



**AIR QUALITY CONFORMITY DETERMINATION  
OF AMENDMENT 1 TO THE OKI 2040 REGIONAL TRANSPORTATION PLAN  
AND THE AMENDED OKI FY 2016-2019 TRANSPORTATION IMPROVEMENT  
PROGRAM FOR THE CINCINNATI-HAMILTON OH-KY-IN, AREA FOR  
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) – TECHNICAL  
DOCUMENTATION**

**OCTOBER 13, 2016**





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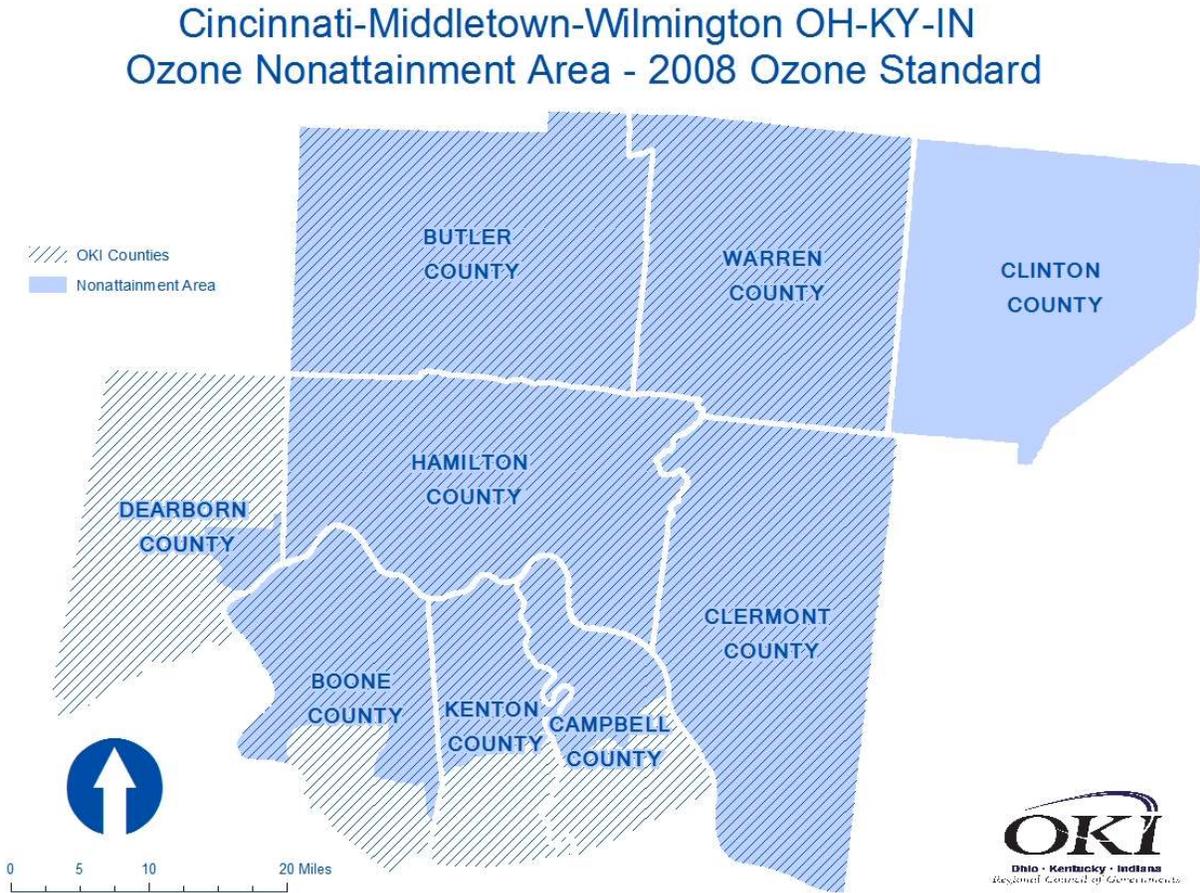
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## I. BACKGROUND

In May 2012, pursuant to provisions of the Clean Air Act Amendments of 1990, the U.S. Environmental Protection Agency (EPA) designated nine counties in the Cincinnati area as a marginal nonattainment area for ozone under the 2008 ozone standard. Nonattainment means that the area is not meeting the national ambient air quality standard. In May 2016, the U.S. EPA made a determination of attainment for the Cincinnati area 2008 8-hour ozone area. Approval of the submitted maintenance plans are required before a redesignation to a maintenance area. The Cincinnati ozone area includes Lawrenceburg Township in Dearborn County Indiana, portions of the Kentucky counties of Boone, Campbell and Kenton, and the Ohio counties of Butler, Clermont, Clinton, Hamilton and Warren. Clinton County is outside of the OKI region, but is part of the maintenance area. The Ohio Department of Transportation (ODOT) is the lead planning agency for Clinton County.

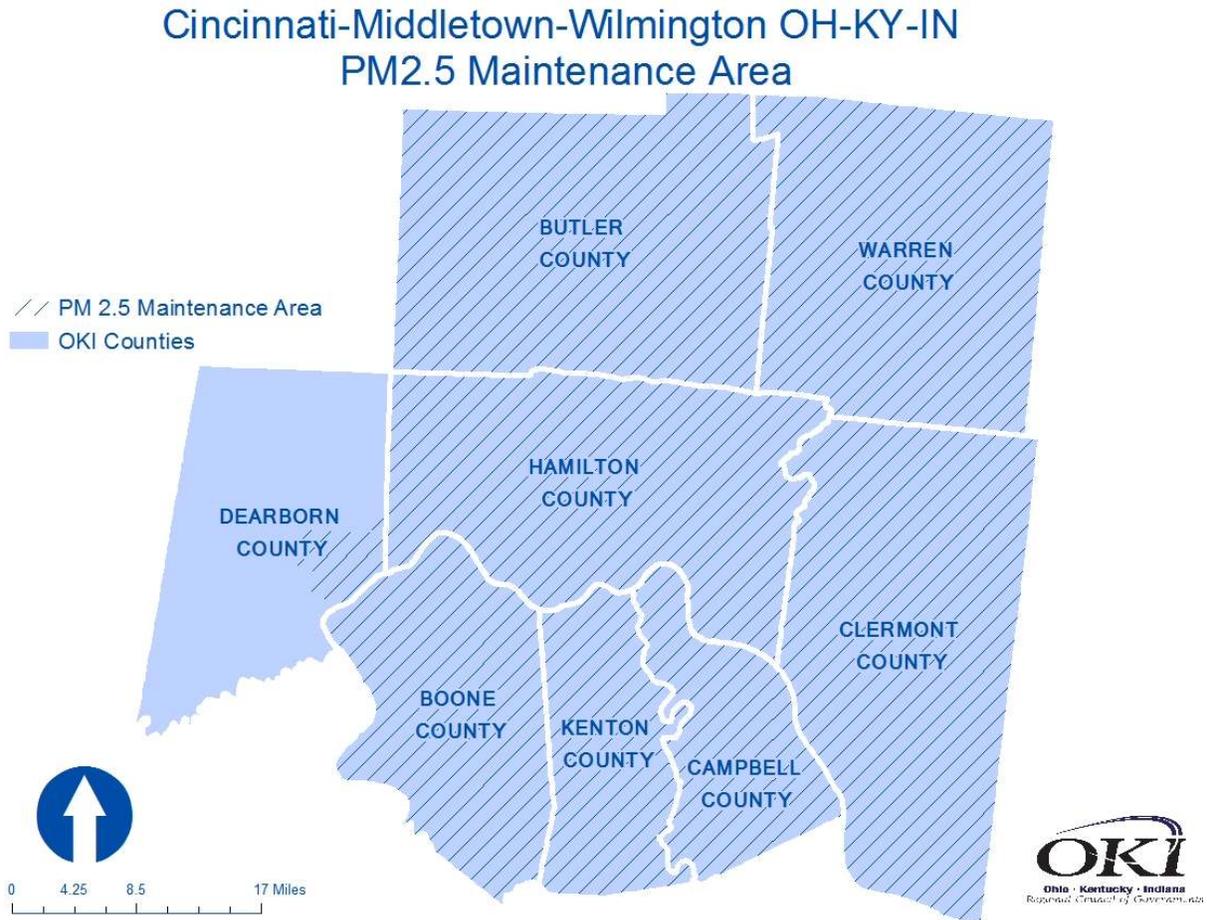
Figure 1.



The Ohio portion of the Cincinnati area has been designated by the U.S. EPA as a nonattainment area under the 1997 annual fine particulate ( $PM_{2.5}$ ) standard and will remain so until the 1997  $PM_{2.5}$  standard is revoked by U.S. EPA (projected to occur in the fall of 2016). The fine particulate nonattainment area includes Lawrenceburg Township in Dearborn County Indiana and the Ohio counties of Butler, Clermont, Hamilton and Warren. The Kentucky portion of the

Cincinnati area has been designated by the U.S. EPA as a maintenance area under the 1997 annual PM<sub>2.5</sub> standard and will remain so until the standard is revoked. The maintenance area includes the Kentucky counties of Boone, Campbell, and Kenton. The region is in attainment for all other criteria pollutants monitored by U.S. EPA.

Figure 2.



Transportation conformity is a mechanism to ensure that federal funding and approval are given to those transportation activities that are consistent with air quality goals as contained in the State Implementation Plans (SIPs). OKI is responsible for the air quality conformity determination for the region's Transportation Plan and Transportation Improvement Program.

This amendment to the *OKI 2040 Regional Transportation Plan* (also called the Metropolitan Transportation Plan) and the *FY 2016-2019 TIP* involves additions and changes to four projects, which, due to their scope and regional significance, trigger the need for a new regional emissions analysis and finding of conformity. A summary of the proposed changes were shared with the Interagency Consultation Group on September 15, 2016.

## II. DESCRIPTION OF AMENDMENT AND CHANGES TO TRANSPORTATION NETWORKS

This report documents that Amendment 1 to the *OKI 2040 Regional Transportation Plan* and its short range component, the *OKI FY2016-2019 Transportation Improvement Program* are in conformance with the State Implementation Plans (SIPs) of Indiana, Kentucky and Ohio, complies with the Clean Air Act, and the analysis is in accordance with federal Transportation Conformity Regulations, 40 CFR Parts 51 and 93. The analysis is also in accordance with other applicable federal and state requirements such as the *Ohio State Transportation Conformity Rules, Ohio Administration Code Part 3745-101-01 through 20* and the *Commonwealth of Kentucky's Conformity of Transportation Plans, Programs and Projects: 401 KAR 50:066*. Methodologies and results of the conformity determination are presented herein.

A conformity amendment to the Plan or TIP is necessary if the revision involves changes to projects or adds new projects, which, due to their scope and regional significance, trigger the need for a new regional emissions analysis and finding of conformity. Sections 93.126 and 93.127 of the Transportation Conformity Rule cite a number of project types, such as safety and maintenance projects that may be excluded from the regional emissions analysis required to determine conformity. Because of their nature, the “exempt” projects will not affect the outcome of the regional emissions analysis nor will they add substance to the analysis.

This amendment to the *OKI 2040 Regional Transportation Plan* (also called the Metropolitan Transportation Plan (MTP)) and the *FY 2016-2019 TIP* involves additions and changes to four non-exempt projects. OKI’s highway and transit networks include the existing transportation system plus all regionally significant, non-exempt projects in the Plan and TIP regardless of funding source. Two projects (6-14.50 and 6-352) are already in the existing TIP, however the proposed changes to funding and timing will move the date open to traffic beyond the original 2020 analysis year. The remaining two projects (6-8105.06 and 6-162.10) are new projects being added to the MTP and TIP.

Table 1 - Amendment #1  
Changes to Transportation Networks

Project ID	State	County	Facility	Description	Scope Change	Original AQ Analysis Year	Revised AQ Analysis Year
6-14.50	KY	Boone	IR 71/IR 75	Add auxiliary lane from KY 338 to KY 536	No	2020	2030
6-352	KY	Campbell	KY 536	Extend from US 27 to AA Highway	No	2020	2030
6-8105.06	KY	Campbell	NKU/AA Highway Connector	New connector from KY 9 (AA Hwy) to KY 2345 (Johns Hill Rd)	Add	N/A	2030
6-162.10	KY	Kenton	KY 1303	Reconstruct and widen to 4 lanes with center turn lane from KY 536 to Beechgrove Elementary	Add	N/A	2030

### III. OKI'S CONFORMITY PROCESS

#### Transportation networks

The conformity analysis involves the use of the four CUBE-based transportation networks. Each transportation network consists of highway and transit components. The Ohio Department of Transportation provided emissions data for Clinton County.

The five networks specifically developed for use in this conformity process represented an ozone budget year (2020), a PM2.5 budget year (2021), an interim year (2030) and the Regional Transportation Plan horizon year (2040). All regionally significant projects regardless of the funding source were evaluated for their impacts on air quality in the maintenance area.

- The 2020 transportation network includes the current year network plus projects in the *FY2016-2019 Transportation Improvement Program* and the *OKI 2040 Regional Transportation Plan* that are expected to be open to traffic before the year 2020.
- The 2021 transportation network is identical to the 2020 network.
- The 2030 transportation network includes the 2021 network plus projects in the *FY2016-2019 Transportation Improvement Program* and *OKI 2040 Regional Transportation Plan* that are expected to be open to traffic before the year 2030.
- The 2040 transportation network includes the 2030 network plus projects in the *OKI 2040 Regional Transportation Plan* that are expected to be open to traffic before the year 2040.

#### OKI Travel Demand Model

Vehicle miles traveled and vehicle hours were estimated using the OKI Travel Demand Model Version 8.0. The OKI Travel Demand Model utilizes the Citilabs CUBE transportation modeling platform and includes a series of CUBE Voyager programs written by OKI. It is a state of the practice model that uses the standard four phase sequential modeling approach of trip generation, distribution, modal choice and assignment. The model uses demographic and land use data and capacity and free-flow speed characteristics for each roadway segment in the network to produce a "loaded" highway network with forecasted traffic volumes with revised speeds based on specified speed/capacity relationships.

Travel analysis zones are the basic geographic unit for estimating travel in the OKI model. The OKI region is subdivided into 2299 traffic analysis zones to permit detail as well as manageability. A variety of socioeconomic data items are used in the OKI transportation planning process. These data are used primarily to forecast future travel patterns by serving as independent variables in OKI trip generation equations. The following categories of planning data are utilized:

- Population (household and group quarter)
- Households
- Household vehicles
- Employment (by employment category and zone of work)
- Labor force participation (by zone of residence)
- Area type

The principal data requirements of the OKI travel demand forecasting model are population and employment. From these variables, other characteristics including households, labor force, and personal vehicles may be derived. The *OKI 2040 Regional Transportation Plan* provides a complete demographic overview of the region.

OKI utilizes both base year (2010) and future year data (2020, 2030, and 2040) in the planning process. Planning data are maintained at the Traffic Analysis Zone (TAZ) level, and originate in the 2010 Census of Population and Housing. Base year 2010 and future year data for each variable are developed through various methods. More detailed explanation of base year and future year data generation for each of the above-mentioned categories of planning data follows. All of the variables represent the latest OKI planning assumptions.

### **Population**

Base and Future Year Data: Population data for base year 2010 and future years 2020, 2030, and 2040 originate with the 2010 Census of Population and Housing. Utilizing ArcGIS, population data at the zonal level for 2010 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 2010 census for years 2020 to 2040 were released by the Ohio state data center in 2013, the Indiana state data center in 2012 and the Kentucky state data center in 2011. 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 2010 originates with the 2010 Census of Population and Housing. Utilizing the geographic information system ArcGIS, household data at the zonal level for 2010 was derived from the area proportion allocation of block level households.

Future Year Data: The preparation of household projections was accomplished by calculating the number of households for a projected county population using ratios of householders to total population by age specific cohorts derived from the 2010 Census for each analysis 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.

### **Household Vehicles**

Base and Future Year Data: Base and future year household vehicle data were obtained from the 2009-2013 American Community Survey. Average vehicles per household were calculated for block groups then applied to the TAZs associated with each block group. The 2020, 2030 and 2040 vehicles per household were held at the 2009-2013 level based on the fact that, since 2002, the number of vehicles per household has exceeded the number of drivers per household.

## **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). Household data for base year 2010 originates with 2010-2013 American Community Survey. Utilizing the geographic information system ArcGIS, household data at the zonal level for 2010 was derived from the area proportion allocation of block group level employed labor force. The labor force projections for 2020, 2030, and 2040 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 2010 was utilized as the primary tool to calculate base year employment at the zonal level. 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 twelve 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, calculation was first made of the employment at the regional level. At the regional level, employment is a calculation of the region's employed labor force minus workers who live in the region but commute out to work, plus workers who live outside the region but commute in to work. The regional total was disaggregated first to the county level based on historic trends and expected changes in the county's share of the region's employment and then to the TAZ level. 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.

## **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.

## **Model Calibration**

OKI's Travel Demand Model has been validated to observed traffic volumes for the model base year 2010. The modeling network encompasses the entire ozone Maintenance area with the exception of Clinton County, Ohio. The modeling network also includes Greene, Miami and Montgomery counties in Ohio and the remainder of Dearborn County Indiana. The difference between estimated vehicle miles traveled (VMT) and 2010 observed VMT is less than 3%. A highway screenline analysis compares the screenline observed and simulated traffic volume

discrepancies with the ODOT standard of maximum desirable deviation. The comparison shows that the model performs at a satisfactory level. For the calibration, OKI used over 3000 traffic counts collected through 2014 by OKI, the Ohio Department of Transportation (ODOT), the Kentucky Transportation Cabinet, the Indiana Department of Transportation (INDOT) and local governments. These traffic counts cover nearly 50% percent of the links in the OKI portion of the modeling network. The methodology provides consistency with past emission inventory and conformity analysis work performed by OKI.

#### Local Inputs and Post-Model Processing

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. The OKI post-processing program, IMPACT, uses the loaded highway network to generate VMT by hour, VMT by speed distribution and VMT by facility type. These tables are then included as input into MOVES. Two separate sets of VMT tables are generated: one for the four Ohio counties plus Dearborn County Indiana, and a second for the three Kentucky counties. The VMT by hour tables utilize hourly traffic distribution and directional split factors for different roadway types as developed by OKI. The main source of the data was the permanent traffic counting stations located throughout the OKI region for the years of 2009-2014. This data was supplemented with data collected at coverage count stations (locations with counts taken on only one-two days). The stations were classified by area type: urban and rural, and functional classification: freeway, arterial and collector. Speeds representing various “loaded” conditions (with traffic volumes) are estimated using techniques from the 1997 Highway Capacity Manual. This permits the estimation of speeds as conditions vary from hour to hour on the different facility types throughout the region. The IMPACT program performs the appropriate summation by area and roadway type as well as regional totals. OKI has also developed seasonal conversion factors to adjust traffic volumes to summer conditions. The factors were derived for June, July and August from local data collected at permanent traffic counting stations.

#### Emission Factor Models

OKI’s conformity assessment utilized U.S.EPA’s emission model MOVES2014a to develop emission factors for VOC’s, NO<sub>x</sub> and PM2.5. 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 Travel Demand Model to produce emission factors measured in grams per mile and grams per vehicle for the appropriate analysis year. These emission factors are then multiplied by VMT and vehicle population. 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 *“MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity”*, November 2015.

Table 2 summarizes the settings used in the MOVES run specification file. Table 3 lists the data and sources used in the MOVES County-Data Manager.

Table 2

<b>MOVES RunSpec Parameter</b>	<b>Settings</b>
MOVES2014a-20151201; movesdb20151028	
Scale	County, Emission Rates
Time Span	Time aggregation = Hour July and April weekday, July meteorological data and annual average meteorological data used in place of April data All hours of day selected Weekdays only
Geographic Bounds	Two Custom Domains 1) 4 Ohio counties and Lawrenceburg IN, 2) 3 Kentucky counties
Vehicles/Equipment	All source types available for gasoline,diesel, & ethanol. CNG transit buses
Road Type	All road types including off-network
Pollutants and Processes	VOC, hydrocarbons, NOx and all PM2.5 pollutants. No emissions from refueling.
Strategies	Default
General Output	Units= grams, joules and miles
Output Emissions	Time = hour, Location =county, on-road emission rates by road type and source use type.
Advanced Performance	none

Table 3

<b>MOVES County Data Manager</b>	<b>Data Source</b>
Source Type Population	Local and default. Local data from KYTC (2014) and ODOT (2012) from motor vehicle registration data. Default data used for source types 41, 51, 52, 53, 61 and 62 in Ohio and types 41, 42, 43, 51, 52, 53, 61 and 62 in Kentucky.
Vehicle Type VMT	Local and default. HPMSVTypeYear VMT=daily VMT from OKI travel demand model with EPA's daily to annual VMT converter applied. MonthVMTFraction = default. dayVMTFraction=default, hourVMTFraction=default.
I/M Programs	No I/M Program. Default setting.
Fuel Supply	Default for Hamilton County, OH and Boone County, KY as representative counties.
Meteorology Data	Local. MOBILE6 converted values for Ohio and Kentucky values from Kentucky Division for Air Quality.
Ramp Fraction	Local. OKI travel demand model.

Road Type Distribution	Local. OKI travel demand model.
Age Distribution	Local and default. Local data from KYTC (2014) and ODOT (2012) from motor vehicle registration data. Default data used for source types 41, 51, 52, 53, 61 and 62 in Ohio and types 41, 42, 43, 51, 52, 53, 61 and 62 in Kentucky.
Average Speed Distribution	Local. OKI travel demand model.

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

#### IV. DESCRIPTION OF CONFORMITY TESTS

The selection of analysis years and tests were determined through interagency consultation with federal, state and local partners and in accordance with 40 CFR 23.118(d)(2). The selection of analysis year 2040 represents the “build” condition of the entire amended *OKI 2040 Regional Transportation Plan*.

Table 4 - Conformity Analysis Years and Tests  
Ozone

<u>Ozone</u>	
<b>Attainment status:</b>	Ozone maintenance area – 2008 standard.
<b>Geography:</b>	Butler, Clermont, Clinton, Hamilton, & Warren Counties in Ohio; Boone (partial), Campbell (partial), & Kenton Counties (partial) in Kentucky; Dearborn County (partial) in Indiana
<b>A/Q Budget Status:</b>	8-Hour revised ozone budgets determined adequate and effective 10/12/2016 for OH/IN. <i>Revised ozone budgets in KY are pending adequacy determination.</i>
<b>SIP Commitments:</b>	RVP 7.8 in Ohio Counties (except Clinton) RFG in Kentucky Counties
<b>Conformity Tests:</b>	8-Hour ozone budget tests of OKI Plan/TIP & Clinton Co. TIP analysis year networks. 24-hour summer emissions.
<b>Analysis Years:</b>	2020 Budget year, 2030 Interim year, 2040 Plan horizon year.
<b>Other:</b>	ODOT provided Clinton Co. ozone emissions to OKI. OKI performs conformity analysis for Warren County portion of MVRPC.

Table 5 - Conformity Analysis Years and Tests  
PM2.5

<u>PM2.5</u>	
<b>Attainment status:</b>	PM <sub>2.5</sub> nonattainment area (OH/IN), annual standard PM <sub>2.5</sub> maintenance area (KY), annual standard. Status continues until US EPA revokes 1997 standard.

<b>Geography:</b>	Butler, Clermont, Hamilton, & Warren Counties in Ohio; Boone, Campbell, & Kenton Counties in Kentucky; Lawrenceburg Twp, Dearborn County Indiana
<b>A/Q Budget Status:</b>	MOVES-based budgets from the revised 1997 PM2.5 SIP.
<b>SIP Commitments:</b>	None
<b>Conformity Tests:</b>	Annual PM <sub>2.5</sub> budget tests of OKI Plan/TIP analysis year networks
<b>Analysis Years:</b>	2021 Budget year, 2030 Interim year, 2040 Plan horizon year
<b>Other:</b>	PM <sub>2.5</sub> includes brake and tirewear

**V. CONFORMITY DETERMINATION FOR THE OHIO AND INDIANA PORTION OF THE NONATTAINMENT AREA**

OKI has determined that the projects in this amended *OKI 2040 Regional Transportation Plan and FY2016-2019 TIP* are consistent with the air quality goals of the SIP and the conformity requirements under the 8-hour ozone standard and the annual PM<sub>2.5</sub> standard. OKI's quantitative conformity findings for ozone-forming emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) in the Ohio and Indiana portion of the ozone maintenance area are found in Table 6. Table 7 shows the quantitative conformity finding for annual PM<sub>2.5</sub> and NO<sub>x</sub> emissions in the Ohio and Indiana portion of the PM<sub>2.5</sub> maintenance area. In 2016, Ohio and Indiana are submitted ozone redesignation requests, with revised VOC and NO<sub>x</sub> mobile vehicle emission budgets, to U.S. EPA for approval. The tables show the pending budgets in italics.

Table 6

Quantitative Conformity Findings of Ozone-forming Emissions (tons per day) for the Ohio<sup>1</sup> and Indiana Portion<sup>2</sup> of the Maintenance Area

	<u>2020</u>	<u>2030</u>	<u>2040</u>
Ohio/Indiana VOC Budget	30.00	18.22	18.22
Ohio/Indiana VOC Emissions	24.16	14.79	10.52
Ohio/Indiana NO <sub>x</sub> Budget	30.79	16.22	16.22
Ohio/Indiana NO <sub>x</sub> Emissions	24.12	13.10	10.04

Table 7

Quantitative Conformity Findings of PM<sub>2.5</sub> Emissions (tons per year) for the Ohio and Indiana Portion<sup>2</sup> of the Maintenance Area

	<u>2021</u>	<u>2030</u>	<u>2040</u>
Ohio Annual Direct PM <sub>2.5</sub> Budget	1241.19	1241.19	1241.19
Ohio Annual Direct PM <sub>2.5</sub> Emissions	238.66	187.06	163.68
Ohio Annual NO <sub>x</sub> Budget	21747.71	21747.71	21747.71
Ohio Annual NO <sub>x</sub> Emissions	7570.78	4595.73	3637.11

<sup>1</sup>Includes Clinton County

<sup>2</sup>Dearborn County emissions are for the nonattainment portion only

- VOC and NO<sub>x</sub> emissions in the Ohio and Indiana portion of the ozone nonattainment area do not exceed the 2020 VOC or NO<sub>x</sub> budget for the budget year 2020, the intermediate year 2030, or the Plan year 2040.
- Annual Direct PM<sub>2.5</sub> and annual NO<sub>x</sub> emissions in the Ohio and Indiana portion of the PM<sub>2.5</sub> maintenance area do not exceed the budget year 2021, the intermediate year 2030, or the Plan year 2040.
- OKI qualitatively finds no factors in the *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* that would cause or contribute to a new daily ozone or annual PM<sub>2.5</sub> violation or exacerbate an existing violation in the years before 2020 for the Ohio and Indiana portion of the nonattainment area.
- OKI qualitatively finds that no goals, directives, recommendations or projects identified in the *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* contradict in a negative manner any specific requirements or commitments of the applicable state implementation plan.
- The applicable implementation plans do not contain any transportation control measures (TCM's), therefore; nothing in *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* can interfere with their timely implementation.

**VI. CONFORMITY DETERMINATION FOR THE KENTUCKY PORTION OF THE NONATTAINMENT AREA**

OKI has determined that the recommended projects in this *OKI FY2016-2019 TIP* and the *OKI 2040 Regional Transportation Plan* are consistent with the air quality goals of the SIP and the conformity requirements under the 8-hour ozone standard and the annual PM<sub>2.5</sub> standard. OKI's quantitative conformity findings for ozone-forming emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are found in Table 8. The PM<sub>2.5</sub> quantitative conformity finding is found in Table 9. In 2016, Kentucky submitted ozone redesignation requests, with revised VOC and NO<sub>x</sub> mobile vehicle emission budgets, to U.S. EPA for approval. The revised budgets are for the partial counties included in the nonattainment area. The tables show the pending, partial county budgets and emissions in italics.

Table 8  
Quantitative Conformity Findings of Ozone-forming Emissions (tons per day) for the Kentucky Portion of the Nonattainment Area

	<u>2020</u>	<u>2030</u>	<u>2040</u>
N. Kentucky VOC Budget	8.76	8.76	8.76
N. Kentucky VOC Emissions	3.96	2.25	1.92
<i>Pending N. Kentucky VOC Budget (partial)</i>	<i>4.11</i>	<i>2.82</i>	<i>2.82</i>
<i>N. Kentucky VOC Emissions (partial)</i>	<i>3.46</i>	<i>1.98</i>	<i>1.69</i>

N. Kentucky NO <sub>x</sub> Budget	28.13	28.13	28.13
N. Kentucky NO <sub>x</sub> Emissions	6.83	2.98	2.30
<i>Pending N. Kentucky NO<sub>x</sub> Budget (partial)</i>	<i>7.39</i>	<i>4.37</i>	<i>4.37</i>
<i>N. Kentucky NO<sub>x</sub> Emissions (partial)</i>	<i>5.94</i>	<i>2.59</i>	<i>2.00</i>

Table 9

Quantitative Conformity Findings of PM<sub>2.5</sub> Emissions (tons per year) for the Kentucky Portion of the Maintenance Area

	<u>2021</u>	<u>2030</u>	<u>2040</u>
N. Kentucky Direct PM <sub>2.5</sub> Annual Budget	302.92	302.92	302.92
N. Kentucky Direct PM <sub>2.5</sub> Annual Emissions	74.59	49.69	46.01
N. Kentucky NO <sub>x</sub> Annual Budget	7384.32	7384.32	7384.32
N. Kentucky NO <sub>x</sub> Annual Emissions	2196.04	1130.25	918.30

- VOC and NO<sub>x</sub> emissions in the Kentucky portion of the ozone nonattainment area do not exceed the 2020 VOC or NO<sub>x</sub> budget for the budget year 2020, the intermediate year 2030, or the Plan year 2040.
- Annual Direct PM<sub>2.5</sub> and annual NO<sub>x</sub> emissions in the Kentucky portion of the PM<sub>2.5</sub> maintenance area do not exceed the budget year 2021, the intermediate year 2030, or the Plan year 2040.
- OKI qualitatively finds no factors in the *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* that would cause or contribute to a new daily ozone or annual PM<sub>2.5</sub> violation or exacerbate an existing violation in the years before 2020 for the Kentucky portion of the maintenance area.
- OKI qualitatively finds that no goals, directives, recommendations or projects identified in the *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* contradict in a negative manner any specific requirements or commitments of the applicable state implementation plan.
- The applicable implementation plan in Kentucky does not contain any transportation control measures (TCM's), therefore; nothing in the *OKI FY2016-2019 TIP* or the *OKI 2040 Regional Transportation Plan* can interfere with their timely implementation.

## VII. INTERAGENCY CONSULTATION AND PUBLIC INVOLVEMENT

OKI has engaged in consultation procedures with the Indiana Department of Transportation, the Indiana Department of Environmental Management, the Ohio Department of Transportation, the Ohio Environmental Protection Agency, the Kentucky Transportation Cabinet, the Kentucky Division of Air Quality, Miami Valley Regional Planning Commission, the U.S. Environmental Protection Agency, and the U.S. Department of Transportation before making this conformity determination and throughout the conformity process as appropriate. The criteria and procedures for the conformity determination of transportation plans, programs and projects are

found in the OKI Transportation Conformity Consultation Memorandum of Understanding as adopted by the OKI Board of Directors in 2008. Interagency consultation for this conformity amendment analysis was initiated on September 20, 2016. This document, in draft form, was distributed via email. Any interagency comments are included below.

The amended *OKI 2040 Regional Transportation Plan* was developed with significant attention to public involvement in accordance with *OKI's Participation Plan, November 2013*. Notice of the availability of the draft documents, the announcement of the public comment period and the October 10, 2016 public hearing were published in several local newspapers in September 2016. Beginning September 28, 2016 the draft conformity report was made available for public inspection on OKI's website and at OKI's office. Comments specifically regarding this conformity determination are included in the Appendix. Information on general comments received, and details on the entire public involvement process may be found on amendments portion of the *OKI 2040 Regional Transportation Plan* website [www.2040Plan.oki.org](http://www.2040Plan.oki.org). All public comments and the conformity results were reported to the OKI Board of Directors on October 13, 2016.

**APPENDIX**  
**Interagency Consultation and**  
**Public Comments**

Received 9/23/2016

Andy:

Good morning.

The FHWA Ohio Division will issue a USDOT conformity determination to ODOT based on the Kentucky Division's Letter of Support since the non-exempt projects requiring air quality analysis are in Kentucky.

Please send us a signed resolution once OKI takes action in October.

Thank you.

Respectfully,

Andy Johns

FHWA - Ohio Division

614.280.6850

Received 10/13/2016

Good Morning Andy,

Thanks for sending the "Draft Conformity Amendment for review. I have reviewed the document and here is my comment:

- 1) In Section 1. Background - You stated " the Cincinnati area was determined by U.S. EPA as having attained the ozone standard and reclassified as a maintenance area." Please revised this language. EPA has not approved a maintenance plan for the 2008 8-hr ozone NAAQS.

If you have any questions, let me know.

*Dianna B. Myers*

Physical Scientist

Regional Transportation Conformity Contact

Air Regulatory Management Section

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Received 10/13/2016

Andy:

Good morning.

We recommend that OKI incorporate the comment into the report and verbally clarify this to the Board prior to their action this morning at 10:30AM.

Thank you for your cooperation.

Respectfully,

Andy Johns

FHWA - Ohio Division

614.280.6850