

# **Amendment to the FY 2021–2024 Transportation Improvement Program and Related Amendments to Update to *Connected2045*: Long Range Transportation Plan for the St. Louis Region**

## *Mid-Year Air Quality Conformity Determination and Documentation for Eight-Hour Ozone*

***East-West Gateway Council of Governments (EWG) hereby gives public notice that it is the policy of the agency to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice, and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States of America, on the grounds of race, color, or national origin, shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which EWG receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with EWG. Any such complaint must be in writing and filed with EWG's Title VI Coordinator within one hundred eighty (180) calendar days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Nondiscrimination Complaint Form, please see EWG's web site at <http://www.ewgateway.org/TitleVI> or call (314) 421-4220 or (618) 274-2750.***

***The work that provide the basis of this publication was supported, in part, by a grant provided from the U.S. Department of Transportation, through the Missouri Department of Transportation and the Illinois Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the author and not necessarily those of the Missouri Highways and Transportation Commission, the Illinois Department of Transportation, the Federal Highway Administration, or the Federal Transit Administration.***

# Executive Summary

This page intentionally left blank.

# Executive Summary

The expectation of a clean and healthy environment is one of the regional goals specified in the Update to *Connected 2045: Long Range Transportation Plan for the St. Louis Region* (*Connected2045* Update). Effective July 2012, EPA classified the eight-county St. Louis region as a “marginal” non-attainment area under the new, more protective 2008 eight-hour ozone standard. Jersey County, Illinois has been designated by EPA as being in attainment of the 2008 ozone standard. EPA designated the three Illinois counties as having attained this standard on March 1, 2018 and the Missouri counties on September 20, 2018 (considered to be maintenance). In 2018, EPA designated the following counties as a “marginal” non-attainment area for the 2015 eight-hour ozone standard: St. Charles and St. Louis Counties, the City of St. Louis and Boles Township in Franklin County in Missouri; and Madison and St. Clair Counties in Illinois (effective August 3, 2018). In January 2005, EPA designated the eight-county St. Louis region and Baldwin Township in Randolph County, Illinois as being in non-attainment of the 1997 annual fine particulate matter (PM<sub>2.5</sub>) standard. Effective October 2, 2018, EPA designated the Missouri counties to be in attainment of the PM<sub>2.5</sub> standard. Effective May 28, 2019, EPA also redesignated the Illinois counties and Baldwin Township to be in attainment of the 1997 annual PM<sub>2.5</sub> standard.

A major objective of the East-West Gateway Council of Governments transportation planning process is to ensure that the projects and policies set out in the Amendment to the FY 2021-2024 Transportation Improvement Program and Related Amendments to *Connected2045* Update (Amendment to the FY 2021-2024 TIP) help to reduce and minimize air quality impacts of transportation projects in accordance with federal, state, and local air quality standards, regulations, and priorities. The specific procedures for reaching this objective are established under Federal law for ensuring conformity between transportation plans and air quality improvement plans. The conformity process is intended to ensure that the programs and activities proposed in long-range transportation plans and associated TIPs conform to the purpose of air quality State Implementation Plans, which set out benchmarks against which progress is measured in meeting national goals for cleaner and healthier air.

Under the Federal Regulations, the Council, as the region’s Metropolitan Planning Organization (MPO), is the agency responsible for conducting this determination of conformity. The transportation conformity finding relates to those precursor pollutants produced by automobiles and other on-road transportation, generally described as “mobile source emissions.” The pollutant of most concern in this region is ozone and its precursors, oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs).

Ground-level ozone is not directly produced, but is formed when hydrocarbons, also known as VOCs, and NO<sub>x</sub> from vehicle and truck exhaust and other industrial processes chemically react, or “cook,” with oxygen in the lower atmosphere in the presence of strong sunlight and high temperatures. High levels of ozone can cause headaches; fatigue; and eye, nose, and respiratory tract irritation. Prolonged exposure to ozone can aggravate chronic heart disease and chronic respiratory ailments.

The primary purpose of the conformity process is to demonstrate that predicted future emissions from motor vehicles fall within criteria specified in air quality implementation plans (Federal or State). Future levels of mobile-source emissions are influenced by a number of factors, each of which is accounted for in the forecasting process.

1. All forms of pollution are affected by the number of people living in the region and the strength of the regional economy. Projections developed for Update to *Connected 2045* Update: Long Range Transportation Plan for the St. Louis Region (*Connected2045* Update) serve as a basis for the Air

# Executive Summary

Quality analysis of the Plan and TIP. Forecast levels of population growth and economic activity are a major determinant of how much travel is generated, which directly influences the amount of mobile source emissions.

2. Estimates of future travel are made using the Council's travel demand modeling procedures. These procedures document a range of factors that affect personal and commercial travel. These include the composition and income of households, trends in trip making, use of transit, vehicle occupancy, and various algorithms that replicate trip length and route choice. The result of this inventory of procedures is a model of predicted future travel patterns. The primary determinants of pollution from vehicle exhaust are the number of vehicles, how far they travel, and the speed at which they travel. The last is important because the amount of pollution generated by a given amount of travel is very much higher under "stop-and-go" conditions than if traffic is flowing smoothly, although vehicle emissions tend to rise as vehicle speeds exceed 60 mph. The travel demand model is used to develop predictions of vehicle miles of travel (VMT) and vehicle speed.
3. There is a strong correlation between VMT, travel speeds, and emission levels. These relationships are modified by local characteristics of the vehicle fleet (such as the age of vehicles), the effect of vehicle emissions testing and other programs designed to reduce emissions (such as the use of reformulated gasoline), and assumptions about predicted changes in vehicle technology. These travel characteristics are used as inputs into the EPA's Motor Vehicle Emissions Simulator (MOVES) model. This model is used to predict regional mobile source emission levels.

It should be noted that many current trends such as the growth in regional population, employment, and travel would have the effect of increasing emissions if not for the offsets created by improvement in vehicle technology, more extensive vehicle emissions testing regimens and the introduction of reformulated gasoline. Slow to moderate growth in travel has been more than offset by the general introduction of newer pollution-reducing technology. This trend is expected to continue into the future.

Based on the conformity analysis, the projects and programs included in the Amendment to the FY 2021-2024 TIP have met all applicable budget tests as required by the regional emissions analysis and, therefore, are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93, and the Missouri State Conformity Regulations 10 CSR 10-5.480.

# Table of Contents

	<u>Page</u>
<b>Overview of the Air Quality Transportation Conformity Process</b>	1
1.0 Air Quality Conformity Finding	1
2.0 Background	1
<b>3.0 Conformity Guidelines</b>	2
3.1 Background	2
3.2 Ozone Standard	3
3.2.1 1979 One Hour Ozone Standard	3
3.2.2 1997 Eight-Hour Ozone Standard	3
3.2.3 2008 Eight-Hour Ozone Standard	3
3.2.4 2015 Eight-Hour Ozone Standard	4
3.2.5 Jersey County and the 1997 Eight-Hour Ozone Standard	5
3.3 1997 and 2012 Fine Particulate Matter (PM <sub>2.5</sub> ) Standard	6
3.3.1 Project Level Hot-Spot PM Conformity Determination – Not Required	7
3.4 Carbon Monoxide (CO) Standard	7
3.5 Transportation Conformity Rule	8
4.0 Conformity Determination Process	8
4.1 1997 Eight-Hour Ozone Standard	8
4.2 2008 and 2015 Eight-Hour Ozone Standards	9
4.2.1 State Implementation Plans	9
4.2.2 Regional Emissions Analysis: Budget Tests	12
4.2.2.1 Missouri	12
4.2.2.2 Illinois	13
4.2.3 Conformity Tests: Analysis Years	15
4.2.4 Conformity Tests: Summary	15
4.2.5 Transportation Control Measures	17
4.2.6 Conformity Determination Technical Methodology	17
5.0 Consultation and Public Participation	20
5.1 Consultation Conformity Procedures	20
5.2 When Conformity Analysis Begins	21
5.3 Public Participation	21
 <b>Declaration of Conformity for Eight-Hour Ozone</b>	 23

# Table of Contents

<u>Appendix</u>	Appendix	<u>Page</u>
A.	Transportation Planning Projects	A - 1
B.	Population and Employment Forecasts	B - 1
C.	Travel Demand Modeling Procedures, Assumptions and Forecasts	C - 1
D.	MOtor Vehicle Emissions Simulator (MOVES) Mobile Source Emissions Modeling and Forecasts	D - 1
E.	2008 and 2015 Eight-Hour Ozone Standards Air Quality Conformity Determination	E - 1
F.	MOVES Documentation (Separate Document)	

<u>Table</u>	List of Tables	<u>Page</u>
1.	Motor Vehicle Emissions Budgets – Missouri	13
2.	Motor Vehicle Emissions Budgets - Illinois	14
3.	Conformity Tests for Volatile Organic Compounds and Oxides of Nitrogen (for 2008 Eight-Hour Ozone) - Missouri	18
4.	Conformity Tests for Volatile Organic Compounds and Oxides of Nitrogen (for 2008 Eight-Hour Ozone) - Illinois	18
5.	Conformity Tests for Volatile Organic Compounds and Oxides of Nitrogen (for 2015 Eight-Hour Ozone) - Missouri	19
6.	Conformity Tests for Volatile Organic Compounds and Oxides of Nitrogen (for 2015 Eight-Hour Ozone) - Illinois	19

<u>Figure</u>	List of Figures	<u>Page</u>
1.	St. Louis Non-Attainment Area - 2015 Ozone Standard	4

# Conformity Process

## 1.0 Mid-Year Air Quality Conformity Finding

The Amendment to the FY 2021-2024 Transportation Improvement Program and related Amendments to Update to *Connected2045: Long Range Transportation Plan* for the St. Louis Region (Amendment to the FY 2021-2024 TIP) has been prepared by the East-West Gateway Council of Governments (EWG) which is the designated Metropolitan Planning Organization (MPO) for the St. Louis region. In accordance with the Clean Air Act Amendments (CAAA) of 1990 and related federal regulations, both the Transportation Plan and TIP must be found to be in conformity with the requirements of those regulations and with all applicable State Implementation Plans (SIPs) before the Plan may be approved by the MPO. The analysis described in this document has resulted in a Determination that the projects and programs included in the Amendment to the FY 2021-2024 TIP conform to the relevant sections of the Federal Conformity Rule and to the applicable sections of the Missouri and Illinois SIPs for air quality. This report makes the determination that the region's transportation plan and program satisfy all applicable criteria and procedures in the conformity regulations.

The transportation *Mid-Year Air Quality Conformity Determination and Documentation (8-Hour Ozone) for the Amendment to the FY 2021-2024 TIP* documentation is the subject of a public comment period running from December 10, 2020 through January 19, 2021. Upon close of the public comment period the EWG Board will recognize, consider, and respond to all comments received.

## 2.0 Background

This report describes the Transportation Mid-Year Air Quality Conformity Determination conducted as part of the development of the Amendment to the FY 2021-2024 TIP as related to the 2008 and 2015 eight-hour ozone National Ambient Air Quality Standards (NAAQS or standard). The Amendment to the FY 2021-2024 TIP and related Mid-Year Air Quality Conformity Determination are to be acted on by the East-West Gateway Council of Governments (EWG) on January 27, 2021 and, if approved, subsequently reviewed by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT) for compliance with Transportation Conformity rules and regulations.

The EWG finds that the Amendment to the FY 2021-2024 TIP conforms to the State Implementation Plans (SIPs) adopted by the Missouri Department of Natural Resources (MoDNR) and Illinois Environmental Protection Agency (Illinois EPA) for the 2008 and 2015 eight-hour ozone standards based on the results of this conformity analysis.

For the 2008 and 2015 eight-hour ozone standards, the Conformity Determination addresses those ozone-forming pollutants (volatile organic compounds or VOC and oxides of nitrogen or NO<sub>x</sub>) produced by automobiles and other on-road transportation, generally described as "mobile source emissions". While this chapter outlines the evaluation process involved in the Conformity Determination, a more detailed description of the complex technical analysis is provided in the Appendices. Appendix A lists all of the projects considered as part of the Regional Travel Demand Model, which are included in the regional emissions analysis. Appendices B, C and D

# Conformity Process

describe the planning assumptions and methods used to forecast vehicle travel and resulting emissions. Appendix E summarizes the calculations supporting the Conformity Determination for the 2008 and 2015 eight-hour ozone standards. In a separate document Appendix F contains the input and output files documentation for the MOtor Vehicle Emissions Simulator (MOVES) mobile source emissions model.

## 3.0 Conformity Guidelines

### 3.1 Background

The expectation of *"a clean and healthy environment"* is one of the regional goals of the Council, as first set out in *Transportation Redefined I* and reaffirmed in *Connected2045 Update*. To that end, the Council has set out the following objective for the transportation planning process:

*"To reduce transportation related air pollution..... in accordance with federal, state, and local health standards and priorities."*

The specific procedures for reaching that objective are those established under Federal law for ensuring conformity between transportation plans and air quality improvement plans. The Conformity Determination process is intended to ensure that the programs and activities proposed in the Transportation Plan, the TIP and TIP amendments, conform to the purpose of the CAAA of 1990 and the SIPs. As stated in the CAAA of 1990, this means *"...conformity to the (implementation) plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards..."*. The provisions of the CAAA of 1990 in relation to conformity are amplified in the U.S. Environmental Protection Agency (EPA) Final Rule, 40 CFR Part 93, as amended July 1, 2004, May 6, 2005 and January 2008, March 2010 and March 2012. The July 2004 revisions amended the current Conformity rule to: provide conformity procedures under the new eight-hour ozone and PM<sub>2.5</sub> air quality standards; incorporate existing federal guidance into the Conformity rule consistent with the March 2, 1999 U.S. Court of Appeals decisions; and streamline and improve the rule. With the May 2005 revision, the following transportation-related potential precursors of PM<sub>2.5</sub> have been added to the Conformity regulation: oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOC), sulfur oxides (SO<sub>x</sub>) and ammonia (NH<sub>3</sub>). The regulation also specified when each of these precursors must be considered in Conformity Determinations in PM<sub>2.5</sub> non-attainment and maintenance areas before and after the submission of State Implementation Plans (SIPs). The January 2008 amendments were made so the rule was consistent with the Clean Air Act section 176(c) as amended by the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) including: changes to the regulations to reflect that the Clean Air Act now provides more time for state and local governments to meet conformity requirements; provides a one-year grace period before the consequences of not meeting certain conformity requirements apply; and allows the option of shortening the conformity determination timeframe. Other conformity provisions were streamlined. This Conformity Determination also meets the new timelines and procedures as set out in SAFETEA-LU. The March 2010 amendment primarily affects the implementation of conformity in the PM<sub>2.5</sub> (24-hour) and PM<sub>10</sub> non-attainment and maintenance areas. In March



# Conformity Process

2012 the Conformity rule was restructured so that existing rule requirements clearly apply to areas designated for future new or revised NAAQS. Revision also allows PM<sub>2.5</sub> areas with clean air quality data to take advantage of conformity flexibilities that are currently only available to ozone areas.

## 3.2 Ozone Standard

### 3.2.1 1979 One Hour Ozone Standard

Based on 2000-2002 air quality monitoring data, the St. Louis region was found to meet the one-hour ozone standard. On May 12, 2003, EPA approved the redesignation to attainment requests and Maintenance Plans prepared by MoDNR and Illinois EPA. The entire eight-county St. Louis region is now classified as a maintenance area for the one-hour ozone standard.

### 3.2.2 1997 Eight-Hour Ozone Standard

In 2004, EPA designated the St. Louis area as a “moderate” non-attainment area for the 1997 eight-hour ozone standard. The non-attainment area included: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Jersey, Madison, Monroe and St. Clair Counties in Illinois. EWG, as the MPO, had until June 15, 2005 to perform a Conformity Determination under this eight-hour ozone standard. In March 2005 EWG conducted a Conformity Determination for *Legacy 2030*, The Transportation Plan for the St. Louis Region, which satisfied the June 15 statutory deadline requirement. On June 12, 2012, EPA approved the following items: the request by Illinois to redesignate the Illinois counties to attainment of the 1997 eight-hour ozone standard; and the Maintenance Plan for the Metro-East St. Louis Ozone Nonattainment Area for the 1997 8-Hour Ozone National Ambient Air Quality Standard (IL 8-Hour Ozone Maintenance Plan for the 1997 standard) containing 2008 and 2025 motor vehicle emissions budgets. On February 20, 2015, EPA approved Missouri’s request to redesignate the Missouri counties as being in attainment of the 1997 eight-hour ozone standard and approved the associated maintenance plan. Effective April 6, 2015, EPA revoked the 1997 eight-hour ozone standard in all areas.

### 3.2.3 2008 Eight-Hour Ozone Standard

Effective July 2012, the St. Louis area was designated by EPA as a “marginal” non-attainment area for the 2008 eight-hour ozone standard. The non-attainment area included: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Madison, Monroe and St. Clair Counties in Illinois. EWG, as the MPO, had until July 19, 2013 to perform a Conformity Determination under this eight-hour ozone standard. The January 30, 2013 Conformity Determination for the Amendment to the FY 2013-2016 TIP and related amendments to the *Regional Transportation Plan 2040* was performed with the Conformity procedure as relates to the 2008 eight-hour ozone standard. This Conformity Determination satisfied all requirements under the new “marginal” non-attainment area classification. In the March 1, 2018 Federal Register, EPA issued a final rule, effective March 1, 2018, redesignating Madison, Monroe and St. Clair Counties in Illinois as being in attainment of the 2008 eight-hour ozone

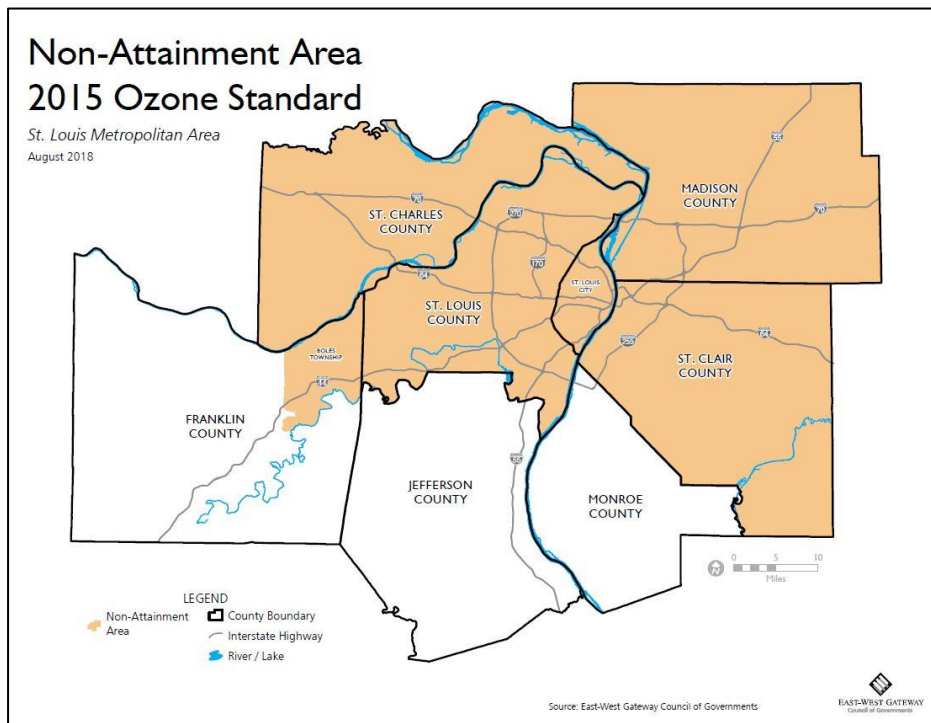
# Conformity Process

standard, approving the Maintenance Plan for the Metro East St. Louis Ozone Nonattainment Area for the 2008 Ozone National Ambient Air Quality Standard (IL 8-Hour Maintenance Plan for 2008 standard) and finding the 2030 motor vehicle emissions budgets adequate for use in Conformity Determination. In the September 20, 2108 Federal Register, EPA issued a final rule approving the request by MoDNR to redesignate Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis to attainment for the 2008 ozone standard. EPA also approved Missouri's Maintenance Plan and the 2030 motor vehicle emission budgets for VOC and NO<sub>x</sub>. As EPA has not revoked the 2008 ozone standard, Conformity Determination will continue to be performed for the eight-county maintenance area.

## 3.2.4 2015 Eight-Hour Ozone Standard

On April 30, 2018, EPA designated the St. Louis area as a “marginal” non-attainment area for the 2015 eight-hour ozone standard (effective August 3, 2018). The non-attainment area includes: in Missouri, St. Charles and St. Louis Counties, the City of St. Louis and Boles Township in Franklin County; and Madison and St. Clair Counties in Illinois. (See Figure 1) EWG, as the MPO, had until August 3, 2019 to perform a Conformity Determination under this eight-hour ozone standard. The June 2019 Conformity Determination for the Update to *Connected2045*: Long Range Transportation Plan for the St. Louis Region (*Connected2045* Update) satisfied the 2015 eight-hour ozone standard conformity determination statutory deadline requirement.

Figure 1 – St. Louis Non-Attainment Area - 2015 Ozone Standard



# Conformity Process

The regional emissions analysis provisions in 40 CFR 93.109 (e)(2)(iii) of the Conformity Rule are to be followed. The ozone regional emissions analysis for the 2008 and 2015 ozone standards in the Missouri maintenance and non-attainment counties will use 2015 motor vehicle emissions budgets for VOC and NO<sub>x</sub> from the Early Progress Plan for the Missouri Portion of the St. Louis Nonattainment Area for the 2008 8-Hour Ground Level Ozone National Ambient Air Quality Standard (MO Early Progress Plan). These budgets were developed using MOVES2010 and were found adequate by EPA (letter to MoDNR dated October 28, 2013). In the January 14, 2016 Federal Register, EPA issued a final rule approving the MO Early Progress Plan (effective March 14, 2016). The ozone regional emissions analysis for the Missouri counties will also use 2030 motor vehicle emissions budgets for VOC and NO<sub>x</sub> from the February 2018 Technical Correction to the Re-designation Request and Maintenance Plan for the St. Louis (Missouri) 2008 Ozone Standard (MO Maintenance Plan). These budgets were developed using MOVES2014a and were found adequate by EPA (letter to MoDNR dated May 15, 2018). In the June 8, 2018 Federal Register, EPA issued a final rule approving the motor vehicle emissions budgets from the MO Maintenance Plan for use in Conformity Determination process (effective June 22, 2018). The MO Maintenance Plan was approved by EPA on September 20, 2018.

The ozone regional emissions analysis for the Illinois maintenance and non-attainment areas for the 2008 and 2015 ozone standards will utilize the 2008 and 2025 VOC and NO<sub>x</sub> motor vehicle emissions budgets from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. EPA has found these MOVES2010-derived budgets adequate for Conformity Determination purposes and approved this Maintenance Plan in June 2012. The 2030 motor vehicle emissions budgets for VOC and NO<sub>x</sub> from the IL 8-Hour Ozone Maintenance Plan for 2008 standard will also be used in this Conformity Determination. These budgets were developed using MOVES2014a and were found adequate by EPA (September 26, 2017 letter to Illinois EPA). In the December 11, 2017 Federal Register, a final rule (effective December 26, 2017) was issued by EPA finding the 2030 budgets adequate for conformity purposes. In the March 1, 2018 Federal Register, EPA issued a final rule, effective March 1, 2018, finding the 2030 motor vehicle emissions budgets adequate for use in Conformity Determination.

### 3.2.5 Jersey County Illinois and the 1997 Eight-Hour Ozone Standard

Jersey County Illinois was designated by EPA as a maintenance area for the 1997 ozone standard. In 2012, this county was designated by EPA as being in attainment of the 2008 ozone standard. In the July 2012 Transportation Conformity Guidance for 2008 Ozone Nonattainment Areas, EPA stated that transportation conformity requirements for counties like Jersey cease to apply on July 20, 2013 and that no further conformity determinations for the 1997 ozone standard are required on or after that date. As the 1997 ozone standard has been revoked by EPA (March 6, 2015), no further conformity determinations for this ozone standard were required.

On February 16, 2018, the U.S. Court of Appeals for the District of Columbia issued a ruling in the South Coast Air Quality Management District vs. EPA case challenging EPA's final rule for implementing the 2008 ozone National Ambient Air Quality Standard (NAAQS), or 2008 ozone NAAQS State Implementation Plan (SIP) requirements rule. The court vacated portions of this rule but upheld EPA's revocation of the 1997 ozone standard in 2015. In its decision, the court used the term "orphan areas" to describe those 1997 ozone standard non-attainment or

# Conformity Process

maintenance areas which EPA had designated as being in attainment of the 2008 ozone standard. This court decision was reviewed by EPA, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). FHWA and FTA released interim guidance in April and October 2018 delineating the conformity process for the 1997 ozone standard for the 82 orphan areas. The eight-county St. Louis (MO-IL) region and Jersey County Illinois was identified as an orphan area. The interim guidance was used to prepare the Conformity Determination for the FY 2019-2022 TIP and related Amendments to *Connected2045*. Only regionally significant projects located in Jersey County were affected by the interim guidance.

In April 2018 EPA requested a rehearing by the court of certain aspects of the February decision. On September 14, 2018 the court agreed to stay its vacatur of the portion of the EPA rule “that exempts orphan areas from transportation conformity” until February 16, 2019 and denied the other aspects of rehearing request. EPA then issued guidance in November 2018 describing how transportation conformity determination can be made in the total or partial orphan areas which were either in non-attainment or maintenance for the 1997 ozone standard at the time it was revoked in March 2015.

According to the EPA guidance, a partial orphan maintenance area: has attained the 1997 ozone standard and is maintaining the standard as of March 6, 2015; and is not included in the smaller 2008 ozone nonattainment area. The eight-county St. Louis (MO-IL) region and Jersey County Illinois were identified as a partial orphan maintenance area. Jersey County is considered to be the orphan area because EPA found it to be: in maintenance for the 1997 ozone standard; and in attainment for the 2008 and 2015 ozone standards. Transportation conformity for the revoked 1997 ozone standard is to be performed using EPA’s November 2018 guidance for orphan areas containing regionally significant projects, such as Jersey County.

### 3.3 1997 and 2012 Fine Particulate Matter (PM<sub>2.5</sub>) Standards

In 2005, EPA designated the eight-county St. Louis region as being in non-attainment of the 1997 annual PM<sub>2.5</sub> standard. The non-attainment area included: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Madison, Monroe and St. Clair Counties in Illinois. Baldwin Township in Randolph County, Illinois was also part of the non-attainment area. EWG, as the MPO, was required to demonstrate Conformity with the current Transportation Plan and TIP for the PM<sub>2.5</sub> standard by April 5, 2006. In February 2006 EWG conducted a Conformity Determination on the FY 2006-2009 TIP and related amendments to *Legacy 2030*, The Transportation Plan for the St. Louis Region, which satisfied this statutory deadline requirement. Effective October 2, 2018, EPA redesignated the Missouri counties to attainment for this standard (considered a maintenance area). Effective May 28, 2019, EPA redesignated Madison, Monroe and St. Clair Counties and Baldwin Township in Randolph County, Illinois to attainment for the 1997 annual PM<sub>2.5</sub> standard (considered a maintenance area). Based on EPA’s 2016 Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements: Final Rule, when an area is redesignated to attainment for the 1997 standard, the 1997 standard is revoked and conformity requirements no longer apply. These areas are identified as “maintenance (standard revoked)”. An air quality Conformity Determination for the 1997 annual PM<sub>2.5</sub> standard is no longer needed for long range transportation plan, TIP or at the project-level.

# Conformity Process

In December 2014 (effective April 15, 2015), EPA found that it could not determine, based on available data, whether the eight-county St. Louis region and Baldwin Township in Randolph County, Illinois met the 2012 annual PM<sub>2.5</sub> standard or was contributing to a nearby violation. This area was identified as “unclassifiable”. The issues leading to EPA’s decision at that time have been resolved. Effective January 28, 2019, EPA approved the request by Illinois to designate the entire state as in attainment for the 2012 standard. Effective July 29, 2019, EPA approved Missouri’s request that the five Missouri counties making up the St. Louis region be classified as attainment for the 2012 standard. Since the area is in attainment of the 2012 annual PM<sub>2.5</sub> standard, an air quality Conformity Determination for this standard is not needed for long range transportation plan, TIP or at the project-level.

### 3.3.1 Project Level Hot-Spot PM Conformity Determination – Not Required

Within PM non-attainment or maintenance areas, a transportation project sponsor has to determine, during the NEPA process, if a proposed major transportation project would be considered to be a “project of air quality concern.” A project of air quality concern usually involves either large traffic volumes and/or significant diesel traffic (i.e., bridge, bus or rail terminals). If a project met this definition, a project-level PM hot-spot Conformity Determination would be required which would be the responsibility of the project sponsor. For example, in 2006 a qualitative PM hot-spot analysis was done by IDOT for the New Mississippi River Bridge project.

Project-level PM hot-spot air quality Conformity Determination for the 1997 annual PM<sub>2.5</sub> standard is not required as this standard has been revoked by EPA for the eight-county St. Louis region and Baldwin Township in Randolph County Illinois. In addition, since all of Illinois and the Missouri counties making up the St. Louis region have been designated by EPA as in attainment of the 2012 annual PM<sub>2.5</sub> standard, project-level PM hot-spot air quality Conformity Determination for this standard is not required.

### 3.4 Carbon Monoxide (CO) Standard

Part of the region, consisting of the City of St. Louis and that portion of St. Louis County within the I-270 loop, is classified as a limited maintenance area for carbon monoxide (CO). On June 17, 1997 the MoDNR submitted the first ten-year maintenance plan, The Missouri State Implementation Plan for Carbon Monoxide - St. Louis Metropolitan Area: Maintenance Provisions and Re-designation Request, October 1996, to EPA. The redesignation to attainment request was approved by EPA on March 31, 1999. MoDNR submitted their second ten-year CO maintenance plan, Revision to the Limited Maintenance Plan for the St. Louis Nonclassifiable Maintenance Area for the 8-Hour Carbon Monoxide National Ambient Air Quality Standard to EPA on April 3, 2014. This maintenance plan adequately demonstrated that the area will maintain the CO standard through 2022 and EPA plan approval was published in the October 2, 2015 Federal Register. As a result, the Limited Carbon Monoxide Maintenance Plan option allows plan conformity without a technical analysis. As of March 29, 2019, the end of the 20-year maintenance period has been reached.

### 3.5 Transportation Conformity Rule

# Conformity Process

Under the provisions of the CAAA of 1990, EWG, as the MPO for the region, is the agency responsible for making the Conformity Determination. The Conformity Determination described in this document was performed in accordance with DOT and EPA guidance and procedures. Procedures were implemented in accordance with all applicable provisions of 40 CFR Part 93, specific sections 93.109, 113 and 118 and relevant guidelines and documentation issued by DOT and EPA<sup>2</sup>.

In 2007, MoDNR prepared a St. Louis Transportation Conformity Rule and in 2010 MoDNR proposed changes to the 2007 Transportation Conformity Rule. These rule changes were submitted to the Missouri Air Conservation Commission (MACC). In October 2010, the MACC approved the changes to the St. Louis Transportation Conformity Rule based on the January 2009 “Guidance for Developing Transportation Conformity State Implementation Plans (SIPs)” by EPA. The updated rule was effective February 28, 2011. Final approval of this rule by EPA took place on October 28, 2013. As the Illinois Transportation Conformity SIP is still under review by EPA, the Illinois part of the region remains subject to the provisions of the Federal Transportation Conformity Rule.

## 4.0 Conformity Determination Process

### 4.1 1997 Eight-Hour Ozone Standard

On February 16, 2018, the U.S. Court of Appeals for the District of Columbia circuit issued a decision in the South Coast Air Quality Management District vs. EPA case challenging EPA’s final rule for implementing the 2008 ozone National Ambient Air Quality Standard (NAAQS) or 2008 ozone NAAQS State Implementation Plan (SIP) Requirements rule. The court vacated portions of this rule but upheld EPA’s revocation of the 1997 ozone standard on March 6, 2015. In its decision, the court used the term “orphan areas” to describe those 1997 ozone standard non-attainment or maintenance areas which EPA had designated as being in attainment of the 2008 ozone standard. This decision has been under review by EPA, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). FHWA and FTA released interim guidance in April and October 2018 which delineated the conformity process for the 1997 ozone standard for the 82 orphan areas. The eight county St. Louis (MO-IL) region and Jersey County Illinois were identified as an orphan area. EWG used this interim guidance to prepare the Conformity Determination for the FY 2019-2022 Transportation Improvement Program (TIP) and Related Amendments to *Connected2045*. Only regionally significant projects located in Jersey County were affected by this interim guidance.

---

<sup>2</sup> EPA, *Transportation Conformity Regulations as of April 2012*, April 2012; EPA, *Transportation Conformity Guidance for 2008 Ozone NAAQS Nonattainment Areas*, July 2012; EPA, *MOVES2010b User Guide*, July 2012; EPA, *Policy Guidance for Use of MOVES2010 and Subsequent Minor Revisions for State Implementation Plan Development, Transportation Conformity, and Other Purposes*, April 2012; EPA, *Guidance for Transportation Conformity Implementation in Multi-jurisdictional Nonattainment and Maintenance Areas*, July 2012; EPA, *Volume IV: Mobile Sources, Procedures for Emission Inventory Preparation*, EPA-450/4-81-026d (revised), July 1992; FHWA, *Transportation Conformity Guide: A Basic Guide for State and Local Officials*, revised 2010.

# Conformity Process

In April 2018 EPA requested a rehearing by the court of certain aspects of the February decision. On September 14, 2018, the court agreed to stay its vacatur of the portion of the EPA rule “that exempts orphan areas from transportation conformity” until February 16, 2019 and denied the other aspects of the rehearing request. Transportation conformity for the revoked 1997 ozone standard is to be performed for orphan areas starting February 16, 2019. EPA then issued guidance in November 2018 describing how transportation conformity determinations can be made in the total or partial orphan areas which were either in nonattainment or maintenance for the 1997 ozone standard at the time that standard was revoked in 2015. A partial orphan maintenance area is considered to be an area which was in maintenance (had attained) for the 1997 ozone standard as of March 6, 2015 but for which the non-attainment area for the 2008 ozone standard is smaller.

The eight-county St. Louis (MO-IL) region and Jersey County Illinois were identified as a partial orphan maintenance area. Jersey County is considered the orphan area because EPA found it to be in: maintenance for the 1997 ozone standard; and attainment for both the 2008 and 2015 ozone standards. Regionally significant projects located in Jersey County have to be part of the Conformity Determination process.

The current transportation conformity regulation states that a regional emissions analysis is required starting one year after a non-attainment designation for a particular standard and continues until the effective date of the revocation of that standard by EPA. As the February 2018 South Coast court decision upheld EPA’s revocation of the 1997 ozone standard, a conformity determination for the 1997 ozone standard in orphan areas does not require a regional emissions analysis using the latest emissions model and either the emissions budget test or the interim test. For an orphan area which has a regionally significant project, the determination of conformity for the 1997 ozone standard is to be demonstrated by showing the following criteria delineated in the Final Conformity Rule 40 CFR Part 93 have been met: 1) use of latest planning assumptions for Transportation Control Measures (TCMs) in approved State Implementation Plan (SIP) if TCMs are in that SIP; 2) consultation requirements; 3) timely implementation of any approved SIP TCMs if TCMs are in that SIP; and 4) fiscal constraint.

Through the current Inter Agency Consultation process, the Illinois Department of Transportation (IDOT) indicated that at this time there are no new regionally significant projects in Jersey County which would require a conformity determination to be performed in relation to the 1997 ozone standard as part of the Mid-Year Conformity Determination for the Amendment to the FY 2021 – 2024.

## 4.2 2008 and 2015 Eight-Hour Ozone Standards

### 4.2.1 State Implementation Plans

An ozone control strategy SIP contains measures and policies for reducing ozone-forming emissions of VOC and NO<sub>x</sub>. A Maintenance Plan demonstrates how an area that has attained an air quality standard will continue to attain the relevant standard for a minimum ten-year period. The plan also contains strategies that can be implemented in the event the region’s air quality

# Conformity Process

subsequently violates the applicable standard. Mobile sources, essentially road-based transportation, are one of several broad categories of pollution sources. The Maintenance Plan SIP contains estimates of attainment year emissions from all source categories and projects future year emissions. Future year emissions estimates must be lower than the emissions estimated for the attainment year. In addition, the total emissions projected for on-road mobile sources in specific future years are established as motor vehicle emissions budgets for the purposes of conducting transportation conformity. Preparation of the SIP is the responsibility of the State. A SIP must be submitted to EPA in accordance with a schedule delineated in Federal regulation. EPA approval is required for all SIPs. Motor vehicle emissions budgets contained in a submitted SIP may be used as a basis for Conformity Determination findings before the SIP is formally approved, provided EPA has issued a specific Finding of Adequacy.

The process EPA uses to determine the adequacy of submitted SIP budgets for conformity is contained in a May 14, 1999 Memorandum from EPA entitled “*Conformity Guidance on Implementation of the March 2, 1999 Conformity Court Decision*” and the July 2004 Conformity rule revision.

For the Missouri 2008 eight-hour ozone standard maintenance area, the Conformity Determination is made in relation to the 2015 motor vehicle emissions budgets from the Missouri Early Progress Plan for the 2008 standard. The maintenance area consists of: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis. These budgets were established with the MOVES2010 model. In a letter to MoDNR dated October 28, 2013, EPA found these budgets adequate for Conformity Determination purposes. In the March 5, 2014 Federal Register, EPA issued a notice of adequacy for the 2015 budgets for Conformity purposes (effective March 19, 2014). In the January 14, 2016 Federal Register, EPA issued a final rule approving the MO Early Progress Plan (effective March 14, 2016). The Conformity Determination is also made in relation to the 2030 motor vehicle emissions budgets from the February 2018 technical correction MO Maintenance Plan for the 2008 standard. These budgets were established with the MOVES2014a model. In a letter to MoDNR dated May 15, 2018, EPA found these budgets adequate for Conformity Determination purposes. In the June 8, 2018 Federal Register, EPA issued a notice of adequacy for the 2030 budgets for Conformity purposes (effective June 22, 2018). In the September 20, 2108 Federal Register EPA issued a final rule approving the request by MoDNR and redesignated Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis as being in attainment of the 2008 ozone standard. EPA also approved Missouri’s Maintenance Plan and the 2030 motor vehicle emission budgets for VOC and NO<sub>x</sub>.

For the Missouri 2015 eight-hour ozone standard non-attainment area (see Figure 1), the Conformity Determination is made in relation to the 2015 motor vehicle emissions budgets from the Missouri Early Progress Plan for the 2008 standard. The Conformity Determination is also made in relation to the 2030 motor vehicle emissions budgets from the February 2018 technical correction MO Maintenance Plan for the 2008 standard.

At this time, Missouri does not have motor vehicle emissions budgets for the 2015 eight-hour ozone standard which have been approved or found adequate for conformity purposes by EPA. Approved or adequate motor vehicle emissions budgets from an applicable SIP or SIP submission for another (previous) ozone standard can be used in the regional emissions analysis.



# Conformity Process

Since the Missouri non-attainment area for the 2015 eight-hour ozone standard has a smaller geographic area than what was established for the 2008 eight-hour ozone standard, EPA's Transportation Conformity Regulation sets out the option to either use the corresponding portion of the previous budgets which matches the 2015 non-attainment area in the regional emissions analysis or to use the existing budgets as is. EWG, after inter agency consultation, decided to use the existing motor vehicle emissions budgets from the Missouri SIPs as is.

For the Illinois 2008 eight-hour ozone standard maintenance area (Madison, Monroe and St. Clair Counties), the Conformity Determination is made in relation to the 2025 motor vehicle emissions budgets contained in the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. These budgets were developed using the MOVES2010 model. On December 22, 2011, EPA found the 2008 and 2025 budgets in this Maintenance Plan adequate for Conformity Determination purposes. On June 12, 2012, EPA approved the IL 8-Hour Ozone Maintenance Plan for the 1997 standard and the 2008 and 2025 motor vehicle emissions budgets. For the remaining analysis years, the Conformity Determination is made in relation to the 2030 motor vehicle emissions budgets from the IL 8-Hour Maintenance Plan for 2008 standard. These budgets were developed using MOVES2014a and were adequate by EPA (September 26, 2017 letter to Illinois EPA). In the December 11, 2017 Federal Register, EPA issued a final rule approving these 2030 budgets which was effective December 26, 2017. In the March 1, 2018 Federal Register, EPA issued a final rule, effective March 1, 2018, redesignating Madison, Monroe and St. Clair Counties in Illinois as being in attainment of the 2008 eight-hour ozone standard, approving the Maintenance Plan for the Metro East St. Louis Ozone Nonattainment Area for the 2008 Ozone National Ambient Air Quality Standard (IL 8-Hour Maintenance Plan for 2008 standard) and finding the 2030 motor vehicle emissions budgets adequate for use in Conformity Determination. For the Illinois 2015 eight-hour ozone standard non-attainment area (see Figure 1) the Conformity Determination is made in relation to the 2008 and 2025 motor vehicle emissions budgets contained in the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. For the remaining analysis years, the Conformity Determination is made in relation to the 2030 motor vehicle emissions budgets from the IL 8-Hour Maintenance Plan for the 2015 standard.

At this time, Illinois does not have motor vehicle emissions budgets for the 2015 eight-hour ozone standard which have been approved or found adequate for conformity purposes by EPA. Approved or adequate motor vehicle emissions budgets from an applicable SIP or SIP submission for another (previous) ozone standard can be used in the regional emissions analysis. Since the Illinois non-attainment area for the 2015 eight-hour ozone standard has a smaller geographic area than what was established for the 2008 eight-hour ozone standard, EPA's Transportation Conformity Regulation sets out the option to either use the corresponding portion of the previous budgets which matches the 2015 non-attainment area in the regional emissions analysis or to use the existing budgets as is. EWG, after inter agency consultation, decided to use the existing motor vehicle emissions budgets from the Illinois SIPs as is.

## 4.2.2 Regional Emissions Analysis: Emissions Budget Tests

The principal step toward making a Conformity Determination for the 2008 eight-hour ozone standard for the analysis years 2025, 2030, 2035 and 2045 is to demonstrate that the anticipated emission levels of ozone precursor pollutants which will result from planned and programmed

# Conformity Process

transportation projects (the "Action" scenario) will be less than the level defined in the motor vehicle emissions budgets from the MO Early Progress Plan for the 2008 standard, the MO Maintenance Plan for the 2008 standard, the IL 8-Hour Ozone Maintenance Plan for the 1997 standard and the IL 8-Hour Ozone Maintenance Plan for the 2008 standard. The SIP motor vehicle emissions budgets from the MO Early Progress Plan for the 2008 standard and the IL 8-Hour Ozone Maintenance Plan for the 1997 standard were established using the MOVES2010 model for the two sets of pollutants which are precursors of ozone formation, VOC, primarily hydrocarbons, and NO<sub>x</sub>. The VOC and NO<sub>x</sub> motor vehicle emissions budgets from the MO Maintenance Plan for the 2008 standard and the IL 8-Hour Ozone Maintenance Plan for the 2008 standard were established using the MOVES2014a model.

The principal step toward making a Conformity Determination for the 2015 eight-hour ozone standard for the analysis years 2020, 2025, 2030, 2035 and 2045 is to demonstrate that the anticipated emission levels of ozone precursor pollutants which will result from planned and programmed transportation projects (the "Action" scenario) will be less than the level defined in the motor vehicle emissions budgets from the MO Early Progress Plan for the 2008 standard, the MO Maintenance Plan for the 2008 standard, the IL 8-Hour Ozone Maintenance Plan for the 1997 standard and the IL 8-Hour Ozone Maintenance Plan for the 2008 standard.

## 4.2.2.1 Missouri

To conduct a Conformity Determination for the 2008 eight-hour ozone standard for the 2025 analysis year, it is necessary to demonstrate that the anticipated emission levels of precursor pollutants of ozone formation (VOC, primarily hydrocarbons, and NO<sub>x</sub>) which will result from the "Action" scenario will be less than the 2015 motor vehicle emissions budgets (Table 1) from the MO Early Progress Plan for the 2008 standard. These budgets were developed with the MOVES2010 model. In a letter to MoDNR dated October 28, 2013, EPA issued an adequacy finding for the 2015 VOC and NO<sub>x</sub> motor vehicle emissions budgets. In the March 5, 2014 Federal Register, EPA issued a notice of adequacy for the 2015 budgets for Conformity purposes (effective March 19, 2014). These budgets can be used in the Conformity Determination process. In the January 14, 2016 Federal Register, EPA issued a final rule approving the MO Early Progress Plan (effective March 14, 2016). To conduct a Conformity Determination for the analysis years of 2030, 2035 and 2045, it is necessary to demonstrate that the anticipated emission levels VOC and NO<sub>x</sub> which will result from the "Action" scenario will be less than the 2030 motor vehicle emissions budgets from the MO Maintenance Plan for the 2008 standard. These budgets were developed with the MOVES2014a model. In a letter to MoDNR dated May 15, 2018, EPA issued an adequacy finding for the 2030 VOC and NO<sub>x</sub> motor vehicle emissions budgets. In the June 8, 2018 Federal Register, EPA issued a notice of adequacy for the 2015 budgets for Conformity purposes (effective June 22, 2018). These budgets can be used in the Conformity Determination process. In the September 20, 2018 Federal Register EPA issued a final rule approving the request by MoDNR and redesignated Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis as being in attainment of the 2008 ozone standard. EPA also approved Missouri's Maintenance Plan and the 2030 motor vehicle emission budgets for VOC and NO<sub>x</sub>.

# Conformity Process

To conduct a Conformity Determination for the 2015 eight-hour ozone standard for the 2020 and 2025 analysis years, it is necessary to demonstrate that the anticipated emission levels of precursor pollutants of ozone formation (VOC, primarily hydrocarbons, and NO<sub>x</sub>) which will result from the "Action" scenario will be less than the 2015 motor vehicle emissions budgets (Table 1) from the MO Early Progress Plan for the 2008 standard. To conduct a Conformity Determination for the analysis years of 2030, 2035 and 2045, it is necessary to demonstrate that the anticipated emission levels VOC and NO<sub>x</sub> which will result from the "Action" scenario will be less than the 2030 motor vehicle emissions budgets from the MO Maintenance Plan for the 2008 standard.

The 2015 and 2030 Missouri motor vehicle emissions budgets are summarized in Table 1.

Pollutant	2015 MO Early Progress Plan	2030 MO Maintenance Plan
Volatile Organic Compounds (VOC)	32.70	22.00
Oxides of Nitrogen (NO <sub>x</sub> )	76.70	40.00

## 4.2.2.2 Illinois

To conduct a Conformity Determination for the 2008 eight-hour ozone standard for the 2025 analysis year it is necessary to demonstrate that the anticipated emission levels of atmospheric pollutants which will result from planned and programmed transportation projects (the "Action" scenario) will be less than the level defined in the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. The SIP motor vehicle emissions budgets were established using the MOVES2010 model for the two sets of pollutants which are precursors of ozone formation, VOC, primarily hydrocarbons, and NO<sub>x</sub>. A finding of adequacy for the 2025 budgets was issued by EPA and published in the December 22, 2011 Federal Register. On June 12, 2012, EPA approved the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. For the analysis years of 2030, 2035 and 2045 it is necessary to demonstrate that the anticipated emission levels of atmospheric pollutants which will result from the "Action" scenario will be less than the level defined in the 2030 motor vehicle emissions budgets from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard. The SIP motor vehicle emissions budgets for VOC and NO<sub>x</sub> were established using the MOVES2014a model. A finding of adequacy for the 2030 budgets was issued by EPA and published in the December 11, 2017 Federal Register and to be effective December 26, 2017. On March 1, 2018, EPA approved the IL 8-Hour Ozone Maintenance Plan for the 2008 standard including the 2030 budgets.

# Conformity Process

To conduct a Conformity Determination for the 2015 eight-hour ozone standard for the analysis year 2020 it is necessary to demonstrate that the anticipated emission levels of atmospheric pollutants which will result from planned and programmed transportation projects (the “Action” scenario) will be less than the level defined in the 2008 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. To conduct a Conformity Determination for the analysis year 2025, it is necessary to demonstrate the anticipated emission levels of atmospheric pollutants which will result from planned and programmed transportation projects (the “Action” scenario) will be less than the level defined in the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. The 2008 and 2025 SIP motor vehicle emissions budgets were established using the MOVES2010 model for the two sets of pollutants which are precursors of ozone formation, VOC, primarily hydrocarbons, and NO<sub>x</sub>. A finding of adequacy for the 2008 and 2025 budgets was issued by EPA and published in the December 22, 2011 Federal Register. On June 12, 2012, EPA approved the IL 8-Hour Ozone Maintenance Plan for the 1997 standard. For the analysis years of 2030, 2035, and 2045 it is necessary to demonstrate that the anticipated emission levels of atmospheric pollutants which will result from the “Action” scenario will be less than the level defined in the 2030 motor vehicle emissions budgets from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard. The SIP motor vehicle emissions budgets for VOC and NO<sub>x</sub> were established using the MOVES2014a model. A finding of adequacy for the 2030 budgets was issued by EPA and published in the December 11, 2017 Federal Register and to be effective December 26, 2017. On March 1, 2018, EPA approved the IL 8-Hour Ozone Maintenance Plan for the 2008 standard including the 2030 budgets.

The 2008, 2025 and 2030 Illinois motor vehicle emissions budgets are summarized in Table 2.

Pollutant	2008 Illinois 8-Hour Ozone Maintenance Plan for 1997 Standard	2025 Illinois 8-Hour Ozone Maintenance Plan for 1997 Standard	2030 Illinois 8-Hour Ozone Maintenance Plan for 2008 Standard
<b>Volatile Organic Compounds (VOC)</b>	17.27	5.68	9.05
<b>Oxides of Nitrogen (NO<sub>x</sub>)</b>	52.57	15.22	16.68

### 4.2.3 Conformity Tests: Analysis Years

For the Amendment to the FY 2021-2024 TIP the tests detailed in Sections 4.2.2 addressing the 2008 eight-hour ozone standard have to be satisfied for those transportation projects and

# Conformity Process

programs expected to be operational by the analysis year of 2045 (horizon year of the regional transportation plan) and for the analysis years 2025, 2030 and 2035.

For the Amendment to the FY 2021-2024 TIP the tests detailed in Sections 4.2.2 addressing the 2015 eight-hour ozone standard have to be satisfied for those transportation projects and programs expected to be operational by the analysis year of 2045 (horizon year of the regional transportation plan) and for the analysis years 2020, 2025, 2030 and 2035.

## 4.2.4 Conformity Tests for the Amendment to the FY 2021-2024 TIP - Summary - Missouri and Illinois

In accordance with current EPA guidance, and in consultation with the Inter Agency Consultation Group (IACG), EWG is utilizing the following mobile source emissions tests for determining conformity on the Plan and TIP. This Mid-Year Conformity Determination has been prepared in relation to the budgets and tests applicable as of August 25, 2020 and on the most current planning assumptions as agreed to by the IACG. The MOVES2014a model was utilized in completing the conformity budgets tests for Missouri and Illinois.

### **Pollutants**

#### Missouri and Illinois

Volatile Organic Compounds (VOC)

Oxides of Nitrogen (NO<sub>x</sub>)

### **Analysis Years – 2008 Eight-Hour Ozone Standard**

2025 – First analysis year (IL 8-Hour Ozone Maintenance Plan for the 1997 standard has 2025 budgets)

2030 – Intermediate analysis year (MO Maintenance Plan and IL Maintenance Plan for the 2008 standard both have 2030 budgets)

2035 - Intermediate analysis year

2045 - Horizon year for *Connected2045* Update

### **Tests of Conformity – 2008 Eight-Hour Ozone Standard**

#### Missouri

“Action” scenario compared with the 2015 motor vehicle emissions budget from the MO Early Progress Plan for 2008 standard for VOC for 2025

“Action” scenario compared with the 2015 motor vehicle emissions budget from the MO Early Progress Plan for 2008 standard for NO<sub>x</sub> for 2025

“Action” scenario compared with the 2030 motor vehicle emissions budget from the MO Maintenance Plan for 2008 standard for VOC for 2030, 2035 and 2045

“Action” scenario compared with the 2030 motor vehicle emissions budget from the MO Maintenance Plan for 2008 standard for NO<sub>x</sub> for 2030, 2035 and 2045

#### Illinois

“Action” scenario compared with the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for VOC for 2025

“Action” scenario compared with the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for NO<sub>x</sub> for 2025

# Conformity Process

“Action” scenario compared with the 2030 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard for VOC for 2030, 2035 and 2045

“Action” scenario compared with the 2030 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard, for NO<sub>x</sub> for 2030, 2035 and 2045

## Analysis Years – 2015 Eight-Hour Ozone Standard

2020 – Attainment year for those areas designated as marginal non-attainment for the 2015 eight-hour ozone standard

2025 – Intermediate analysis year (IL 8-Hour Ozone Maintenance Plan for the 1997 standard has 2025 budgets)

2030 – Intermediate analysis year (MO Maintenance Plan and IL Maintenance Plan for the 2008 standard both have 2030 budgets)

2035 - Intermediate analysis year

2045 - Horizon year for *Connected2045* Update

## Tests of Conformity – 2015 Eight-Hour Ozone Standard

### Missouri

“Action” scenario compared with the 2015 motor vehicle emissions budget from the MO Early Progress Plan for 2008 standard for VOC for 2020 and 2025

“Action” scenario compared with the 2015 motor vehicle emissions budget from the MO Early Progress Plan for 2008 standard for NO<sub>x</sub> for 2020 and 2025

“Action” scenario compared with the 2030 motor vehicle emissions budget from the MO Maintenance Plan for 2008 standard for VOC for 2030, 2035 and 2045

“Action” scenario compared with the 2030 motor vehicle emissions budget from the MO Maintenance Plan for 2008 standard for NO<sub>x</sub> for 2030, 2035 and 2045

### Illinois

“Action” scenario compared with the 2008 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for VOC for 2020

“Action” scenario compared with the 2008 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for NO<sub>x</sub> for 2020

“Action” scenario compared with the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for VOC for 2025

“Action” scenario compared with the 2025 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 1997 standard for NO<sub>x</sub> for 2025

“Action” scenario compared with the 2030 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard for VOC for 2030, 2035 and 2045

“Action” scenario compared with the 2030 motor vehicle emissions budget from the IL 8-Hour Ozone Maintenance Plan for the 2008 standard, for NO<sub>x</sub> for 2030, 2035 and 2045

## 4.2.5 Transportation Control Measures

# Conformity Process

Another element of a Conformity Determination is an assessment of progress in implementing Transportation Control Measures (TCMs). These measures are intended to reduce emissions or concentrations of pollutants from transportation sources by reducing vehicle use or otherwise reducing vehicle emissions. For the St. Louis region, the 15 Percent Rate-of-Progress ozone SIPs included categories of TCMs, together with estimates of the anticipated emissions benefits. The 1997 report: *Transportation Control Measures in the St. Louis Region: Completion Report* documented the implementation of TCMs by general SIP category of control measures. Currently the State does not have any TCMs in their SIP and therefore no TCMs are part of the Regional Emissions Analysis. However, the Congestion Mitigation Air Quality (CMAQ) program is ongoing and has produced emission reduction projects that EWG monitors. EWG maintains a database of CMAQ projects and their related emission reduction benefits.

## 4.2.6 Conformity Determination Technical Methodology

The calculation of VOC and NO<sub>x</sub> mobile source emissions is a two-step process for each analysis year. First, all regionally significant transportation facilities are included in EWG's regional travel demand model. This includes all projects from the Amendment to the FY 2021-2024 TIP. Appendix A lists the projects included in the regional emissions analysis. Utilizing the project list from Appendix A, the travel demand model is used to forecast vehicle miles of travel in the region. The underlying assumptions regarding population and employment changes in the region are set out for reference in Appendix B. The travel demand modeling assumptions and procedures are discussed in Appendix C.

Second, the MOVES2014a emissions model is used to develop emissions factors that indicate how much of each pollutant is produced per vehicle mile of travel. These factors are applied to the forecasts from the travel demand model to derive a modeled total of vehicle emissions for each of the two pollutants in each of the four analysis periods. These procedures are discussed, and the results summarized, in Appendix D and Appendix E. Appendix F contains documentation of input and output files associated with the MOVES2014a model.

In all, emissions have to be estimated for both pollutants (i.e. VOC and NO<sub>x</sub>) related to three time periods (a.m. peak, p.m. peak and off-peak), for both states in the Plan's analysis years and for the inspection and maintenance (I/M) test area and non I/M test area, giving multiple sets of emissions calculations. The predicted emissions that result from these modeling procedures are then subject to each of the tests of conformity outlined above. The results are shown in Tables 3 through 6 below and also in Appendix E.

# Conformity Process

<b>Table 3</b> <b>Regional Emissions Analysis Conformity Tests – MISSOURI</b> <b>Based on Conformity Requirements for 2008 Eight Hour Ozone</b> <b>Standard</b> (US tons per day)				
Analysis Years	Volatile Organic Compounds		Oxides of Nitrogen	
	Action	2015 Budget	Action	2015 Budget
2025	11.64	32.70	18.33	76.70
	Action	2030 Budget	Action	2030 Budget
2030	9.01	22.00	13.19	40.00
2035	7.87	22.00	11.08	40.00
2045	6.94	22.00	10.06	40.00
All tests have been passed for all years.				

<b>Table 4</b> <b>Regional Emissions Analysis: Conformity Tests – ILLINOIS</b> <b>Based on Conformity Requirements for 2008 Eight-Hour Ozone Standard</b> (US tons per day)				
Analysis Year	Volatile Organic Compounds		Oxides of Nitrogen	
	Action	2025 Budget	Action	2025 Budget
2025	5.62	5.68	8.05	15.22
Analysis Year	Action	2030 Budget	Action	2030 Budget
2030	4.30	9.05	5.90	16.68
2035	3.55	9.05	4.79	16.68
2045	3.11	9.05	4.47	16.68
All tests have been passed for all years.				



# Conformity Process

Table 5  
**Regional Emissions Analysis: Conformity Tests - MISSOURI**  
**Based on Conformity Requirements for 2015 Eight-Hour Ozone Standard**  
**3 County and 1 Township Non-Attainment Area**

Analysis Year	Volatile Organic Compounds		Oxides of Nitrogen	
	Action	2015 Budget	Action	2015 Budget
2020	14.21	32.70	28.44	76.70
2025	10.69	32.70	17.95	76.70
		2030 Budget		2030 Budget
2030	8.30	22.00	12.93	40.00
2035	7.27	22.00	10.86	40.00
2045	6.43	22.00	9.87	40.00

All tests have been passed for all years.

Table 6  
**Regional Emissions Analysis: Conformity Tests – ILLINOIS**  
**Based on Conformity Requirements for 2015 Eight-Hour Ozone Standard**  
**2 County Non-Attainment Area**

Analysis Year	Volatile Organic Compounds		Oxides of Nitrogen	
	Action	2008 Budget	Action	2008 Budget
2020	7.29	17.27	12.45	52.57
		2025 Budget		2025 Budget
2025	5.63	5.68	8.03	15.22
		2030 Budget		2030 Budget
2030	4.17	9.05	5.79	16.68
2035	3.50	9.05	4.75	16.68
2045	3.03	9.05	4.38	16.68

All tests have been passed for all years.

# Consultation and Public Participation

## 5.0 Consultation and Public Participation

### 5.1 Consultation: Conformity Procedures

Federal regulation requires that Conformity Determinations must be made:

- Each time a new RTP or TIP is adopted
- Each time a new RTP or TIP is amended, unless the amendment merely adds or deletes exempt projects
- Within 24 months of the effective date of a EPA finding that motor vehicle emissions budgets from an initially submitted control strategy SIP or maintenance plan are adequate for Conformity Determination purposes
- Within 24 months of the effective date of a EPA approval of a control strategy SIP revision or maintenance plan which establishes or revises a motor vehicle emissions budget if that budget has not yet been used in a conformity determination prior to approval
- Within 24 months of the effective date of a EPA promulgation of an implementation plan which establishes or revises a motor vehicle emissions budget
- Not less frequently than every four years
- Within 12 months of a newly designated non-attainment area

MPOs responsible for making conformity determinations must follow procedures for inter-agency and public consultation and review as described in DOT and EPA regulations. These include by reference the requirements of the Missouri state conformity regulations (10CSR-5.480), as adopted by the Missouri Air Conservation Commission in August 1996, effective in December 1996. In October 2010, the Missouri Air Conservation Commission approved changes to the state's Transportation Conformity Rule based on the January 2009 "Guidance for Developing Transportation Conformity State Implementation Plans (SIPs)" by EPA. The updated rule was effective February 28, 2011. Final approval of this rule by EPA took place on October 28, 2013. Federal Highway Administration (FHWA), EPA, MoDNR and Illinois EPA may comment on Conformity Determinations.

The principal forum for the discussion of technical issues relating to conformity is the Inter Agency Consultation Group (IACG). The role of this group in the conformity process is defined in both the Missouri and the Illinois Conformity Regulations. Membership in this group is shown below.

# Consultation and Public Participation

Inter Agency Consultation Group	
East-West Gateway Council of Governments	Federal Highway Administration, Missouri Division
Illinois Department of Transportation	Federal Highway Administration, Illinois Division
Illinois Environmental Protection Agency	Federal Transit Administration, Region VII
Missouri Department of Natural Resources	U.S. Environmental Protection Agency, Region 5
Missouri Department of Transportation	U.S. Environmental Protection Agency, Region 7
Metro	Madison County Transit District
St. Louis County Department of Health	Madison County Highway Department
St. Louis County Department of Highways and Traffic	St. Clair County Transit District
City of St. Louis Department of Health	St. Clair County Department of Roads and Bridges

During the preparation of the Mid-Year Conformity Determination for the Amendment to the FY 2021-2024 TIP, the IACG met on August 25 and October 27, 2020 to determine the best course of action. The general approach to the Mid-Year Conformity Determination, the procedures used and all of the major assumptions have been subject to discussion, review and, where appropriate, consensus approval by this group. In addition, many other agencies are involved in the process leading to a Mid-Year Conformity Determination through their involvement in EWG's Air Quality Advisory Committee and Executive Advisory Committee.

## 5.2 When Conformity Analysis Begins

At the February 2009 meeting, the IACG reached consensus that the start of the Conformity Analysis would be defined as the date of the initiation of the operation of the travel demand model for Conformity Determination purposes. For this Determination, that date is August 25, 2020.

## 5.3 Public Participation for the Amendment to the FY 2021-2024 TIP and Mid-Year Conformity Determination and Documentation (8-Hour Ozone)

Federal legislation and the metropolitan transportation planning regulations require MPOs to have an enhanced public participation process. Citizen interest in transportation planning has continued to grow as EWG has taken actions to increase public awareness of the transportation decision-making process.

EWG uses a variety of methods to achieve greater public participation. Among these are the extensive use of all types of media to explain the planning process, face-to-face meetings with citizens' groups, and easy-to-understand publications that are distributed via mail, email and on the EWG web site. In addition, the use of a virtual meeting platform is an option. The underlying premise of the public participation process is that more citizens will participate in the planning process if they understand the factors that influence transportation decisions.

The *Public Involvement Plan*, adopted by the EWG Board in May 2019 establishes the mechanisms by which EWG reaches out to its many stakeholders and the public.

The EWG web site, [www.ewgateway.org](http://www.ewgateway.org), includes information about EWG, its planning partners, MPO activities and opportunities for citizens to learn and participate in transportation

# Consultation and Public Participation

decisions. Meetings of all EWG committees, task forces and other groups, as well as notes from past meetings are regularly posted on the site. The Web site also includes links to many other transportation resources. The Amendment to the FY 2021-2024 TIP materials are accessible through the site.

Additionally, all implementing agencies have citizen participation mechanisms that allow public input throughout the transportation planning process.

The official public comment period runs from December 10, 2020 to January 19, 2021 (41 days). Copies of the draft Amendment to the FY 2021-2024 TIP and draft Mid-Year Air Quality Conformity Determination and Documentation (8-Hour Ozone), as well as supplemental materials will be available on the Council's website for review, discussion and comment.

Information about the comment period was made available on the EWG website, Facebook, Twitter, in the Council's Local Government Briefings electronic newsletter and in local newspapers, including the St. Louis Post-Dispatch.

Comments can be made by email. Comments on the draft air quality Mid-Year Conformity Determination document must be received by Tuesday, January 19, 2021. Comments can be submitted through our website at [www.ewgateway.org](http://www.ewgateway.org).

The draft Mid-Year Air Quality Conformity Determination and Documentation (8-Hour Ozone) for the Amendment to FY 2021-2024 TIP was made available for public review between December 10, 2020 and January 19, 2021 (totaling 41 days). No comments were received regarding the Mid-Year Conformity Determination. Some editorial or stylistic changes were made to clarify the document however, no substantive changes to the analysis or the finding of Conformity were made to the Air Quality Conformity Determination and Documentation (8-Hour Ozone) for the Amendment to FY 2021-2024 TIP and related amendments to the *Connected2045* Update.

# Consultation and Public Participation

## Declaration of Conformity for 2008 Eight-Hour Ozone

Based on the analysis, the projects and programs included in the Amendment to the FY 2021-2024 TIP and related amendments to *Connected2045* Update are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93 and the procedures set forth in the Missouri State Conformity Regulations 10 CSR 10-5.480 for the 2008 eight-hour ozone standard. This Conformity Determination covers the St. Louis 2008 eight-hour ozone maintenance area: Franklin, Jefferson, St. Charles and St. Louis Counties and the City of St. Louis in Missouri; and Madison, Monroe and St. Clair Counties in Illinois.

## Declaration of Conformity for 2015 Eight-Hour Ozone

Based on the analysis, the projects and programs included in the Amendment to the FY 2021-2024 TIP and related amendments to *Connected2045* Update are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990, the relevant sections of the Final Conformity Rule 40 CFR Part 93 and the procedures set forth in the Missouri State Conformity Regulations 10 CSR 10-5.480 for the 2015 eight-hour ozone standard. This Conformity Determination covers the St. Louis 2015 eight-hour ozone non-attainment area: St. Charles and St. Louis Counties, the City of St. Louis and Boles Township in Franklin County in Missouri; and Madison and St. Clair Counties in Illinois.

# Consultation and Public Participation

This page intentionally left blank.

**Amendment to the FY 2021-2024  
Transportation Improvement Program and  
Related Amendments to  
Update to *Connected2045*: Long Range  
Transportation Plan for the  
St. Louis Region**

*Mid-Year Air Quality Conformity Determination  
and Documentation for  
Eight-Hour Ozone  
Appendices*

This page intentionally left blank.