

**AIR QUALITY CONFORMITY DETERMINATION
OF AMENDMENT 3 TO THE OKI 2040 REGIONAL
TRANSPORTATION PLAN AND THE OKI FY 2014-2017
TRANSPORTATION IMPROVEMENT PROGRAM IN THE
CINCINNATI-HAMILTON OH-KY-IN, AREA FOR NATIONAL
AMBIENT AIR QUALITY STANDARDS (NAAQS)– TECHNICAL
DOCUMENTATION**

NOVEMBER 13, 2014



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I. BACKGROUND

Under provisions of the Clean Air Act Amendments of 1990, U.S. EPA has designated portions of nine counties as a nonattainment area under the 2008 ozone standards. The Cincinnati ozone nonattainment area includes Lawrenceburg Township in Dearborn County, Indiana, the urbanized portion of the Kentucky counties of Boone, Campbell and Kenton, and the Ohio counties of Butler, Clermont, Clinton, Hamilton and Warren. The area was also on nonattainment area under previous ozone standards. The area is considered a maintenance area for fine particulates, or PM_{2.5}, having attained the most recent annual PM_{2.5} standard. The PM_{2.5} maintenance area includes the same ozone counties, with the exception of Clinton County. The three Kentucky counties are included in the PM_{2.5} area in their entirety. The Ohio Kentucky Indiana Regional Council of Governments (OKI), as the Metropolitan Planning Organization (MPO), consists of Dearborn, Boone, Campbell, Kenton, Butler, Clermont, Hamilton and Warren counties. The *OKI 2040 Regional Transportation Plan* and the *OKI FY2014-2017 Transportation Improvement Program* address the MPO area only. The cities of Franklin and Carlisle in Warren County are part of the Miami Valley Regional Planning Commission (MVRPC) planning area. Projects within this portion of Warren County have been included in the conformity analysis. Clinton County is outside of the OKI region, but is part of the ozone maintenance area. The Ohio Department of Transportation (ODOT) is the lead planning agency for Clinton County. The Clinton County emissions analysis has been prepared by ODOT and has been included in this conformity determination.

Ozone is formed through chemical reactions induced when sunlight reacts with volatile organic compounds (VOCs; principally hydrocarbons) and nitrogen oxides (NO_x). VOCs and NO_x occur from incomplete combustion of fossil fuels. Transportation-related sources are a major contributor of these pollutants. Since heat speeds the reactions, ozone levels are typically highest during hot summer days. PM_{2.5} refers to a complex mixture of fine particulates, primarily from fossil fuel combustion. PM_{2.5} is emitted directly and will also form indirectly through reactions with precursor emissions, especially NO_x.

EPA's Transportation Conformity Rule (40 CFR Part 93) requires transportation plans and programs to demonstrate consistency with the applicable SIP motor vehicle emissions budgets or interim conformity tests by performing a regional emissions analysis. A regional emissions analysis uses quantitative and qualitative analysis to estimate the total transportation-related emissions of VOC, NO_x and PM_{2.5} for certain future years, and may include the effects of any emission control programs which are already adopted or committed to in the SIP.

OKI is the MPO for the Greater Cincinnati/Northern Kentucky area responsible for transportation planning and air quality conformity. Transportation conformity is a mechanism to ensure that federal funding and approval are given to those transportation activities that are consistent with the air quality goals of the State Implementation Plans for Indiana,

Kentucky and Ohio. On June 21, 2012, OKI adopted its *OKI 2040 Regional Transportation Plan*. OKI adopted its *FY2014-2017 Transportation Improvement Program* on April 11, 2013.

II. OKI'S CONFORMITY PROCESS

Transportation networks

The conformity analysis involves the use of the five 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 the ozone and PM_{2.5} SIP budget year (2015), an ozone budget year (2020), a PM_{2.5} 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 2015 transportation network includes the existing network plus *FY 2014-2017 Transportation Improvement Program* that are expected to be open to traffic before July 1, 2015.
- The 2020 transportation network includes the 2015 network plus projects in the *FY2014-2017 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 *FY2014-2017 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 7.6. The OKI Travel Demand Model is composed of CUBE Voyager programs and a series of FORTRAN 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 1608 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. Chapter 3 of *OKI 2040 Regional Transportation Plan Update* provides a complete demographic overview of the region.

OKI utilizes both base year (2005) and future year data (2015, 2020, 2030, and 2040) in the planning process. Planning data are maintained at the Traffic Analysis Zone (TAZ) level, and originate in the 2000 Census of Population and Housing. Base year 2005 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 2005 and future years 2015, 2020, 2030, and 2040 originate with the 2000 Census of Population and Housing. Utilizing ArcGIS, population data at the zonal level for 2000 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 projections as prepared by the respective state data centers (Ohio Department of Development Office of Strategic Research, Kentucky State Data Center and Indiana Business Research Center) as control totals. Projections (years 2005 to 2040) were released by the Ohio state data center in 2011, the Indiana state data center in 2007 and the Kentucky State Data Center in 2009. 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 control total.

Households

Base Year Data: Household data for base year 2005 originates with the 2000 Census of Population and Housing. Utilizing the geographic information system ArcGIS, household data at the zonal level for 2000 was derived from the area proportion allocation of block level households. Year 2000 household data was updated to 2005 with residential building permits issued between January 2000 and December 2004. The residential building locations were geo-coded in ArcGIS, and then aggregated to the TAZs. The housing unit totals for each TAZ were converted to households by applying a vacancy rate, an

adjustment for permitted but unbuilt units, and subtracting demolitions (where data was available). These households were then added to the year Census 2000 zonal household total to arrive at 2005 households for each TAZ.

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 2000 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 2000 Census of Population and Housing. The 2000 Census was the only source of household vehicle data available at the block group level at the time the data was developed. Average vehicles per household were calculated for block groups then applied to the TAZs associated with each block group. The 2005, 2010, 2020, 2030 and 2040 vehicles per household level was held at the 2000 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 ratio (the number of employed persons in the labor force per persons 16 and over). Household data for base year 2005 originates with the 2000 Census of Population and Housing. Utilizing the geographic information system ArcGIS, household data at the zonal level for 2000 was derived from the area proportion allocation of block group level employed labor force. The labor force projections for 2005, 2015, 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 or ES202) data for 2005 was utilized as the primary tool to calculate employment at the zonal level. Individual business records containing physical location, number of employees and North American Industry Classification System (NAICS) code were geocoded through 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 according to the NAICS code into three classes (retail, office, industrial) based upon the potential for 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 2005. 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 2005 observed VMT is less than 1%. 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 and all the errors were under the ODOT curve. Further information can be found in OKI's 2007 report, "*OKI/MVRPC Travel Demand Model Methodology/Validation Report*". For the calibration, OKI used over 3000 traffic counts collected through 2006 by the Ohio Department of Transportation (ODOT), the Kentucky Transportation Cabinet, many county and local governments, transportation engineering consultants, and OKI. 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 2004-2006. 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 from local data collected at permanent traffic counting stations during 2004-2007 utilizing the average daily traffic monthly conversion factors for June, July and August.

Emission Factor Models

OKI’s conformity assessment utilized U.S.EPA’s emission model MOVES2010b to develop emission factors for VOC’s, NO_x 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 *“Using MOVES to Prepare Emission Inventories in State Implementation Plans and Transportation Conformity: Technical Guidance for MOVES 2010, 2010a and 2010b”*, April 2012.

Table 1 summarizes the settings used in the MOVES run specification file. Table 2 lists the data and sources used in the MOVES County-Data Manager.

Table 1

MOVES RunSpec Parameter	Settings
MOVES 2010b, default database 20121030	
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, gasoline and diesel
Road Type	All road types including off-network

Pollutants and Processes	VOC, hydrocarbons, NOx and all PM2.5 pollutants. No emissions from refueling.
Strategies	Modified AVFT strategy file to reflect 0% CNG buses in the transit fleet
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 2

MOVES County Data Manager	Data Source
Source Type Population	Local and default. Local data from KYTC (2013) and ODOT (2010) from motor vehicle registration data. Default data used for source types 41, 61 and 62 in Ohio and types 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=local.
I/M Programs	Default modified to reflect discontinued I/M program in 2006
Fuel Formulation	Modified to reflect low RVP fuel program in Southwest Ohio
Fuel Supply	Default
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 (2013) and ODOT (2010) from motor vehicle registration data. Default data used for source types 41, 61 and 62 in Ohio and types 61 and 62 in Kentucky.
Average Speed Distribution	Local. OKI travel demand model.

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

III. PROJECTS INCLUDED IN THE TRANSPORTATION NETWORK

The transportation plan includes a number of projects, which, due to their scope and regional significance, trigger the need for a new 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. The Transportation Plan highway projects listed in Table 3 [FINAL Report only] are considered “non-exempt” in regards to air quality and thus are required to be included in a conformity finding. OKI’s highway and transit networks include the existing transportation system plus all regionally significant projects regardless of funding source. Regionally significant project means a “non-exempt” transportation project that is on a facility that serves regional transportation needs.

IV. DESCRIPTION OF AMENDMENT AND CONFORMITY TESTS

This report documents that *Amendment 3 to the OKI 2040 Regional Transportation Plan* and its short range component, the *OKI FY2014-2017 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, 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. The projects involved in this Amendment, as listed in Table 1, are considered “non-exempt” in regards to air quality and thus are required to be included in a conformity finding. OKI’s highway and transit networks include the existing transportation system plus all regionally significant projects regardless of funding source.

Amendment 3 affects eight non-exempt projects that in the the Plan or TIP that require modifications to the regional emissions analysis. The amendment adds three projects and changes the analysis year of five projects. Details of the changes are listed below. A draft conformity report, with a new regional emissions analysis, was provided to the Interagency Consultation group on October 10, 2014.

Table 4 - Amendment #3
Changes to Transportation Networks

ID	State	County	Facility	Description	Scope Change	Original AQ Analysis Year	Revised AQ Analysis Year
Plan #505	KY	Boone	US 25	Widening from Richwood Rd. to KY 536 and new grade separation at Richwood. Removed from TIP.	No	2020	2040
Plan #521	KY	Boone	KY 338	Widen Richwood Rd from US 25 to Triple Crown Blvd. Does not include interchange work. Removed from TIP	No	2020	2040
Plan #6-8105.06	KY	Campbell	NKU Loop Rd. (south section)	New 2-lane connector from KY 2345 to KY 1998 Removed from TIP.	No	2020	2030
Plan #105 TIP #NP	OH	Butler	SR 747	Princeton Rd. to Milliken Rd.	No	2030	2020
TIP #NP	OH	Butler	Yankee Road	New 2-lane extension from Todhunter Rd. to SR 63.	Add	NA	2020
TIP #82370	OH	Clermont	Clepper Lane	Extend from Glen Este-Withamsville Rd. to Bach-Buxton Rd.	Add	NA	2020
Plan #82552	OH	Clermont	Aicholtz Road Extension	New 5-lane roadway from Glen Este-Withamsville Rd. to Bach-Buxton Rd. Removed from TIP.	No	2020	2030
TIP #98109	OH	Hamilton	Elmore Connector	New 2-lane connector from west side of I-75 to Central Pkwy near Cincinnati State.	Add	NA	2030

Table 5 - Conformity Analysis Years and Tests
Ozone

<u>Ozone</u>	
Attainment status:	Marginal ozone nonattainment – 2008 standard.
Geography:	Butler, Clermont, Clinton, Hamilton, & Warren Counties in Ohio; Boone (partial), Campbell (partial), & Kenton Counties (partial) in Kentucky; Lawrenceburg Twp, Dearborn County Indiana
A/Q Budget Status:	MOVES-based ozone budgets approved.
SIP Commitments:	RVP 7.8 in Ohio Counties (except Clinton) RFG in Kentucky Counties
Conformity Tests:	Ozone budget tests of OKI Plan/TIP analysis years plus Clinton 24-hour summer emissions.
Analysis Years:	2015 Budget year, 2020 Budget year, 2030 Interim year, 2040 Plan horizon year
Other:	ODOT provided Clinton Co. ozone emissions to OKI.

Table 6 - Conformity Analysis Years and Tests
PM2.5

<u>PM2.5</u>	
Attainment status:	PM _{2.5} maintenance area – 1997 annual standard
Geography:	Butler, Clermont, Hamilton, & Warren Counties in Ohio; Boone, Campbell, & Kenton Counties in Kentucky; Lawrenceburg Twp, Dearborn County Indiana
A/Q Budget Status:	PM _{2.5} MOVES-based budgets approved
SIP Commitments:	None
Conformity Tests:	Annual PM _{2.5} budget tests of OKI Plan/TIP analysis year networks
Analysis Years:	2015 Budget year, 2021 Budget year, 2030 Interim year, 2040 Plan horizon year
Other:	PM _{2.5} includes brake and tirewear

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

OKI has determined that the recommended projects in this amended *OKI 2040 Regional Transportation Plan* and amended *FY 2014-2017 Transportation Improvement Program* are consistent with the air quality goals of the SIP and the conformity requirements under the 8-hour ozone standard and the annual PM_{2.5} standard. OKI's quantitative conformity findings for ozone-forming emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the Ohio and Indiana portion of the ozone maintenance area are found in Table 7. Table 8 shows the quantitative conformity finding for annual PM_{2.5} and NO_x emissions in the Ohio and Indiana portion of the PM_{2.5} maintenance area.

Table 7
Quantitative Conformity Findings of Ozone-forming Emissions (tons per day) for the Ohio¹ and Indiana Portion² of the Maintenance Area

	<u>2015</u>	<u>2020</u>	<u>2030</u>	<u>2040</u>
Ohio/Indiana VOC Budget	56.06	42.83	42.83	42.83
Ohio/Indiana VOC Emissions	42.38	31.59	26.54	28.23
Ohio/Indiana NO _x Budget	94.24	73.13	73.13	73.13
Ohio/Indiana NO _x Emissions	55.69	46.99	39.39	37.80

Table 8
Quantitative Conformity Findings of PM_{2.5} Emissions (tons per year) for the Ohio and Indiana Portion² of the Maintenance Area

	<u>2015</u>	<u>2021</u>	<u>2030</u>	<u>2040</u>
Ohio Annual Direct PM _{2.5} Budget	1678.60	1241.19	1241.19	1241.19
Ohio Annual Direct PM _{2.5} Emissions	528.22	396.71	396.71	406.95
Ohio Annual NO _x Budget	35723.83	21747.71	21747.71	21747.71
Ohio Annual NO _x Emissions	18346.74	15881.56	14573.96	14052.15

¹Includes Clinton County

²Dearborn County emissions are for the nonattainment portion only

- VOC and NO_x emissions in the Ohio and Indiana portion of the ozone nonattainment area do not exceed the 2015 VOC or NO_x budget or the 2020 VOC or NO_x budget for the budget years 2015 and 2020, the intermediate year 2030, or the Plan year 2040.
- Annual Direct PM_{2.5} and annual NO_x emissions in the Ohio and Indiana portion of the PM_{2.5} maintenance area do not exceed the 2015, or 2021 budget for the budget years 2015 and 2021, the intermediate year 2030, or the Plan year 2040.

- OKI qualitatively finds no factors in the TIP or the amended *OKI 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement Program* that would cause or contribute to a new daily ozone or annual PM_{2.5} violation or exacerbate an existing violation in the years before 2015 for the Ohio and Indiana portion of the maintenance area.
- OKI qualitatively finds that no goals, directives, recommendations or projects identified in the *OKI 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement Program* 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 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement Program* 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 2040 Regional Transportation Plan* and the amended *FY 2014-2017 Transportation Improvement Program* are consistent with the air quality goals of the SIP and the conformity requirements under the 8-hour ozone standard and the annual PM_{2.5} standard. OKI's quantitative conformity findings for ozone-forming emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are found in Table 9. The PM_{2.5} quantitative conformity finding is found in Table 10.

Table 9
Quantitative Conformity Findings of Ozone-forming Emissions (tons per day) for the Kentucky Portion of the Nonattainment Area

	<u>2015</u>	<u>2020</u>	<u>2030</u>	<u>2040</u>
N. Kentucky VOC Budget	11.15	8.76	8.76	8.76
N. Kentucky VOC Emissions	6.05	4.39	3.66	4.30
N. Kentucky NO _x Budget	37.87	28.13	28.13	28.13
N. Kentucky NO _x Emissions	14.82	9.66	7.06	7.75

Table 10
Quantitative Conformity Findings of PM_{2.5} Emissions (tons per year) for the Kentucky Portion of the Nonattainment Area

	<u>2015</u>	<u>2021</u>	<u>2030</u>	<u>2040</u>
N. Kentucky Direct PM _{2.5} Annual Budget	389.67	302.92	302.92	302.92
N. Kentucky Direct PM _{2.5} Annual Emissions	167.47	114.26	100.02	117.16

N. Kentucky NO _x Annual Budget	8045.65	7384.32	7384.32	7384.32
N. Kentucky NO _x Annual Emissions	5158.02	3190.94	2586.98	2801.14

- VOC and NO_x emissions in the Kentucky portion of the ozone nonattainment area do not exceed the 2015 VOC or NO_x budget or the 2020 VOC or NO_x budget for the budget years 2015 and 2020, the intermediate year 2030, or the Plan year 2040.
- Annual Direct PM_{2.5} and annual NO_x emissions in the Kentucky portion of the PM_{2.5} maintenance area do not exceed the 2015, or 2021 budget for the budget years 2015 and 2021, the intermediate year 2030, or the Plan year 2040.
- OKI qualitatively finds no factors in the TIP or the amended *OKI 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement Program* that would cause or contribute to a new daily ozone or annual PM_{2.5} violation or exacerbate an existing violation in the years before 2015 for the Kentucky portion of the maintenance area.
- OKI qualitatively finds that no goals, directives, recommendations or projects identified in the *OKI 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement Program* 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 *OKI 2040 Regional Transportation Plan* or the amended *FY 2014-2017 Transportation Improvement 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. Consultation for this amendment was initiated on August 26th with electronic mail correspondence from OKI that outlined the proposed amendment and schedule. The interagency consultation process was undertaken in accordance with OKI's Transportation Conformity Consultation Memorandum of Understanding (MOU), as adopted by the OKI Board of Directors on April 10, 2008. On October 6, 2014, the OKI Interagency Consultation (IAC) Group was sent notice that OKI staff was beginning a new regional emissions analysis for a proposed amendment and was sent the technical details of modeling procedures. OKI requested concurrence with the technical details.

Nine IAC members explicitly concurred with the technical details and no negative comments were received. Beginning October 10, 2014, copies of the draft amendment report were made available for public inspection on OKI's website and at OKI's office. This full draft conformity report was made available on October 15, 2014. Notice of the availability of the draft documents, the announcement of the public comment period and the November 5, 2014 public hearing were published in several local newspapers.

The *OKI 2040 Regional Transportation Plan "Moving the Region Forward"* was developed with significant attention to public involvement. Please refer to Chapter 2. Provisions for public comment on this Amendment are being provided through a 30-day public comment period, culminating in a public hearing to be held at 5:00 p.m. on Wednesday, November 5, 2014 at the OKI offices, 720 East Pete Rose Way, Suite 420, Cincinnati, Ohio. OKI advertised the Amendment in mainstream and minority newspapers and through standing OKI committees. This document was placed for public review on the OKI website. No comments regarding this conformity determination were received. Information on other comments received may be found in the document *"Amendment 3 – OKI 2040 Regional Transportation Plan and OKI FY 2014-2017 TIP"*.