, 2015. At the time of the designations, four monitors in the Cincinnati, OH-KY-IN area (all located in Ohio) were violating the standard and U.S. EPA determined that emissions from the Lawrenceburg Township area were contributing to the monitored violations.

On February 23, 2016, the Indiana Department of Environmental Management (IDEM) submitted a request for redesignation and maintenance plan for Indiana's portion of the nonattainment area. On March 17, 2017, U.S. EPA redesignated Lawrenceburg Township to attainment, effective April 7, 2017 (82 FR 16940), based on certified air quality monitoring data for 2012-2014 and 2013-2015, and preliminary data for 2016, showing the Cincinnati, OH-KY-IN area met the 2008 ozone standard. As part of that action, U.S. EPA approved a maintenance plan adopted by Indiana under the framework of Clean Air Act (CAA) Section 175(A), which provided for attainment of the standard for at least 10 years from the date of redesignation. CAA Section 175A(b) requires states to submit a revision of the state implementation plan (SIP) eight years after the original redesignation request is approved, to provide for maintenance of the NAAQS for an additional 10 years following the first 10-year period.

¹ The Cincinnati, OH-KY-IN 2008 8-hour ozone maintenance area includes portions of Ohio, Kentucky, and Indiana. The State of Ohio and the Commonwealth of Kentucky are responsible for meeting state implementation plan (SIP) requirements for their portions of the Cincinnati, OH-KY-IN 2008 ozone maintenance area.

1.2 Geographical Description

Lawrenceburg Township is located in Dearborn County, Indiana, in the southeast corner of the state. Dearborn County is bordered by Franklin County, IN to the north, Ripley County, IN to the west, and Ohio County, IN to the south, Hamilton County, OH to the east, and Boone County, KY to the southeast. Lawrenceburg Township, Dearborn County is included in the Cincinnati, OH-KY-IN 2008 ozone maintenance area, which is located in southwest Ohio and also includes Butler, Clermont, Clinton, Hamilton, and Warren counties in Ohio, and portions of Boone, Campbell, and Kenton counties in Kentucky.

1.3 Status of Air Quality

There are currently 11 monitors measuring ozone concentrations in the Cincinnati, OH-KY-IN 2008 8-hour ozone maintenance area. Nine monitors are located in Ohio's portion of the area and two monitors are located in Kentucky's portion of the area.² There are no ozone monitors located in Dearborn County, IN.

Air quality designations rely on three complete consecutive calendar years of quality-assured and certified air monitoring data. To meet the standard, the 3-year average of the annual fourth highest daily maximum 8-hour average ozone concentration must be equal to or below the standard of 75 parts per billion (ppb)³ at all sites. The 3-year average is called the design value (DV). Data retrieved from U.S. EPA's Air Quality System (AQS) shows that all 11 monitors within the area are attaining the standard of 75 ppb based on the most recent quality-assured and certified ozone monitoring data (2021-2023). Table 1.1 provides a summary of the monitoring data for 2021-2023.

Summer emissions of ozone precursors, nitrogen oxides (NO_x) and volatile organic compounds (VOCs), are projected to decrease through the second maintenance period for the Cincinnati, OH-KY-IN maintenance area, as detailed in the maintenance demonstration below. Indiana therefore expects continued maintenance of the standard through the entire second maintenance period.

² Hamilton County Environmental Services operates the monitors in Ohio's portion of the area (https://www.hamiltoncountyohio.gov/government/departments/environmental_services). The Kentucky Division of Air Quality operates the monitors in Kentucky's portion of the maintenance area (<https://eec.ky.gov/Environmental-Protection/Air/Pages/default.aspx>)

³ The standard may be expressed in ppm or ppb, for example 0.075 ppm is equivalent to 75 ppb.

Table 1.1: 2021-2023 Ozone Monitoring Data Summary, Cincinnati, OH-KY-IN Maintenance Area

County, State	Monitor ID	Annual 4 th High Value			Design Value (ppb)
		2021	2022	2023	2021-2023
Boone County, KY	210150008	61	66	77	68
Campbell County, KY	210373002	64	62	66	64
Butler County, OH	390170018	64	67	71	67
Butler County, OH	390170023	66	70	68	68
Butler County, OH	390179991	63	66	69	66
Clermont County, OH	390250022	65	63	68	65
Clinton County, OH	390271002	62	64	74	66
Hamilton County, OH	390610006	70	69	73	70
Hamilton County, OH	390610010	64	68	73	68
Hamilton County, OH	390610040	69	67	75	70
Warren County, OH	391650007	69	69	74	70

2.0 SECOND 10-YEAR MAINTENANCE PLAN

Lawrenceburg Township, Dearborn County, IN, was redesignated to attainment under the 2008 8-hour ozone standard effective April 7, 2017. This second 10-year maintenance plan demonstrates that Lawrenceburg Township will continue to attain the 2008 8-hour ozone standard through April 7, 2037. Indiana has developed this second 10-year maintenance plan in accordance with guidance in the U.S. EPA memorandum from John Calcagni dated September 4, 1992 (Calcagni memo).⁴ The Calcagni memo clarifies that an ozone maintenance plan should address the following core provisions: an attainment inventory for NO_x and VOC emissions; a second maintenance plan which demonstrates attainment for the 10 years following the initial 10-year period; a commitment to maintaining the existing air quality monitoring network; factors and procedures to be used for verification of continued attainment, and; a contingency plan to prevent or correct future violations of the standard. Indiana has addressed these core provisions to ensure adequacy of this second 10-year maintenance plan, as demonstrated in the following sections.

IDEM has consulted with Ohio Environmental Protection Agency (Ohio EPA) and the Kentucky Department of Environmental Protection (KDEP) on the selection of appropriate attainment and maintenance years, as well as the preparation of emission inventories for all relevant sources of NO_x and VOCs in the Cincinnati, OH-KY-IN maintenance area.⁵ IDEM has selected 2016 as the attainment year for the purposes of

⁴ View the Calcagni memo at: <https://www.epa.gov/ground-level-ozone-pollution/procedures-processing-requests-redesignate-areas-attainment>.

⁵ U.S. EPA redesignated the Ohio and Kentucky portions of the maintenance area to attainment, effective December 16, 2016 (81 FR 91035) and July 5, 2017 (82 FR 30976), respectively. Ohio EPA and

this document. The year 2037 has been selected for the projected maintenance year emissions inventory based on the date of the Lawrenceburg Township area's redesignation to attainment in 2017. The attainment year and projected maintenance year NO_x and VOC emissions inventories for area, non-road, and point sources were prepared by Ohio EPA in coordination with IDEM, and KDEP. Mobile source emissions were developed by the Ohio-Kentucky-Indiana Regional Council of Governments (OKI). All emissions data represents comprehensive, accurate, and current inventories of actual emissions from all sources of the relevant pollutants in the Cincinnati, OH-KY-IN area.

2.1 Attainment Inventory

The Calcagni memo states that the attainment emissions inventory should identify the level of emissions in the area which is sufficient to attain the NAAQS. For ozone, the inventory should be based on actual "typical summer day" emissions of NO_x and VOCs (ozone precursors).

For the 2016 attainment year emissions inventory, area, and non-road emissions were compiled at the county level for the Cincinnati, OH-KY-IN 2008 ozone maintenance area using U.S. EPA's Modeling platform (2016v2). Kentucky's area and non-road emissions data was adjusted for partial counties, as follows: 57% for Boone county, 56% for Campbell, and 54% for Kenton. Point source data was provided for Ohio counties and partial Indiana and Kentucky counties using each state's emissions reporting system. Tons per summer day (tsd) emissions were derived from annual emissions according to the U.S. EPA guidance document Temporal Allocation of Annual Emissions Using EMCH Temporal Profiles, dated April 29, 2002.

OKI is the Metropolitan Planning Organization (MPO) for the Cincinnati-Hamilton OH-KY-IN, area that includes Dearborn County, IN; Butler, Clermont, Clinton, Hamilton, and Warren counties in Ohio, and; Boone, Campbell, and Kenton counties in Kentucky. OKI maintains a travel-demand model (TDM) used to predict vehicle miles traveled (VMT). OKI calculated mobile source emissions for the entire maintenance area using data extracted from its TDM and emission factors from U.S. EPA's Motor Vehicle Emission Simulator (MOVES4) software program. Indiana's on-road emissions are comprised of emissions from only Lawrenceburg Township. Appendix A contains OKI's technical documentation for the development of the on-road emissions inventories.

Kentucky Department of Environmental Protection (DEP) are submitting second 10-year maintenance plans for their portions of the area. Indiana is aware of Ohio EPA's second 10-year maintenance plan submission to U.S. EPA on November 6, 2024, including 2016 attainment year and 2037 maintenance year emissions inventories, posted at: <https://epa.ohio.gov/divisions-and-offices/air-pollution-control/state-implementation-plans/state-implementation-plan-sip-2008-eight-hour-ozone-standard>.

Table 2.1 contains the 2016 attainment year NO_x and VOC emissions data for Indiana's portion of the maintenance area.

Table 2.1: 2016 Attainment Year NO_x and VOC Emissions (tsd), by Source Category, Dearborn County, IN

Source Category	NO _x	VOCs
Area	0.33	1.38
Non-road	0.38	0.37
On-road	0.57	0.20
Point-EGU	0.90	0.01
Point Non-EGU	0.85	6.20
Total	3.03	8.16

Table 2.2 contains the 2016 attainment year NO_x and VOC emissions data for the entire Cincinnati, OH-KY-IN maintenance area.

Table 2.2: 2016 Attainment Year NO_x and VOC Emissions (tsd), by Source Category, Cincinnati, OH-KY-IN Area

Source Category	NO _x	VOCs
Area	23.45	99.63
Non-road	23.33	23.64
On-road	64.90	27.30
Point-EGU	45.84	0.68
Point Non-EGU	14.30	16.45
Total	171.82	167.70

2.2 Maintenance Demonstration

Maintenance is demonstrated when the projected maintenance year emissions totals are below the attainment year totals. The development of the 2037 maintenance year emissions data was derived by performing a linear extrapolation on the 2016 attainment year emissions inventory data using the TREND function in Microsoft Excel. If the TREND function resulted in a negative value, the emissions were assumed to not change.

Table 2.3 provides a comprehensive look at the 2016 attainment and 2037 projected maintenance year emissions data for Indiana's portion of the Cincinnati, OH-KY-IN maintenance area. VOC emissions are projected to increase for area, point-EGU, and point non-EGU categories and decrease for the non-road and on-road categories, resulting in no overall change from 2016 to 2037. NO_x emissions are expected to increase for the point non-EGU category and decrease for the four remaining source categories, resulting in an overall projected reduction from 2016 to 2037.

Table 2.3: Comparison of 2016 Attainment Year and 2037 Maintenance Year Emissions by Source Category, Dearborn County, Indiana

Source Category	NO _x Emissions (tsd)			VOC Emissions (tsd)		
	2016	2037	Net Change (2016-2037)	2016	2037	Net Change (2016-2037)
Area	0.33	0.25	-0.08	1.38	1.58	0.20
Non-road	0.38	0.17	-0.21	0.37	0.27	-0.10
On-road	0.57	0.09	-0.48	0.20	0.07	-0.13
Point-EGU	0.90	0.39	-0.51	0.01	0.03	0.02
Point Non-EGU	0.85	1.12	0.27	6.20	6.21	0.01
Total	3.03	2.02	-1.01	8.16	8.16	0.00

Table 2.4 provides data for the entire Cincinnati, OH-KY-IN maintenance area (Indiana, Kentucky, and Ohio combined). Small increases are projected for VOCs from area sources and NO_x from point non-EGUs; however, emissions from all other source categories are projected to decrease, resulting in overall NO_x and VOC reductions.

Table 2.4: Comparison of 2016 Attainment Year and 2037 Maintenance Year Emissions by Source Category, Cincinnati, OH-KY-IN 2008 Ozone Maintenance Area

Source Category	NO _x Emissions (tsd)			VOC Emissions (tsd)		
	2016	2037	Net Change (2016-2037)	2016	2037	Net Change (2016-2037)
Area	23.45	18.62	-4.83	99.63	102.37	2.74
Non-road	23.33	10.12	-13.21	23.64	17.45	-6.19
On-road	64.90	10.09	-54.81	27.30	11.47	-15.83
Point-EGU	45.84	8.87	-36.97	0.68	0.49	-0.19
Point Non-EGU	14.30	14.96	0.66	16.45	15.04	-1.41
Total	171.82	62.66	-109.16	167.70	146.82	-20.88

Table 2.5 provides a summary of the total net change in NO_x and VOC emissions from 2016 to 2037 (all sources, combined), and the margins of reductions expressed in percentages. As shown by the data, 2037 maintenance year emissions for the entire Cincinnati, OH-KY-IN maintenance area are projected to decrease from 2016 attainment year levels by margins of approximately 64% for NO_x and 12% for VOCs. Based on the projected overall reductions, the area is expected to continue attaining the 2008 ozone standard throughout the second 10-year maintenance period.

Table 2.5: Summary of Net Changes in NO_x and VOC Emissions, 2016 – 2037

Portion of the Maintenance Area	NO _x				VOCs			
	2016	2037	Net Change		2016	2037	Net Change	
			tsd	Percentage			tsd	Percentage
Indiana	3.03	2.02	-1.01	-33.33%	8.16	8.16	0.00	0.00%
Entire Cincinnati, OH-KY-IN Area	171.82	62.66	-109.16	-63.53%	167.70	146.82	-20.88	-12.45%

2.3 Continued Air Quality Monitoring

Indiana is committed to addressing ozone monitoring requirements in accordance with 40 CFR Part 58 Appendix D, and work with appropriate neighboring agencies to address cross-state requirements. There are no ozone monitoring sites located within Indiana's portion of the Cincinnati, OH-KY-IN maintenance area. Indiana will consult with U.S. EPA should changes become necessary in the future.

2.4 Verification of Continued Attainment

Indiana has the legal authority to enforce and implement the requirements of the maintenance plan for Lawrenceburg Township, Dearborn County, IN. This includes the authority to adopt, implement, and enforce any subsequent emission control measures determined to be necessary to correct future ozone attainment problems.

Verification of continued attainment is accomplished through operation of the ambient ozone monitoring network and the periodic update of the area's emissions inventory. A multi-agency agreement between the Southwest Ohio Air Quality Agency (Cincinnati, OH)⁶ and IDEM specifies that the Southwest Ohio Air Quality Agency will fulfill all the ozone monitoring requirements in the Cincinnati, OH-KY-IN core-based statistical area (CBSA). Indiana is not aware of any plans to discontinue operation, relocate, or otherwise change the existing ozone monitoring network other than through revisions in the network approved by U.S. EPA.

In addition, to track future levels of emissions, Indiana will continue to develop and

⁶ A division of Hamilton County Environmental Services.

submit to U.S. EPA updated emission inventories for all source categories at least once every three years, consistent with the requirements of 40 CFR part 51, subpart A, and in 40 CFR 51.122. The Consolidated Emissions Reporting Rule (CERR) was promulgated by U.S. EPA on June 10, 2002 (67 FR 39602). The CERR was replaced by the Annual Emissions Reporting Requirements (AERR) on December 17, 2008 (73 FR 76539). Indiana has an Emission Reporting Rule, 326 Indiana Administrative Code (IAC) 2-6, requiring certain sources, based on potential-to-emit emissions and location, to report emissions annually or once every three years.

2.5 Contingency Plan

Under Section 175A of the CAA, maintenance plans must include contingency provisions, as necessary, to promptly correct any violation of the NAAQS that occurs after redesignation of the area. In accordance with this requirement, Indiana commits to adopt and expeditiously implement necessary corrective actions in the following circumstances:

2.5.1 Warning Level Response

A Warning Level Response shall be prompted whenever an annual (1-year) 4th high monitored value of 0.079 ppm occurs in a single ozone season or a two-year average 4th high monitored value of 0.076 ppm or greater occurs within the maintenance area.

A Warning Level Response will consist of a study to determine whether the ozone value indicates a trend toward higher ozone values or whether emissions appear to be increasing. The study will evaluate whether the trend, if any, is likely to continue and, if so, the control measures necessary to reverse the trend, taking into consideration ease and timing for implementation, as well as economic and social considerations. Implementation of necessary controls in response to a Warning Level Response trigger will take place as expeditiously as possible, but in no event later than twelve months from the conclusion of the most recent ozone season.

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

2.5.2 Action Level Response

An Action Level Response shall be prompted whenever a violation of the standard (three-year average fourth high monitored value of 0.076 ppm or greater) occurs within the maintenance area. In the event that the Action Level Response is triggered and is not found to be due to an exceptional event, malfunction, or noncompliance with a permit condition or rule requirement, IDEM will determine additional control measures needed to assure future attainment of NAAQS for ozone. In this case, measures that can be implemented in a short time will be selected and be in place within 18 months from the close of the ozone season that prompted the Action Level Response.

2.5.3 Control Measure Selection and Implementation

Adoption of any additional control measures is subject to the necessary administrative and legal process. This process will include posting of notices, an opportunity for public hearing, and other measures required by Indiana law for rulemaking by the State of Indiana's Environmental Rules Board.

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

2.5.4 Contingency Measures

Contingency measures to be considered will be selected from a comprehensive list of measures deemed appropriate and effective at the time the selection is made. The selection of measures will be based upon cost-effectiveness, emission reduction potential, economic and social considerations, or other factors that IDEM deems appropriate. IDEM will solicit input from all interested and affected persons in the maintenance area prior to selecting appropriate contingency measures.

Listed below are example measures that may be considered. All of the listed contingency measures are potentially effective or proven methods of obtaining significant reductions of ozone precursor emissions. Because it is not possible at this time to determine what control measure(s) will be appropriate at an unspecified time in the future, the list of contingency measures outlined below is not comprehensive. Indiana anticipates that if contingency measures should ever be necessary, it is unlikely that a significant number (such as all listed measures) will be required.

- 1) Lower Reid vapor pressure gasoline program.
- 2) Broader geographic applicability of existing measures.
- 3) Tighten reasonably available control technology (RACT) on existing sources covered by U.S. EPA Control Technique Guidelines issued in response to the 1990 Clean Air Act Amendments.
- 4) Apply RACT to smaller existing sources.
- 5) One or more transportation control measures sufficient to achieve at least 0.5% reduction in actual area wide VOC emissions. Transportation measures will be selected from the following, based upon the factors listed above after consultation with affected local governments:
 - a) Trip reduction programs, including, but not limited to, employer-based transportation management plans, area wide rideshare programs, work schedule changes, and telecommuting.
 - b) Transit improvements.
 - c) Traffic flow improvements.

- d) Other new or innovative transportation measures not yet in widespread use that affects state and local governments deemed appropriate.
- 6) Alternative fuel and diesel retrofit programs for fleet vehicle operations.
- 7) Controls on consumer products consistent with those adopted elsewhere in the United States.
- 8) Require VOC or NO_x emission offsets for new and modified major sources.
- 9) Require VOC or NO_x emission offsets for new and modified minor sources.
- 10) Increase the ratio of emission offsets required for new sources.
- 11) Require VOC or NO_x controls on new minor sources (less than 100 tons).

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

3.0 TRANSPORTATION CONFORMITY

Transportation conformity is required under CAA Section 176(c) to ensure that transportation plans, transportation improvement programs (TIPs), and federally supported highway and transit projects are consistent with (“conform to”) the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or interim reductions and milestones. Transportation conformity applies to areas that are designated nonattainment, and to those former nonattainment areas that have been redesignated to attainment since 1990 and have a CAA section 175A maintenance plan (“maintenance areas”) for transportation-related criteria pollutants: carbon monoxide, ozone, nitrogen dioxide, and particulate matter.

U.S. EPA requirements outlined in 40 Code of Federal Regulations (CFR) 93.118(e)(4) stipulate that for NO_x and VOCs, motor vehicle emissions budget(s) (MVEBs) be established as part of a SIP. The MVEBs are necessary to demonstrate conformance of transportation plans and improvement programs with the SIP. MVEBs are those portions of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions.

3.1 Motor Vehicle Emissions Budgets (MVEBs)

OKI completed MOVES4 modeling to develop mobile emissions used to establish MVEBs for the second 10-year maintenance period for the Cincinnati, OH-KY-IN 2008 8-hour ozone maintenance area. Appendix A contains a copy of OKI’s technical documentation for the mobile source emissions inventory process, with details on the transportation networks, socioeconomic data, the travel demand model, input and output files and projects. An interagency consultation group including IDEM, OKI, Ohio EPA, and the Ohio Department of Transportation (Ohio DOT) worked in coordination

with U.S. EPA Regions IV and V to determine a reasonable approach to accommodate future variations in transportation demand models (TDMs) and vehicle miles traveled forecast when no change to the network is planned. All methodologies, the latest planning assumptions, and safety margin allocations were determined through the interagency consultation process described in a Transportation Conformity Memorandum of Understanding (MOU) among IDEM, the Indiana Department of Transportation, U.S. EPA, the Federal Highway Administration, and the Federal Transit Administration.⁷ Appendix B contains a copy of the interagency consultation.

For planning purposes, separate MVEBs are established for the combined Indiana and Ohio portion of the Cincinnati, OH-KY-IN maintenance area and the Kentucky portion of the area. A fifteen (15) percent safety margin was approved and factored into the MVEBs for the Ohio and Indiana portions of the nonattainment area based on the following factors: 1) there is an acknowledged potential variation in the VMT forecast and potential estimated mobile source emissions due to expected modifications to TDM and mobile emissions models, and; 2) the total decrease in emissions from all sources is sufficient to accommodate this 15 percent allocation of safety margin to mobile sources while still continuing to maintain the total emissions well below the 2016 attainment level of emissions.

Data is summarized in Tables 3.1, 3.2, and 3.3. Table 3.1 outlines the 2016 attainment year and 2037 maintenance year on-road NO_x and VOC emissions for the entire Cincinnati, OH-KY-IN maintenance area. A breakout of Lawrenceburg Township's emissions is included in the table. Lawrenceburg Township contributes extremely small percentages of NO_x and VOC on-road emissions to the maintenance area.

Table 3.1: On-Road Mobile Source Emissions Estimates, Entire Maintenance Area

	Entire Cincinnati, OH-KY-IN 2008 Ozone Maintenance Area (tsd)		Lawrenceburg Township (Dearborn County Indiana) Subtotal (tsd)		Percentage of Lawrenceburg Township's Contribution	
	2016	2037	2016	2037	2016	2037
NO _x	64.90	10.09	0.57	0.09	0.88%	0.89%
VOCs	27.30	11.47	0.20	0.07	0.73%	0.61%

Table 3.2 provides the 2016 attainment year and 2037 maintenance year on-road NO_x and VOC emissions for the combined Ohio and Indiana portions. This table also includes a breakout of Lawrenceburg Township's emissions. Again, the data shows the percentages of Lawrenceburg Township's contributions are extremely small.

⁷ The document can be viewed at: <https://www.in.gov/idem/sips/transportation-conformity/>.

Table 3.2: On-Road Mobile Source Emissions Estimates, Combined Ohio and Indiana Portions

	Ohio and Indiana Portions (Combined) of the Cincinnati, OH-KY-IN 2008 Ozone Maintenance Area (tsd)		Lawrenceburg Township (Dearborn County Indiana) Subtotal (tsd)		Percentage of Lawrenceburg Township's Contribution	
	2016	2037	2016	2037	2016	2037
NO _x	51.63	8.10	0.57	0.09	1.10%	1.11%
VOCs	23.56	9.57	0.20	0.07	0.85%	0.73%

Table 3.3 provides the 2037 mobile budgets for NO_x and VOC emissions for the combined Indiana and Ohio portions of the maintenance area. The 2037 mobile budgets are calculated by adding a straight-line fifteen (15) percent to the mobile source emission estimates for the 2037 maintenance year, as shown by the data. 40 CFR 93.101 defines safety margin as the amount by which the total projected emissions from all sources of a given pollutant are less than the total emissions that would satisfy the applicable requirement for reasonable further progress, attainment, or maintenance. The MVEB safety margins of 1.22 tsd for NO_x and 1.44 tsd for VOCs for the combined Ohio and Indiana portions are insignificant when compared to the overall decrease in emissions for the 2037 maintenance year (see Table 5, above).

Table 3.3: MVEBs, Combined Ohio and Indiana Portion

	2037 Maintenance Year Emissions (tsd)	Margin of Safety Allocation (tsd)	2037 Mobile Budget (tsd)
NO_x	8.10	1.22	9.32
VOCs	9.57	1.44	11.01

The current 8-hour ozone MVEBs will no longer be applicable after the effective date of the approved redesignation or after the effective date of any U.S. EPA action approving a finding that the new 8-hour ozone conformity budget included in this submittal is adequate for transportation conformity purposes, whichever date comes first.

4.0 PUBLIC PARTICIPATION

In accordance with 40 CFR 41.102, IDEM provided opportunity for public participation concerning the *Second 10-Year Maintenance Plan for the Indiana Portion of the Cincinnati, Ohio-Kentucky-Indiana (OH-KY-IN) 2008 8-Hour Ozone Maintenance Area (Lawrenceburg Township, Dearborn County, Indiana)*. Notice of availability was posted on IDEM's website under "[IDEM: Public Notices: Southeast Indiana](#)" on February 26,

2025, and remained posted for at least 30 days. IDEM did not receive a request for public hearing or public comments concerning the draft submittal. All details concerning public participation, including a copy of the legal notice and certification of publication, are contained in Appendix C.

5.0 CONCLUSION

Lawrenceburg Township in Dearborn County, Indiana, along with the remaining portion of the Cincinnati, OH-KY-IN 2008 8-hour ozone maintenance area, has continued and will continue to maintain compliance with the NAAQS through the second 10-year maintenance period (i.e., April 7, 2037). This plan demonstrates that Lawrenceburg Township has complied with all applicable CAA provisions regarding ozone maintenance areas. As such, this second maintenance plan satisfies Section 110(l) CAA requirements.

Based on this presentation, Indiana's portion of the Cincinnati, OH-KY-IN maintenance area (Lawrenceburg Township, Dearborn County) also satisfies Section 175(a)(b) CAA requirements for subsequent plan revisions required for 2008 8-hour ozone maintenance areas. IDEM hereby requests U.S. EPA approval of the second maintenance plan provisions contained herein.

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APPENDIX A

Ohio-Kentucky-Indiana (OKI) Regional
Council of Governments Technical
Documentation for Mobile Source
Emissions

Lawrenceburg Township, Dearborn
County, IN Second 10-year
Maintenance Plan Submittal

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**SECOND MAINTENANCE PLAN FOR THE 2008 OZONE STANDARD FOR THE
CINCINNATI-HAMILTON OH-KY-IN AREA FOR NATIONAL AMBIENT AIR
QUALITY STANDARDS (NAAQS) – TECHNICAL DOCUMENTATION FOR
MOBILE SOURCE EMISSIONS**

August 7, 2024



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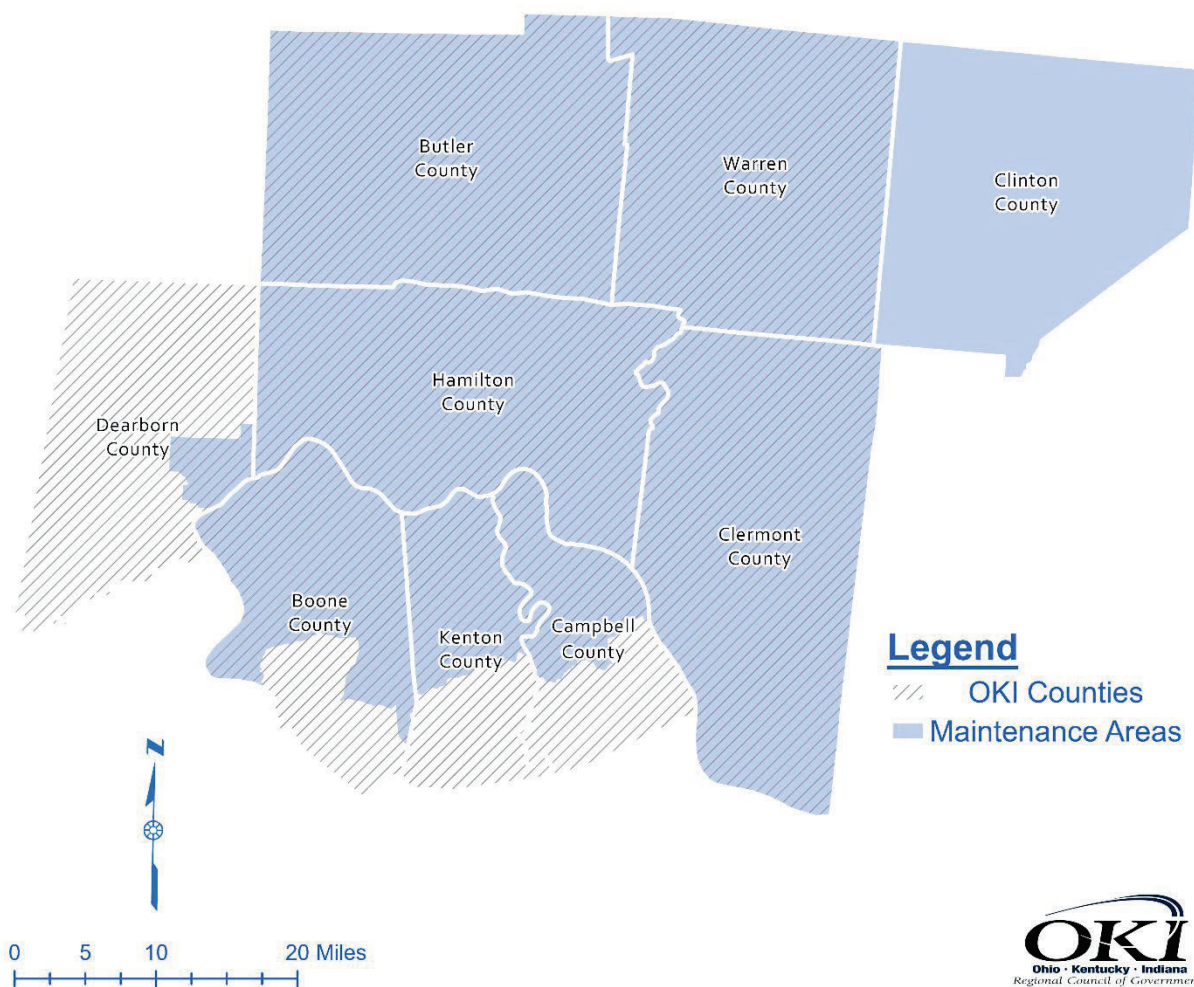
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BACKGROUND

This report documents the maintenance plan process used by OKI to develop mobile source emissions inventories for the 2008 ozone standard for the State Implementation Plans (SIP) of Ohio, Kentucky and Indiana which complies with the Clean Air Act.

The region continues to be classified as a maintenance area for the 2008 Ozone National Ambient Air Quality Standard (NAAQS). The 2008 ozone area (Figure 1) includes the counties of Butler, Clermont, Clinton, Hamilton, and Warren in Ohio; a portion of the counties of Boone, Campbell and Kenton in Kentucky; and a portion of Dearborn County Indiana.

Figure 1 – Cincinnati-Middletown-Wilmington OH-KY-IN Ozone Maintenance Area – 2008 Ozone



OKI'S MOBILE EMISSIONS INVENTORY PROCESS

The mobile source emissions inventory involves the process of estimating mobile source emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) resulting from the transportation system for various years described below. This is accomplished by estimating vehicle miles of travel and vehicle speed of travel using travel demand models in conjunction with the EPA MOVES4 model. Central to travel demand forecasting are the transportation networks (highway and transit) as well as demographic data.

Transportation networks

OKI's highway and transit networks include the existing transportation system plus all regionally significant projects in OKI's Metropolitan Transportation Plan and TIP that would normally be subject to air quality conformity requirements (non-exempt), regardless of funding source. A list of non-exempt projects included in each transportation network is included in Appendix A.

The networks specifically developed for use in this conformity process are 2016 Base (represents attainment emissions) and 2037 Maintenance.

- The 2016 Base Year (Attainment emissions).
- The 2037 Maintenance Year.

Socioeconomic Data

Values for an array of socioeconomic variables are estimated (base year) and projected (intermediate and horizon years) as input into trip generation, distribution, and modal choice components of the OKI travel demand model. These data are geographically recorded by transportation analysis zone (TAZ) which permits quantifying the amount of trip generating activity by zones of origin and destination. The OKI socioeconomic variables are identical to those used by the Miami Valley Regional Planning Commission model.

The socioeconomic data are prepared for the base year to assist in validating the travel demand model to replicate current traffic conditions and for the analysis year to determine the travel demands to be accommodated within the planning period. The point in time for which the travel demand model is calibrated and validated is a normal weekday and the annual average weekday.

Demographic data files are prepared for a base year (usually a year ending in 0 or 5) and a long range horizon year which is specified in the federal guidelines to be at least 20 years in the future. The number of TAZs currently being used is 2,067 and place holding zones are included for each county to permit expansion of the database as needed in the future.

The 2016 socio-economic and land use data were extrapolated from 2020 and 2030 data. The 2037 maintenance year data was extrapolated from the 2030- and 2040-year data. It should also be noted that a few variables will not have values in some TAZs due to the absence of households, employment or workers in the base year data set. The TAZs should be checked in the future year

to confirm that land uses have not changed the nature of the TAZ (thus requiring the determination of a value).

A complete discussion of the base year (2020) demographic data development is available in OKI Regional Council of Governments: Development of the Socioeconomic Database; Step by Step Guide to creating the Base Year for the Socioeconomic Database, July 2022 and a complete discussion of the horizon year (2050) demographic data development is available in OKI Regional Council of Governments: Development of the Socioeconomic Database; Step by Step Guide to creating the Base Year for the Socioeconomic Database, January 2023. All of the variables represent the latest OKI planning assumptions.

Population

Base and Future Year Data: Population data for base year 2016 and future years 2030 and 2040 originate with the 2020 Decennial Census data. Utilizing ArcGIS, population data at the zonal level for 2020 was derived from the area proportion allocation of block level population.

As a tri-state regional planning agency, OKI uses the most current county level population projections as prepared by the respective state data centers (Ohio Development Services Agency Department of Research, Kentucky State Data Center and Indiana Business Research Center) as control totals. Projections based on the 2020 census for years 2030 and 2040 were released by the Ohio and Kentucky state data centers, and components of population change analysis for Dearborn County, based on the best available Census data. Population projections at the zonal level are calculated by multiplying household size by the projected zonal households. Household size is factored so that, in each county, the sum of the zonal populations equals the county control total.

Households

Base Year Data: Household data for base year 2016 originates with the 2016-2020 American Community Survey (ACS) for counties in the OKI region. To assign the household data from the ACS to TAZ, voter registration data was used to apportion the census tract household total to TAZs.

Future Year Data: The preparation of household projections was accomplished by calculating the number of households for a projected county population using average household size trends and for Kentucky counties, the actual number of households forecasted for each forecast year. Disaggregation to TAZs was determined by historical trends, existing and future land use, topography, flood plain information, availability of land, local knowledge and other factors.

Total Vehicles and Average Household Car Ownership

Base and Future Year Data: Base and future year household vehicle data were obtained from the 2016-2020 American Community Survey. Total vehicles per household were calculated for census tracts then applied to the TAZs based on the voter registration data. For the horizon year, the historical trends in vehicles per household was calculated and applied to each TAZ. Most areas

did not see a significant reduction in vehicle ownership and so the total number of vehicles regionally will continue to grow at a similar rate as the household growth rate.

School Enrollment

Base Year Data: Enrollment of elementary and secondary schools were obtained from each school directly and included in the socioeconomic database. Postsecondary educational institution enrollment was obtained from the National Center for Education Statistics website, then geocoded in ArcMap and assigned to a TAZ.

Future Year Data: Future year elementary and high school enrollments by TAZ were based on the change in numbers of elementary age and high school age children between 2015 and each future year by county. The base year 2016 data and future year data was taken from the Ohio, Kentucky and Indiana state data centers' population projections by age. The percent changes between the base year and future year for elementary and high school children at the county level were applied to all the TAZs in the county. Schools that were closed in 2020 were removed and those which were built since 2020 were added. Projections of enrollment for the larger institutions can be found in media articles or master plans. These projections are used when available; otherwise, the base year enrollment is retained based on the share of each school's enrollment countywide.

Labor Force

Base and Future Year Data: The OKI labor force is a function of the population as determined by a labor force participation rate (the number of employed persons in the labor force per persons 16 and over). Labor force data for base year 2016 was extrapolated from the 2016-2020 American Community Survey. Utilizing the geographic information system ArcGIS, household data at the zonal level was derived from the area proportion allocation of block group level employed labor force. Future year labor force projections were based on the most recent projections of national labor force participation rates by age and sex cohorts from the U.S. Department of Labor, Bureau of Labor Statistics for each of those years. These rates were then applied to the projected county age/sex cohorts and adjusted to eliminate the unemployed to arrive at a county employed labor force control total. Employed labor force at the zonal level is calculated by multiplying the labor force participation rate by the zonal population. The labor force participation rate is adjusted so that, in each county, the sum of the zonal labor force counts equals the control total.

Employment

Base Year Data: Quarterly Census of Employment and Wages (QCEW) data for the first quarter of 2020 was utilized as the primary tool to extrapolate base year employment at the zonal level in Ohio and Kentucky for 2016. In Indiana, 2016 data was extrapolated from InfoUSA 2020 data. Individual business records containing physical location, number of employees and North American Industry Classification System (NAICS) code were geocoded in ArcGIS and aggregated to the TAZ level. This data set was supplemented by other sources of data to complete the commuting employment picture in the OKI region. Each zone's employment was divided into 11 categories based on two-digit NAICS sector codes. The categories represent sectors grouped according to their similarity in generating trips.

Future Year Data: For future year employment projection, the existing employment totals by sector were used to calculate each employers share of County employment. Then using Woods and Poole's County employment by sector projections, the growth or rate of decline was applied to each employment location based on its share and then adjusted to match the projected employment calculated based on the projected labor force and inflow and outflow of workers to and from the region.

Area Type

Base and Future Year Data: For each analysis year, each TAZ is assigned an area type designation as CBD, Urban, Suburban or Rural based on population and employment densities.

OKI TRAVEL DEMAND MODEL

Vehicle miles traveled and vehicle hours were estimated using the OKI Travel Demand Model. The OKI model is an Activity-Based Model (ABM). The OKI ABM utilizes the CUBE based Coordinated Travel – Regional Activity Based Modeling Platform (CT-RAMP) to simulate the travel pattern of all individual travelers in the region. The ABM estimates a schedule and itinerary of daily activities for members of every household in the region based on detailed information for individuals, households, trips, and highway and transit systems. Travel behavior modeling at fine spatial-temporal resolution improves the accuracy of travel pattern estimates and enables the model to evaluate conventional highway and transit projects as well as to test a variety of policies and scenarios, including the adoption of connected and autonomous vehicles, tolling and congestion pricing, implementation of High-Occupancy-Vehicle (HOV) lanes, and land use planning.

Model Validation

The 2016 and 2037 automobile estimates were generated using input from our new OKI-only travel demand model, which was validated against 2020 traffic conditions. The modeling network encompasses the entire ozone Maintenance area except for Clinton County, Ohio. The modeling network also includes the remainder of Dearborn County Indiana.

OKI incorporates a variety of sources of local data to both improve and confirm the accuracy of VMT, as well as other travel-related parameters. Free flow speeds used on the highway and transit networks are based on travel time studies performed locally and the NPMRDS data. The 2020 Base Year model was validated against observed data, including the travel data from 2021/2022 Regional Household Transportation Survey, 2018 and 2019 traffic counts, 2019 (October) StreetLight Origin-Destination (O-D) and travel distance data, and the 2016-2020 ACS data, and 2023 transit ridership and other relevant data.

A summary of the assigned and observed VMT in the base year by facility type is included in Table 1. The difference between estimated vehicle miles traveled (VMT) and 2020 observed VMT is about six percent. Specifically, a percentage difference of -11% and -12% is observed between the observed and modeled data for arterials and collector, respectively. On the other hand, the estimated VMTs for interstates and freeways/expressways match well with the observed data.

Table 1 - Vehicle miles traveled by facility type

Functional Classification	Vehicle Miles Traveled		
	Observed 2019	Model 2020	Percent Difference
Interstate	20,810,000	20,540,000	-1%
Freeway/Expressway	1,530,000	1,520,000	-1%
Arterial	16,550,000	14,770,000	-11%
Collector	7,710,000	6,760,000	-12%
Local	7,140,000	7,040,000	-1%
Total	53,740,000	50,630,000	-6%
Collector and Above Total	46,600,000	43,590,000	-6%

The model highway network includes approximately 1,900 bi-directional count locations in the OKI modeling area that have daily, and time-of-day traffic counts collected by Ohio Department of Transportation (ODOT), Kentucky Transportation Cabinet (KYTC), Indiana Department of Transportation (INDOT), and OKI in 2018 and 2019. The assigned volumes are compared with the observed counts by volume group, facility type, and area type at the regional level to ensure the validation results are acceptable.

The assigned and observed volumes by volume group are shown in Table 2. The volume-to-count (VOL/CNT) ratio for each group is also included. As expected, the ratios are higher for lower volume groups. For most of the volume groups, the volume to count ratio is close to 1. The total volume to count ratio of 1.01 and the overall percent root mean square error (%RMSE) of 35.9% indicates a good accuracy of the traffic assignment output.

Table 2 - Volume statistics by volume group

Volume Group	Observations	Total Counts	Total Volume	VOL/CNT Ratio	RMSE	%RMSE
<2500	207	323,310	410,549	1.27	1,299	83.20%
2500 - 4999	389	1,487,370	1,760,976	1.18	2,486	65.00%
5000 - 7499	363	2,252,660	2,495,001	1.11	3,216	51.80%
7500 - 14999	623	6,459,390	6,894,578	1.07	3,804	36.70%
15000 - 24999	139	2,540,030	2,474,237	0.97	4,550	24.90%
25000 - 49999	90	3,245,990	2,921,939	0.90	7,553	20.90%
50000 - 74999	85	5,334,100	4,974,840	0.93	10,444	16.60%
>75000	11	864,980	816,824	0.94	12,871	16.40%
Total	1,907	22,507,830	22,748,944	1.01	4,748	36.30%

Table 3 and Table 4 compare the traffic assignment results to the observations by facility type and area type, respectively. Notably, model volumes on expressways are about 19% lower than the traffic counts. A closer examination reveals that SR-126 stands out as the primary contributor to these discrepancies, with the model's average volume on SR-126 being approximately 27% lower than the observed traffic counts. It is noticed that the observed traffic along SR 126 increased about 21% from 2015 to 2018. Further investigation will be conducted to confirm the trend once the new traffic data becomes available. It is also noticed that the modeled volumes on I-275 are notable lower compared with counts along the corridor.

Table 3 - Volume statistics by facility type

Facility Type	Observations	Total Counts	Total Volume	VOL/CNT Ratio	RMSE	%RMSE
Freeway	220	10,054,270	9,257,663	0.92	8,687	19.00%
Expressway	25	304,620	246,805	0.81	6,318	51.90%
Ramp	398	2,813,080	3,095,330	1.1	3,278	46.40%
Arterial	964	8,118,840	8,726,986	1.07	3,357	39.90%
Collector	272	1,116,690	1,328,506	1.19	2,431	59.20%
Local	28	100,330	93,654	0.93	1,193	33.30%
Total	1,907	22,507,830	22,748,944	1.01	4,239	35.90%

Table 4 - Volume statistics by area type

Area Type	Observations	Total Counts	Total Volume	VOL/CN T Ratio	RMSE	%RMSE
Rural	148	727,470	789,494	1.09	1,915	57.90%
Suburban	938	12,467,270	12,412,553	1	24,373	4.90%
Urban	775	8,965,690	9,065,326	1.01	6,738	29.90%
CBD	46	347,400	481,570	1.39	1099	304.90%
Total	1,907	22,507,830	22,748,944	1.01	4,239	35.90%

The raw 15-minute traffic counts from INDOT, KYTC, ODOT, and OKI are also summarized by time periods of AM Peak, Midday, PM Peak, and Evening/Night Time (defined in the Chapter 1). Table 5 presents time-of-day distributions for traffic volumes and traffic counts. The time-of-day share of traffic volumes matches well with the time-of-day distribution of the traffic counts.

Table 5 - Volume time-of-day distribution

Time-of-Day	Total Counts	Count % Share	Total Volumes	Model Volume % Share	VOL/CN T Ratio
AM Peak	4,083,920	18.10%	4,652,641	20.50%	1.14
Midday	7,361,440	32.70%	7,423,182	32.60%	1.01
PM Peak	6,522,740	29.00%	6,160,865	27.10%	0.94
Evening/Night	4,539,730	20.20%	4,512,256	19.80%	0.99
Total	22,507,830	100.00%	22,748,944	100.00%	1.01

A screen-line analysis was another validation process that compares the screenline observed and simulated traffic volume discrepancies with the ODOT standard of maximum desirable deviation. The comparison shows that all screen-line volume deviations are below the ODOT desired maximum deviation curve indicating that the model replicates the traffic counts reasonably well. Table 6 shows the comparisons of model volumes and counts at the defined screen-lines. The model volume deviations are included and compared with the ODOT desired maximum volume deviations.

Table 6 - Screen-line summary

Screenline	Counts	Volumes	Deviation Model vs. Counts	ODOT Desired Max Deviation
A	279,670	327,806	17.0%	19.0%
B	378,690	336,374	11.0%	17.4%
C	83,420	75,386	10.0%	26.7%
D	435,260	398,202	9.0%	16.8%
E	566,520	548,249	3.0%	15.6%
F	317,660	331,037	4.0%	18.3%
G	278,530	313,929	13.0%	19.0%
H	215,590	223,015	3.0%	20.4%
I	812,410	772,100	5.0%	14.1%
J	225,590	229,771	2.0%	20.2%

Screenline	Counts	Volumes	Deviation Model vs. Counts	ODOT Desired Max Deviation
K	637,210	624,958	2.0%	15.1%
L	147,820	168,218	14.0%	22.7%
M	228,830	199,518	13.0%	20.1%
N	372,380	367,001	1.0%	17.5%
O	440,910	423,333	4.0%	16.7%
P	243,550	247,638	2.0%	19.8%
Q	17,040	21,927	29.0%	41.8%
R	127,950	118,828	7.0%	23.7%
S	214,150	255,406	19.0%	20.5%
T	36,370	45,384	25.0%	33.7%
U	11,410	10,239	10.0%	46.8%
V	126,400	148,991	18.0%	23.8%
W	13,010	11,972	8.0%	45.1%
X	59,360	60,746	2.0%	29.4%
Y	60,490	61,817	2.0%	29.2%
Z	5,490	6,282	14.0%	57.5%

A complete discussion of the travel demand model validation is available in *OKI Activity-Based Travel Demand Model – Version 2.0 Validation Report*.

Post-Model Processing

During post-processing, the loaded highway networks are used to generate VMT and speed distribution input for the MOVES. Model VMTs are first adjusted with the factors that were developed using 2019 county reported VMT and the model VMT estimates. Annual VMT by vehicle type by county is then developed using the Highway Performance Monitoring System (HPMS) data and the county vehicle registration data. VMT monthly, daily, and hourly fraction factors are estimated through the traffic counts from the permanent traffic count stations located in the OKI region. The speed bin input is generated from the model time-of-day travel time and speed.

Emission Factor Models

OKI's conformity assessment utilized U.S.EPA's emission model MOVES4 to develop emissions for VOC's and NOx. The MOVES input files contain local parameters, developed through consultation with state partners, for temperature, fuel programs, fuel characteristics, and vehicle fleet composition. The local parameters are combined with the VMT and speed data from the OKI ABM to produce emission measured in grams for the appropriate analysis year. The methodologies incorporated into MOVES for estimating emissions are based on methods and research conducted by U.S.EPA. OKI's development of MOVES input values were guided by the U.S.EPA's document "*MOVES4 Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity*", August 2023.

Table 7 summarizes the settings used in the MOVES run specification file. Table 8 lists the data and sources used in the MOVES County-Data Manager.

Table 7 - MOVES Run specification file

MOVES RunSpec Parameter	Settings
MOVES4.0.1	
Scale	County, Mass and/or Energy within a region and time span
Time Span	Year: model year
	Month: July
	Days: Weekday
	Hour: All hours of day selected
Geographic Bounds	Custom Domains for each county in Ohio (Butler, Clermont, Hamilton, Warren), Indiana (Dearborn), and Kentucky (Boone, Campbell, Kenton)
Vehicles/Equipment	All source types available for gasoline and diesel.
Road Type	All road types including off-network
Pollutants and Processes	VOC; hydrocarbons; Non-Methane Organic Gases; Total Organic Gases; Methane; CO; NO; NO ₂ ; N ₂ O; PM _{2.5} Total; PM _{2.5} : Composite NonECPM, Elemental Carbon, Organic Carbon, Sulfate Particulate; PM _{2.5} – Brakewear Particulate; PM _{2.5} – Tirewear Particulate; SO ₂ ; Total Energy Consumption; Fossil Fuel Energy Consumption; Atmosphere CO ₂ ; and CO ₂ Equivalent
Strategies	Default
General Output	Units= grams, joules and miles
Output Emissions	Time = 24-Hour day, Geography = county, on-road emission by road type and source use type.
Advanced Performance	none

Table 8 - MOVES County-Data manager data and sources

MOVES County Data Manager	Data Source
Source Type Population	Local. County motor vehicle registration data from KYTC (2019) and ODOT (2014 and 2017). Dearborn County data are estimated through the vehicle and population distribution data in Butler County. Model year data are estimated through the population ratio between the Base and model years.
Vehicle Type VMT	Local. County DVMT (daily vehicle mile traveled, 2020) from ODOT, KYTC, and INDOT. Model year VMTs are estimated through the ratio between the observed and the data from OKI 2019 travel demand model. MonthVMTFraction, dayVMTFraction, and hourVMTFraction are estimated through the traffic counts from ODOT permanent traffic count stations in OKI region.

I/M Programs	No I/M Program for Kentucky and Indiana counties. Default setting for Ohio counties.
Fuel Supply	2016 year includes low RVP gasoline for Ohio and RFG for NKY. 2037 year uses default values.
Meteorology Data	Local. CVG airport average numbers from 1999 to 2019.
Ramp Fraction	Local. OKI travel demand model.
Road Type Distribution	Local. OKI travel demand model.
Age Distribution	Local. County vehicle age data from ODOT (2014 and 2017) and KYTC (2019). Future year distributions are estimated through EPA's vehicle age estimation tool.
Average Speed Distribution	Local. OKI travel demand model.

Complete MOVES input and output files are available electronically upon request.

Mobile Emissions Inventory for the Ohio and Kentucky 2008 Ozone Maintenance Area

OKI's quantitative mobile inventory for ozone-forming emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the Ohio, Kentucky, and Indiana portion of the ozone maintenance area are found in Tables 9 and 10. Daily VMT is provided in Table 11. Clinton County Ohio is outside of OKI's modeling area. Emissions and VMT for Clinton County Ohio were provided by the Ohio Department of Transportation (ODOT).

Table 9 – Mobile Inventory of Volatile Organic Compound (VOC) Emissions (tons per day) for the Cincinnati Ohio, Kentucky, and Indiana 2008 Ozone Area

County	State	2016 Base	2037 Maintenance
Butler	OH	5.23	1.96
Clermont	OH	3.12	1.28
Clinton	OH	0.30	0.22
Hamilton	OH	11.36	4.42
Warren	OH	3.35	1.62
Ohio counties		23.36	9.52
Boone	KY	1.47	0.81
Campbell	KY	0.75	0.35
Kenton	KY	1.52	0.74
Kentucky counties		3.74	1.90
Dearborn	IN	0.20	0.07
Indiana counties		0.20	0.07
Total VOC		27.30	11.49

Table 10 – Mobile Inventory of Oxides of Nitrogen (NO_x) Emissions (tons per day) for the Cincinnati Ohio, Kentucky, and Indiana 2008 Ozone Area

County	State	2016 Base	2037 Maintenance
Butler	OH	9.84	1.47
Clermont	OH	6.02	0.89
Clinton	OH	0.26	0.12
Hamilton	OH	25.62	3.85
Warren	OH	9.32	1.68
Ohio counties		51.05	8.02
Boone	KY	6.07	0.97
Campbell	KY	2.05	0.26
Kenton	KY	5.15	0.76
Kentucky counties		13.27	1.99
Dearborn	IN	0.57	0.09
Indiana counties		0.57	0.09
Total Nox		64.90	10.10

Table 11 – Daily Vehicle Miles Traveled for the Cincinnati Ohio, Kentucky, and Indiana 2008 Ozone Area

County	State	2016 Base	2037 Maintenance
Butler	OH	7,366,094	7,860,333
Clermont	OH	4,877,897	5,300,998
Clinton	OH	1,903,974	2,219,284
Hamilton	OH	21,233,246	22,135,990
Warren	OH	6,651,621	7,757,371
Ohio counties		42,032,831	45,273,975
Boone	KY	4,108,576	5,055,706
Campbell	KY	1,963,936	2,144,665
Kenton	KY	3,993,527	4,482,631
Kentucky counties		10,066,039	11,683,003
Dearborn	IN	357,406	410,467
Indiana counties		357,406	410,467
Total VMT		52,456,276	57,367,445

APPENDIX A – PROJECT LISTING

Non-Exempt Projects Added to the 2037 Maintenance Year Transportation Network

Plan ID	TIP PID	Facility	Location	Description
Non-Exempt Projects Identified for Ohio				Existing + Committed + OKI 2050 Metropolitan Transportation Plan Projects to be completed by 2037
Butler County				
9635	115755	BUT North Hamilton Crossing	North side of Hamilton, crossing Great Miami River in area between SR 129 and N of Black St Bridge	New east-west route connecting NW Washington Blvd, US 127, SR 4, and SR 129 (Phases 1,2&3)
9965	113647	BUT IR 75 8.50	In the area of I-75 & Millikin Road in Liberty Twp	Evaluate and implement transportation improvements including new full I-75 interchange in the vicinity of Millikin Rd and associated I-75 widening
12163	115755 & 120771	North Hamilton Crossing - East Section	Fair Ave to SR 129	NHX East Section. New E/W route connecting NW Washington Blvd, US 127, SR 4, and SR 129
9637	115755 & 120771	North Hamilton Crossing - River Crossing	North B St to US 127	NHX River crossing. Replace Black St Bridge with a 5-lane structure with multi-use path and convert existing bridge to pedestrian, bicycle, and shuttle
46	115755 & 120771	North Hamilton Crossing - Central Section	US 127 to Fair Ave	NHX Central Section. New E/W route connecting NW Washington Blvd, US 127, SR 4, and SR 129
83	113647	I-75	Millikin Rd	New interchange at Millikin Rd
9613		Grand Blvd	SR 4 to Tylersville Rd	Add a two-way left turn lane, travel lane in each direction and multi-use trail
12009		NW Washington Widening	Eden Park Dr to Cleveland Ave	Widen from 2 to 5 lanes with a roundabout at Cleveland Ave and NW Washington
12157		SR 4	Crescentville Rd to Mulhauser Dr	Add SB Lane
12158		Symmes Rd	SR 4 to North Gilmore Rd	widen to 5 lanes
9658		Tylersville Rd	Grand Blvd to Bypass 4	Add TWLTL
Clermont County				

Plan ID	TIP PID	Facility	Location	Description
9556	114042	CLE US 52 4.67 New Richmond	US 52 from Front Street to just east of the Village of New Richmond corporation limit.	Convert four lanes of US 52 into two lanes and provide bike/ped path at former SB lanes. Convert intersections at Front, Sycamore, Walnut and Augusta Streets into roundabouts.
4363	103958	CLE CR 55 Overpass	Glen Este Withamsville Overpass over SR32	GEW Overpass over SR 32
12025		SR 32 & Herold Rd	Batavia Township/Village of Batavia	Elimination of at-grade intersection on LA highway - Creation of local access Rd connecting Herold Rd to the interchange at Batavia Rd to the east or Bauer Rd to the west
12023		SR 32	Dela Palma to Herold	Construction of grade separated intersections
Hamilton County				
9787	114606	WAR CR 4 3.09 Fields Ertel Rd	Between Snider Road and Wilkens Boulevard	Widen from two to five lanes and new sidewalk. Improve intersection at Wilkens Blvd by extending turn lanes and upgrading signal
9956	115417	HAM IR 275 28.69	IR 275 from US 42 to SR 28	Implement Smart Lane by installing DMS and variable speed limit signs EB from US42 to SR28 & WB from SR28 to Loveland-Madeira. Identify capacity improvements at I-75 interchange.
307	117525	HAM IR 75 8.91	From Regina Graeter Way to SR 126/Galbraith Rd. area	Phase 8C of the Mill Creek Expressway Project. Project will widen for additional through lanes, rehabilitate existing pavement and bridges. Complete minor improvements to the Paddock Road interchange.
9968	89077	IR 71	Part of the Brent Spence Bridge project	Ohio's share of design and construction of the new Ohio River Bridge
314	117167	HAM IR 75 10.40	Galbraith Road to Shepard Lane	Add a fourth lane, construct C-D for Galbraith/Anthony Wayne and SB IR75 to WB SR126 ramp and unify both directions of IR75 onto existing SB alignment.
9968	114161	HAM IR 75 1.95	Findlay Street to just south of Marshall Avenue	Reconstruction of I-75. This is the northern end of the BSB Corridor Project. Project includes the construction of new interchange on I-75 to connect the new Western Hills Viaduct
314	88132	IR 75	Between Galbraith Rd and Shepherd Ln, SB only	Phase 5 of the Thru the Valley Project-add 4th lane (includes part of Phase 7)

Plan ID	TIP PID	Facility	Location	Description
314	88133	IR 75	Between Galbraith Rd and Shepherd Ln, NB only	Phase 6 of the Thru the Valley Project--add 4th lane and auxiliary lane (includes part of Phase 7)
314	88124	HAM IR 75 10.10	1010 Bridge over Mill creek to Galbraith Road (phase 3)	Phase 3 of the Thru the Valley Project--add 4th lane in each direction and associated improvements
307	77889	HAM IR 75 7.85	Begin south of SR562 interchange and at the SR126 interchange, 7.85 to 10.30	Phase 8 of the Mill Creek Expressway Project. Project will widen for additional through lanes, rehabilitate existing pavement and bridges. Reconstruct SR 562 interchange, remove the Towne Ave. inter
9930	115976	HAM SR 32 4.34	From west of Round Bottom Road to the eastern Newtown corp. limit	Create 2 SB left turn lanes at Round Bottom, widen SR32 to provide 2 receiving lanes w/ new lane ending as RTL at Little Dry Run. Widen for TWLTL along SR32 from Little Dry Run. Add shared use path.
12053	118472	I-74	I 74 and Dry Fork Interchange	Improve interchange to address congestion issues and future development.
9956	115417	TSMO Corridor 11: I-275 28.69 Smart Lane (PID 115417)	US 42 in Hamilton County to SR 28 in Clermont County	Capacity improvements to the I-71 and I-275 interchange, addition of a smart lane (hard shoulder running) in both directions of I-275 with variable speed limits to increase capacity
9974	117167	I-75	Galbraith Rd to Shepherd Lane PID117167	Add lane to I-75 and unification of NB and SB I-75 onto the current SB alignment
23	119436	I-75	SR 562 to SR 126	Widening and associated improvements
9702		Reading Rd (US 42)	Victory Pky to Reading Corp Line	Provide 5 lanes, intersection and pedestrian improvements. Project to improve efficiency and capacity.
9704		Wooster Rd	Beechmont Ave to 5163 Wooster Rd	Part of the Eastern Corridor. Add center turn lane. Geometric improvements to improve efficiency and capacity.
9953		I-71	Ronald Reagan Cross County Highway to Pfeiffer	Construct a NB auxiliary lane from Ronald Reagan Cross County Highway to Pfeiffer interchange
9954		TSMO Corridor 9: Smart Lane I-71	McMillan Ave to I-275	Install hard shoulder running (HSR) smart lane with fiber, DMS, cameras, poles, and power on I-71 from McMillan Ave to I-275.
12050		I-75	I-275 Interchange to Union Centre Blvd	Construction of a flyover ramp from SB I 75 to EB 275 to eliminate weaving movements at the interchange, and addition

Plan ID	TIP PID	Facility	Location	Description
				of an additional NB auxiliary lane from I 75 to Union Centre Boulevard to increase capacity.
12075		SORTA Glenway Ave and Montgomery Rd BRT	Glenway Ave and Montgomery Rd corridors	The planning and implementation of next 2 Bus Rapid Transit Routes routes. FTA locally preferred alternative (LPA) Process.
12049		SR 32	Roundbottom Rd Intersection	Capacity improvements to the intersection of SR 32 with Roundbottom Rd by adding turn lanes and an additional through lane EB on SR 32. Bike and ped facilities included in the preferred alternative.
12054		I-74	I 74 in the overlap section with I 275	Widen from 6 to 8 lanes to improve capacity
12055		I-275	US 52 to Five Mile Rd	Widen bifurcated section from 4 to 6 lanes
12149		Loveland Madeira Rd	I-275 to Loveland Corp	Roadway widening for additional lanes, improvements to side Rds
Warren County				
9946		US 22/SR 3	From Creekwoods to Willow Pond	Widen US 22/SR 3, includes bridge
10035		SR 48	Mason-Morrow-Millgrove Rd to Ridgeview	Widen by one lane in each direction, exclude bridge over Little Miami River
10037		SR 63	SR 741 to 1500 LF East of McClure Rd	Widen from 2 to 3 lanes including TWTL
10976		TSMO Corridor 10: Smart Lane I-71	I-71 NB from I-275 to SR 48	Implement smart lane I-275 to SR 48
12156		I-75	Greentree Rd	New interchange at Greentree Rd
11		Gateway Blvd	SR 63 north to Union Rd	Upgrade SR 63 and Union Rd intersection. Construct 5 lane extension on new alignment
10030		US 22/SR 3	Lakeshore Dr to West Rd	Add one lane each direction
10031		US 22/SR 3	West Rd to Zoar Rd	Add one lane each direction
10044		SR 741	SR 63 to Greentree Rd	Widen by one lane each direction and continuous left turn lane

Plan ID	TIP PID	Facility	Location	Description
10051		King Ave (Kings Mills Rd)	Columbia Rd to Oak St	Add one lane each direction
10064		Glosser Rd Extension	Glosser Rd from US 42 to Kingsview Dr	Widening and extension (2.5 miles)
12102		US 42	Mason Montgomery to Hanover	St Resconstruction, RAB improvements, add MUP

Plan ID	TIP PID	Facility	Location	Description
Non-Exempt Projects Identified for Kentucky				Existing + Committed + OKI 2050 Metropolitan Transportation Plan Projects to be completed by 2037
Boone County				
4662	6-446	Mall Road Connector Ph 1&2	Between KY 237 (Pleasant Valley Rd) and KY 3157 (Mall Rd)/I-75 Interchange	Provide east-west connectivity and improved mobility
9584	6-80207	CR 1001 (Camp Ernst Rd)	Pleasant Valley Rd (KY 237) to Hathaway Rd (KY 536)	Improve safety and mobility, reduce congestion and address geometric deficiencies
11281	6-80212	IR 71	from the interchange of I-75 to Boone-Gallatin County Line	Widen I-71 to 6 lanes
9903	6-80000	KY 237 (Gunpowder Rd)	KY 536 to US 42	Reconstruction and major widening
11002	6-80150	KY 717	KY 1017 to KY 236	Major widening
9881	6-447	US 25	Winning Colors Drive to the Norfolk Southern RR x-ing south of KY 1829	Improve mobility and reduce congestion on US 25 from Winning Colors Drive to the Norfolk Southern Railroad Crossing south of KY 1829 (Industrial Road); excludes grade separation at KY 536
4		US 25 (Dixie Hwy)	Winning Colors Dr to the Norfolk Southern RR crossing south of KY 1829	Widen to 2 lanes each direction with TWLTL
18		KY 1017 and KY 717	KY 1017 (Turfway Rd) and KY 717 (Thoroughbred Blvd)	Convert Turfway Rd. and Thoroughbred Blvd from 2-way to one way pair couplet and modify I-71/I-75 access. 6-80100

Plan ID	TIP PID	Facility	Location	Description
9584		Camp Ernst Rd	KY 536 to KY 237	Improve safety & mobility, reduce congestion and address geometric deficiencies along Camp Ernst Rd (CR 1001) from KY 237 (Pleasant Valley Rd) to KY 536 (Hathaway Rd). 6-80207
11968		I-71	I-75 to Boone/Gallatin County Line	Widen from 2 to 3 lanes each direction
37		KY 717	KY 236 (Donaldson Hwy) to KY 3076	Widening. 6-80150
10		KY 20	Graves Rd to KY 237 (North Bend Rd)	Widen to 2 lanes each direction
9575		Bullittsville Rd	Conrad Lane to KY 20 (Petersburg Rd)	Widen Bullittsville Rd from two to four lanes with multi-use path to improve mobility in northern Boone County
9887		US 25	Logistics Dr to KY 14 (Mary Grubbs)	Widen US 25 from two to four lanes with multi-use path to reduce congestion and support economic development.
11975		Litton Lane Extension	Existing Litton Lane to Graves Rd	Provide a two-lane extension of existing Litton Lane to Graves Rd that includes a multi-use path.
11977		KY 536 Hathaway Rd Reconstruction	Old Union Rd to Camp Ernst Rd	Add TWLTL and multi-use path. 6-80358
11985		KY 3076 (Mineola Pk)	South Airfield Dr KY 3076 (Mineola Pike) & KY 236 (Donaldson Highway)	Extend KY 3076 (Mineola Pike) approximately 0.5 miles to provide a new, four lane direct connection from the Cincinnati/Northern Kentucky International Airport to I-275. Extend KY 3076 (Mineola Pike) south approximately 1.15 miles to KY 1017 (Aero Pkwy) along a new four lane facility. Reconstruct a portion of KY 717 (Turfway Rd) to intersect with the new Rdway. Construct a multi-use path as part of the CVG Loop Trail.
11989		Hangar Row Rd	New/Improved Rdway connecting Limaburg Rd to KY 18. Phase I.	Phase I: Widen Limaburg / Youell Rd from Gateway to Site. Includes turn lanes and intersection improvements on KY 237 and Limaburg Rd at Gateway Blvd
11990		Hangar Row Rd	New/Improved Rdway connecting Limaburg Rd to KY 18. Phase II:	New Rdway from (new) Youell Rd to KY 18, via widened Limaburg Creek Rd.
10008		TSMO Corridor 3: Dixie Hwy Enhanced Bus	Pike St to Ewing Blvd	Create a 9.5 mile high-frequency, enhanced bus transit corridor on US-25 (Dixie Hwy) from Pike St. to Ewing Blvd., with improved bus stop/station design and amenities. Add wireless

Plan ID	TIP PID	Facility	Location	Description
		Transit Corridor		interconnect, 6 -20 signals suburban, adaptive, transit signal preemption, adaptive signals.
7		KY 20 (Petersburg Rd)	KY 237 (North Bend Rd) to Conner Rd	Add TWLTL
19		US 25 (Dixie Hwy)	KY 338 to KY 16	Add TWLTL and MUP. 6-80316
9586		KY 14	I-71 to US 42	Reconstruct KY 14 (Verona Mudlick Rd) from I 71 to US 42
11969		KY 18	KY 842 and Mall Rd	Paired Grade-Separated Intersections along KY 18 at KY 842 and Mall Rd.
11973		Gateway Boulevard Extension	Bullittsville Rd to Gateway Boulevard	Extend Gateway Boulevard to Bullittsville Rd along a new, two-lane facility with multi-use path to improve east-west mobility.
11982		I-71	New interchange near M.P. 74 (Stephenson Mill)	Construct new full-service Interchange for mobility and economic development
11988		Boone County Central Pkwy	KY 536 south to Verona	Construct a Central Pkwy to improve mobility through Boone County. The route should connect Camp Ernst Rd from KY 536 to Verona.
11991		North Cargo Rd	Phase I: Rdway Widening on Loomis Rd and Whitson Dr from KY 236 to Kentucky 20	Rdway Widening Extension
11992		North Cargo Rd	Phase II: From Whitson Dr to an undeveloped parcel on CVG campus	Expand tunnel under taxiway A for access to CVG infield for freight development
Campbell County				
5027	6-8105.06	I-275/AA Connector	Johns Hill Road to AA Highway (KY 9)	New road connecting the AA highway to end of new construction just south of John's Hill Rd
5027	6-8105.07	I-275/AA Connector	Johns Hill Road to AA Highway (KY 9)	New road connecting the AA highway to end of new construction just south of John's Hill Rd (D under 6-8105.06)
335	6-352	KY 536	US 27 to AA Highway (KY 9)	Extension of existing roadway
9880		New KY 915	South of John's Hill Rd	Construct a new connector road from KY 9 to the end of the new construction just south of John's Hill Rd (KY 2345). 6-8105.07

Plan ID	TIP PID	Facility	Location	Description
12017		US 27	KY 709	Construct a southbound truck climbing lane on US 27 and a right turn lane on US 27 to KY 709. 6-80314
29		KY 9	EB I-275 Ramp to Rosewood Dr	Add SB Lane from EB I-275 ramp to near Rosewood Dr
12015		I-471	From US 27 to Ohio State Line	Reduce congestion along the I 471 corridor from US 27 to Ohio State Line. 6-81
Kenton County				
701	6-17.00	IR 75	Brent Spence Bridge Corridor Project	Initiate Preliminary Engineering, environmental studies and other preconstruction activities to upgrade the I-75/71 Brent Spence Bridge Corridor. Construction under PID 116649
9866	6-162.40	KY 536	Williamswood Rd/Calvary Drive to KY 17	Improve safety and reduce congestion, widen to 2 lanes each direction on new alignment
9910	6-1086	4th Street Bridge (KY 8)	Over Licking River on West 4th Street in Covington/Newport at Kenton/Campbell line	Address deficiencies of bridge, additional lane WB
5028	6-162.10	KY 1303	KY 536 to Beechgrove Elementary	Reconstruct and widen to four lanes and center turn lane
9905	6-80203	KY 536	KY 16 to Campbell County Line	Reconstruct to a 4-lane urban section
9899		KY 536	KY 17 to Campbell County Line	Reconstruct KY 536 to a 4-lane urban section from KY 17 to the Campbell County line.
9833		I-75	Bracht Piner / Eads Rd interchange. MP 168-169	Construct new full-service interchange for mobility and economic development
41		KY 536	Williamswood Rd/Calvary Dr to KY 17	Widen to 2 lanes each direction on new alignment
43		KY 536	KY 17 to KY 16	Widen to 2 lanes each direction on new alignment
9902		KY 842	Boone County line to KY 1303	Improve safety and reduce congestion along KY 842 (Richardson Rd) from Boone County line to KY 1303 (Turkeyfoot Rd)
12085		KY 2373 (Kenton Lands Rd)	US 25 to Riggs Rd	Widen Kenton Lands Rd from US 25 to Riggs Rd. 6-80105
12090		Thomas More Pkwy	Turkeyfoot to Horsebranch Rd	Widen from mostly 3 lanes (including center turn lane) to four lanes

Plan ID	TIP PID	Facility	Location	Description
12164		KY 16	Boone Co line to KY 2043	Widen KY 16 to improve safety and mobility and support economic development

Plan ID	TIP PID	Facility	Location	Description
Non-Exempt Projects Identified for Indiana			Existing + Committed + OKI 2050 Metropolitan Transportation Plan Projects to be completed by 2037	
Dearborn County				
39		SR 1	US-50 to Ridge Ave	Realign and add a lane each direction

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APPENDIX B

Interagency Consultation, Updated
Mobile Vehicle Emissions Budgets

Lawrenceburg Township, Dearborn
County, IN Second 10-year
Maintenance Plan Submittal

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The following email thread is in response to the Interagency Consultation Group (ICG) meeting that took place on Tuesday, February 18, 2025. During this meeting the ICG discussed mobile source emission estimates and the recommendation of a 2037 Motor Vehicle Emissions Budget (MVEB) that incorporates a 15% Margin of Safety on the baseline 2037 mobile source projections. The specific recommendation, and subsequent approval, for the Indiana and Ohio MVEB included in this document as Table 3.3 is as follows:

Table 3.3: MVEBs, Combined Ohio and Indiana Portion

	2037 Maintenance Year Emissions (tsd)	Margin of Safety Allocation (tsd)	2037 Mobile Budget (tsd)
NO_x	8.10	1.22	9.32
VOCs	9.57	1.44	11.01

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RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

From Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>

Date Wed 2/19/2025 4:44 PM

To Wallace, Samuel (FHWA) <samuel.wallace@dot.gov>; William.Kenny@epa.ohio.gov <William.Kenny@epa.ohio.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Maietta, Anthony <maietta.anthony@epa.gov>; SEALS, SHAWN <SSEALS@idem.IN.gov>; Andy Reser <areser@oki.org>; aramirez@mvrpc.org <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nathaniel.Brugler@dot.ohio.gov <Nathaniel.Brugler@dot.ohio.gov>; Randy Lane <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Wong, Richard <Wong.Richard@epa.gov>

Cc Ballantyne, John (FHWA) <John.Ballantyne@dot.gov>

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Good afternoon Shawn,

FHWA-IN Division concurs with the 15% margin of safety as well.

Thank you,

Patrick Carpenter

Federal Highway Administration – Indiana Division

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575 N. Pennsylvania St.; Room 254

Indianapolis, IN 46204

From: Wallace, Samuel (FHWA) <samuel.wallace@dot.gov>

Sent: Wednesday, February 19, 2025 2:20 PM

To: William.Kenny@epa.ohio.gov; Vail, Nick (FHWA) <nick.vail@dot.gov>; Maietta, Anthony <maietta.anthony@epa.gov>; sseals idem.in.gov <sseals@idem.in.gov>; Andy Reser <areser@oki.org>; aramirez@mvrpc.org; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nathaniel.Brugler@dot.ohio.gov; Randy Lane <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales,

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Cc: Ballantyne, John (FHWA) <John.Ballantyne@dot.gov>

Subject: RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Hi Shawn,

FHWA-OH Division concurs with the 15% margin of safety for the 2037 budget.

Thank you for the contact and coordination.

Best Regards,
Sam

Sam Wallace

U.S. DOT | FHWA Ohio Division
Community Transportation Planner
200 North High St, Room 328
Columbus, OH 43215
(614) 280-6839
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Sent: Wednesday, February 19, 2025 2:15 PM

To: Vail, Nick (FHWA) <nick.vail@dot.gov>; Maietta, Anthony <maietta.anthony@epa.gov>; sseals idem.in.gov <sseals@idem.in.gov>; Andy Reser <areser@oki.org>; aramirez@mvrpc.org; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-DO6) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (<gdouthat@tankbus.org> <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nathaniel.Brugler@dot.ohio.gov; Randy Lane <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Wallace, Samuel (FHWA) <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales, Michael <MCALES@indot.IN.gov>; Johnson, Jocelyn (FTA) <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; claire.oyler@ky.gov; Graham.Johnson@epa.ohio.gov; daniel.forbush@dot.gov; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Cc: Ballantyne, John (FHWA) <John.Ballantyne@dot.gov>

Subject: RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Ohio as well,
Thanks,

William Kenny

Manager, Air Quality Evaluation & Planning
Ohio EPA, Division of Air Pollution Control
614-644-2039

From: Vail, Nick (FHWA) <nick.vail@dot.gov>

Sent: Wednesday, February 19, 2025 12:54 PM

To: Maietta, Anthony <maietta.anthony@epa.gov>; sseals idem.in.gov <sseals@idem.in.gov>; Andy Reser <areser@oki.org>; aramirez@mvrpc.org; Hill, Anthony <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Brugler, Nathaniel <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <Randy.Lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Wallace, Samuel (FHWA) <samuel.wallace@dot.gov>; Henderson, Andrea <Andrea.Henderson@dot.ohio.gov>; Smith, Spencer <Spencer.Smith@dot.ohio.gov>; Cales, Michael <MCALES@indot.IN.gov>; Johnson, Jocelyn (FTA) <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; claire.oyler@ky.gov; Johnson, Graham <Graham.Johnson@epa.ohio.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Cc: Ballantyne, John (FHWA) <John.Ballantyne@dot.gov>

Subject: RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Shawn,

FHWA-KY concurs with the 15% margin of safety as well.

Nick Vail, FHWA-KY
Community Planner
330 W. Broadway, Rm 264
USDOT Federal Highway Administration (FHWA)
Frankfort, KY 40601-1981
P:502 223 6727
nick.vail@dot.gov
<http://www.fhwa.dot.gov/kydiv/index.htm>

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From: Maietta, Anthony <maietta.anthony@epa.gov>

Sent: Wednesday, February 19, 2025 12:48 PM

To: sseals idem.in.gov <sseals@idem.in.gov>; Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Randy Lane <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Wallace, Samuel (FHWA) <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales, Michael <MCALES@indot.IN.gov>; Johnson, Jocelyn (FTA) <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; claire.oyler@ky.gov; Graham Johnson <graham.johnson@epa.ohio.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Nallaballi, Neena <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

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Shawn and all,

Apologies once more: Looks like we did have someone from our office on the call yesterday and I just touched base with them about the call.

EPA Region 5 concurs with the 15% safety margin for the 2037 budget.

-Tony

Anthony Maietta
EPA Region 5
maietta.anthony@epa.gov
(312) 353-8777

From: Maietta, Anthony

Sent: Wednesday, February 19, 2025 11:34 AM

To: SEALS, SHAWN <SSEALS@idem.IN.gov>; Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler

(Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; claire.oyler@ky.gov; Graham Johnson <graham.johnson@epa.ohio.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov; k.carmanygeorge@dot.gov; Nallaballi, Neena <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Shawn,

Apologies that EPA R5 was unable to make the call yesterday due to double-booking with another conformity call. A question: was the 15% margin of safety calculated using any growth scenarios or other methodology? In other words, it was not arbitrarily chosen, correct?

-Tony

Anthony Maietta
EPA Region 5
maietta.anthony@epa.gov
(312) 353-8777

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Wednesday, February 19, 2025 9:59 AM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Myers, Dianna <Myers.Dianna@epa.gov>; Gina Douthat <gdouthat@tankbus.org> <gdouthat@tankbus.org>; Jarvis, Simone <Jarvis.Simone@epa.gov>; LaRocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Maietta, Anthony <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Leslie, Michael <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; claire.oyler@ky.gov; Graham Johnson <graham.johnson@epa.ohio.gov>; Kenny, William <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov; k.carmanygeorge@dot.gov; Nallaballi, Neena <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: Re: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good Morning!

I just wanted to thank those that have already provided concurrence on the 15% margin of safety applied to the baseline 2037 mobile source emissions for Ohio and Indiana. I've recently learned that our SIP development folks are hoping to get this one out the door sometime this Friday.

With this in mind, I would appreciate and all timely responses to this request for concurrence on the 15% margin of safety to be included in the Indiana SIP update.

Thanks in advance!

Peace...Shawn

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Tuesday, February 18, 2025 2:45 PM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov <Andrea.Henderson@dot.ohio.gov>; Spencer.Smith@dot.ohio.gov <Spencer.Smith@dot.ohio.gov>; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov <blake.borwig@ky.gov>; Oyler, Claire (EEC) <claire.oyler@ky.gov>; Graham Johnson <graham.johnson@epa.ohio.gov>; william.kenny@epa.ohio.gov <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov <daniel.forbush@dot.gov>; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Neena Nallaballi <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: Re: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Hey Gang!

Sorry for the confusion on the sheet shared during our call. I was able to track down the rationale for why KY was still in my sheet.

To continue and complete our ICG process, please take a look at the new and improved ICG Conversation Sheet focused on the combined mobile source emissions and motor vehicle emission budgets for the Ohio and Indiana portions alone. You will see that these numbers do, from my reading, match the Ohio SIP submittal precisely.

As the sheet shows, Indiana intends to match the State of Ohio's SIP submittal as it relates to mobile source emissions and the recommendation of a 15% margin of safety applied to these mobile source emissions projected out the 2037. **Please provide a formal response to this email with your concurrence on this 15% margin of safety or your questions.**

Thanks...Peace...Shawn

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Friday, February 14, 2025 10:22 AM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov <Andrea.Henderson@dot.ohio.gov>; Spencer.Smith@dot.ohio.gov <Spencer.Smith@dot.ohio.gov>; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov <blake.borwig@ky.gov>; Oyler, Claire (EEC) <claire.oyler@ky.gov>; Graham Johnson <graham.johnson@epa.ohio.gov>; william.kenny@epa.ohio.gov <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov <daniel.forbush@dot.gov>; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Neena Nallaballi <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: Re: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Good Morning!

Thanks to all of you have responded to the Doodle Poll so far. I know that a perfect date and time is impossible when polling over 30 folks, but we do have a bit of a runaway winner at this time.

With this in mind, I am scheduling our ICG Conversation Meeting for Tuesday, February 18th at 2pm Eastern (1pm Central). I know that there are some folks who won't be able to attend, but please feel free to share your thoughts, comments, or concerns via email for our documentation.

Attached to this email you will find the ICG Conversation Sheet you are used to receiving from me for Indiana SIP work. Here are some key notes to help you understand the sheet where needed (especially if you aren't able to connect with us next Tuesday).

- The mobile source numbers you see on this sheet are consistent with those developed by OKI for the Ohio SIP
- Also similar to the Ohio SIP, Indiana is intending an MVEB for the Indiana and Ohio portions of the area
- Consistent with the Ohio SIP, Indiana is also recommending a 15% Margin of Safety applied to mobile source emissions
- The resulting MVEBs for VOC and NOx are highlighted in yellow in the Motor Vehicle Emission Budget/Margin of Safety Discussion Sheet table.
- Key takeaways from the Maximum All Source Margin of Safety Allowable and Maximum All Source Margin of Safety Allowable tables are also highlighted in yellow
 - The Maximum All Source Margin of Safety Allowable table shows that VOC reductions from all sources are projected to be 20.84 TSD, allowing plenty of room for the 1.73 TSD attributed to the mobile sources to create a 2037 MVEB for VOC of 13.24 TSD.
 - The Maximum All Source Margin of Safety Allowable table shows that NOx reductions from all sources are projected to be 109.16 TSD, allowing plenty of room for the 1.51 TSD attributed to the mobile sources to create a 2037 MVEB for NOx of 13.24 TSD.

If you are unable to attend the meeting, please provide your thoughts, comments, or support, via email for our SIP documentation. If you are able to be with us on Tuesday, feel free to hold them until our meeting or share them via email. Either way works for me.

Talk to many of you Tuesday.

Have a great weekend!

Peace...Shawn

Shawn M. Seals

Senior Environmental Manager

DieselWise Indiana and Volkswagen Trust Administrator

(317) 233-0425 • SSeals@idem.IN.gov

| | | | www.idem.IN.gov

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Thursday, February 13, 2025 12:07 PM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov <Andrea.Henderson@dot.ohio.gov>; Spencer.Smith@dot.ohio.gov <Spencer.Smith@dot.ohio.gov>; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov

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Subject: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Hey there!

As some of you may already know, IDEM is in the process of developing a 10-Year Maintenance Plan update for our portion of the Cincinnati area (Dearborn County). Also as many already know, the State of Ohio has recently done something similar for the area. In both cases, new Motor Vehicle Emissions Budgets are necessary.

The State of Indiana will be largely mirroring the work of Ohio and be relying on the mobile source emission calculations developed by the Ohio-Kentucky-Indiana Regional Council of Governments. To keep on-schedule with our intended public notice and submittal, we need to complete the ICG process and approve a Motor Vehicle Emissions Budget.

Please complete the following Doodle Poll and we'll plan to gather on the best possible date for the group.

<https://doodle.com/group-poll/participate/bo84YLNd>

Thanks in advance for your timely response to the poll above. The ICG Conversation Sheets you are used to seeing will be provided in the coming days.

Peace...Shawn

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RE: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

From Mitchell, Jay <JAYMITCHELL@indot.IN.gov>

Date Wed 2/19/2025 2:28 PM

To SEALS, SHAWN <SSEALS@idem.IN.gov>; Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>

Thank you, Shawn.

INDOT concurs.

Jay Mitchell, Supervisor

Technical Planning Section

Indiana Department of Transportation

E-mail: jaymitchell@indot.in.gov

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Wednesday, February 19, 2025 10:59 AM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov; Spencer.Smith@dot.ohio.gov; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov; Oyler, Claire (EEC) <claire.oyler@ky.gov>; Graham Johnson <graham.johnson@epa.ohio.gov>; william.kenny@epa.ohio.gov; daniel.forbush@dot.gov; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Neena Nallaballi <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: Re: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Good Morning!

I just wanted to thank those that have already provided concurrence on the 15% margin of safety applied to the baseline 2037 mobile source emissions for Ohio and Indiana. I've recently learned that our SIP

development folks are hoping to get this one out the door sometime this Friday.

With this in mind, I would appreciate and all timely responses to this request for concurrence on the 15% margin of safety to be included in the Indiana SIP update.

Thanks in advance!

Peace...Shawn

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Tuesday, February 18, 2025 2:45 PM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06) <Dane.Blackburn@ky.gov>; Dianna B. Myers (myers.dianna@epa.gov) <myers.dianna@epa.gov>; Gina Douthat (gdouthat@tankbus.org) <gdouthat@tankbus.org>; Jarvis, Simone (she/her/hers) <Jarvis.Simone@epa.gov>; Larocca, Sarah <Larocca.Sarah@epa.gov>; Mary Huller <MHuller@go-metro.com>; Mitchell, Jay <JAYMITCHELL@indot.IN.gov>; Nate Brugler (Nathaniel.Brugler@dot.ohio.gov) <Nathaniel.Brugler@dot.ohio.gov>; Lane, Randy <randy.lane@dot.ohio.gov>; Thomas Witt <Thomas.Witt@ky.gov>; Tony Maietta <maietta.anthony@epa.gov>; Vail, Nick (FHWA) <nick.vail@dot.gov>; Wong, Richard <Wong.Richard@epa.gov>; Carpenter, Patrick (FHWA) <patrick.carpenter@dot.gov>; Michael Leslie <leslie.michael@epa.gov>; Sam Wallace <samuel.wallace@dot.gov>; Andrea.Henderson@dot.ohio.gov <Andrea.Henderson@dot.ohio.gov>; Spencer.Smith@dot.ohio.gov <Spencer.Smith@dot.ohio.gov>; Cales, Michael <MCALES@indot.IN.gov>; Jocelyn Hoffman <jocelyn.johnson@dot.gov>; blake.borwig@ky.gov <blake.borwig@ky.gov>; Oyler, Claire (EEC) <claire.oyler@ky.gov>; Graham Johnson <graham.johnson@epa.ohio.gov>; william.kenny@epa.ohio.gov <William.Kenny@epa.ohio.gov>; daniel.forbush@dot.gov <daniel.forbush@dot.gov>; Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Neena Nallaballi <Nallaballi.Neena@epa.gov>; Harrod, Justin D (KYTC) <justin.harrod@ky.gov>; Jay Balaji <Jayalakshmi.Balaji@ky.gov>; Korostina, Dasha (KYTC) <dasha.korostina@ky.gov>

Subject: Re: ICG Conversation for Indiana 8-Hour Ozone SIP Update...

Hey Gang!

Sorry for the confusion on the sheet shared during our call. I was able to track down the rationale for why KY was still in my sheet.

To continue and complete our ICG process, please take a look at the new and improved ICG Conversation Sheet focused on the combined mobile source emissions and motor vehicle emission budgets for the Ohio and Indiana portions alone. You will see that these numbers do, from my reading, match the Ohio SIP submittal precisely.

As the sheet shows, Indiana intends to match the State of Ohio's SIP submittal as it relates to mobile source emissions and the recommendation of a 15% margin of safety applied to these mobile source emissions projected out the 2037. **Please provide a formal response to this email with your concurrence on this 15% margin of safety or your questions.**

Thanks...Peace...Shawn

From: SEALS, SHAWN <SSEALS@idem.IN.gov>

Sent: Friday, February 14, 2025 10:22 AM

To: Andy Reser <areser@oki.org>; Ana Ramirez <aramirez@mvrpc.org>; ANTHONY.HILL@dot.ohio.gov <ANTHONY.HILL@dot.ohio.gov>; Baukert, Frank <FBAUKERT@indot.IN.gov>; Blackburn, Dane D (KYTC-D06)