



Air and Waste Management Association Lake Michigan Chapter

*Indiana Department of Environmental Management (IDEM)
November 3, 2011*

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Assistant Commissioner
Office of Air Quality



National Ambient Air Quality Standards (NAAQS)

Where Does Indiana Stand?

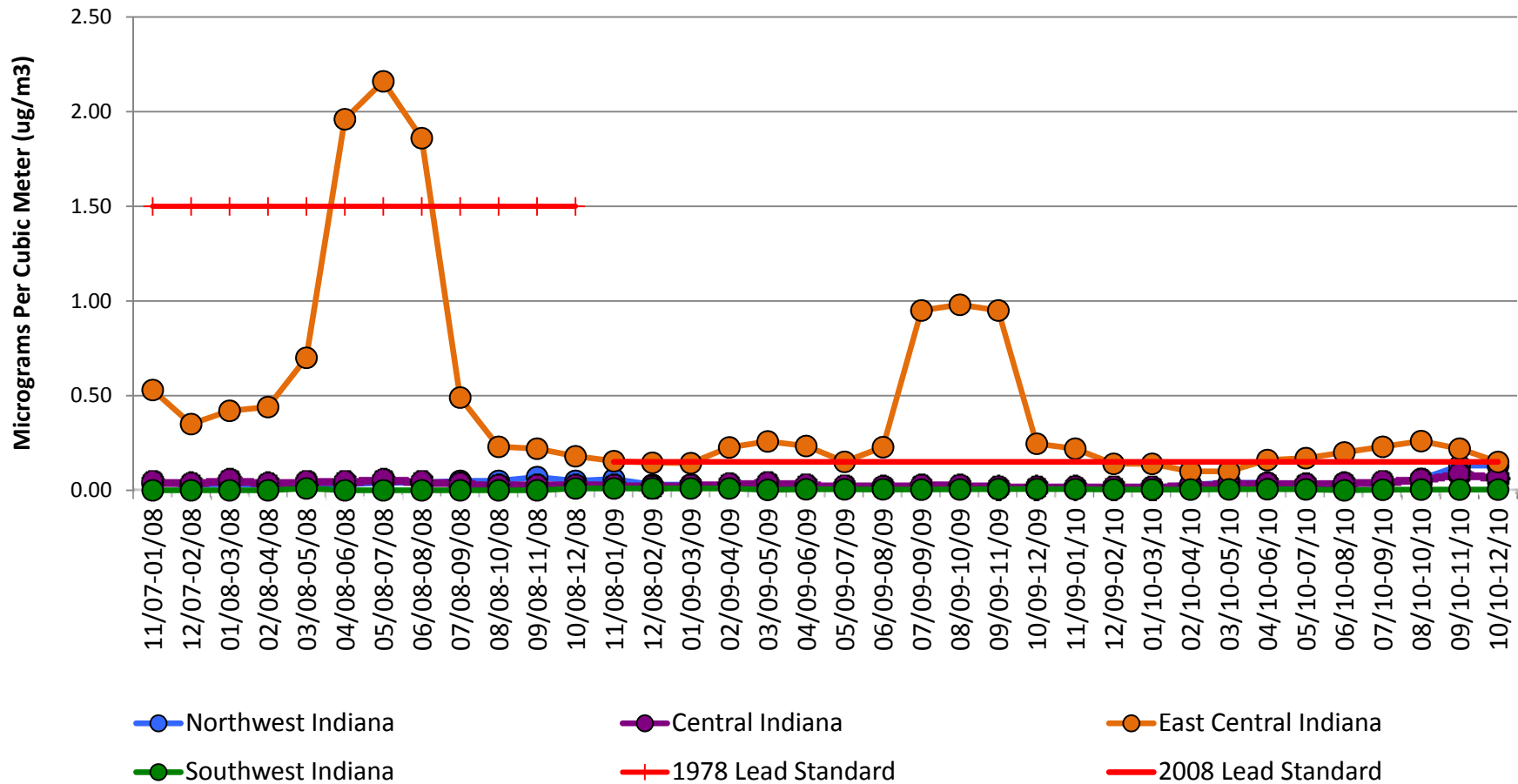


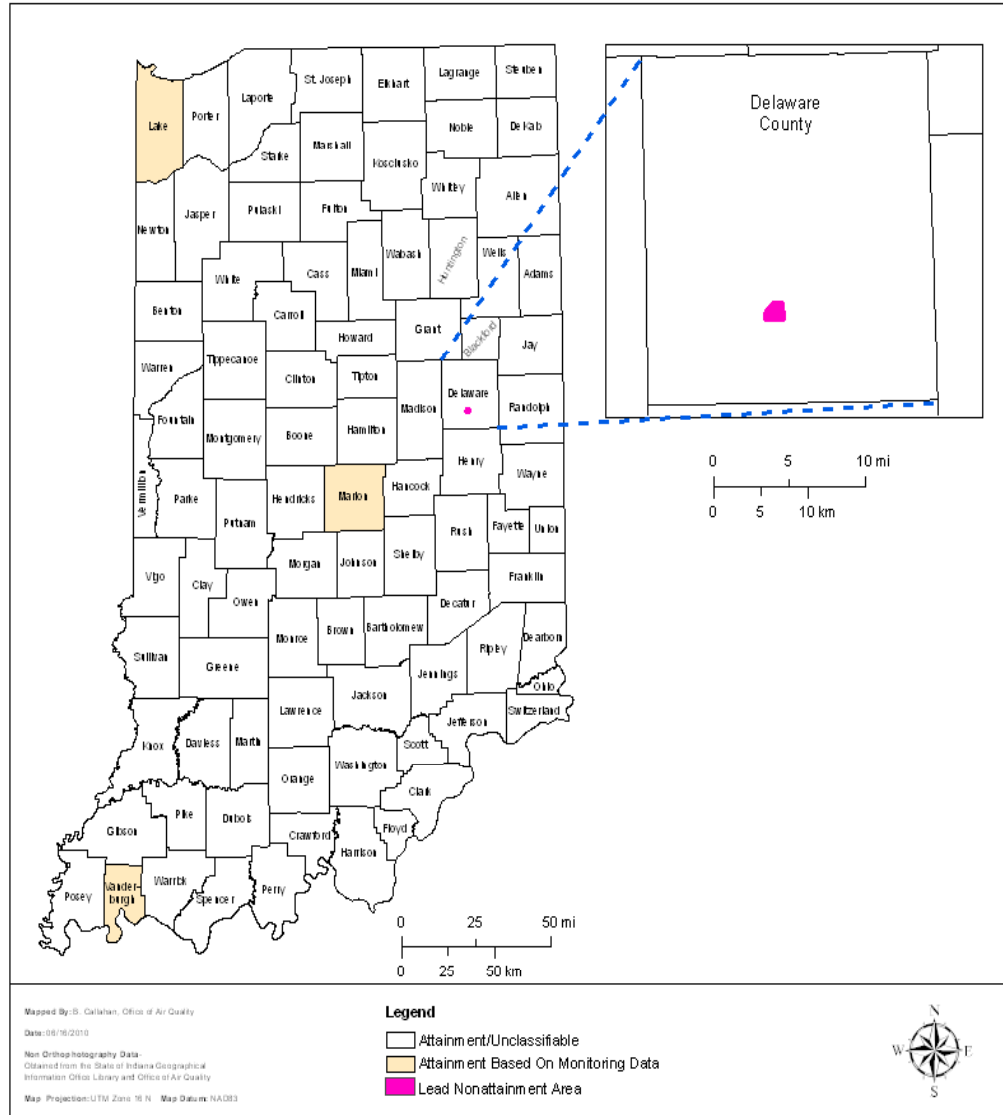
Criteria Pollutant Trends Statewide:

Lead • Carbon Monoxide • Particulate Matter • Nitrogen Dioxide • Ozone • Sulfur Dioxide



Lead – Maximum Design Value Trends



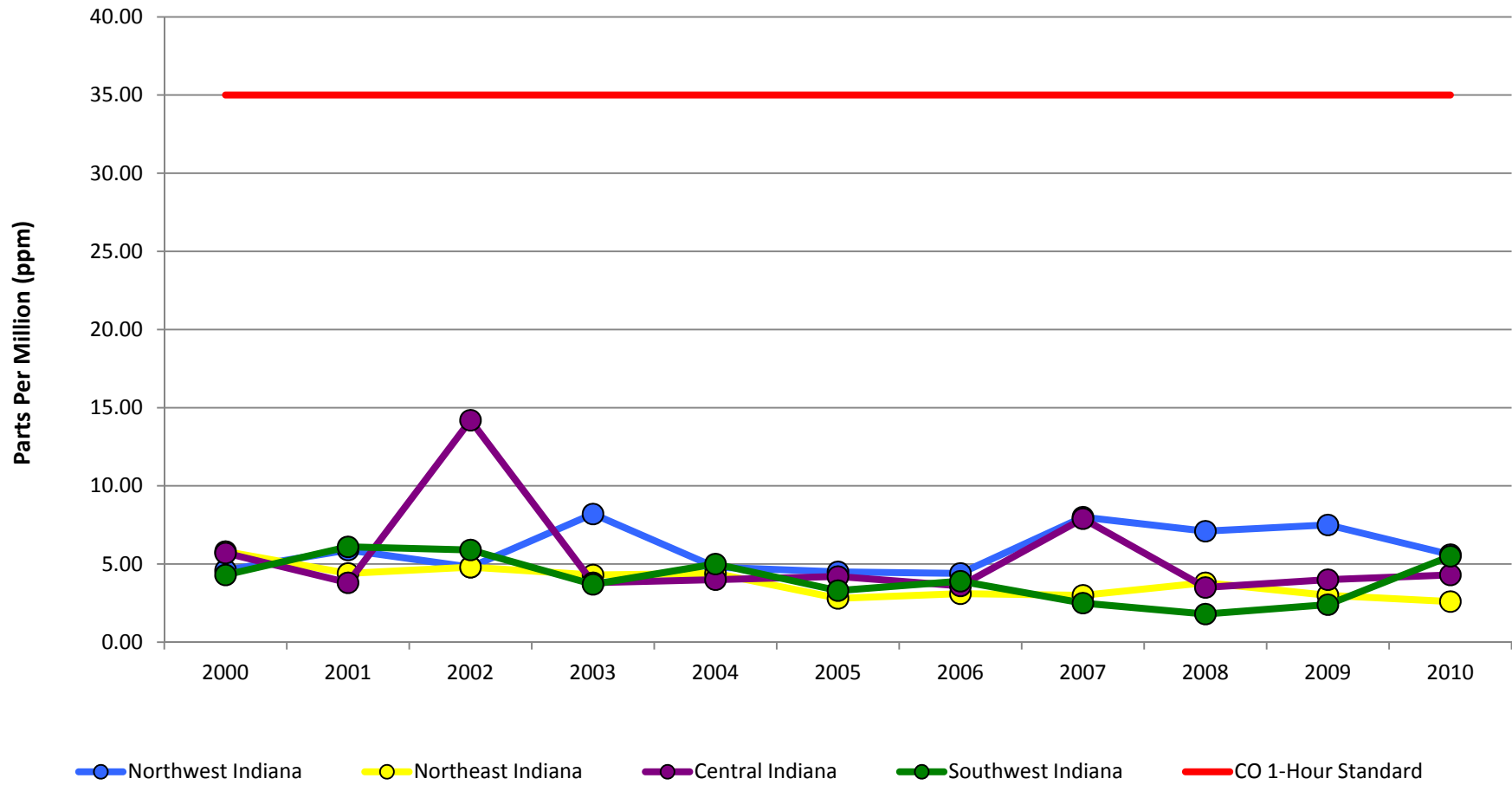


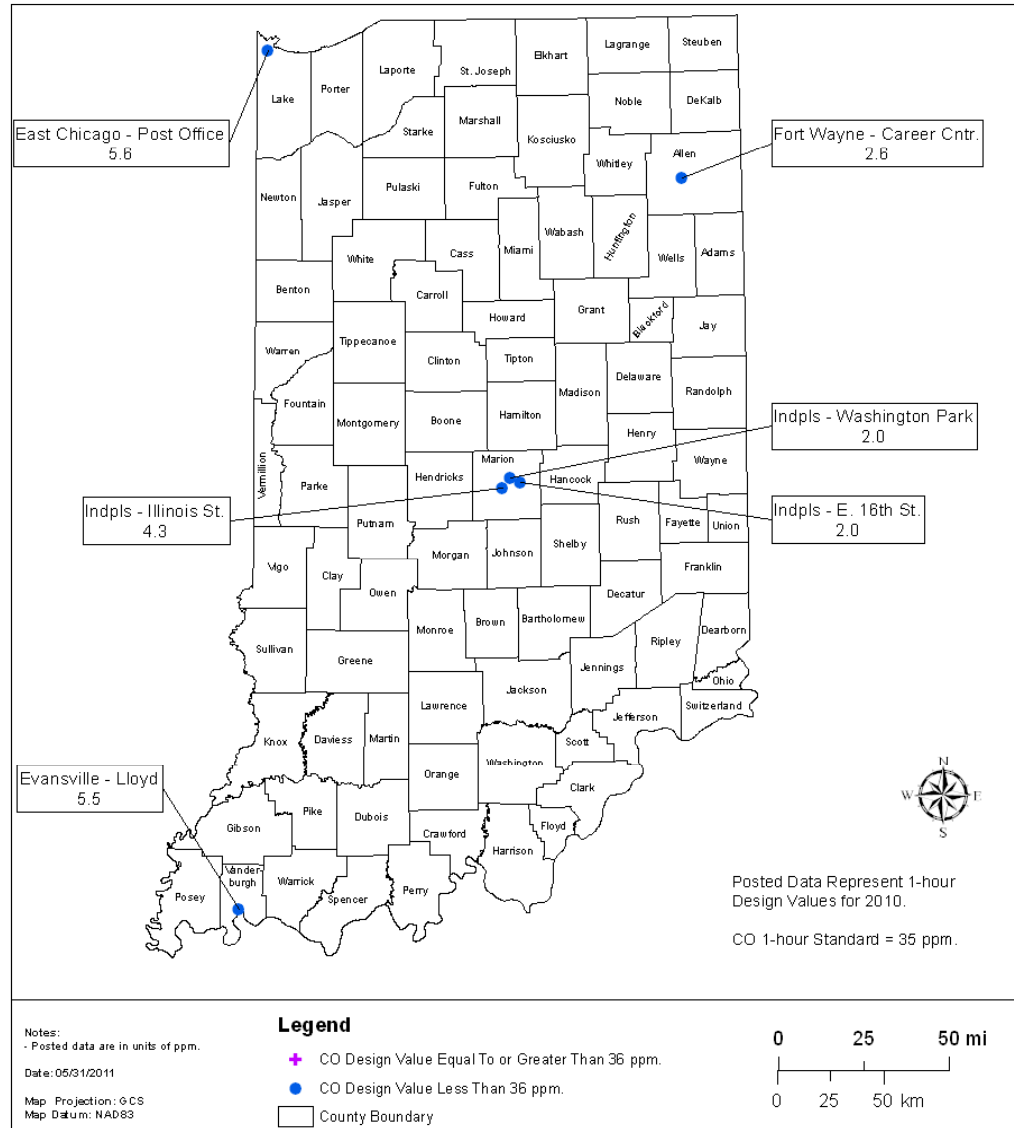
Indiana's Nonattainment Area for Lead Based on 2007-2009 Monitoring Data

*October 15, 2008:
U.S. EPA Established A New Lead Standard Set At 0.15 µg/m³ As A Three Month Rolling Average.*



Carbon Monoxide (CO) – Maximum Design Value 1-Hour Trends





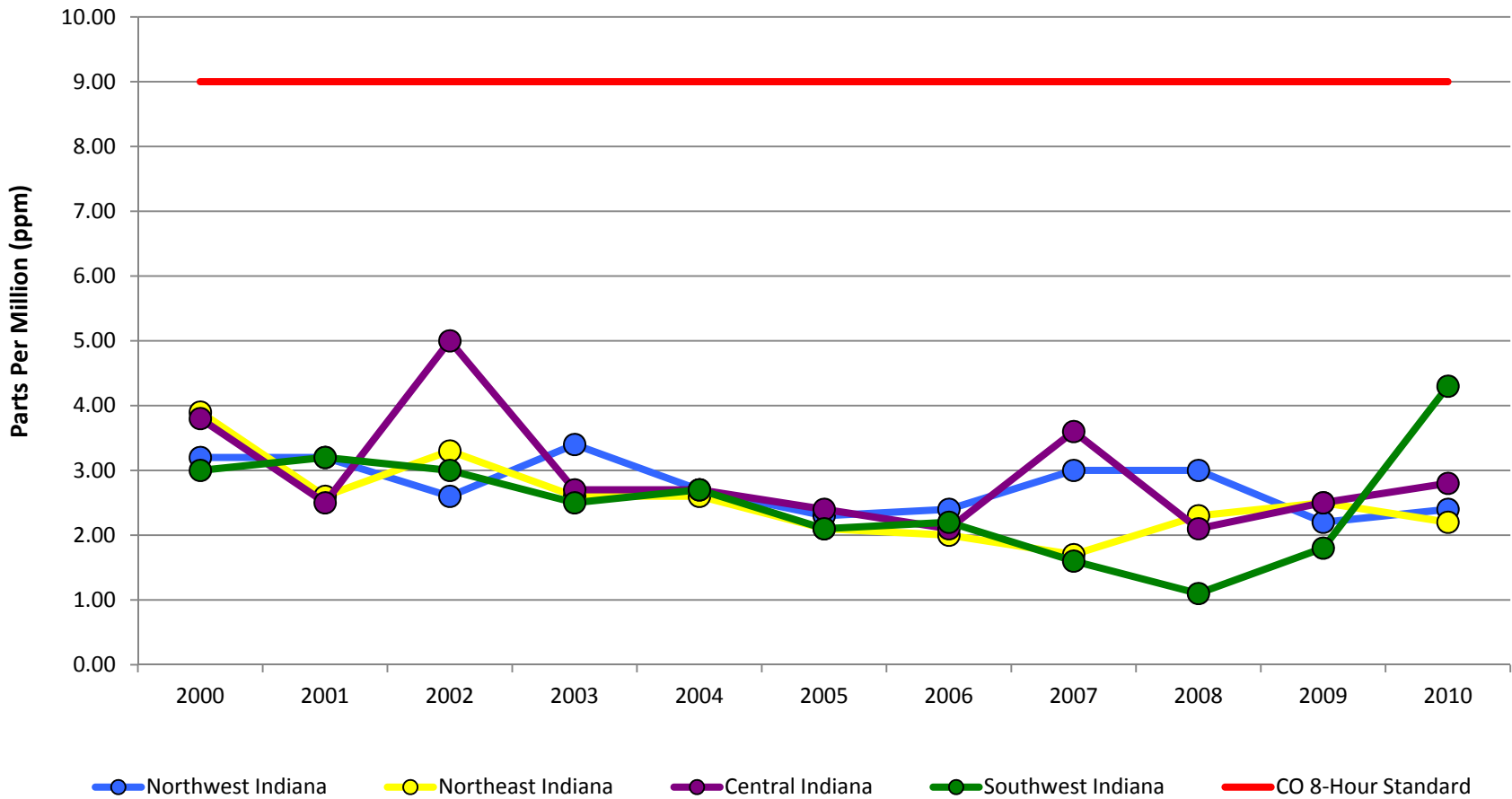
CO 1-Hour Design Values Based on 2010 Monitoring Data

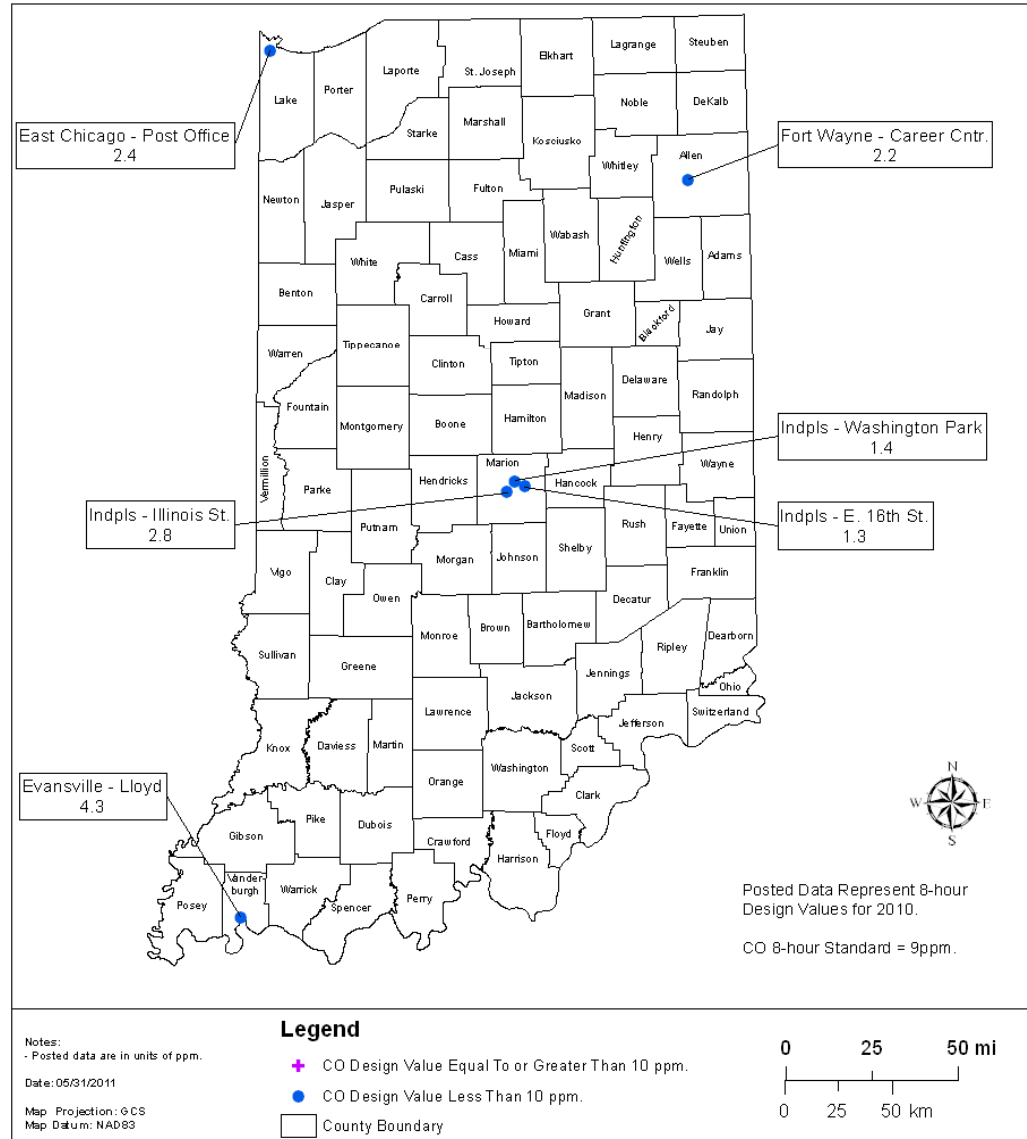
*April 3, 1971:
 U.S. EPA Established A
 CO 1-Hour
 Standard Set At 35 ppm*

*January 28, 2011:
 U.S. EPA Proposed To
 Retain The CO 1-Hour
 Standard At 35 ppm*



Carbon Monoxide (CO) – Maximum Design Value 8-Hour Trends





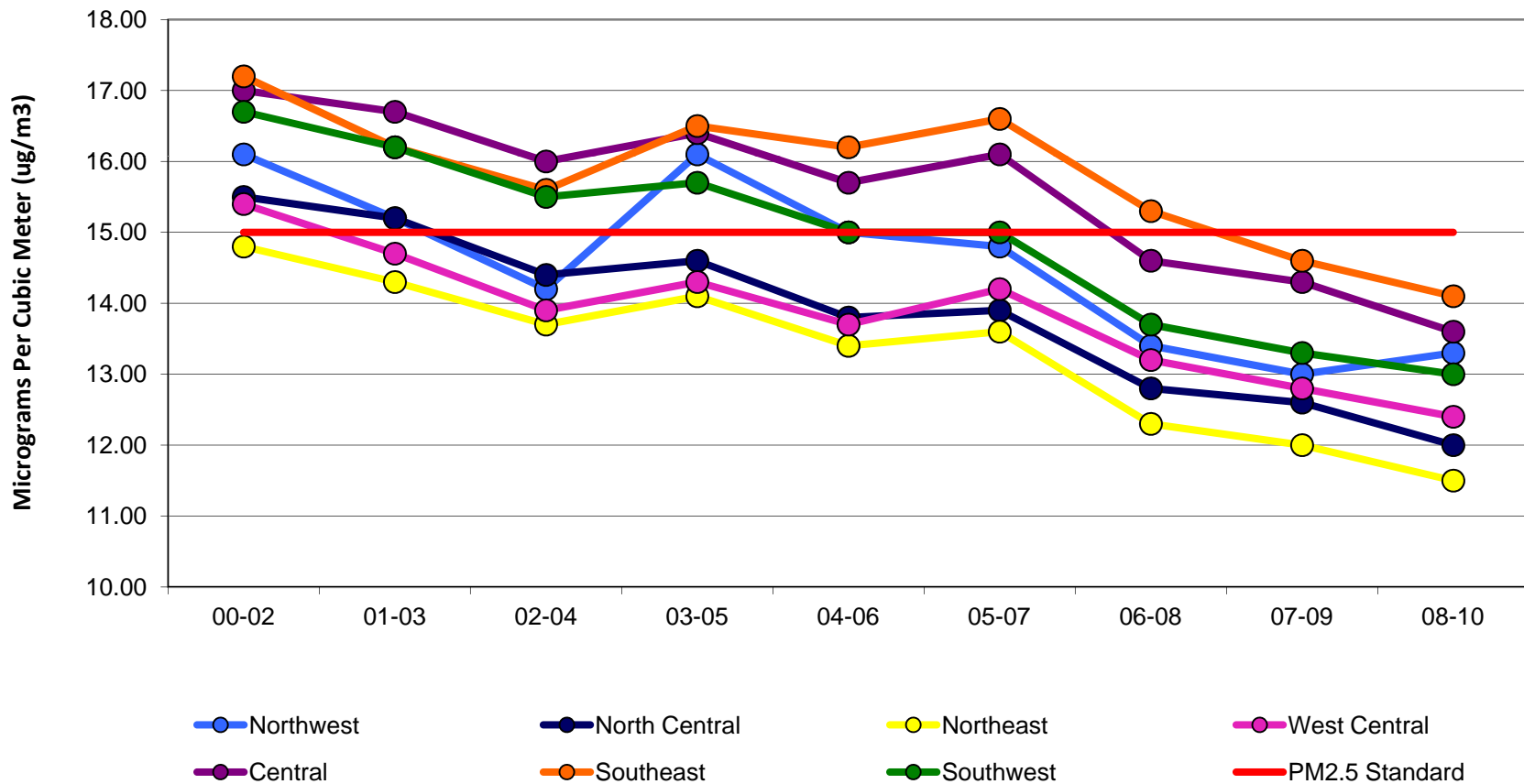
CO 8-Hour Design Values Based on 2010 Monitoring Data

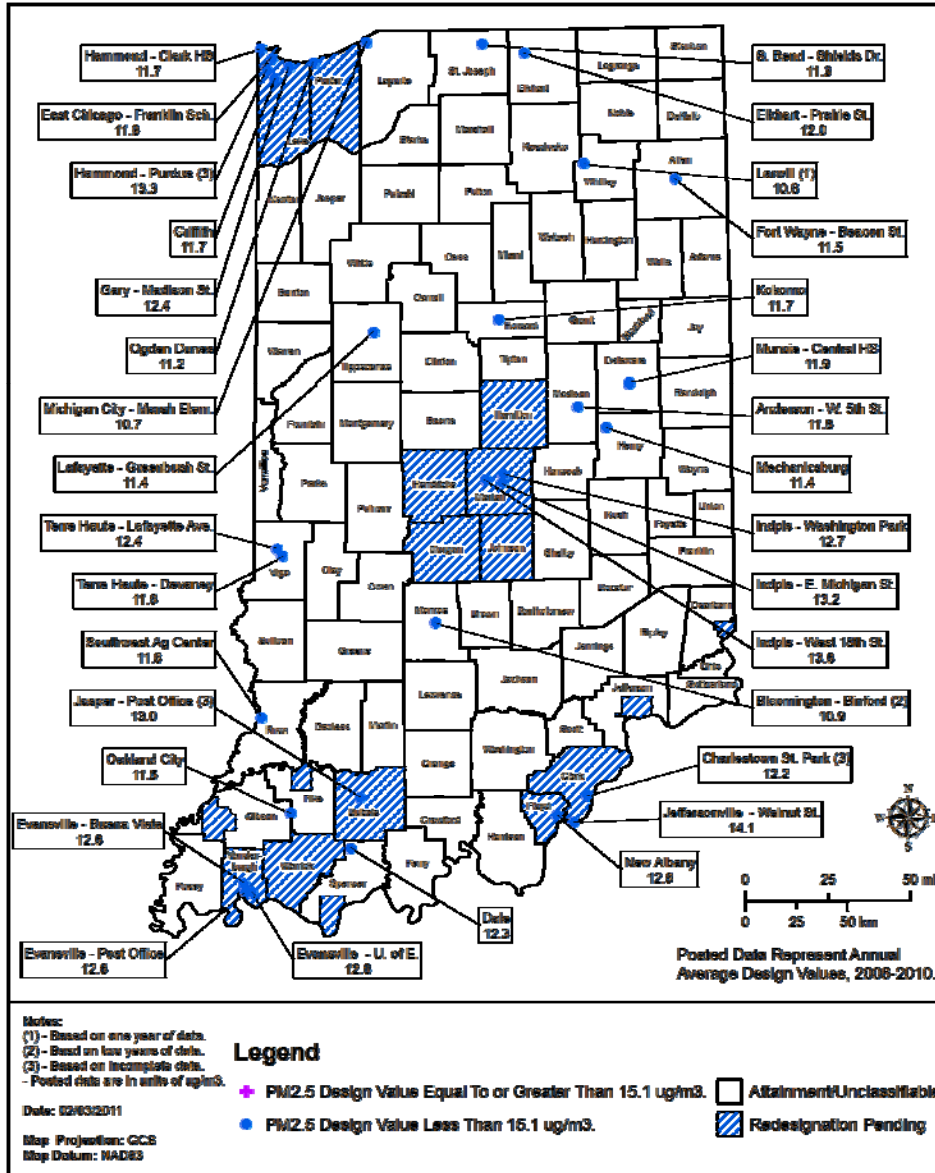
*April 3, 1971:
 U.S. EPA Established A
 CO 8-Hour
 Standard Set At 9 ppm*

*January 28, 2011:
 U.S. EPA Proposed To
 Retain The CO 8-Hour
 Standard At 9 ppm*



Fine Particle (PM2.5) – Maximum Annual Design Value Trends

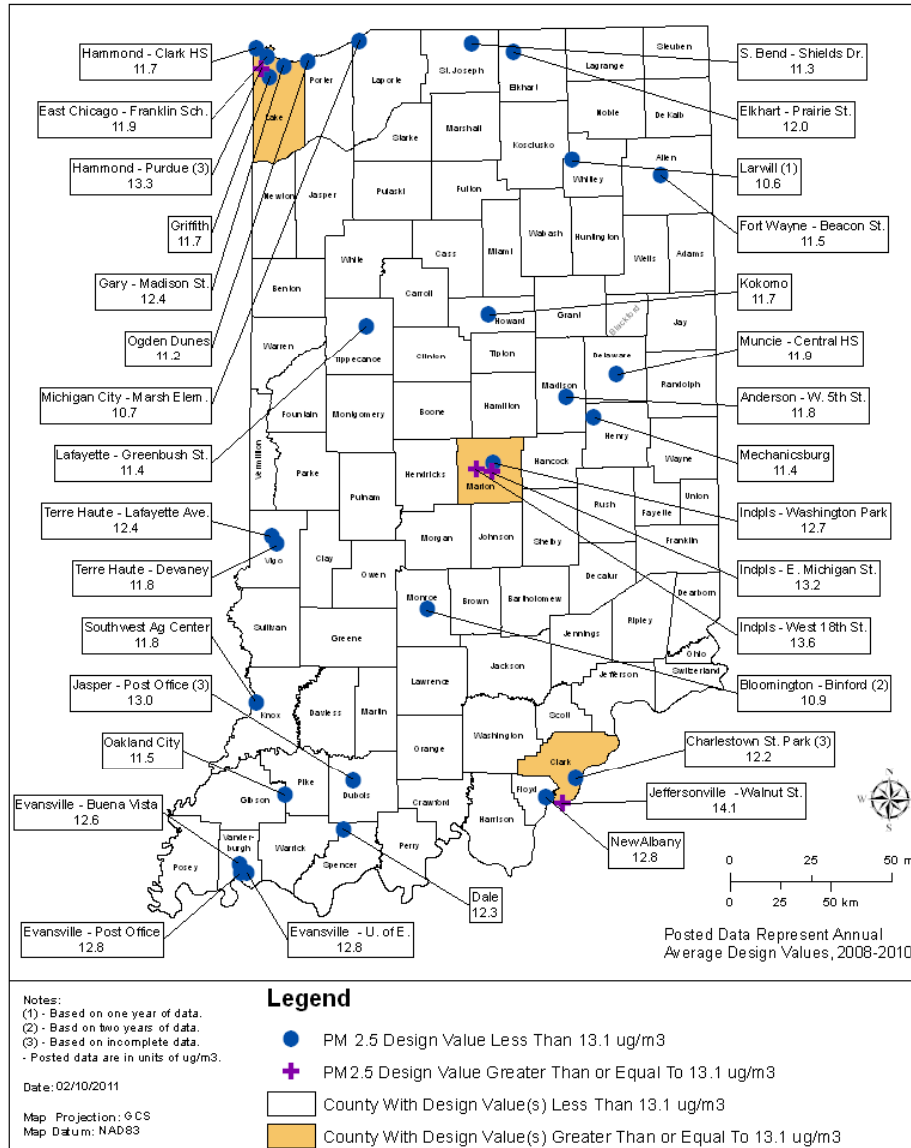




PM2.5 Annual Design Values (3-yr Average) Based on 2008-2010 Monitoring Data

Standard at 15 µg/m³

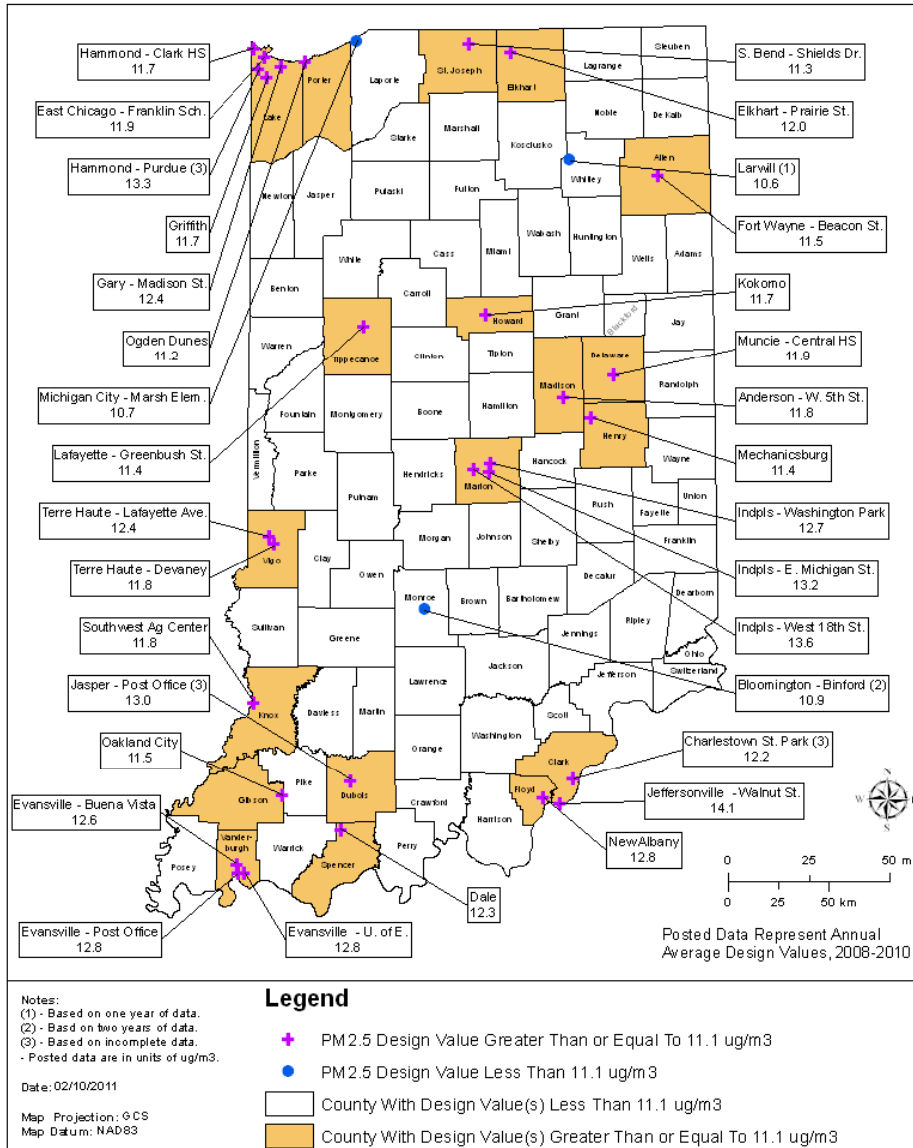
July 18, 1997: U.S. EPA Established A New PM2.5 Annual Standard Set At 15 µg/m³



PM2.5 Annual Design Values (3-yr Average) Based on 2008-2010 Monitoring Data

Standard at **13 $\mu\text{g}/\text{m}^3$**

March 15, 2010:
 U.S. EPA Announced It Would Reconsider The Annual PM2.5 Standard Within A Range Of 11-14 $\mu\text{g}/\text{m}^3$



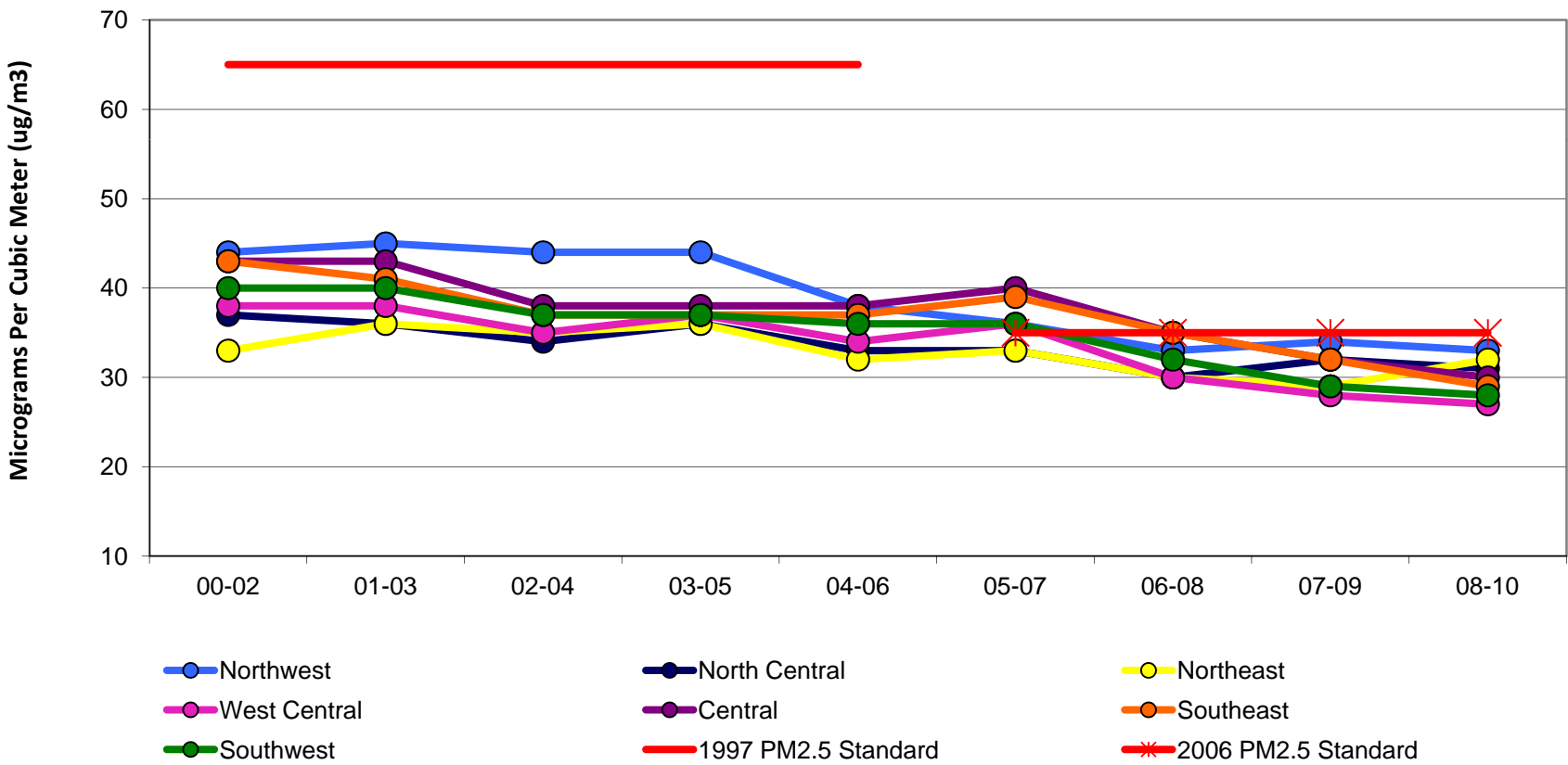
PM2.5 Annual Design Values (3-yr Average) Based on 2008-2010 Monitoring Data

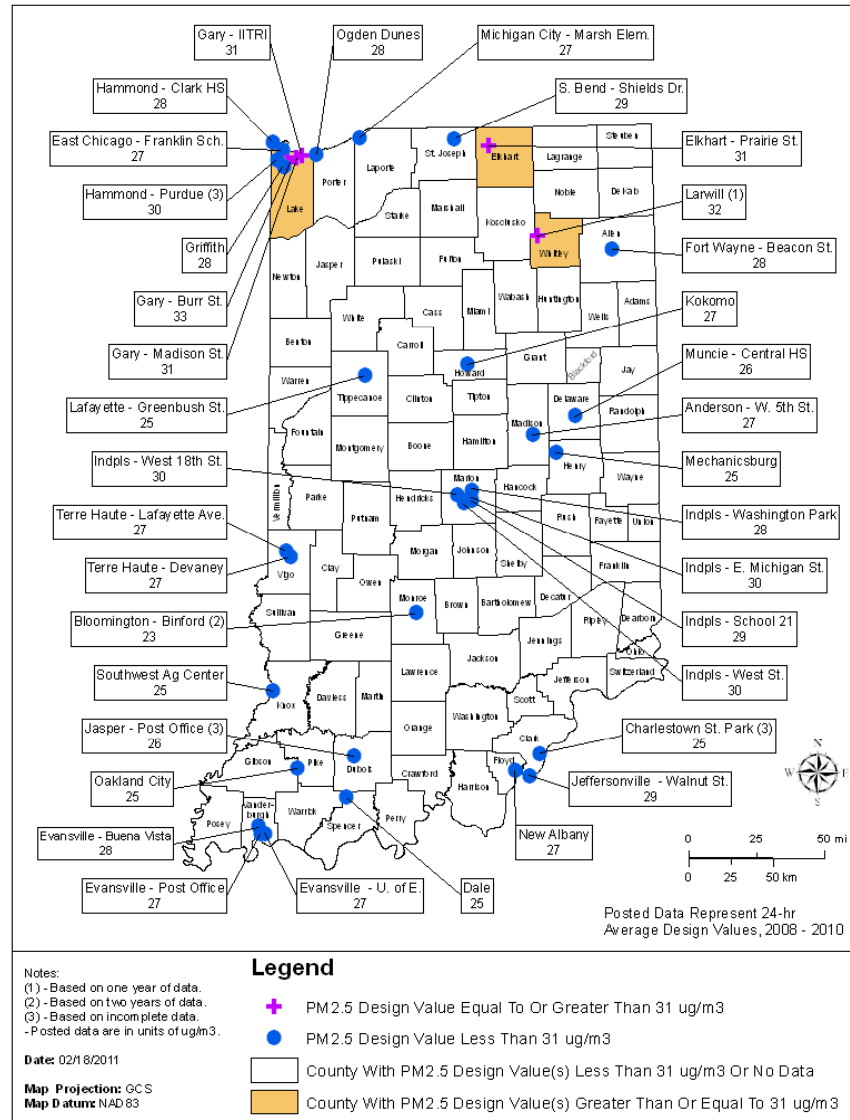
Standard at **11 $\mu\text{g}/\text{m}^3$**

March 15, 2010:
 U.S. EPA Announced It Would Reconsider The Annual PM2.5 Standard Within A Range Of 11-14 $\mu\text{g}/\text{m}^3$



Fine Particle (PM2.5) – Maximum 24-Hour Design Value Trends





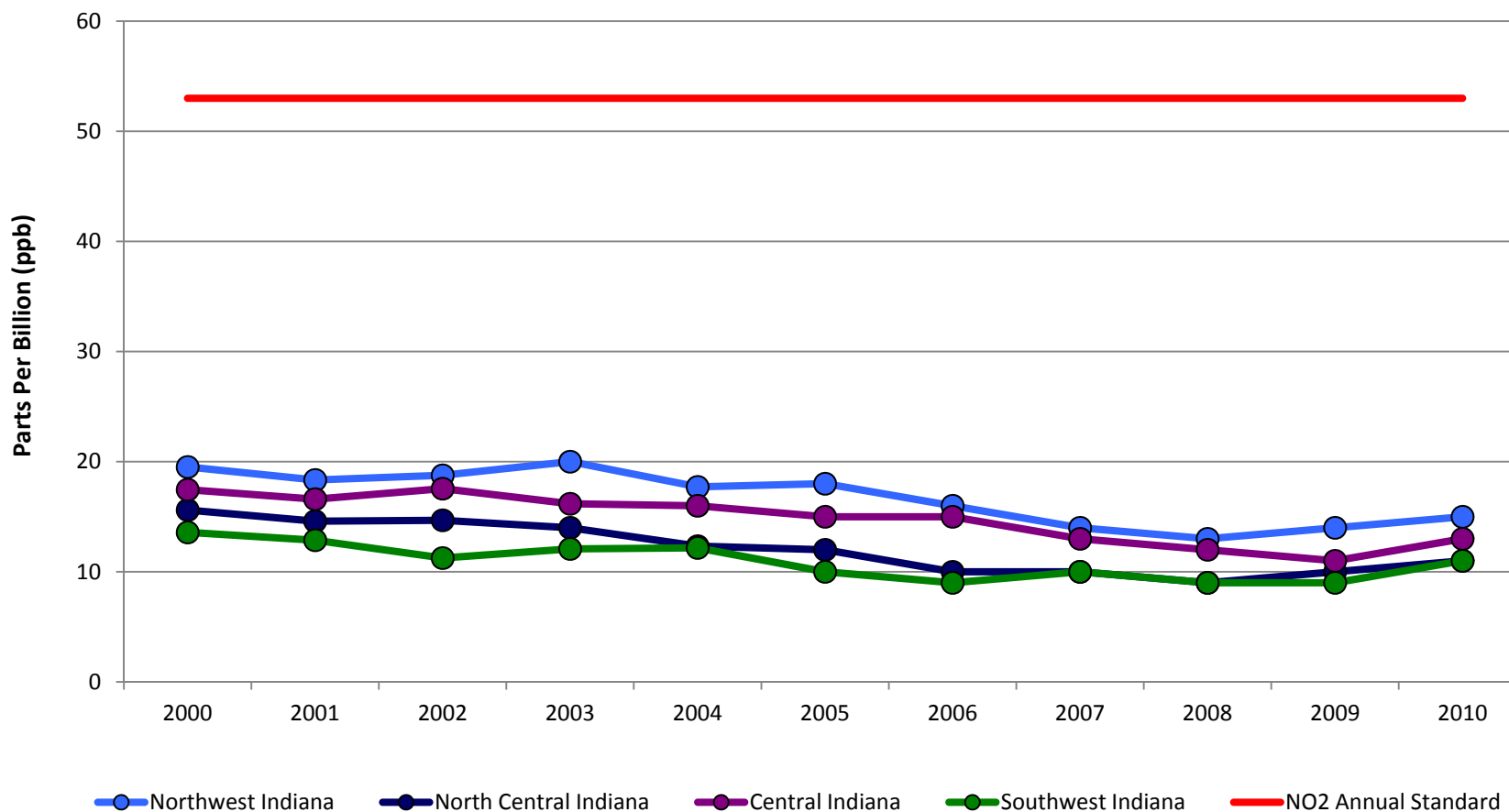
PM2.5 24-Hour Design Values (3-yr Average of 98th Percentile) Based on 2008-2010 Monitoring Data

Standard at 30 $\mu\text{g}/\text{m}^3$

Based on potential revisions to the 24-hour standard.

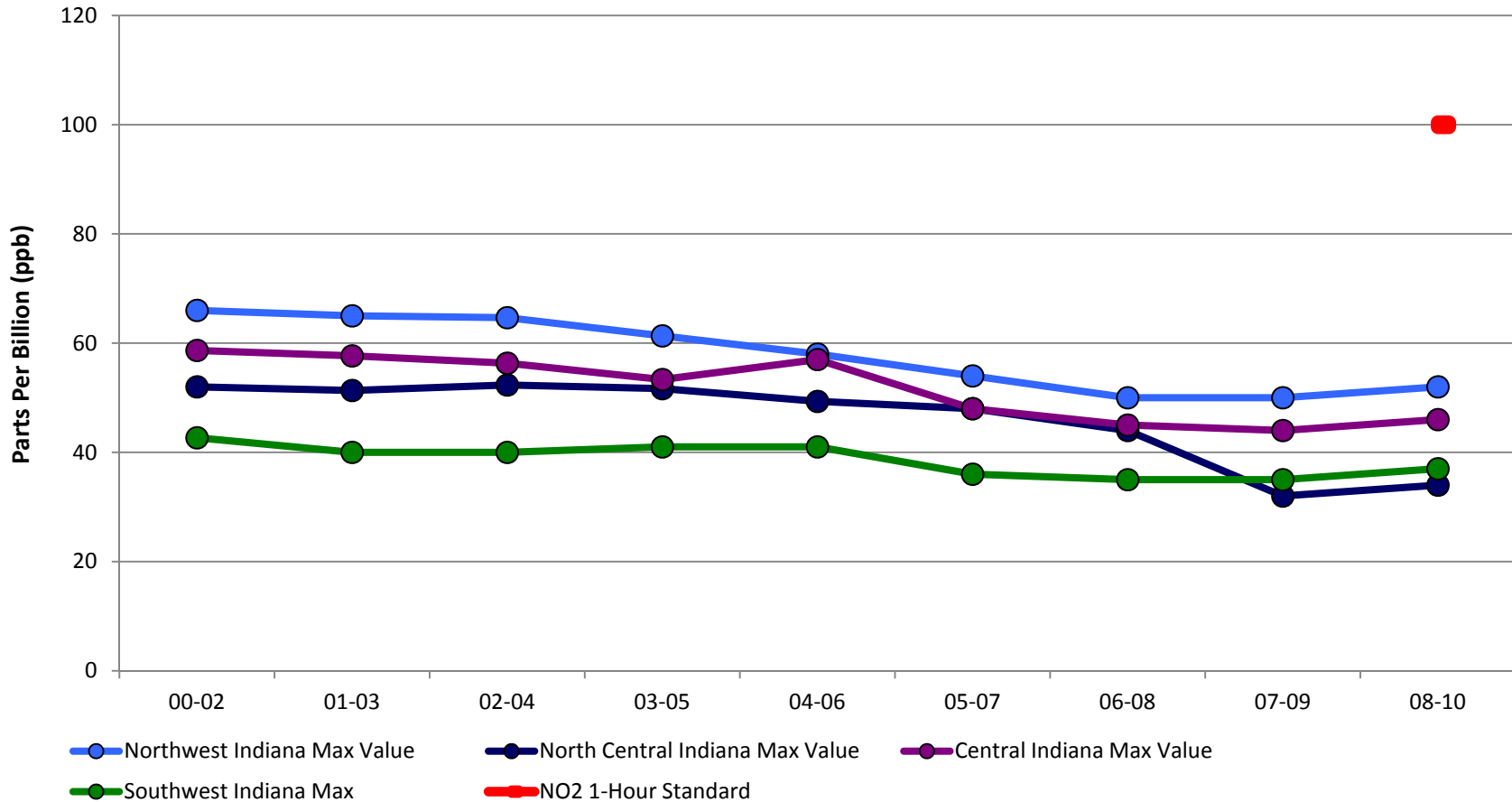


Nitrogen Dioxide (NO₂) – Maximum Annual Design Value Trends



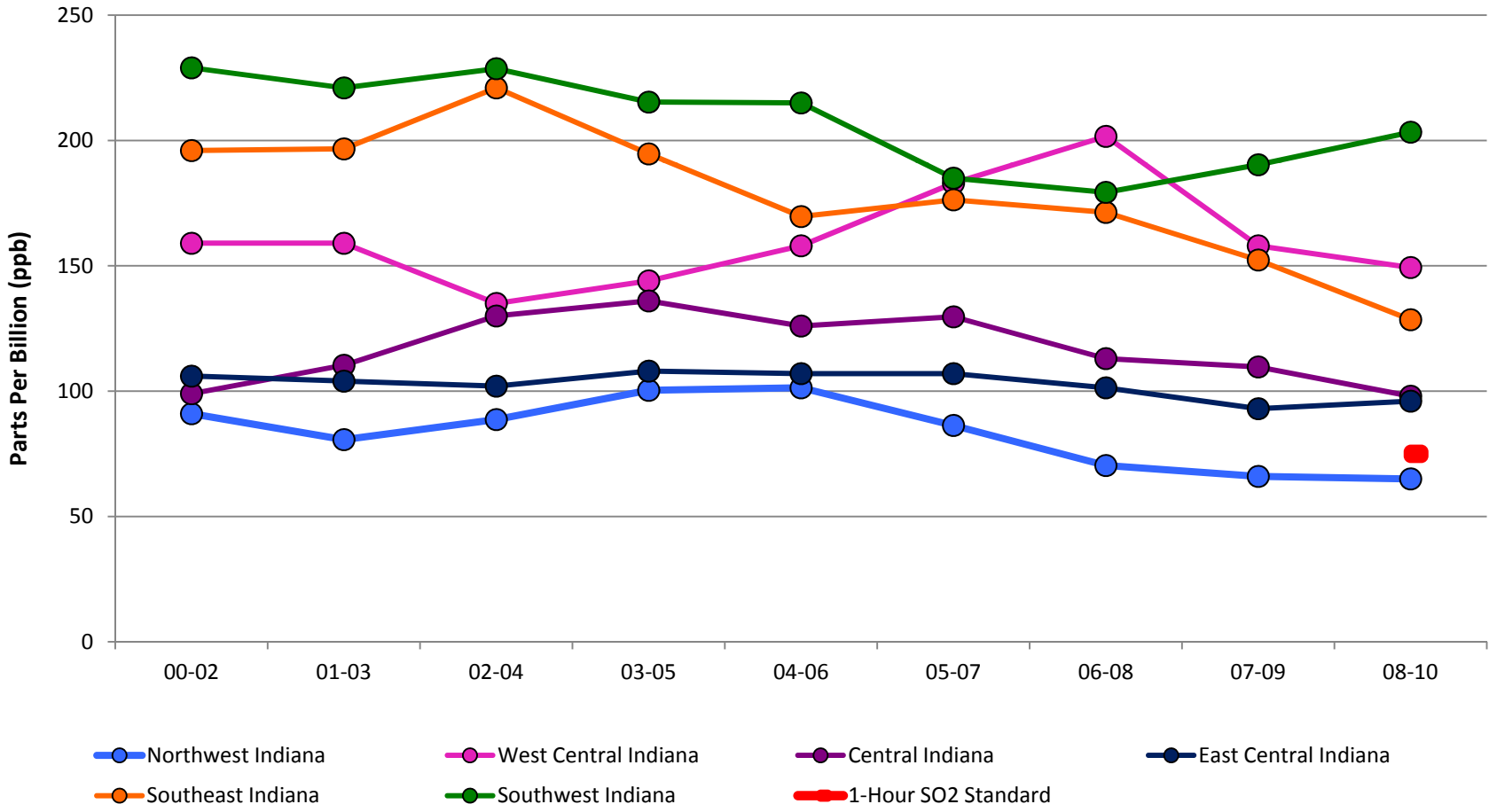


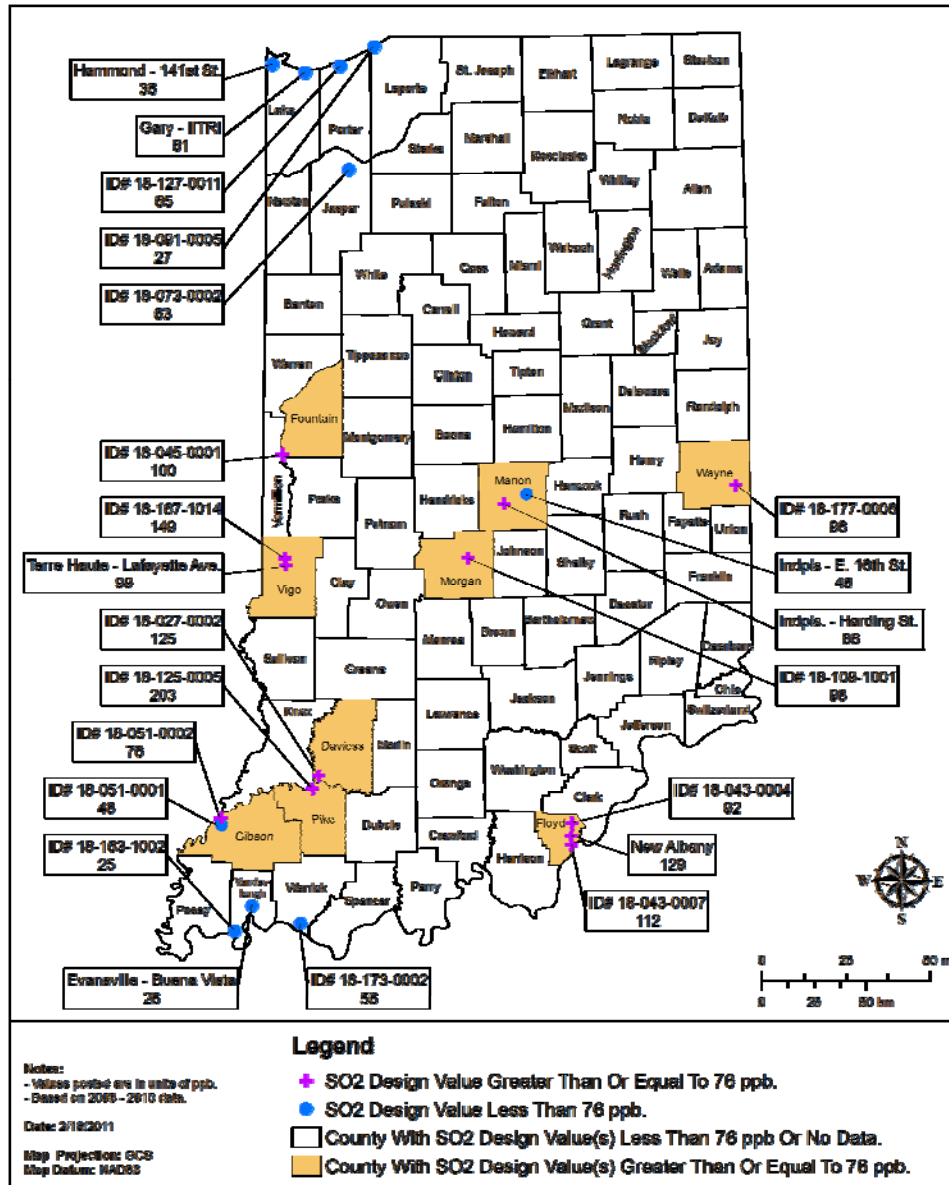
Nitrogen Dioxide (NO₂) – Maximum 1-Hour Design Value Trends





1-Hour Sulfur Dioxide (SO₂) – Maximum 1-Hour Design Value Trends

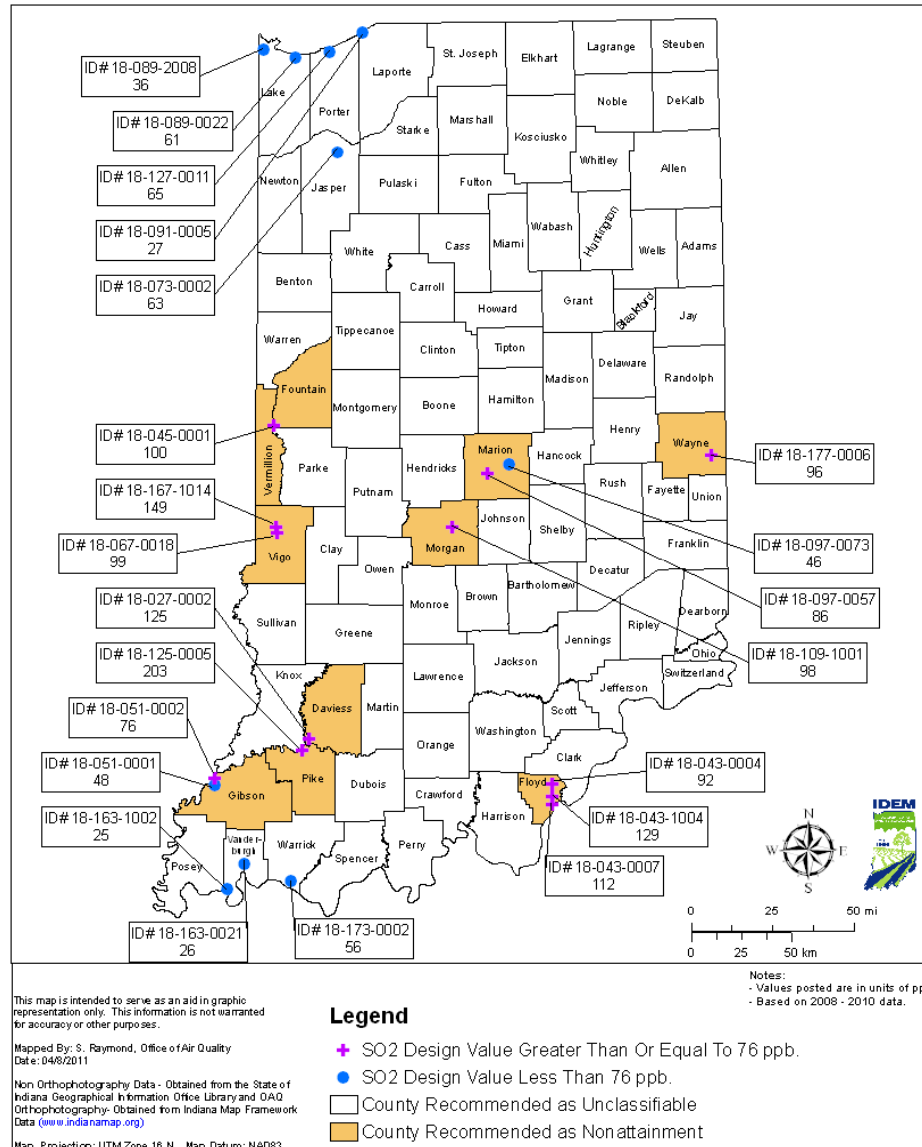




SO2 1-Hour
 Design Values
 Based on 2008-2010
 Monitoring Data

Standard at **75 ppb**

*June 6, 2010:
 U.S. EPA Announced A New
 SO2 1-Hour
 Standard Set At 75 ppb*



Indiana Preliminary Designation Recommendations SO2 1-Hour Standard

June 6, 2010:
 U.S. EPA Announced A New
 SO2 1-Hour
 Standard Set At 75 ppb



SO₂ Implementation Timeline

Deadline	Milestone
June 2010	U.S. EPA sets new primary SO ₂ standard
June 2011	States submit designation recommendations, based on available monitoring data and any modeling in advance of submitting their state implementation plans
June 2012	U.S. EPA issues initial designations
January 2013	New monitoring network operational
June 2013	State maintenance or infrastructure plans due to U.S. EPA
February 2014	State plans for basic requirements to implement the revised standards (including appropriate state regulations to carry out monitoring) due to U.S. EPA
August 2017	Attainment and unclassifiable area state implementation plans modeling attainment of the new standard due to U.S. EPA
August 2017	All areas attain the standard

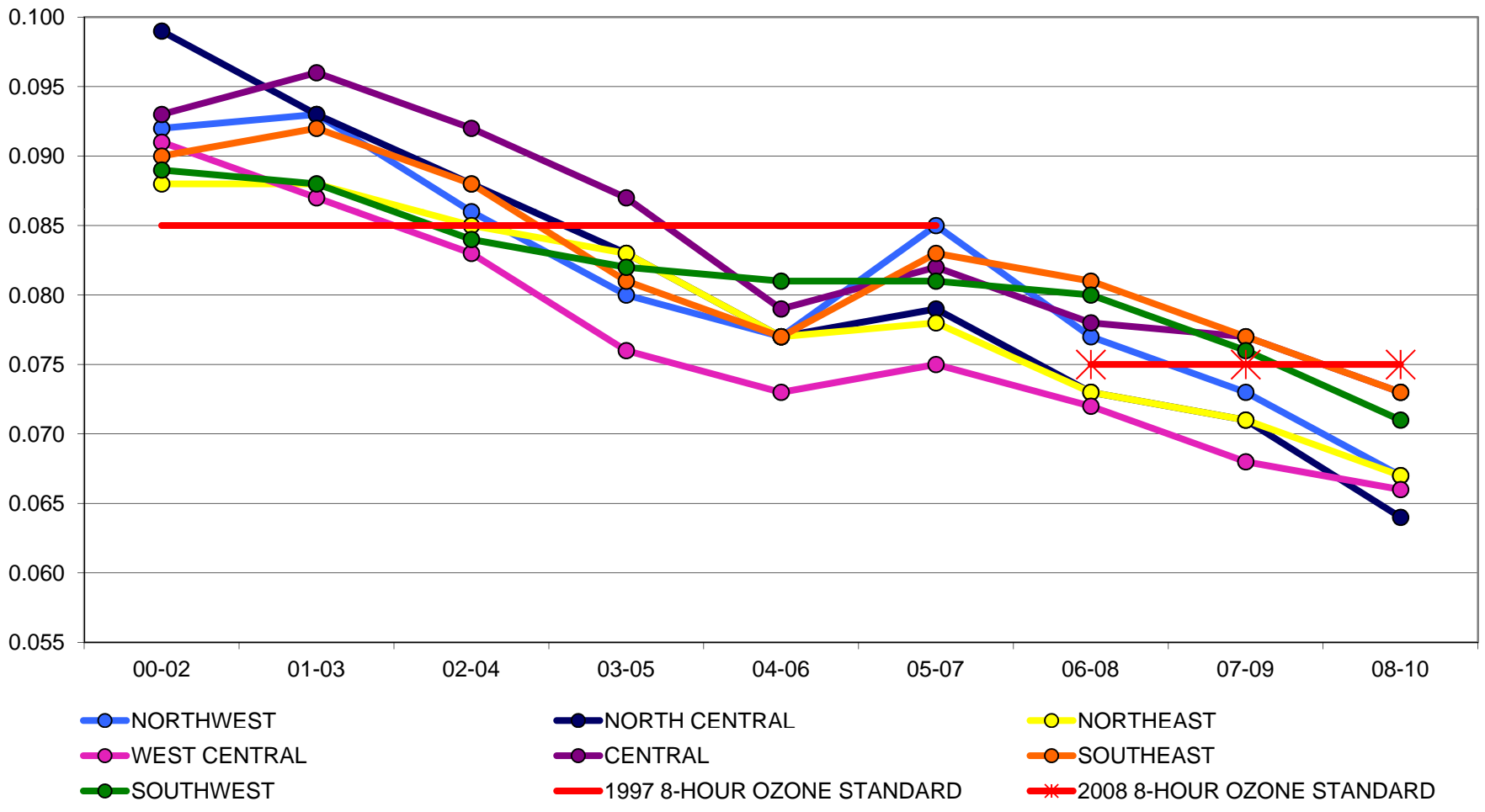


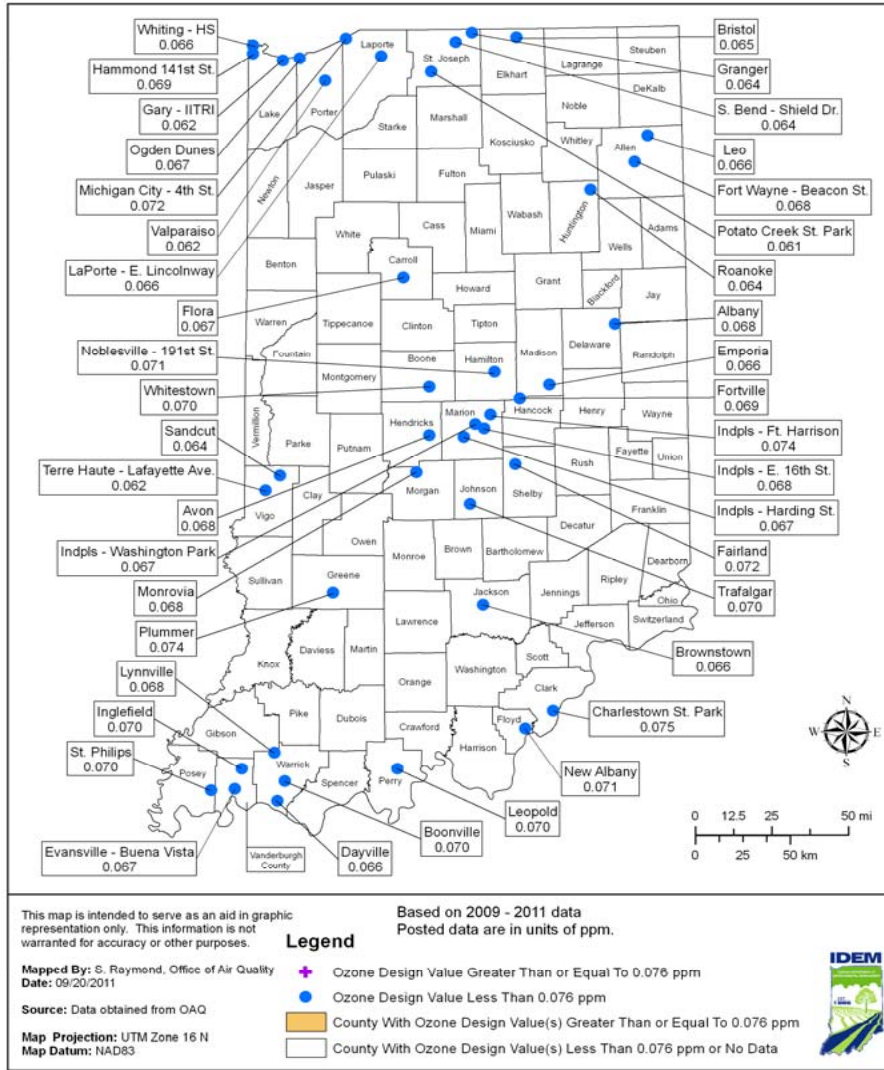
SO₂ SIP Development Process

- IDEM prefers a single SIP development process to meet all obligations since both maintenance SIP and attainment SIP require modeling and rulemaking
 - Addresses all obligations
 - Conserve resources
 - Ensure timely SIP submittals
 - Eliminate confusion associated with rulemaking for emission limitations or controls
 - Reduce the burden of additional monitoring



Ozone – Maximum Design Value Trends

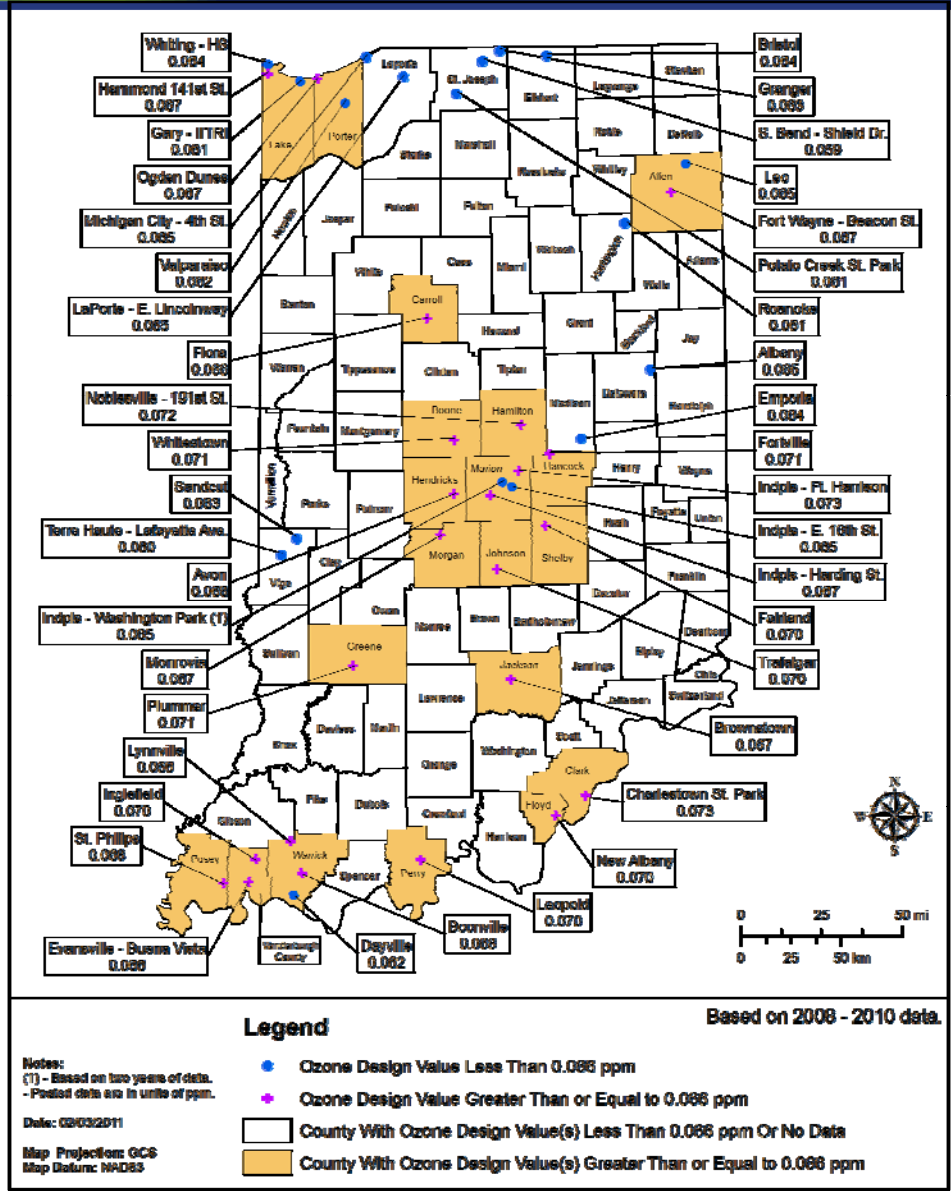




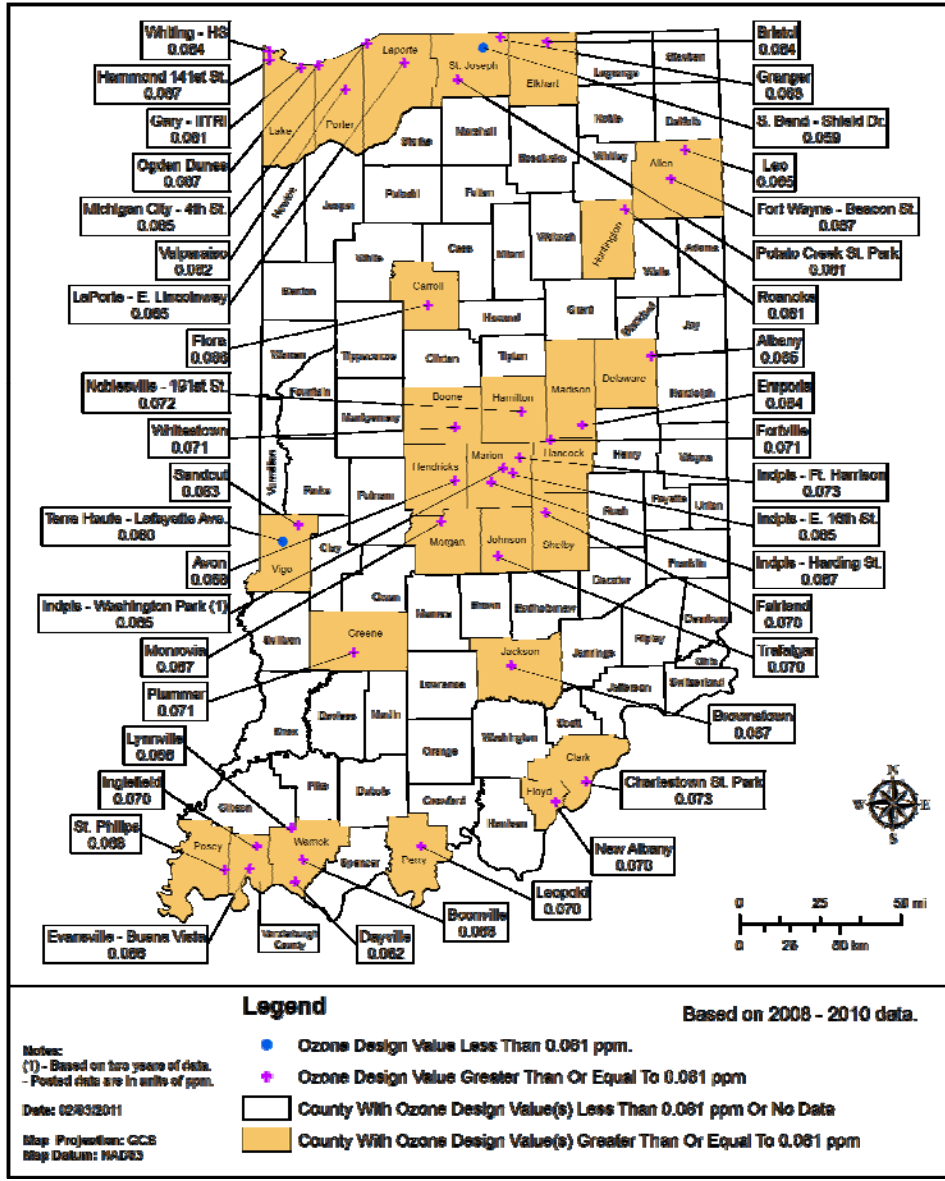
2009-2011
8-Hour Ozone
Design Values

Compared to the
standard at
0.075 ppm

*Based on Preliminary
Non-Quality
Assured Data*



Ozone 8-Hour Design Values (3-yr Average 4th High) Based on 2008-2010 Monitoring Data Standard at **0.065 ppm**



Ozone 8-Hour Design Values
 (3-yr Average 4th High)
 Based on 2008-2010 Monitoring Data
 Standard at **0.060 ppm**

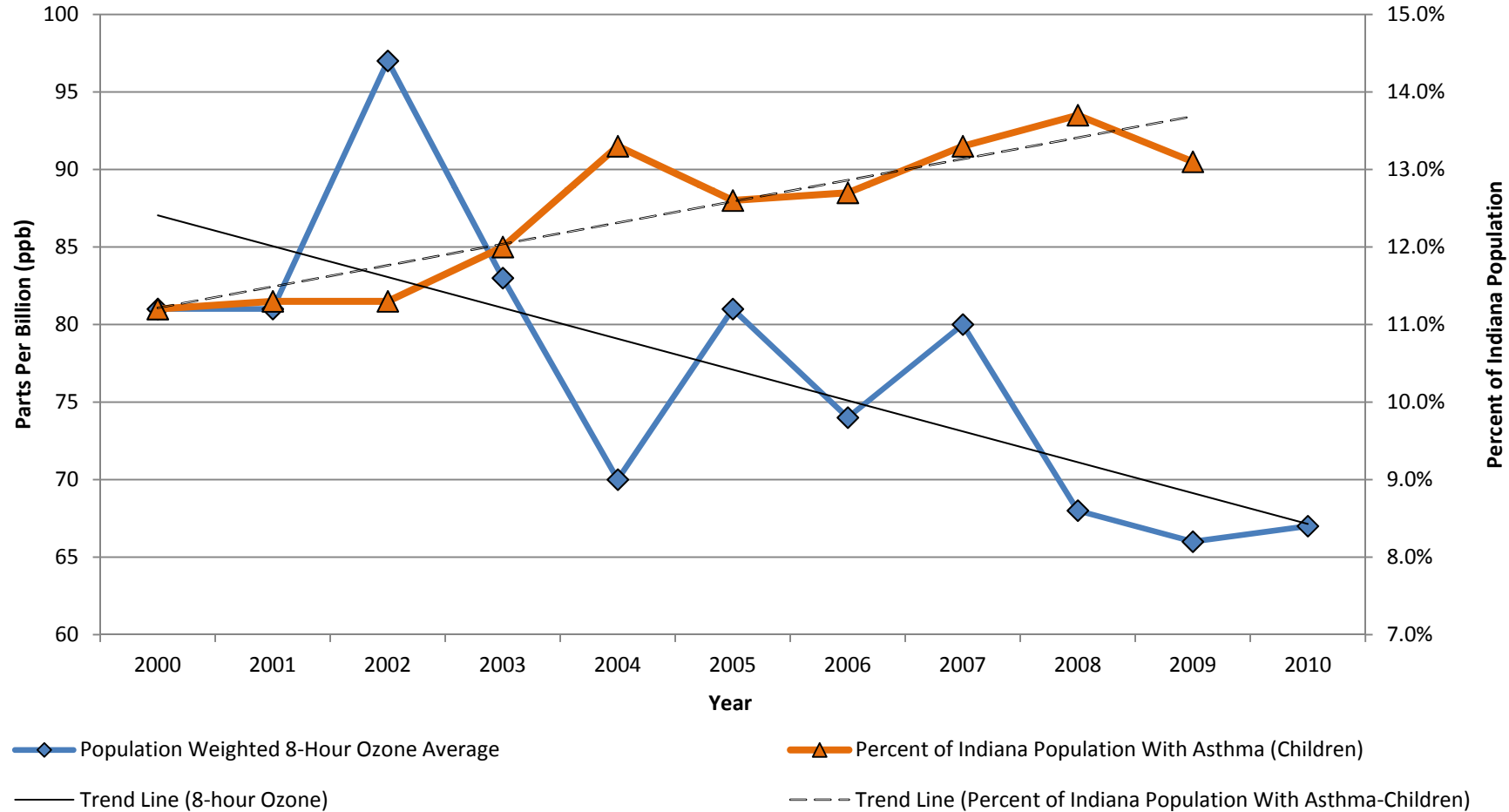


Population Weighted Ozone Trend Compared To Adult Asthma Trend



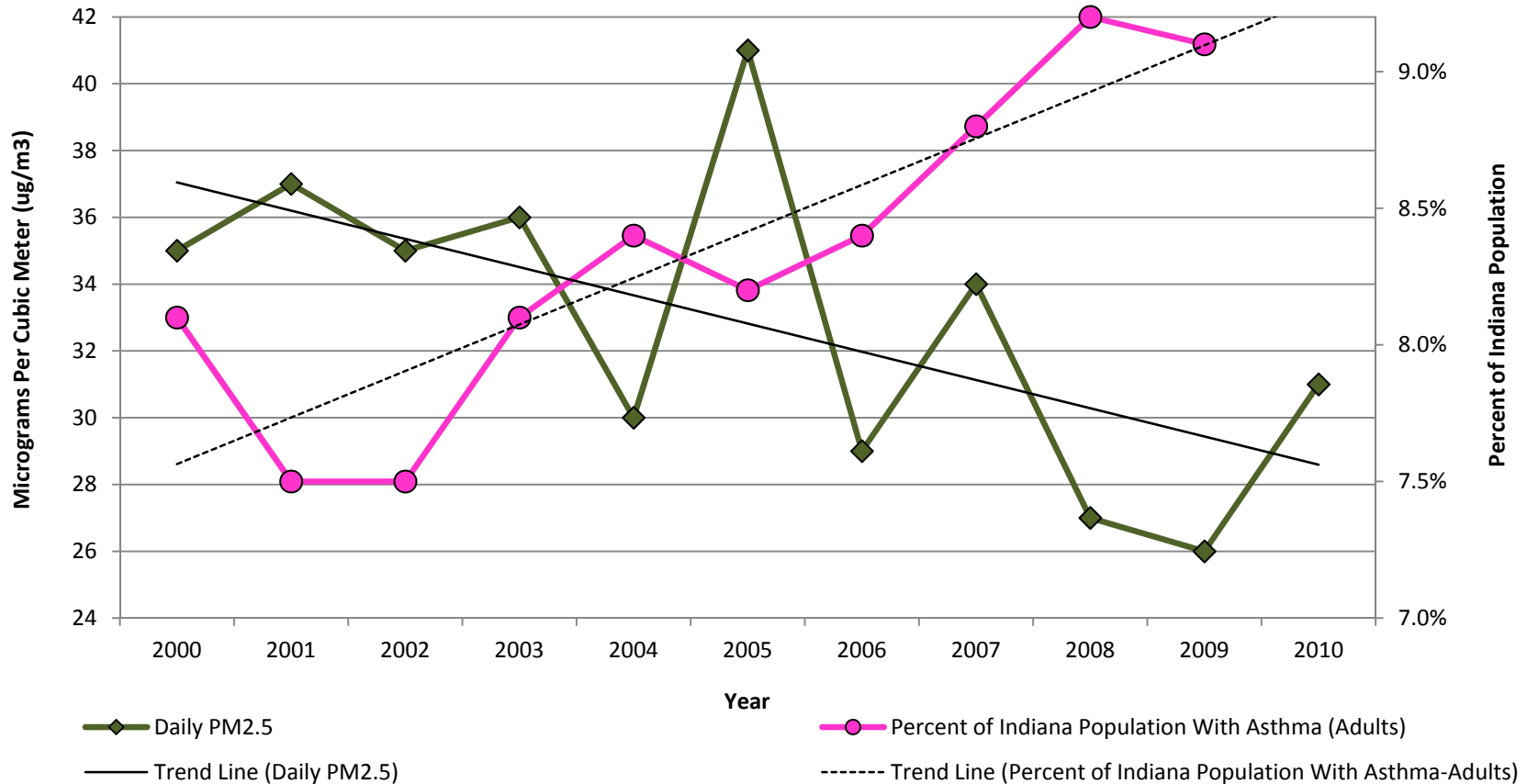


Population Weighted Ozone Trend Compared To Children Asthma Trend



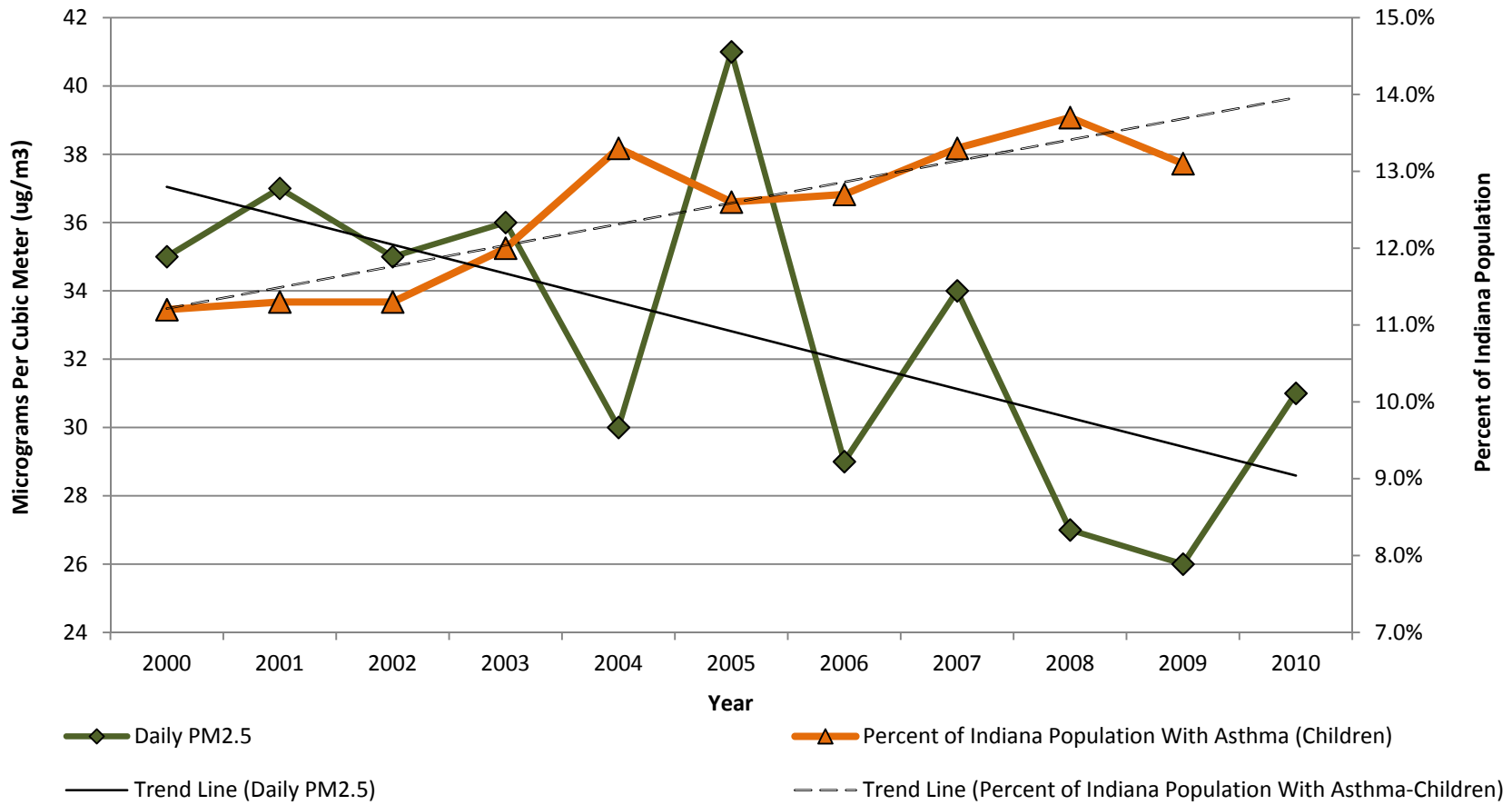


Population Weighted Particulate Matter (PM2.5) Trend Compared to Adult Asthma Trend





Population Weighted Particulate Matter (PM2.5) Trend Compared To Children Asthma Trend





Ongoing Review and Revisions to National Ambient Air Quality Standards (NAAQS)



Current Schedule for Ongoing NAAQS Reviews (September 2011)

MILESTONE	POLLUTANT						
	NO ₂ Primary	SO ₂ Primary	Ozone Reconsideration	CO	PM	NO ₂ /SO ₂ Secondary	Lead
NPR	<u>Jun 26, 2009</u>	<u>Nov 16, 2009</u>	N/A	<u>Jan 28, 2011</u>	Late 2011	<u>July 12, 2011</u>	Nov 2013
NFR	<u>Jan 22, 2010</u>	<u>Jun 2, 2010</u>	N/A	<u>Aug 12, 2011</u>	TBD	<u>Mar 20, 2012</u>	Sept 2014

NOTE:

Underlined dates indicate court-ordered or settlement agreement deadlines

Next Ozone Review: Proposal in June 2013 and Final in March 2014



Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation Date	Designations Effective	110(a) SIPs due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
PM _{2.5} (2006)	Sept 2006	Dec 2009	Sept 2009	Dec 2012	Dec 2014/2019
Pb	Oct 2008	Dec 2010/2011 (extra time for new monitors)	Oct 2011	June 2012/2013	Dec 2015/2016
NO ₂ (primary)	Jan 2010	Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO ₂ (primary)	June 2010	July 2012	June 2013	Jan 2014	July 2017
Ozone Recon.	N/A	NA	NA	NA	NA
CO	Aug 2011	Sept 2013	Aug 2014	Sept 2015	Sept 2018
PM _{2.5} (current review)	TBD				
NO _x /SO _x Secondary	Mar 2012	April 2014	Mar 2015	TBD	TBD



8-hr Ozone NAAQS

- Recent announcement that U.S. EPA will not move forward with 2008 reconsideration
- U.S. EPA announced on September 22, 2011 that it will proceed in implementing 2008 standard
 - Proposed designations late 2011
 - Final designation early 2012
 - Interstate urban areas of Indiana potentially affected (Chicago, Cincinnati, Louisville)



State and Federal Actions and Initiatives To Further Improve Air Quality



IDEM Initiatives to Support Future Air Quality Improvement



- Stage 1 vapor recovery (statewide) (LSA#07-353)-Effective
- Consumer and commercial products (LSA#07-351)-Final Adopted 9/10
- Architectural and Industrial Maintenance (AIM) Coatings (LSA#06-604)
Final Adopted 9/10
- Outdoor hydronic heaters (LSA#05-332)-Final Adoption 3/2/2011
- Automobile refinishing operations (LSA#06-603)-Effective
- DieselWise Indiana and VIP



Recent or Anticipated Federal Regulations

Action	Schedule
Transport Rule (CSAPR)	Final July 2011
Utility Boiler NSPS and MACT	Proposed March 2011 Final November 2011
Transport Rule II (NO _x)	Propose late 2011? Final Summer 2012?
PM _{2.5} NAAQS	Late 2011 or sometime in 2012



Contact Information

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