

# Indianapolis Metropolitan Planning Area 2035 Long-Range Transportation Plan

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## Volume II

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### Air Quality Conformity Determination Report (CDR)

#### **Ozone Attainment Maintenance Area**

Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, and Shelby Counties

#### **Particulate Matter 2.5 Nonattainment Area**

Hamilton, Hendricks, Johnson, Marion, and Morgan Counties

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*prepared by:*

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Approved by:

**Indianapolis Regional Transportation Council, February 16, 2011  
Madison County Council of Governments, March 25, 2011  
United States Department of Transportation, April 11, 2011**

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# Air Quality Conformity Determination Report

## 1 INTRODUCTION

Under the standards set forth in the Clean Air Act Amendments in 1990, the 9-county region of Hancock, Hamilton, Hendricks, Johnson, Morgan, Madison, Marion, Boone, and Shelby Counties is currently a Maintenance area under the annual National Ambient Air Quality Standard (NAAQS) for the current eight-hour ozone standard 0.08 parts per million (ppm). The counties of Hamilton, Hendricks, Johnson, Marion, and Morgan counties are currently a Non-Attainment area for Particulate Matter of 2.5 microns or less in size (PM<sub>2.5</sub>)

## 2 FEDERAL TRANSPORTATION PLANNING REQUIREMENTS

The most recent major update to the Indianapolis MPA long-range transportation plan was the 2030 LRTP, completed in 2005. The 2030 LRTP was subsequently amended in 2006 and 2007, with an update occurring in 2009. The 2030 LRTP (2009 Update) was completed to address the minimum four-year transportation plan update requirement, as well as address the provisions of new SAFETEA-LU planning regulations that were phased in during that time. The 2030 LRTP (2009 Update) was adopted on November 4, 2009, and received Federal approval on November 23, 2009.

The 2035 LRTP document contained herein satisfies the required four-year update from the 2030 LRTP (2009 Update),<sup>1</sup> while also ensuring a minimum 20-year planning horizon.<sup>2</sup>

## 3 CONFORMITY ANALYSIS RESULTS

Upon the completion of the public review period for the 2035 LRTP, the following changes were made to the cost-constrained project listing as shown in Volume 1, Table 13-2 Roadway Capacity Recommendations:

- Added #5108 to Time/Funding Period 1:
  - #5108 is a new 2-lane road connecting Worthsville Rd. and Clark School Rd.; note that the 4-laning of this section of the Johnson

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<sup>1</sup> 23 CFR 450.322 (c).

<sup>2</sup> 23 CFR 450.322 (a).

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- County East/West Corridor is shown in Time/Funding Period 3 (#5103);
  - Change made because the project was recently awarded Group IV STP funds which are not managed by the MPO.
  - Moved #5201 from Time/Funding Period 3 to Time/Funding Period 2:
    - Worthsville Rd from US 31 to I-65 (#5201);
    - Change made based on updated construction schedule provided by Greenwood.
  - Moved projects #6115, #6131 and #6139 from Time/Funding Period 2 to Time/Funding Period 3:
    - #6115 - Cooper Rd from Michigan Rd to 62<sup>nd</sup> St;
    - #6131 - Allisonville Rd from 96<sup>th</sup> St to 86<sup>th</sup> St;
    - #6139 - Fall Creek Rd from Hague Rd to I-465;
    - Changes made to maintain fiscal constraint due to moving Greenwood project #5201.
  - Moved projects #1201 and #1202 from cost-constrained project list to illustrative list:
    - #1201 - Cooper Rd from SR 334 to CR 550 S (was in Time/Funding Period 2);
    - #1202 - CR 600 S from Cooper Rd to CR 900 E (was in Time/Funding Period 3);
    - Changes made due to concerns about effects to 2 recently designated Rural Historic Districts in southeast Boone and northwest Marion counties. The impacts of the Rural Historic Districts and these projects will be further studied.

The 2020 budget and forecast for ozone pollutants were also added to the analysis. The forecast was determined by interpolation – a procedure consisting of fitting a line or curve to the existing data points. Examining the data points for the four years that were modeled indicates that the trend for emissions over time is nonlinear; emissions are positively correlated with VMT (which will increase over time) and negatively correlated with emissions technology improvements (which will also increase over time). The interpolation procedure used was nonlinear regression, using the year as the independent variable (as a polynomial of degree 3) and the emissions as the dependent variable. Using the curve thus produced, the emissions output for 2020 was estimated.

Outputs from the Indianapolis and Anderson Metropolitan Planning Organizations' travel demand models and subsequent air quality modeling has shown that the 9-county area meets transportation conformity requirements for the pollutants Ozone and Particulate Matter 2.5.

The following tables show the emissions budgets and forecasts for the model years 2010, 2015, 2025, and 2035 for ozone and particulate matter. Ozone emissions for year 2020 are also shown and compared to the 2020 ozone budget<sup>3</sup>.

Ozone										
Pollutant	2010		2015		2020		2025		2035	
	Budget	Estimated	Budget	Forecast	Budget	Forecast	Budget	Forecast	Budget	Forecast
<b>VOC (tons/day)</b>	54.32 (2006 budget)	<b>41.72</b>	54.32 (2006 budget)	<b>29.81</b>	29.52 (2020 budget)	<b>24.87</b>	29.52 (2020 budget)	<b>24.39</b>	29.52 (2020 budget)	<b>26.94</b>
<b>NOx (tons/day)</b>	106.19 (2006 budget)	<b>81.30</b>	106.19 (2006 budget)	<b>48.54</b>	35.69 (2020 budget)	<b>32.99</b>	35.69 (2020 budget)	<b>28.40</b>	35.69 (2020 budget)	<b>26.93</b>

PM 2.5								
Pollutant	2010		2015		2025		2035	
	Budget	Estimated	Budget	Forecast	Budget	Forecast	Budget	Forecast
<b>PM 2.5 (tons/year)</b>	518.43 (2009 standard)	<b>390.71</b>	518.43 (2009 standard)	<b>289.67</b>	518.43 (2009 standard)	<b>260.54</b>	518.43 (2009 standard)	<b>279.92</b>
<b>NOx (tons/year)</b>	28537.23 (2009 standard)	<b>20,255.10</b>	28537.23 (2009 standard)	<b>12,249.66</b>	28537.23 (2009 standard)	<b>7,245.74</b>	28537.23 (2009 standard)	<b>6,950.22</b>

## 4 CONCLUSION

The modeling and analysis with respect to both Ozone and Particulate Matter 2.5 demonstrates that implementation of the 2035 Long Range Transportation Plan and 2012-2015 Indianapolis Regional Transportation Improvement Program will attain emissions levels of regulated pollutants (VOC and NOx) and their precursors in future years within the prescribed budgets and therefore conforms to federal air quality requirements.

Additional air quality conformity documentation will be provided on the MPO's website at: <http://www.indympo.org/Plans/Regional/Pages/home.aspx>

## 5 INTERAGENCY CONSULTATION GROUP

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<sup>3</sup> 40 CFR 93.118(b)

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Air Quality Conformity Process for the area has taken place since October 2008. The following agencies and individuals have been instrumental in reviewing the processes and procedures used to demonstrate Air Quality Conformity.

**Federal Highway Administration**

Larry Heil

**Federal Transit Administration Region 5**

Reggie Arkell

**Indiana Dept. of Environmental Management- Office of Air Quality**

Shawn Seals, Brian Callahan

**U.S. Environmental Protection Agency Region 5**

Patricia Morris

**Indianapolis Public Transportation Corporation / IndyGo**

Mike Terry

Staff members representing the jurisdictions within or partially within the 5-County nonattainment area are:

**Indiana Department of Transportation**

Roy Nunnally, Steve Smith, Randy Walter, Jay Mitchell, Frank Baukert, Laurence Brown

**Indianapolis MPO**

Philip Roth, Steve Cunningham, Andy Swenson, Stephanie Belch, Tom Beck, Erika Hinshaw, Catherine Kostyn.

**Madison County Council of Governments (Anderson MPO)**

Jerold Bridges, Bruce Burnett, Peter Mitchell

**Indianapolis Office of Sustainability**

Karen Haley

**City of Indianapolis**

Monica Dick

## **6 APPROVAL TIMELINE**

In order to be eligible for conformity finding by the U.S. Department of Transportation, approval of the 2035 LRTP and Air Quality Conformity Analysis will first be required from the both Metropolitan Planning Organizations within or overlapping the Ozone attainment maintenance area and PM 2.5 nonattainment

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areas. The approvals will be included for review on the Indianapolis MPO website, <http://www.indympo.org/Pages/home.aspx>

Indianapolis MPO - Approval of the 2035 Long-Range Transportation Plan and the associated air quality conformity determination was made by the Policy Committee of the Indianapolis Regional Transportation Council (IRTC) on February 16, 2011.

Anderson MPO - The Policy Board of the Madison County Council of Governments (the Anderson MPO) is expected to approve the Plan amendment and Air Quality Conformity Analysis in March 2011.

U.S. Dept. of Transportation - After formal review following MPO approvals, will undergo up to 30 days of review by the U.S. Department of Transportation. Federal air quality regulations require that the update receive a conformity finding in writing from the U.S. DOT as a final approval. Final official conformity finding for the 2035 LRTP is expected in spring 2011.