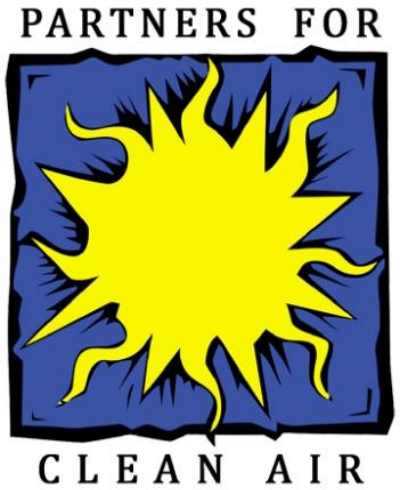
North Central Indiana Air Quality and DieselWise Indiana Update



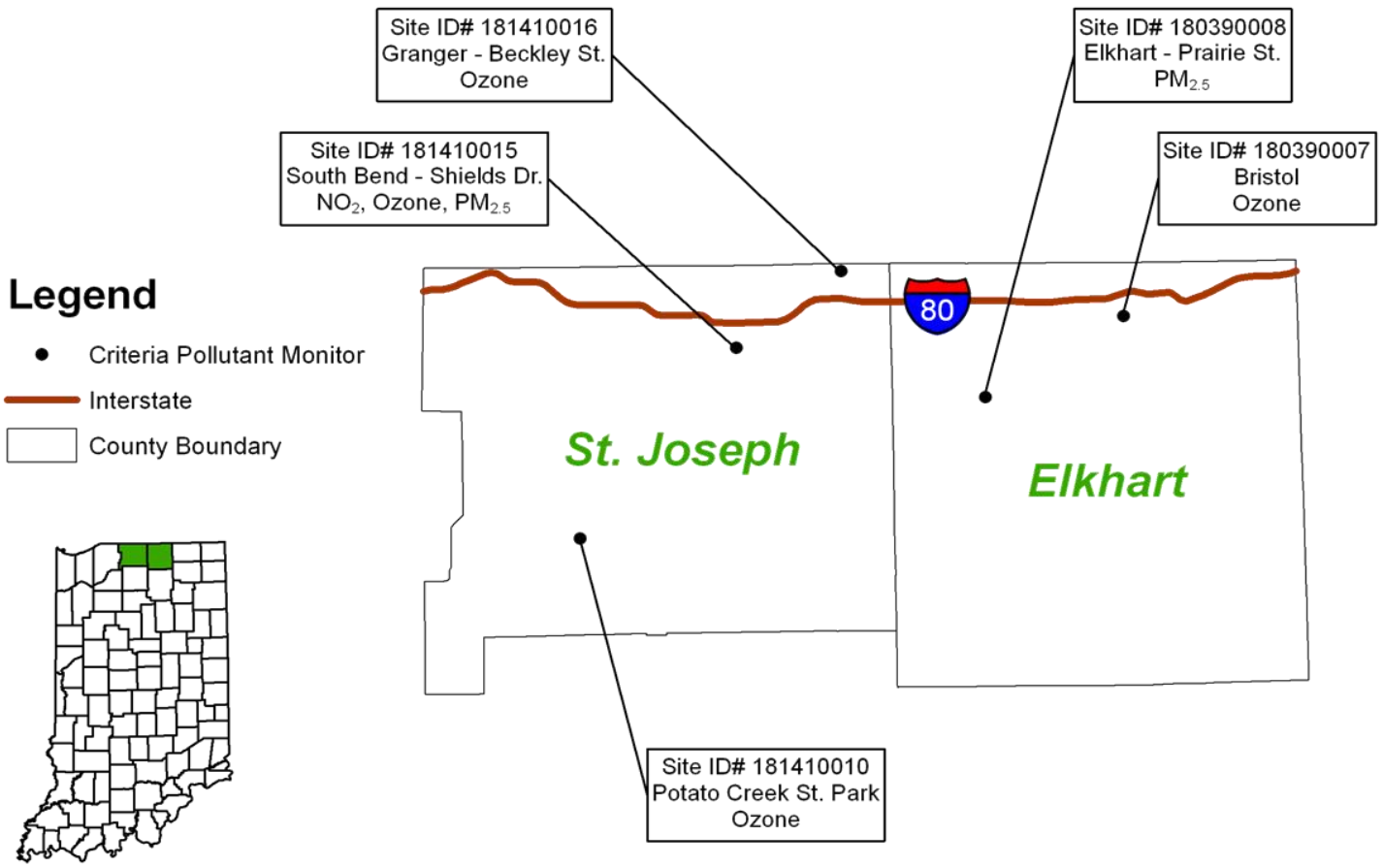
Shawn Seals
Senior Environmental Manager
Office of Air Quality

Indiana Department of Environmental Management (IDEM)
April 25, 2017

Presentation Summary

- Geographic area
- Long-term PM2.5 air quality and emission trends
- Long-term ozone air quality and emission trends
- Current schedule for ongoing National Ambient Air Quality Standards (NAAQS) review
- 8-hour ozone area designations
- Effects of designations
- Air quality conclusions
- 2017 DieselWise Indiana funding

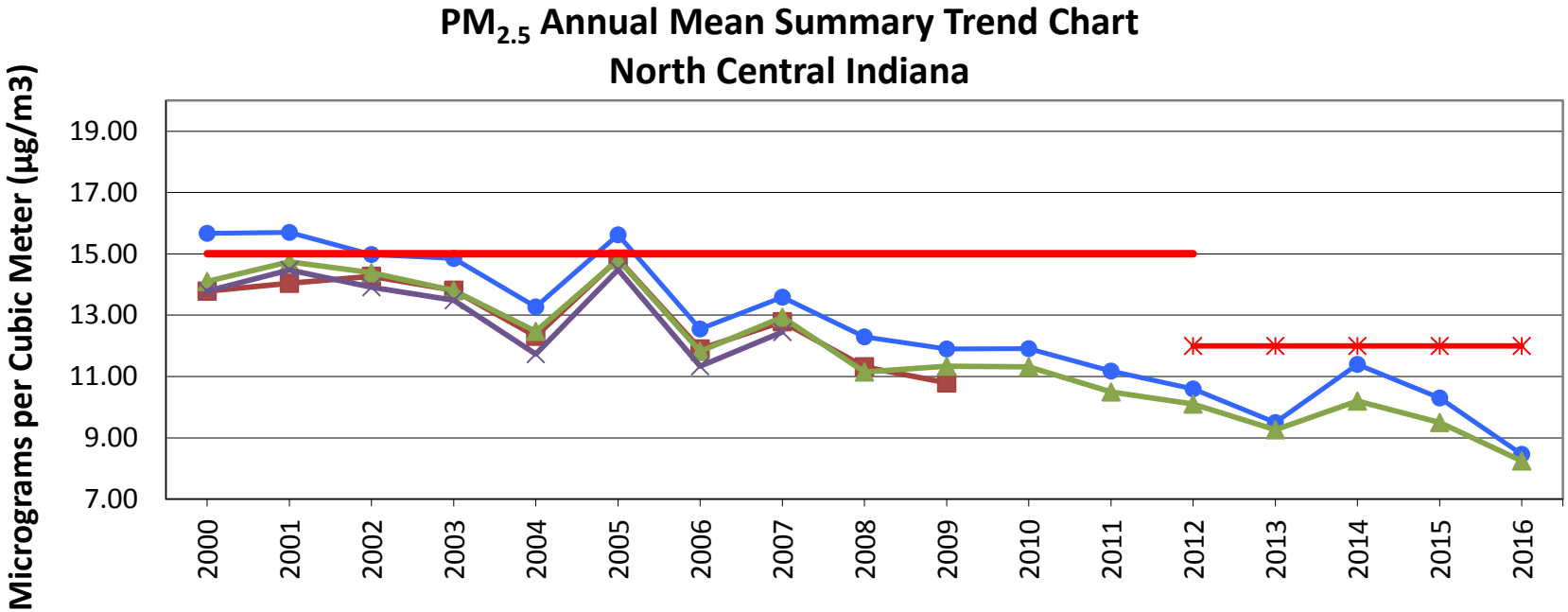
Geographic area



Criteria Pollutant Monitors for *Elkhart* and *St. Joseph* Counties

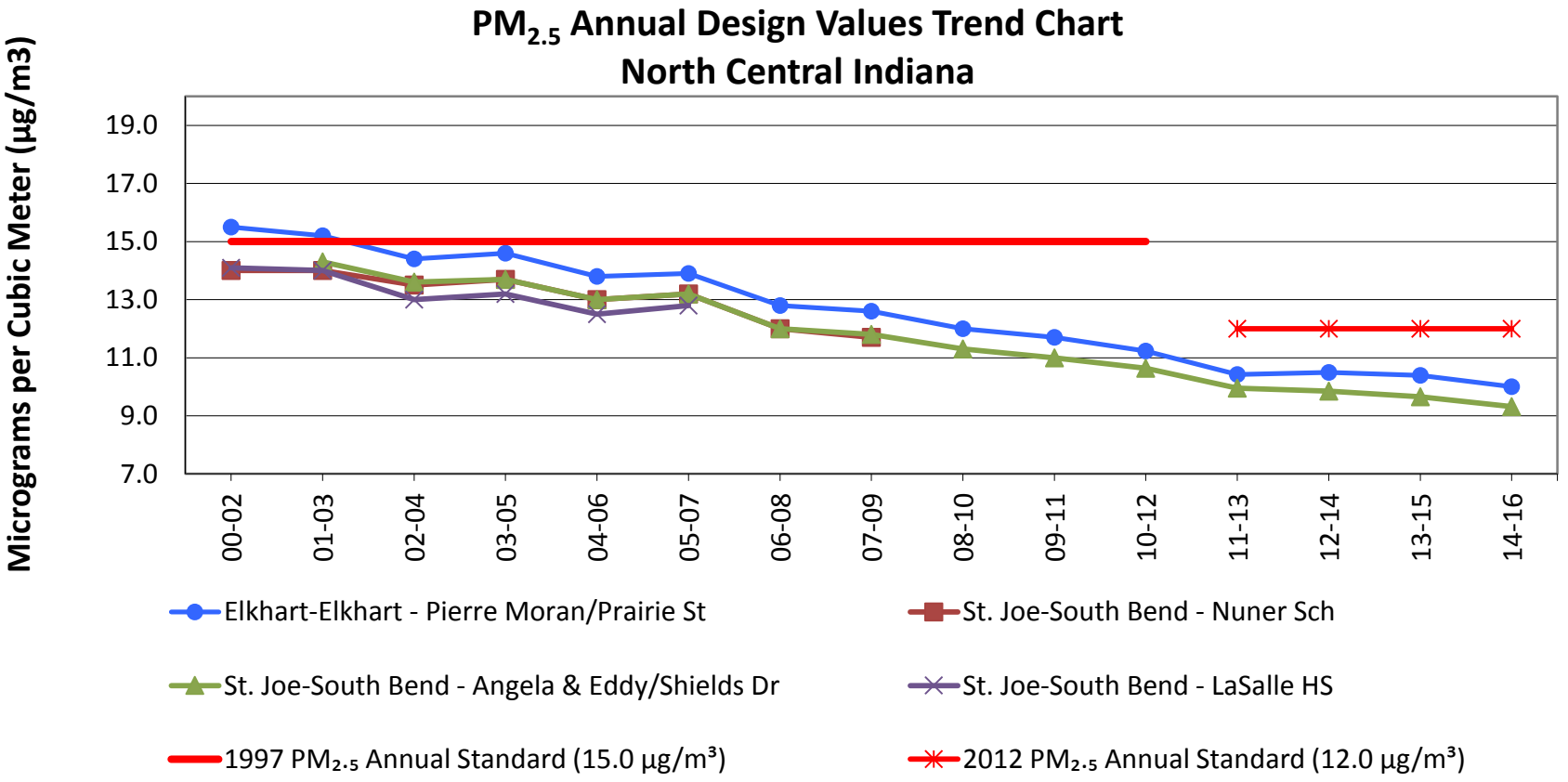
Long-term air quality trends

$PM_{2.5}$



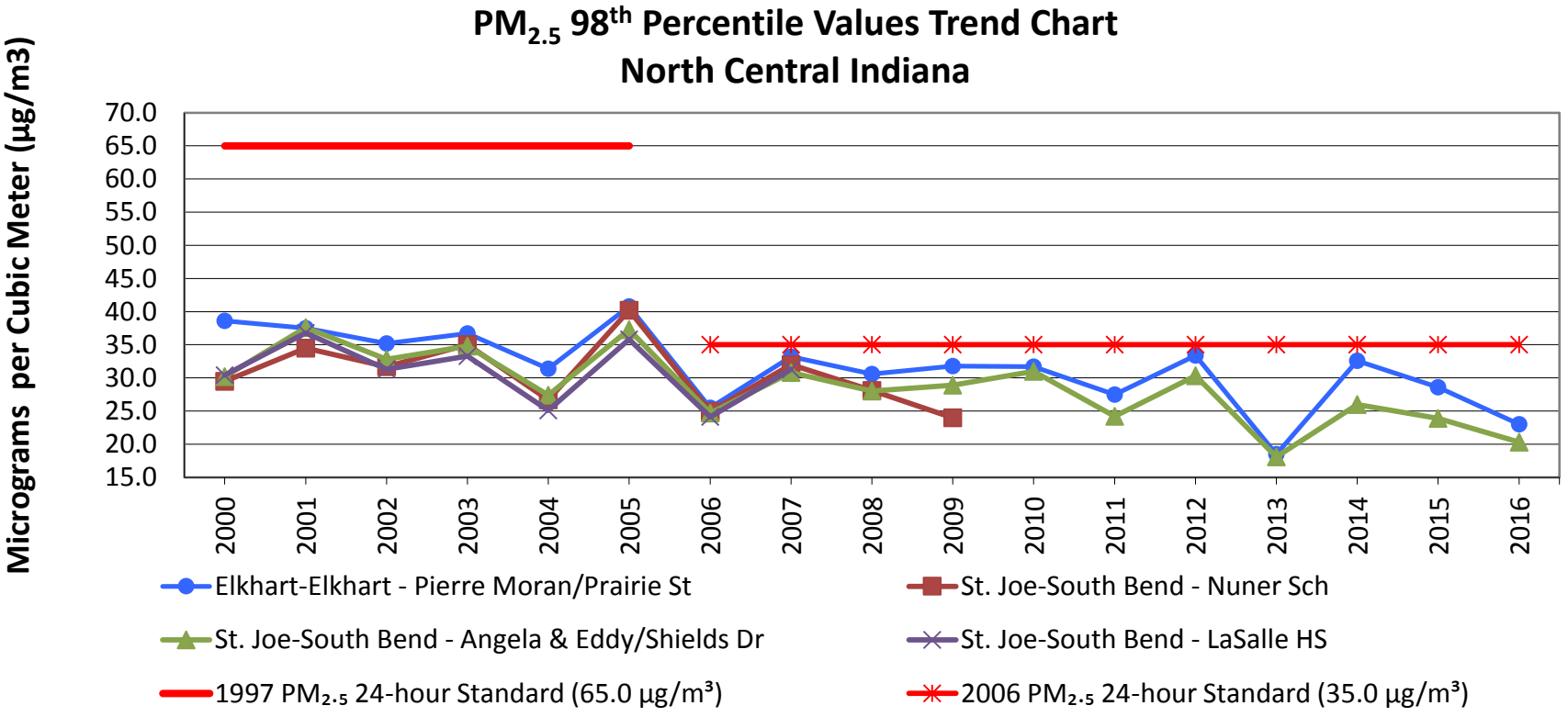
*$PM_{2.5}$ data has been quality assured, but not certified

$PM_{2.5}$



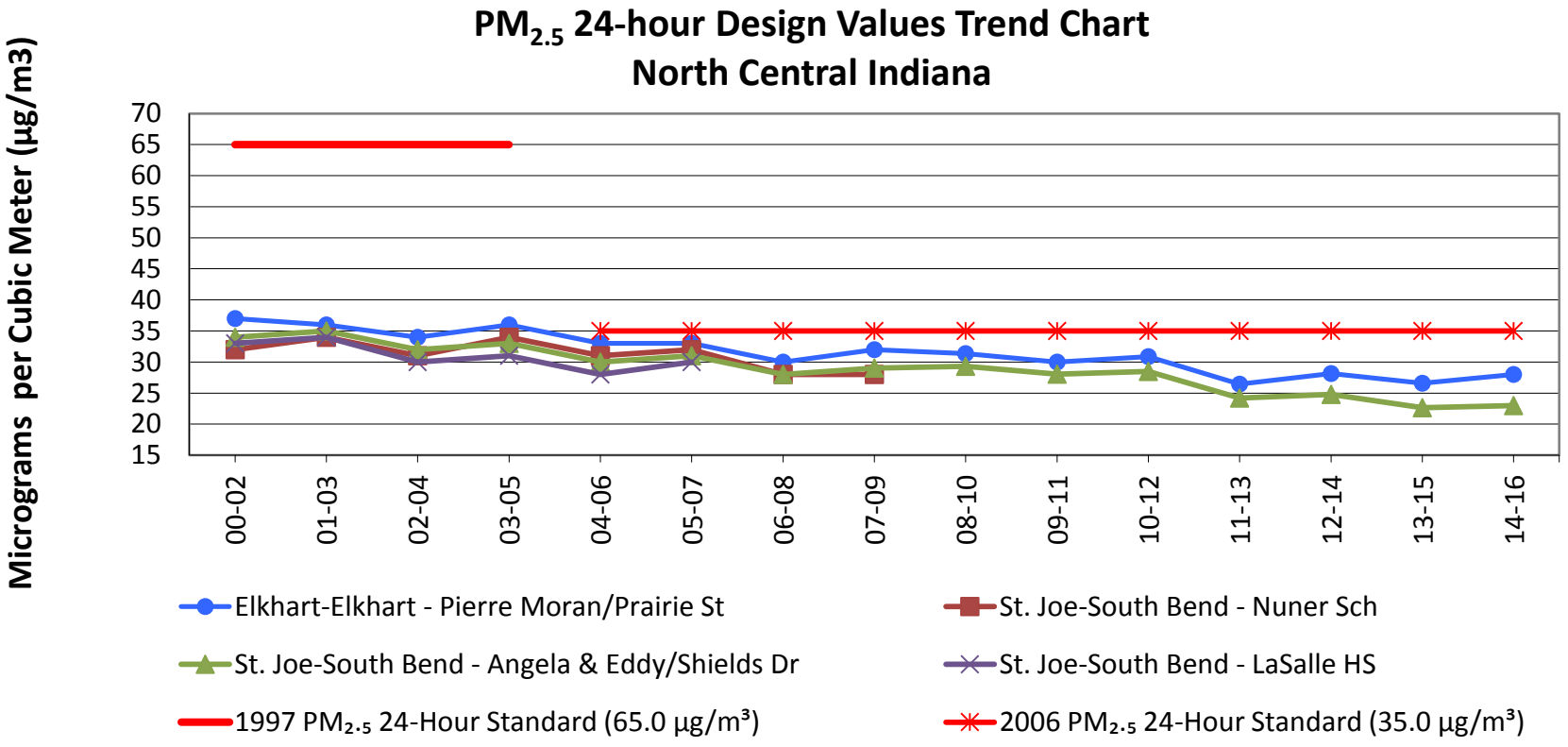
*$PM_{2.5}$ data has been quality assured, but not certified.

$PM_{2.5}$



*$PM_{2.5}$ data has been quality assured, but not certified.

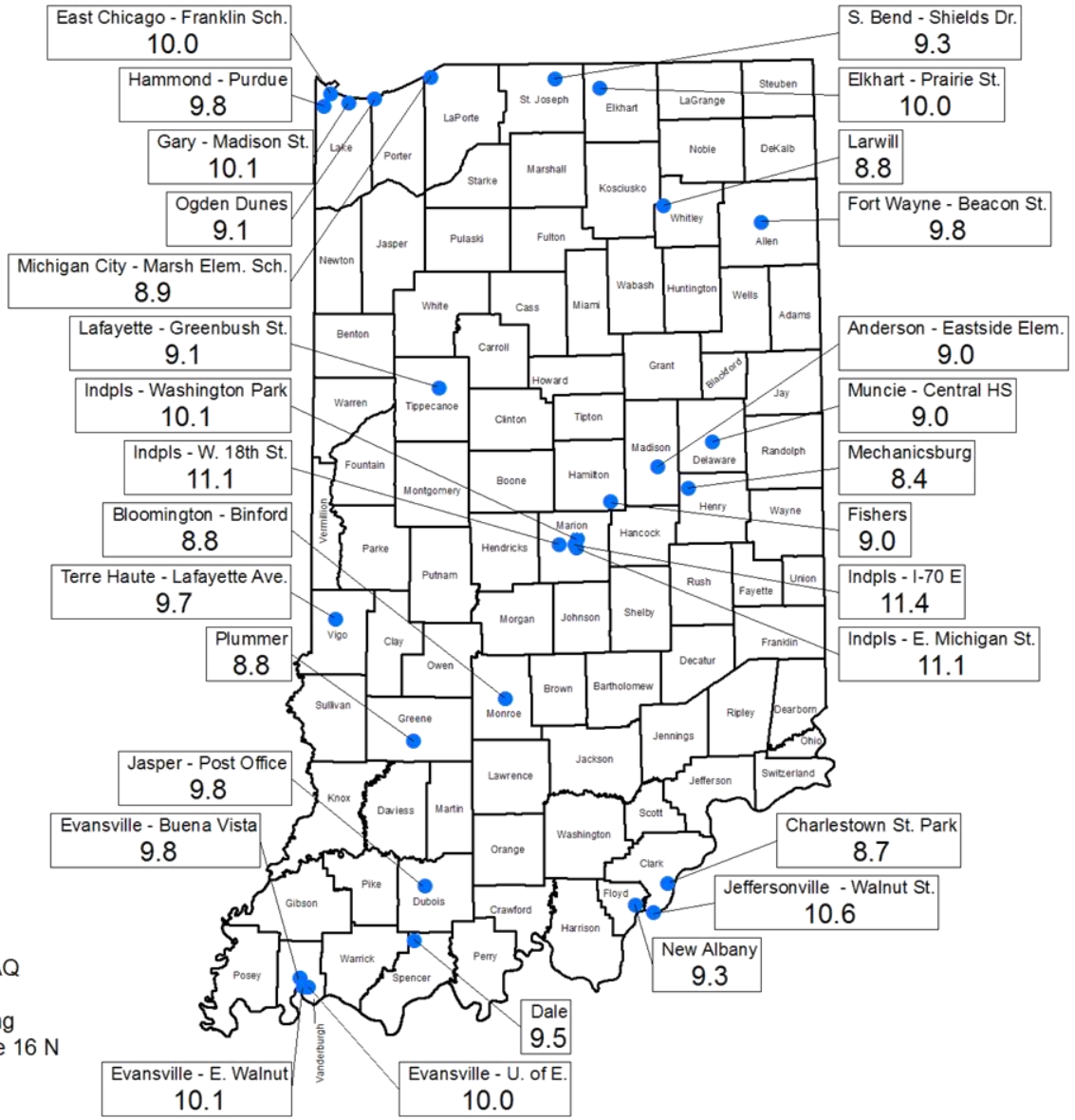
$PM_{2.5}$



*$PM_{2.5}$ data has been quality assured, but not certified.

$PM_{2.5}$ Annual Design Values 2014 - 2016

Standard set at 12.0 µg/m³



Legend

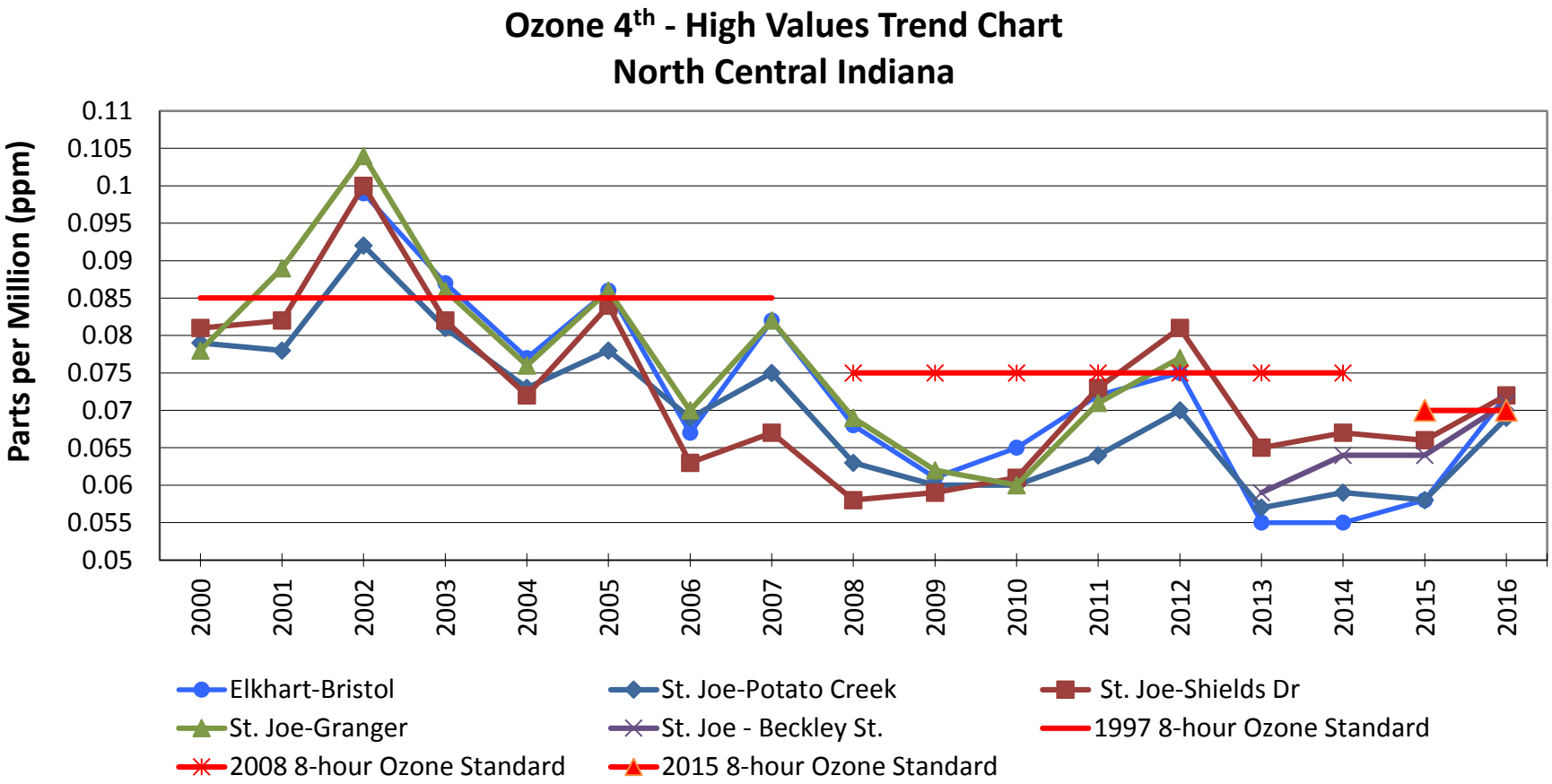
- $PM_{2.5}$ Monitor With Design Value Less Than or Equal to the Standard

0 25 50 mi
0 25 50 km

Notes:
- Posted Data Are in Units of Micrograms Per Cubic Meter (µg/m³)
- Data is quality assured but not yet certified.

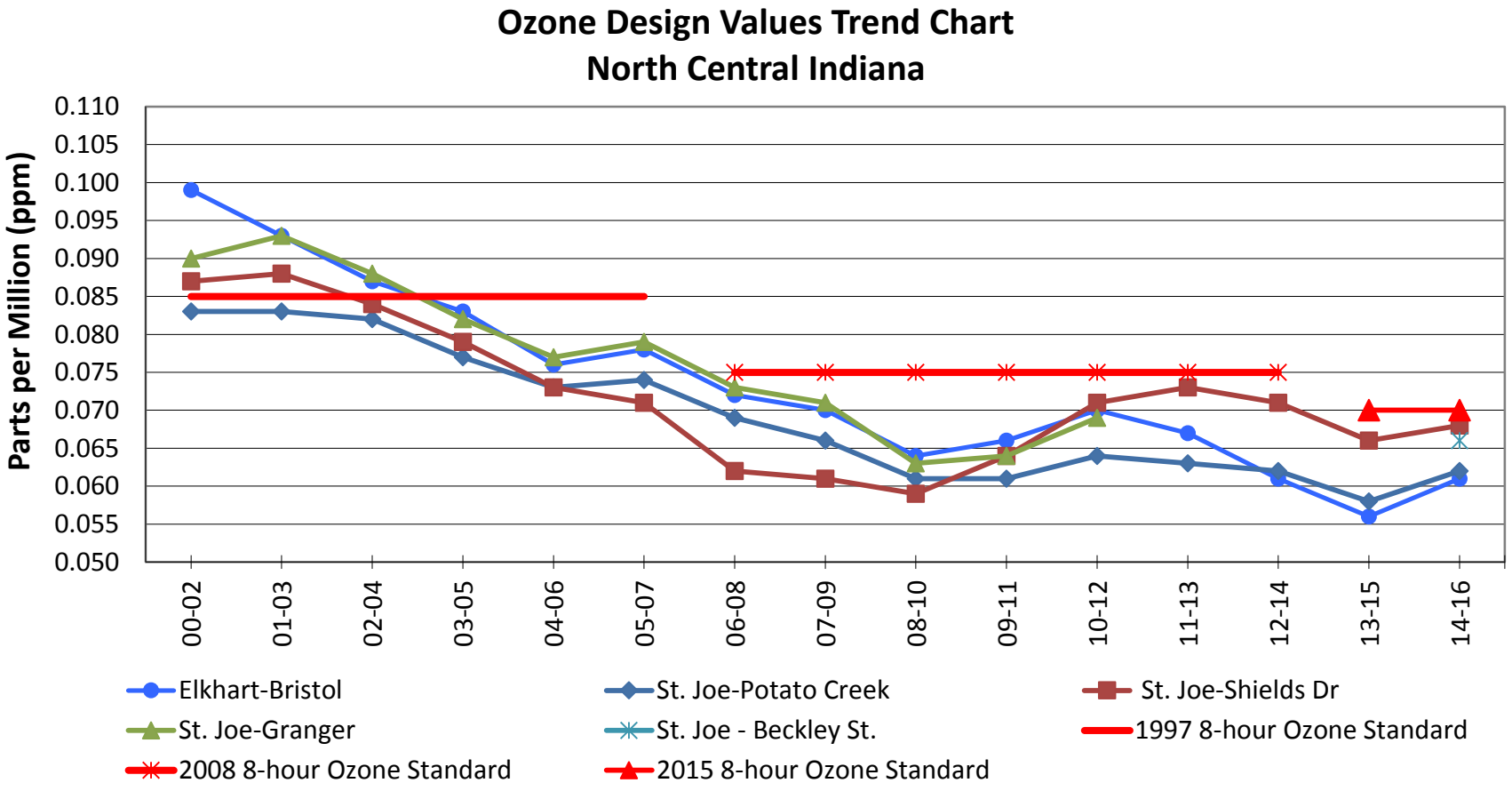
Mapped By: C. Mitchell, OAQ
Date: 04/17/2017
Source: IDEM, Air Monitoring
Map Projection: UTM Zone 16 N
Map Datum: NAD83

Ozone



Ozone data has been quality assured, but not certified.

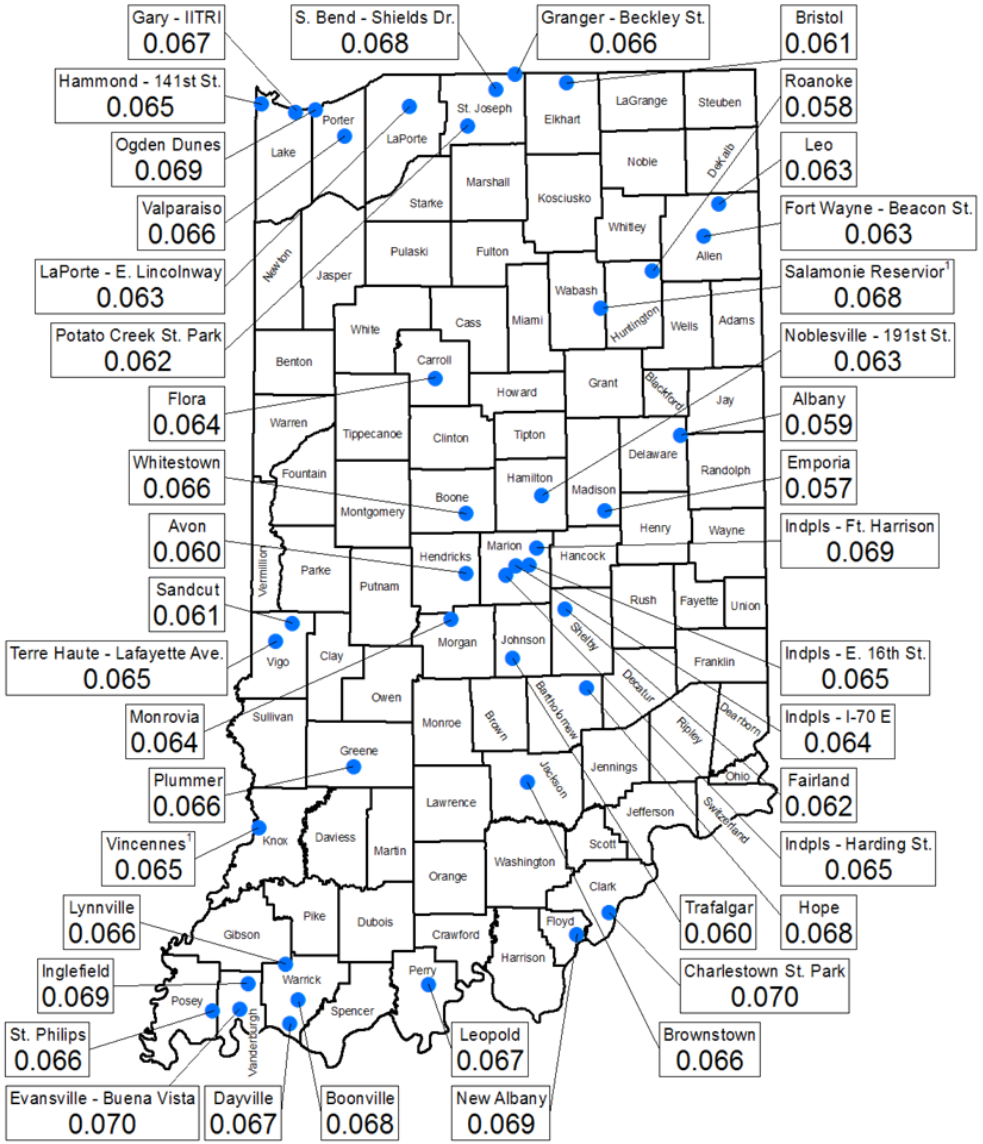
Ozone



Ozone data has been quality assured, but not certified.

Ozone 8-Hour Design Values 2014 - 2016

Standard set at 0.070 ppm



Legend

- Ozone Monitor With Design Value Less Than or Equal to the Standard

0 25 50 mi
0 25 50 km

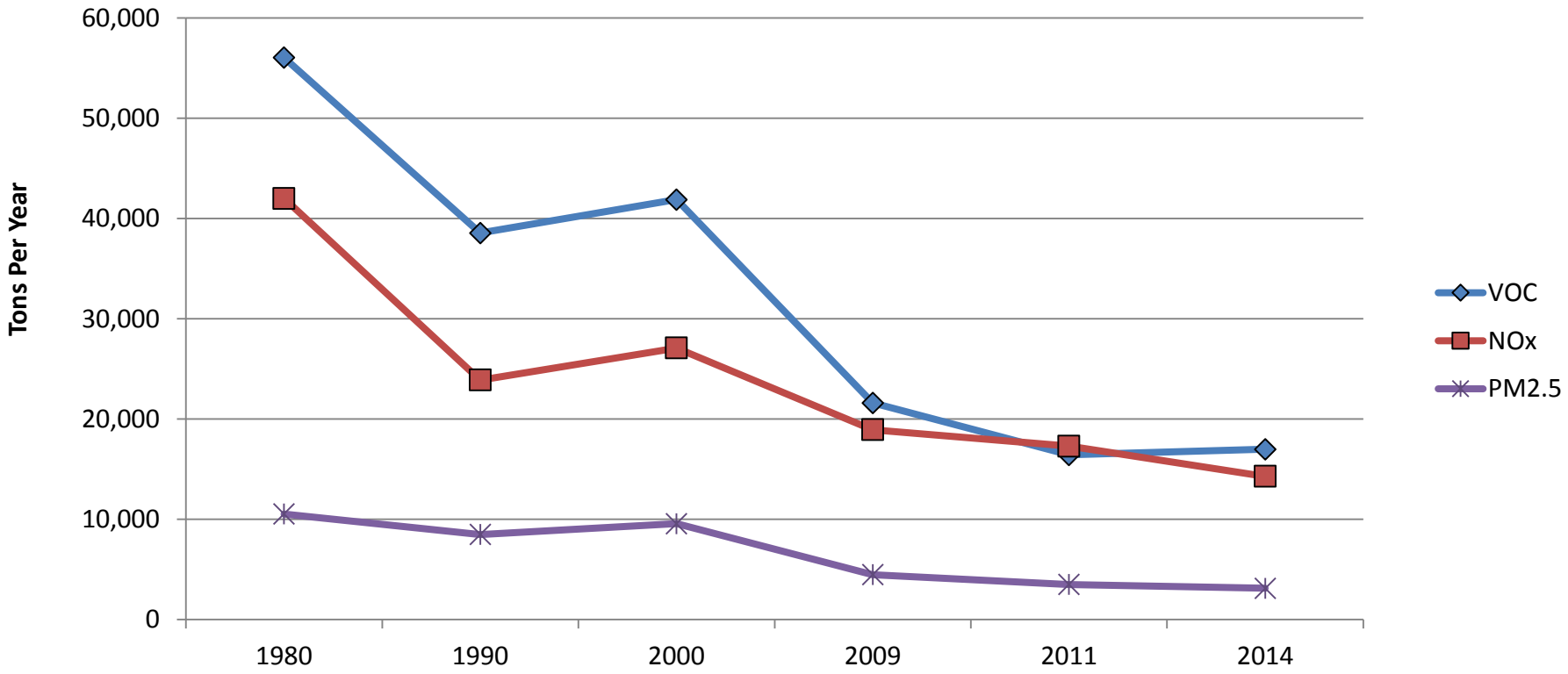
Notes:
- Posted Data Are in Units of Parts Per Million (ppm)
- Data is quality assured but not yet certified.

[1] Monitors owned and operated by the U.S. Environmental Protection Agency (U.S. EPA).

Mapped By: C. Mitchell, OAQ
Date: 4/18/2017
Source: IDEM, Air Monitoring
Map Projection: UTM Zone 16 N
Map Datum: NAD83

Long-term emission trends

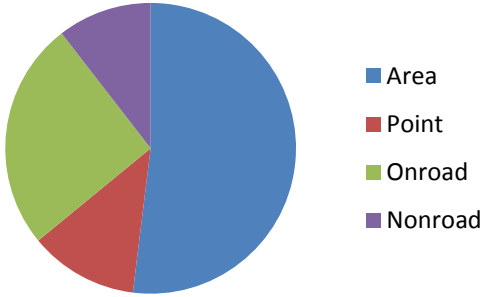
Emission Trends – Elkhart and St. Joseph Counties



Emissions based on U.S. EPA's Air Pollutant Emissions Trends Data.

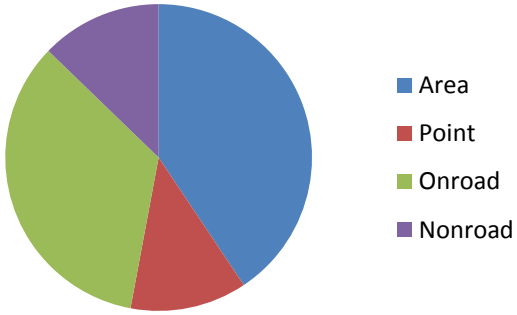
VOC Emission Trends – Elkhart and St. Joseph Counties

2009 VOC



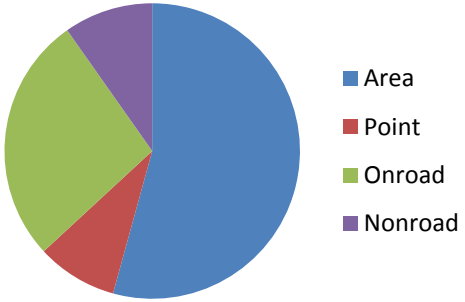
Total VOC
21,608

2011 VOC



Total VOC
16,428

2014 VOC



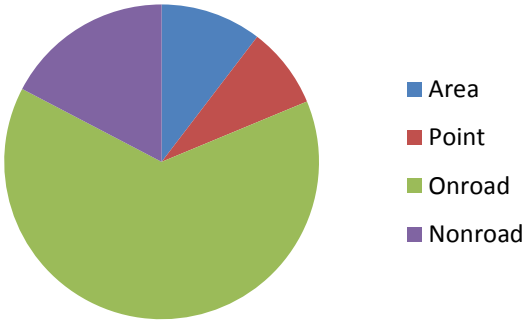
Total VOC
16,991

Values are in Tons Per Year.

Emissions based on U.S. EPA's Air Pollutant Emissions Trends Data.

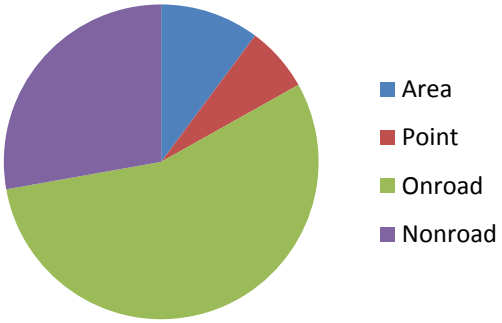
NO_x Emission Trends – Elkhart and St. Joseph Counties

2009 NO_x



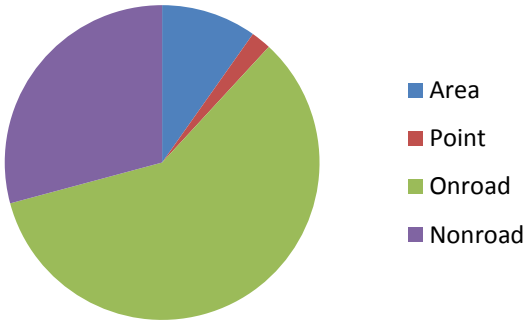
Total NO_x 19,834

2011 NO_x



Total NO_x 17,292

2014 NO_x



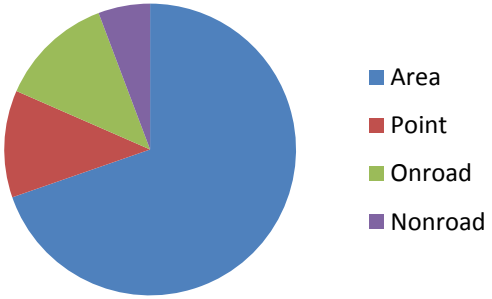
Total NO_x 14,277

Values are in Tons Per Year.

Emissions based on U.S. EPA's Air Pollutant Emissions Trends Data.

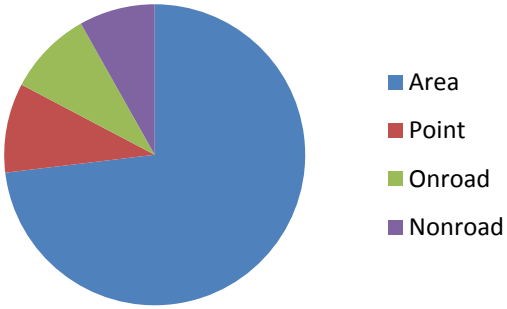
$PM_{2.5}$ Emission Trends – Elkhart and St. Joseph Counties

2009 $PM_{2.5}$



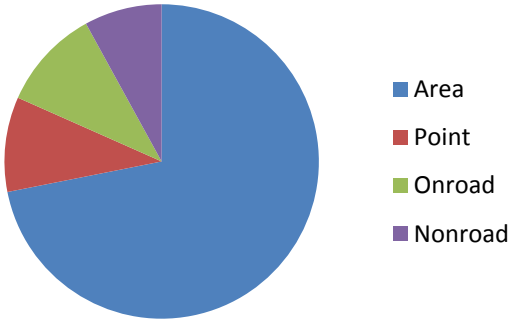
Total $PM_{2.5}$ 4,143

2011 $PM_{2.5}$



Total $PM_{2.5}$ 3,494

2014 $PM_{2.5}$



Total $PM_{2.5}$ 3,116

Values are in Tons Per Year.

Emissions based on U.S. EPA's Air Pollutant Emissions Trends Data.

NAAQS Reviews/Updates

	Ozone	Lead	Primary NO_2	Primary SO_2	Secondary NO_2, SO_2, PM[1]	PM[2]	CO
Last Review Completed Final Rule Signed)	Oct 2015	Sep 2016	Jan 2010	Jun 2010	Mar 2012	Dec 2012	Aug 2011
Recent or Upcoming Major Milestone(s)[3]	TBD[4]	TBD[4]	Jan 2016 Final ISA Sep 2016 1st Draft PA Spring 2017 Final PA	Dec 2016 2nd Draft ISA Feb 2017 REA Planning Document Mar 2017 CASAC review of Draft ISA and REA Planning Document	Jan 2017 Final IRP Spring 2017 CASAC review of 1st Draft ISA	Dec 2016 Final IRP Winter 2017/2018 1st Draft ISA and REA Planning Document	TBD[4]

1 Combined secondary (ecological effects only) review of NO_2, SO_2, and PM.
2 Combined primary and secondary (non-ecological effects) review of PM.
3 IRP – Integrated Review Plan; ISA – Integrated Science Assessment; REA – Risk and Exposure Assessment; PA – Policy Assessment.
4 TBD = To Be Determined.

Anticipated NAAQS Implementation Milestones

Pollutant	Final NAAQS Date	Designations Effective	Infrastructure SIP Due	Attainment Plans Due	Attainment Date
Ozone (2008)	Mar 2008	Jul 2012	Mar 2011	Mid 2015-2016	Mid 2015-2032
Ozone (2015)	Oct 2015	Dec 2017	Oct 2018	Dec 2020-2021	2020-2037
Lead (2008)	Oct 2008	Dec 2010-2011	Oct 2011	Jun 2012-2013	Dec 2015-2019
Primary NO2 (2010)	Jan 2010	Feb 2012	Jan 2013	N/A	N/A
Primary SO2 (2010)	Jun 2010	Oct 2013, Sep 2016 (+2 Rounds)	Jun 2013	Apr 2015, Mar 2018 (2019, 2022)	Oct 2018, Sep 2021 (2023, 2026)
PM2.5 (2006)	Oct 2006	Dec 2009	Oct 2009	Dec 2014	Dec 2015 (Mod) Dec 2019 (Ser)
PM2.5 (2012)	Dec 2012	Apr 2015	Dec 2015	Oct 2016 (Mod)	Dec 2021 (Mod) Dec 2025 (Ser)

8-hour Ozone Area Designations

- On October 1, 2015, U.S. EPA promulgated a rule to revise and strengthen the 8-hour ozone standard to 0.070 parts per million (ppm). The final rule was published in the Federal Register on October 26, 2015.
- 8-hour design values for all Indiana counties are presently below 0.070 ppm.
- On September 16, 2016, IDEM submitted designation recommendations.
  - Based on quality-assured, certified ambient air quality data for 2013-2015 and quality assured data for the 2014-2016 time frame, IDEM recommended all of the monitored counties in Indiana be designated attainment and all other counties within Indiana be designated as unclassifiable.
  - 2016 monitor data within the Chicago area and Cincinnati area will need to be closely observed.
- By no later than October 1, 2017, U.S. EPA will promulgate final ozone area designations.

Effects of Designation

- In an area designated "attainment," Prevention of Significant Deterioration (PSD) permitting program requirements apply to new or modified sources.
- Under the PSD program, sources must perform an air quality analysis and install "Best Available Control Technology," or BACT.
- In an area designated "nonattainment," nonattainment New Source Review (NSR) permitting program requirements apply to new or modified sources.
- Under the nonattainment NSR program, sources must also perform an air quality analysis and utilize the "Lowest Achievable Emission Rate," or LAER, which is equal to or more stringent than BACT. In addition, sources must obtain "emission offsets," that increase depending on the severity of the nonattainment area (i.e., for every ton emitted, there must be a minimum of 1.1 tons reduced from permitted sources within a marginal nonattainment area).
- Nonattainment areas are also subject to additional state requirements, which could include vehicle emissions testing, a demonstration of transportation conformity, and/or a reasonable further progress demonstration.

Air Quality Conclusions

- Monitored air quality values have been trending downward and will continue to improve into the future.
- The overall decrease in emissions in Elkhart and St. Joseph counties can be attributed to a variety of national, regional, statewide, and local controls and initiatives.

2017 DieselWise Indiana Funding

Shawn Seals
DieselWise Indiana Administrator
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Email: SSeals@idem.IN.gov
Web: www.idem.IN.gov/airquality/2561.htm

What Vehicles, Engines, and Equipment Are Eligible?

- Projects may include, but are not limited to:
  - Buses
  - Medium-duty or heavy-duty trucks
  - Marine engines
  - Locomotives
  - Nonroad engines, equipment, or vehicles used in:
    - Construction, cargo handling (including at a port or an airport), agriculture, mining, or energy production (including stationary generators and pumps).

How Much of the Project Cost Will DieselWise Indiana Cover?

- Over $500,000 available for Clean Diesel Projects!
  - Maximum single grant award of $250,000.
- U.S. Environmental Protection Agency and/or California Air Resource Board Verified or Certified Technologies.

Questions and Contact Information

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