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February 17, 2017

Submitted via Hand-Delivery and Email: McCabe.catherine@epa.gov

The Honorable Scott Pruitt
Congressionally Confirmed Administrator
The Honorable Catherine E. McCabe
Acting Administrator U.S. EPA
USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, DC 20460

Re: Petition for Administrative Reconsideration of the Reclassification of the Sheboygan Wisconsin Area to Moderate Nonattainment for the 2008 Ozone National Ambient Air Quality Standards; Docket No. EPA-HQ-OAR-2016-0277

Dear Administrator McCabe:

Please find attached a Petition for Administrative Reconsideration of the Reclassification of the Sheboygan Wisconsin Area to Moderate Nonattainment for the 2008 Ozone National Ambient Air Quality Standards. Thank you and your staff for your consideration of the enclosed petition.

Sincerely,

MICHAEL BEST & FRIEDRICH LLP

Todd E. Palmer/REM

Todd E. Palmer

TEP/rem

Enclosure

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028294-1001\20476315.1

BEFORE THE ADMINISTRATOR OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENY

In re:	)	
	)	**EPA Docket No.**
RECONSIDERATION OF THE	)	**EPA-HQ-OAR-2016-0277**
RECLASSIFICATION OF THE	)	
SHEBOYGAN WISCONSIN AREA TO	)	
MODERATE NONATTAINMENT FOR	)	
THE 2008 OZONE NATIONAL	)	
AMBIENT AIR QUALITY	)	
STANDARDS,	)	
81 Fed. Reg. 91841	)	
(December 19, 2016)	)	

PETITION FOR ADMINISTRATIVE RECONSIDERATION OF THE RECLASSIFICATION OF THE SHEBOYGAN WISCONSIN AREA TO MODERATE NONATTAINMENT FOR THE 2008 OZONE NATIONAL AMBIENT AIR QUALITY STANDARDS

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Submitted: February 17, 2017

INTRODUCTION

Pursuant to Section 307(d)(7)(B) of the Clean Air Act (CAA), 42 U.S.C. § 7607(d)(7)(B), Wisconsin Manufacturers and Commerce (the "Petitioner" or "WMC") respectfully requests the Administrator of the U.S. Environmental Protection Agency ("EPA" or "the Administrator") to reconsider the final rule titled *Reclassification of the Sheboygan Wisconsin Area to Moderate Nonattainment for the 2008 Ozone National Ambient Air Quality Standards*, Docket Number EPA-HQ-OAR-2016-0277 ("Final Rule") and published at 81 Fed. Reg. 91841, *et seq.* (December 19, 2016) (the "Final Rule"). CAA § 307(d)(7)(B) provides in relevant part:

> If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within [the time provided for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed.

The grounds for the objections raised in this petition are based upon actions undertaken by EPA for the first time in the Final Rule or since promulgation of the Final Rule, and therefore could not have been raised during the public comment period. None of the issues raised in the petition are a logical outgrowth of the proposed rule. Further, and as explained below, these issues are of central relevance to the outcome of the Final Rule. These shortcomings, whether considered individually or collectively, amount to a failure to adequately provide notice and solicit public input on key components of the Final Rule, thereby depriving the Petitioner and the general public of their rights in the rulemaking process.

Therefore, the Administrator is required to "convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed." *Id.*; see also *Coalition for Responsible Regulation, Inc. v. EPA,* 684 F.3d 102, 125 (D.C. Cir. 2012) (EPA is required to convene a proceeding for reconsideration of a rule if a party raising an objection to the rule meets the requirements in CAA § 307(d)(7)(B)).

Petitioner also requests an administrative stay of the Final Rule pursuant to CAA §§ 307(d)(7)(B) and 301(a) so as to alleviate hardships that are imposed upon the Petitioner's members which operate in Sheboygan County and which must comply with the improper provisions within the Final Rule. This stay should remain in place beyond the three months prescribed in CAA § 307(d)(7)(B), instead extending until EPA promulgates a revised version of the Final Rule which adequately considers and accounts of the issues raised in this Petition. Furthermore, on February 13, 2017, EPA closed the public comment period on its proposed rule regarding implementation of the 2015 ozone standard. Comments were filed in that rule docket requesting that EPA withdraw the 2008 ozone standard for all counties, including Sheboygan County, upon implementation of the 2015 ozone standard. Petitioner requests a stay to allow EPA to fully and adequately consider those comments and perhaps issue a final rule

implementing the 2015 ozone standard in a manner that renders moot the issues raised in this Petition.

PETITIONER

WMC is a business trade organization with approximately 3,800 members statewide of all sizes and throughout all business sectors. WMC members have a substantial interest in Wisconsin ozone designations as they are subject to the Clean Air Act (CAA) and hold air permits which regulate air emissions from their facilities. WMC's primary interest relates to economic and regulatory ramifications for those areas, including Sheboygan County, being designated as nonattainment.

BACKGROUND OF SHEBOYGAN COUNTY NONATTAINMENT

Sheboygan County, Wisconsin is located on Lake Michigan approximately 55 miles north of Milwaukee and 140 miles north of Chicago.[1] The county is home to just over 115,000 Wisconsinites.[2] Sheboygan County's largest municipality and seat of government, is the City of Sheboygan, which has a population of just under 50,000.[3]

The economy of Sheboygan County has been hampered by ozone nonattainment designations since 1979.[4] These designations have made it difficult to attract new businesses, contributed to employers leaving the area and resulted in investment of capital being diverted elsewhere. These nonattainment designations have also tarnished Sheboygan County with an unfounded reputation of being an unhealthy community[5] making it more difficult to attract residents, especially millennials and retirees.

Yet these ozone problems are unfortunate artifacts of an arcane and outdated set of federal directives which rely on ozone monitors that lie along the Lake Michigan shoreline. Lake Michigan is known to be an "ozone cooker" where transported pollutants collect and interact in sunlight to form ozone. Wisconsin's riparian monitors pick up this transported ozone as it blows off the Lake and before it dissipates moving inland. As a result, the ozone levels measured at these riparian monitors are relatively high and do not represent air quality within these counties.

For Sheboygan County, the problem lies in EPA's continued reliance on the riparian Kohler Andrae monitor (Site ID: 55-117-0006) to designate Sheboygan County as nonattainment. Although the Kohler Andrae monitor design values for 2014-16 exceed the 2008 ozone national ambient air quality standard (NAAQS), evidence demonstrates that the majority of this ozone is transported from out of state. The entire State of Wisconsin contributes less than 10 percent to

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[1] VisitSheboygan.com, "About us." Available at: http://visitsheboygan.com/about/.
[2] U.S. Census Bureau, "QuickFacts: Sheboygan County, Wisconsin." Available at: http://www.census.gov/quickfacts/table/PST045215/55117,00.
[3] U.S. Census Bureau, "QuickFacts: Sheboygan city, Wisconsin." Available at: http://www.census.gov/quickfacts/table/PST045215/5572975,00.
[4] http://www.ladco.org/reports/ozone/post08/Great_Lakes_Ozone_Study_White_Paper_Draft_v6.pdf, p. 6. Some counties were reclassified as attainment in 2012, yet EPA is expected to return them to nonattainment this October 2017.
[5] http://www.tmj4.com/news/air-quality-receives-failing-grades-in-wisconsin.

the ozone monitored at that location and Sheboygan County sources contribute even less.[6] Sheboygan County's total annual NOx emissions account for just two percent of the total NOx emissions within Wisconsin with the largest source being coal-fired electrical power generation at the Edgewater Generating Station.[7]

Recent analyses prepared by Wisconsin Department of Natural Resources (WDNR) document the role of meteorology and ozone transport in driving ozone concentrations at both the riparian Kohler Andrae and inland Haven monitors.[8] WDNR focused upon those hours at each monitor where measured ozone concentrations exceeded 70 ppb. WDNR concludes that almost all ozone measured at these monitors comes from the Lake and that most comes from angles that likely indicate a Lake breeze.[9]

Clearly the source of the elevated Kohler Andrae monitor readings is upwind, out-of-state sources, yet EPA policy saddles Sheboygan County with a nonattainment designation. Yet LADCO recently concluded that interstate transport significantly limits Wisconsin's options to reduce the ozone concentrations at this site.[10] Indeed, Sheboygan County continues to bear the burden of an ozone nonattainment designation despite significant reductions of ozone precursor emissions. For example, emissions of nitrogen oxides (NO_x) have declined 47 percent from 2008 to 2014, while emissions of volatile organic compounds (VOC) have declined 39 percent over the same time period based on data from the EPA's National Emissions Inventory (NEI).[11] Yet, EPA still relies upon the Kohler Andrae monitor data and considers Sheboygan County as being in nonattainment with the 2008 ozone standard (75 ppb) and is poised to designate Sheboygan County as being in nonattainment with the 2015 ozone standard (70 ppb).

Background of EPA Final Rule Reclassifying the Sheboygan, Wisconsin Area to Moderate Nonattainment for the 2008 Ozone NAAQS

On April 30, 2012, Sheboygan County was designated as nonattainment for the 2008 ozone NAAQS and was classified as marginal, effective July 20, 2012. 77 FR 30088 (May 21, 2012). Wisconsin submitted a letter to EPA requesting a one-year extension of the attainment deadline for Sheboygan County under section 181(a)(5) of the CAA. In that letter, Wisconsin certified that the State had complied with all requirements and commitments pertaining to Sheboygan County in the SIP and that all monitors in the area had a fourth highest daily maximum 8-hour average of 75 ppb or less for 2014 (*i.e.,* the last full year of air quality data prior to the July 20, 2015, attainment date). On May 4, 2016, based on EPA's evaluation and determination that the area met the attainment date extension criteria of CAA section 181(a)(5), EPA granted Sheboygan County a one-year extension of the marginal area attainment date to July 20, 2016. 81 FR 26697.

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[6] http://www.ladco.org/reports/ozone/post08/Great_Lakes_Ozone_Study_White_Paper_Draft_v6.pdf, p. 7; WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 9. (Attachment A)

[7] Id., p. 6.

[8] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 6. (Attachment A).

[9] Id.

[10] http://www.ladco.org/reports/ozone/post08/Great_Lakes_Ozone_Study_White_Paper_Draft_v6.pdf, p. 7.

[11] https://www.epa.gov/air-emissions-inventories

On September 28, 2016, EPA proposed to determine that the Sheboygan area failed to attain the 2008 ozone NAAQS by the applicable attainment date of July 20, 2016, is not eligible for an additional one-year attainment date extension, and must be reclassified as moderate nonattainment. 81 FR 66617. EPA also proposed to require Wisconsin to submit SIP revisions to address moderate area requirements by January 1, 2017. The public comment period on the proposed rule closed on October 28, 2016.

On December 19, 2016, EPA issued the Final Rule which is the subject of this petition for administrative reconsideration. In the Final Rule EPA determined that the Sheboygan Area has failed to attain the 2008 ozone NAAQS and reclassifying this area as "moderate" nonattainment.

NEW INFORMATION SUPPORTING THIS PETITION

Three years ago Wisconsin installed the Haven monitor (Site ID 551170009) slightly north and inland of the riparian Kohler Andrae site. Haven has monitored "4th highest ozone values" which are 11 ppb lower than the Kohler Andrae monitor[12] and below the federal ozone standards. On or about February 9, 2017, the WDNR submitted the Haven monitor ozone data to EPA for certification purposes.[13] This data can now be used to establish an updated design value for Sheboygan County based upon the Haven monitor and which supports designating Sheboygan as being in attainment with the 2008 ozone NAAQS. Alternatively, this certified data supports narrowing the geographic scope of the ozone nonattainment area in Sheboygan County.

The Lake Michigan Air Directors Consortium (LADCO) also recently acknowledged in its Lake Michigan Ozone Study 2017 (LMOS 2017) white paper that the ozone concentrations monitored at the Haven site are 10-20 ppb lower than those at the Kohler Andrae lakeshore monitor on average for high-ozone days. LADCO further concluded that "the high-ozone air in this area [of the Kohler Andrae monitor] is largely confined to a very narrow strip of land to the east of the lake breeze front along the lakeshore."[14] By letter dated January 26, 2017, LADCO confirmed that it was moving forward with its LMOS 17 study and confirmed the key aspects of that work.[15] This information further supports designating the County as attainment for the 2008 ozone standard or narrowing the Sheboygan ozone nonattainment boundary to the "very narrow strip of land" inland of the Lakeshore.

LADCO, in cooperation with the WDNR and other Lake Michigan state regulators, has also developed updated air quality analyses to support the development of attainment SIPs for ozone.[16] These analyses include preparation of regional emissions inventories and meteorological data, evaluation and application of regional chemical transport models, and collection and analysis of ambient monitoring data. LADCO's Final Report is dated February 3, 2017 and is entitled "Modeling Demonstration for the 2008 Ozone National Ambient Air Quality

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[12] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 6. (Attachment A).
[13] https://www.epa.gov/aqs.
[14] http://www.ladco.org/reports/ozone/post08/Great_Lakes_Ozone_Study_White_Paper_Draft_v6.pdf, pp. 10 -11.
[15] http://www.ladco.org/reports/ozone/post08/update_statement_jan26_as_distributed.pdf.
[16] http://www.ladco.org/reports/ozone/post08/LADCO%20Ozone%20TSD%20FINAL%20(Feb%203%202017).pdf

Standard for the Lake Michigan Region Technical Support Document" (the TSD Report). Among other things, the TSD Report concludes that the presence of Lake Michigan influences the formation, transport, and duration of elevated ozone concentrations along its shoreline.[17] Areas in closer proximity to the Lake Michigan shoreline, such as the Kohler Andrae monitor, display the most frequent and most elevated ozone concentrations.[18]

LADCO also performed additional ozone source apportionment modeling for the Kohler Andrae monitor. The November 2016 modeling results show that roughly 2% of the ozone impacting that monitor came from Wisconsin point sources (EGU and non-EGU sources). [19] Further, 87% of the ozone impacting the monitor came from out of state or biological sources.[20]

As for emission sources within Sheboygan County, WDNR has prepared nitrogen oxide and volatile organic compound emission density maps for Sheboygan County. These maps are in the nature of emission "heat maps" showing the location and intensity of emissions within the County.[21] The Sheboygan County maps show that the most significant sources of ozone precursors in the County are located upwind of the Haven monitor (and downwind of the Kohler Andrae monitor). Nonetheless, the Haven monitor is still measuring ozone concentrations below the 2008 ozone NAAQS demonstrating that Sheboygan County emissions sources are not causing or contributing to an exceedance of the ozone NAAQS. Further, these maps suggest that Sheboygan emission sources are not contributing to the ozone concentrations being measured at the Kohler Andrae location.

WDNR has also had an opportunity to analyze the Sheboygan Haven and Kohler Andrae monitor data in the context of performing its duties under the Clean Air Act. On February 16, 2017, the results and conclusions from these analyses were presented to the State's Air Management Study Group (AMSG). A summary of this new information is provided in Attachment A in which WDNR concludes that:[22]

- Lakeshore ozone concentrations are consistently higher than inland concentrations. These differences are the greatest as the highest lakeshore concentrations (which includes the Kohler Andrae monitor).
- The highest ozone rarely reaches the inland monitors.
- Concentration gradients are even sharper than predicted by the photochemical models.
- Ozone concentrations at lakeshore monitors are highly correlated with southerly winds.
- Overall, ozone concentrations drop off sharply within a few miles of the lakeshore.

This new information, individually or collectively, confirms that the Kohler Andrae monitor should not be used for making the attainment designation decisions for Sheboygan County;

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[17] Id., p. 18.
[18] Id., p. 18.
[19] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 9. (Attachment A).
[20] Id., p. 9.
[21] "Nitrogen Oxide and Volatile Organic Compound 2014 Emission Density Maps" distributed in advance of February 16, 2017 AMSG meeting (Attachment B)
[22] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 6. (Attachment A).

rather the Haven monitor is representative of County air quality for that purpose. Alternately, and at a minimum, this new information warrants narrowing the boundaries of a nonattainment area to those areas immediately adjacent to the shoreline.

ISSUES FOR RECONSIDERATION

WMC petitions the Agency for administrative reconsideration of the Sheboygan reclassification. Pursuant to CAA§ 307(d)(7)(B), where it was impracticable to raise an objection during the period of public comment or if the grounds for such objection arose after the public comment period (but within the time specified for judicial review), and if such objections are of central relevance to the outcome of the rule, EPA is authorized to reconsider the rule. Each of the issues detailed herein satisfies these criteria for reconsideration.

I. Recent Ozone Data from Sheboygan County Haven Monitor Certified After Publication of the Final Rule Demonstrates that Sheboygan County is Complying with 2008 Ozone NAAQS.

As described above, the State of Wisconsin has located two air quality monitors in Sheboygan County. The first is located at Kohler-Andrae State Park (Site ID 551170006) along Lake Michigan and has been operational since June 1997. It is located within 100 yards of the shoreline and six miles south of the City of Sheboygan. This monitor is upwind from the City and the most significant sources of ozone precursor emissions in the County. The second air quality monitor, known as the Haven monitor (Site ID 551170009), is located approximately six miles northwest of the city and has been operational since April 2014. This monitor is located 3.25 miles from the shoreline and downwind from the City. EPA's moderate nonattainment reclassification is based exclusively on data provided by the Kohler-Andrae monitor.

On or about February 9, 2017, the WDNR submitted the certified Haven monitor ozone data to EPA.[23] Based on this recently certified 2014-2016 data,[24] the design value for the Haven monitor would be 0.069 parts per million (ppm), well within attainment for the 2008 ozone standard of 0.075 ppm. A comparison of the recently certified air quality data from the Kohler-Andrae and Haven monitors in Sheboygan County is contained in the table below:

Area	County	Monitor	2013 4th Highest	2014 4th Highest	2015 4th Highest	2016 4th Highest	2013-15 Average	2014-16 Average
Sheboygan, WI	Sheboygan	Kohler-Andrae	.078	.072	.081	.085	.077	.079
Sheboygan, WI	Sheboygan	Haven	n/a	.068	.067	.074	n/a	.069

The Haven data provides a much more accurate representation of air quality in Sheboygan County.

[23] https://www.epa.gov/aqs.
[24] Wisconsin Department of Natural Resources, "Air Quality Reports." Available at: https://dnrx.wisconsin.gov/wisards/webreports/generateAdvancedReports.do.

Moreover, on January 26, 2017, LADCO published an open letter[25] confirming that it intends to move forward with the 2017 Lake Michigan Ozone Study (LMOS 2017). In the accompanying white paper,[26] LADCO explained that the "most persistent ozone pollution problems are in coastal areas,"[27] specifically citing Wisconsin. The white paper further notes that WDNR has recently begun "operating ozone monitors 3-4 miles inland of the long-term monitors on the lakeshore in Sheboygan and Kenosha County."[28] According to LADCO:

> "Ozone concentrations at these monitors are 10-20 ppb lower than those at the lakeshore monitors on average for high-ozone days, confirming that the high-ozone air in this area is largely confined to a very a narrow strip of land to the east of the lake breeze front along the lakeshore."[29]

The white paper further confirms that the ozone being detected by the Kohler-Andrae monitor does not provide an accurate or complete picture of the air quality in Sheboygan County. The white paper also supplements WDNR's recent conclusion that ozone measured at the Kohler Andrae monitor drops off sharply within a few miles of the lakeshore. This information warrants reopening of the Final Rule to allow EPA to consider this new information.[30]

II. Alternatively, The New Information Further Supports Narrowing the Nonattainment Geographic Boundary.

The recent WDNR and LADCO information should, at a minimum, be used to narrow the Sheboygan ozone nonattainment boundary to the "very narrow strip of land" inland from the Lake Michigan shoreline. In addition to the information discussed above, LADCO's February 3, 2017 TSD Report [31] concludes in relevant part that areas in closer proximity to the Lake shoreline display the most frequent and most elevated ozone concentrations.[32] On February 15, 2017, WDNR presented the AMSG with the results of photochemical modeling suggesting that the high zone levels stay near the shoreline of Sheboygan and other lakeshore counties.[33]

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[25] http://www.ladco.org/reports/ozone/post08/update_statement_jan26_as_distributed.pdf.
[26] http://www.ladco.org/reports/ozone/post08/Great_Lakes_Ozone_Study_White_Paper_Draft_v6.pdf.
[27] Id., p. 2.
[28] Id., p. 10.
[29] Id., p. 10-11.
[30] In the published Final Rule EPA cites *Sierra Club v. EPA*, 294 F.3d 155, 160–62 (D.C. Cir. 2002), for the proposition that the agency's "mandatory duty to make determinations of attainment or failure to attain the NAAQS exists regardless of the nature or effect of transported ozone and emissions on monitored air quality data in a given nonattainment area." However, *Sierra Club v. EPA* does not preclude the EPA from considering new data from the Haven monitor data to prove that that monitor provides a much more accurate representation of air quality in Sheboygan County than the Kohler-Andrae monitor. Unlike the situation in *Sierra Club*, the Petitioner here is not seeking an extension based solely on transport of ozone. Instead, Petitioner argues the newly certified data from the Haven monitor and additional new information confirms that the Kohler- Andrae monitor should not be used for making the attainment designation decisions for Sheboygan County; rather the Haven monitor is representative of County air quality for that purpose. Alternatively, Petitioner argues this new information warrants narrowing the boundaries of a nonattainment area to those areas immediate adjacent to the shoreline.
[31] http://www.ladco.org/reports/ozone/post08/LADCO%20Ozone%20TSD%20FINAL%20(Feb%203%202017).pdf
[32] Id., p. 18.
[33] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 5. (Attachment A).

EPA has issued guidance discussing when it is appropriate to narrow the geographic boundaries of a nonattainment area.[34] EPA suggests looking at five criteria when making these case by case determinations, each is briefly discussed below in the context of the new information (a more robust discussion of this information is set forth above):

1. Air Quality Data. The certified data for the Haven and Kohler Andrae monitors show a pronounced difference in monitored air quality between inland and shoreline areas.[35] The certified 2014-2016 data[36] establishes a design value for the Haven monitor of 69 ppb, well within attainment for the 2008 ozone standard. The high-ozone air quality data measured at the riparian Kohler Andrae monitor is confined to a very a narrow strip of land to the east along the lakeshore and is not reflective of air quality further inland.[37]
2. Emission and Emissions Related Data. LADCO source apportionment modeling shows that merely 2% of the ozone impacting the Kohler Andrae monitor came from Wisconsin point sources. [38] The Sheboygan County emission density maps show that the most significant sources of ozone precursors in the County are located upwind of the Haven monitor, yet that monitor still shows attainment with the 2008 ozone standard. [39]
3. Meteorology. The LADCO TSD Report[40] concludes that depending on large-scale synoptic winds and local-scale lake breezes, different parts of the area experience high ozone concentrations. WDNR also concludes that ozone concentrations as to the Wisconsin lakeshore monitors, including Sheboygan, are highly correlated with southerly winds.[41]
4. Geography/Topography. The LADCO TSD Report[42] concludes that the presence of Lake Michigan influences the formation, transport, and duration of elevated ozone concentrations along its shoreline. Areas in closer proximity to the Lake Michigan shoreline, such as the Kohler Andrae monitor, display the most frequent and most elevated ozone concentrations.[43]
5. Jurisdictional Boundaries. There are several options for defining the boundaries using jurisdictional criteria.

CONCLUSION

For the foregoing reasons and in consideration of the fundamental and central relevance of the issues raised by this Petition, the EPA should reconsider the Final Rule pursuant to CAA §

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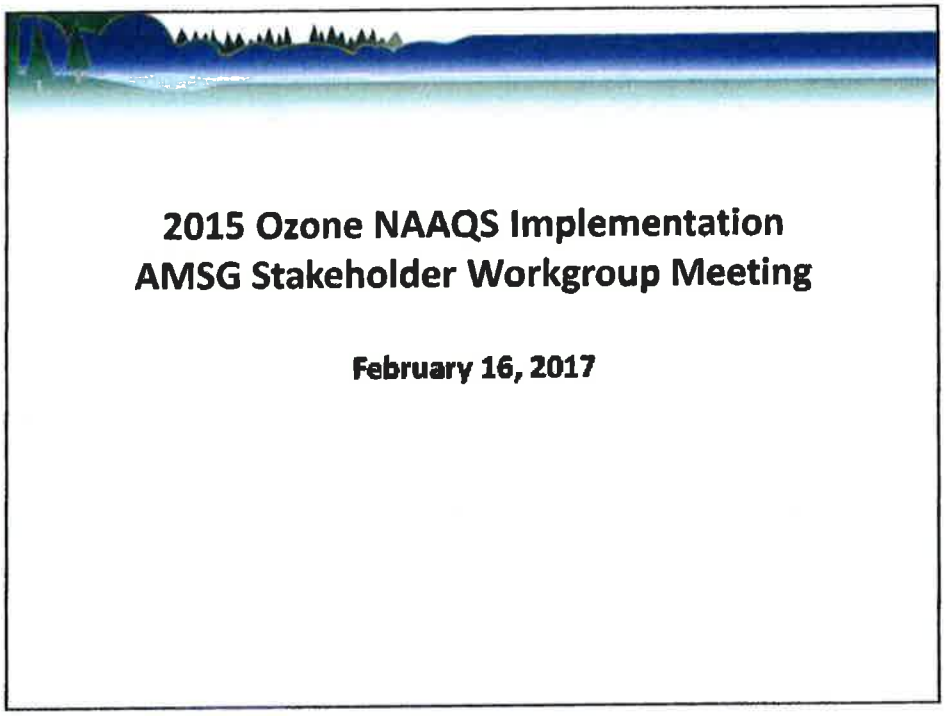
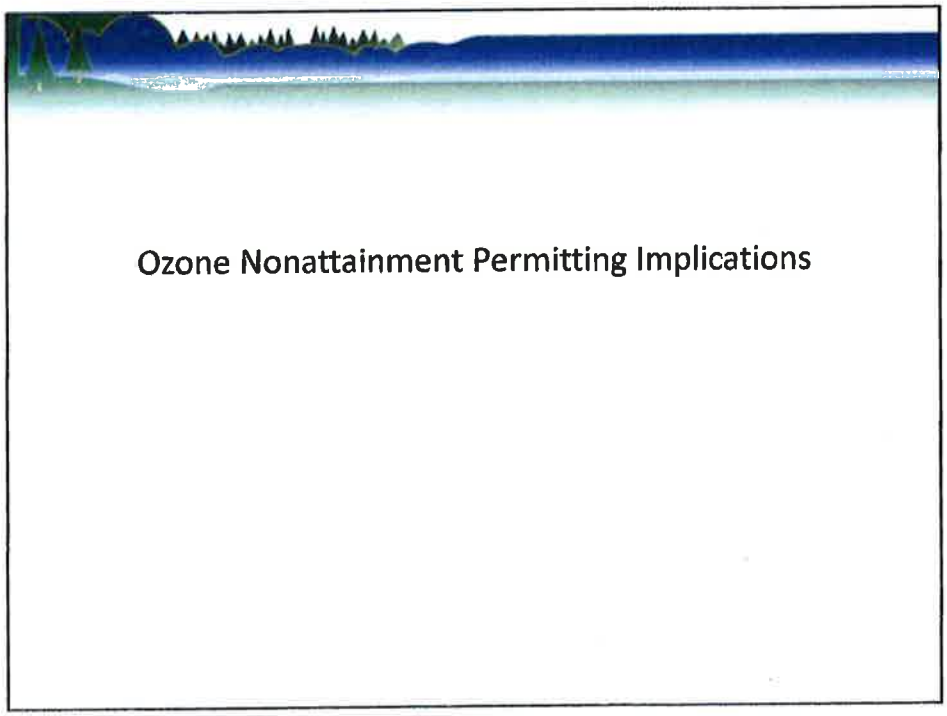
[34] E.g., memo dated February 25, 2016 entitled "Area Designations for the 2015 Ozone National Ambient Air Quality Standard."
[35] https://www.epa.gov/aqs.
[36] Wisconsin Department of Natural Resources, "Air Quality Reports." Available at: https://dnrx.wisconsin.gov/wisards/webreports/generateAdvancedReports.do
[37] Id., p. 10-11.
[38] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 9. (AttachmentAB).
[39] "Nitrogen Oxide and Volatile Organic Compound 2014 Emission Density Maps" distributed in advance of February 16, 2017 AMSG meeting (Attachment B)
[40] http://www.ladco.org/reports/ozone/post08/LADCO%20Ozone%20TSD%20FINAL%20(Feb%203%202017).pdf
[41] WDNR "2015 Ozone NAAQS Implementation AMSG Stakeholder Workgroup Meeting" February 16, 2017, p, 6. (Attachment A).
[42] http://www.ladco.org/reports/ozone/post08/LADCO%20Ozone%20TSD%20FINAL%20(Feb%203%202017).pdf
[43] Id., p. 18.

307(d)(7)(B). This should be done by providing a new notice and comment rulemaking procedure to solicit public input on the issues raised above. In the interim, EPA should also initially stay the effectiveness of the Final Rule for a period of three months as provided for in CAA § 307(d)(7)(B) and then extend the stay, if necessary to allow revisions to the Final Rule.



2015 Ozone NAAQS Implementation
AMSG Stakeholder Workgroup Meeting

February 16, 2017



Ozone Nonattainment Permitting Implications

Nonattainment New Source Review

- Nonattainment New Source Review (NNSR) applies to new major sources or major modifications at existing sources in an area that is not in attainment with the National Ambient Air Quality Standards (NAAQS).
- NNSR requirements depend on the nonattainment area classification.
- All major NNSR permits require (1) the installation of the lowest achievable emission rate (LAER), (2) emission offsets, and (3) opportunity for public involvement.

Major Source Thresholds

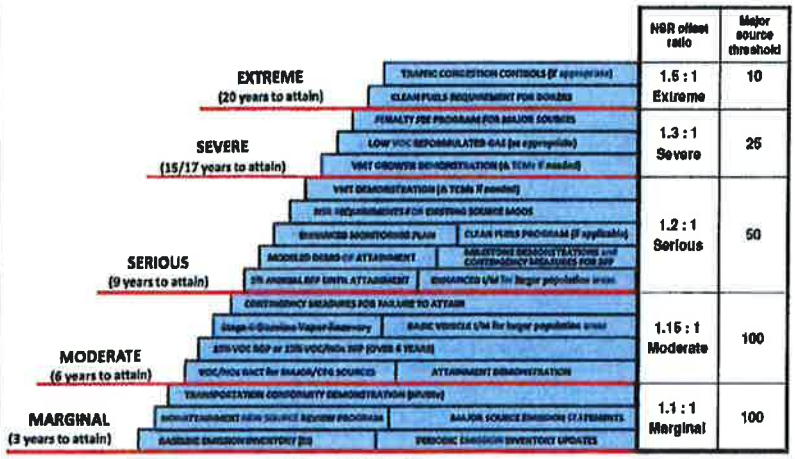
OZONE UNCLASSIFIABLE/ATTAINMENT AREA REQUIREMENTS				
Classification	PSD	Major Source Threshold (NOx and VOC, each)	Major Modification Significant Net Increase (NOx and VOC, each)	Offset Ratio
Unclassifiable / Attainment	Yes	100 TPY[1]	40 TPY	none
	Yes	250 TPY	40 TPY	none

OZONE NONATTAINMENT AREA REQUIREMENTS				
Classification	NA New Source Review	Major Source Threshold (NOx and VOC, each)	Major Modification Significant Net Increase (NOx and VOC, each	Offset Ratio
Marginal[2]	Yes	100 TPY	40 TPY	1.1 to 1
Moderate	Yes	100 TPY	40 TPY	1.15 to 1
Serious	Yes	50 TPY	25 TPY	1.2 to 1
Severe	Yes	25 TPY	25 TPY	1.3 to 1
Extreme	Yes	10 TPY	any increase	1.5 to 1

[1]For 28 source categories as identified in 40 CFR 52.21(b)(1)(i)(a) and 405.02(zz)(a)1.
[2]Includes Rural Transport Areas

Failure to attain a standard can result in a "bump up" to the next ozone classification.

Overview of CAA Ozone Nonattainment Area Planning & Control Requirements by Classification



Potential Impact of Cross-State Air Pollution Rule Update (CSAPR 2)

Projected Ozone Design Values (ppb) for 2017 in the Chicago and Sheboygan Ozone Nonattainment Areas

AQS ID	State	County	LADCO 2017 Base	LADCO 2017 w/ CSAPR	EPA 2017
170310001	Illinois	Cook	66.5	66.3	67.5
170310032	Illinois	Cook	64.7	64.5	63.7
170310064	Illinois	Cook	59.4	59.2	58.4
170310076	Illinois	Cook	66.1	65.9	67.0
170311003	Illinois	Cook	55.2	55.1	55.9
170311601	Illinois	Cook	65.8	65.5	66.4
170314002	Illinois	Cook	59.0	58.8	57.9
170314007	Illinois	Cook	54.0	53.9	54.1
170314201	Illinois	Cook	62.2	62.1	62.3
170317002	Illinois	Cook	60.4	60.3	61.2
170436001	Illinois	DuPage	61.3	61.0	61.8
170890005	Illinois	Kane	66.0	65.8	66.5
170971007	Illinois	Lake	64.9	64.8	65.0
171110001	Illinois	McHenry	64.7	64.4	65.2
171971011	Illinois	Will	58.2	58.0	58.9
180890022	Indiana	Lake	59.2	59.0	60.2
180890030	Indiana	Lake	61.2	61.0	61.3
180892008	Indiana	Lake	59.7	59.6	59.8
181270024	Indiana	Porter	62.2	62.0	62.5
181270026	Indiana	Porter	58.0	57.9	58.4
550590019	Wisconsin	Kenosha	66.5	66.4	66.7
551170006	Wisconsin	Sheboygan	76.4	76.1	77.0

LADCO, Feb. 2017

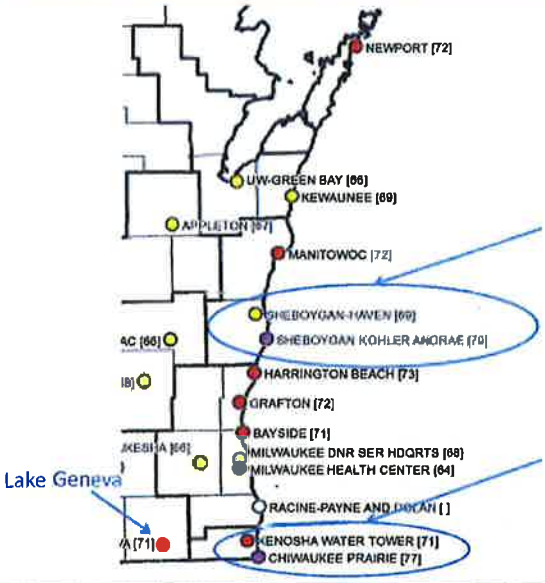
Inland Penetration of High-Ozone Air along Wisconsin's Lake Michigan Shoreline

Photochemical modeling suggests high-ozone air stays near shore

Gradient-Adjusted Fused Surface (ppb)

Modeling by the Lake Michigan Air Directors Consortium (LADCO), March 2016.

Concentration comparisons at inland and lakeshore monitors



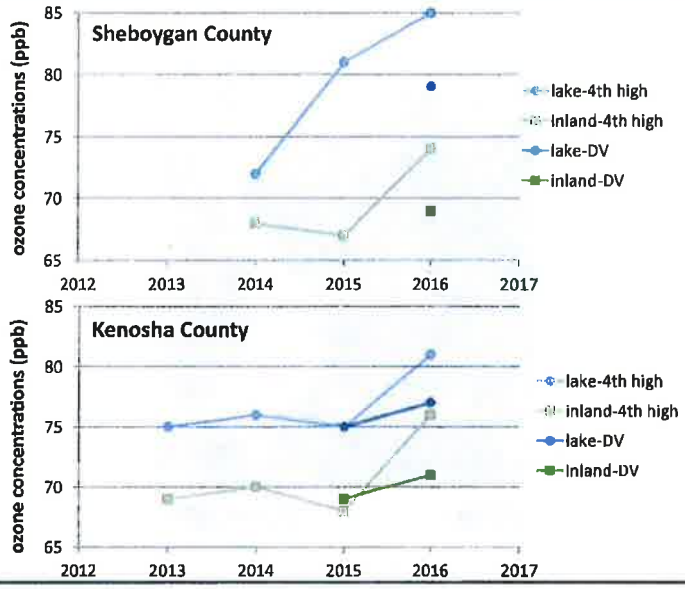
Preliminary
2014-16 Design Values

Sheboygan County:
Inland monitor:
- Ozone & met data from 2014-2016
- 3.25 miles inland

Kenosha County:
Inland monitor:
- Ozone data from 2013-2016
- Met data from 2014-2016
- 3.5 miles inland

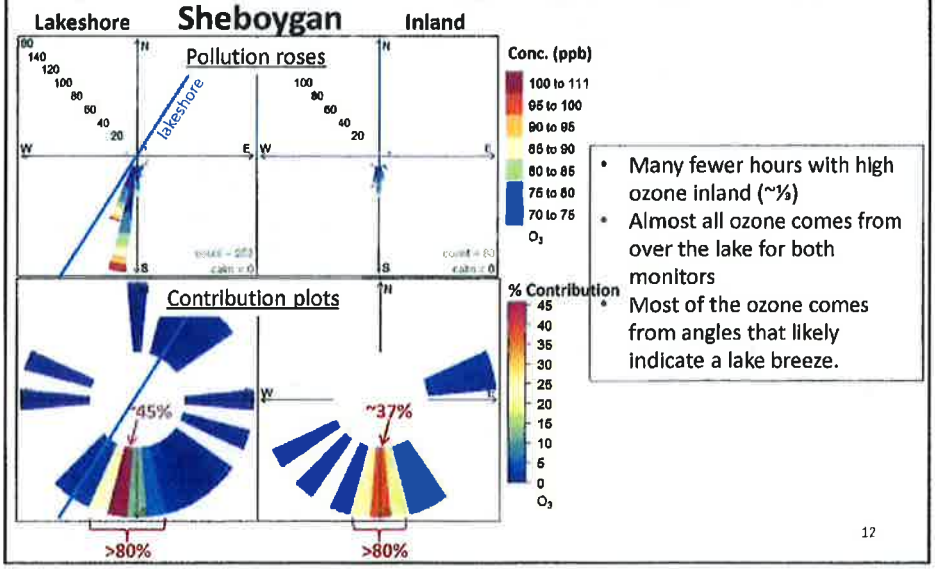
10

Concentration comparisons at inland and lakeshore monitors



The role of meteorology in driving ozone at these monitors

Only hours with ozone >70 ppb at that site (*different sets of hours at each monitor*)

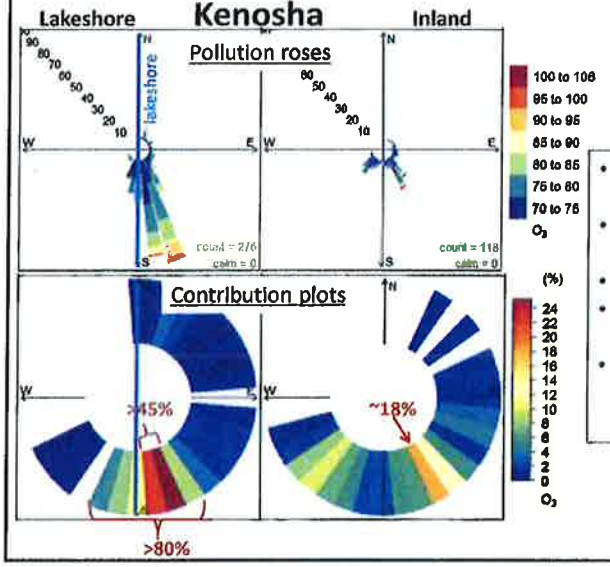


- Many fewer hours with high ozone inland (~⅓)
- Almost all ozone comes from over the lake for both monitors
- Most of the ozone comes from angles that likely indicate a lake breeze.

12

The role of meteorology in driving ozone at these monitors

Only hours with ozone >70 ppb at that site (*different sets of hours at each monitor*)



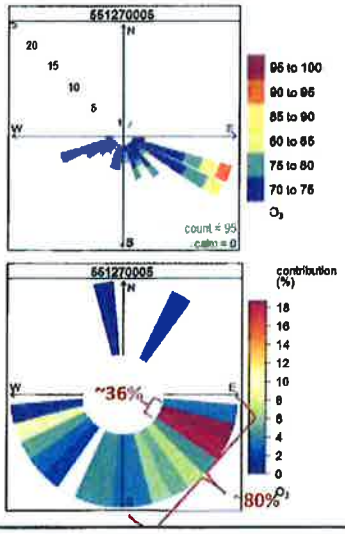
- Many fewer hours with high ozone inland (~⅓)
- Most ozone comes from over the lake
- Some ozone from over land
- Inland has high ozone from SW (in addition to SE)
- Most of the ozone comes from angles that likely indicate a lake breeze.

13

The role of meteorology in driving ozone at these monitors

Only hours with ozone >70 ppb at that site

Walworth Co. (Lake Geneva)



- Almost all ozone from southeast quadrant 36% of ozone with ESE winds
- Ozone is delivered by prevailing winds not by a lake breeze
  - Different kind of episode than at lakeshore sites

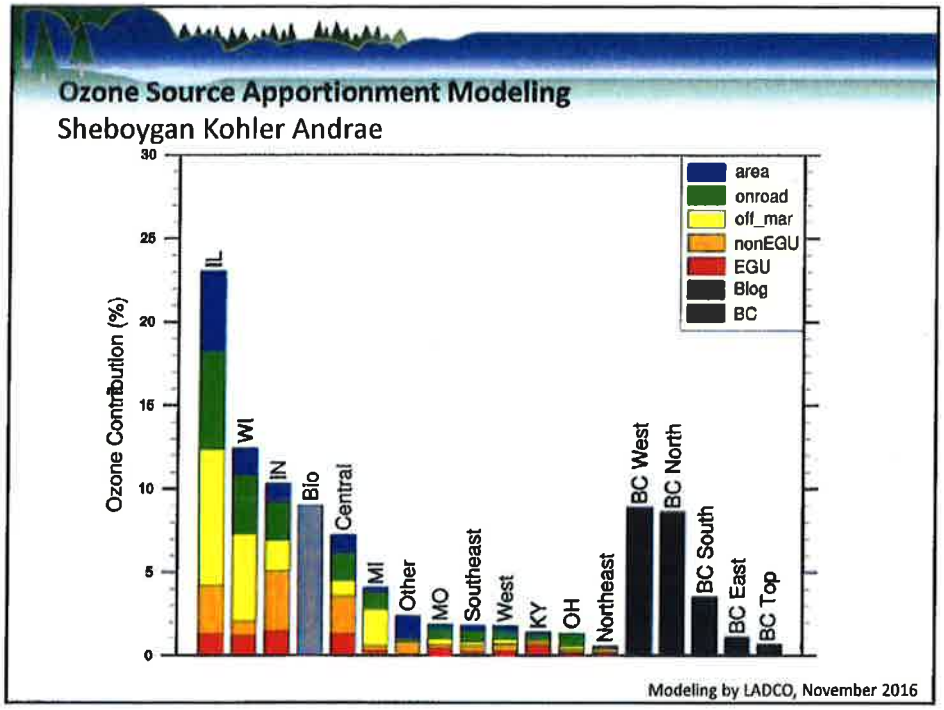
Conclusions

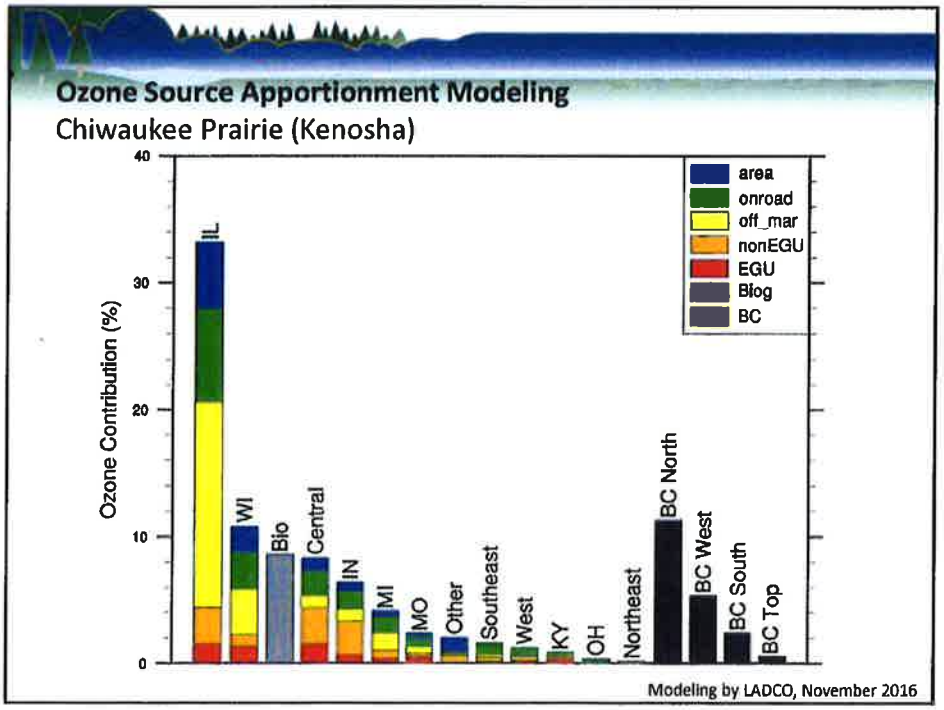
- Lakeshore ozone concentrations are consistently higher than inland concentrations.
  - These differences are the greatest at the highest lakeshore concentrations.
  - The highest ozone air rarely reaches the inland monitors.
- Concentration gradients are even sharper than predicted by the photochemical models
- Ozone concentrations at lakeshore monitors are highly correlated with southerly winds.

Overall: Ozone concentrations drop off sharply within a few miles of the lakeshore.

15

Source Apportionment Modeling


Ozone Source Apportionment Modeling
Sheboygan Kohler Andrae
Ozone Contribution (%)
0
5
10
15
20
25
30
IL
WI
IN
Bio
Central
MI
Other
MO
Southeast
West
KY
OH
Northeast
BC West
BC North
BC South
BC East
BC Top
area
onroad
off_mar
nonEGU
EGU
Biog
BC
Modeling by LADCO, November 2016


Ozone Source Apportionment Modeling
Chiwaukee Prairie (Kenosha)
Ozone Contribution (%)
0
10
20
30
40
IL
WI
Bio
Central
IN
MI
MO
Other
Southeast
West
KY
OH
Northeast
BC North
BC West
BC South
BC Top
area
onroad
off_mar
nonEGU
EGU
Biog
BC
Modeling by LADCO, November 2016

Attachment B

Nitrogen Oxides and Volatile Organic Compound 2014 Emissions Density Maps

INTRODUCTION

The following Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOC) emissions density maps are generated for Door, Manitowoc, and Sheboygan counties; the Milwaukee CSA (Washington, Ozaukee, Waukesha, Milwaukee and Racine counties); and the Walworth, Racine, and Kenosha county area (mix of CSA's). The NOx and VOC emissions densities maps are based on data reported to the 2014 National Emissions Inventory (NEI).

Emissions and emissions-related data are one of the five factors that EPA will use to determine nonattainment boundaries.

DEFINITIONS

Minor Civil Division (MCD) – a term used by the U.S. Census Bureau to describe sub-county levels of government such as cities, towns, villages, townships, precincts, etc.

Combined Statistical Area (CSA) – a term used by the U.S. Census Bureau to describe areas composed of adjacent metropolitan and micropolitan statistical areas that can demonstrate economic or social linkages, such as commuting patterns.

Point sources – includes emissions estimates for larger sources that are located at a fixed, stationary location such as large industrial facilities, electric power plants, airports, and smaller industrial, non-industrial and commercial facilities. A small number of portable sources such as some asphalt or rock crushing operations are also included. Some states voluntarily also provide facilities such as dry cleaners, gas stations, and livestock facilities, which are otherwise included in the NEI as nonpoint sources.

Nonpoint sources – includes emissions estimates for sources which individually are too small in magnitude to report as point sources. These emissions sources are included in the NEI as a county total or tribal total (for participating tribes). Examples include residential heating, commercial combustion, asphalt paving, and commercial and consumer solvent use, etc.

Onroad sources – includes emissions from onroad vehicles that use gasoline, diesel, and other fuels. These sources include light duty and heavy duty vehicle emissions from operation on roads, highway ramps, and during idling. Except for California, the US EPA uses the MOVES2014 model to compute onroad source emissions based on model inputs provided by State, Local, and Tribal air agencies. California provides emissions to the US EPA based on a California-specific model.

NEI nonroad sources – includes off-road mobile sources that use gasoline, diesel, and other fuels. Source types include construction equipment, lawn and garden equipment, aircraft ground support equipment, locomotives, and commercial marine vessels. EPA uses the MOVES2014 model to compute nonroad source emissions.

Door: Sub-county level NOx Emissions-2014

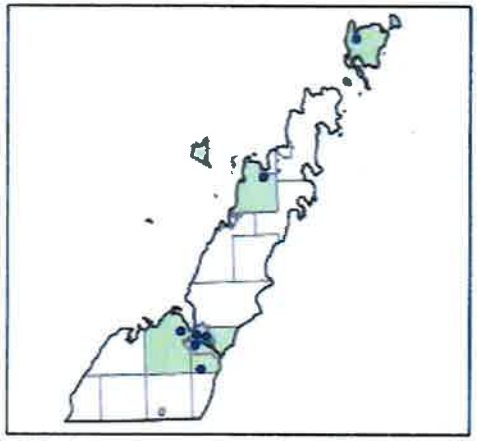
NOx Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

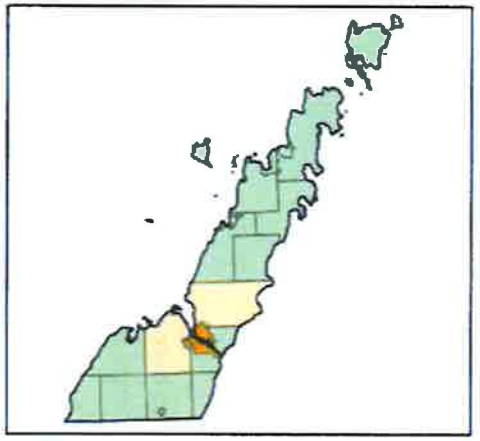
NOx Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

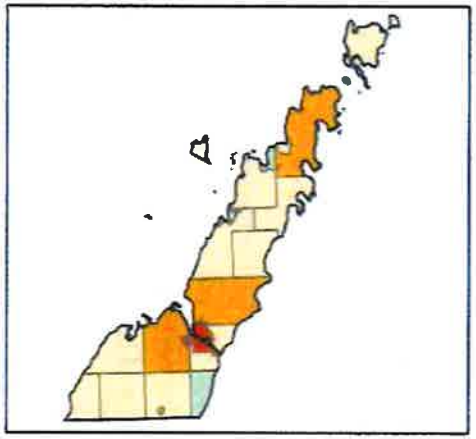
Point Sources



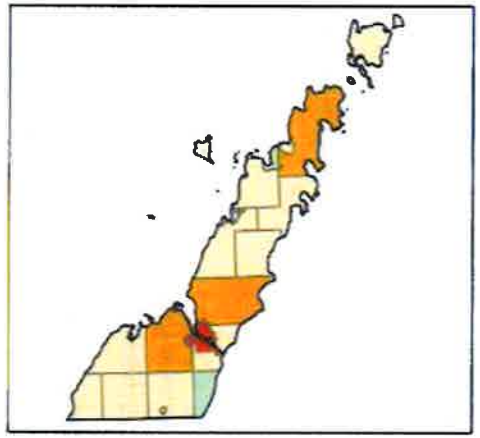
Nonpoint Sources



Onroad Sources



Nonroad Sources



0 15 30
Miles

Door: Sub-county level VOC Emissions-2014

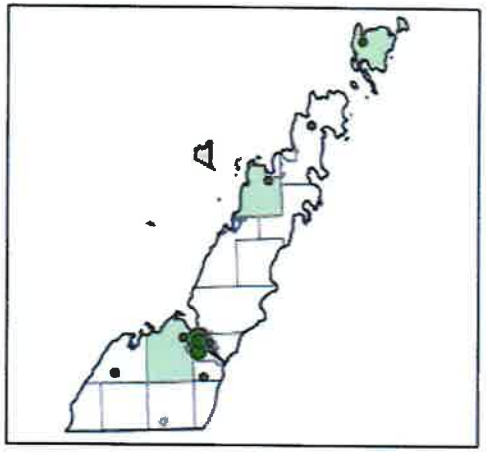
VOC Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

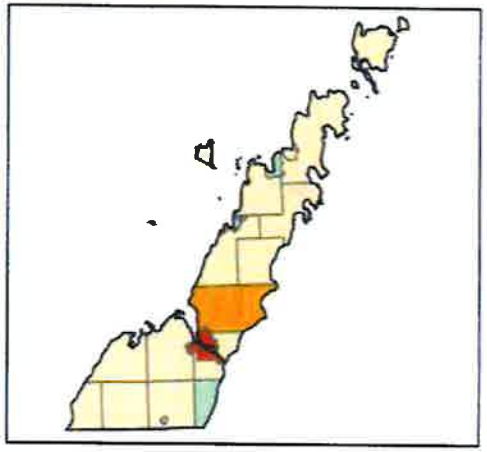
VOC Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

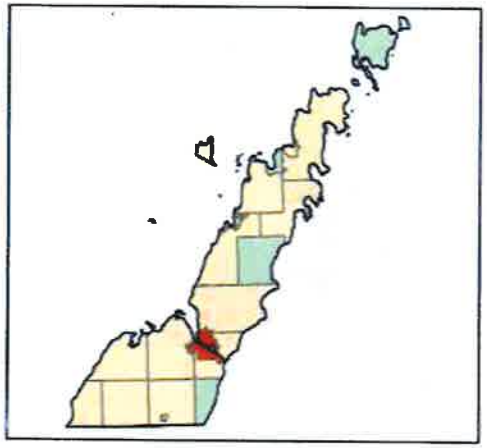
Point Sources



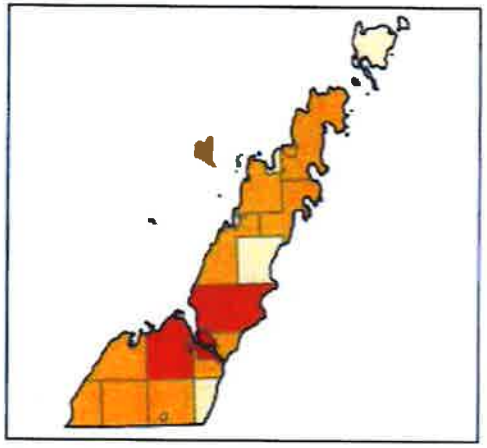
Nonpoint Sources



Onroad Sources



Nonroad Sources



0 15 30 Miles

Manitowoc: Sub-county level NOx Emissions-2014

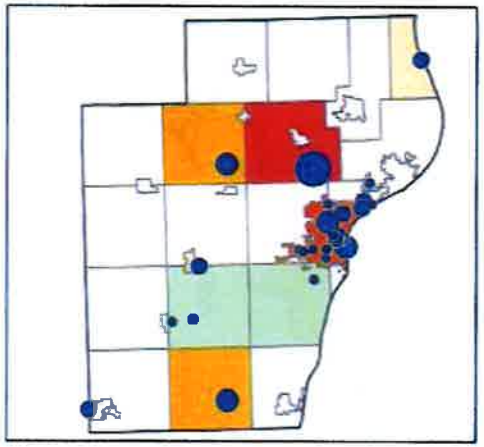
NOx Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

NOx Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

Point Sources



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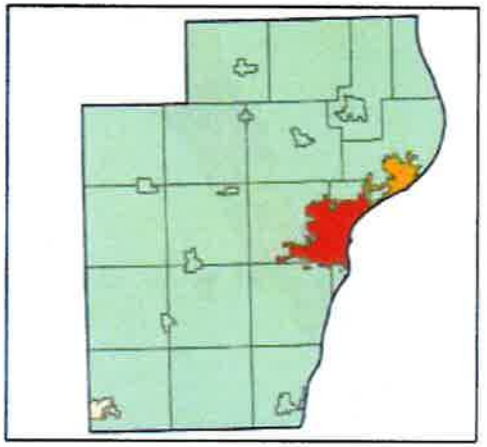
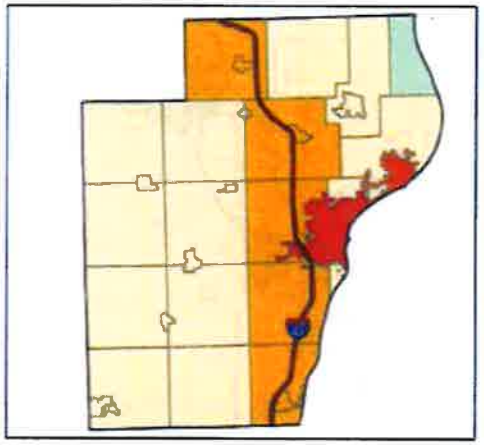
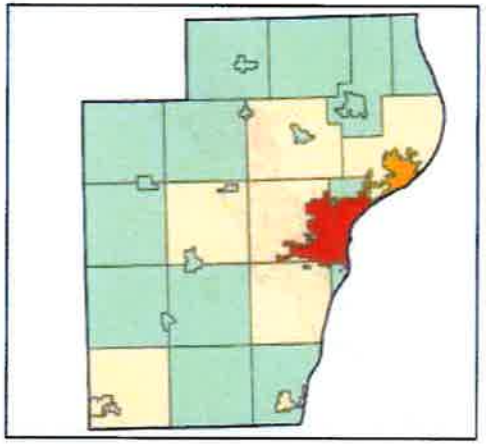


Onroad Sources



Nonroad Sources



0 5 10
Miles

Manitowoc: Sub-county level VOC Emissions-2014

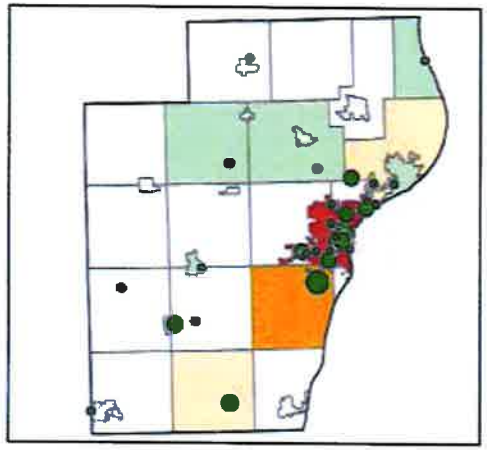
VOC Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

VOC Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

Point Sources



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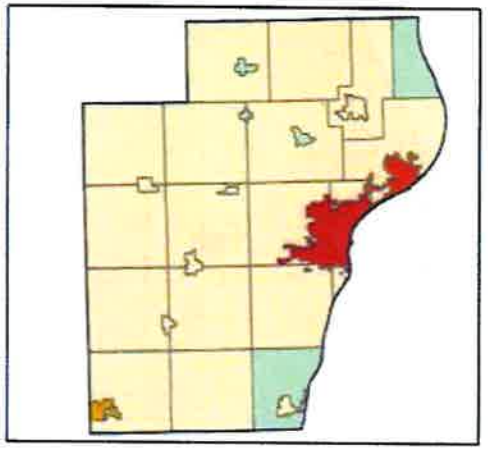

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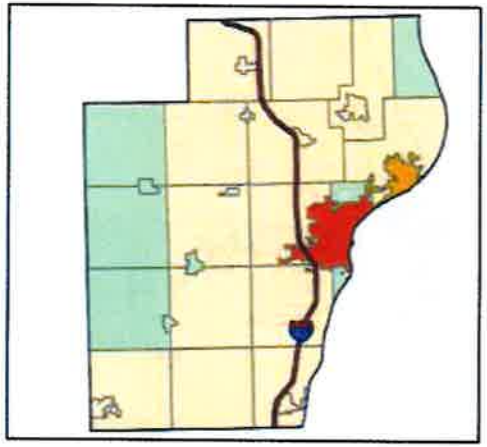
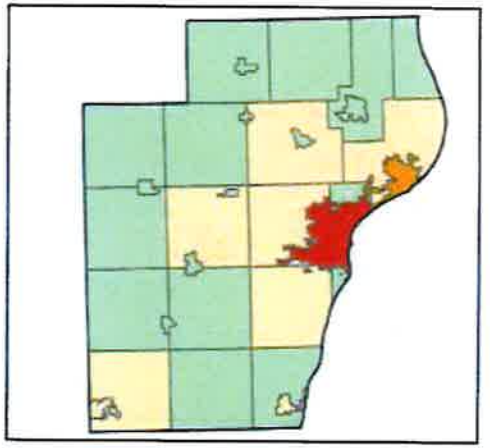


Nonroad Sources



0 5 10
Miles

Sheboygan: Sub-county level NOx Emissions-2014

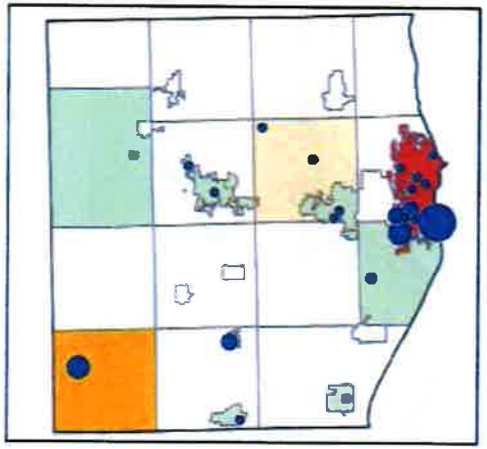
NOx Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

NOx Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

Point Sources



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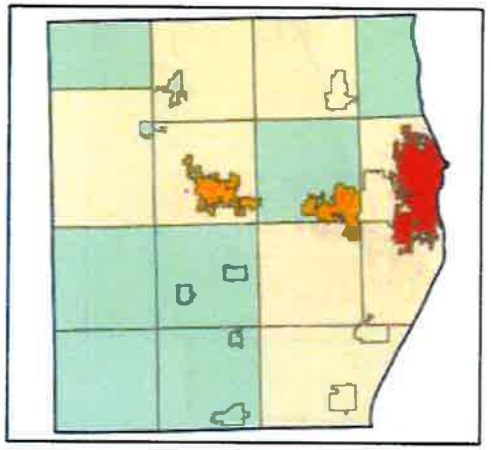
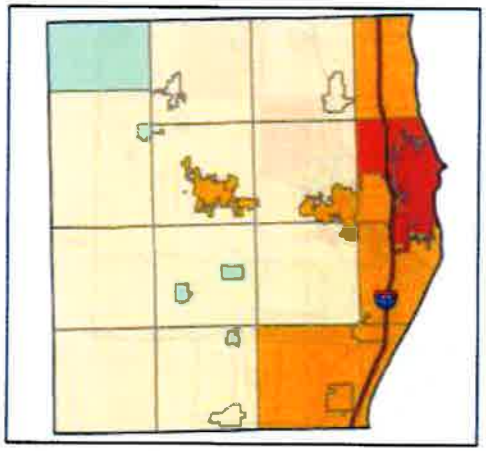
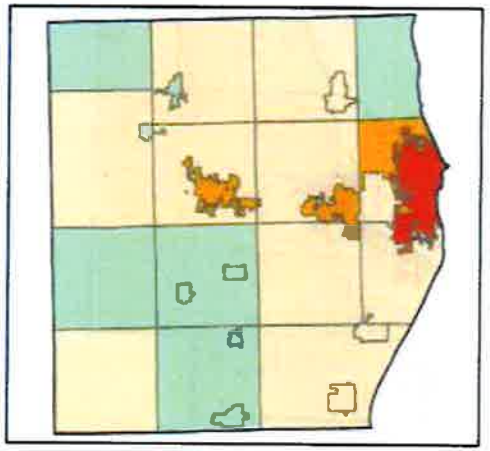


Onroad Sources

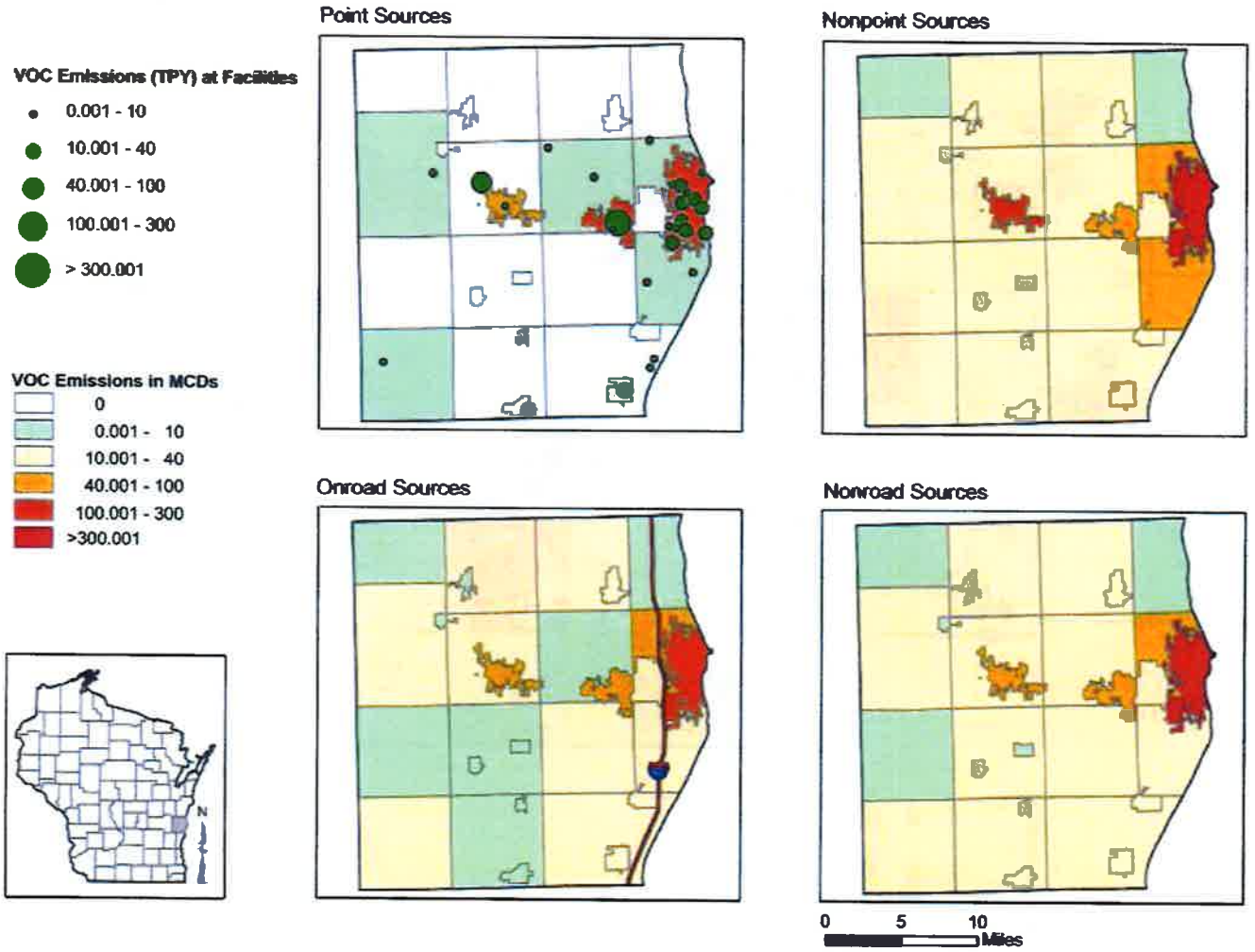


Nonroad Sources

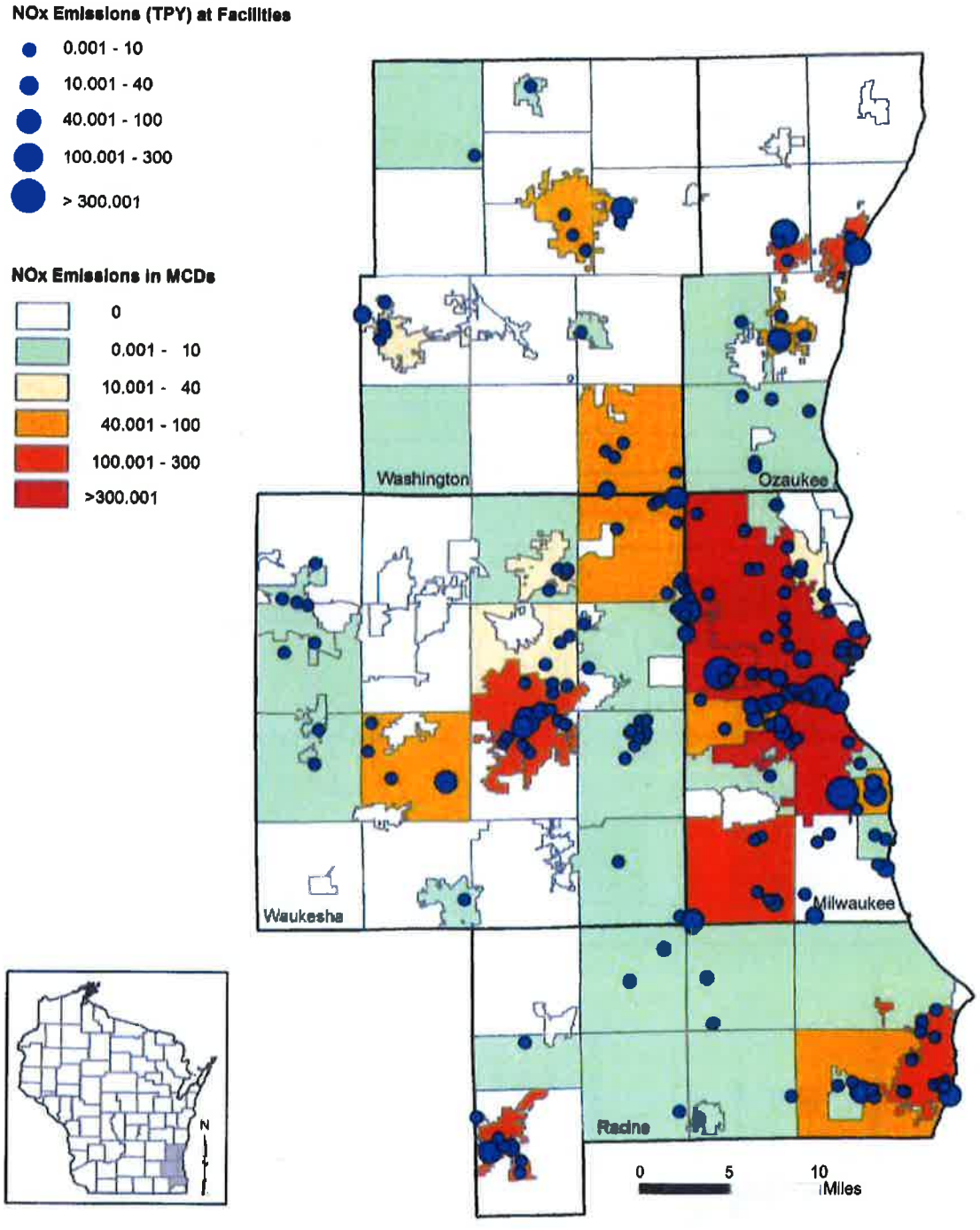


0 5 10
Miles

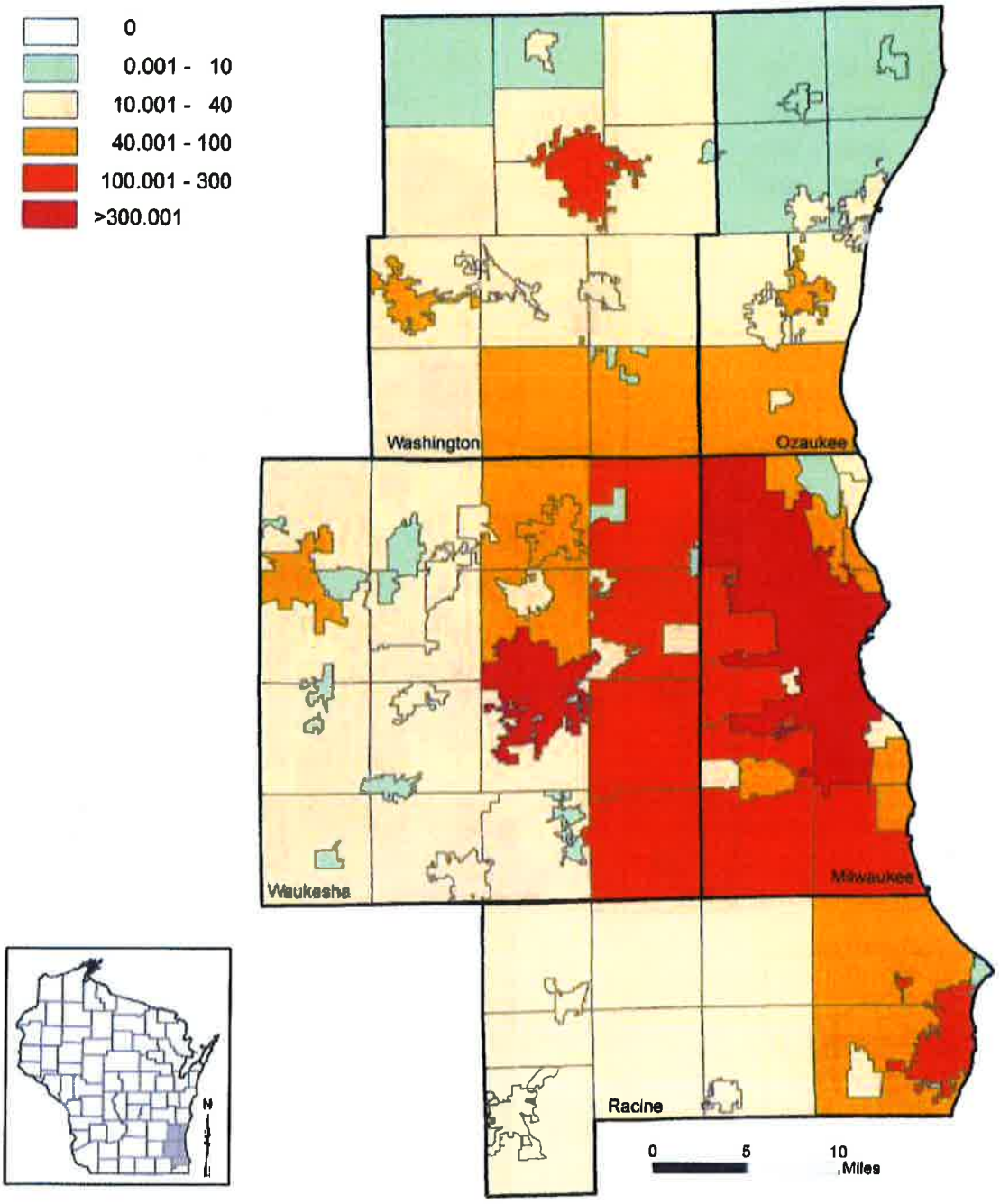
Sheboygan: Sub-county level VOC Emissions-2014



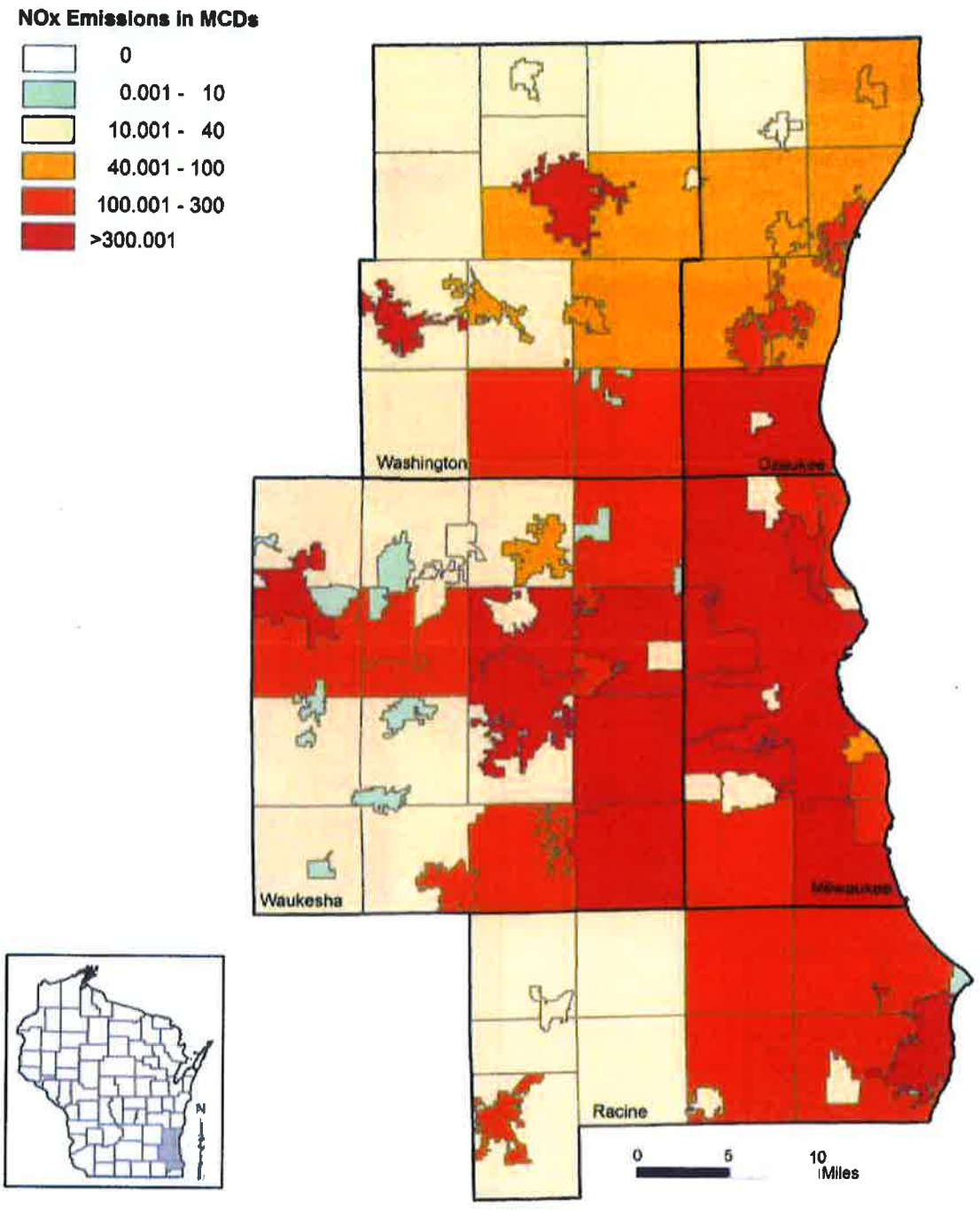
Milwaukee_CSA : Sub-county level NOx Emissions-2014
Point Sources



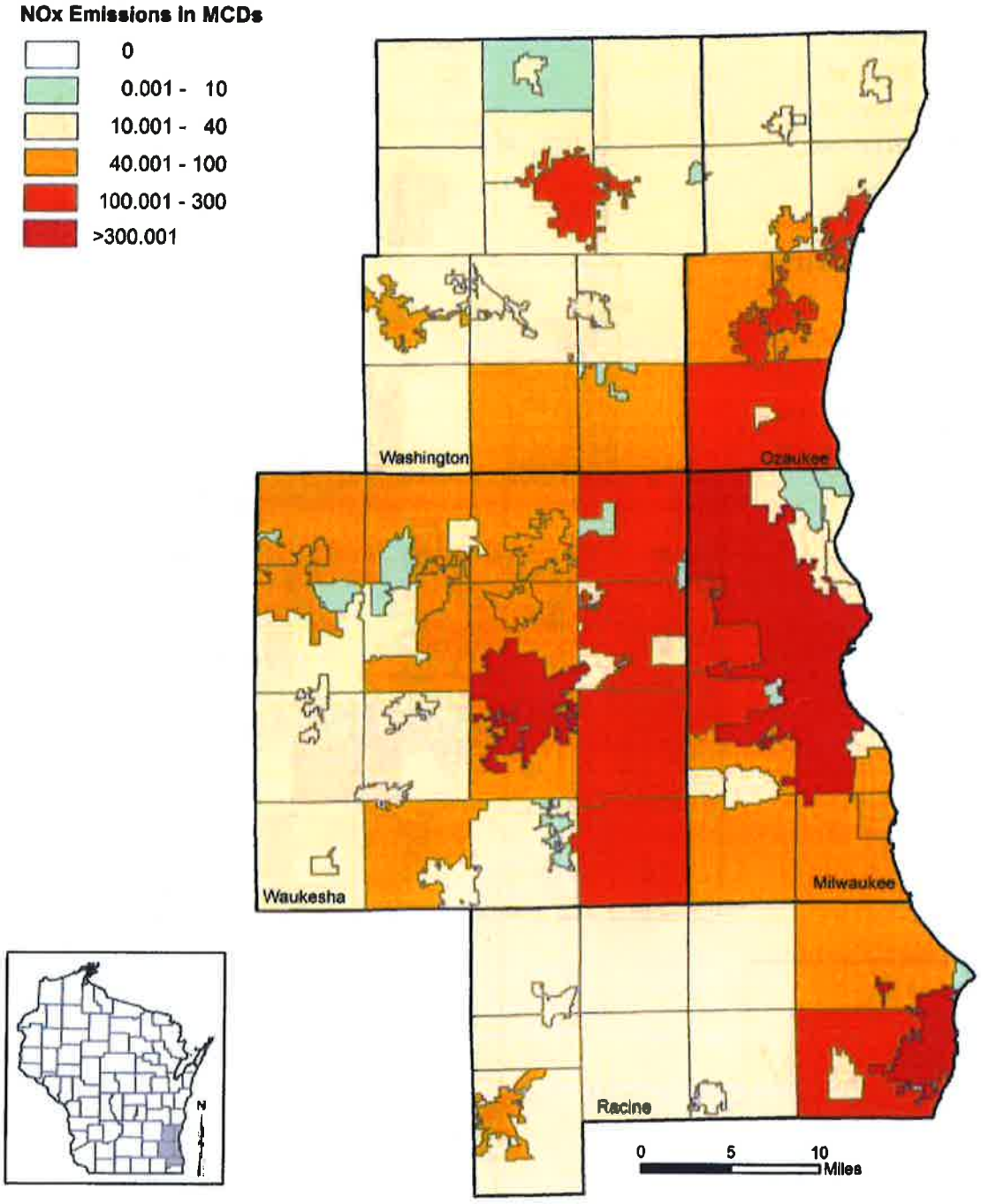
Milwaukee_CSA : Sub-county level NOx Emissions-2014
Nonpoint Sources



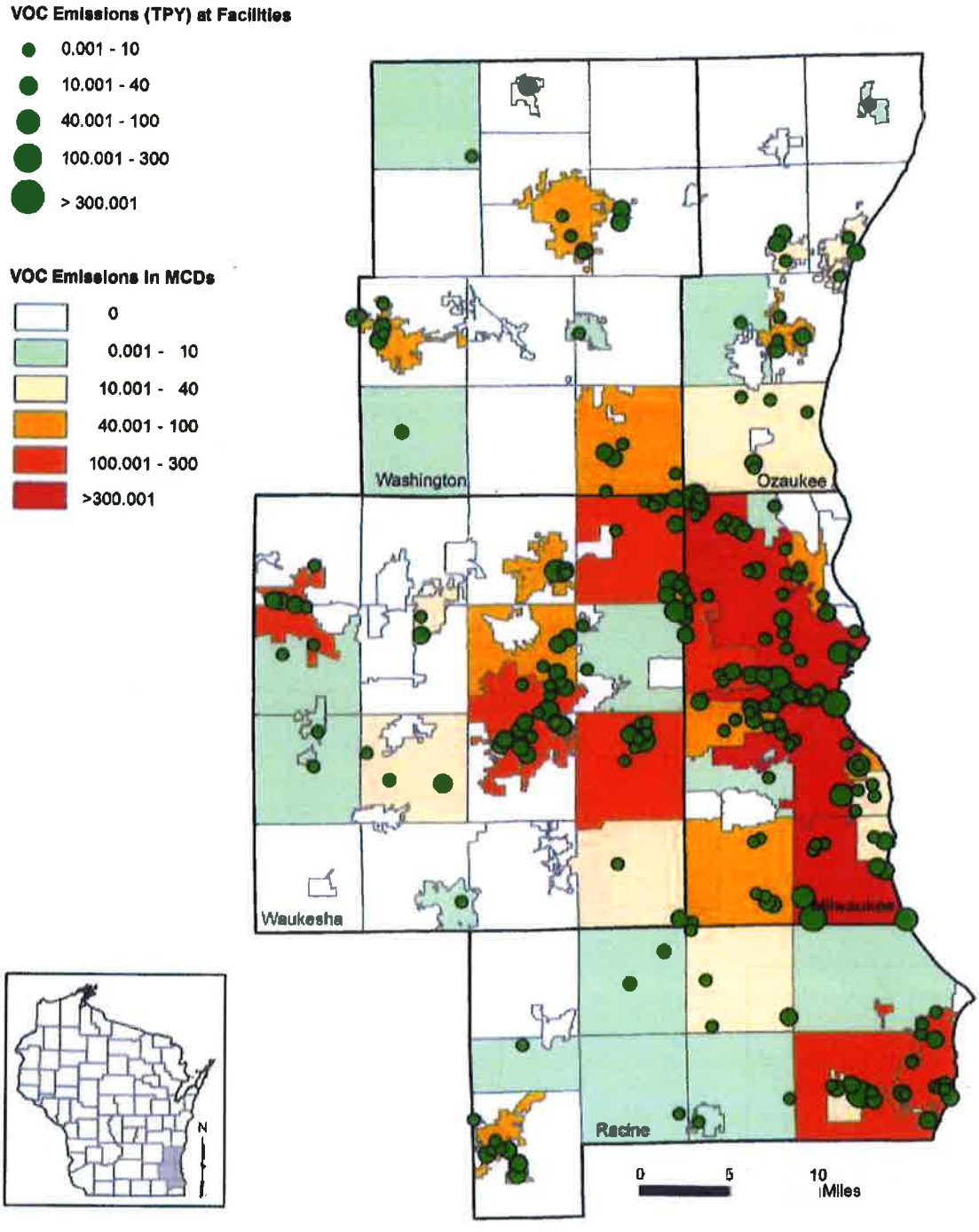
Milwaukee_CSA : Sub-county level NOx Emissions-2014
Onroad Sources



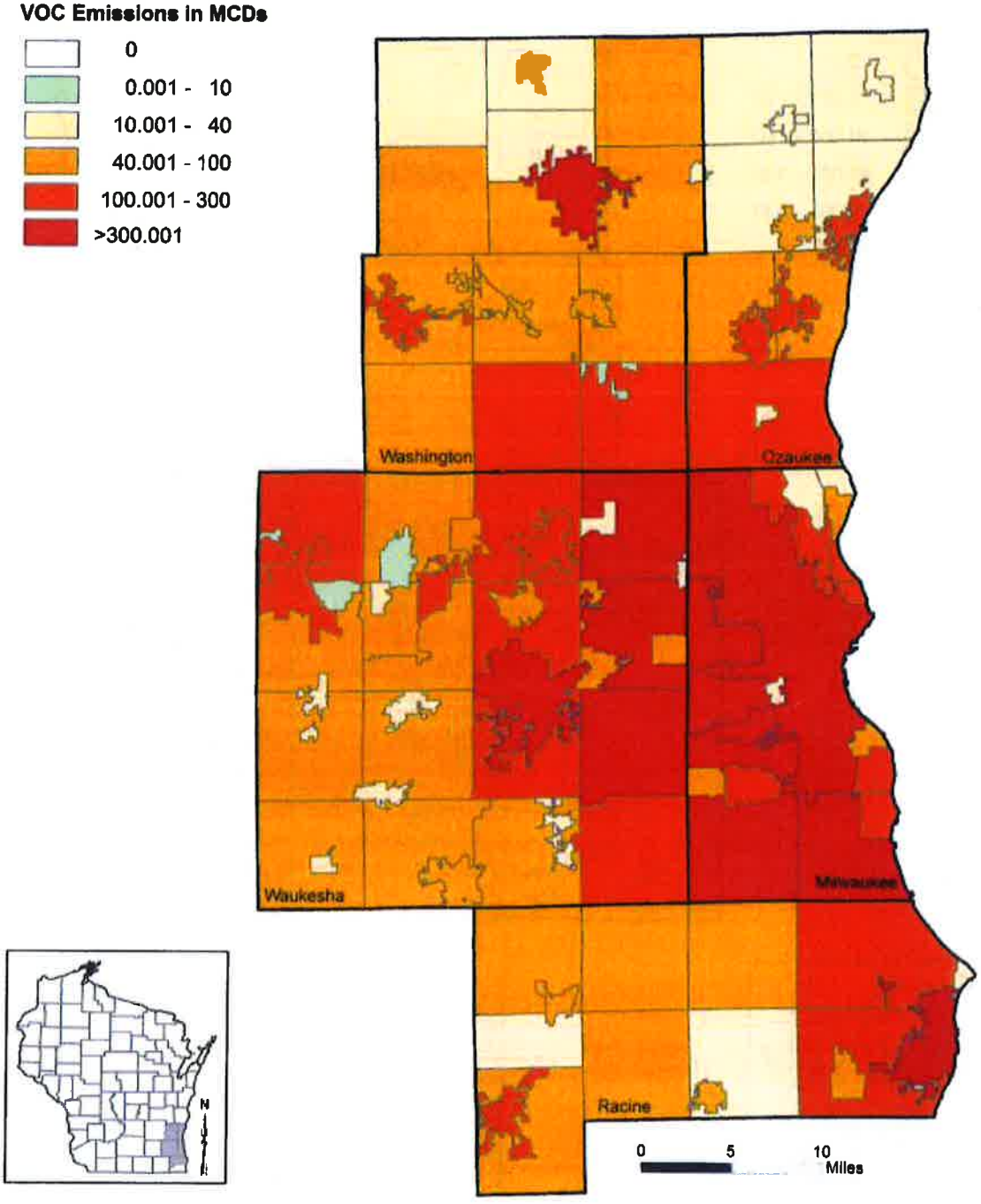
Milwaukee_CSA : Sub-county level NOx Emissions-2014
Nonroad Sources



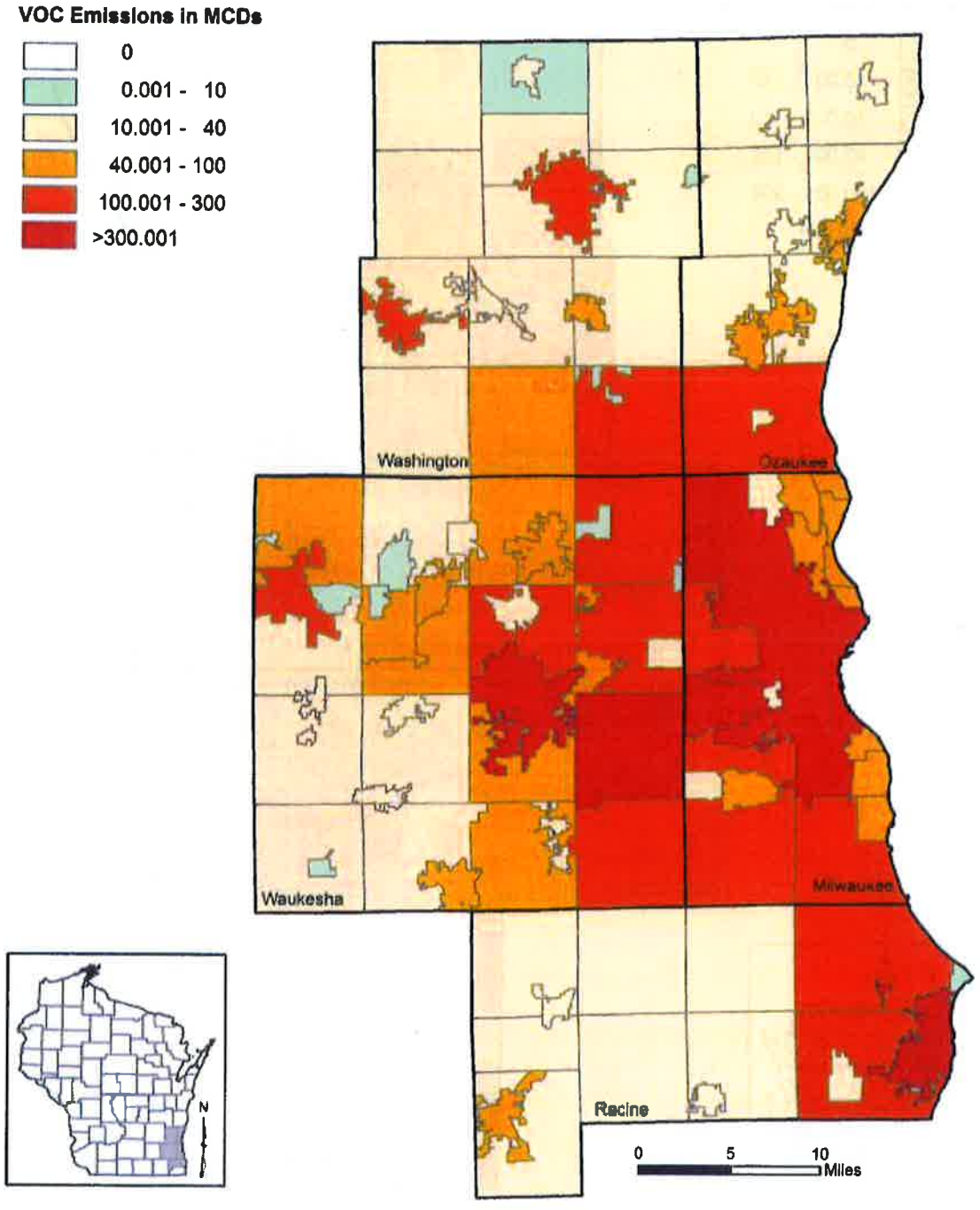
Milwaukee_CSA : Sub-county level VOC Emissions-2014
Point Sources



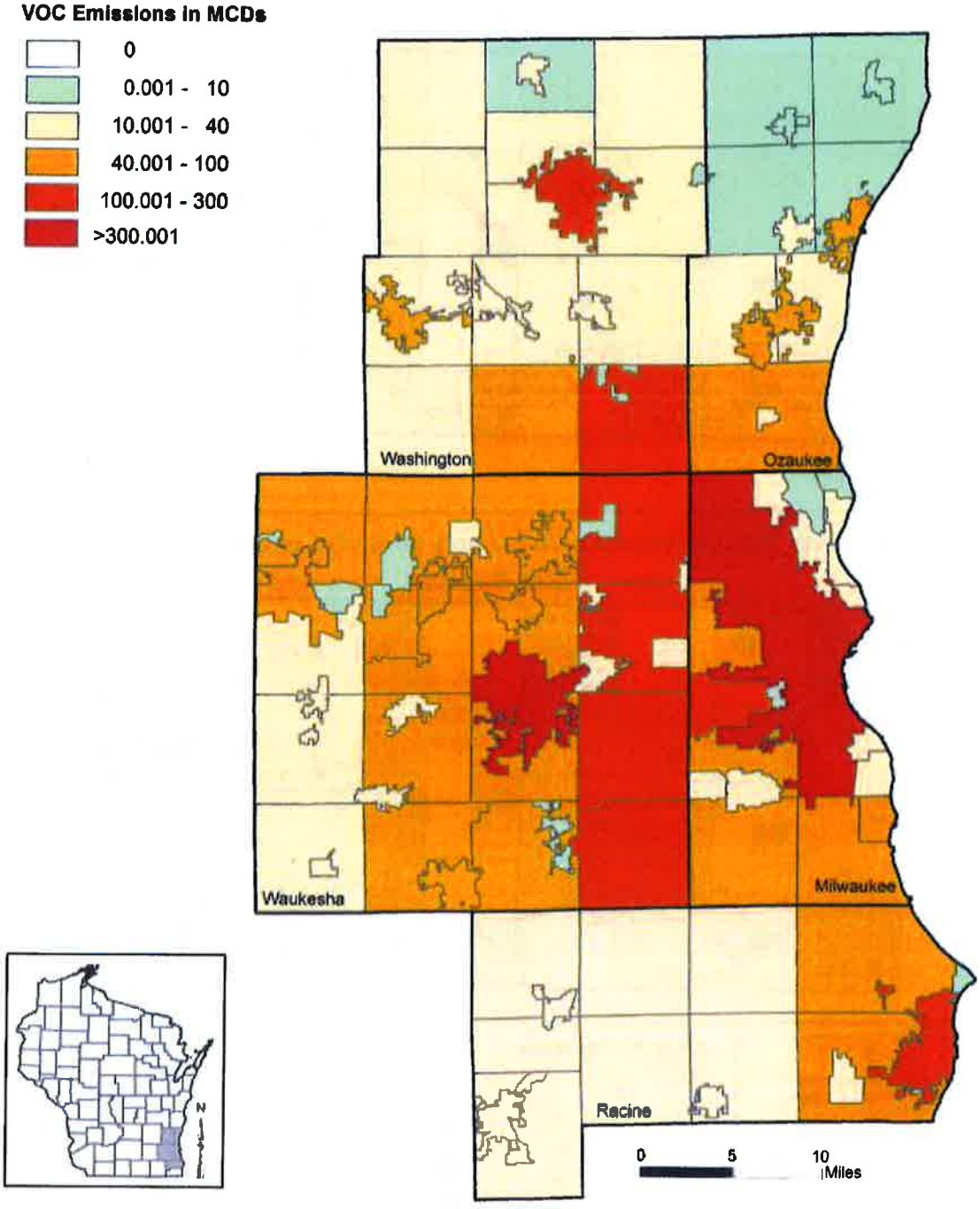
Milwaukee_CSA : Sub-county level VOC Emissions-2014
Nonpoint Sources

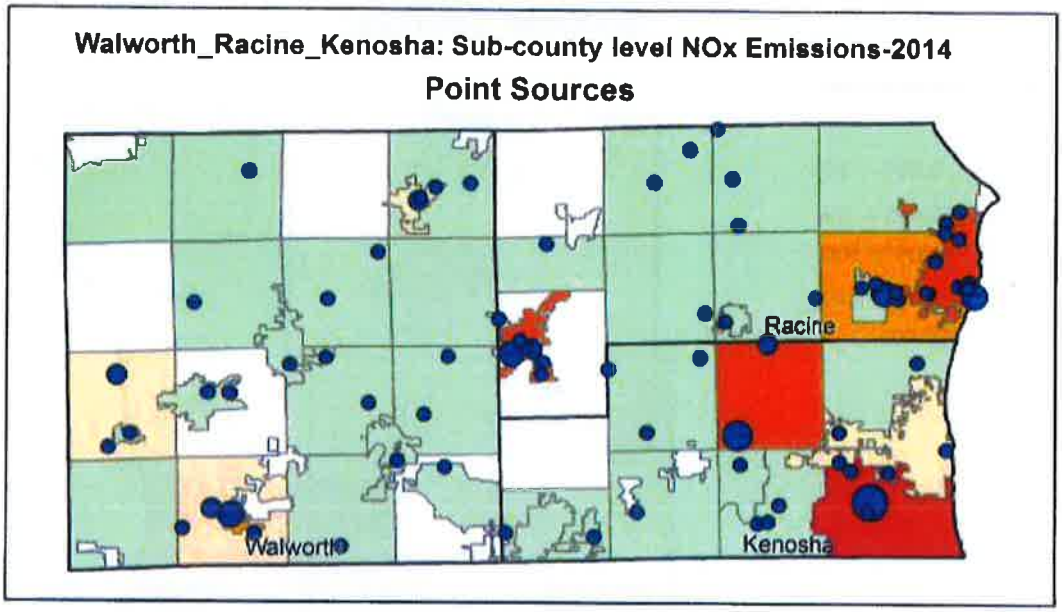


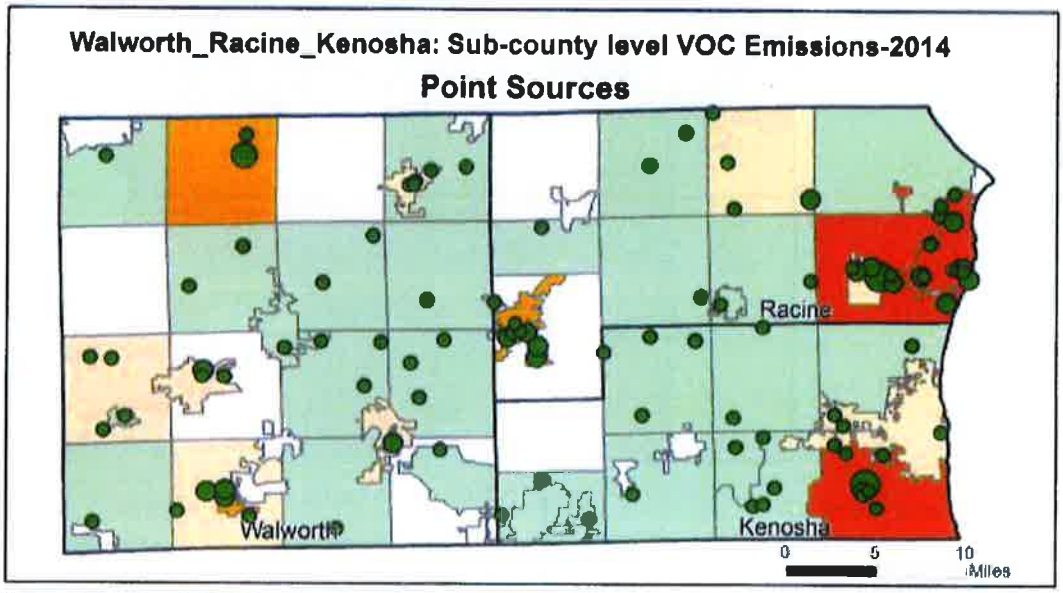
Milwaukee_CSA : Sub-county level VOC Emissions-2014
Onroad Sources



Milwaukee_CSA : Sub-county level VOC Emissions-2014
Nonroad Sources







NOx or VOC Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

NOx Emissions (TPY) at Facilities

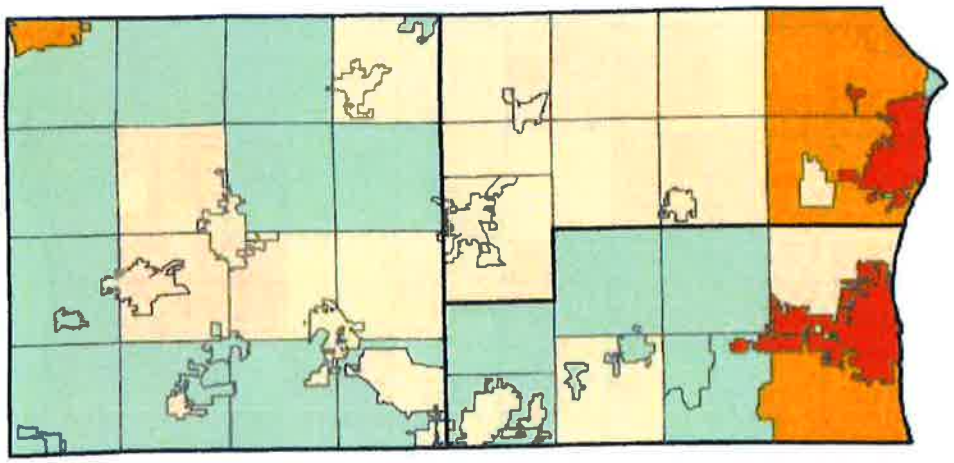
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

VOC Emissions (TPY) at Facilities

- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- > 300.001

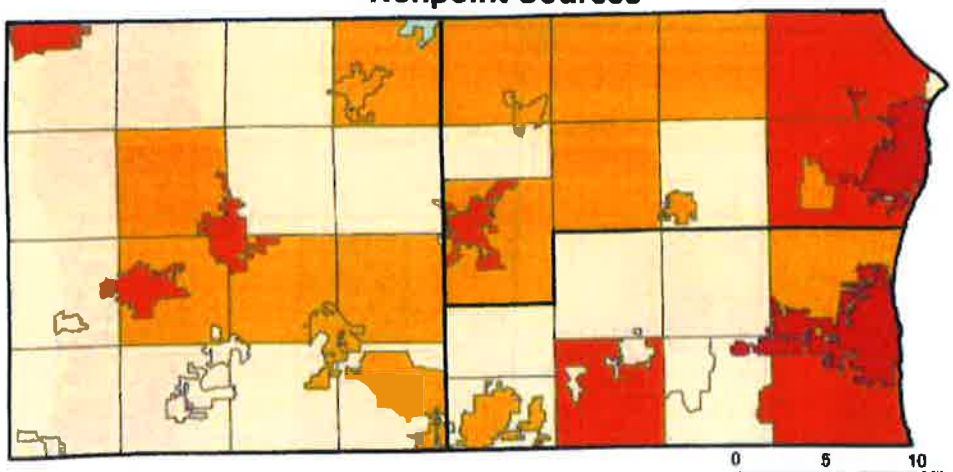
Walworth_Racine_Kenosha: Sub-county level NOx Emissions-2014

Nonpoint Sources



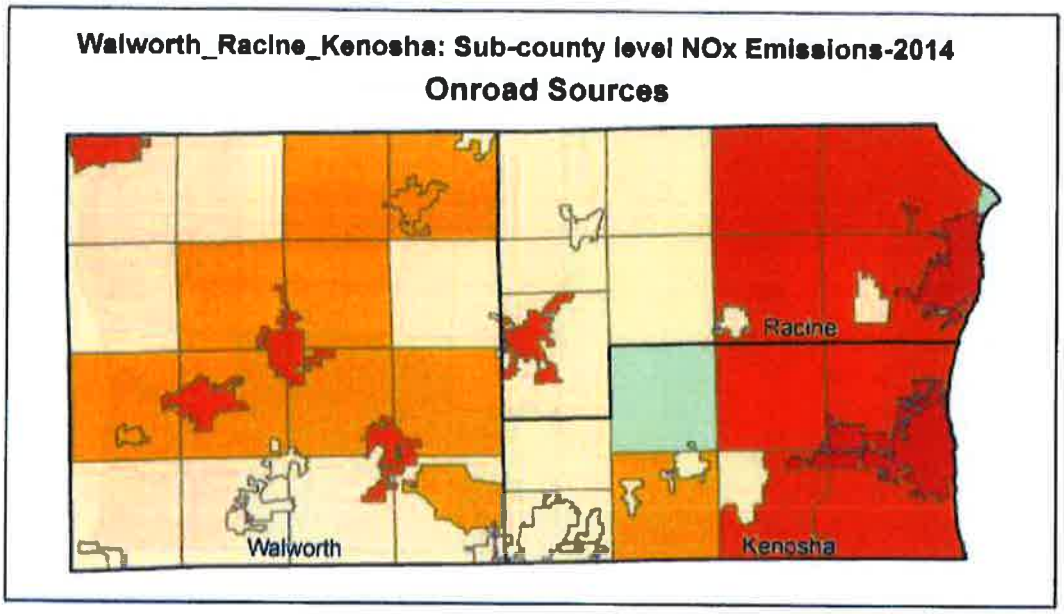
Walworth_Racine_Kenosha: Sub-county level VOC Emissions-2014

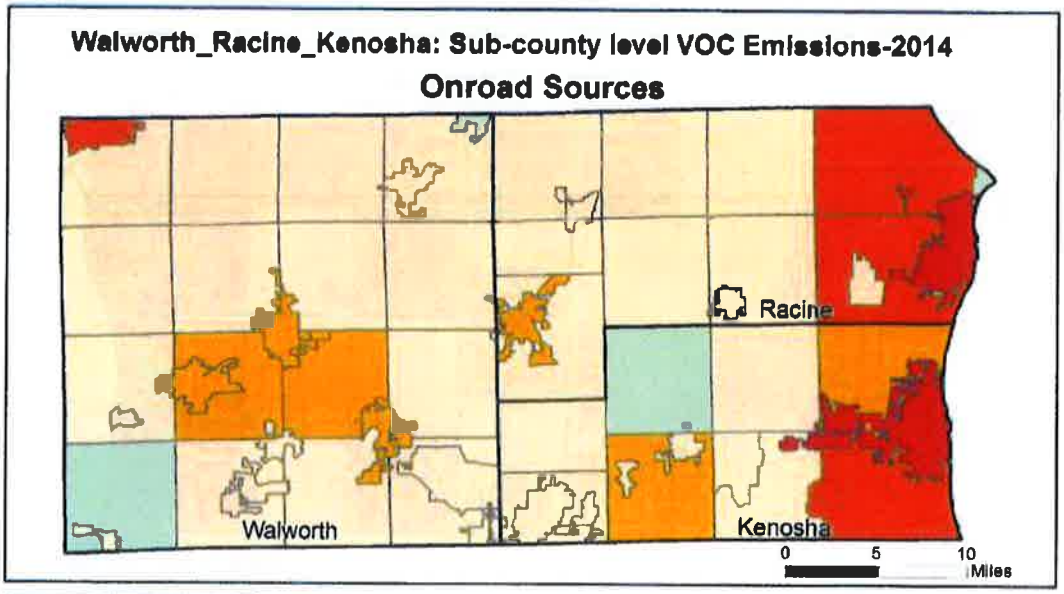
Nonpoint Sources



NOx or VOC Emissions in MCDs

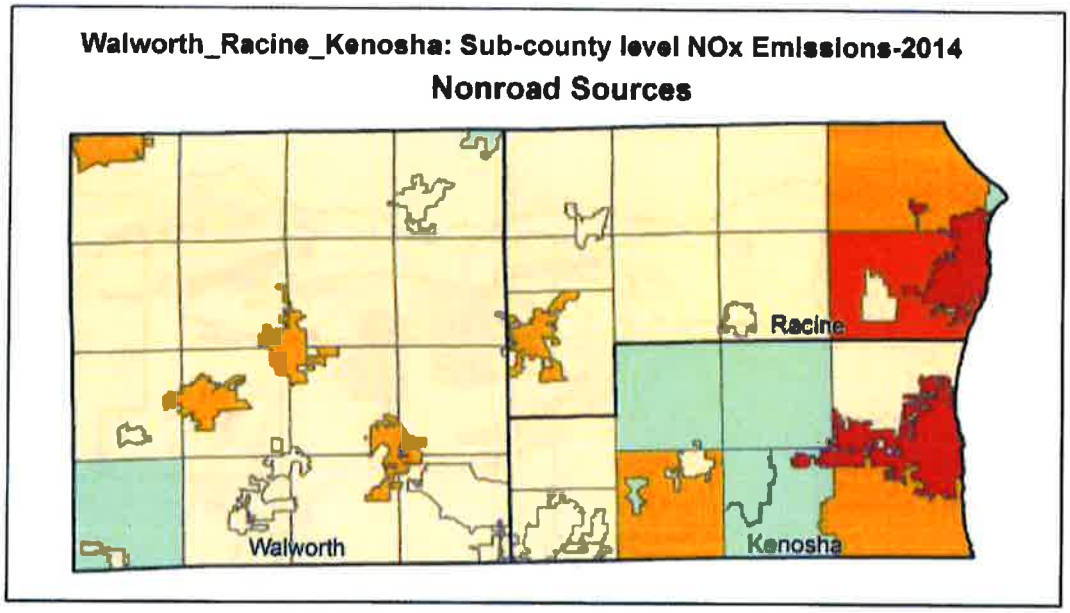
- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

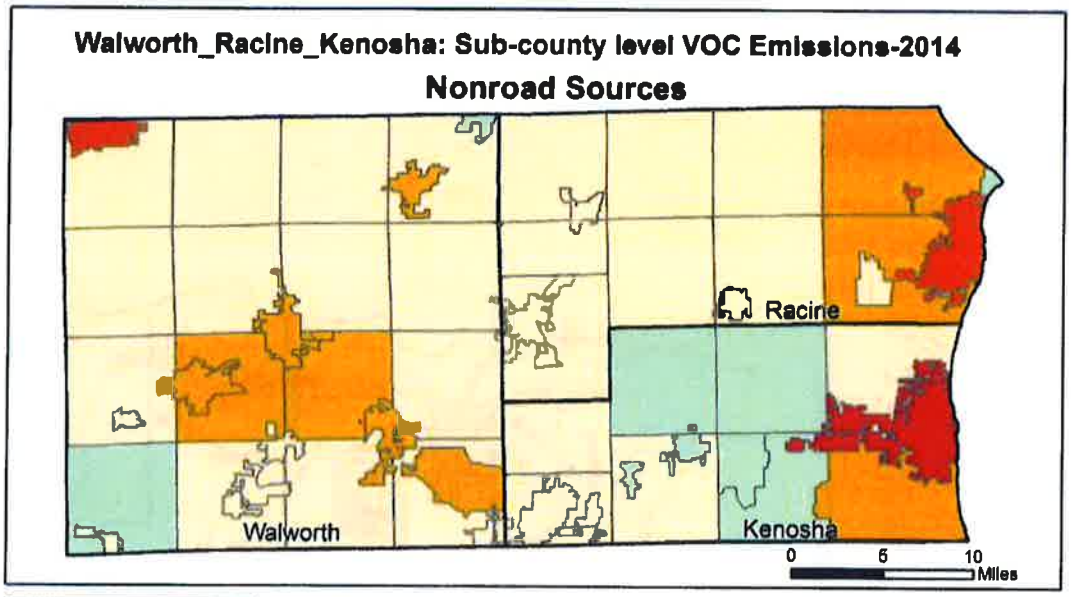




NOx or VOC Emissions in MCDs

	0
	0.001 - 10
	10.001 - 40
	40.001 - 100
	100.001 - 300
	>300.001





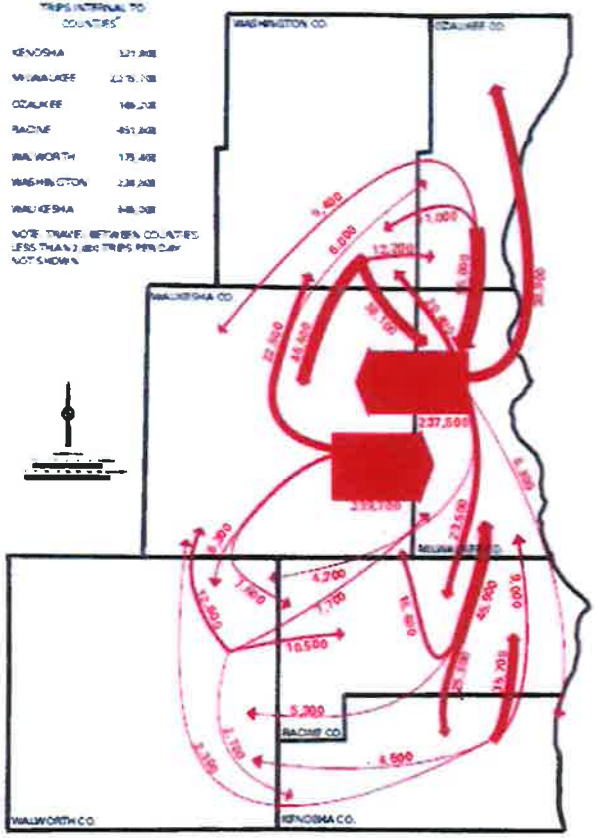
NOx or VOC Emissions in MCDs

- 0
- 0.001 - 10
- 10.001 - 40
- 40.001 - 100
- 100.001 - 300
- >300.001

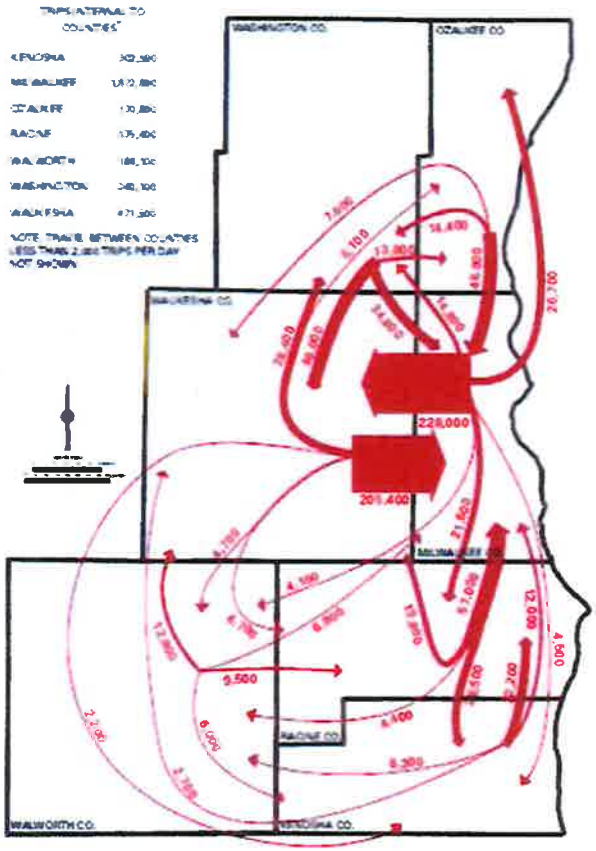
Travel between Southeast Wisconsin counties (Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha)

AVERAGE WEEKDAY PERSON TRIPS BETWEEN COUNTIES IN THE REGION: 1963, 1972, 1991, 2001, and 2011

2001



2011

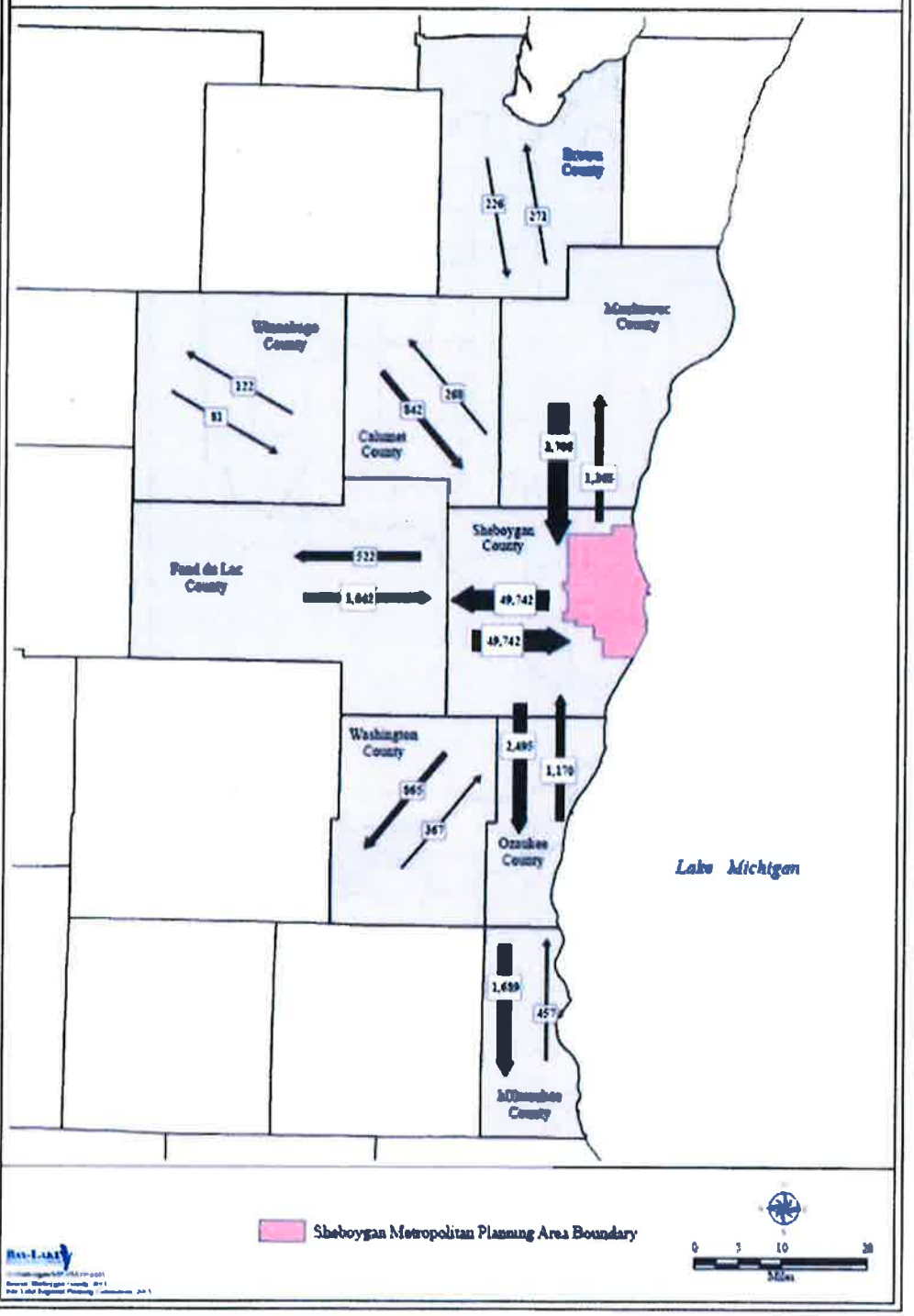


Map 5.17

Daily Workplace Commuters

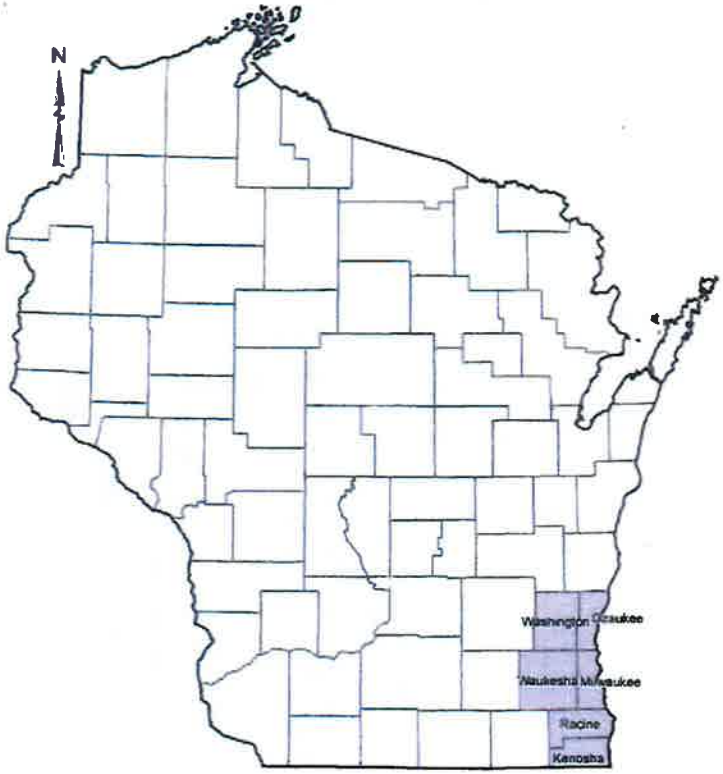
Sheboygan County

Year 2045 Sheboygan Area Transportation Plan (SATP)



Wisconsin Counties Subject to Vehicle Emission Inspection Program

Wisconsin Counties Subject to Reformulated Gas (RfG) Requirements



The Clean Air Act of 1990 established the RfG program and specifically requires use of RfG in these counties.